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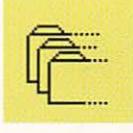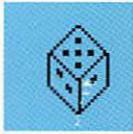
MacUser

EXCLUSIVE ...FOR MACUSER SUBSCRIBERS ONLY

1001 HINTS & TIPS FOR THE MACINTOSH

Compiled and Edited by Erica Kerwien

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APPLESHARE

Accessing A File On An AppleShare Server

Accessing a shared file, folder or volume through the Chooser requires seven mouse steps. Creating a folder of aliases for shared items and leaving it on the desktop or on your Apple menu allows access in two mouse steps.

To access a particular shared item, simply open the File Server folder and double-click on the alias of the desired item. In the Password dialog box, just enter your password (if applicable) and click on OK.

Better yet, you can access the File Server folder directly from the Open dialog box within an application. Just click on the Desktop button, double-click on the File Server folder, pick a shared item, and double-click on it.

When the time comes that everyone on the network keeps a File Server folder of aliases instead of the actual shared files on their desktop, at day's end, as people start to shut down their Macs, you'll be less likely to see a flurry of Shut Down Alerts across the network.

Prevent Server Virus Infection

To protect your server's Desktop file against WDEF infections, simply lock the top level against changes. This has the side effect of keeping users tidy.

Keeping Users From Trashing Database Files

How can you keep users from trashing a database file on an AppleShare server, even though they need access to it?

AppleShare controls user access by folder, so the first thing you have to do is to put the file in its own folder, which you can assign specific privileges to.

If users need only Read Access to the file, you can simply select the folder, choose Privileges from the Finder's File menu, and select the See Folders and See Files check boxes for your group (or everyone). Don't check the Make Changes box, though.

There's no easy way to keep people from trashing the file if they need write access. One kludgy solution is to use ResEdit or a similar file utility to make the database file invisible. This will keep the file's icon from being displayed in the Finder, which means the file can't simply be dragged to the trash. Note, however, that utility software still will be able to see and delete the file.

Passwords Are Case Sensitive

If your AppleShare server doesn't accept your password but you know you are typing it correctly, check the Caps Lock key. AppleShare passwords are case-sensitive.

Security Rating

AppleShare is rated as C1 in the National Computer Security Center's security criteria, according to Apple. This is just one grade above D, which indicates something that's not at all secure.

Access Server Files With Timbuktu

Wanna grab some files fast from an AppleShare server? If you're running Farallon Computing Inc.'s Timbuktu on it, you can transfer files quickly from virtually anywhere — including unmounted volumes and the Server folder.

APPLESHARE 3.0

Open File Limit

AppleShare 3.0, despite the hopes of many people, does not allow more open files per server than Version 2.01 or System 7's file sharing. The limit is still 346 files open simultaneously on one Mac.

Server Log-In Limits

According to a note in AppleLink's Tech Info Library database, there are strict limits on the number of AppleShare servers a Mac can be logged into at once. The Mac Plus can handle only three servers simultaneously; the Mac SE, Classic and Portable can be logged into eight; and the Mac II, LC, SE/30 and above (including all PowerBooks) can handle 18 servers. These limits apply to the number of servers, not the number of server volumes, and are independent of the amount of RAM in the client Mac. The number of volumes that can be mounted on the desktop is affected by available memory.

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APPLETALK

Updating AppleTalk

If you are updating AppleTalk on an older Mac, make sure to use Apple's Installer. Starting with Version 53 of AppleTalk, you cannot simply drag the AppleTalk extension into the System folder.

Finding A "Lost" Printer

Sometimes the reason for printing problems is software-based. For example, if you use a printer over AppleTalk, you might one day find that the printer doesn't show up in the Chooser Printer dialog box. If this happens to you, first Quit the application and make sure your disk contains all the files you need. If it does, try this:

In the Choose Printer dialog box, if the printer you need doesn't show up as a print option, disconnect AppleTalk and close the dialog box. Then, reopen the dialog box and select AppleTalk Connected. Hopefully, the missing printer icon will mysteriously reappear so you can select it and try to print again.

Another resort is to reinstall the printer drivers in your System Folder.

Close The Chooser

To improve AppleTalk network performance, don't leave the Chooser open. Active Choosers create packet traffic on AppleTalk networks. On large networks, this chews up 5 to 10 percent of the available bandwidth.

APPLETALK PHASE 2

Mixing Phase 1 And Phase 2

When you install System 7.x on a network, Apple recommends that you upgrade all routers and workstations to AppleTalk Phase 2, if you haven't already done so. A network that mixes AppleTalk Phase 1 and Phase 2 can have communications problems under System 7.x.

For example, if you install System 7.x on an Ethernet network, workstations that use Phase 2 won't be able to talk to those running Phase 1. If you decide to keep the entire network on AppleTalk Phase 1, you must reinstall Phase I EtherTalk drivers on the System 7.x

workstations. Upgrading to System 7.x doesn't have any adverse effects on LocalTalk or TokenTalk networks that use AppleTalk Phase 2.

APPLETALK REMOTE ACCESS

Security Stack Locks Out ARA Network Access

Out of the box, AppleTalk Remote Access can let users dial into a network through a Mac. There are numerous security features in the AppleTalk Remote Access software that can be implemented by the user doing the setup, but network administrators often want some control over what these users can do.

The Security Stack is an Apple utility for those network administrators. This HyperCard stack lets the administrator require a password from any user who tries to set up a Mac for dial-in access to the network. The software requires a router on the network.

Security Stack was originally available through APDA but also has been posted on AppleLink. The path is Software Sampler:Apple SW Update:Macintosh: Networking & Communications Product Software: AppleTalk Remote Access:Security Stack, and it takes about a minute to download.

Remote Access Tips For Scripting High Speeds

AppleTalk Remote Access depends heavily on the raw speed of the modem connection used, but the specific settings of your high-speed modem can improve performance. Apple has compiled a set of tips for tuning ARA modem scripts:

- Set your computer's serial-port speed to a constant 19.2 Kbps, since the modem can slow down if necessary.

- Set the modem to buffer speeds so your Mac's connection to the modem will remain constant.

- Enable CTS hardware handshaking and always use a hardware-handshaking cable with V.32 or V.32bis modems.

Modifying Script Slows Remote Access Answer

You can tell AppleTalk Remote Access (ARA) to answer the phone after a certain number of rings, rather than instantly. Often this is a concern for folks who have a single phone line but prefer to leave ARA running all the time.

Setting the modem to answer after a given number of rings requires editing the ARA script you're using—it's the one you select in the Modem Setup section of ARA's Remote Access Setup window; the actual file is stored in the Extensions folder.

ARA scripts are text files, but most word processors won't open them since their file type is not "TEXT." To edit one you should duplicate it and then use ResEdit or any file-editing utility to change the type from "mlts" to "TEXT."

Now, open the script in your word processor. At some point you should see a section like this:

! @ANSWER

! Set up the modem to answer

@LABEL 30

write "ATS0=1I3"

Change "ATS0=1" to "ATS0=x," where "x" is the number of rings you want to occur before the modem answers the phone.

Now save your version of the script (make sure to save as text only) and change the file type back to "mlts." Change the script's name to indicate it's modified, drag it back to the Extensions folder, run ARA and select the modified script in the Modem Setup section.

COMMUNICATION TOOLBOX

Removing It From Your System

The Communications Toolbox code looks like a system extension and quacks like a system extension but it isn't a file in the System Folder. The Installer program plants that sucker right inside the System file itself. The only really safe way to get rid of the Comm Toolbox is to have the Installer rip it out for you.

Launch the Installer, choose the Customize option, select Communication Toolbox and hold down the Option key. The Install button in the upper right corner should change to Remove. Click on that button, and within seconds you should be rid of it. (By the way, this technique works for most Installer scripts.)

Your only other option is to replace the whole System file with a virgin copy, but keep in mind that you'll also lose whatever else has been installed in there.

COMPUSERVE

Cutting Noise On CompuServe

On CompuServe, as on any other network, line noise can ruin an upload or download. To cut out the noise, make the first character in each "typing" command in your macro the control character that says to the network, "Ignore what I've typed so far." This cuts down on problems associated with your program's reading noise input as you're typing. When you're on CompuServe, type Control-U. This tells the service to ignore noise.

E-MAIL

It's All In The Title

Too busy to be bothered with opening your mail? Often, the substance of a message can be expressed in the title, leaving intricate details for the body of the message. For example, instead of entitling a message "Meeting Reminder" and furnishing the date and time in the body of the message, you can entitle it "Meeting 10/22 1 P.M." The title then acts as an effective reminder. You get all the information you need just by looking at the mail window.

Discourage E-Mail Printing

One of the benefits of E-mail is that it can reduce the amount of paper in an office, but printing messages negates this advantage. Each time a message is printed, it has to be transmitted over the network twice if you use a network spooler. An E-mail message sent to 20 people and printed by 10 should probably have been photocopied.

There are usually two main reasons for printing their E-mail. The first is that they want to keep a record of their correspondence. Some E-mail packages, such as Quick Mail, let you create electronic folders in which you can store old messages. Another feature your E-mail program may have is the ability to store mail messages on a local hard disk, rather than on the mail server. Rereading a message stored on the server adds network traffic.

Another reason for printing E-mail messages is that users are only in the office for a short time each day and want to be able to read them later. Remote access to the mail server might be a worthwhile alternative for such users. Perhaps they already have a computer and modem at home or can borrow the necessary equipment from their company. Using a remote computer lets them respond electronically to messages as they read them.

ETHERNET

Ethernet Connections In Macs
The Mac Quadras and LaserWriter IIg have built-in Ethernet along with LocalTalk. The Ethernet connections use AppleTalk Phase 2 protocols only. If you have an AppleTalk Phase 1 Ethernet network and you plug in one of these devices, it won't be able to communicate with anything else.

You'll need a transition bridge: a router that can handle both Phase 1 and Phase 2 traffic.

GENERAL INFORMATION

Getting Cheap Practice
If you're new to telecommunications, or are just getting to know a new telecommunications program, you don't have to pay a lot of expensive connect charges while you learn how to upload and download on networks. Contact your local Macintosh users' group or an experienced friend and get the phone number of a free local bulletin board. Practice uploading and downloading on the free network.

Once you know your way around the local network, look for shareware and public domain libraries,

where you might be able to download programs for far less than you'd be charged by a national network.

When Call Waiting Disconnects Transmissions
If you have Call Waiting and a modem, you can run into a lot of interrupted telecommunications sessions. A little-known trick is to add "*70" on touch-tone phones, or to dial 1170 on pulse phones, just before the number to be dialed in your modem dial command. This disables Call Waiting. This tip may not work in all areas of the country. Ask your phone company for more details.

Telephone Noise Can Interrupt Transmissions
If you experience continued failures midway through transmission while using a protocol transmission, your problem could be telephone noise. Try getting a cleaner connection by hanging up and redialing.

Disabling Internal Modem Speaker
The internal modem speaker of a Hayes-compatible modem can be temporarily disabled. Just type ATM0 from your terminal program and press Return. The command will be acknowledged by an "OK." Turn the volume back on by typing ATM1 and pressing Return.

Getting Your Program To Wait Longer To Redial
Many terminal programs allow users to change the amount of time that the modem waits for a carrier before redialing when in auto-redial mode. The command ATS7=x sets the number of seconds the program waits, with X= the default number of seconds. Default value is usually 20 seconds, but you can change it to almost any number less than 255 by changing the default value.

INSTANT UPDATE

Updating Several Documents At Once
If you're using ON Technology Inc.'s Instant Update and you want to update several documents at once, do this: Select all documents with data that have changed, hold down the Option key and click the Update button.

INTERNET

What Is It?

The Internet is sort of an existential concept. It's a world-wide network of almost half a million computers belonging to the military, institutes of higher and lower learning, research organizations, and corporations big and small. The Internet is not a destination; it's a means by which you get to your destination.

To access it, you log on to a nearby computer (an Internet site or host) that's been linked into the net and then run a set of programs for processing mail and files.

Mail and files move from computer to computer until they reach their final destination. The Internet functions like one massive living, breathing organism. If it were any more monstrous, it would battle Godzilla in Tokyo Bay.

But despite its size, many of the services you would expect from a commercial on-line entity are available via the Internet. Users send personal mail by sending a message to someone's individual Internet address. It also has more than 2,000 "newsgroups," places where users can post messages for all to see. You can also download free or almost free software; in fact, you could spend the rest of your life downloading stuff and still get just a fraction of the files that interest you.

To find Macintosh files on the Internet, you must first search a list of computer systems for one that (a) has a whole lot of Mac software and (b) allows open access for total strangers such as you, and then you have to tell your local Internet host to open a connection.

Apple has Internet connections, and although it does not offer help, it does have a useful Internet-accessible file area open to the public. System software, source code, demo files, stacks, hacks, and official technical notes (real soon now) are available from Apple's FTP (file-transfer protocol) site. To connect to it, log on to your local Internet host and type ftp.apple.com (note that this command may vary from system to system). Enter Anonymous when Apple's computer asks for your user name and use your Internet address for the password, and you'll be in. You can also send mail to any AppleLink user via the Internet by addressing your message to user@applelink.apple.com, where "user" is the user's AppleLink ID.

The best part about Internet: Using the Internet is free. There's no sign-up fee, no monthly charge, no per-message charge, no hourly rate. Sometimes you have to pay a modest fee to your local Internet host computer, but using the net itself is free. If you're in school or work for a big corporation or the government, the big computer you have to deal with every day is probably on the Internet. (Ask your system manager for details on how to access Internet services.) If you aren't fret not—many companies rent time on their computers to folks who want Internet access. Most popular are sites set up as PAU (public-access UNIX) systems. Call up a local bulletin-board system, and ask around for the number of a PAU in your area.

Clear Out The Old Before Hanging Zones Names

When you're using Apple's AppleTalk Internet Router software, it's easy to change the name of a network zone as long as you remember one simple step: Delete the old zone name first. If you just type over the existing zone name, click Done and save your changes, the router doesn't change anything.

LASERWRITER IIG

Changing The Ethernet Zone

Apple's LaserWriter IIg doesn't let you select its Ethernet zone, and Apple doesn't provide any software to change it. Here is a solution which requires downloading PostScript code to the printer.

Using a program that lets you download PostScript code to a printer, send the following:

```
serverdict begin 0 exitserver
```

```
(%EtherTalk%) <</EtherTalkZone
(TARGET_ZONE)>> setdevparams
```

Remember to replace TARGET_ZONE with the name of the zone you wish the IIg to appear in.

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MACINTOSH COMMUNICATIONS TOOLBOX

Storing Frequently Dialed Numbers

There's a way to store frequently dialed phone numbers in the Macintosh Communications Toolbox. In a text file, enter the name of a service, followed by a tab, followed by the phone number and a return. Enter all the numbers you dial and save the file as Apple Modem Tool Phone Numbers inside your Preferences folder.

MACTCP (SYSTEM 7)

Mac Plus And TCP Trouble

Users have reported problems with the combination of System 7 and Apple's MacTCP extension on Mac Pluses. The symptom is that TCP/IP network performance slows down a great deal, or the connection won't work at all.

The solution is an unsupported Apple utility called MacTCP+ Tool. It patches MacTCP to prevent the under-run errors caused by MacTCP 1.1 and System 7's version of AppleTalk when running on a Plus.

The utility is available from Apple over the Internet at ftp.apple.com (13043.23) in the ftp/dts/mac/netcomm directory as mactcp-macplus-tool.hqx.

MCI

QuickMail Cleanup For An MCI MNP Mess

Dow Jones & Co. Inc. changed the modem setup used for its MCI Mail on-line service. The new 2,400-bps dial-in modems use Microcom Networking Protocol for error correction and compression.

Negotiating MNP causes a delay after the MCI modem picks up, and this delay causes problems with CE Software Inc.'s QuickMail scripted gateway to MCI. When using Version 2.02 or 3.0B of CE's MCIMail.Script, the QuickMail server will not connect to the new MCI Mail modems.

To solve the problem, you need to edit the script.

Change the first instance of the Pause command to read "PAUSE 8" instead of "PAUSE 2." This will make the gateway wait eight seconds instead of two before trying to sign on. A five-second delay also seems to work.

MODEM

Quiet Dialing

If you're using a Hayes-compatible modem and don't want to hear all those beeps and clicks during dialing, turn off the speaker using the ATM0 command. To turn it back on, type in ATM1.

Dedicated Phone Line?

If you plan on having a fax machine and a modem you may want an extra phone line for each, but it is not necessary.

A phone line is a phone line, as long as you have a dial tone. A second phone line is a necessity if you intend to keep things running 24 hours a day (if you're running a BBS or want to keep the fax machine on 24-hour standby), unless you're absolutely sure no one will want to engage you in analog telecom (nerd-speak for "talk to you on the phone").

You may consider adding a second line for purely anthropological reasons, however, particularly if you have roommates. The usual way that human beings check to see if another human is using the phone is to pick up an extension and shriek, "Hey, anyone on the phone?!?" This has the effect of cutting off whatever data is coming across the phone line at the time and making your modem very angry with you.

Another problem with voice/data cohabitation is Call Waiting. When you hear a beep on the phone, you know another call is coming in. Unfortunately, this beep is to modems what garlic is to vampires. One beep, and your modem runs screaming into the night, terminating its connection.

You can temporarily switch off Call Waiting in most parts of the country by dialing *70 before dialing the number you want to connect to. Call Waiting will be reactivated as soon as your modem hangs up.

Another solution is to buy a bunch of "privacy switches," little boxes you plug into every phone jack in the house. Then, whenever your modem goes off-hook,

all the other receivers go dead. Radio Shack sells its Teleprotector (stock #43-107) for just $7.95 – if you put them onto two or three phones, it's a lot cheaper than a second phone line.

If You Can't Connect, Tell Your Modem to Wait Longer

If you have trouble connecting to an on-line service, adjust the length of time the modem waits for a carrier signal before it hangs up and redials. The command ATS7=x sets the number of seconds the modem waits for a carrier. The default value for x is 20 seconds, but you can substitute a new number of seconds for x.

NAVIGATOR 3.0.4

Typing A Few Characters For The Recipient's Name

When creating a message in Navigator 3.0.4, type the first few letters of the recipient's name into the Msg To field and select Lookup. If Navigator finds only one matching entry, it will paste the name into the field. If it finds multiple matching entries, it will open the address book and highlight the first one.

NETWORK MANAGEMENT

Querying Routers With PacketSend

A HyperCard stack called PacketSend, developed by Kurt VanderSluis, lets you directly query routers about their network and zone information. It can be utilized on any AppleTalk network, including LocalTalk, Ethernet, andToken Ring configurations.

PacketSend is designed as an adjunct to network-management tools such as NetMinder and EtherPeek, and you'll need one of these protocol analyzers to capture and decode the response packets. PacketSend can query several routers on a network simultaneously, letting you gather data from all your routers at one fell swoop and quickly pinpoint discrepancies in their network and zone information.

Say, for example, that your Ethernet network should have ten zones available but a technician mistakenly

typed just a single zone name into one of the routers. You can easily find that router, as well as other routers it has led astray, by using PacketSend to send a ZIP Query to all the routers, asking for their zone names. The misconfigured routers—those that know about only one zone name—will return shorter packets.

You can download PacketSend from ZiffNet/Mac, (look for PKTSND.SEA in Library 6 of the Download & Support Forum) as well as from other on-line services.

Alternatively, you can order it directly from me at The Network Group ([206] 789–3111). The shareware fee is $40. As previously noted, you need HyperCard 2.0 (or later) to run PacketSend and a protocol analyzer such as LocalPeek, EtherPeek, or NetMinder to decode the response packets.

The Hit-or-Miss Method

Troubleshooting a network can be a methodical process, or just random attempts to get rid of the problem. Here are some random things to try for network problem solving:

>If the problem appears to be somewhere on the network, try cycling the power on network devices such as routers, star hubs, and network modems. Be sure no one is using the device before you cycle the power. Turn the device off, leave it off for 30 seconds, and then turn it back on. If the problem goes away, it's possible that the device or its software got "hung"— the device received an instruction it couldn't process or ignore. Restarting the device clears that instruction and starts the device from scratch.

>If it is an individual Mac having the networking problem, use the Chooser to turn AppleTalk off and then back on again or, more drastically, restart the computer. If you have more than one network driver, try switching to a different one. For example, if you're connected simultaneously to Ethernet and LocalTalk, you can momentarily choose the alternative network with the Network cdev and then switch back to your regular network choice. This forces your Mac to join the first network all over again and re-alert other devices of its presence.

>Turn off all your INITs. INIT conflicts are tricky and unpredictable, and few people understand why they cause problems. If the problem goes away after you've turned off the INITs and rebooted, then it probably is an INIT conflict of some kind. Turning the INITs back

on one by one will help you discover which one is the culprit.

>Check for viruses on the file servers and on your Mac. Viruses don't usually cause network problems (although they can be transmitted over a network), but it's worth a try.

>Reload the software in network devices such as hubs, routers, gateways, and servers. Reenter the configuration information, making sure it is exactly what you want and is compatible with the other devices in your internet. It's possible that a colleague changed the software or configuration tables without your knowledge and misconfigured them, or perhaps you've misconfigured them yourself.

>Swap out the various devices, cables, connectors, and network cards on your machine and across the network. Do this one component at a time, and see if anything changes. Usually if cables or connectors are bad, they will be bad right out of the box, but sometimes they go bad while in service. Maybe a forklift ran over your network wires, lightning struck the building, or something wiggled loose.

>If you use Ethernet or Token Ring configuration, reinstall your network software. If you have an older Mac, you may need to patch its ROM by running a newer version of AppleTalk or you may need to put the ADSP (AppleTalk Data Stream Protocol) patch file into your System Folder (ADSP is built-in to System 7).

>Remove your password from the server, or reconfigure your user information with the administrator software that comes with your server. Maybe you typed the password incorrectly. Also, passwords are usually case-sensitive, so be sure you're not typing in your password with the Caps Lock key down.

>Try adding more RAM to your machine (or the server) or using the Finder instead of MultiFinder (if you are running System 6). Use CE Software's HeapFixer to increase the size of your system's heap space. Do the same for the server if necessary. If your central workstation is running more than one network service (such as file-server, mail-server, and print-spooler software), try placing the services on different machines or disabling one of them temporarily.

>Try reading the manual, even if you've read it before. It's weird, but sometimes while you're having a problem, you open the manual and see an obscure passage you've never noticed before or didn't understand.

NETWORK PRINTING

Mac And PC Printer Sharing

Cut the costs of printer sharing by attaching both PC printers and Apple LaserWriter printers directly to the file server. This allows the file server and its print-service function to manage the print jobs, rather than a separate remote print server. With graphics-intensive print jobs, there may be some degradation in server performance.

Using The AppleShare Print Spooler With A Router

Those who use the ASPS (AppleShare Print Server), a network spooler, have probably figured out that although ASPS has a lot of benefits, one of the drawbacks is that all print traffic goes through the network twice – once to get from your Mac to the spooler and again to get from the spooler to the LaserWriter.

You might try putting your printers onto a different network, which involves running ASPS concurrently with a software router such as Apple's Internet Router or Farallon's Liaison.

Printing Large Documents Off-hours

A practice that strains network resources is printing huge documents during the day on shared printers. Sometimes this can't be helped, but when possible, try to do large printing jobs during off-hours.

Sometimes investing in a large paper bin makes this more attractive, in that you don't have to contend with adding paper to the 200-page tray that comes with, for example, an Apple LaserWriter IINT. With a print spooler, you can specify when a job will get printed. The cheapest print spooler, Print Monitor, comes free as part of Mac system software, but it requires that you have enough memory to run System 7 (or MultiFinder in System 6)

ON-LINE

How To Join ZiffNet/Mac

Follow these steps to join ZiffNet/Mac:

Call 800–635–6225 (voice) to find your local access number. Set up your telecom software with these settings: 8 bits, 1 stop, and no parity. Dial the local access number. When connected, press Return. At the following prompts, type in the responses:

Host Name: CIS

User ID: 177000, 5200.

Password: Z*MAC

Agreement Number: Z12D9014.

CompuServe users can just type GO ZMAC at any ! prompt.

PHONENET TALK

Farallon's AppleTalk Runs Around Token Rings

Surprise, surprise. Most people think Farallon Computing Inc.'s PhoneNET Talk software (previously Apple's AppleShare PC) works with only IBM PCs and compatibles equipped with LocalTalk cards. But, according to the company, PhoneNET Talk's AppleTalk protocol stack operates just fine over 3Com Corp.'s 10-Mbps EtherLink cards for ISA and MicroChannel buses, and even with IBM Corp.'s Token-Ring Network PC Adaptors for ISA and MicroChannel.

QUICKMAIL

An Easy Way To Force Names To The Top Of The List

Tired of scrolling through a long directory every time you want to send a message to the person at the bottom of the list? An easy way to force names to the top of the list is to use QuickMail's Group command to create a group for the person (yes, a group can have just one member). Groups always appear at the top of the directory list.

Checking To See If Your Message Has Been Read

Want to know if someone read your message but don't want to be interrupted by a return receipt? Select Preferences from the QuickMail menu and click on Log Handling. You can then enable your Mail Log. A Log entry shows who has read each message and when.

Un-Sending A Message

Tired of sending the standard retraction "Ignore that last message—I forgot to ..."? You can un-send a message that hasn't yet been read by using the Mail Log (but only if you have it enabled).

Sending A Timed Message To Yourself

Wish you could attach messages to Apple's Alarm Clock DA? Use QuickMail to address a message to yourself and press the Delay button to postpone sending it until a specified date and time.

Reading A Message Without Logging In

Want to read a message you've filed on your hard disk but don't want to log in to a Mail Center? Use QM Remote. It can open text files as well as QuickMail letters you've filed.

RESPONDER

Built Into System 7

The Responder functionality is built into System 7, and installing System 7 removes the Responder extension from a System 6 system.

SERVER VOLUME

Maximum Single-Volume Size Is 2 Gbytes

If you are setting up a server, you may be wondering what the largest single volume you can have on a Macintosh is.

The Mac's file system defines a 32-bit space to represent the number of bytes in any volume. Only 31 bits are used, however. With that many bits you can specify 2,147,483,648 bytes – 2 Gbytes –which is therefore the maximum size of a volume.

SMARTCOM II

Capture Routine Saves Only Selected Text

If you capture data to disk after receiving a transmission, highlight the text you want to save. The Capture routine saves only selected text, so if you save a file with nothing selected, nothing is what you'll end up with.

Saving Text From The Capture Buffer

If you accidentally Close your document without having saved the contents of the capture buffer, don't panic – yet. Try reopening a communications document. If you didn't use the Clear command from the Edit menu to purge the buffer before you closed the transmitted document, the text is still in the capture buffer, and it will appear in the document window. This won't work if you accidentally Quit Smartcom, though.

Save And Save As... Don't Save What's In The Capture Buffer

The Save and Save As... commands only save the settings, not the data in the capture buffer.

TELECOMMUNICATIONS

Saving Money While Taking A Break Online

While online, you may need to leave your computer for a period of time. But it's time-consuming to log off and a hassle to log on again later. On the other hand, if you don't log off, you'll be billed for the time—no small matter on commercial services such as CompuServe.

But here's a solution: Almost every online service has a free help center you can go to and browse in as long as you like without paying. So if you must leave your computer for a few minutes during an online session, just pop over to the help center. You won't be billed for the time that you spend there, and you won't need to log on again later.

Sharing Mac/PC Files Across A Remote Line

You can move files between a PC and a Mac across a

remote line with a number of communications products, including LapLink Mac, MacLinkPlus/PC, Microphone II, RunPC, White Knight Telecommunications Software, and Zterm.

DATABASES

4TH DIMENSION

Getting from Runtime to User Mode

To immediately go from the Runtime opening screen to User mode, hold down the Option key and press F. This works even when no Quit menu item is installed.

Shortcut To Call Up A Layout

When you're programming procedures in 4th Dimension, it's sometimes useful to call up a layout you've referenced in a procedure. Here's a shortcut that bypasses going through menus.

While you're in the procedure editor, drag to highlight the filename and the layout name mentioned in a procedure. Then press Command-L. 4D will automatically open the highlighted layout.

Getting to the Debugger Window

Normally, to get into 4th Dimension's Debugger window, you have to put the Trace command into a script or procedure, where it can be evaluated. Here's a shortcut:

Hold down the Option key, and hold down the mouse button while a procedure or script is running. Using this method, you don't have to put the Trace command into any code.

Outlining an Object or Group

When you're using the Layout Editor, it's possible to create an outline around any object or group of objects. Select the object, and then hold down the Command key and press any number from 1 through 9. Command-1 places the border one pixel out from the object; Command-9 places the border nine pixels out from the object.

Using The Arrow Keys To Move Objects

It's possible to move objects in a layout (when you're using the Layout Editor) by pressing the arrow keys. If you hold down the Command key while pressing the arrow keys, the upper left corner of the object will be anchored to the layout and the object will be resized according to the direction of the arrow key you're using. Holding down the Option key, instead of the Command key, and then using the arrow causes the objects to move along the x or y axis defined on the grid (the default is ten pixels).

Bringing Up The Coordinates Box

Holding down the Control key and then double-clicking on an object while using the Layout Editor displays that object's Coordinates dialog box.

Seeing Scripts

A quick way to view scripts is to Option-click on an object that has a script. This immediately opens the script.

Getting Back To User Mode After Run-Time Mode

When you add a procedure to a 4D run-time-menu item that invokes the Quit 4D command, you return to the Finder after choosing that menu item. If your 4D application starts in run-time mode, however, it may not be apparent how to get back to user mode quickly. If you dig through the manuals, you can discover that pressing Option-F takes you out of run-time mode without your having to quit 4D, but if you can't remember that, try this:

Add a new menu command such as Quit to user mode or expanded menus that calls no procedure. When you choose this menu command, the program simply reverts to user mode, which lets you have access to all of 4D's commands and design tools.

DOUBLE HELIX

Running Two Collections Simultaneously

When using Double Helix, you may want to look at two collections (the Double Helix word for databases) simultaneously. Double Helix can open only one collection at a time.

Although Odesta has copy-protected the program so that copies with the same serial number cannot run on a network at the same time, you can run duplicate copies of Double Helix on one computer under MultiFinder with no problems.

Just copy the program by using the Duplicate command on the Finder's File Menu to make as many copies of Double Helix as you need. You can then open the copies under MultiFinder. Of course, you need generous amounts of RAM to make this work.

Advance Planning Helps

To use one of Helix's abacus icons to perform complicated calculations, it's best to plan your function before building it in on the Mac. If possible, break the calculation into modules, then combine them in the final calculation. This also means you can use the modules in other calculations without having to start over from scratch.

If you can't break a complex calculation into modules, plan it on paper first, then construct it on the Mac. A quick flowchart now can save hours of confusion later.

Avoiding Icon Confusion

Complicated relations clutter your work with a lot of icons. To keep from getting confused, name your most important and frequently used icons in all uppercase letters to make them stand out. Then, move lesser-used icons off to the side of the window and arrange your icons in logical groups for easier tracking.

Moving A Single Tile

To move only one tile, click and drag anywhere on the tile except in an arrow or a blank space.

Save Time While Setting Up A New Relation

When setting up a Relation for the first time, several fields will probably have formats different from the default settings. Save time by creating one field with each of the formats you plan to use, then replicate them as often as you'll need (one for each format) and name them appropriately.

Viewing Entire Complex Calculations

Seeing the entirety of complex calculations can be difficult, since you have to view portions of it by scrolling the window. View the whole calculation by printing it out on the ImageWriter by selecting Print Scaled Image from the File menu. This doesn't work on the LaserWriter.

Save Time: Copy Old Calculations, Then Modify Them

To create a calculation with an abacus icon that differs slightly from another one that's already created, duplicate the original calculation's icon and then modify the copy to create the new calculation.

Moving Groups Of Segments Or Tiles

To move a group of arrow segments and/or tiles, use Shift-Click to select the individual elements to be moved, or surround the group with the selection rectangle.

FILE CONVERSION

Tab-Delimited Format

The tab-delimited format, which most spreadsheet and database software can read, is a common format for importing and exporting data to and from databases. A database has each line as a separate record, with tabs separating the fields within each record.

You can use a text editor to create and import tab-delimited data into your database.

FILEMAKER

Selecting Records Without A Common Field

Have you ever wanted to select a group of records in FileMaker II that have no field in common (for example, the 23 people who lost last month's report)? Create a special "select" box on your layout —a field in a box to make it easy to find.

To use the select box, issue the Find command to locate each individual record, and then enter X in the select box. Use the Find All command and then the Find command to locate the checked boxes. The whole group is selected, and you can mail-merge or sort the results. You can sort records into several groups by entering different characters into the select box and then using the Find command to select each subgroup.

To deselect the records, highlight the select field, press Delete, and then press Command-= to clear all the boxes.

Entering Multi-Word Phrases As Search Identifiers

Use Option-Space instead of the space bar when you're entering multiple-word phrases to be used as search identifiers. That indexes both words as one, allowing searches by combinations or portions of all the words.

Entering Copies Of A Record

To enter a lot of copies of a record using the Command-M key combination, it helps to execute a Find on the first record entered. Thereafter, the number under Found will increase by 1 each time you press Command-M. This allows you to keep track of how many records have been entered.

FILEMAKER PRO

Using Option-Space In Fields With More Than One Word

When you insert a text string of two or more words (for example, a company name) into a field, press Option-space rather than just space between words when you first enter the text for that field.

Then when you need to know the exact wording of that entry while in another record (for example, if you want to insert the company name into another record), you can press Command-I to access a dialog box that lists the values for that field in all the records in the database. Entries that use the Option-space keystroke will be listed with all the text on one line rather than with the words listed alphabetically. You can then select the multi-word entry and click on the Paste button to insert the entry into a new record or a record you want to modify.

Using Predefined Lists For Field Entry

You can use the following technique to add any sort of predefined list to your FileMaker Pro database. This example assumes you are editing an address book with a State field to hold the two-letter abbreviation of each state:

1. Choose Define Fields from the Select menu. Select the State field (or whatever field you want to add a predefined list to) in the dialog box, click on Options, and select "Use a pre-defined value list:"

2. In the Display Values dialog box, type each state's

name, followed by a Return, the two-letter abbreviation, and finally another Return.

3. Switch to the Layout mode (on the Select menu), and select the State field.

4. Choose Field Format from the Format menu. In the dialog box that follows, select the "Use field's value list to display fields as," check box and choose "pop-up list." Go to the Select menu, and switch to Browse mode.

Note that whenever you select the State field to input information, a pop-up list with all the states' names and abbreviations will open. Just start typing the first few letters of the state name, and the pop-up box will automatically scroll to that state. Then use the mouse or down-arrow key to select the two-letter abbreviation following the state name, and press Return to insert it into the field.

Difficulty Printing PostScript Images

If you have imported a PostScript image into a FileMaker layout and it's printing the bitmap image, you may want to read further. Even though you may be using the EPS/PFLT translator from the Claris XTND system files, the problem may be the amount of memory available to FileMaker to do the complete import.

Highlight FileMaker Pro, select Get Info, and increase the memory allocation. Keep increasing the allocation in 512K increments until it's large enough to import the entire file—both screen image and PostScript description.

Missing Fields When Exporting

Sometimes when using FileMaker Pro's Export menu, not all of the fields are available to be exported. This problem is most likely to happen in data files that have been converted from FileMaker II to Pro.

The work-around for this is simple: Hold down the Option key while clicking on the New button in the Export dialog box. The Choose Fields dialog box, which appears next, displays all the fields. Simply select the fields you want to export.

Exporting To Spreadsheets

Export tab-delimited files instead of SYLK files if you need to use your data in a spreadsheet.

FileMaker Pro exports numeric and calculation fields into SYLK files as text, not as numbers, making it

impossible to perform mathematical calculations with this data after you've imported it into a spreadsheet. These fields are treated as numbers in tab-delimited files, though, and virtually all spreadsheet programs can import tab-delimited files accurately.

Printing Commas Between Fields

If you use FileMaker Pro and PageMaker or another layout program together for database publishing, you may benefit from this tip.

To line up a comma in a label layout after the city field so that it prints correctly after the fields slide together (to eliminate spaces between the city name and comma), create a calculated field: CITYcomma = CITY & ", ". Then use the CITYcomma field in the label layout instead of CITY.

Concatenate Fields For Proper "slide left" and "slide up" Operation

The easiest way to force horizontally arranged fields to slide in layouts is to use the Arrange menu's Slide Objects command, which is available in the Layout view only. This method sometimes proves unreliable, so you may want to force your fields to slide by using concatenation.

Concatenation requires creating a new field for each record in your database and instructing FileMaker Pro to add the information from several other fields to this new field.

To create the name line on an address label, for example, create a new field called NameLine and define it by using the following formula: Salutation & " " & FirstName & " " & LastName (substitute your own field names for Salutation, FirstName, and LastName). Then place the NameLine field instead of the Salutation, FirstName, and LastName fields in your address-label layouts.

You can use this same trick to ensure that objects slide up: Use a carriage return and the If statement to define multiple lines in a single field.

Perform the Find Command In One Layout\View Data In Another

Often you will want to view a subset of your records in a layout that doesn't include the fields that define the subset. You may, for example, want to print mailing labels for all clients who have purchased more than $5,000 in goods during the past year. Because the field

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containing your clients' year-to-date purchases is not on the mailing-label layout, you should execute the Find command in a generic layout and then switch to your mailing-label layout before you print.

This procedure can't be automated with a single script — FileMaker Pro will fail to execute the Find command, because it requires a field not present in the final layout.

Therefore, you must create three scripts: one that selects the layout containing the necessary field and then performs the find, one that specifies your mailing-label layout and the required printing options, and a third that runs the first script and then runs the second script by using the "Perform a chain of scripts" option. Do not include the first or second scripts in the menu or assign keyboard shortcuts to them.

Take Advantage Of The Replace Command

Many people don't understand the Replace command and perform unnecessary data entry as a result. The Replace command lets you enter data into a single field in the current record and have that data copied into all other currently selected records.

Suppose, for example, that you're renewing your state licenses for all the hazardous chemicals that have been stored in your warehouse under expired permits. After identifying all such materials by using the Find command, printing the required reports, and completing the necessary licensing forms, you can reset all license-expiration dates (assuming they're all the same) by entering the correct value into the license-expiration-date field of one record and using the Replace command to apply that date to the other currently selected records. Be certain that you've selected the correct subset of records before confirming the replacement – you can't undo the Replace command.

Use Page Setup To Adjust The Layout Marker

In the Layout view, FileMaker Pro displays striped lines that represent page borders. These borders' calculations are based on the current settings in the Page Setup dialog box, so be sure to configure your pages horizontally or vertically and to specify any printing reductions or enlargements before finalizing your layout.

Using reduction is a good way to gain some extra room to fit all required data onto a layout. If you use

this technique, create a script that switches to the layout and uses the "Restore the Page Setup options" option so that your reduction is applied every time you use the layout.

Hold Down The Option Key To Customize Boundaries

When you're defining layouts, the gray lines that define part borders (such as headers and footers) cannot normally be moved past any fields, text, or graphics. If you hold down the Option key while you're repositioning the part border, however, you can move the border freely.

Give FileMaker Pro Sufficient Memory

When FileMaker Pro runs short of memory, the "Out of memory" error message usually appears. In some cases, there's not even enough memory left to display this dialog box, so you may notice that keyboard equivalents or menu commands suddenly seem to have no effect.

To correct this problem is to increase the amount of memory allocated to FileMaker Pro. The 1,024K of RAM that FileMaker Pro normally requests is insufficient in many cases, especially if you're working with large databases. To change the memory allocation, highlight the FileMaker application icon, open the Get Info dialog box (under File menu in the Finder) and change the "Application Memory Size" option. Provide 1,500K as a minimum – more if you have enough memory available and work with very large databases.

Avoid Printing Duplicates

To create a layout that includes only one occurrence of any duplicate record, define a layout using the "Sub-Summary when sorted by" option in the Define Parts dialog box.

When scrolling through the field list to select the field that will determine duplication, be sure to select a field that will be unique for all non-duplicate records. Remove the body part in your layout, and position all required fields within the subsummary part. Sort the database by the field you've selected to determine duplication, and choose the "Preview" option from the Select menu. The resulting duplicate-free database is then displayed. Choose the Print command to print this data.

Use A Subsummary Part To Create Running Page Totals

To create a running page total for any report, define a "Sub-Summary when sorted by" and place summary field types, that have the "Running total" option, into this part. To force this subsummary to appear at the bottom of every page, determine the number of records that will fit on one page by doing a preview of your report and then select the "Page break after every X occurrences" option and enter this value.

This method works best if no "slide up" options are used in the report body. If records in your report are of variable length, you must choose the minimum number of records that naturally fit on a single page and use that value in the "Page break after every X occurrences" option.

Replace One Field With Another In Layouts Without Deleting

If you accidentally place an incorrect field in your layout or just decide that your needs have changed, hold down the Option and Command keys and double-click on the field you want to replace. This allows you to select another field to replace the one you selected previously.

Fitting Templates For Any Monitor

If you create FileMaker Pro templates on a Mac with a large monitor, it can be hard to know whether your layout will fit on a smaller monitor, such as the Classic's 9-inch screen. You can create a page guide for small screens by choosing Help from the Apple menu. This brings up a window exactly the size of a small Mac screen. Simply size your layout window so that it's the same as the Help window, and your layout will fit fine on a small-screen Mac.

Producing Columnar Reports With Repeating Fields

Repeating fields do not slide up properly in columnar-report layouts. If you have an existing columnar-report layout containing repeating fields, copy all its elements and paste them into a new blank-format layout.

Another way to improve the sliding of repeating fields is to choose Field Borders from the Format menu, check the Between Repeating Values box, and make sure all border options are set to None.

Putting A Better Font Forward In FileMaker Pro

The default font in Claris Corp.'s FileMaker Pro is Helvetica. Here are some steps to follow if you would like to start a database out in a different face:

Create a new database. When the field-definition dialog box appears, hit the Done button. An empty database layout appears; switch to Layout mode and choose a new font, size and style (and your preferred colors, if you like). Choose Define Fields from the Select menu and go on creating your database fields. When you're done, the fields shown will be displayed in your choice of type.

Time Flies With FileMaker On Big Networks

Timeouts—when one AppleTalk node gives up trying to communicate with another —normally indicate bad connections. But sometimes big networks work slower than applications expect, and premature timeouts result. If you've got a large network, you may run into this problem when trying to use the internal database-sharing capabilities of Claris Corp.'s FileMaker Pro.

To lengthen the amount of time before the network times out when communicating with a FileMaker database, hold down the Option key when clicking the Network button in the Open dialog box or when switching between zones in the resulting dialog box. This trick is useful only on slow networks, so you should expect correspondingly sluggish response from the database.

PANORAMA

Creating More Than 256 Fields

There are two ways to create a database with more than 256 fields in Panorama.

You can put cells onto a form by using Auto Cell Layout from the Arrange menu. That dialog box uses the Apple List Manager and is good for about 500 items. The scrolling window updates much faster than the pop-up menu, and you can select one or more of the cells you want.

Or, you can create an auxiliary database that duplicates cells beyond the 256-field "limit." The first item

in the auxiliary database is the first item beyond the main database's pop-up menu (in other words, item number 257). You can then simply copy and paste these cells from the auxiliary database to the main database.

Both of these methods will give you cells beyond the the 256-field limit before the pop-up menu with 256 items can even draw itself.

DESKTOP PUBLISHING

ADOBE TYPEALIGN

Highlighting Text Strings

When you're using Adobe's TypeAlign, the text-distortion DA from Adobe, you can highlight an entire text string without dragging from left to right. Just insert your I-beam tool anywhere in the text, and press the Tab key. It's easier than drag-selecting, which can be difficult with curved text, and it's not mentioned in the manual.

ADOBE TYPE MANAGER

Undocumented Type Manager Tip

Here's a tip about Adobe Type Manager (ATM) that's not mentioned in the product manual:

If you have little need for math and Greek characters, you might be tempted to save disk space by not installing the Symbol font. But when you try to print one of the 18 characters that are also included in the other three fonts, you'll find that they print with a bad case of the jaggies.

It turns out these characters are represented in the Helvetica, Times, and Courier PostScript files only by references to their locations in the Symbol font. Without Symbol available, your Macintosh has no choice but to print the bit maps instead. If you want decent output for any of these characters, you must install the Symbol font—both the outline fonts and the bit-mapped font.

The Font Cache

If ATM seems to be slowing down operations such as popping into Word's page preview or zooming in a graphics program, you probably need to give it more working space. When ATM creates screen fonts, it temporarily stores the characters in a reserved area of RAM called the Font Cache. When the cache overflows, the currently undisplayed characters are deleted and replaced by newly built ones. When you scroll to a part of your document that contains deleted cached fonts, ATM patiently rebuilds them. This purge/rebuild cycle always takes noticeable time, and you will blame ATM for slowing you down.

To give your system back its old zip, use the Control Panel DA to access the ATM cdev and then set the Font Cache to 256K or more—sometimes far more. A large enough cache will pay off in zero waiting time whenever you scroll or zoom. You should pump up the cache appropriately whenever you use large sizes or many different sizes or if you routinely zoom to several levels. Keep in mind that the first time you zoom or use a new font/size/style, ATM will need extra time to build the properly sized screen font.

ADOBE TYPE MANAGER 2.0

Eliminate TrueType Fonts

If you are using ATM, you may want to eliminate any TrueType versions of your PostScript outline fonts—typically, Helvetica, Times, Courier and Symbol.

To remove TrueType fonts, double-click on the System file while running Finder 7 and locate the icons that show three A's – these are TrueType fonts. (Bit-mapped fonts show only a single A in the icon and include a point size in their names.) If you have a PostScript outline font and at least one bit-mapped font, you can drag the equivalent TrueType icon out of the System file and throw it into the Trash.

It is not a good idea to keep both TrueType and PostScript fonts for the same typeface, since the relationships among bit-mapped, PostScript and TrueType fonts are complicated (and confusing) in this configuration.

ATM gives non-PostScript printers such as the ImageWriter and LaserWriter IISC the ability to print Adobe's PostScript fonts. The package includes the

PostScript outline fonts for the four "basic" fonts as well as the corresponding bit-mapped fonts: Helvetica, Times, Courier, and Symbol.

ADOBE TYPE REUNION

Use ResEdit To Disable Adobe Type Reunion In Applications

Adobe Type Reunion is a great utility for uncluttering Font menus, but it can slow down menus in many programs and some programs are even incompatible with it. You can hold down the Shift key upon launching a program to disable ATR temporarily for one session, but there is a way to permanently disable ATR for specific programs.

ATR checks a program's resource fork to see if it has an ATR resource with ID-1 containing a single zero byte (00). If it finds such a resource, it disables itself for that program, as it would if you had held down the Shift key.

Just use ResEdit to install that resource in all programs and DAs that don't need ATR, and you'll find that their menus are much faster!

Adobe itself uses this trick in Adobe Illustrator, so you can copy and paste the resource between Illustrator and other applications. As always when working with ResEdit, only modify copies of your programs, never your master disks.

DATABASE PUBLISHING

Formatting Utilities

Tweaking a database program to arrange and format your information can be quite a challenge, especially if you don't have programming experience. Suppose you use data from many different sources. It might be hard to ensure that all your information arrives at your page-layout program tagged and ready for use.

In such cases, it's probably easier to work with plain delimited ASCII files and to do all the formatting in your layout program. It would be easier if you could set up your document once and have your layout program automatically apply the design and formatting you want to your data when you import it.

Fortunately, programs are available for the two most popular layout applications. PageMaker users can turn to ElseWare's DataShaper (ElseWare Corp. 3201 Fremont Avenue N., Seattle, WA 98103; [206] 547–9623 DataShaper, $179.95), and QuarkXPress users can get Em Software's Xdata (Em Software, P.O. Box 402, Westbrook, CT 06498 [407] 321–8173 Xdata, $199.95). Both programs bring mail-merge functions to these layout programs.

Programming Text Formatting With Database Languages

You can tell a programmable database manager to add text-formatting information to exported files. To do this, you must know, in addition to the database's programming language, the tagging system your layout program uses. Tagging is a method in which you include codes within a plain ASCII text file that instruct a layout program what formatting should be applied to the text.

Such a code can be a simple instruction for the layout program to apply a predefined style to a paragraph, or it can contain a specific formatting instruction for a single character or a range of text. When the layout program interprets the tags, it automatically applies the formatting and also removes the tags.

QuarkXPress supports two tagging formats: Style Tags and XPress Tags. You'll probably want to stick with the newer XPress Tags, which lets you use tags to assign every one of QuarkXPress' formatting commands as well as define styles through tags.

PageMaker 4.0's more rudimentary tagging, available through its smart ASCII filter, is limited to assigning predefined styles to paragraphs. Version 4.2 of PageMaker supports far more powerful tagging capabilities, however. In fact, Aldus' language sounds much like the DesignScript command language that is used by LetraSet's DesignStudio. This powerful tagging language lets you not only specify text formatting but also create and position page elements, such as text and picture boxes, anywhere on a page.

Frame Technology's FrameMaker, a powerful long-document processor, also uses two tagging languages, MML and MIF. MML lets you create tags for most basic text and paragraph formatting, and MIF codifies virtually any object you can create in FrameMaker. Xerox's Ventura Publisher, the pioneer of tagging, inserts for-

matting tags into any word-processing file it incorporates into a document.

If you're good at programming and are resourceful, you can write a program that has your database program add the appropriate tags to fields or groups of fields when you export data. Even simple FileMaker Pro, which isn't really programmable, can add tags to data in a report if you're clever with its arithmetic functions.

CHARACTERS

Displaying PC Line-Drawing Characters

If you have documents created on a PC that use "line-drawing" characters, you will want to display them on the Mac.

IBM PCs and compatibles define an extended set of characters using ASCII codes 128 through 255; these characters include the line-drawing ones. On the Mac, there's no standard for characters with ASCII codes above 127. Commercial utilities that provide PC-style fonts for the Mac include Insignia Solutions Inc.'s SoftPC line and Vano Associates Inc.'s MacChuck PC remote-control program. Also, check the Fonts library of CompuServe's Mac Systems Forum (GO CIS:MAC-SYS); you can find two Mac fonts, PIXYMB.SIT and IIBMKL.SIT, both of which contain the kinds of PC characters you need.

FAXES

Sending PostScript Illustrations

If you have to send PostScript illustrations from a fax modem, create them at roughly three times the desired finished size and then export and reduce them in a layout program before faxing. This process enhances the apparent resolution of the embedded PICT image, minimizing the jaggies you normally get when faxing the PICT portion of a PostScript object.

Graphic Mistakes

If you're using a conventional fax machine, avoid layouts with long straight lines, small type sizes, and intricate artwork. Misfeeds and phone-line noise cause unsightly broken lines, and the scanning process can thicken lines and darken type, causing text to become unreadable and turning artwork into a blotchy mess.

Reverse Type To Emphasize

For special emphasis, try reversing white type out of a black background. A sans serif typeface set in 18-point bold works well.

No Letterhead

Don't use your printed letterhead for fax documents. Many things that are effective in print —embossing, foil or other metallic type, screened or pale type, very small type—can't be communicated effectively by fax. Instead, use a special fax letterhead with a related design.

Truncated Type

Keep type and images away from the margins so that they aren't truncated by the faxing process. Margins of three-quarters of an inch all around seem safe.

FAXMODEMS

Don't Do Photos Without Gray-Scale Ability

Unless your faxmodem has gray-scale capabilities, photographs and screened artwork are lost causes. Gray tones in the original image are converted to stark black-and-white blocks for transmission, often obscuring the contents. A conventional fax machine with gray-scale and contrast controls does a much better job of handling such images.

PostScript graphics usually look better if they are printed on a laser printer and then scanned into a fax machine. None of the Mac faxmodems currently include a PostScript interpreter, which would bring the language's device- and resolution-independence to faxing. Because faxmodem software isn't able to interpret PostScript code, it sends a low-resolution (PICT) screen image instead. (If an EPS file doesn't include an embedded PICT, the image will be replaced by a rectangular placeholder.)

ATM Type For FaxModems

The best way to image type for a faxmodem is through Adobe Type Manager. ATM uses the power of PostScript to create crisp text on-screen at any size,

and the faxmodem transmits that scaled type directly. If you don't use ATM, the only way to avoid jagged-looking type is to install bit-mapped screen fonts that are three times the size of those in your document. The faxmodem software uses the over-sized fonts to scale the type correctly for transmission, but this option can be limiting.

FILE CONVERSION

Converting PC Files To PICT Format

There is one anomaly of note that you may experience when converting PC files into PICT graphics for the Mac: The images often open as negatives. The fix is simple: Open the PICT with any Mac graphics program that supports the format and has an invert command. Select the entire PICT and invert it.

FILE FORMATS

What Is TIFF?

The Tag Image File Format, or TIFF, is a raster or bitmap format developed by Aldus and Microsoft to store images. It originated from a desire to provide a common, standardized format, particularly for scanned images since, up to that point, scanning software saved images in a bewildering variety of proprietary formats.

TIFF is generally categorized into five classes:

Class B: black-and-white images.

Class G: gray-scale images.

Class P: palette-color images, using an indexed color map or palette to define 256 colors.

Class R: RGB full-color images, where Red, Green, and Blue values are set for each pixel in the image and over 16 million colors are possible.

Class F: FAX images.

TIFFs produced on the PC and Mac differ somewhat because of the way the byte order is stored on the PC (the Intel format) and Macintosh (Motorola format), causing occasional problems, especially when transferring PC TIFF files to the Macintosh. Translation software must generally be used to ensure that trans-ferred TIFF files can operate correctly.

For the full specifications of this format, contact: Tag Image File Format, Revision 5.0, Developer's Desk, Aldus Corp., 411 First Ave. South, Suite 200, Seattle, WA 98104; (206) 622–5500.

What Is CGM?

The Computer Graphics Metafile (CGM) format has its roots in workshop discussions during 1976 and was accepted as an ANSI and ISO standard for the exchange of graphics files printed on a laser printer and then scanned into a fax machine.

What Is EPS?

Encapsulated PostScript (EPS, or occasionally EPSF) is a file format developed by Adobe Systems and Altsys that provides a way to bring PostScript code or graphics into software applications. What sets EPS files apart from straight PostScript programming code are two lines in the header:

%!PS-Adobe-2.9 EPSF-1.2

%%BoundingBox: llx 11y urx ury.

The bounding-box comment tells the importing application the size of the EPS file.

The format usually, but not always, incorporates a screen representation of the PostScript code. On the Macintosh, this screen image is stored as a PICT resource. On the PC platform, it's included as either a Windows Metafile (WMF) or TIFF image. When the screen representation is absent, the user will generally see a gray box or a rectangle with an X through it.

EPS as a format is widespread in the Macintosh environment, where it has found great favor among graphic artists and technical illustrators. Its popularity is growing in the PC community, and a form of PostScript called Display PostScript is currently used by the NeXT workstation for actual screen display.

For the full specifications of this format, contact: Encapsulated PostScript Files Specification, Adobe Systems Inc., 1585 Charleston Rd., P.O. Box 7900, Mountain View, CA 94039-7900; (415) 961–4400.

What Is PICT?

PICT is an object-oriented format common on the Mac . PICT comes in two flavors, PICT 1 and PICT 2;

the latter is an enhanced version that includes color support. PICT is widely supported.

What Is RTF?

RTF is a word-processing format in which text-formatting commands are embedded within the text itself. For example, "Fleshy-headed mutant" looks like this: "Fleshy-headed {\i mutant}" — and there's lots of header information (about fonts, margins, and the like) in front of it.

Normally this RTF "code" is generated by a word processor, but it's possible to write it all in by hand as you compose the document. You can download complete documentation on the RTF format from ZiffNet/Mac, MacUser's online service. Look for the filename RTF-DOC.TXT in the Reference library of the Download & Support Forum.

FONTS

Screen Font Alignment

Most Macintosh screen fonts supplied by Apple and all LaserWriter fonts have constant-width digits. It's been a standard in typography since the birth of financial printing. So if you're having trouble lining up columns of numbers, try the following suggestions.

In spreadsheet programs such as Excel, use a cell format that has a constant number of places after the decimal and left-align them. Using the General format in Excel with numbers that vary in precision is a sure way to have your columns wander. Similarly, in word processors, use a right-aligned tab and keep a constant number of places after the decimal or use the decimal tab that many word processors include specifically for this purpose – it aligns a tabbed column on the decimal point (or on the right if no decimal point is present). Both MacWrite and Word include decimal tabbing. Remember – use the Tab key, not spaces, before each number in the column.

The presence of non-digit characters, such as commas, parentheses, and dollar signs, may alter the alignment of digits in columns, but they shouldn't be a problem if you use them consistently.

FOOTNOTES

Placing Footnotes At The End Of A Page

In PageMaker 4.0, to put a footnote (or more than one) on the bottom of the page on which the footnote reference appears rather than in a separate chapter at the end of a book, you can automate much of the process with PageMaker 4.2's built-in scripting. For even more power, try UserLand Frontier (UserLand Software, 490 California Avenue, Palo Alto, CA 94306; [415] 325–5700), a scripting program that lets you write scripts to control almost every aspect of PageMaker 4.2.

If that sounds like too much trouble for you, check out FrameMaker (Frame Technology, 1010 Rincon Circle, San Jose, CA 95131; [408] 433-3311) and Ventura Publisher (Ventura Software, 15175 Innovation Drive, San Diego, CA 92128; [619] 673-0172), a pair of page-layout programs that are particularly good at producing long, structured documents. Each can automatically place footnotes at the bottom of the page on which the reference number appears, and each allows extensive control over the footnotes' appearance.

FRAMEMAKER

Printing A Template Style Sheet

Like most page-layout programs for the Mac, Frame-Maker provides no easy way to print out a style sheet for a particular template. But here's a way to do it:

Open a new document based on the template whose style sheet you want to print. Save the new document in MIF format, and then open it in FrameMaker or in a word processor. You'll find the template's paragraph tags listing in the MIF file, beginning at the following line:

```
<PgfCatalog
```

The specific formatting for each paragraph tag after that line is bracketed by these lines:

```
<Pgf
<pgfTag'TagName Here'> and
> # end of Pgf
```

Any other tags are listed in order and are always bracketed in the same way.

It may not be the ideal way to access this information, but with some editing, you can turn this code-like material into a printed style sheet that can be shared by several users.

GENERAL

Avoid Spaces During Text Transfer

When transferring text from one document to another—for example, from a word processor to a page-layout program—be aware that space-bar spaces are related to the size and style of each individual font. If you line things up beautifully and then change the font or export your text to another program, the spaces can change unexpectedly. To ensure exportability of text, use tabs rather than multiple spaces.

Generating Special Characters

Use the Option key to generate special characters such as the tilde (~, Option-N), registered trademark (®, Option-R), and delta (∂, Option-D). Use Key Caps under the Apple menu to view other special characters.

Resolution, Dpi And Lpi

Resolution is the maximum number of dots that a device, such as an imagesetter or laser printer, can cram into a linear inch, and it is the key determination of image sharpness. Resolution is measured in dpi (dots per inch), which could more descriptively be called dpli (dots per linear inch). A 300-dpi laser printer is capable of printing 90,000 (300x300) dots per square inch.

Lpi refers to the resolution you specify for printing a particular job on an offset press. The lpi (lines per inch) is also called the line frequency or line screen. If your job contains screens or halftones, ask the personnel at you printer ahead of time what line frequency to use and then specify that figure when outputting the document to an imagesetter or laser printer. (There's no need to specify a frequency for work that has only solid type and line art.) The printer's recommendation for frequency will reflect pragmatic factors – the quality of paper and ink, the size and sophistication of the printing press, and your budget for the job.

Getting The Command-Key Symbol

Many users are suprised that the Command-key symbol (also called the Apple key) isn't included in the Dingbats font —especially since Apple thoughtfully provides its logo in the other LaserWriter fonts. In fact, the Command-key symbol is hiding in the Chicago font in another nearly untypeable location: ASCII 17. Only owners of keyboards with Control keys —which excludes you if you own a Mac Plus—can type this symbol easily; you can access the command key symbol by pressing Control-Q.

Chicago isn't a PostScript font, so if you need high-quality output, try ChicagoSymbols, a shareware PostScript font. (Send $10 to Bradley Poulson, Northwind Enterprises, 4003 Martin Lane, Two Rivers, WI 54241.) If you own Altsys's Fontographer, you can use the accompanying DemoFont, which also contains the Command-key symbol.

GRIDS

What Is A Page Grid?

A page grid is an underlying structure of nonprinting guidelines that helps anchor elements such as text, pictures, sidebars, and folios. The grid provides a framework for the page design, and like the smooth layout of a highway system, it defines the best transportation routes for reading a page.

Using White Space Effectively

White space gives the reader's eye a rest but can be a distraction if misused. A grid must place text, graphics, and utility functions consistently.

A Fixed Zero Point Is An Absolute Reference Point

Construct the grid from a fixed zero point so that you always have an absolute reference point for positioning elements on the page. This is important if you're sending documents to a high-end prepress system such as a Crosfield or a Scitex, which positions all page elements based on a fixed zero point.

QuarkXPress 3.0 offers this sort of precision grid building. You can select a text or picture box and use the Modify dialog box to enter its x (origin across) and y (origin down) coordinates from the zero point. This

establishes where the left and top sides of the object begin. Entering the width (second x coordinate) and height (second y coordinate) establishes the object's right and bottom sides. This method is more accurate than positioning elements by eye.

Re-Creating A Traditionally Existing Grid

When you're electronically re-creating a grid for an existing publication, it's best to first create a test grid, using hairline rules, and output it to positive film. Lay it over your existing grid sheet to check for misalignment.

Matching Page-Layout And Prepress System Measurements

Prepress systems use the metric system for determining the trimmed page size, so you too should use metrics to measure page size and to create trim and bleed coordinates. Inside the page margins, however, you can safely use points and picas to measure text and image areas.

A note of caution: Many prepress systems use a measuring system of 72.27 points per inch, whereas most page-layout programs count 72 points per inch. If this level of accuracy is important to you, talk to the staff at your prepress bureau about dealing with this discrepancy. It may be possible to make adjustments at the prepress end – by adjusting the leading in an Atex system to match the Macintosh grid, for example.

Optimum Viewing Precision

View the page at 400 percent to achieve the best precision when you're placing elements.

Securing Page Elements

Group and lock all page elements to ensure that they aren't accidentally moved out of position.

Varying Columns For Easy Reading

Varying the number of columns makes it easier for a reader to select important information on a page; uneven column widths are ideal for small art, subheads, and quotes.

LASERWRITER

Printing With Ligatures

If you're using a LaserWriter to print, don't forget the two "ligatures" that all the LaserWriter fonts provide: "fi" and "fl." These will make your text "extra tight" for best appearance. The "fi" is Option-Shift-5 and "fl" is Option-Shift-6. Don't forget the printer's quotes either: " Option-[, " Option-Shift-[, ' Option-], ' Option-Shift-] .

There are several desk accessories and INITs available through on-line services and user groups that make using printer's quotes (also called smart quotes) easier. The ligatures are probably easiest if you type in "fi" and "fl" normally and use a Search-and-Replace in your word processor before printing.

OCR (OPTICAL CHARACTER RECOGNITION)

Put A Lid On It

It may be tempting to leave a flatbed scanner's cover up if you are flipping pages on and off the scanner bed, but you will regret it. Leaving the lid open can adversely affect the accuracy of a scan, because the page is not completely flat against the scanner's glass bed. If you are scanning text from bulky books, you want to photocopy the desired pages first. Also, remember to keep the glass bed of the scanner clean.

Dropping Out

If you are editing the hard copy before it is scanned, be sure that you mark up the pages with your scanner's dropout color, which is usually nonrepro-blue. Nonrepro-blue pencils are available in most office or art supply stores. If you use the nearest ballpoint pen, you will dramatically increase processing time as well as the amount of garbage you have to trash in the word processing file.

When Less Is More

Your OCR software lets you scan at 300, 400, or 600 dpi. Bigger is better, right? Wrong. You generally get more accurate results if you scan normal or large text at 200 dpi. A higher-resolution scan only takes longer and can introduce recognition errors by drawing attention to smudges and imperfections in the character shapes. The only exception is text that is smaller than 10 point— expecially laser output.

Connect The Dots

Many OCR packages feature a setting that improves the accuracy of dot-matrix scans. If your package lacks such a setting, try photocopying the material and scanning the copied pages. Photocopying blurs the text somewhat, effectively connecting the dots of the characters so they can be recognized more accurately. You can sometimes achieve the same effect by setting the brightness control to darken.

Choose Your Scanner Wisely

If OCR is a major regular chore for you, use a flatbed scanner—hand-held scanners just don't cut the mustard. But if you need OCR only occasionally, here are a couple of tips for using hand-held scanners such as Caere's Typist.

Make sure you put the document you are scanning onto a smooth, wrinkle-free surface. Also be aware that if you are scanning pages in a book, a hand-held scanner will tend to fall off the edge of the book, which can create garbage in the word processing file. You can avoid this problem by "extending" the dimensions of the book by placing another book of the same size next to the open page. This extra space helps to keep the scanner from falling off the edge during the scan.

Be Prepared

Prepare your materials before you start scanning. Stack all dot-matrix hard copy together, take out staples, and so on. If your software supports it , create setting files for the various types of documents you usually scan, such as dot-matrix output, pages from a specific printer that scan better when you darken the contrast, and the like. If you expect to do a lot of OCR work, consider buying an ADF (automatic document feeder). If you are not certain, you should buy software and hardware that support an ADF so you can add it later.

I Shot The Serif

If your OCR work includes regularly processing typewritten material or computer output, try to ensure that the material is in a sans serif font such as Helvetica. Sans serif fonts generally scan far more successfully than serif fonts such as Times or Palatino do. Serifs can confuse the recognition engine of many OCR packages.

Bright Lights

One of the most overlooked and underused controls in most OCR software is the brightness control. Unfortunately, it's also the most important part of accurate OCR processing. If you have to deal with overly dark or smudged copy, such as faxed text, lighten the scan by 25 percent. Scanning screened text is usually very difficult, but you can sometimes get better results by fiddling with your software's brightness setting.

Frequently, however, you can move the brightness control toward the lightest setting (70 to 80 percent) and essentially remove the screen shading. This leaves the text to the mercy of the OCR software. You can also try photocopying a page with screened text at a light setting and then scan the copy.

Just Type It!

There comes a point where OCR just isn't efficient, despite all the hype. If you have scanned the same page repeatedly and had only marginal success, it's probably best to give up and type the text. It's faster to retype a difficult page than to correct a scrambled scan.

OMNIPAGE

Edit With AppleScan To Differentiate Pictures And Words

OmniPage has some trouble recognizing text and pasting text blocks. The less "traditional" the page layout, the more difficult it is for OmniPage to differentiate pictures and words. AppleScan's editing tools offer a good remedy:

First, use AppleScan to get a picture of the page. The scanner settings should be 300 dpi, Line Art. After scanning, move to the document window and use the eraser, lasso, and selection-rectangle tools to eliminate graphics that crowd into text, and to move text into groupings that are more easily handled by OmniPage. Then, Save the document as a TIFF file.

Now, open OmniPage, choose Open from the File menu, and open the document you just saved. Choose Recognize from the Text menu. OmniPage runs through your newly-designed page flawlessly—and in record time!

Scanning Screened Or Colored Text

Scanning text from magazines into files can be a real time-saver, but you'll frequently come across text in sidebars or on the contents page that is boxed and screened with a color ramp or shading, which can play havoc with OCR.

When faced with this problem, you can lessen your scan time while increasing the accuracy of the scan by selecting Lighten in the Text Settings dialog box. More often than not, this strips out background screens and lets OmniPage do its stuff.

PAGE LAYOUT

Mixing Type Sizes In Headlines

You can usually get a more professional effect when you're using two type sizes in heads or when you're using a drop cap set within body text if you see a font that's one weight lighter for the larger type than the weight that's used for the main body text.

For example, if the main body text is set in Helvetica 8 point, use Helvetica Light for the 20-point drop cap. Otherwise, the large character overwhelms the surrounding text.

PAGEMAKER

Keep Your Master Disks

Don't erase your old PageMaker master disks when you get a new version, because the program recognizes only documents created with the current or previous version of PageMaker. In other words, PageMaker 4.0 can open and use documents created with version 3.0 or version 4.0, but it can't open documents created with PageMaker 2.0 or earlier.

You can upgrade all of your PageMaker documents each time a new version is released (and hope that you don't overlook a critical document!), but the safest solution is to keep all the master disks so that you can reinstall older PageMaker versions when necessary.

Repeating Items

In FreeHand, if you want to repeat an item (such as grid lines that you want to be a specific distance

apart), you can clone the item, move it, and then duplicate the action. PageMaker offers the same capability but requires a different set of steps:

1. Draw the item (a line, for example) you want to repeat.

2. Copy it, and paste it on top of itself by using the Option-Paste command (Command-Option-V). Move the duplicated item to where you want it to be on the page.

3. Use the Option-Paste command again. PageMaker will paste another line at the same distance as specified in the last move. You can keep using Option-Paste until you have all the lines you need.

Toggling To A MacPaint-Style Hand Tool

Hold down Option while clicking on your document in any other place but in a column guide. Use the hand to drag an image around the window and reposition your page.

Duplicating, Cloning And Moving Objects

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3. Use the Option-Paste command again. PageMaker will paste another line at the same distance as specified in the last move. You can keep using Option-Paste until you have all the lines you need.

Using Macro Utilities To Set Fractions

If you use a lot of fractions in your PageMaker documents, it's a good idea to define a macro that transforms a typed fraction such as 1/8 into a more professional-looking typeset fraction. To do this, you need a macro utility such as MacroMaker or CE Software's QuicKeys. (These instructions work for fractions that have one-digit denominators and numerators, such as 1/4 and 1/8.)

Type the fraction normally, place the cursor in front of the numerator, and open the macro program. Record the following steps:

1. To highlight the numerator, hold the Shift key and press the right-arrow key once.

2. Press Command-Shift-+ to invoke the superscript text attribute. Press the right-arrow key so the numerator is no longer highlighted.

3. To highlight the slash between the numbers, hold the Shift key and press the left-arrow key once.

4. Press Option-Shift-1 to replace the highlighted slash with the printer's slash character (*). This character works better with fractions than does the normal slash.

5. Highlight the denominator by holding the Shift key and pressing the right-arrow key once. Press Command-Shift-hyphen to invoke the subscript text attribute.

6. Press Command-T to access PageMaker's Type Specifications dialog box, and click on the Options button.

7. Tab three times to the Subscript position box, and type 0. Press Return twice.

8. Press the right-arrow key once to move the cursor off the denominator.

9. Press Command-Shift-hyphen. This combination deactivates the subscript attribute so the subsequent characters after the fraction are not subscripted.

10. Stop recording, and save the macro.

If you use fractions with double-digit numerators and/or denominators, simply create another macro and press the right-arrow key twice in steps 1 and 5 to highlight the entire number.

The macro is cumbersome to define, but it saves you time whenever you use it. Another advantage is that because the superscript/subscript text attributes are defined as a percentage of the current point size, the fractions will always be the correct size.

Resetting The Page Numbering For Forms

When using PageMaker to set up a double-sided form, you don't have to set the starting page number to 1 and then flip between pages 1 and 2. Just set the starting page number in the Page Setup dialog box to 2

and create two facing pages.

This lets you work with both sides of the form on the screen at the same time (and the master pages correspond to the on-screen form). Later, you can reset the Page Setup dialog box. Remember also that most DTP programs offer automatic page-numbering tricks, which become useful when your documents start to grow.

Setting Consistent Spacing Between Elements

Getting the spacing consistent between several repetitive elements, such as photos and their captions, throughout a multipage publication can be a real chore—but not if you use this PageMaker trick:

1. When setting the style for a caption or other repeating text element, go to the Rules dialog box, which you access by selecting Paragraph on the Type menu. Check Rule Above Paragraph, and set Line Style to None on the pull-down menu (this gives you an invisible rule above the text).

2. Next go to Options, and type the desired number in the Top box for the amount of spacing you want between the text and the invisible rule. For example, if you're working in 12-point type, an 18-point space gives you 6 points between the text block and the rule which translates to the bottom of the graphic element.

3. When you drag the text block to position it, the invisible rule above the text will enlarge the text box (shown as a dotted line), according to the amount of space you entered. Line up the top edge of the text box with the bottom edge of the graphic (see Figure 1). This will give you consistent spacing between all captions and related graphics.

This trick also works if the invisible rule is set below the text block (which lets you place the text above the graphic) or if the text block is rotated (for example, for a photo credit on the side of a photo).

Correcting Underscoring Problems

When making a "fill-in" sheet, the underscore characters you type at the end of each line will occasionally line up with the end of other lines. To correct this, after you've completed a page, draw a box over the edges of the ends of the lines which encompasses all of the associated lines. Give this box a white shade and "None"

lines, so it can't be viewed. The objects behind it will be invisibly covered.

Getting The Most Accurate Size Display

Although the 200% size has the most fractional markings on the rulers, it is not the most accurate size display. Since the printed version exactly matches the Actual Size display, always check it before doing your final printing.

Disabling "Snap To Guides"

You have the option of turning off Snap To Guides in the Options menu if you don't use them often. When making a move that isn't affected by these guides, be careful where you place the pointer. Position the pointer away from the guides when you start the move so that the item you're moving won't be affected by the guides.

Save Time When Switching Printer Drivers

Switching from the Aldus printer driver to the Apple driver for background printing under System 7 or MultiFinder is a hassle if you rely on the usual, slow method of invoking the Aldus Print dialog box and selecting Change.

You can make the change much more quickly by holding down the Option key while selecting Print from the File menu; then click on OK in the two resulting dialog boxes. You'll find yourself at the familiar LaserWriter dialog box, where you can specify the number of copies and pages to print. You've automatically switched printer drivers!

Printing a Publication From Page One, With A Title Page

You may want your publication to have a title page and then start the document with Page 1, but PageMaker doesn't let you treat the title page differently from your document (it also won't automatically number the pages starting with the second document as Page 1).

If you put the title page at the end of the document and turn off the Display Master option on the Page Menu for that page, you can use automatic page numbering for the document and still have a title page without a folio.

Remembering Page Setup Alterations

PageMaker will permanently remember page setup alterations if you choose Page Setup from the File menu with no document open and only the gray desktop showing. Every new publication you create will default to the altered settings.

Creating Evenly-Spaced Lines In Difficult Places

There will be times when you want evenly-spaced lines in a place not easily divided by the ruler. You can create these lines easily:

First, draw and save your own simple ruler (with some division lines) in a PICT file (you can make these with MacPaint or MacDraw, for example).

Enter PageMaker and use the Place command to put your ruler on the page. Select the ruler and resize it to fit the space you need to divide. You can now draw lines using the ruler as a guide. When you're finished, remove the ruler.

Toggling Between "Full Page" And "Fit To Window" Views

You can toggle between the Full Page and Fit in Window views by holding down the Command key while clicking in the page window.

Keyboard Command Shortcuts For Extended Keyboard Users

If you have Apple's Extended Keyboard, you can choose tools from the PageMaker Toolbox window by using the following undocumented key combinations:

Control-Shift-F1 selects the Pointer.

Control-Shift-F2 selects the Line tool.

Control-Shift-F3 selects the Horizontal/Vertical tool.

Control-Shift-F4 selects the Text tool.

Control-Shift-F5 selects the square rectangle tool.

Control-Shift-F6 selects the rounded rectangle tool.

Control-Shift-F7 selects the Ellipse tool.

Control-Shift-F8 selects the Cropping tool.

Flowing Text Around Irregularly Shaped Objects

PageMaker lets you flow text around irregular graphics using an invisible outline that text won't cross. This feature also lets text flow into an irregular shape.

Start by drawing or placing a graphic in a shape that

you wish to replace with your text.

Using the rectangle tool, create two side-by-side rectangles to cover the graphic, with the two rectangles touching in the center of the graphic and extending across the width of the column and above and below the graphic.

Select the center text-wrap feature, (found in Text Wrap under the Options menu) for each of these rectangles. The invisible wrap control lines will appear, overlapping in the center.

Working first with the left rectangle, click along the right control line enough times to create the number of points necessary to outline the left side of your graphic. Use these points to stretch the control lines around the left side of your graphic.

Repeat the process for the right rectangle, using the left side of the rectangle. Make sure the top and bottom control lines still overlap at the center.

When you have the graphic outlined completely, delete it.

Now, choose the two rectangles and specify None under the Lines menu.

Flow your text into the column, and it will fill the area you created.

Set the text to be justified to flow it properly across the area. This tip works best when you're working with small font sizes, tight leading, no paragraph breaks, no tabs, and a column width no larger than the size of your graphic.

Saving Money When Going To Print Or Film

Most service bureaus charge less for printing one 11 x 17-inch sheet of paper or film than they do for printing two 8.5 x 11-inch printouts. You can take advantage of the price break by using PageMaker's wide tabloid page setup to lay out two pages on a single page. This also lets you produce bleeds (graphics that extend across two pages).

Here's an example of how to set up two three-column pages on one tabloid-sized page:

Set the left and right margins to be the outside margin measurements (since neither one is an inside, or bound margin, they should be equal). Next, choose the distance between columns and the number of

columns, but choose seven columns instead of the more common six. The columns will be evenly spread across the two-page spread. To rearrange them, you need to know the width of the column you want. For a three-column page, the formula is (8.5 - (2 X the distance between columns) - (outside margin + inside margin)) divided by 3.

Starting from the left margin, measure the width of your column and then drag the left side of the first column guide to that point. Zero the ruler to the right edge of the column guide, and repeat the procedure for the second and third columns. Then move to the right margin and repeat the measurements for columns six, five and four. The remaining "seventh" column (the one left in the middle) and adjacent column divisions will be equal to the two inner margins.

When printing proofs on a LaserWriter, make sure that you change the options at the bottom of the print dialog box so that the paper is set at Tall. At this setting, with the tile feature set at automatic and the overlap set at 0, the LaserWriter will print your proofs as neatly as if your layout were in an 8.5 x 11 format.

Working With Word's Style Sheets

When you first place a Word document into PageMaker, you place Word's style sheet into the PageMaker document's style sheet, even if you previously hadn't been using a style. In other words, the style is not actually created by PageMaker; rather, it's borrowed from Word.

Once you've placed Word text into the program (and so, placed it in its style sheet), PageMaker will read whatever Normal text you place from Word, whether it's been formatted differently or not, as the same Normal style.

If you have several stories with different formats to place in your document, make sure to delete the Normal entry from the PageMaker style sheet before adding text. You can either add the styles you want in Define Styles under the Format menu while still in Word, or else save your formatting until you've imported all your text into PageMaker.

How To Save Revised Print Parameters

PageMaker saves updates to your print parameters (like Paper Source, Driver, Scaling, etc.) only if it perceives that you have changed the file. Even though

you may only be opening the file to print it, your changed parameters will be lost when you close the file.

One solution is to do something and then promptly Undo it. For example draw a box and then delete it. Now PageMaker will perceive a saveable change, and your new print parameters will be saved within your file.

Use Easy Access To Nudge Graphics Or Text A Short Distance

If you need to nudge an object just a tiny distance, you probably know that using the mouse to drag it is extremely inexact. Easy Access, an INIT that comes with the new System, can help.

Just press Command-Shift-Clear to turn on the Mouse Keys. Press the 0 key to lock the mouse button down, then use the numeric keypad to move the pointer (press 8 to move up, 6 to move right, etc.).

To move the pointer one pixel on the screen, tap the key once. For a longer movement, hold down the key a little longer. Press the decimal point to unlock the mouse button, and press the Clear key to turn off Mouse Keys.

Hide Guides And Rulers To Gain Screen Space On Plus\SE Screens

You can gain some space on the small Mac Plus and SE screens by hiding the guides and rulers. To navigate through your documents, use:

Command-Tab to move forward.

Command-Shift-Tab to move backward.

Command-G to go to a specific page.

Select the hand tool and Option-Click with it to move around the page.

An Easy Way To Track Hours Spent Working

If you need to track how many hours you spend on a particular PageMaker job, you can create a small chart on the Pasteboard, just off to the side of a page. Create columns for Date, Time Started, Time Ended, and Hours Worked in the chart, using tabs. Each time you open the document, add a new row for the day and enter the pertinent information. When you close the document, fill in the Time Ended column. Now you'll always have accurate data handy for invoicing that project, and it's a lot cheaper than buying a time-tracking program.

Typing Numbers Using The Keypad

Many people prefer to enter numbers from the numeric keypad, but with PageMaker the keypad numbers are used for moving around within a document (and the Num Lock key has been disabled). You can use the numeric keypad by making sure the Caps Lock key is down.

Tabbing With Dot Leaders

When using tabs with dot leaders in PageMaker, the dot leaders take on the text format of the character to the left of the tab. Therefore, if you use a Zapf Dingbats character just before the leader, the dots become little pencil icons.

It isn't possible to select the dots and change their typeface format separately. To avoid this problem, press Option-spacebar just before the tab. Then select this special nonbreaking space character and format it so that the dots appear as desired.

PAGEMAKER 4.0

Reformatting Text In Imported Tables

The Table Editor that comes with PageMaker 4.0 works well, but once a table has been imported into PageMaker, text within a cell can't be reformatted. Here's how to solve this problem:

1. Create a table in the Table Editor as usual, and copy it to the Clipboard.

2. Paste it into a graphics program that accepts PICT graphics.

3. Select the text, and format it as needed.

4. Select the table, copy it, and then paste it back into PageMaker.

The table's lines and shading can be modified in the graphics program in the same way.

PageMaker 4.0 Tries To Forget Its Past

If you've been using PageMaker for years and have upgraded to Version 4.0, you might not want to throw away your previous versions just yet. PageMaker 4.0 can open and use documents created with version 3.0 or 4.0, but it can't open documents created with PageMaker 2.0 or earlier.. To get your older PageMaker documents into Version 4.0, you

need to open them in PageMaker 3.0 first and save them in that version's format. Then you can open the files in Version 4.0. Aldus recommends having free space on disk equal to three times the size of the file being converted.

You can upgrade all of your PageMaker documents each time a new version is released, but the safest solution is to keep all the old master disks so that you can reinstall older PageMaker versions when necessary.

Saving Documents Created With Older Versions Of PageMaker

PageMaker 4.0 has enhanced exporting features for text, which can be a boon if you need to compress and save documents created in older versions of PageMaker. These documents are most likely large, and the formatted text sections are probably the most important part. If this is true, then translate the document created with PageMaker 3.0 or 3.02 up to PageMaker 4.0.

Now you can export the documents (you can combine them by cutting and pasting) into a document that's formatted in your favorite word processor-style (or text only). This technique might save you 100K on small documents and as much as megabytes on large ones.

If you ever need your older document again, you'll find that reassembly is easy. Other exporting programs can perform this trick as well, but PageMaker documents save you the largest amount of space when you remove the formatting.

PageMaker Graphic Dropouts

Are you experiencing problems when importing graphics? There may be some explanations depending on what's happening. Here are some common causes of the "Hey, the graphics didn't print!" problem.

You may have placed a scanned image and then moved the image file to another disk or folder, where PageMaker couldn't find it. Fortunately, if the program can't find a file it needs, a dialog box will appear telling you, so you'll know what happened. PageMaker 4.0 automatically incorporates all EPS graphics into the data file itself, so the location of the original EPS file doesn't matter.

Another possibility is that you may have checked the Proof Print option in the Print Setup dialog box. This is a time-saving measure in which PageMaker prints

dummy-style boxes in the place of any placed graphics. If you don't see a box containing a jumbo X where you placed your graphics, you can rule this one out.

If the dropouts are irregular (page elements of all types either print or won't print, without reason or mercy), you're probably looking at a bona fide computer problem. If you've installed a screen saver, try turning it off. Some screen savers can cause trouble if they kick in while a document's being printed; the computer becomes engrossed in the challenge of drawing those fireworks, or fish, or exploding penguins, or whatever and quite literally "forgets" to send some data to the printer.

It's also possible that the page was complex and your printer ran out of memory. Usually when that happens, your Mac is polite enough to report a "Not enough memory, bonehead!"-type error message. If you suspect this kind of trouble, you can clear any and all errors from your printer by switching it off and back on again.

If you've already turned your printer off and then back on again and you still can't get the page to print, turn the printer off and then on one more time. Then manually download all the fonts used on the troublesome page – all the fonts you used in PageMaker and all the fonts in your EPS graphic. Now print the troublesome page (but not the entire document). To download stuff to your printer, you need a program such as Font Downloader, which is included with Adobe fonts, or CE Software's Widgets or LaserStatus.

Using Auto-Linking To Create Documents Automatically

With PageMaker 4.0's auto-linking and updating feature, you can create documents automatically. The technique works best for highly structured documents such as brochures or manuals, in which text has a consistent length and placement. Here's how to do it:

1. Create some dummy text files in your word-processing program, and name them Story 1, Story 2, and so on. You can also do this with graphics, naming them Picture 1, Picture 2, and so on.

2. Create a new PageMaker document, and turn on the Update Automatically and Alert Before Updating features, by clicking on the Links Options button in the Links dialog box (Command - =), which you access

from the File menu. Now place (Command-D) each of the dummy stories and graphics you've created. Choose Save, and click on the Template button in the Save dialog box before you save the file. Then quit PageMaker.

3. When you're ready to create a new self-creating document based on the template, open the dummy text and graphics files in your word-processing or graphics program and delete everything there. Type in the new material, and save the files with the same names (Story 1, Picture 1, and so on) and in the same location.

4. Double-click on the PageMaker template file. A new untitled document based on the template will open, and you'll be asked if you want to update the linked dummy files. Click on OK, and the new text and graphics will appear in the template.

Professional-Looking Fractions

In order to set professional-looking fractions in PageMaker 4.0, change the option for subscript position (on the Type menu) from 33.33 percent to 0 percent. To set a fraction, all you need do is type in the numbers and change the numerator to superscript and the denominator to subscript. No more calculating and changing the size of your denominator – it will be perfect every time.

Conversion Of MacWrite II To PageMaker 4.0

In converting documents from MacWrite II to PageMaker 4.0, the import and creation of en dashes is inconsistent. In the story editor of PageMaker, you can't import en dashes, nor can you create them. The mode's global-change options don't recognize them. They import as hyphens.

When you use the Place command on imported text in the page-layout view, the en dashes change to hyphens. You can create en dashes in the page-layout view with the standard Option-hyphen keystroke combination, however.

There is a way around this shortcoming: Cut and paste between applications. Copy the text you want to import from your word processing file, and then close the document. Open the PageMaker 4.0 file, and paste the text.

Although more steps are involved in this technique, if you have many en dashes in an existing document

and want to copy directly to the PageMaker document, this is the only way the en dashes will survive the transition.

Using The Scrapbook To Reuse Layout Elements

If you use various elements such as company logos, slogans, or advertising copy interchangeably in your documents and you need those elements placed at specific locations on the page, you probably have to create one or more PageMaker templates for this purpose.

An easier way is to use the Scrapbook and PageMaker's "power-pasting" feature. First, accurately position the text or graphic elements you plan to reuse in PageMaker documents, and then copy or cut them and paste them into the Scrapbook. Repeat this procedure until all these elements are placed in the Scrapbook. Whenever you need to reuse any of them, simply open the Scrapbook, select the item, copy it, return to your PageMaker document, and power-paste it by pressing Command-Option-V. Your text or graphic element will be pasted into its original position.

Importing PC TIFF Files

If you want to import a PC TIFF file into your layout, you'll discover that Aldus PageMaker 4.1 imports PC TIFFs without prior processing or conversion. This feature can speed up the layout cycle, although the PC TIFFs often import at about 25 percent of their original size, making resizing necessary.

PERSUASION

Changing The Size Of The Arrowheads

If you find the arrowheads in Aldus Persuasion too large for your taste, you can change their size by changing the length of the line to which they're attached. On longer lines, Persuasion consistently makes the arrows the same size, but by adjusting shorter lines, you can obtain a variety of sizes.

Draw the line in the position you want. Instead of choosing the arrow style from the Effect menu and applying it to your line, draw a shorter line off to one side, make it the arrow line, and then adjust the length until you get the arrowhead size you want. Copy and paste this arrowhead on top of the first line.

You can also create a selection of arrowheads and copy them to the Scrapbook so you can use them later. Be sure to create them pointing in different directions.

Change The Master For Some But Not All Of Its Associated Slides

You can't do this, but Persuasion's multiple masters can produce the same result. Simply create a new slide master based on the old one by choosing Go to Master on the View menu and New from the submenu. Then select any subset of slides by Shift-clicking in the Outline or Slide Sorter view, and apply the new master. Reformat the new master to suit your needs.

Switch AutoTemplates To Give Your Slides A New Look

Use the AutoTemplates command to quickly change the formatting for an entire presentation. This is a convenient way to alternate between black-and-white overheads and 35mm color slides. Persuasion automatically replaces masters with the same names, reformats all slides, and replots charts to match the new design. The new AutoTemplate format also overrides any previously applied color schemes and defined text and chart formats.

Restore Master Formatting To An Individual Slide Element

You've made several changes to the body text of a slide – italicized some words and moved and resized the text block – but you don't like the results and want to restore the master's formatting.

The solution is , in Slide view, use the pointer tool to select and delete the entire text block. Leave Slide view, and then return to it. Voilà – your body text has been reformatted and repositioned based on the master.

This shortcut works for any text that's linked to the outline, including titles, subtitles, and body text. For an organization chart, just select and delete the whole chart. (Note: A quick way to leave and return to Slide view is to click on the slide icon at the upper right corner of the window.)

Use Chart Placeholders

You don't have to use chart placeholders, because you can plot a chart directly to any slide regardless of which master you're using, but you can easily use a chart placeholder by assigning a master containing

one to the slide before you plot. A chart placeholder offers two benefits: One, you can adjust the size, positioning, and formatting of charts on several slides at once simply by changing the master. Two, if you switch AutoTemplates, all the charts will automatically be replotted, resized, and repositioned to reflect the new template design.

Use "Selective" Select All To Choose All Objects Of A Given Type

In Slide view, you can select all the objects created with a specific tool by choosing that tool and then using the Select All command (Command-A). If you choose the rectangle tool and choose Select All, for example, all rectangles are selected. Choose Select All again, and all objects on the slide are selected.

In Outline view, the Select All command has three levels of operation: Issuing the command once selects all the text in a single heading, twice selects all the headings of the same level that share the same superior heading, and three times selects all the visible headings in the outline.

Take Advantage Of Temporary And Permanent Defaults For Drawing Tools

Permanent defaults are saved with your document. You can change them by selecting the pointer tool and choosing line styles, colors, or patterns from the Effect menu. (Make sure no objects are selected, or they will be affected by the changes.)

You can set temporary defaults by clicking on a drawing tool and then making selections from the Effect menu. The temporary defaults affect all the objects you draw until you choose another tool.

Create One Or More Preview Slides Automatically

A preview slide gives an overview of a set of slides by listing their titles. You create preview slides in the Outline view by using the Set Heading As command from the Outline menu to turn subordinate headings into slide titles. The subordinate slide title then appears twice, once as body text in the preview slide and again as the title of its own slide.

Restore Master Formatting To An Entire Slide

The fastest way to remove all local overrides —such

as format and position changes to the title, subtitle, or body text—is to select None for the master and then reassign the original master.

Let Persuasion Keep Text Blocks And Charts Centered On The Slide

You might want to keep a text block centered on the slide even if the text within the block is aligned on the left. Use the Anchor Placeholder command to do this. Few of Persuasion's Auto-Templates use center anchoring, so this feature is largely unknown.

Go to the slide master, select the placeholder for body text or organization chart, and choose Anchor Placeholder from the Master menu. Select both Center options, and you've finished. Now all the text that's contained in the placeholder, regardless of its size and alignment, is vertically and horizontally centered relative to the placeholder.

Use AutoTemplates As More Than Coordinated Masters

You can save any presentation as an AutoTemplate, and all the data, document attributes and defaults are saved along with it. Similarly, you can open the original of any AutoTemplate (instead of a copy), modify it to fit your needs, and resave it.

Here are some possibilities for enhancing AutoTemplates. Set up level-specific text styles for the Outline view (you can always override the styles for individual characters and topics). Define drawing-tool defaults for patterns, colors and line styles. Create your own color schemes. Save a collection of drawing objects or clip art on an unused slide, a notes page, a handout master, or the gray area of any slide (in other words, any place they won't print).

Create Slide Builds (or Layers) Automatically

A build reveals a slide's text and graphics one layer at a time, in a manner similar to using a flip chart with acetate overlays. You can create builds manually by selecting objects in Slide view and sending them to different layers (using the Layer pop-up menu in the lower menu bar). But many users don't realize they can create builds for text and charts automatically for an entire presentation.

The process is simple: Go to a slide master, select the appropriate place-holder, pick Build Layers from the

Master menu, and choose a build option in the dialog box. All the slides based on that master are now layered. To see the builds, you can run the slide Show or output them by checking Builds in the Print or Export dialog box. (Note: Builds print cumulatively—layer 1 on the first page, layers 1 and 2 on the second page, and so forth.)

Creating A Presentation Without The Outliner

The key here is to choose New from the Slide pop-up menu. This gives you a brand-new slide with a dummy title and body text based on the slide master. Use the text tool to select the dummy text, and type in new text. You can use the Move Right and Move Left commands (on the Text menu) to alter the heading level of a paragraph, and the font and style automatically change to reflect the new level if it is different on the master.

Assigning Different Type, Style And Color To Body Text On A Master

Use the text tool to select one or more paragraphs of body text, and then choose the desired styles and color from the Text menu.

Changing Body Text On The Slide Master

Make changes to body text, organization charts, and so forth on the slide master rather than on individual slides. All slides that use the master will be updated instantly.

Mixing Tall And Wide Overheads In The Same Presentation

Slide or overhead orientation is always based on the orientation of the master and is usually horizontal (wide). If you prefer an overhead with a vertical orientation, make a new master, don't give it a background (select None from the Background pop-up menu), and choose Tall Orientation from the Master menu. Any slide using this master is now tall instead of wide. This technique always works for overheads, but it's less reliable for slides, because some film recorders can't handle a tall orientation.

Replacing The Default AutoTemplate Without Reinstalling

When you install Persuasion, you have the option of installing one AutoTemplate as the default presentation; this file is called Persuasion Prefs and resides in

the Aldus Folder, inside the System Folder), If you later want to make another AutoTemplate the default, you don't have to reinstall the program. Instead, just create a presentation and adjust the various settings to meet your needs. Save the file as a presentation called Persuasion Prefs and store it in the Aldus Folder, where it replaces the original file.

Reformat All Slides Simultaneously By Changing The Slide Master

Most people change the formatting for existing slides one at a time right on the slide, but one of Persuasion's unique features is that you can reformat all your slides simultaneously by making changes to the slide master. All slides based on the master immediately reflect the changes. This works for any placeholder change, including font, style, size, position, and fills. (Placeholders are markers that define the size, format, and location of objects on a master.)

Persuasion Does Animation

You can use Persuasion's layers to achieve animation effects. Say, for example, that you want to have a ball bouncing across the screen. First, copy and paste the ball at different positions on successive layers of the slide. On each layer, hide the ball from the previous layer by using a solid rectangle whose fill is the same color as the background. Similarly, you can build text word by word (or letter by letter) by sending the appropriate characters of the text block to different layers.

Note: When you paste or draw new objects they always go to the current drawing layer. You can change the drawing layer by choosing it from the Layer pop-up menu when no objects are selected.

Use "Warm" Links To Quickly Replot Charts Linked

You can open a spreadsheet from another program (if it's saved in text or WKS format) and use it to plot selected information. Persuasion maintains a link to this external tie enabling you to update a presentation quickly if data in the original spreadsheet changes. Simply use the Data Sheet command to open the external spreadsheet, select the data to be replotted, and click on the Replot button on the menu bar.

Spice Up Your Charts With Some Variety

You can flip charts vertically or horizontally and reposi-

tion legends and pie slices by double-clicking and dragging. You can add round corners to bars via the Round Corners command on the Draw menu as well as ungroup any chart and alter the individual elements.

Improve A Resized Chart Using The Redraw Chart Command

When you stretch or resize a chart in a drawing program such as Persuasion, the screen image may become distorted. If you select Redraw Chart from the Chart menu, the chart will be recalculated based on its new size and replotted, giving you a clean image.

Highlight Key Data Points By Enhancing Individual Chart Elements

You can change patterns, colors and line styles for a single data element as well as for an entire series.

When you double-click on a bar, all the bars in the series are selected. If you double-click again, the individual bar is selected and you can alter its appearance without affecting other chart elements. Similarly, you can alter the tops and sides of bars, pie slices and so on; make independent changes to major grids, minor grids and tick marks; and enhance text for individual category and legend labels. (Note: You can use one triple-click instead of two double-clicks to select an individual chart element.)

7 Keyboard Shortcuts

1. Move between slides by holding down the command key and pressing either the up-arrow key (to go backward) or the down-arrow key to go forward.

2. Move between the Outline, Slide, and Notes views by holding down the Command key and choosing the right- or left-arrow key

3. Use the Command key to make resizing easier.

You don't have to use the selection handles to resize selected objects. Just hold down the Command key and drag the mouse anywhere on the slide. You can reduce the effect of mouse movement by beginning the drag outside the select on and magnify it by starting the drag inside it.

4. Resize text blocks without leaving text editing mode.

Just hold down the Command key and drag the left or

right edge of the text block. This applies to all text blocks, including those in groups and charts.

5. Select objects behind other objects by using the Option key.

Sometimes you can see an object but can't select it because another object is in front of it. If you hold down the Option key and click, you can select an object behind the front-most object. You can use this keyboard shortcut to select several unreachable objects in succession.

6. Change the default text style for one or more levels of the outline without using the Outline Styles dialog box.

Hold down the Option key while you choose any font, size, style or color from the Text menu, and all the headings on the same level as the selected one change simultaneously. All the new headings have the new formatting, but local style overrides are preserved.

7. In the Outline view, you can show only first-level subordinates of a heading and hide all deeper levels by holding down the Command key and double-clicking on the heading icon.

To re-expand the subordinates of the heading, hold down the Option key and double-click on the heading icon.

Let Your Chart Data Go Through The Roof

You can emphasize, expanding sales figures by changing a chart's plot range so that the largest numbers literally go off the chart. Select the chart, and then choose Axes from the Chart menu and Value Axis Format from the submenu. When the dialog box appears, reduce the value for Plot Range Maximum. Now the longest bars (or highest points) will extend beyond the chart axes.

Edit Text In Grouped Objects Without Ungrouping

Choose the text tool, click on the text in any group or chart—no matter how deeply nested it is—and proceed with your editing. You can also change the type style and apply superscripts or subscripts. (Note: Text changes you make to chart labels are automatically reflected in the data sheet.)

POSTSCRIPT

Sending A PostScript File To The Printer

Once you have created a PostScript file on the Mac, you need an application or DA capable of sending the file to the printer. Adobe's Font Downloader can, in addition to manually downloading fonts, download PostScript files one at a time. CE Software's Widgets application or LaserStatus DA can download files one at a time or in batches.

Font Downloader is included with Adobe fonts, and you can download it from the Adobe Forum on CompuServe. Widgets and LaserStatus DA are bonus programs included with CE Software's Finder-replacement DA, DiskTop.

POSTSCRIPT FILES

PostScript File From LaserWriter 7

With the LaserWriter driver from System 7, the old trick of pressing Command-K or Command-F at just the right instant to get a PostScript file no longer works. Instead, a new button in the print dialog offers "PostScript file" as an alternative destination to "Printer."

Printing PostScript to Disk Under MultiFinder

Prior to System 7, one way of sending a PostScript file to disk is to hold down the Command and K keys immediately after clicking on the OK button in the Print dialog box. This approach works, unless you're using MultiFinder and have Background Printing enabled. If this is the case, your PostScript file will never be printed to disk.

If you normally use both MultiFinder and Background Printing, don't despair – you can still print a PostScript file to disk. Here's what you need to do:

1. Open the Chooser DA.

2. Select your laser printer.

3. Turn Background Printing off.

4. Close the Chooser.

Now, if you hold down the Command and K keys immediately after you click on OK in the Print dialog box, you'll see a box that says, "Now printing PostScript file." Don't forget to turn Background Printing back on when you've finished.

Troubleshooting Output Problems

One way to troubleshoot potential output problems is with LaserCheck, a $149 utility from Systems of Merritt ([205] 660–1240) that turns your PostScript laser printer into a proofing device for an imagesetter.

It uses the imagesetter's printer files and output settings and scales the pages to fit 8.5 x 11-inch paper. LaserCheck's output shows crop and registration marks; displays job information such as screen angles, fonts used, and processing time; and flags any PostScript errors and color-separation problems.

PRINTER DESCRIPTION FILES/DIALOG BOXES

Selecting The Printer Description File

In some applications, such as QuarkXPress, PageMaker, FreeHand, and Illustrator, the Print or Page Setup dialog boxes let you select a specific printer, such as a LaserWriter II, QMS PS-810, or Linotronic 300. Your printer choice affects the PostScript code that is sent to the printer and can occasionally limit the output quality. This is because when you choose a printer, the application uses a printer-description file to determine what information to send to the printer. Some descriptions are built in to the application; others use separate printer-description files. These files are usually identified by a special filename extension, such as APD for Aldus applications, PDF for Quark programs, and PPD for Adobe applications. The printer descriptions affect gray levels, page margins, and other factors—some permit more versatility than others.

It would be great if these descriptions were perfect, but that's not always the case. If you suspect that the printer description is limiting the quality of your output, try telling your application that you're printing to a Linotronic 300, which is a high-end imagesetter. In many cases, this printer description gives the printer the ability to print the best-looking page instead of sending a restricted copy of the page's code.

PRINTING

The Wrong Font

If Courier unexpectedly pinch-hits for a PostScript font, the laser-printer driver probably couldn't locate the right outline- or printer-font file. These files should be stored in the System Folder, unless you're using a font-management utility, such as Suitcase II or MasterJuggler, in which case the outline-font and bit-mapped-font files should be stored in the same folder, not necessarily the System Folder.

Missing Elements

If you're using a page-layout or graphics program and an individual element fails to appear on the page, you may have turned on a "proof printing" option in your application. Proof printing saves printing time by substituting empty placeholders for graphic images.

If you see an empty box or one displaying only a file-name, the program may not have been able to locate a placed image on-disk; delete that element from the document, and try placing it again.

Image Chopped Off

If you find an image is chopped off or cropped and you didn't intend it to be, you may have placed a page element too close to the edge of the paper. Keep everything at least an eighth of an inch away from the edge.

Jaggy PostScript Graphics

When that spiffy EPS graphic you worked so hard to produce looks like a low-quality 72-dpi bit-mapped image, it's because the program couldn't find the EPS image and printed the bit-mapped PICT preview instead. Delete the bit-mapped image from the document, and place the original graphic again.

Jaggy Type

When you get the right font printed but it's horribly jaggy, it's probably because the driver couldn't find the PostScript outline-font file for that face and you had the Font Substitution option in the Page Setup dialog box turned off. The driver substituted the highest-quality bit-mapped version of the chosen font.

QUARKXPRESS

Lining Up Numerals Using Kerning

Because numerals are generally designed as monospaced characters, even in proportionally spaced fonts, they don't look as if they line up flush left with smaller type above and below—there's usually too much white space to the left of the numeral.

Unfortunately, in QuarkXPress you can't kern to the left of the first letter in a line unless the first character is a space. If you have a numeral as the first character in a line, insert a space before it —you can then kern the space between it and the second character, lining up the numeral with the text above and below it.

Applying Two Style Sheets To A Paragraph

QuarkXPress, like most other word processing and page layout programs, doesn't let you mix two style sheets in the same paragraph. But let's take an example where your layout needs a hanging indent with New Century Schoolbook and numbers in Helvetica Bold.

In this case, you might set up a format for the hanging indent in New Century Schoolbook and then painstakingly select and change the numbers to Helvetica Bold.

A quicker way is to set up a style sheet for the hanging indent and a separate style sheet for the part number. Then instead of running the part number and the description together, as they will eventually appear, insert some unique combination of paragraph returns (and other characters if necessary) between the part number and the description so you can search for and replace it later.

Select the entire text, and format it as a description (with hanging indents) by using your first style sheet. Now click on each of the part numbers and – with the function-key equivalents that QuarkXPress lets you assign to style sheets – format all the part numbers with their own style sheet.

Now use QuarkXPress' Edit Find/Change menu option to replace your separator (in this case, two carriage returns) with spaces or whatever else you want to have between the part number and the description.

When you've finished, you'll see that the description

and the part number each have their own style. QuarkXPress, unlike PageMaker and Word, doesn't store styles in the paragraph marker, so when you eliminate the paragraph marker between dissimilar styles, QuarkXPress simply juxtaposes the styles rather than replacing one with the other.

Because all formatting options in the style sheet remain with the text itself, you can have different fonts, styles, formats, and you-name-it, and QuarkXPress will preserve them.

QUARKXPRESS 3

Setting Up A Left First Page

Normally, the first page of a QuarkXPress document has to be a right-hand page, but you may want to set up your document so that the first page is on the left – you may, for example, want to print a publication's back cover to the left of the front cover.

To do this, create all the pages in the document except the final one. Select page 1, and start a new section with the Section command on the Page menu. In the resulting dialog box, specify that page numbering start on any even number. Page 1 will automatically move to the left side of the gutter. Now insert a page to round out the job, and start importing your text and graphics. Be careful if you're using automatic page numbers, because this technique will throw them off.

Quick Access To Typefaces

Are you tired of pulling down a long menu to choose a font in QuarkXPress? Just go to the Measurement palette at the bottom of your screen (use the View menu to make it visible, if necessary), double-click on the current font name to highlight it, and type in the first few letters of the desired typeface. For example, type He, and the name changes to the closest match, probably Helvetica. If that's what you want, press Return to select it.

Recovering The Text From A Corrupted Document

If you get a Bad File Format error when you're attempting to open a QuarkXPress 3.0 document, the document is history. You can, however, recover most of the text in the file by using the Open Any File command in Microsoft Word. Access this command by holding down

the Shift key as you pull down the File menu (you can also add this command to the menu by using the Commands item on the Edit menu). The text may be somewhat scrambled and there will be some garbage in the file; however, if you need the text, you are in luck.

Creating Crop Marks For Consolidated Jobs

If you're outputting files at a service bureau that charges per page, you can consolidate space and reduce costs by combining several small jobs such as business cards onto a larger page. However, because you are putting several separate documents onto one page, you can't use QuarkXPress' automatic-crop-marks feature. Here is a way to quickly create accurate crop marks for each document on a page:

1. Draw a text box within a letter- or tabloid-sized page, and give it a white fill with no runaround.

2. Select the box, and make it the size of the document you want (for example, a 2 x 3 business card), using the Modify command from the Item menu or the Measurements palette.

3. Draw two lines with a 0.25-point line weight. One should be horizontal, butting the top of the box, and the other should be vertical, butting the left side of the box. Both lines should extend about 1/4 to 1/2 inch beyond the box at both ends.

4. Duplicate each line, and drag it to the opposite side.

5. Now drag the zero ruler guide to the top left corner of the text box, and drag the corner to resize the box so that it is 1/8 inch larger than it was at the top and left. Drag the ruler guide to the bottom right corner, and extend the box likewise to the right and bottom. With the box still selected, bring it to the front, using the Item menu.

6. Create a descriptive title if necessary (for example, "My business card – shoot @ 100%"), and place it appropriately. Select all items, and group them. If you want to save this as a template for future use, drag a copy of it to a library.

7. Now drag the grouped item to an appropriate place on the page, and add any ruler guides as necessary. Continue adding other items to the page as desired.

Accessing The Environment Box

QuarkXPress 3.0 can provide you with useful information about your system configuration in its

Environment dialog box. You access it by holding down the Option key when you choose About QuarkXPress from the Apple menu. But if you use QuicKeys 2 or Suitcase II, you can run into problems, because those programs use the Option key to modify menus. Quark suggests that you change this menu-modifier key, but if you have an Apple Extended Keyboard, you don't have to. Hold down the Option and Help keys, and the QuarkXPress Environment dialog box is all yours.

Importing Word's Fast Saved Documents

Here's a quick tip on importing Word documents with style sheets into QuarkXPress. When you import text by using the Include Style Sheets option and the Word document's styles have the same names as those in the QuarkXPress document (for example, Body Text), the QuarkXPress styles should override the Word styles. However, this won't work consistently if you've saved your Word text with the default Fast Save option – only some formatting will take effect. To make sure the QuarkXPress styles do override all the Word styles, use the Save As command when saving your documents in Word. You can also use the Commands option from the Edit menu to add the Fast Save Enabled command to a menu. This lets you toggle Fast Save on or off as you need it.

Creating Real Fractions

QuarkXPress 3's in-line-graphics and paragraph-rule capabilities give you an easy way to create real fractions (placed top over bottom, not diagonally as in the QuarkFreebies extensions). In-line-text boxes are simple to manipulate.

First create your standard text, leaving markers where you want the fractions to be. Then create a new text box on the pasteboard, making sure that the text inset for this box is set to 0. Create a fraction by typing the numerator, pressing Return, and then typing the denominator. The point size of the fraction should be 1 to 3 points smaller than the body text. Set the alignment to center.

Highlight the first line, and create a paragraph rule (using the Style menu). A hairline rule based on the indents works well with numbers greater than 9, but you can use the text setting for fractions that contain only a single digit top and bottom.

Make sure the text box is as small as possible without

losing any type, and then click on the text box with the item-selector tool and copy it. Using the editing tool, paste this box into the body text where you want the fraction to be. Use the Baseline Shift command in negative increments to bring the fraction down to the level you like. Use the kerning command on the Measurements palette to adjust the word spacing.

For small body text, you may find that the in-line text box has too much white space to the right and that even kerning does not help. The only solution is to use the text box as a free-floating graphic. Just make sure that if you edit the body text, you also reposition the fractions, if necessary.

Once you've created a fraction this way, you can create others by copying and pasting the original fraction into new positions and changing the numbers.

Creating A Large Letter With Nested Text

If you've ever wanted to create a word with a large initial letter and the other letters nested inside it, you can do it in QuarkXPress 3. The following steps will help you create this effect:

1. Type the first letter in a large font size.

2. Type the rest of the word in a smaller point size.

3. Select the smaller letters, and move the baseline up until it is in the middle of the opening of the letter (An example of this is the word Cats, where the C is the large letter and ats are the letters nested in the C).

4. Select the large and small letters, and modify the tracking until the small letters are nested inside the large letter.

5. Select the small letters, and reset the tracking to 0.

Although you can achieve the same effect by using two text boxes and placing one inside the other, this method is easier, because you don't have to worry about grouping text boxes or making boxes transparent. It's also a lot easier to rearrange and copy.

READYSETGO! 4.0

Stretching Text Easily

There's a quick and easy way to stretch text as tall or as wide as you want. Start with a text block and type

in the desired text. Then draw out a picture block to the size of the end product. If, for example, you want the text to come out half as wide and four times the height, create the picture block in that size.

Select the text block to be stretched by clicking on it, then Cut or Copy it. Now, ready the picture block as if it were to receive clip art, and then paste the text into the block. Select the Picture block, choose Specifications (Command-M), and use the Scale Across and Scale Down functions to stretch the text accordingly. The stretched text will now appear as you want it.

Wrapping Text Within Two Graphics

It's possible to wrap text within two graphics to create interesting paragraph shapes like circles, triangles, or just about any shape you can imagine. Here's how:

Draw the shape that you want the text to conform to with a graphics program like MacDraw. The trick is to draw it in two halves (such as two half-moons that together would form a circle). Copy and Paste each half of the drawing separately into the Scrapbook.

Now, boot RSG! 4.0 and create two graphic blocks large enough to accommodate your drawings. Make sure they butt up against each other. Then, paste your two graphics into these graphic frames—the left half into the left block, and the right half into the right one. The two halves should now resemble the graphic shape you want. Invoke the Specifications box (Command-M) for each graphic block and click Don't Print and Runaround Graphic (instead of Runaround Frame).

Then, create one text block as large as the two graphic blocks. Make sure the text block lies directly on top and covers these blocks. Put your insertion point in the text block and start typing or import a text file. The resulting text will take on the shape you created with the two graphics.

Use justified text if you want the text to conform exactly to the shape you've created. And set text repel distance to zero.

If you have problems getting the text to flow correctly into the shape, try drawing nonprinting lines above and below your graphic.

READYSETGO! 4.5

Using ReadySetGo! To Produce Gray-Scale Characters

An undocumented feature of this program is its ability to produce gray-scale characters. Just make text different colors and print without the Color Separation option checked to get gray-scale characters when you print on a PostScript-compatible printer.

Getting Rid Of Unwanted Characters In Imported Text Files

You may need to import a text file into RSG 4.5 that displays unwanted or unknown characters on-screen. Files transferred from other computers or downloaded from bulletin boards often contain such characters, as do files from non-Macintosh operating systems. These unwanted characters often appear as little boxes.

You can get rid of these characters by using the Replace command. Select the offending box or symbol by highlighting it. When you select Replace, the character is automatically pasted into the Find box in the dialog box. Move the cursor to the Change To box and press Option-D and then R (this specifies that you want the replacement character to be a carriage return; or you can replace the nonprinting characters with a space or with nothing at all). When you click OK, all your unwanted characters will be deleted.

Increasing And Decreasing Text Point Size From The Keyboard

You can increase and decrease the point size of your text right from the keyboard. Select the text whose point size you want to alter. Press Command-> (greater than) to increase the text size one point at a time; press Command-< to decrease the size by one point.

Shortcut When Jumping Around View Levels

This shortcut makes it much easier to jump to a specific spot on the page when you change view levels in Ready,Set,Go! 4.5a.

If you find yourself at the Size To Fit view and you need to zero in on a text or graphic element at the Actual Size view, just hold down the Command and Option keys while clicking on a text element with the I-beam or on a graphic element with the pointer arrow. You will automatically switch to the Actual Size view.

Underlining Text Selected As Italic

Underlining text that has been selected as italic from the Style menu can be tricky in Ready,Set,Go.

If you are like most users, you double-click on words to select them and then make style changes. However, as with most word processors, double-clicking on a word in Ready,Set,Go selects both the word and the space after it. If this word is then underlined, for example, the space following the word will also be underlined.

You can eliminate this problem by simply pressing the Command key when double-clicking on the word. This ensures that the space after the selected word will not be selected too.

SCANNING

Control Your Lighting Environment

Color is passed to your eye through reflected light. The light under which you view the image you're about to scan is crucial when you're trying to match the image's colors to on-screen colors. Because colors vary with different lighting conditions, it's best to use incandescent or fluorescent lamps designed to simulate a daylight standard such as D50.

Using Plug-In Modules

Use a plug-in software module for your image-enhancement application. Scanning from within your favorite image-manipulation application makes getting a good scan convenient. Correcting any scanner-induced deficiencies also becomes a simple matter of using the image-manipulation software's features. Image-enhancement applications such as Photoshop provide many valuable tools that can help you analyze what's wrong with a captured scan.

Start With The Best Possible Image

Remember GIGO—garbage in, garbage out. A bad image won't produce a good scan. Study the image before scanning, and find the lightest and darkest areas—the white and black points. Concentrate on getting those right, and you'll probably get a good scan. If you need to crop the image, do it while you're scanning, because you can save time and disk space.

SERVICE BUREAUS

Make a List

This is the most important piece of advice for any service bureau customer: Make a list, and check it twice, before you make the trek to the output shop. Hand this list to the technicians along with your files, so they know what you are giving them and what you expect to see on paper or film.

List the names of the files you want printed and the page numbers to print from each file. Better still, if possible, send files that include only the pages you want printed.

PageMaker Utilities

Display Pub Info, an Addition that comes with PageMaker 4.2, is helpful: It can save a text file that lists a document's fonts, styles, and linked elements. Much more useful is ElseWare's CheckList 1.0, which scans a PageMaker (any version) file and creates a report that details its constituent fonts, graphics, and style sheets. This $45 shareware utility is available from user groups and on-line services such as ZiffNet/Mac. It also comes with PageMaker 4.2.

To gather all the necessary files, PageMaker 4.2 makes this job a little easier: If you select the Files for Remote Printing option in the Save As dialog box, the program will copy into a single folder all the files needed to print the publication, including linked graphics and special files such as the track-kerning resource file. Aldus, 411 First Avenue S., Seattle, WA 98104; 800–367–1892 or (206) 622–5500.

CheckList 2.02 is a utility that automates your list making and rounds up the supplementary files. This must-have utility greatly expands on the capabilities of its shareware cousin. The $180 CheckList 2.02 works with PostScript and EPS files including those created by FreeHand, Illustrator, QuarkXPress, or Microsoft Word and includes printer settings in its reports. It alerts you to problems with fonts and linked graphics, lets you add notes to files, and enables you to change a PageMaker file's print options. CheckList 2.02 can also gather all the files needed for output, copy them to a common folder or disk(s), and compress them into a self-extracting

archive. ElseWare, 3201 Fremont Avenue N., Seattle, WA 98103; (206) 547–9623.

QuarkXpress Utilities

If you want an easy and economical utility, there's Save for Service Bureau. This free XTension combines the capabilities of PageMaker's Display Pub Info and Save As Files for Remote Printing features. SSB copies the QuarkXPress document and associated graphics into a single folder and produces an ASCII text file that lists all the fonts and graphics in the document. It's available from user groups and online services or for $25 from Quark.

QuarkPrint, an XTension aimed at service bureaus, is considerably more robust. It can print and save a list of all the fonts, graphics, style sheets, H&J (hyphenation and justification) specifications, and colors used in a document, even if that document isn't currently open. It also lets you save and apply printer settings, specify custom screen angles, and compensate for dot gain. But QuarkPrint's best feature may be its ability to print nonsequential pages and to print just a specified area of a page. QuarkPrint costs $195, but Quark authorized service bureaus and registered QuarkXTras owners can get it for $95. Quark, 300 S. Jackson, Denver, CO 80209; (800) 356–9363 or (303) 934–2211.

Traditional Versus Desktop Color Printing

The first step in traditional color publishing involves a trip to a separation house—a specialized graphic-arts shop that converts your color slide or print into the three separate colors (cyan, magenta, and yellow) of the subtractive primaries plus black, for the four-color printing process.

This used to be a photographic process, but today separations are typically generated by high-end digital scanning equipment from such companies as Hell, Crosfield, and Scitex. Rather than being shot through a series of filters, the image is scanned and the color information is electronically separated into its component four colors. The film separations are cut and pasted and stripped together in a flat, with line art for each printing color. Each flat is then laid over the plate material and exposed in a vacuum frame; the result is that color's printing plate.

The Mac can save you a couple of steps and give you more flexibility. You can perform the scanning, plac-

ing, and separating in-house. Depending on your quality requirements, you'll need some expensive hardware. And you'll need to work closely with your print shop's staff to figure out the best settings for the separations.

Software Usage

When dealing with Service Bureaus, point out the software you used to create the files, its version number, and the format(s) in which the files are saved. Every service bureau should have applications such as Microsoft Word, PageMaker, QuarkXPress, Photoshop, Illustrator, and FreeHand. If you are using a different program, call ahead to be sure the shop can process the files or save your documents in a standard format such as PostScript, EPS, or TIFF, which can be opened by other applications.

Also make a note of version numbers. If you're still using QuarkXPress 3.0 but your service bureau has version 3.1, you should both be alert for document-conversion snafus. Conversely, if you are using a newer software version than the service bureau is, it may not be able to output the files.

Font Problems

Make a complete list of the fonts used in your files. Fonts are the No. 1 source of output problems at service bureaus. Whether you experience a mysterious replacement of Garamond by Courier or changed line endings in carefully designed columns of type, fonts can be a major headache when you send files to a service bureau. But the technician won't know there's a problem unless you provide a list of the fonts you used, along with a printout that shows the intended appearance of the pages. Be sure to list all style variations— Minion Italic is a different font from Minion Regular.

Font substitutions usually occur when the ID numbers of fonts in your system don't match those at the service bureau. This is a problem only if your application tracks fonts internally by ID number; in such a case, ID number 1578 may be Palatino on your Mac and Brush Script at the service bureau. Current versions of most applications—PageMaker, QuarkXPress, and FreeHand, for example—identify fonts by name, which eliminates the problem.

One longtime holdout was Microsoft Word. With version 5.0, however, Word finally calls fonts by name. But if you use older versions of Word or other programs,

you may run into problems. One workaround for Word is to save files in its Interchange Format (RTF), which does store font information by name.

Also note whose version of a font you're using, especially if it's a non-Adobe font. Some fonts are manufactured by more than one vendor; both Adobe and Bitstream market versions of Futura, for example. The two fonts have slight variations in character width and letterspacing, which can affect line breaks and page composition.

Finally, if your fonts are in TrueType format, be sure to indicate this. Otherwise, your service bureau will assume that they are PostScript Type 1 fonts.

Do A Test Print Before Sending Out

Make test prints of your files on your laser printer before sending them to the service bureau. If your document takes 45 minutes to print on a laser printer, it will take much longer on an imagesetter. And if it won't print at all, it won't work on the imagesetter either.

Taking an unprintable file to the service bureau won't magically fix output problems. More than likely, it will exacerbate them. Instead, simplify the document's design and/or contents.

Helvetica Narrow

Don't use Helvetica Narrow. This font exists only on laser printers.

Don't Use Unreleased Software

Don't submit jobs created with unreleased software. The software isn't shipping because it isn't finished. Don't become an unwilling beta tester.

Don't Use PICT Files

The PICT file format is not well supported by such page-layout programs as PageMaker and QuarkXPress or by color-separation utilities. As a result, printing problems are common. Save bit-mapped images as TIFF files and object-oriented graphics as EPS files.

Keep It Simple

A large and/or complex file can cause agonizingly long printing times and even "choke" an imagesetter, aborting the print job.

The most common culprits are graphics-related: blends and fills, masks, TIFF images, complex paths,

and high-resolution line screens. When it comes to outputting files, smaller and simpler are always better.

Keep files small enough to maneuver. Not only are huge files difficult to transport but they can also exceed the available memory of the imagesetter, prematurely terminating the print job. Divide large jobs into several smaller files; for example, each chapter of a book can be a separate file.

Eliminate Unnecessary Elements

Delete any items that are on the pasteboard or are completely hidden by other objects. Instead of covering an unneeded element with a white box, delete it. The imagesetter processes everything in an image, even the parts that are hidden.

Don't Overuse Blends, Fills And Patterns

Be judicious in your use of these memory-intensive elements, and use only the minimum number of steps required to make the blend or fill look smooth. Otherwise, you face long output times and the risk that the imagesetter will run out of memory before it can output the page.

A PostScript blend can have as many as 254 intermediate steps between the beginning and end colors. Fortunately, you don't always need 256 steps to create a smooth blend. You can use a handy (and free) utility called Blender to calculate the minimum number of steps that are necessary for a smooth transition between two colors. Blender is available from user groups and on-line services such as ZiffNet/Mac.

Be Sparing With Fills

Be sparing with fills made from patterned tiles such as those available in FreeHand and Illustrator. A background made from a repeating pattern may look great, but using one is among the easiest ways to choke an imagesetter.

Using Masks

Don't use masks as substitutes for careful design. Masks (sometimes called clipping paths) are important design tools, but don't casually use them to cover up design flaws.

Masks increase output times, for two reasons: They are complex, and the imagesetter processes the hidden image areas. (FreeHand 3.1 is an exception; it doesn't cause the imagesetter to process masked areas.) And

don't mask already masked areas of an image unless your design absolutely demands it.

Auto-Tracing And Pen Tools

Be careful with auto-tracing and pen tools. The imagesetter interprets every single point on a path. If the path has too many points, it will generate a PostScript limitcheck error and not print at all. Auto-tracing, in particular, can easily create paths with excessive numbers of points.

One way to reduce the number of points on a path is to reduce the image's curviness. FreeHand, Illustrator, and Photoshop all let you adjust the sensitivity of their drawing tools.

Camera-Ready Print Settings

If you're producing camera-ready output for a press run, use the appropriate print settings. For film output, ask your printer whether you should provide a positive or a negative image and which emulsion direction to use. If your program offers these features, find out what to select for knockouts, paper stock, dot gain, and halftone screen angles.

Saving In PostScript Format

Save the file in PostScript format. If your document is set up exactly right, with all the correct settings, convert it to a PostScript file. If the file is in the format of the original application, the technician must open the file, adjust the printing options for the imagesetter, relink the graphics, and print it from within the program. A file in PostScript format, however, can be sent directly to the imagesetter. When saving a PostScript file to disk, remember to change the printer selection to the imagesetter used by your service bureau.

Also note that if anything goes wrong, you'll have to make changes in the original file, as the PostScript file is not easily editable.

Using Trapping

Don't use trapping unless you know what you're doing. Trapping the overlapping of adjacent colors to compensate for misregistration on the printing press is a complex skill, and desktop trapping is done differently (or not at all) from program to program.

Improperly specified traps can create more havoc than untrapped images can, so always talk to the people at your printshop beforehand. Most printshops prefer to

handle trapping themselves and don't charge extra for it. If your printer does want you to apply trapping, find out how much is needed and how it should be done for the particular press.

Color Or Black And White

If you are using color, say so. Laser-printer samples are usually black-and-white, so tell the service bureau if you use spot colors or expect separations of process colors.

If you want color separations, adjust the program's settings accordingly. Make certain that you check the appropriate boxes for separations, crop marks, and registration marks. Color separations can frequently create special output problems, so you should talk to the service-bureau and printing-press personnel ahead of time, and follow their advice.

Line Screen Settings

Use the correct settings for line screens. A 65-line halftone screen might work well for laserprinter output, but it looks cheesy coming out of a high-resolution imagesetter. Talk to the people at your service bureau and printshop about the appropriate screen frequencies and angles, and adjust the settings before you output the job. A magazine, for example, typically uses a 133-line screen.

Keep TIFF Images As Small As Possible

Don't save gray-scale or monochrome images as color TIFF files. When you're scanning, keep in mind that the resolution for gray-scale and color images usually shouldn't be more than twice that of the output line screen. For example, if you're printing photographs at 85 lines-per-inch in a newspaper, scanning them at 300 dpi won't improve their looks but it will dramatically increase the file sizes and output times.

Proofread Your Copy

Proofread your copy before you send it to the service bureau. Paying another $7 per page because you forgot an 's' in embarrassment is costly, aggravating to everyone involved, and embarrassing.

Taking Note Of Special Settings

When dealing with a service bureau, make a note of the page size(s) you want. This is particularly important if you need a page size other than 8.5 x 11 inches.

If your publication is tabloid-sized, for example, you want to be sure the entire 11x17-inch page is printed.

Note any special print settings, such as scaling, paper orientation, and crop marks. Don't assume that service-bureau technicians can read your mind. If you've changed the scaling percentage in the Page Setup dialog box to something other than 100 percent, be sure to say so.

Send In The Fonts

Check with the service bureau to see if it has all the fonts you're using. If not, you'll need to supply the missing fonts both bit-mapped (screen) and outline (printer) versions to ensure that you get accurate output. If you've customized your fonts in any way, such as tweaking the kerned pairs, the modifications are stored in the screen fonts, so be sure to take them with you. Sending the required fonts also eliminates the potential for font-ID conflicts.

Note that although you can freely distribute screen fonts, disseminating printer fonts violates the vendor's license agreement. Therefore, don't take printer fonts to the service bureau without first obtaining their commitment to erase your fonts from their system when they've finished your job. Reputable service bureaus will do so.

Include Linked Graphics

Linking graphics to a page layout, rather than storing images in the document, reduces file sizes that go to the service bureau, and makes it easier to update images. Just don't forget to take the original graphics files with you to the service bureau. Also double-check that the names of linked files haven't changed and that you've linked the correct versions.

Include Color-Separation Files

Include all color-separation files. If you've already separated some or all of your color images, be sure to send the related files. Images separated with the DCS technique, for example, have four EPS files (one for each of the color plates) in addition to the PICT file that you place in the page layout.

The Proof Is In The Copy

Provide an accurate and complete paper copy of your files. This shows the technician what you expect the output to look like. It also reflects the file's complexity and potential output problems.

Include Kerning, Hyphenation And Tracking Data

Don't forget to include customized hyphenation or kerning data in your delivered files. If you've modified the hyphenation, tracking, or kerning information for text within a page-layout document, that data may be stored in a special resource or preferences file. For example, depending on the options you choose, QuarkXPress may store some of this information in the XPress Preferences file. If so, be sure to send that file along to the service bureau.

SLIDES

What Printer Driver Is To Be Used?

If you're creating files to be imaged by Autographix or Genigraphics centers, it's wise to use their proprietary printer drivers (Mac Chooser documents) when you create slides. These printer drivers are included in some presentation packages. PowerPoint includes a copy of the Genigraphics driver, for example, and Persuasion includes the Autographix driver.

If your software doesn't include one of these drivers and you want to use an Autographix or Genigraphics center, you can probably get the correct driver from the imaging center for a fee that is usually deducted from the cost of your first slide order. These drivers work with all presentation programs, so you're not locked into using one of the name-brand services if it would be more convenient to use another. Also note that the driver you use has no effect on the quality of your slides.

Select The Printer Driver Before Creating Slides

If your software includes a special driver for writing slide files to disk, always go to the Chooser and select it before launching the program. Converting from another format is always more difficult than working in slide format from the outset.

Avoid Side-to-Side Or Diagonal Blends

Film recorders are raster devices, which write images in horizontal lines. Although your presentation software may make it easy for you to create ramps of graduated color that change in intensity from left to right or even diagonally, the film recorder can take a long

time to image such a slide. A ramp that changes from top to bottom, on the other hand, can run efficiently. (This doesn't mean you can't have a diagonal blend if you need it, just that it carries a price—literally, if your service bureau charges extra for slides that take more than a minute or two to image.)

Test Your Files Before Running An Important Job

Create a small file containing the types of slides you normally use—word slides, pie charts, diagrams, and so on—and send them to any imaging center you're thinking of using. This is also a good way to determine which format you prefer to work with.

Keep It Simple When In A Rush

When doing a rush job, use only Times or Helvetica. Film recorders are less likely to have problems with these basic fonts.

TRUETYPE

TrueType Or Type 1 Fonts?

Should you install System 7 and use Apple's TrueType fonts, or should you install Adobe Type Manager and start a PostScript Type 1 collection? There does seem to be a lot of confusing font options, but fortunately, things are looking up. Apple and Adobe Systems are developing software that supports the Type 1 rasterizer and Type 1 fonts within the Mac's system software. While that is happening, Mac users can get a hold of ATM and four faces of Adobe Garamond for the special price of $7.50 by calling Adobe at (800) 521–1976, ext. 4400 (or ask your local Apple dealer). If you want the full ATM package, which includes the Times, Courier, and Helvetica fonts, you'll have to buy the standard ATM package, which costs $99. Most typeface vendors are now offering both Type 1 and TrueType formats.

Apple will continue to support the TrueType font format, so there will be little or no difference between TrueType and PostScript fonts, at least from a user's perspective. You'll install a font —TrueType or PostScript Type 1—which will look beautiful onscreen and will print at the highest resolution your printer supports.

What's The Difference Between Type 1 And Type 3 PostScript Fonts?

Type 3 fonts used to be Adobe Systems Inc.'s public font format; the specification was published and available to anyone. Type 1 fonts were proprietary; Adobe kept the format secret. These font files were encrypted also. The main difference between the two formats is that the algorithm used to fill in the letter outlines in Type 3 fonts is inferior to the algorithm in Type 1 fonts. So Type 3 fonts tend to look darker than Type 1 fonts, especially at small point sizes on low-resolution printers. While seemingly trivial, this type of thing drives graphic artists bonkers.

The situation changed when Apple and Microsoft Corp. announced TrueType outline fonts. This formidable alliance prompted Adobe to make the Type 1 specification public; so now everyone can create Type 1 fonts. Furthermore, Adobe Type Manager uses only Type 1 fonts so that's the only format customers want these days.

For those interested in such trivia, Type 4 fonts are those built into the ROMs on PostScript printers, and there is no Type 2.

ZAPF DINGBATS

Creating A Simple Square With Zapf Dingbats

Zapf Dingbats, a PostScript font, has some startling omissions. One is the simple square. There are shaded boxes and an all-black one, but no simple square exists. The solution is to use the black box in the Outline style.

Breaking Away From Bullets

To get rid of those boring Option-8 bullets, use Zapf Dingbat characters such as a tiny triangle, V (press T), or a diamond, V (press U). To make these bullets subtler, raise their placement above the baseline by superscripting them.

Left Out

In Dingbats, virtually everything points to the right. If you would like to point to the left, you are stuck with the pedestrian arrows from the Symbol font. Here is a solution:

Convert the dingbat of your choice, say the pointing hand, to a graphic and then flip it. Using a graphics program such as Canvas or Cricket Draw, you can do this quite easily. Since PostScript doesn't care which way a font character points, the graphic still prints at the maximum resolution of the printer.

Untypeables

There are three font characters that cannot be typed from the Macintosh keyboard. They correspond to ASCII numbers 252,253,254. In the Dingbats font, the missing characters are three types of arrows. The font has more than enough arrows already, but if you're determined to access the three missing arrows, use Word's Character Code command, Command-Option-Q. You can then type in the ASCII number of the character you want. When you press Return, the desired character will appear. Using this technique, you can copy the untypeable arrows into the Scrapbook for later use in any application (and in any font).

Missing In Action

Eventually you will need a dingbat that is not in the Zapf collection. What to do then? You can buy Adobe Collector's Edition I, which contains 280 PostScript shapes: circles, squares, crosses, arrows, stars, and so on. They can be used as is or enhanced in FreeHand or Illustrator. You can get this collection from Adobe Systems, Box 7900, Mountain View, CA 94039; 800–344–8335.

Another possibility is a shareware PostScript font called Bill's Dingbats. It has 138 dingbats, including arrows that point in eight directions. This font is available from U-Design, 201 Ann St., Hartford, CT 06103; (203) 278–3648.

If that doesn't help, start looking through the numerous available picture fonts, such as Cairo and Mobile. Many are freeware of shareware and are available through most on-line services.

Drawing A Dingbat Yourself

If you really cannot find the appropriate dingbat, draw the dingbat yourself. A utility called Art Importer (a.k.a. KeyMaster) lets you create an installable PostScript font containing EPSF and PICT graphics. The resulting graphic characters can be typed like letters in any other font. This $99.95 program is available from Altsys, 720 Avenue F, Suite 109, Plano, TX 75074; (214) 424–4888.

Creating A Plain, Empty Box

You can get a plain empty box—to indicate the Macintosh's no-character symbol or for such uses as a check box—with a word processor or desktop publishing program such as Word, QuarkXPress, or PageMaker. The Zapf Dingbat font has shadowed and filled boxes, but not empty ones.

To create an empty box, type a lowercase n. Select the character and then choose Zapf Dingbats from the Font menu and Outline from the Format menu. Voila! An empty box. If you want a box with a heavier border, make the character bold, as well as outlined.

You can make the box any point size, but if you want it to appear the same size as the text you're working with, make the box a point size or two smaller. For example, if your text is 11 points, the box should be 9 points; if you have 9-point text, you should make the box 8 points. Otherwise, the box appears to be slightly larger than the surrounding text.

ENTERTAINMENT

DARK CASTLE

Tracking How Many Times You've Won In A Session

If you're expert enough, you can track how many times you've toppled the throne. While typing your name into the Hall of Fame, type Option with any other key. This creates a Dark Castle symbol. Use the number of castle symbols to represent how many times you've finished the mission.

Keeping your shield activated

The shield usually lasts only about 3 seconds. You can keep wearing it indefinitely, though. When you activate your shield, hold down the key for about 2 1/2 seconds. Then, at the last moment, release the key and press it again quickly. Experiment with this to pick up the rhythm.

How To Walk On Air

It's possible to make your on-screen hero literally walk on air. Press the duck key with either the up- or down-key as you go up or down a staircase or ladder. When

you reach the top or bottom, your character will seem to be walking on air. Once there, experiment with different commands to get some entertaining results.

Express Route To The Trouble Room

The easiest way to get to the Trouble Room is to push Door # 3. You'll go to the Black Knight's first chamber. If you wait, the platform will slip out from underneath you, dropping your character down to Trouble #3, saving you the trip through the first two rooms, and possibly saving a few game lives as well.

MACGOLF

Putt Like A Pro

When you're on the putting green, make sure the wind is at zero. Then face away from the hold, and place the swing indicator at zero. Click once on the Up-arrow and putt, recording how far the putt goes. Now, do the same thing again, except this time, click twice in the swing indicator's Up-arrow. Keep doing this, adding one click each time, until you reach a full-strength putt. This helps you figure out how many clicks you need to do to get the ball to move different distances.

SHADOWGATE

Use The Note Pad To Keep Track Of Clues

The Note Pad DA is useful for keeping notes handy. Just jot them on the Note Pad and you can refer to them whenever you need to.

Don't Ignite Torches Without Examining Them

There's a special torch you need to get through a certain section of the game. Examine all torches you find before lighting them, and save the one that looks different for a special situation.

Surviving The Dragon Room

You need several items located in the dragon's lair. To retrieve them with your hide intact, grab the shield first. You then have three more times to take more things (like weapons) before the shield melts under the dragon fire.

Let Randomization Work In Your Favor

The Sphinx asks you for a certain item, couched in the form of a riddle, when you enter the room it inhabits. However, the exact item it asks for is randomly generated. To increase your chances of having the item the Sphinx wants in your possession (or at least, knowing where to find it), save the game just before entering the room. If the Sphinx asks for an item you haven't located, just Quit and start again for a chance at better luck.

SHANGHAI

Remove Tiles When You Can See All Four Of Them

While you can't really cheat at Shanghai, you can vastly improve your chances for winning by trying not to remove any sets of tiles unless all four matches are showing. This guarantees that you aren't inadvertently trapping a tile under its only match.

SIMCITY

Bringing A Village To Metropolis Status

Here's a slick way to bring a SimCity village to metropolis status within five years – a maneuver that should delight even the most jaded politico.

Set the tax rate down to 0 percent, starting with the January Budget Report that automatically flashes on the screen each year. Sims will flock to your apparently tax-free village.

Leave the tax rate at this setting until December rolls around. When it does, select Budget from the Windows menu (or press Command-B) and set the tax rate to the highest allowable level, which is 20 percent.

When the January Budget Report appears, you'll see a sudden influx of cash for your coffers. Now set the tax rate to 0 and wait until December – when you again set it back to 20 percent.

If you keep your eyes on the calendar, you will generate enough tax revenues this way so that you'll never have to embezzle funds again! And the Sims, who never seem to catch on to the devious ways of the

mayor, just keep on moving in.

If you think taxes aren't enough, try SimCity's giant reptile!

Collecting All The Taxes You're Owed

SimCity has an annoying habit of resetting the tax rate to zero when you load a saved city. If you save and quit from the loaded city mid-year, you'll find that when January rolls around, several months have gone by with no taxes being collected. This can devastate a city already on the brink of financial disaster!

To avoid any loss of funds when you restart a game, immediately call up the Budget window and enter the tax rate.

SPECTRE

Fourth View Perspective

In Spectre 1.0 there's a fourth, little-known view perspective. To access it, type GOD at any point after the game has started, and you'll see the game from a view far above the game field. To get back to the normal perspectives, simply press the Tab key. This trick is particularly helpful in the network-play mode.

STRATEGIC CONQUEST

Attack On Each Move

Don't limit fighters to two attacks per round. Use the Move Later command after each attack to attack on each move. This works for all water pieces as well.

Regaining Full Naval Strength

Carriers and battleships can safely regain their full strength if you put them into port for repairs and then use Move Later until they're fixed.

Keeping Fighters Out Of Combat

You can protect fighters from attack by leaving them in an empty enemy city.

When To Build Bombers

Start building bombers on day 30 to get a blast radius of 1. For a blast radius of 2, start on day 65.

Stealth Bombers On The Cheap

You can hide bombers by placing them on the same square as any other piece.

ADOBE ILLUSTRATOR

Undoing A Move Even After Disabling "Undo Move"

There's a helpful way to Undo an accidental move, even if you've already clicked the mouse button and so lost the opportunity to Undo Move from the Edit menu. First, make sure that the same anchor points are still selected – if they're not, select the object.

Now, hold down the Option key as you click the Pointer tool. The Move dialog box will appear, showing a positive value beside "Move distance." This value represents the distance in points of the LAST MOVE YOU MADE. All you have to do is make that value negative by inserting a minus sign in front of the positive number, and then click OK. Your anchor points will slink right back to where they were before you made the "wrong" move.

Creating A Smooth Graduated Fill With The Blend Tool

There are some tricks to getting nice, smooth graduated fills in Illustrator using the blend tool. If you are not careful, you can produce what looks like a banding effect in going from step to step in the graduation. You can specify more blending steps so the difference between one step and the other becomes more difficult to notice, but there are a couple of drawbacks to this ploy. It makes for a huge file that takes insanely long to print and it may also cause your printer to freeze for lack of memory. Also, PostScript imposes a limit of 256 steps on a fill, so at some point in a certain job, it may become clear that simply increasing the number of steps may not be the best solution.

A better solution is to tweak the screen frequency (lines per inch) that the printer uses in printing the image. Lines per inch has a direct effect on the appearance of graduated fills. The higher the screen frequency, the fewer shades of gray the printer can

generate. Therefore, a high lpi can lead to savage banding no matter how many steps you've used in the fill! Lowering the screen frequency generally yields smoother-looking blends, but it can give the image a coarse appearance.

Layering Graphics Higher— But Not At The Top

You probably already know how to take an object low in the painting order and bring it to the front of everything else. However, there will probably be times when you wish you could bring the graphic forward, but not all the way to the top, as if removing a playing card from a deck and inserting it several cards away from the top. If you cut the object and paste it in front, then you'll have to select all the other objects that are supposed to be in front of it, and then move them in front to achieve the proper layering. Sounds complicated, and it is. However, there is a simpler way:

Select the object that you want to bring forward, together with the forward object directly behind which you want to move it. Group them while they're both selected by pressing Command-G. That's it! You don't have to cut and paste, and even if you Ungroup them, the layering change is preserved. The front-most objects can be left alone, with no editing at all.

Moving Or Copying Objects In The Preview Mode

Although the Adobe Illustrator manual states that the current art file can't be edited in the Preview mode, there are some ways around that. You can move and copy objects in the Preview mode by using the Move dialog box.

Select the object you want to move or copy, and enter the Preview mode. While there, hold down Option while clicking the Pointer tool in the toolbox to call up the Move dialog box. Now, just enter the distance and/or angle data you want and click OK (or Copy). The object will move or duplicate immediately and you'll be able to see exactly how this adjustment will affect your printed copy. You'll find this very useful in making changes to aspects of the illustration that you can only see during Preview.

ADOBE ILLUSTRATOR 3.0

Creating Embossed Text

Creating the look of embossed text is a little harder than creating effects such as outlines, shadows, and drop shadows, but when you do it correctly, it can add a touch of class to your layouts. Here's a way to create embossed text in Adobe Illustrator; the basic technique should work in a variety of programs:

1. Create a box containing a background shade.

2. Type the text inside the box. It's best to use a heavy type style, such as Helvetica Black or Stone Sans Bold.

3. Copy the text to the Clipboard. Paint the text lighter than the background (say, 25-percent black). Using the arrow keys, move the block of text left and then up the same amount of space (in the example, I pressed the left-arrow three times and the up-arrow three times).

4. Use the Paste to Front command (Command-F) to place the Clipboard text in the box. Paint this text a shade that's darker than the background shade (say, 75-percent black). Using the arrow keys, move this text block down and to the right the same number of spaces as before.

5. Use the Paste to Front command to place another copy of the Clipboard text in the box, and paint in the same color as the background. Preview the image (Command-Y), and you'll see the embossed effect. You may need to go back to the image and tweak the number of spaces you've moved each copy of the text to get the best effect.

Using the same technique, you can make simple EPS clip art look embossed.

Accessing Some Elusive Symbol Characters

Certain characters in the Adobe Symbol font, such as [pi] and [derivative], are accessible within other Adobe fonts such as Helvetica but are not displayed on the keys (you can see what keys to use via the Key Caps DA).

Although you can see these characters on-screen in Illustrator 3.0, some of them don't print, even if you import text containing these symbols. If you need these characters and can't — or don't want to — switch to the Adobe Symbol font (within which they will print), here's a simple work-around.

First make sure you have Adobe Type Manager 2.0 installed. Then with the new Create Outlines command on Illustrator 3.0's Type menu, select the text and choose Create Outlines. By selecting Preview Selection from the View menu, you can see how the text will look when it is printed. The only drawback is that the characters may look slightly bolder when they're printed.

BRODERBUND TYPESTYLER

Converting Fonts To SmoothFonts

To use regular fonts that you've converted into TypeStyler SmoothFonts, you must have the original corresponding screens fonts installed in your system for TypeStyler to recognize them. But if you've created several SmoothFonts, it can be inconvenient to remember to install all the appropriate screen fonts. It's easier to install the necessary screen fonts right into the SmoothFont suitcase.

Here's how to do it:

After you've created your SmoothFont in the usual way, open the Font/DA Mover. Close both windows. While holding down the Option key, click on Open; then select your SmoothFont file. In the second window, open the original screen font's suitcase. Now copy the original's 18-point screen font(s) into the SmoothFont file, and then quit Font/DA Mover. As long as the SmoothFont is available, TypeStyler will make use of this embedded screen font without your having to install it in your system.

CANVAS

Easy Method For Creating Filled Text

The way to produce filled or patterned text in Canvas is not readily obvious, because the fill tool fills the background instead of the actual letters. Here's an easy method for creating filled text.

1. Type the text. Thick letters work best.

2. Draw a rectangle (or other shape) so that it covers the text, and fill the rectangle with a shade or pattern.

3. Select the ink-manager tool (indicated by the word Copy near the bottom of the toolbox) and drag over to Bic (black is clear). This eliminates the black in the text and fills it with the pattern or shade .

LaserWriters can be finicky about printing documents that use the ink manager, but you should have no problems using non-PostScript printers such as the DeskWriter.

Creating An Accurate Display Of Proportional Rectangle Resizing

To accurately see the proportional resizing of rectangular objects, draw a diagonal line from one corner of the object to the other, and extend it, keeping it lined up against the two handles.

Now, grab a corner handle at the end of the diagonal line and resize the object while keeping the handle on that line.

Finally, delete the line. As long as the handle is on the diagonal line, the object is in proportion.

Accessing An Undocumented Search-And-Replace Feature

You can perform an easy search-and-replace: Hold down Option while choosing Select All from the Edit menu. Then, make a selection from the Pen Pattern, Fill Pattern, Foreground Color, Background Color, Pen Shape, Line, or Transfer Modes pop-up menu. Canvas will select all the objects with that attribute. You can now choose any attribute (such as fill patterns) that you want, to globally replace the selected attribute.

Using Separator To Keep Graphics Straight

Macintosh users know about the problems with quality that can occur when MacDraw or similar graphics are pasted into other applications. Many things such as alignment and line weights go haywire when you print. If you own Canvas Separator, you may have a solution right under your nose.

1. Open the original graphic in Canvas.

2. Save the graphic in Canvas format.

3. Use Canvas Separator's Convert command to con-

vert the file into a suitable format, such as EPS, PICT or EPS Illustrator.

4. Finally, import the file into your page-layout or word-processing package. More often than not, the problems will vanish.

More Realistic Tracing

You can make your traces more realistic and closer to the original image by selecting the bitmapped object and choosing the Object command from the Object menu. Change the resolution in the dialog box from 72 to 300 dpi. Click OK and close the box. Now auto-trace the object. This increased resolution creates more handles as well as drastically improving your traced image's appearance.

Switching Windows Without Using The Windows Menu

If you're working with Canvas on a large-screen monitor and have several windows open, using the Windows menu to switch between all your windows is a bother. An alternative is to Option-click anywhere in the title bar of a window (except the zoom or close boxes) to get a list of all open windows.

CANVAS 2.0

Displaying Small-Scale Fractions On-Screen

When using Canvas 2.0 for architectural or engineering drawings, choosing Show Dimensions in Fractions under Preferences will not give you fractions for small scales such as 1" = 1' or 1/2" = 1". You can't get fractions in your dimensions by typing in 1"=1' in the Ruler Manager.

If you want to display fractions on-screen for such scales, the right-hand side of the scale in the Ruler Manager box must always remain at 1". Then divide the left-hand side of the scale for whatever fraction of the inch you want. For example, if you need 1"=1', use 1/12"=1", which you enter as .0833=1". Fractions now appear in your auto-dimension lines.

CANVAS 2.1

Organizing And Storing Object-Oriented Clip Art

You may have learned the hard way that object-type artwork that is stored in a HyperCard clip-art file loses its high resolution and becomes 72 dpi. So how can you store large amounts of object-oriented clip art in an organized manner? Canvas 2.1 provides a simple but elegant solution:

1. Create a new document, and give it a descriptive name, such as Business Images. Then begin pasting in the graphic objects, arranging them on the page.

2. Use the scroll bars or magnification tool to center one of the objects on your screen.

3. Choose the New View command from the Layout menu, and give the view of the centered graphic a descriptive name such as Bottle Message. Click on OK. Repeat this step for every graphic on the page.

Now whenever you drag your cursor down to the Views command on the Layout menu, the hierarchical pop-up menu includes the names you have given to these views, allowing you to jump quickly to any graphic on the page, modify it if desired, and copy it to the Clipboard.

CANVAS 3.0

Using Publish And Subscribe To Replicate Images

With System 7, you don't have to publish an entire document; you can publish just a group of objects. This is useful in an unusual way: You can replicate a group of objects by publishing it and then subscribing to it in the same document. This is helpful, for instance, when you're laying out a bunch of business cards or tickets on a single page.

In Canvas 3.0 simply draw one card, select all the items in the card, and choose Create Publisher from the Edit menu. Then choose Subscribe from the Edit menu. Subscribe the same number of times as you want duplicates of the card on the page.

To change the card, modify the original, double-click

on the Publisher box around it (if your preferences indicate that the box should be visible), and click on the Send Edition Now button.

This is easier than editing one copy, deleting the others, replacing them with new copies, and then realigning them on the page, as you must do without publish-and-subscribe.

CLIP ART

Recycled Clip Art

One of the best resources for locating clip art, Canned Art – Clip Art for the Macintosh, by Erfert Fenton and Christine Morrissett (Peachpit Press, 1085 Keith Avenue, Berkeley, CA 94708; [800] 283–9444). It's a meticulously indexed and organized book with representations of artwork from dozens of clip-art manufacturers. It's huge and worth every penny of its $29.95 cover price.

You can create your own recycling clip art after seeing the art in Canned Art; alternatively, there are BBSs and public-domain libraries full of pictographs and the like, drawn by thoughtful, caring Mac users and available for pennies. Also, check for recycling logos available on-line from Zmac or from your local user group.

If you can't find the symbol you need, though, just hop on down to your local art-supply store. It'll have books of public-domain symbols (artwork you can reproduce with impunity) for just a few dollars apiece. Take the book down to your local DTP service bureau, and the staff'll scan the pictograph into a TIFF file for about ten bucks or so.

CRICKET DRAW

Creating A Partly-Dotted, Partly-Solid Element

If you want to draw an oval or circle that's partly solid and partly dotted lines, you can do a quick cheat to get it done. First, draw a number of evenly-spaced lines over the portion you want to make dotted (Cricket Draw's Grate tool is excellent at this) and then just make those lines white.

Use Align Objects To Control Object Placement Permanently

Cricket Draw contains a little-known trick that allows users to gain total control of object placement by using the Align Objects command. The ordering of objects drawn doesn't depend on their creation order or positioning, but rather in their layering. That means, selecting an object and choosing Bring To Front from the Arrange menu will later make that object the point of reference for future Align commands.

For example, when you have an object you'd like to align with other objects, select the item and choose Bring To Front from the Arrange menu. Then, Shift-Click on the other objects you want aligned (press Shift while clicking on each one), and choose Align Objects from the Arrange menu. Regardless of the alignment done, the object on the top layer will remain in its original position.

Printing Is Faster When You Ungroup Objects

When printing documents that contain a large number of grouped objects, you'll save printing time on LaserWriters by ungrouping your objects just before you print your document.

FREEHAND

Adding Variety To Lines With Zapf Dingbats

Unless you can program in PostScript, you'll probably find the fill and line options dull after a while. You can expand your options by combining two FreeHand techniques with some ready-made PostScript images — Zapf Dingbats.

To convert any drawn line to a line made up of dingbats, use the "text on a path" feature. First, draw the line. Then choose the Text tool and create a single line of text in a small-point font (6 points works very well) that's longer than your drawn line. Select both your text block and the line you wish to convert, and use the Join Elements command from the Element menu. That's all there is to it.

Cropping Imported Graphics

To crop imported graphics in FreeHand, paste them inside a path. Pan by selecting the path as points by dragging a selection rectangle over the path and then moving the path. If you select the whole path, the image will move as you move the path. But if you select points in the path, you can move the path without moving the image.

Using Zapf Dingbats As A Fill Pattern

You can also use dingbats as an unusual fill pattern in your objects by using the "clipping path" feature. First, create the area you want to fill. Then select the Text tool and create a block of text large enough to cover your fill area. Now, select the text block and use the Cut command to send it to the Clipboard. Finally, select the area to be "filled" and choose Paste Inside from the Edit menu.

The same techniques work with other fonts, but if they aren't PostScript fonts you'll find them printed out as bit-mapped characters.

Drag A Small Object Without Grabbing Its Resize Handle

If you can't drag a small object without grabbing one of its resize handles, try drawing a large object next to it, selecting both, and then putting the pointer on the big object to move them as a unit. When the small object is in the correct spot, deselect both objects and delete the larger one.

Express Route To The Edit Dialog

You can get to the Edit dialog fast to alter a line, fill or color style. Just press Option and select the style from its menu.

Archiving Lines, Fills, and Color Styles

To save a reusable library of lines, fills, and/or color styles for use in other FreeHand illustrations, define the styles in a blank illustration file. You can also select a target printer and print settings, and add objects (like logos) that you want in every new document. Then choose Save As, name the file, click on the Template option, and save.

The next time you need these styles, use the template to create your illustration. You can even make these styles your FreeHand default setting by deleting the Aldus FreeHand Defaults file that came with the pro-

gram and assigning that name to your template file.

Getting More Control Over FreeHand Tracing

Double-click on the trace tool to display the Curve and Corner dialog box, which lets you get more control over the number and kind of points FreeHand applies while it traces.

Getting The Most Out Of Tracing Gray-Scale TIFF Images

When tracing a gray-scale TIFF image, you'll get the best results if you make it into a black-and-white image first. Select the image, choose Element Info, and click on the Black and White option. Adjust the contrast and lightness to obtain the highest contrast, and then trace the image.

Faster Printing Of PostScript Fills

When printing PostScript fills to a LaserWriter, make the color parameter gray (either 0 or 1) instead of color to speed up printing.

Faster Printing Of TIFF Files

Make TIFF files print faster by using black-and-white images whenever possible. If you've applied color to a TIFF image, the color processing slows down printing tremendously.

Having Trouble Printing Custom PostScript Line And Fill Effects?

You can avoid problems when printing custom PostScript Line and Fill effects by making sure your UserPrep file is in the correct folder and is properly named. If UserPrep isn't in the FreeHand folder or the System Folder, you'll get an "undefined" PostScript error.

Compatibility Problems With Older Systems And LaserWriter Drivers

If your printer won't print a FreeHand file unless there is text on the page, it's because you have old or incompatible System and LaserWriter-driver files. When you update your System file, make sure to update your printer files as well.

Centering Text Along The Outside Of A Circle

You can center text along the outside top and bottom of a circle by first making the two text blocks and set-

ting the text to be center-aligned.

Draw a circle and ungroup it. With the knife tool, split the circle at the side points and delete the bottom half. Clone the top half and use the reflecting tool to make the clone the new bottom half of the circle. Then join each text block with its respective half of the circle.

To make the text run along the outside of the arcs, use the Element Info dialog box to align the text to the path, with the baseline (top half) and the ascent (bottom half) options.

Creating A Three-Dimensional Box

To create a 3-D box, first skew a rectangle upward to create one side. Then, clone it and use the reflecting tool to click on a vertical edge and move the clone to the opposite side of the original. Now, clone the second side of the box and ungroup the clone. Shift-select the lower left and lower right points of the cloned element. Release the Shift key, then click on one of these points and drag to create the top of the box. Finally, give each side an appropriately shaded fill or color.

Fixing Improperly Printed Strokes

When you specify a point size for the stroke of text in the Fill & Stroke dialog box, the stroke will be too large to print properly if the text isn't joined to a path. For painless printing, place a period before the point setting in the dialog box. For example, a stroke set at .20 points prints out as 20 points high.

Getting The Smoothest Graduated And Radial Fills

You get the smoothest graduated and radial fills by making sure that the print quality is set to Better. Lower screen rulings generally create smoother fills because they produce more shades of gray. However, screen rulings are closely related to printer resolution: a high-resolution image-setter gives you smoother grays, and sharper images, at higher screen rulings. (For a table of recommended screen rulings based on printer resolution, see pages 9–12 of the manual.)

For best results, print to the highest-resolution printer available. Also, smaller filled areas stand a better chance of being smooth than do larger filled areas.

Starting With Your Own Defaults

When you select New from the File menu in FreeHand, your new page appears with a sometimes-annoying

set of its own defaults. They include Snap to Grid, many different shades of gray, line weights, and other items that most people usually end up changing.

If you want to avoid this problem, start by creating a template that has whatever line weights, fills, and colors you use regularly. Turn on features you consistently use, and turn off those you do not.

Once you have set everything to your liking, save the document as a template, name it Aldus FreeHand Defaults in your FreeHand Folder. (You might want to rename the old defaults first, in case you want to use then again.)

You cannot change some things, such as the default font and font size, but you can add guides, select your printer type, and set the measuring system to the standard you prefer, just as with a regular template.

Cheap, Editable Outline Fonts

Here's a simple and economical tip for creating editable font outlines with Aldus FreeHand 2.0.

Choose the text tool, and click anywhere. Set the text size to the largest size that you have bit maps for (if you have Adobe Type Manager, then the sky's the limit), and type the character(s) that you want.

Once the text is on-screen, simply choose the tracing tool and auto-trace the text. FreeHand's auto-trace tool treats the text as an ordinary bit-mapped object. As with any tracing, you have to play with the auto-trace controls, but with large screen fonts, you can get very good outlines that require only minimal touch-up.

A Quick Way To Create Repeating Elements

The most common technique for repeating elements in a closed path is to duplicate them as many times as required to fill the space, cut these elements to the Clipboard, and finally use the Paste Inside function to create the effect. However, the Tiled Fill option is faster and makes it easier to adjust the spacing of the masked elements.

In the dialog box you get when you select Tiled from the Fill menu, you can modify only scaling, angle and offset properties. The problem is that you cannot control spacing between the repeated elements of a tile. Here is a way to bypass this limitation:

1. Create your tile (text, path and so on). Make sure your elements are ungrouped.

2. Draw a square or rectangle around your tile, and align all elements to the square horizontally and vertically centered (you may have to group your elements to do this easily).

3. Select your square, and set the line to None on the Line menu.

4. Ungroup everything, and cut to the Clipboard.

5. Select the path to fill, choose Tiled on the File menu, and click on the Paste In button in the Tiled dialog box. As with the Edit menu's Paste inside function, you will not be able to see your results unless you are in Preview mode.

If the tiled graphic you have created does not tile correctly to form a pleasing pattern, you can easily change the spacing now. To edit the distance between objects, select the path, choose the Tiled command, and click on Copy Out. Paste the ungrouped elements back onto the document. You can now modify the height or width of your square to change the way the element or elements will be tiled into a pattern.

Once you are satisfied, paste the elements back into your fill.

FREEHAND 3.0

Using Document Setup As A Conversion Calculator

You can use FreeHand's Document Setup dialog box as a quick measurement-conversion calculator. This is handy when your measurement preference is set to picas or points, for example, but you want to know what a document's measurements are in inches.

1. Choose the Document Setup command from the File menu. In the resulting dialog box, enter the point/pica measurements in the custom-page-size entry fields.

2. Change the unit of measure to inches (FreeHand makes the conversion for you automatically), and note the converted measurements.

3. Return the preferences to points or picas, and select Cancel to return to the main drawing window. Use the converted measurements as needed.

If you want to enter a measurement in inches, you

can override the point/pica preference by typing i immediately after the number (8.5i for 8.5 inches, for example).

Speed Printing Time With Convert To Paths

Here's one way to print a FreeHand 3.0 document that has several fonts, a situation that can frequently choke a PostScript printer. All you have to do is use the Convert to Paths command from the Type menu to change the letters into outline graphics that you can fill just like any other graphic element.

Now the printer doesn't have to download any unnecessary font information—instead, it takes just the individual letter descriptions that you have converted to a graphic element.

This tip also helps if you're shipping documents to a service bureau that may not have the fonts you used in your document – with the text converted to graphic outlines, it no longer matters whether the bureau has the fonts or not.

Tracing FreeHand Objects

Most people use FreeHand 3.0's auto-trace tool to trace line-art bit maps, but it can also be used to trace FreeHand objects. Using this technique lets you create complicated objects by overlaying several simple objects and auto-tracing them. (FreeHand can't trace items at their highest resolution.) The trace will include the outline of the entire group of objects rather than each component plus the insides of the various shapes as they overlap. It's easy to delete any shapes you don't want.

ILLUSTRATOR 3.0

Quick And Simple Fancy Borders

Here's how to use Illustrator to make fancy borders simply and quickly:

1. Draw a rounded rectangle around the design or artwork you want to border. You can also use a custom path, but borders should generally be fairly regular and the rounded-rectangle tool is easy to use. Also, sharp corners do not work nearly as well as rounded ones.

2. With the path-type tool, click on the top center of the rectangle. You can now type text, and it will wrap to the path of the rectangle. For a fancy border, use

a character from Zapf Dingbats or any other iconic PostScript font. Repeat the character until it fills the path around your border.

3. To make the characters fit the border exactly, press Command-A to select all the text.

4. Press Command-T to bring up the Type Style dialog box. Arrange the screen so that you can see the bottom of your border and the dialog box. Adjust the size and tracking options, and click on Apply to see how these changes affect the border's fit. Use negative units to tighten the text.

5. The border is lined up properly when the white gap between the highlighted letters disappears. Click on OK.

When printing these kinds of borders on a printer other than your own that may or may not have the fonts you used (at a service bureau, for example), use the selection tool to select the entire border and choose Create Outlines from the Type menu (this command requires that you have ATM 2.0 or later installed). This eliminates the need for the printer to have the font you used. You can also use this trick to create several borders as EPS files for later use in PageMaker or other programs.

MACDRAFT

The Same Name Can Spell Trouble

Take care when naming your files. If you save with the same name as a MacPaint document in the same folder, the new MacDraft document will not be accessible from the application. The only way to open it will be to use a file editing tool like MacTools or FEdit. Open the file and change the creator to MDFT and type to DRWG. This will allow MacDraft to access the file again.

Producing Laser-Printable Diagonal Dotted Lines

To produce high-quality diagonal dotted lines, start by editing a pattern so that most of the pattern is black, with a one- or two-pixel column or row being white. Now confirm that you're drawing with a non-dotted line, and choose that special pattern you've drawn as the ink for the line by holding down Option while selecting the pattern.

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Try drawing a few diagonal or dotted lines. Later, you can choose the special pattern for better control.

Create Original Patterns Easily

Want interesting, original patterns in MacPaint? Use MacDraft to create them.

First, create a patterned object in MacPaint, then copy an area of the pattern and paste it into MacDraft. With the object selected, experiment with choosing different patterns from the Fill menu. The MacDraft pattern will overlap the MacPaint pattern, with almost limitless new patterns resulting.

MACDRAW II

Creating A Pixel Ruler

One of the oversights in Claris' MacDraw II is the lack of a standard ruler for measuring in pixels. You can create your own just by setting the scale ratio to 1:72 inches, setting Divisions/inch to 1, and unchecking the Show Unit Name check box.

Trimming File Space

The grouping information stored in MacDraw II files for complex grouped graphics can cause the files to increase in size — sometimes dramatically. If you need to trim some fat off a file, ungroup the grouped objects and then save the file.

This works for all the major object-oriented graphics programs, including Cricket Draw, Illustrator 88, and FreeHand.

MACDRAW PRO

Installing MacDraw Pro

If you have MacWrite II, Claris CAD, FileMaker Pro, or an earlier version of MacDraw already installed, check to see if you have the Claris XTND System document in your System Folder. If so, throw it out before running the MacDraw Pro installer, which will automatically install the XTND document in the Claris Folder in the System Folder. If you have more than one XTND document installed, you'll have difficulty opening MacDraw Pro. (Claris XTND is the technology that lets you import and export graphics and text files.)

Speeding Up Functions

If performance is sluggish, go to the Apple menu and check your memory allocation in the About MacDraw Pro box. If the box says "Available colors are currently limited by memory," here are some ways to increase availabe memory and speed:

- Use fewer colors.

- Decrease the size of document windows on-screen.

- Increase the memory allocation for Multifinder or System 7 by selecting the MacDraw Pro icon in the Finder and choosing Get Info from the File menu (Command-I). Type a slightly larger amount of memory in place of the amount presently allocated.

- If you're using gradients, turn on "Fast display of gradients" in the Preference dialog box, which you access via the Layout menu (gradients will appear banded rather than dithered). You can toggle this option on and off with Command-Option-G.

- Turn off "Kerning by pairs" in the Preferences dialog box.

- Use the Layers feature to structure complex documents. Hiding layers lessens the time the Mac takes to redraw the screen.

- If you're using System 7 with a 68030-based Mac, turn on virtual memory. If not, close applications and documents you're not using.

Keyboard Shortcuts

If you hold down the Command key in a dialog box for a moment, you will see keyboard command equivalents for dialog-box items. For additional drawing shortcuts, turn on "Typing activates shortcuts" (Command-Option-S) in the Preferences dialog box. You can then select tools by using the keyboard (R for rectangle, T for text, and so on).

Controlling Letterspacing

If you're working with text, you can control letter-spacing (kerning) automatically or manually. To adjust letterspacing automatically, turn on "Kerning by pairs" in the Preferences dialog box.

To control letterspacing manually, make sure that this option is turned off. Select a range of characters by using the text tool, and hold down the Option key while pressing one of the arrow keys. The left arrow

moves the characters closer together, the right arrow moves them apart, and the up arrow returns the letters to their default spacing. Adjust letterspacing throughout a large block of text by selecting it, holding down the Option key, and pressing the appropriate arrow key.

Splitting An Object Into Sections

Although MacDraw Pro doesn't include a tool for splitting objects in two, you can use copying and pasting to cut an object into two or more parts. Say, for example, you've drawn a map and want to split into regions. Here's how you do it:

Select the object, and choose Reshape (Command-R) from the Edit menu. This shows all the reshaping handles along the object's sides. Click at the point where you want to split the object, adding a new handle. Select the handles of the part of the object you want to cut off—including the point you just added—by Shift-clicking.

Copy the handles to the Clipboard. Deselect (Shift-click) the new handle you created, but make sure other handles are still selected. Use the Delete key to get rid of the remaining selected handles (make sure you don't cut them by using Command-X, though, because you'll just copy them over the Clipboard's contents). Click away from the object, and paste in the contents of the Clipboard. You now have an object split into two sections.

Adjusting Colors In An Imported Image

If your Mac is capable of only 8-bit color, imported images that were created in 24-bit color won't look as good as they could. To get around this, select the image, bring up the Color Editor from the Layout menu, and choose Image Colors from the color palette's Special menu. This creates a new palette from the colors in the image. The image will then map to its own palette and look much better on-screen.

Creating Custom Color Blends

By using the Blend feature in the Color Editor, you can create custom colors within a selected range (for example, a series of orange shades that range from deep red to pale yellow).

To do this, first choose Colors from the Layout menu. Unlock the padlock icon on the top right corner of the Color Editor, and click on the flag icon in the lower right corner (this brings up editing options such as

Blend and Warmer). To create a linear blend of colors, drag the color from which you want the blend to start to the bottom of the palette.

Next drag the color to which you want to blend, and place it next to the starting color. Figure out how many intermediate shades you want between the starting and ending colors, and then Shift-click to select that number of cells in the palette (you can use any colors—they're just being used as placeholders). Drag these shades down to the bottom of the palette, and place them on top of the ending color (this forces the ending color to the end of the range). Select the entire range, and click on Blend. You now have a series of colors ranging in color from the starting-color cell to the ending-color cell.

Using Gradients For Special Effects

You can use gradients to create special effects such as background texture or a 3-D look. The Gradient Editor (which you access via the Layout menu) lets you add color to a gradient as well as change its angle and focus. Here's how to generate a gradient that gives objects a silver-metallic look.

With the Gradient Editor selected, choose View by Name in both the Claris Colors and the Gradients palettes. In the Gradients palette, choose one of the diagonal gradients (such as 45 degrees directional) and choose New Gradient from the palette's Edit menu. Give the gradient a name in the Gradient Editor dialog box, select the first of the four Colors boxes, and click on 60% black in the Claris Colors palette. In the second and fourth Colors boxes, place 10% black. Place 60% black in the third Colors box. You can create a gold-metallic look in a similar fashion by assigning shades of orange/yellow to the gradient.

MACPAINT 2.0

Using ResEdit To Change Default To Pixel Measurement

You can change MacPaint's default measurement from inches to pixels, which is particularly useful to programmers and to desktop publishers. Make a copy of MacPaint, and use ResEdit for a little surgery on the copy.

First, use ResEdit to open your copy of MacPaint. Open the PREF resource. Open PREF ID=128. On the line:

00000008 0008 017B 0009 00D1

...change "017B" to 007B".

In this position, 00 is for pixels, 01 is for inches, and 02 is for centimeters.

When you've made the change, Quit ResEdit and type Y to save the changes.

PHOTOSHOP

Emulating Dodging And Burning Of Images

Adobe Photoshop could use a more intuitive approach to the conventional photographic processes of dodging and burning, which lighten and darken parts of an image, respectively. Of course, you can select part of an image and apply adjustments to it via the Image menu, but this lacks the spontaneity of using an enlarger in a darkroom. Here's how to create burning and dodging tools that mimic the darkroom process:

1. Open a copy of the image you want to alter, and select all (Command-A).

2. Copy the image to the Clipboard.

3. Deselect all.

4. Select the Adjust Brightness/Contrast command from the Image menu (Command-B), and reduce the brightness by 75 percent to create a burning tool; increase the brightness by 75 percent to create a dodging tool. Save the adjusted image in Photoshop format.

5. Paste the copy of the original image from the Clipboard on top of the saved adjusted image. Deselect the image.

6. Double-click on the rubber-stamp tool, and set it to Revert mode at 25-percent opacity. Now when you use the rubber stamp, you can create subtle burning or dodging effects.

PHOTOSHOP 2.0

Viewing 24-Bit Color Images Without The Video Card

Even if you don't have a 24-bit-color card for your monitor, you can still make use of a "poor man's" 24-bit color when you're in Adobe Photoshop. Whenever you want to see a "best" version of the color image on the monitor during a demo or presentation of a design, for example, simply choose Indexed Color from the Mode menu and then click on OK. Sure looks like 24-bit color! You can do very little editing while in this mode, so use it only to view your image, and then return to RGB or whatever you use as your standard mode.

Copying The Apple Icon Color Palette

If you make custom icons and want to have Apple's official icon colors handy for reference within a program such as Photoshop (see Figure 3), here's how:

Launch ResEdit, and open a file that has a color icon. Next, open a color-icon resource (for example, the ic18 resource). The icon appears in ResEdit's color-icon editor. Tear off the Icon Color palette (the top rectangle near the bottom left side of the editor), and do a screen capture (Command-Shift-3). Copy the resulting PICT file in a graphics program, and save it.

Now whenever you need to pick icon colors, you'll have the official palette to choose from.

Comparing Original And Adjusted Images

When you are using one of the functions under the Image Adjust menu, you can toggle between the current adjusted image (while you are working on it) and the original by clicking on the title bar of the dialog box. What is happening is that by clicking on the title bar, you are temporarily turning off the Video LUT animation and the original image (without adjustment) is being displayed. This can make minor adjustments easier to assess on-screen.

Fine-tuning Palette Tools

To use the tools in the Adobe Photoshop palette with greater accuracy and precision, turn on the Caps Lock key. This converts the standard tools into cross-hair tools.

Ghosting With The Alpha Channel

Photoshop's alpha channels are 8-bit gray-scale images, so you can use them to do complex 8-bit masking. 8-bit masking lets you create soft-edged (or feathered) selections that blend in with the rest of the image – vital if you're creating subtle photo-realistic effects.

To obtain the "ghosting effect", paste a gray-scale image into an alpha channel, and then make it the active selection mask. By using the Levels control to change the contrast, you can make the letters ghost through the image.

Creating A Textured Mask Using The Alpha Channel

To create a textured mask, select a pattern or picture and choose the Define Pattern command from the Edit menu to make it a Photoshop pattern. Fill an alpha channel with this pattern (using the Fill command from the Edit menu), and make it a selection mask with the Alpha->Selection command. (Because of the complexity of the selection at this point, you may want to suppress its flickering edges with the Hide Edges command.)

You now get a textured effect when you paint on the image, because the paint flows only into the areas of the pattern that were white within the alpha channel.

You can vary this effect by using the Hue/Saturation controls to dramatically colorize the image (the changes are applied only to the white areas of the alpha-channel pattern). Or you can take another image and, using the Paste Into command, on the Edit menu, paste it into the selection. The image will flow only into the areas of the pattern that were white within the alpha channel.

Creating A Montage With The Alpha Channel

To create a montage with one image gradually blending into another, you must modify one of the images so that it behaves like a gradient fill – that is, the pixels are opaque at one side of the image and transparent at the other, with a transition area in the middle.

To do this, create a linear-gradient fill in a new alpha channel and make this channel the active selection mask. The mask will be applied to the entire image, giving it the same properties as the gradient fill. This means that the image's pixels will now follow a gradient from opaque to transparent, matching that of the alpha channel.

Copy the selection to the Clipboard, and then paste it on top of a second image. The pasted image will merge with the background artwork to create the effect of one image blending into the other. The background art will be hidden where the first image's pixels are opaque and will show through where its pixels are transparent.

Creating A Vignette With The Alpha Channel

The same principle lets you create a vignette (a picture that shades gradually into the background). Use the New Channel command to create an alpha channel, and create a radial blend going from black (in the middle) to white.

Make the alpha channel the active selection mask, and apply the Gaussian Blur filter to the image. The selection mask controls the strength of the filter's effect – the image is intensely blurred toward the edge (where the alpha selection is white) and unchanged in the center (where it is black), following the gradient created in the alpha channel.

SUPERPAINT

Making Shadowed Text

You can create interesting shadowed effects on your text by selecting the font and style while in the draw mode, and then typing your text. (Hint: bold text looks best with this effect.)

Switch to the Paint layer and choose a brush pattern, such as a simple dithered gray. Then, choose Text Pattern from the Style menu, and on another part of the page, type the text exactly the same as the text in the Draw layer. Now, switch back to the Draw layer and move the original text to create a shadowed effect. When you get the effect you like, copy the shadowed text on to the Draw layer.

Using The Lasso While The Marquee Is Selected

While in the Paint layer, you can have the marquee tool selected and still be able to use the lasso tool. Just

hold down the Option key to turn the cursor into a lasso, making it easy to select odd-shaped bit maps on the screen.

"Nudging" Selected Graphics By A Single Pixel

While any item is selected with either the lasso or the marquee, you can "nudge" it in any direction by using the arrow keys. If your keyboard has no directional arrow keys, use Command-Y to nudge upwards; Command-J to nudge left; Command-K to nudge right; and Command-D to shift downwards.

Closing All Open Windows At Once

Hold down Option while selecting Close from the File menu and all windows that are currently open will close.

Crosshairs Can Help You Paint From A Centered Point

Instead of choosing Draw (Paint) From Center before drawing one of the QuickDraw primitives to paint the shape from a centered point, you can double-click on the palette tool you select instead of just clicking. The icons in the palette will then show crosshairs to identify the difference.

Reversing The Pattern

When editing paint patterns or paint brush shapes, hold down Command while clicking the mouse anywhere in the pixel editing box to reverse the pattern, making black white, and white black.

Creating A Spattered Effect

You can create an interesting "spattering" effect by choosing the paint brush pattern that you'd like to spatter and then painting with the spray can while holding down Option. The faster you move the mouse, the further apart the spatters will paint.

Creating a "Screening" Effect

A great "screening" effect can be created by using Paint On Black and the selection rectangle, especially in conjunction with the Laser Grey patterns. If you don't like the effect, try moving the marquee one pixel up or down to change most of the screen effects.

Lower Detail Level Speeds Smoothing

When using FatBits, don't immediately jump to the finest detail level. Instead, use the left side of the

screen, which displays the actual appearance of the work, as your guide. If you can see all of the object you'll be working on, stay on that magnification level unless you really need a finer one. You'll save time smoothing work if you work in the lowest possible magnification.

Creating An Accurate Display Of Proportional Rectangle Resizing

To accurately see the proportional resizing of rectangular objects, draw a diagonal line from one corner of the object to the other, and extend it, keeping it lined up against the two handles.

Now, grab a corner handle at the end of the diagonal line and resize the object while keeping the handle on that line.

Finally, delete the line. As long as the handle is on the diagonal line, the object is in proportion.

HARDWARE

5.25-INCH DRIVE

Compatibility With Mac Models

Apple's 5.25-inch external floppy drives are compatible with the Mac SE and II; they don't work on any other Mac models.

ADB (APPLE DESKTOP BUS)

Extending The ADB Chain

Apple designed ADB (Apple Desktop Bus) under the assumption that the length of the entire chain (cables, devices, the whole shebang) wouldn't exceed five meters, and some devices (trackballs especially) reduce this capacity further, so don't be surprised if at some point, this cabling system ceases to work.

You can extend your ADB chain by using S-video cables instead of ADB cables. S-video cables, found in your better home-electronics stores, are typically used to hook up high-end laserdisc players and VCRs to

high-end televisions, but the wiring and connectors are identical to those of ADB cables.

ADB PORT

Expanding The Single ADB Port
Because some Macs, such as the Mac Classic, LC and IIsi, have only one ADB port, you can't plug in more than one pointing device.

To get around this, replace the coil cable on your keyboard with the cable that comes with Sophisticated Circuit's PowerKey. This cable is an L connector you can plug into the back of your Macintosh (where you would normally plug in the keyboard) that gives you an extra connector for a pointing device. Plug one end of the connector into the back of the Mac and another into the keyboard. Plug your mouse (or other pointing device) into the other ADB port on the keyboard, and plug your second pointing device into the second connector on the PowerKey cable.

You don't need to buy PowerKey to get the cable: Sophisticated Circuits sells it separately for $10. You can reach the company at 800–827–4669.

AUDIO OUTPUT

Connecting A Stereo To The Mac
The proper cable to connect the Mac's audio output to a stereo system is often hard to find. Fortunately all it takes is a trip to your local Radio Shack. Look for Part Number 42–2153. It's a Y adapter with a mini mono phone plug at one end and a pair of RCA phono plugs at the other end. You may need more than 42–2153's 9-inch length. To extend this cable, use Radio Shack's 42–2472. You can use several of these if necessary.

BATTERY

Is Your Lithium Stressed?
You can tell if the batteries in your Mac need replacing by checking the voltage of the lithium batteries with a digital voltmeter. Good batteries will read 3.2 to 3.85 volts; marginal batteries, 2.3 to 3.1 volts.

Replace the batteries if they read 2.3 volts or less.

CD-ROM

Driverless CD-ROM
If the maker of your CD-ROM drive went out of business, and the driver's not System 7-compatible, try a company, Trantor Systems Ltd. of Fremont, California. They supply what surely must be a majority of CD-ROM drive vendors with their drivers. Trantor also sells its software alone. For $99 you get an intelligent, self-configuring driver that will work with any current SCSI CD-ROM drive. You can reach Trantor at (510) 770–1400.

COLOR

Upgrading For Color
If you need a color-capable Mac, you should set your sights on a 68020-based model such as the LC or a 68030-based model such as a Mac II-series machine.

If you're still limping along with an old Mac Plus or SE, it's time to upgrade. The ROMs of these relics of the original Mac family don't have Color QuickDraw, which allows you to manipulate color images. No amount of system-software upgrading can help.

The original color Macs required a separate video card, but the IIci, LC, IIsi, and Quadras ship with color video built in, so you don't have to buy a separate card. Depending on its video circuitry, each of these Macs can support a different monitor size and number of colors. As shipped, for example, the LC can support the Apple 12-inch RGB monitor at 16 bits, for 32,768 colors. With additional VRAM (video random-access memory), the Quadra 700 and 900 can support a 16-inch color monitor at 24 bits, for a full 16,772,216 colors.

8 or 24-Bit Color?
The 256 colors of 8-bit color are plenty for most business projects, but for the type of color control necessary for a color catalog—with the use of image-retouching and graphics applications, you'll want the broad range of hues and tones of 24-bit color. You'll probably also find it convenient to work with a monitor larger than 16 inches, such as a 19- or 21-inch monitor, which lets you work with two pages simultaneously.

Unfortunately, working with 24-bit images at large screen sizes taxes the Mac's processing power— and your patience. The Mac's main processor bears the burden of manipulating all that image data, and the result is an annoying time lag between when you move the mouse and when the shifted object finally drops anchor. An accelerated-video card speeds up the processing of QuickDraw commands, so if you're planning to produce a catalog regularly, you might consider getting one.

DAISYWHEEL PRINTERS

Connecting Daisywheel Printers To The Mac

Would you like to hook up your old daisywheel printer to a Mac to get the letter-quality output.

First thing to know is that only a printer with a serial interface can be connected to the Mac. If your printer is serial, then you need a Mac-to-ImageWriter printer cable. If it's parallel, you'll have to find a way to convert the signal. There are a bunch of parallel-to-serial converters on the market, selling for anything from $50 to $150. Depending on how you set it up, the converter will either translate serial to parallel or (if you're using a dot matrix printer) it'll translate the ImageWriter-type printer codes into your printer's codes.

Another problem you may encounter is persuading the Mac that it's not hooked up to an ImageWriter or LaserWriter. One of the Mac's high-scoring concepts is that each Mac program doesn't have to know how to deal with several different printers. As long as the program plays by the rules, it can print on any printer whatsoever, assuming there's a driver for that printer in the System Folder (the driver describes the printer, its features, and how it operates). That's the good news. The bad news is that the only drivers Apple gives away (or even officially supports) are the drivers for its own printers, which are ImageWriters and LaserWriters.

Fortunately, drivers for non-Apple printers are available from lots of non-Apple companies, notably GDT Softworks. Its MacDaisy Link (about $80) is a set of drivers designed for use with more or less generic daisywheel printers.

DISKS

Magnets Are Lethal To Disks

Never expose your disks to any magnetic force, since it can wipe your data clean off the disk. If possible, store disks away from metals such as file cabinets.

Also, avoid placing hard disks and floppy drives to the left of a Macintosh, since the power source has magnetic qualities. (Most, but not all, Macs have the power source on the left.)

X Rays and Your Disks

You may be wondering whether it is safe for diskettes to be scanned by an airport X-ray machine. Experience has shown that you shouldn't trust your floppies to airport-security machines; the same caution should apply to hard-disk drives as well.

But fear not for the safety of your data whilst traipsing through airports. Simply put your hard-disk drive and your floppies into a separate bag, and allow 20 minutes for a hand search procedure. In general, you may be expected to fieldstrip your bag and prove that your drive works by plugging it in and starting it up.

While we're on the subject of data predators, the anti-theft systems in public libraries and bookstores are unlikely to blitz your data. But beware of the desensitizing machines at checkout stands. These machines (decorated with festive "DO NOT PLACE CREDIT CARDS ON THIS MACHINE!" stickers) contain powerful electromagnets.

ERROR TONES

Diagnosing The Tones

The Mac has a cryptic system of error ID codes, which is supplemented by a system of cryptic error tones. If there's a hardware problem, on startup you'll hear the specific tone indicating the relative hardware problem. For example, one tone indicates that your RAM has a problem.

To learn more about the Mac's error tones, there is a program called Diagnostic Sound Sampler, that plays all the tones and explains what they mean. You

HARDWARE

should be able to get a copy of this program from a user group or on-line service.

FAXMODEMS

ATM Type For Faxmodems

The best way to image type for a faxmodem is through Adobe Type Manager. ATM uses the power of PostScript to create crisp text on-screen at any size, and the faxmodem transmits that scaled type directly. If you don't use ATM, the only way to avoid jagged-looking type is to install bit-mapped screen fonts that are three times the size of those in your document. The faxmodem software uses the oversized fonts to scale the type correctly for transmission, but this option can be limiting.

Only a few faxmodem vendors supply the necessary triple-sized fonts, and those that do usually provide only a limited selection of sizes and faces (often just Times, Helvetica, and Courier). If you want to use 11- or 13-point type for legibility (easy to do with ATM), you'll first have to find or make 33- or 39-point bit maps. With ATM, you avoid all these problems. (Keep in mind, however, that ATM works only with Type 1 PostScript fonts. Chicago, New York, and other bit-mapped faces will still suffer from the jaggies if you don't have triple-sized fonts installed.)

FILE CONVERSION

Setting Up A Null Modem Cable Between A PC Laptop And A Mac

If your portable device has an RS-232 connector, you should have no problem transferring data between the laptop and your Mac.

Plug a Mac modem cable in to your Macintosh. Plug an IBM-type modem cable in to the laptop. Each of these cables will end in a standard 25-pin connector. To link the two, get a null-modem adapter (can be purchased at your local electronics store). You may have to stick a gender changer in there, too.

Next, run communications software on both computers. A generic telecommunications program such as ZTerm (freeware you can get from on-line services or

Macintosh user groups) doesn't have the friendly face of a custom-written laptop-to-Macintosh file-transfer program, but it does precisely the same job. Get this program running on each machine, with identical communication settings (transmission rate, data bits, stop bits, parity). The actual settings aren't important at this stage; you just want to find out whether or not your cable configuration works. For the sake of accuracy, though, set the transmission rate to something slow, either 300 or 1,200 bits per second.

Now type on the laptop's keyboard. If everything's hunky-dory, the words should appear on your Macintosh's screen. Try it the other way around too. If you can type from the Macintosh's keyboard to the laptop's screen, you will know you have a solid connection for transmitting files.

Don't be surprised if either or both of the computers don't echo what's being typed on their own keyboard. Normally you won't see what's being typed "locally" unless the program's local-echo feature has been enabled.

All that remains is to jack up the transmission speed as high as you can and transfer the file. In theory, you should be able to zip the file through at 57,600 bps, but in practice, you'll find that things will begin to go haywire once you've broken 9,600.

Finally, choose a good file-transfer protocol that's common to both machines. Give the command for one machine to transmit a file, and then tell the other one to start receiving. A few seconds later, the transfer will finish. Things shouldn't really go wrong at this point if you're using the same transfer protocol on both machines; if they do go wrong, reverify that the communications settings are correct and that your cables haven't come loose.

FLOATING POINT UNIT (FPU)

What Applications Benefit From An FPU?

The FPU (floating-point unit), also known as the math chip or math co-processor, speeds up most arithmetic computations on the Macintosh. Some operations, such as transcendental functions, are hundreds of times faster, but few programs spend a

significant portion of their time performing the type of calculations an FPU accelerates.

Examples of users who'd likely notice the difference are a power spreadsheet user or someone using 3-D rendering or drafting packages.

For most Macintosh tasks, such as word processing, telecommunications, simpler spreadsheet work and painting or drawing, the performance improvement imparted by an FPU won't be obvious.

Although there are many companies making FPUs in the PC-compatible world, in the Macintosh world there's only Motorola Inc., with its 68881 and 68882 chips. Everyone uses these (the 68882 is somewhat faster), so different vendors' units will perform similarly.

FLOPPY DISKS

Disks That Won't Format

If you get errors writing to a disk or a disk that won't format, your best bet is to recover any data and throw the disk into the garbage. Why tempt fate? Floppy disks are relatively inexpensive these days, so if a disk won't initialize or if it displays errors when you use it, the safest action is to toss it.

If you're bound and determined to use the disk, try launching Norton Utilities' Disk Doctor (or Apple's Disk First Aid) before you insert the disk. Most disk-recovery programs allow you to work on a disk that can't be used in the Finder, if you launch them before inserting the disk.

By the way, some brands of floppy disks have a replacement warranty — if the disk fails, the company will replace it for fee.

Noisy Disks Signal Trouble

If your disk makes more noise than usual upon being inserted into the disk drive, it might not have been aligned properly by the Mac. Eject it and try to boot it again. If a certain disk consistently makes unusual noise, back it up as soon as possible and don't save new data to it – the data may be corrupted.

Troubleshooting Problems

Below are some techniques and questions to ask

when troubleshooting a floppy disk drive problem. If your Mac is still under warranty, leave repairs to your dealer, don't attempt anything you aren't comfortable with, shut down before opening the case, and handle all components with the greatest care.

1. Good 800K floppy disks suddenly become unreadable, and you can't initialize blank floppy disks. If you have a modular Mac (Mac II series), you can easily take the cover off and check to see that the ribbon cable connecting the floppy-disk drive to the motherboard is firmly seated. There's also a chance that the drive has dirty heads. You can buy cleaning diskettes from your local computer store. They look like regular diskettes except that they have a felt disk instead of a plastic one. Insert the premoistened cleaning diskette into the drive, and wait the prescribed time.

2. You have the problem described in No. 1, cleaning hasn't solved the problem, and other floppy disk drives connected to the same computer work fine. You (or someone else) may have damaged the heads by forcibly removing a stuck disk. You can't fix this yourself, but you can remove the drive to have it repaired.

The floppy-disk drives on the Mac II, IIx and IIfx are fastened to a horizontal mounting plate by a single Phillips-head screw. Unplug the data cable, remove the screw, and take out the drive. On the IIcx and IIci, this operation is not as straightforward: Unscrew the Phillips-head screw on the corner of the floppy-disk/hard-drive assembly, and remove the power supply and cables, and the two drives will pop out. Rebuilding an 800K drive (with new heads) costs about $100.

GENERAL

Credit Card Warranties On Hardware And Software

Before buying new hardware or software, check with your credit-card company to see if it offers an extended warranty on purchases (usually for a year beyond the warranty that already covers the product). If so, use your credit card to make your purchases – but find out first whether you need to register the merchandise in order to qualify for the extended warranty.

For example, if you use your credit card to buy a laser printer whose manufacturer provides a one-year war-

ranty, the warranty is now extended by another year at no cost to you.

HARD DISKS

How Loud Is Too Loud?

With a hard drive, it's not so much what noise it makes; it's when it makes the noise that's significant. Rattling noises at startup or shutdown are usually nothing to worry about.

The very first thing a hard-drive mechanism does when it's powered up is to make sure that its read/write arm is accurately positioned at the outermost edge of the drive's platters (the stack of disks where your data is stored). Hence the noise. You may hear the same sort of noise at shutdown—this time the hard-drive controller is making sure the arm is in its "parked" position, safely away from the platter.

More serious are any nasty, cat-in-a-blender type of noises the drive may make during the hours between startup and shutdown. So if you hear really nasty noises from your hard drive — anything worse than a whir and an occasional blick-blick-blick — take it back to the dealer.

Data Errors Caused By RFI

Some external hard disk data errors are caused by the RFI (radio-frequency interference) of fluorescent lights.

To eliminate RFI problems, use double-shielded, twisted-pair SCSI cables. Make sure that all the cables have a separate drain line running the entire length of the cable and that the shielding connects directly to the metal shell of the connectors at both ends of the cable.

Old Apple Serial Still Works

Though we certainly wouldn't recommend it to anyone as a primary storage device, Apple's old non-SCSI Hard Disk 20 is compatible with some of the latest Mac models. According to Apple, the Mac 512KE, Plus, SE, Classic, Portable and IIci all work fine with the turtle-slow serial drive. All other Macs (aside from the original and Fat Mac) do not work.

Interleave Factor And Hard Disk Performance

The performance of your hard disk relates to its interleave factor. If you change machines or add an accelerator card, you may need to change the interleave. As a rule, drives attached to a Mac Plus work best with a 3:1 interleave; those attached to an SE require 2:1; and Mac IIs, IIx's, SE/30s, and all accelerated Pluses and SEs work best if the disk has a 1:1 interleave.

To see what that interleave is and to change it, use the latest version of Apple's HD SC Setup (which is part of the System Tools 5, 6 or 7 package). Hold down Command-I after you arrive at the application's window to access the interleave areas of the program. Remember to back up your entire disk before changing the interleave. Changing the interleave requires reformatting the disk — an operation that destroys all the data on the disk.

Troubleshooting Hard Disk Problems

Below are some techniques and questions to ask when troubleshooting a hard drive problem. If your Mac is still under warranty, leave repairs to your dealer, don't attempt anything you aren't comfortable with, shut down before opening the case, and handle all components with great care.

1. You can't get past the Welcome to Macintosh message when you start up. This symptom can indicate that you have a corrupted Finder. Start up from a floppy containing the same versions of the System and Finder that are on your hard drive, drag a fresh copy of the Finder from the floppy to the System Folder on the drive, and choose Restart from the Special menu. If the hard drive boots normally, the problem is fixed. (You can also try installing a new System, using the System-installer disks that came with your Mac.) You may need to completely trash the System and Finder file before copying or reinstalling the new ones.

2. You can't get past the blinking question-mark icon, and you're sure that the hard drive is spinning. Check for any SCSI problems such as an ID conflict, a termination problem, or a loose cable. To check the SCSI ID number, look on the switch on the back of each device or use a utility such as SCSI Probe (a freeware utility available from ZiffNet/Mac and other on-line services and user groups). Each device should have a unique number from 0 to 6, inclusive.

When checking termination, be aware that only the first and last SCSI devices on a chain should be terminated. Some products are shipped with internal termination, however, and if you have one of these devices in the middle of a chain, you'll have problems. Check with the manufacturer to find out if a device is internally terminated. If it isn't, check to see if there is a 50-pin flow-through terminator plug on the SCSI connector. Remove the plug if the device is in the middle of the chain; add a plug if it's the first or last device on the chain.

3. You can't get past the blinking question-mark icon, and you've ruled out SCSI problems. You may have corrupted boot blocks. First, try using a hard-disk-recovery utility such as Norton Utilities for the Macintosh to examine the disk.

If you still have problems, your next step is to try SCSI-formatting software, such as Apple's Disk First Aid or Silverlining from LaCie. Start up from a floppy disk containing the SCSI-formatting software. If it recognizes the drive, there's a good chance you can fix it. Look for a menu item that verifies blocks and runs a drive test. If a dialog box at the end of the test reveals that bad blocks were found and successfully reassigned, try to mount the drive (your software may let you do this from within the program). If you're successful, you'll have solved the problem and saved most of your data. If you can't mount the drive, your formatting software gives you a couple of options: reinitializing (which overwrites the directory) or reformatting (which overwrites the entire drive and tests the blocks). You'll lose all your data if you do either of these operations, so make sure you back up your files regularly.

4. You can't get past the blinking question-mark icon, and you can't hear the internal hard drive spinning. If this happens, the bearing lubricant may have thickened or the heads may have stuck to the medium. Either way, there's a good chance you can fix it. On the II, IIx, and IIfx, the hard drive is fastened to a metal mounting bracket by two Phillips-head screws. (On the IIcx and IIci, the hard drive isn't screwed in, so you can simply pop it out.) Unplug the data and power cables, remove the mounting screws if necessary, and briefly place the drive in direct sunlight. More often than not, a few hours of the sun's heat will thin the lubricant or free the heads, at which point the drive

should work fine. A variant on this procedure is to carefully turn the computer upside down or on its side and leave it somewhere warm (about 70 degrees) overnight.

5. You can't get past the blinking question-mark icon; the drive makes strange scraping noises, the stepper motor ticks, or the drive isn't spinning, and you have reason to believe it's not a power-supply or motherboard problem. Send the whole drive module to be repaired. Some repair shops will retrieve all or some of your data. Prices vary with drive size, hours of time spent in recovery and overnight service.

Resetting SCSI ID Clears Up Mac Boot-Up Knot

If, when you turn on your Mac, it doesn't boot from the hard disk, it just displays the blinking question mark, but then upon restarting your Mac it boots fine, read on.

This is happening because the disk isn't ready by the time your Mac gets around to checking for bootable devices. It takes time for the disk to go from a dead stop to operating speed, and in some cases this time will increase as the disk ages.

One fix is to stuff your Mac full of RAM — say, 32 Mbytes. The Mac performs a memory test every time it's turned on, and the more memory you have, the longer this test takes.

A more prosaic solution is to change your disk's SCSI ID to zero. The Mac handles this ID as a special case and will wait as long as need be for a device at ID 0 to become ready.

Does Defragmenting Improve Performance?

A fragmented file is one whose data is scattered across the disk, rather than being in a single, contiguous section. Fragmented files take longer to read and write to because the disk head has to move to different areas of the disk to find different parts of the file — and the Mac can't do anything except wait while the disk head is in motion.

According to Karl B. Young, unsung author of Apple's Disk First Aid, disk defragmenting is rarely necessary unless your disk is so full you must often resort to deleting files just to make room.

HARDWARE

If you do want to defragment your disk, there are several utilities out there, including Norton Utilities and MacTools Deluxe.

Sticktion Affliction

When your hard drive suffers from sticktion, the read/write heads are sticking to the surface of the platters (where your data is stored) inside the hard drive and the platters can't spin. Some of Apple's Quantum drives were notorious for this, and Apple had to replace the drives' ROMs with ones that kept the heads moving at all times.

A less famous but equally troubling problem is when the read/write arm itself gets stuck — the platters in the drive spin freely, but the arm can't maneuver itself to read in the correct data.

Usually, sticktion rears its ugly head at startup; you turn on the drive and hear nothing but the whir of the fan, and the drive fails to mount. The motors that spin the platters generate almost trivial torque (as they should), so even minor sticking results in platters that just won't turn. Another symptom is that the hard drive boots but the arm subsequently sticks in position and no longer reads or writes files.

Some causes: Improper cleaning of the platters during production, use of a verboten lubricant in the mechanism, or poor hard-drive design. The best fix: Buy a new hard drive, or get the drive manufacturer to replace the mechanism. If you bought an Apple hard drive (internal or external), call the Apple Customer Assistance line (800–776–2333) or your local Apple dealer.

Noisy Fans

There are several things you can do about a noisy fan, none of them for the faint of heart:

- Replace it with a quieter fan. This involves removing the fan, which is generally a square "muffin fan," after looking around Radio Shack or an electronics surplus store for something that is physically the same size and runs on the same current. Since there's rarely a way to test the fan in the store, it's a gamble.

- If you're especially intrepid, you can wire a resistor in-line with the fan's power to slow it down. The value of the resistor will depend on the type of fan.

- Bring the hardware in for service and pay for both

labor and any part replacements.

What Is A Look-Ahead Cache?

As you may know, a cache is a small amount of fast memory that acts as a buffer between the CPU and slower memory. Some hard disks include a small amount of cache RAM on their controllers.

A look-ahead cache goes one step further than a regular cache: It anticipates and preloads the data it thinks you'll need next; which, in this case, is generally the data on the next sectors or tracks of the hard disk.

A look-ahead cache is a good idea, but since the amount of cache RAM on the hard disk controller is generally pretty small — 32 Kbytes or so — it won't help with large files.

Which Utility Will Fix What?

Among the several disk-repair utilities, sometimes one will report that a disk is OK, while another will insist there's a problem. Disk-repair utilities— such as Symantec Corp.'s S.U.M., The Peter Norton Utilities for the Macintosh, and Apple's Disk First Aid — all have different sets of criteria for what constitutes a "problem." It's hard to know whose utility to believe when two or more utilities disagree because no company documents exactly what its utility looks for and can repair.

Disk-repair utilities exploit the redundancy in the disk's directory and file structure, which sometimes can be sufficient to reconstruct the missing information. However, it's possible for a disk to be scrambled to the point where no utility can repair it, in which case your only defense is a good backup.

Jasmine and System 7

Unfortunately, Jasmine declared Chapter 7 bankruptcy in October 1991.

Fortunately, System 7-compatible formatting software for Jasmine drives is available from at least three companies. Hard Disk Toolkit (FWB, Inc., 2040 Polk Street, Suite 215, San Francisco, CA 94109; [415] 474–8055) and Drive7 (Casa Blanca Works, Inc., 148 Bon Air Center, Greenbrae, CA 94904; [415] 461–2227) can both do the trick. Just format your Jasmine drive with either one, and you should have no further trouble installing System 7.

Seagull Software, at (415) 361–0928, is the only source

for Jasmine Driveware 2.0, which has been buffed for System 7.

If you're a Jasmine orphan (or even if you're not), keep this name and number handy: Drive-Savers (30-D Pamaron Way, Novato, CA 94949; [415] 883–4232). DriveSavers, run by former Jasmine executive Scott Gaidano, can recover data from and repair all Jasmine models. The company provides a copy of Drive7 at no charge with any Jasmine data recovery.

HIGH-DENSITY DRIVE

Adding A SuperDrive (FDHD) To A Mac Plus

If you have a Mac Plus or SE and would like to add SuperDrive capability to it, the Apple external FDHD won't work.

What you can use are a pair of peripherals, Rapport and Drive 2.4 (Kennect Technology). Rapport is a plug-in microprocessor and drive controller that lets your Mac read 3.5-inch, 720K MS-DOS, OS/2, and ProDOS disks (low density), using the existing 800K internal drive. Drive 2.4 is an external drive that, in addition to supporting all existing Apple and IBM 3.5-inch disk formats, supports two high-density formats that provide 1.2 megabytes of storage on 800K disks and 2.4 megabytes on high-density disks. Rapport supports the Mac 512KE, Plus, and SE. The Drive 2.4 supports the 512KE, Plus, SE/30, II, IIx, IIcx, and IIci and IIfx.

Such wizardry is possible because the products are the brainchild of Wendel Sanders, a major contributor to the Apple III team and codesigner of the SWIM disk-controller chip that controls the floppy drive in Macs that have FDHDs. (Interesting Macintosh trivia: SWIM stands for Sanders/Wozniak Integrated Machine, not Super Wozniak Integrated Machine or Steve Wozniak Integrated Machine.)

HP-95

HP-95-to-Mac Connectivity

DataViz Inc., makers of the MacLinkPlus file-format translators, has a version for the HP-95LX. The package makes file transfer between the machines trivially easy and includes all the regular DataViz translators.

MacLinkPlus for the HP-95LX is available now at an introductory price of $99. DataViz Inc. is at 55 Corporate Drive, Trumbull, Conn. 06611. Phone (203) 268–0030; fax (203) 268–4345.

IMAGEWRITER

What You See Isn't Always What You Print

When you print, the ImageWriter (I & II) uses a font twice the selected size (if it's available in the System) and then scales it down to produce high quality output. Fonts usually don't change from one size to the next. But Geneva is the exception that proves the rule: its lower case "y" in 12 point has a distinctly different descender than the 9-point "y" and both have different forms than the 24-point character. That means, when you print high quality in Geneva, you'll often get some characters that print quite differently than they display on-screen.

How To Access The Self-Test Mode

The ImageWriter II can run self-test samples of all three printing modes. To do this, turn the printer off and hold down the Form Feed button while turning it back on. This starts the draft mode self-test. While it's printing, deselect the printer by pushing the Line Feed button and then push the Print Quality button to select a new mode. Then reselect the printer by pushing Line Feed. When the print head begins a new line, it will print in standard quality. Repeat step two to enter high quality mode.

A Quick Tuneup

If your ImageWriter printer is more than two years old, it will benefit from a quick tuneup. All you need do is turn off the power, remove the ribbon, and clean the pin mechanism. Here's how:

1. After removing the ribbon, locate the white plastic retaining clip, which is to the right of the printing mechanism. Gently pull the clip to the right so that you can lift the assembly up and out of the carriage.

2. Using a general-purpose cleaner on a cotton swab, carefully clean any ink residue from around the pins. On the underside of the unit is a small cutout that allows lubrication of the pins. You can add a small amount of lubricant (such as WD-40) here.

3. Gently replace the assembly and the ribbon. You're now ready for another two years of printing.

How To Obtain Best Print Quality Fast

Here's a way to obtain the fastest and best print quality from your ImageWriter II. You can access the ImageWriter II's built-in proportional fonts from within MacWrite or Microsoft Word. Certain fonts when printed with the "draft" quality access the printer's internal proportional fonts. These internal proportional fonts are: Boston II 10 and 12 point, Toronto 12 point, Chicago 12 point, Venice 14 point, London 18 point, Athens 18 point, and San Francisco 18 point. Other fonts, such as Geneva, use a monospaced font in draft mode that produces awkward spacing.

IMAGEWRITER II

Using The ImageWriter And The HP PaintJet Film Produces A Transparency

If you've ever needed an overhead transparency in a hurry (and in color, no less), here's an inexpensive solution.

By using HP PaintJet transparency film and an ImageWriter II printer, you can easily make a color (or black-and-white) overhead.

IMAGEWRITER LQ

Extending The Life Of ImageWriter LQ Ribbons

Here is one way of extending the life of an LQ ribbon.

On the left side of the LQ (where the controls are), there is a small switch. When this switch is depressed, the printer knows that a one-color (black) ribbon is loaded. The black ribbons have a tab protruding that should depress this switch. Color ribbons do not have this tab. Make sure that the tab is depressing the switch. Then most of the ribbon surface will be used for printing.

Seating The ImageWriter LQ Ribbon Properly

If the top edge of your ribbon is receiving the brunt of the printing load, you may not have the ribbon seated properly.

A well-worn LQ ribbon has four parallel wear lines spaced evenly up and down on its surface reflecting the up and down movement of the print head. An improperly seated ribbon defeats this motion, and the result is the characteristic top-edge fraying. In other words, you're using only one-fourth of your ribbon.

If you set up the printer as the manual instructs, there's every chance that you won't seat the ribbon properly, because doing so requires a degree of force and thumb pressure that most people will not instinctively apply to a new $1,300 printer.

To seat your ribbon properly, you must apply very strong thumb or finger pressure to the extreme end of each of the little arms that extend out from each end of the cartridge. You will feel a very satisfying click when it is properly installed.

INTERRUPT AND RESET SWITCH

Where Are The Macintosh IIsi's Switches?

On most Macintosh computers, the reset and interrupt switches are activated by a small plastic button found on the front or side of the computer. The Macintosh IIsi has a keyboard-based set of switches. To activate the reset switch, press Command-Control-Power On; to activate the interrupt switch, press Command-Power On.

KEYBOARD

Using The Key Caps DA During Keyboard Failure

If one or more of the keys on your keyboard ceases to function or in the middle of a letter or document and something similar happens to you, simply go to the Key Caps DA. Click the mouse on the inoperative key and that letter, number, or symbol will be shown in the text area at the top of the DA. Simply copy it from there and paste it where needed.

Another option, which works in any program that has a global search and replace feature, is to use a symbol

that you ordinarily don't use in place of whatever the keyboard won't produce throughout the document. When you're done, use the Change command under the Search menu to have the program substitute the correct letter (or whatever) for the symbol. Paste the correct letter from the Key Caps DA straight to the Change To area of the Change dialog.

Cheap Keyboard Protection

If you want a really cheap and easy way to protect your keyboard from dust or coffee spills, try wrapping it in plastic cling wrap. It will last two to three months, and as long as you dont't wrap it too tightly, the keyboard "touch" is the same.

Running A Mac With A Copilot

Did you know that you can run Macs with a real live copilot at your side? Just have your nearest Mac expert bring a second keyboard (and mouse) to your desk and plug it into one of the Apple Desktop bus (ADB) ports on the back of your Mac.

The extra keyboard and mouse turn your Macintosh into a state-of-the-art training system, complete with room for a copilot. Your resident expert can sit beside you and demonstrate various techniques. This gives you the chance to try out the techniques yourself without having to share the keyboard or mouse.

The Keyboard Remembers What You Type

The Macintosh has a very effective keyboard memory buffer. So, when you launch an application, you only have to wait about four seconds before starting to type, even if the application isn't fully set up on the screen yet.

Having A Numeric Keypad With The Pre-Mac Plus Keyboards

Here's a simple tip for those of us with pre-Plus keyboards, which don't have numeric keypads: Use a macro program to redefine the backslash \ key to be a plus sign +. This saves a whole lot of shifting in spreadsheets, calculators, and other frequently used programs and basically doesn't cost you anything, since you seldom need to use the backslash key—unless you're running MS-DOS.

Curing Keys With WD-40

There comes a time in the life of every Mac keyboard when one of the keys fails to work. How-to articles describe how to repair the keyboard by breaking out the trusty ol' soldering pencil, tearing the keyboard apart, and replacing the individual key with one purchased from the local Apple dealer. Although this method does an admirable job, you may be uncomfortable doing this kind of minor keyboard surgery. There is an easier method that requires no soldering, based on the assumption that the key is probably suffering from a dirty contact and that the contact can be cleaned with a judicious application of a solvent.

Disconnect the keyboard from the Mac and carefully pry the key cap off the offending key. Now take a can of WD-40 (available at most hardware stores), insert the small straw that comes with the lubricant into the nozzle, and direct as short a spritz of WD-40 as possible at the point where the white key plunger enters the black body of the key.

Work the key plunger several times and then reconnect the keyboard to see if the key works. The first application of WD-40 may not do the trick, but the key should be resurrected by the second or third try.

LASERWRITER IISC

Keeping a LaserWriter Running

If you own a LaserWriter IISC, you will need to turn it on before starting up your Mac and leave it running as long as the Mac is turned on. This is because this printer connects via the SCSI port; most SCSI devices need to be turned on before you turn on your Macintosh.

LASER PRINTER

Printer Care and Feeding

Three hazards face a sheet of paper, labels, transparencies, etc. as it meanders through the LaserWriter's intestines. First, the page makes a U-turn as it travels from the paper bin into the printing mechanism. If the page is a sheet of labels, some stickers may peel off while making the turn and get stuck among the innards of the machine. The solution is to feed the page manually to avoid the U-turn.

Another problem is page thickness. Approximately a 60-pound cardboard (business-card stock) is the thickest stuff that can make it through the printer unscathed.

Finally, there's heat from the fusion rollers at the end of the paper path. It can turn a happy sheet of transparency material into a hard glob of plastic nastiness that's terminally fused to the printing mechanism. Because the lowest temperature of the heat rollers is typically about 150 degrees, you can test a sheet of material by setting an iron to 140 degrees or so and passing it over the sheet a few times. If the iron becomes permanently fastened to the ironing board, well, you have the answer.

Most office-supply stores sell special labels and transparency film for use with plain-paper copiers, which are very similar to laser printers; Avery 5351 labels and Scotch 503 transparency film are commonly used for this purpose.

Printing The Screen

Most 300 dpi printers – laser and inkjet – don't support Command-Shift-4, which sends the contents of the active window to an ImageWriter printer.

Never fear. Your Mac has a built-in print-screen-to-disk command. If you have a black-and-white monitor or color under System 7, Command-Shift-3 will create an editable and printable paint document of the current screen, not just the active window. The document appears on the Startup disk as Screen X, where X represents a number between 0 and 9, inclusive. You can take up to ten screen shots (Screen 0 through Screen 9) before you have to renumber them. Once you've created a document this way, simply open the file with MacPaint (or any program that reads MacPaint files) and print it.

If you have a color Macintosh system with System 6.x or earlier, Command-Shift-3 works only if your monitor is set to black-and-white (use the Monitors cdev in your Control Panel to do this). System 7 will let you create color screen images when you use Command-Shift-3.

An alternative is to use a special screen-printing utilities for any non-Image Writer printer if you want to print the active window directly to the printer. The good news is that there are a lot of alternative screen-dump INITs and Fkeys out there. One example is Nobu

Toge's shareware Flash-It INIT/cdev (available from user groups, Zmac, or other shareware sources).

Avoiding The Startup Page Using The Paper Tray

One way to stop your LaserWriter from printing a page each time it's started on a temporary basis is to pull the paper tray out an inch or so (the distance isn't critical) when you start the LaserWriter. When the green light stops flashing, indicating the printer is warmed up and ready to go, push the tray back in.

Preprinted Paper And The LaserWriter

Here are some suggestions about using preprinted paper in a LaserWriter, such as paper that is offset-printed or copied on a copying machine.

You shouldn't use paper that has been printed with thermography (raised lettering), because the heat generated by the printer can melt the ink, which can cause problems.. Depending on the chemical makeup of the ink, when the paper runs through the printer's fusing process, it tends to melt and can damage the fusing unit. It is better to be safe than sorry: letter-head or other paper printed with thermography is not recommended with any laser printer.

On the other hand, Apple says you can use most pre-copied, or colored paper in a laser printer. If you're not sure whether you should use a certain paper, Apple recommends that you consider the following characteristics:

Don't use paper with a colored coating that was added after the paper was produced, because the pigments used on the paper might not be able to withstand the 392-degree temperature of the printer's fusing process. (You should also keep in mind that colored paper should be the same quality as regular photocopy paper.)

To avoid problems with offset-printed paper, make sure the inks used are heat-resistant and will not melt, vaporize, or release hazardous emissions when subjected to the printer's fusing process. Whoever did the original printing should be able to help you in finding out about this.

Copiers use the same electrophotographic process as a laser printer does, so running copied paper through shouldn't be a problem. Remember, however, that depending on the makeup of the copier's toner and the LaserWriter's cleaning process (which scrapes the

paper), you may get toner droppings in the bottom of your printer.

To be safe, Apple says, you should avoid using the following in your printer: glossy paper, heavily textured or embossed paper (laser printing doesn't adhere as well to this kind of paper), carbonless or chemically coated paper, and paper and ink that are not compatible with the heat and pressure of the printer's fusing process.

Using Word To Disable The LaserWriter Test Page

While in Microsoft Word, you can creat a document containing the following Postscript code, which when downloaded to the printer will disable the test page:

serverdict begin 0 exitserver

statusdict begin false setdostartpage

The important step here is to set the style of the code to Postscript style. To do this, select the text and then type PostScript in the style box in the lower left corner of the ruler (you can either select it with your mouse or press Command-Shift-S).

There are also some shareware and commercial utilities that switch the test page on and off, most notably CE Software's Widgets program. You may want to check out Apple's LaserWriter Reference and Adobe's PostScript Language Reference Manual, which contain other PostScript commands and conditions for manipulating LaserWriter features.

No Toner Is Forever

Keeping important documents around for years or decades can be a little tricky. You should always use pH-neutral paper stock for archival printing and always store the documents in a cool, dry place away from light.

And one more thing: If the documents were printed on a Hewlett-Packard LaserJet, don't store them with vinyl binders or notebooks. Vinyl reacts with the syrene plastic in the toner and breaks it down over time.

A Manual Fix For Envelope Jamming

Envelopes frequently jam when going through a LaserWriter because they are too stiff to bend around the mechanism of the paper path.

The low-tech solution is extraordinarily simple and takes about two seconds. Before printing, break the spine of the envelope. Run the flap edge of the envelope between your thumb and forefinger, bending it at about a 45-degree angle as it passes through. Do this twice, bending once in each direction so that the envelope ends up flat. Avoid paper cuts entirely by folding the flap over backwards.

For an even better pass through the printer, break the stiffness along both long edges. This makes the envelope more flexible and the likelihood of jamming is substantially reduced.

Keeping A LaserWriter Running

You do not necessarily need to turn on a LaserWriter while you are using your Mac until you need it. Then, depending on whether you expect to do more printing, you can either turn it off or leave it on. Turning your printer on and off a few times a day cannot harm anything, and it might even save a bit of energy.

If we're talking more than two or three times a day, you wouldn't want to switch any piece of equipment on and off much more than that. Cycling a power supply (nerdspeak for "switching the thing on") causes a certain amount of stress on any circuit, and if you really go overboard, you can shorten the life of the printer. Admittedly, we're only talking about taking six months (at the most) off your printer's eight-year life span, but it's something to think about.

Paper Trays For Legal And Letter Size Paper

If you regularly use two kinds of letter size paper in your LaserWriter (for example, letterhead and regular paper), it's a good idea to get a second paper tray to avoid taking paper out and putting the other paper in constantly. However, don't get a legal size tray, on the theory that it would be handy to have both tray sizes. You'll discover your pages print misaligned. That's because the LaserWriter doesn't check to see what kind of paper is in the tray, but, instead, checks to see which size tray is inserted!

Jamming With Envelopes In The LaserWriter II

A simple solution to jamming envelopes in the LaserWriter II is to open the door at the end of the LaserWriter II so the paper path is straight.

Feeding Label Sheets

Anyone who has ever fed a sheet of labels into a laser printer has feared that somehow a label is going to wreak havoc by peeling off its backing and adhering to the innards of the printer.

If you print and remove a single label, the remaining sheet starts to curl at that end, increasing the likelihood that the sheet will jam the next time it's fed into the printer. The solution is to print from the bottom of the sheet, not the leading edge. Most label-printing utilities allow you to specify which label to begin printing so that you can—theoretically—use an entire sheet, one label at a time, starting anywhere on the sheet. Don't use the default setting of the first label on the sheet, but rather switch to the last one at the trailing end of the sheet. That way, even if the sheet starts to curl, the leading edge will remain straight and you'll have fewer problems each time you feed it into the printer.

MACINTOSH II

Using The Latest With The Oldest And Not-So-Greatest

The original ROMs (Rev. A ROM) in original-issue 1987 Mac IIs won't work with the current crop of Apple video cards. A free ROM upgrade is still available from your Apple dealer if you've somehow managed to go this long without it.

Vertical Or Horizontal?

Whether or not you can safely turn a Mac II on its side, lies with the disk drive. If you're going to verticalize your Mac II, do the following:

1. Perform a low-level format on the drive in the position you will use it in.

2. Don't keep changing the orientation – once vertical, always vertical; once horizontal, always horizontal.

3. Pay careful attention to air flow, especially with the Mac II, IIx, and IIfx, which aren't designed to sit on their sides. If you want to put one of these models on its side, you'd better get a special stand for it. The IIcx and IIci, on the other hand, were designed to go either way.

The Upgrade Path To A IIfx

Thinking of upgrading your Mac II to a IIfx at some point? Any monitor, keyboard, or color board that works in your Mac II will also work in the IIfx. As for RAM, any memory that you have for your Mac II will be utterly useless in the IIfx, because the latter machine uses different (64-pin SIMMS) 80-nanosecond RAM chips that won't fit, much less work, in your II.

MACINTOSH IISI

Sound Output Goes Away

If you find that the sound output on your Mac IIsi goes away at random intervals, you're not alone. Nobody seems to know either the cause or a permanent fix for this vexing problem, although people have reported some success from cleaning the contacts between the speaker and the logic board, reinstalling system software, and unplugging and replugging the microphone. Opening the Sound control panel and dragging the volume control to the end of its range and then back seems to work in most cases.

The real story is that it's a problem with the contacts between speaker and motherboard, which can be addressed with an electrical cleaning and lubrication solution, such as Cramolin from CAIG. The headphone jack should always work, since the problem is with the speaker connection only.

MACINTOSH CLASSIC II

Setting Brightness With The Keyboard

When Brightness is open, typing any number between one and nine will jump the control panel's slider to that setting. Nine is the brightest screen setting and one is the darkest.

Brightness In The ROMs

If you set the brightness level less than four on a Classic II, it will reset to just more than four after the next restart. This "feature" protects against users setting their screens too dark and then thinking their computers are not booting when the screen doesn't light up at start-up.

MACINTOSH CLASSIC

Upgrade The Classic to The Classic II?

Apple offers a souped-up model of the Classic with a 68030 processor, called the Classic II (the Classic has a 68000 processor).

The upgrade costs about $700. There is a socket for an optional math coprocessor; however, there isn't an expansion slot. Having the 68030 processor means you can take advantage of some neat System 7 features such as 32-bit addressing, virtual memory and Quick Time: If you want to watch the Three Stooges in a HyperCard stack, you'll need a 68030 processor and 32-bit Color QuickDraw in ROM.

MAC PLUS

The Vents On The Top Of A Mac Plus

Don't block the vents on the top or the sides of the Mac Plus, since it interferes with the circulation of cool air to the inside. Without adequate ventilation, the Mac Plus (and other models as well) may be permanently damaged.

When The Calendar And Clock Aren't Working On A Mac Plus

The alarm clock and calendar functions are regulated by the Mac's internal battery. In the Mac Plus, its compartment is located in the upper right side on the back of the machine. After about two years, the battery will give out. Replace it with an Everready 523BP, Ray-O-Vac RPX21, Duracell PX21 or Panasonic PX21, all of which are 4.5 volt batteries. You can find them at an electronics specialty store and through some Mac mail-order houses.

If the above symptoms are occurring on a Mac other than the Plus, the battery is a lithium battery, which lasts about 7 years and requires a Certified Apple Technician to replace it.

Esc For Old Keyboards

If you need to use an escape key on the Macintosh Plus keyboards you will have to use a work- around.

An easy solution is to use QuicKeys II. You'll find it useful in almost every application. With QuicKeys, you can create a key set with the alias for the Escape key on a Mac with a newer keyboard and then save the key set and install it on your Plus.

Or, CE Software has created a QuicKeys key set called Control. KEYS that contains aliases for keys not available on the Plus keyboard – the Escape key (along with Shift-Esc, Command-Esc, and so on) and Control-A through Control-Z. You'll find a copy in the ZiffNet/Mac library on-line.

Yet another solution is to look into buying a third-party extended keyboard, such as Datadesk's Mac-101. It's an IBM PC/AT-style keyboard complete with Control, Escape, function, and a slew of other keys, thus bypassing the need for clumsy key alternatives in most situations.

MAC PORTABLE

Turning Off The Power Conservation Feature

Mac Portable users who try to use the machine for automated, time-consuming operations may find it performs far below their expectations. Without user interaction or peripheral communication, the system will slow down to a crawl after 15 seconds to conserve power. You can turn off this feature from the Portable Control Panel device (cdev): Hold down the Command and Option keys while clicking on the words "Minutes Until Automatic Sleep" at the top of the cdev window. A dialog will appear with the Don't Rest option, which will keep the Portable on full power until reset.

Using A Screen-Saver Program On The Mac Portable

Although the portable has an LCD screen, they are subject to burn-in the way CRTs are. You should use a screen saver if your Portable spends a lot of time with the same image on its screen.

Avoid The Control Panel

Every time you open the Control Panel, the Mac accesses the startup drive. If you must make changes to the Control Panel settings, do them all at once.

Don't Shut Down

The Portable consumes the same amount of power in the Shut Down and Sleep modes. The only reason to choose Shut Down is if you are going to install an expansion card or attach a device to one of the ports on the back of the computer. (Apple does recommend that you shut down at least once a month.)

Otherwise, choose Sleep so that all of your applications and documents are instantly available when you issue the wake-up call by touching a key. Aside from this convenience factor, you save the power required to spin up the hard disk and reload files from disk.

Open Files In Batches

The hard and floppy drives are the most power-hungry components of the Macinstosh Portable. Both require roughly the same amount of power to spin for any given length of time.

Whenever possible, open simultaneously any of the documents that you plan to use in a session. To do so, use the shift-click method to select more than one document in a folder and choose Open from the File menu or press Command-O. This launches the parent applications and opens the designated documents all in one step.

Create A Startup RAM Disk

Whether you configure memory as a RAM disk or leave it available for applications doesn't affect how much power the Portable uses, so if you have at least 2 megabytes of memory, specify a RAM disk, using the Portable Control Panel (cdev).

Make it large enough to hold the required System files plus any heavily used applications and documents. Click on the Ram-disk icon on the Finder's desktop, and then choose Set Startup from the Special menu. Now instead of spinning the hard disk on startup, the Portable can quickly fetch these files from the very low-power RAM disk.

Although the RAM disk retains its contents even when you choose Shut Down from the Special menu, save any really important files to a diskette every once in a while for peace of mind.

Use A RAM Cache

The General Control Panel (cdev) has an option for designating a portion of memory as a RAM cache.

Frequently requested data resides in the cache, so if it is asked for again, it can be accessed much more quickly from RAM than if it has to be retrieved from a disk drive. Because the drive needn't be accessed, you won't waste power.

Load Entire Applications Into Memory

Some applications (such as Microsoft Word) let you specify whether the entire application should be loaded into memory when launched. Say yes. Forcing the whole program to load at once means that you avoid unnecessary disk access later on.

Turn Off The Speaker

The higher you set the sound volume, the more power is necessary to drive the speaker. Use the General Control Panel (cdev) to lower the volume of the internal speaker as far as it will go. With the speaker thus disabled, the Mac flashes the menu bar whenever a system beep occurs.

Use Any Desktop Pattern You Want

Some people suggest using the General Control Panel (cdev) to change the desktop pattern to all white. The assumption is that black pixels are "on" and therefore require more power to display than white pixels. In actuality, the Portable uses an active-matrix LCD (liquid-crystal display) panel, with each pixel controlled by its own transistor. It requires power only to change the state of a pixel, and even then, the amount of power involved is negligible.

Quit Telecom Apps When Not In Use

Open telecommunications applications require the Portable to supply power to the internal modem even if you aren't connected to an on-line service. But if you quit the application, the Portable saves power by turning off the modem.

Force The Hard Drive To Sleep

Normally, after you access the hard drive, you must wait for it to delay until the amount of time has passed that you specified in the Minutes Until Automatic Sleep in the Portable cdev, before it turns itself off. But clicking on Sleep at the bottom of the Battery DA immediately puts the system into sleep mode, thereby shutting off the hard drive. Just press any key (except Caps Lock), and the system wakes up exactly as you left it but the hard drive remains off.

If you get Andrew Welch's shareware INIT called Portable Siesta — putting your Portable to sleep is even easier — just press a user-specified key combination (the default is the Escape key). Portable Siesta is available from ZiffNet/Mac; the shareware fee is $5.

Don't Save As Often

The Mac Portable is a robust piece of hardware, so you needn't worry too much about losing work in progress. If you have a macro utility that saves to disk automatically at periodic intervals, or if the applications you see have this as an option, disable it.

MICROPHONE

Macs Without The Built-In Microphone

You can't use the microphone that comes with Macs such as the Mac IIsi with older Macs such as the IIcx. The older Macs don't have the sound input and digitizing circuitry that the newer Macs do.

So what if your Mac doesn't have a built-in microphone? Don't worry; several good recording devices are available. The MacRecorder Sound System Pro, from Macromedia (formerly MacroMindParacomp, 600 Townsend Street, San Francisco, CA 94103; [415] 442–0200; $349, including the excellent SoundEdit Pro software) contains a microphone that connects to a serial port and provides software to capture and edit sound.

Articulate Systems (6000 Cummings Park, Suite 4500, Woburn, MA 01801; [617] 935–5656) also makes recording devices. Choose from the no-frills VoiceImpact ($119) or the full-featured VoiceImpact Pro ($299).

MODEM

Why Buy A Modem?

A modem is not only affordable these days, it's virtually indispensable. With a modem, you can use your Mac to access on-line services such as CompuServe-America Online, and MacUser's own ZiffNet/Mac as well as professional services such as Lexis (for lawyers) and small bulletin-board services. You can also use it with software such as AppleTalk Remote

Access to access the power of your office Mac (and servers and printers) while on the road or at home. Even better, modems are getting faster and cheaper: What used to be top-of-the-line —a 2,400–bps modem—is now standard, and some 9,600–bps modems have come down in price enough to be a good buy for personal-Mac users.

Buying For Speed

Modems are rated by how fast they send data over phone lines: their speed is measured in baud or bps (bits per second).

Although you can pick up secondhand 300- and 1,200-bps modems for much less than $100, it's worth spending $250 or so to buy a 2,400–bps modem with built-in error correction (which guards against phone line disturbances and the resulting garbled data) and data compression (which lets your modem transmit at speeds as high as 9,600 bps).

Buying 9600 Baud And Beyond

When buying a 9,600-bps or faster modem, make sure it's configured for the Mac and has a cable capable of hardware handshaking, which controls the data flow between your Mac and your modem. Hardware handshaking is less likely to result in garbled data than is software flow control (the XON/XOFF option in your telecommunications software's settings file).

Surge Protection For Your Modem

Resist the temptation to buy a surge suppressor for your modem. Unless you live in an area prone to severe lightning storms, you probably don't need one for your modem. If you do, have your telephone company install a protector on the phone line going into your house or business — you'll get more effective protection.

Buy An Long RJ11 Cord

Buy a replacement RJ-11 phone cord when you buy your modem. Most modems come with a 7- to 13-foot cord; a 25-foot cord is much more convenient. You can pick one up wherever telephone equipment is sold.

Check Out The Power Before Buying It

When comparing modems, check out the power cube that plugs into the electrical socket. Some cubes are so large that they can't fit into a power strip or outlet without blocking other outlets.

Looking For A Bargain

If you are looking for a bargain but don't want to sac-
rifice quality, you can get a low-cost 2,400-bps modem
for around $100. To complete the package, buy a serial
cable from an electronics store for about $10 and get a
public-domain telecom program, such as ZTerm, from
a user group or an on-line service.

Buying For The Bundle

Find out what software is bundled with the modems
you're looking at. You'll get the most use out of full-
featured telecommunications software such as
Smartcom II, MicroPhone II, and White Knight rather
than a generic terminal-emulation program.

Consider buying a modem that can send faxes. For
this extra convenience, you'll add only $25 to $50 to
the price of a 2,400-bps modem.

The Best Data Compression To Buy

The data-compression standard to look for is MNP
Class 5 or V.42bis. Your best bet is a modem that has
both standards; if that's not possible, go for V.42bis,
which advertises compression ratios of up to 4:1. Class
MNP 5 offers up to 2:1 compression.

Pinouts For Serial Connectors

Below are two standard pinouts for the serial interface
on modem cables, the Macintosh serial port pinout
and the common PC RS-232 connections.

Macintosh Serial-Port Pinout

Pin	Name	Function
1	DTR	Data Terminal Ready
2	CTS	Clear To Send
3	SD	Send Data
4	SG	Signal Ground
5	RD	Receive Data

The Most Popular RS-232 Connections

Pin	Name	Function
1	PG	Protective Ground
2	TD	Transmit Data
3	RD	Receive Data
4	RTS	Request To Send
5	CTS	Clear To Send
6	DSR	Data Set Ready
7	SG	Signal Ground
8	CD	Carrier Detect
20	DTR	Data Terminal Ready
24	(E)TC	External Transmitter Clock

MONITOR

The Thin Black Line

The Apple 13-inch high-resolution RGB monitor has a
dark thin line that runs horizontally across the screen
approximately two inches from the bottom.

This is a specific design in the Sony tube, and nothing
can be done about it. According to a technical note on
AppleLink (Apple's on-line service), Sony's design for
this monitor's tube causes a single thin black horizon-
tal line to appear one-third of the way up from the
bottom of the screen. It's caused by the horizontal sta-
bilizing wire for the colormask grid (the grid is a set of
vertical wires that blocks the electron beam from hit-
ting color phosphors other than the intended one).
This is inherent in the monitor technology, which,
according to Apple Computer, is the best there is.

Despite this, the Apple monitor is one of the best. How
pronounced the black lines is varies among monitors.

Preventing Video Burnout

Turn the screen intensity down when you're not using
the machine. This prevents images from burning into
the video tube. If you have a separate monitor, you
can turn it off without disrupting your files. Using a
program like After Dark or Pyro accomplishes the
same thing.

Cleaning The Screen

Do not forget that your Mac screen is extremely sus-
ceptible to inadvertent damage. Never use glass clean-
er on it or touch it with anything but a very soft cloth.
Better still, use a commercial CRT cleaning product
designed specifically for use on computer monitors.

Two Or More Monitors, Simultaneously

One of the nicest features of the Mac II series is that
you can have as many as six monitors hooked up at
the same time (each one requires a separate NuBus
card), and you can arrange them any way you like,
using the Monitors Control Panel (cdev).

To specify which monitor will show the Startup screen,
choose Monitors from the Control Panel and hold
down the Option key. When the Happy Mac icon
appears, drag it to the monitor you want to specify as
the main monitor and then reboot.

Monitor Annoyances

There are several factors that can make your life in front of a monitor either pleasant or hellish. One of these so-called nuisance factors is glare. A monitor with good glare protection lets you reduce brightness and preserve focus.

Also, check a monitor for flicker, jitter (image instability), bandwidth problems, screen shrinkage, and noise. Refresh rates above 65 hertz are usually sufficient to eliminate visible flicker.

Monitor Resolution

Exactly how much information a monitor can display depends on its resolution, which is measured in pixel dimensions and dpi (dots per inch). Pixel dimensions are the height and width of the active screen as measured in pixels (picture elements, or dots); the dpi figure indicates how closely these pixels are packed together.

Most of the monitors have screen resolutions of 72 dpi, the standard set by Apple for a one-to-one (WYSIWYG) match with what appears on paper. A higher dpi yields images that are smaller on-screen than they are on paper; a lower dpi magnifies the display. Higher resolutions can make the screen appear sharper, although text may be almost too small to read; a lower resolution lets you work farther from the screen and is good for presentations.

Bouncy Image

If your monitor's image jerks or bounces occasionally, your monitor's high-voltage regulation circuit has a problem, which is evident when large areas of the screen change from white to a darker color. It's a harmless problem and can be adjusted if you wish, although the monitor's focus and linearity will need to be tweaked afterward.

Two Monitors Interfere With Each Other

There really isn't much you can do if you have two monitors side-by-side and they are interfering with each other. The interference is most severe between monitors with different refresh rates, in which case, the one with the highest refresh rate suffers the most.

Metal shields between the monitors are ineffective, and poor electrical grounding can exacerbate the problem. You can try positioning the monitors so that the rears are as far apart as possible, with the screens angled in toward each other. But the best policy

remains one of prevention: if possible, check the monitors you'll be using together beforehand to see if they interfere with each other.

Games Get Less Coverage On A 12- Inch Monitor?

Few applications are written to work well with Apple's 12-inch color monitor. Most word processors, database managers and spreadsheet programs don't care what size monitor you're using. Users can always resize windows and scroll; the tool palettes can fit in even the tiniest screen; and anyone who designs a menu bar that's wider than 512 pixels should have his programmer's beanie taken away immediately.

But games generally don't take advantage of the Mac interface; they paint and animate all over the screen, so special versions have to be written for each monitor type. Most games are written for a 13-inch color display (640 x 480 pixels), and when you try to play 'em on a 12-inch screen (512 x 342 pixels).

One solution may be Stepping Out II, from Berkeley Systems (1700 Shattuck Avenue, Berkeley, CA 94709; [510] 540–5536). It sets up a virtual screen of just about any size. When your mouse pointer reaches the edge of the real screen, the display will scroll to reveal additional real estate. It works just dandy in programs such as PageMaker and Excel, but it's less of a smash hit with games. You still won't be able to see more than 512 x 342 dots at once, and if the Lizard King is setting up a mortar off-screen, you're going to wish you'd spent the $800 for a 13-inch monitor.

To save money, look at third-party monitors such as the Sony CPD-1304, the Seiko CM-1445, or the NEC 3FGX. To save a lot of money, buy an IBM-type VGA color monitor instead. Apple made sure that the Mac LC's video port would be compatible with these popular (and cheap!) monitors. You'll need an adapter such as the Mac VGA ($25), manufactured by James Engineering ([510] 525–7350), to use one of these monitors.

MOUSE

Solving Mouse Ball Sticking

To keep your mouse on the ball, check the ball your mouse is on. If your mouse sticks and hesitates even after

a thorough cleaning, it may be the ball that needs replacing. Take it out and examine it closely. If you see any small bumps or irregularities, you've found the culprits. You can get a new ball from your Apple dealer (Apple part number 699–8001 for the Plus or 699–8038 for the ADB) for about $9.

The Frozen-Mouse Syndrome

One of the most irritating software crashes occurs when your mouse becomes paralyzed. The keyboard continues to work, the screen is still functioning (clocks and screen savers work fine), and you can continue to direct the Mac with keyboard commands, but the blinking cursor or arrow controlled by the mouse doesn't move.

There are several possible explanations for this, so let's start at the beginning. A lot depends on whether or not your Macintosh has ADB (Apple Desktop Bus) connectors for the mouse and the keyboard. Mouse deaths occur far more frequently on ADB machines, because the mouse is just a single element in a somewhat fragile chain of devices.

There are many ways for the mouse to get lost in the chain. You may have too many devices daisy-chained together— if you have more than three devices connected at once, there might not be enough juice in the bus to keep track of all those mice, trackballs, and keyboards. Or perhaps your mouse was disconnected from the bus and reconnected with the Mac still turned on —once an ADB device has been removed from the chain, the Mac usually can't find it when it's plugged in again. Or perhaps one of the ADB connectors on the chain is dirty—you can clean it (carefully) with isopropyl alcohol.

It's also possible that something has broken (most likely the mouse, the ADB connector, or the device it's plugged into). Another possibility is that the program you're running isn't compatible with an INIT or cdev that works with your mouse, such as the Mouse cdev (Control Panel Device) or the cdevs that come with some third-party pointing devices. If you have a third-party device, call the manufacturer and ask if there have been similar complaints.

If you have a Mac that doesn't use ADB (the Mac Plus or earlier), then the list of potential problems is somewhat narrower. Hardware-wise, it might be a dirty mouse connector or a loose connection in the mouse

itself. In these cases, all you can really do (short of – shudder – taking the Mac to your dealer for a check-up) is clean the mouse connectors or borrow a pal's mouse and see if it works on your Mac. Some software can clobber the mouse on the Plus, too. One such error is so common that Greg Dudek wrote a share-ware Fkey for Mac Plus owners called Defrost that can (sometimes) bring your mouse back to life after it freezes on-screen.

If mouse-freezing is so common on your Mac that it really cramps your style, take some preventive measures. Install the Easy Access INIT that's part of Apple system software. Once it's installed, press Command-Shift-Clear at anytime and Easy Access turns your numeric keypad into a mouse (the 8 key is up, 2 is down, and so on—the details are in your system software manual). Easy Access works well enough for you to calmly save all your work if the mouse freezes, quit the current application, and politely restart your machine.

One last tip: never plug in or unplug an ADB device without first shutting down your Mac. If you do, the mouse freezing might occur as a result of a damaged ADB chip. If that's the case, a trip to an Apple dealer for repair is necessary.

Making Your Mouse A Tracing Tool

Here's a low-tech way to transform your bulky mouse into a halfway decent tracing tool.

Let's say you want to draw something moderately difficult such as a map of Jamaica to include in a letter with directions to your estate in Spanish Town.

1. Get a paper clip. (Mac tips don't come much simpler than this.)

2. Bend the clip so that one end comes away from the rest at 90 degrees. Bend that point down 90 degrees.

3. Tape it to the top of your mouse.

4. Use the overhanging end of the paper clip to trace the map from an atlas or a map of a decent size. The mouse will "draw" along. The flatter the surface, the better. It takes a little practice, but it works and enables someone with no artistic flair to do a fairly creditable job.

PARTITIONS

Caveats About Partitioning A Hard Disk

Two caveats: First, most partitioning software doesn't allow you to create or resize partitions without reinitializing the whole disk first (destroying any and all data already there), so you may have to invest some time in backing up your hard disk before the magic of partitioning can take place.

Second, you need to make sure the partitioning program creates true SCSI partitions. Fake, or "soft," partitions require that you install an INIT before you can mount and access the partitions, so they aren't nearly as convenient.

POWER

What Happens When You Turn Off Your Mac?

Information sits in two places in a computer. You've got your system memory (RAM), and you've got your disk memory. System memory is in SIMM modules in your Mac, but information stays in place only while there's current flowing. Disk memory (a floppy-disk drive, a hard-disk drive, a tape drive, a cartridge drive) stores info by recording patterns of magnetism on the disk, cartridge, or whatever. It's a slower process, but the selling point is that the info will stay put whether current's flowing or not.

So what happens when you turn off your Mac? Everything in system memory is erased, but stuff you saved onto your hard disk stays put. So, if that word-processing document you're working on is of any importance, you'd better save it to disk. Save early and save often, too; you never know when a system crash or a power fluctuation will force you to switch off your Mac.

Never just cut the power to your Mac; always do a civilized shutdown from the Finder's Special menu first, or you might find things in considerable disarray when you fire your pal back up. Also, when you first buy a Mac keep it turned on for a while (more than a few days) — and do that with all the electronic equipment you buy. If there's a defect or a weak solder

joint or something, it'll force the defect to surface while the unit's still under warranty.

POWER SWITCH

Troubleshooting Power-On Problems

Below are some techniques and questions to ask when troubleshooting power-switch problems. If your Mac is still under warranty, leave repairs to your dealer. Don't attempt anything you aren't comfortable with, shut down before opening the case, and handle all components with the greatest care.

If pressing the power-on switch intermittently fails to start your Macintosh II, IIx, or IIfx, read further. The usual problem is a weak battery on the motherboard. On the II, IIx, and IIfx, there are two 1/2 AA lithium cells located under the drive bay. (One battery powers the power-on key, and the other powers the clock and PRAM. The IIcx and IIci's power-on keys are powered by a 5-volt "trickle" line on pin 10 of the power supply.)

To test the cells, press the power-on key and read the batteries' voltage with a digital multimeter (available from Radio Shack or other electronics-supply stores for about $40). Good cells generally read from 3.2 to 3.7 volts and weak cells read from 2.3 to 3.2 volts. Any cell that falls to less than 2.15 volts is considered dead. Newer Macintoshes have a battery box that lets you simply pop the batteries out to replace them. On older Macintoshes the original batteries are soldered in, but you may be able to find a dealer who can retrofit your board with a removable battery holder.

POWERBOOK

Linking The PowerBook To SCSI Devices

To connect the PowerBook (100, 140 and 170) to a SCSI device that has the smaller 25-pin connectors instead of normal 50-pin SCSI connectors, what you need is the HDI-30 SCSI Disk Adapter cable — the one designed to allow the PowerBook to be used as a SCSI disk when connected to a desktop Mac— and a standard Apple SCSI System Cable. (The Apple part numbers are M2539LL/A and M0206, respectively.) Plug the HDI-30 cable into the PowerBook, the system cable into the SCSI device, and connect the

ends, with a terminator or two in the middle.

Another solution is from La Cie Ltd. of Tualatin, Ore.; they have special both "male" and "female" varieties of an HDI-30 to 25-pin SCSI cable for $49 each. The part numbers are 285–0031–00 and 285–0030–00, respectively. La Cie is at (503) 691–0771 or 800–999–0143.

Booting When SCSI Devices Are Connected

When an external SCSI disk is attached to a PowerBook, the computer will boot only if this disk is turned on. Unfortunately, that's pretty much the way things are with the PowerBooks. They don't have enough spare power to compensate for the added drain of the termination on the external SCSI chain. Turning on the external drive supplies this power. The original Mac Portable has the same problem, if that's any consolation.

Using The Old Portable Power Supply

It is not recommended that you use the power supply from an older Mac Portable with a PowerBook. The PowerBook power supplies are rated at 7.5 volts at 2 amps; the old Portable supplies are 7.5 volts at 1.5 amps. At best you'd have a very slow charge.

Shutting Down The PowerBook

Whether you've got a PowerBook, a Portable, or even an old Mac Plus, you should never turn off a Mac without doing a shutdown from the Finder first— individual files and even the integrity of the whole hard disk may become corrupted. At best, nothing will happen, but at worst, the data structures recording important details about the disk's data will be completely hosed.

So don't just switch the thing off by pressing the power button in the back of the PowerBook. If you don't have time to shut down and power off properly, the next safest thing is to switch into Sleep mode. The Official Word from Cupertino is that it's not safe to move a sleeping PowerBook, because you might crash the hard drive. In reality, it's highly unlikely that you'll do any damage to it unless you're one of the Flying Karamazov Brothers.

Startup With The Battery Control Panel

If you place an alias of the Battery control panel in the Startup Items folder, it will appear on the desktop when you start up, and you can easily tell how much power is left in the battery.

What Is That Audible Click?

Have you noticed that the PowerBook makes a click sound during the power-up chime or before playing or recording a sound? What you're hearing is a side effect of the PowerBook's power-management circuitry cutting the power to the sound chip. This happens automatically about 30 seconds after the last sound is played. When accessed again, the revival of current causes a brief audible click.

Reducing Backlighting

In a well-lit room, the 170's active-matrix screen can be used with backlighting turned completely off, but even partial dimming saves power. The 140 and 100 screens are unusable without some backlighting, but keep it as low as you can.

Determining The Cache Size

The Memory control panel has a cache-size that should be adjusted, depending on how much memory is installed in your PowerBook. The cache size determines how often you access (and wake up) your hard-disk drive.

For a 2-megabyte PowerBook, set the cache to 64K; for 4 megabytes, set it to 128K; for 6 megabytes, 192K; and for 8 megabytes, 256K.

Setting Up A RAM Disk

If you have 6 or more megabytes of RAM, set up a RAM disk as a startup disk. This technique is especially useful for PowerBook 100 owners, because they can shut down their Macs without losing the RAM disk. To find out how to create a RAM disk, see page 108 of the PowerBook User's Guide.

Don't Battery Power Virtual Memory

Don't use virtual memory when you're running on battery power.

Draining The Batteries

Apple recommends that you drain the nickel-cadmium batteries that come with the PowerBook 140 and 170 once every three months. Whether this process actually improves performance is debatable, but it can't hurt.

To drain the battery, leave the PowerBook on and ignore the successive warning messages that you are about to run out of power. The PowerBook 100 uses lead-acid batteries, which should never drain completely.

Recharging The Batteries

When you're recharging batteries, make sure that there's power coming from the electrical outlet. The charging indicator in the Battery DA tells you that a plug is physically inserted, not that any electricity is flowing through it. You might see a warning dialog box that tells you that the plug is inserted without any charging occurring, but this happens only if your battery level is already below a certain point.

Battery Life

Apple says that batteries should last a year if well cared for. That's probably a conservative estimate, but if a battery doesn't seem to hold a charge, it might be time to replace it. When the battery life is up, take it to your Apple dealer for recycling.

Microprocessor (Clock) Speed

For PowerBook 170 owners, an important part of extending battery life is turning the Power Saver option on in the Battery DA (you need to click on the flag at the right of the palette to display this option). This causes the microprocessor speed to switch from 25 megahertz to 16 megahertz, which Apple says can extend battery time by 30 minutes.

Hard Drive Power Drain

The PowerBook's hard-disk drive is a big power drain, so the less you access it, the better.

Use Sleep Mode

Keep your drive in Sleep mode as much as possible. From the Portable control panel, set the hard disk's Minutes Until Automatic Sleep at between one and two minutes. This stops the drive from spinning automatically when you aren't accessing it.

Timing The Sleep Mode

The Portable control panel also lets you set how many minutes your PowerBook can be inactive before the entire system automatically goes to sleep. Set this control panel for convenience, but don't rely on it as a way to put your PowerBook to sleep. It's better to get in the habit of manually putting the PowerBook to sleep whenever you plan to stop working for more than a few minutes.

Loading Disk-Intensive Applications Into Memory

On the road, avoid using disk-intensive applications

such as HyperCard, database programs, or anything that uses QuickTime. If an application gives you the option of keeping the program or files in memory (as Microsoft Word does, for instance) and you have enough RAM, do it.

Open Files In Batches

Open files in batches rather than individually when you know you're going to be working on several documents simultaneously. This trick avoids making the disk spin up more than once.

Don't Idle In Telecommunications Applications

Quit from telecommunications applications as soon as you're finished using them, because the modem continues to use power while the applications are open.

Battery Charging Time

Battery charging times, like most things in life, are the result of compromise. With standard NiCad and lead-acid batteries, the life of the battery is almost inversely proportional to how fast it's charged. A battery good for, say, 1,000 charge/discharge cycles when charged over an eight-hour period might be good for only 500 when charged over a two-hour period. Nickel-metal-hydride batteries seem to take fast charges somewhat better.

For most batteries, optimal charging times are in the 14- to 16-hour range, but few folks will put up with that. The four- to eight-hour charge times used by most portables are a reasonable compromise. Any computer that fully charges its batteries in an hour will fry them in relatively short order.

SCSI Termination

The PowerBooks offer a new twist in termination, which is all too easy to miss, potentially resulting in erratic behavior with external SCSI devices and damage to files and directories.

The rule for termination has always been, "You can have no more than two terminators in the entire SCSI chain." Any internal hard disk had to be terminated and counted as one of the two terminators.

PowerBook internal hard disks, however, are not terminated normally. When figuring out termination for PowerBooks, you must proceed as if there were no internal terminator. One external terminator should

go on the HDI-30 SCSI System Cable, and a second terminator must be present at the end of the external SCSI chain— even if there is only one external device present. (In that case, you'll end up with two terminators side by side.)

Like the Mac Plus and Mac Portable, the PowerBooks are incapable of supplying termination power to external devices. This means that some SCSI devices may work when connected to a Mac II-family computer or a Mac SE but not with a Plus or PowerBook. The solution in this case is to modify or replace the SCSI device or to add an additional device that provides proper termination power.

If you want to connect a PowerBook 100 to another Mac as an external disk, using the HDI-30 SCSI Disk Adapter, things get even more complicated. The number and location of terminators in this situation depend on the exact model of the other Mac and whether or not it has an internal hard disk.

The gory details are spelled out in the Macintosh User's Guide for Macintosh PowerBook Computers (see Chapter 15), along with the other rules described above.

X Rays From Airport Luggage Scanners

X rays don't affect magnetic media and can't hurt your PowerBook. Some worry that the magnetic fields from the electric motors that power the conveyor belt through the X ray machine can affect disks, but verified instances of this happening are few, and reports from pilots and travelers who run their laptops through airport X rays dozens of times per year indicate there's really no problem at all.

PowerBook Slow-Downs

You may notice that your PowerBook slows down suddenly and randomly. This is caused by your PowerBook dropping into Rest Mode, a battery-saving feature that drops the clock speed of the system after a period of inactivity. It's not at all obvious, but you can disable this feature with the Portable control panel. Hold down the Option key and select "Minutes Until Automatic Sleep." A dialog box will appear explaining Rest Mode and giving you the option to disable it.

Double-Check The Validity Of The Lightning Bolt

There are few things more frustrating than having

your PowerBook battery die 10 minutes after the plane takes off, especially when you charged it up the night before. Be careful— the lightning bolt charging indicator will appear initially when you plug the charger into the PowerBook — even if the charger's not plugged into an outlet or the outlet's switched off.

Power-Down

If the PowerBook 100 gets stuck after a crash or a start-up problem in which you lose control of the computer, it can be tricky to get it to shut off power so you can disconnect a SCSI device safely.

There are two ways to get it turned off. One is to push the Reset and Interrupt buttons simultaneously. A cruder technique is to switch off the "storage" switch, after removing the external AC power adapter if it is plugged in.

Appletalk Advice: Don't Let Sleeping Powerbooks Lie

If you take a Mac PowerBook outside the office, and then return and plug it into the network, you might have trouble using network services. The problem is AppleTalk's dynamic node addressing. Each AppleTalk device chooses a network node number when it starts up — usually the same one it had been using.

But if something else on the network has taken over that number, then the device chooses a new one. PowerBooks coming out of Sleep mode, however, do not choose new node numbers. When you connect a sleeping notebook to a network, it might continue using a node number that's been reassigned.

Restarting the PowerBook immediately after connecting is the simplest solution. If you don't want to restart, you can do the following: wake the PowerBook, open the Chooser desk accessory and turn off AppleTalk; then connect the notebook to the network and turn on AppleTalk.

Fax Modem Communications With AppleFax Modems

Just in case you were wondering, the new PowerBook Fax/Data Modem cannot communicate with the older AppleFax modems in the latter's special data mode.

Dim Your Screen Whenever Possible

The PowerBooks' backlit screens are their biggest power consumers. The rule of thumb is to keep your

HARDWARE

screen as dim as possible whenever your machine isn't plugged in.

PRINTER

Getting Manual Feed To Do Multiple Pages

You can usually get a laser printer's manual feed to work with multiple pages automatically — if you master a simple technique. Fan your stack of letterhead slightly, so that the leading edge of the stack looks like a little staircase. Gently slide the stack into the manual feeder, being careful not to disrupt the "staircase". The printer should feed the pages one at a time.

Depending on your printer, you should be able to reliably feed four to eight pages using this method. Don't make the stack too thick (five pages seems like the maximum), and don't overdo the fanning, because if the pages are staggered more than a couple of millimeters, they won't feed continuously.

Splotching

When printing, if some areas of black are splotched dark gray, you're probably running low on toner powder. Take out the cartridge, and rock it back and forth along its long axis to redistribute the toner.

Semi-regularly spaced splotches of black down the length of the page usually mean there's some debris on the fusion rollers. Let the printer cool down, and then gently attack the rollers with a cotton swab or the cleaning pad that comes with your printer.

Why PhotoGrade Is Not Working

PhotoGrade is the halftoning software built into Apple's LaserWriter IIf and IIg printers. There are two reasons why it might not have a visible effect.

The most common reason is simply a lack of memory. The 2 Mbytes of RAM that comes standard in a IIf, for example, isn't enough; PhotoGrade requires at least 5 Mbytes to image a standard 8.5 by 11-inch page. PhotoGrade requires 8 Mbytes of RAM for a legal-size page of graphics.

The second reason is less obvious. LaserWriters and other Mac printers don't print true grays; they fake it using patterns of black lines or dots. Many programs allow users to adjust some of the parameters used in these halftoning patterns, and one of these parameters, generally expressed as lines per inch, can effectively kill PhotoGrade if it's set too low. Apparently, PhotoGrade starts to work at about 106 lines per inch, but many programs default to half that resolution. Check your program and change this parameter if it's possible.

Not Black Enough

If expanses of solid black show up as gray (but type and other small areas are OK) when you print, you've got an older-style engine that doesn't produce great solid blacks. Live with it.

Thin Line Down The Page

Are you noticing a thin line down your printed page? If you're lucky, there's just a blot of dried toner on the cleaning pad next to the fusion rollers. Replace the pad. More expensive to fix is a scratch on the drum, because you have to replace the cartridge. The most expensive problem to fix is a scratch on the fusion rollers, in which case they need to be replaced.

If the smear is splotchy and runs down one edge of the paper, then your printer's separator belt is probably either dirty or broken. Replace it.

Controlling PostScript's Use Of Printer RAM

Virtually all PostScript printers come with enough RAM to image a full 8.5 by 11-inch page at 300 dpi. Any additional RAM will be used for font caching as well as other tasks, such as imaging complex PostScript instructions and holding other code sent from the computer (for example, the Mac sends TrueType font imaging code to PostScript laser printers). How RAM is used is under the control of the printer's processor, and there's no easy way to adjust it.

Thin White Line

If there's a white horizontal line on your pages and it seems to be exactly one printer dot high, then most likely some of the memory in your printer has blown out. Fixing this requires a trip to the dealer or manufacturer.

If the whole page is a uniform gray wash, first check to see if you're out of toner or whether the print-density wheel on the printer is set too low.

Another possibility is that you've refilled the toner cartridge once too often and the drum is so worn that toner

can't stick to it, or maybe the paper's too moist. Humid air makes it tough for toner to cling to a page. The corona wire may also need cleaning—see your printer manual for instructions on how to clean it.

Flaky Type

If the surface of your paper is too rough, toner won't stick to it properly and will begin to flake off eventually. Switch to a smoother stock. If you're committed to the rough stuff, keep the toner in place by blasting the page with a setting spray (found in art-supply stores) or hair spray after you've printed it.

Too Black

Check the print-density wheel; it may be set too high. Alternatively, yank out the toner cartridge and check the printer's grounding spring.

See the manual for the exact position, but usually you'll find the spring in the printer's lid, where it's supposed to make contact with the center of the cartridge and act as an electrical ground. Make sure it hasn't slipped out of place.

QUADRA 950

A Quadra 950 Video Fix And Update

A quote from Apple's tech-info database: "When a color monitor is connected to the on-board video circuitry of some early Macintosh Quadra 950 systems, and the Monitors control panel is set to millions of colors, certain color-manipulation commands may not work in some graphics-application programs." Huh? This problem, whatever it really is, is solved by a 3.5-Kbyte extension called the 950 Color Addition. Apple says it is available on-line as well as from dealers and user groups.

Quadra Internal Video Speed

The Quadra 950's internal video operates about 20 percent faster than the 900's because some wait states were removed. The faster CPU speeds things up a little more.

Recording Stereo Sound

The Quadra 900 has stereo output— but only monaural input. So, although the 900 and 950 are capable of playing back stereo sound, you can't record such sound directly.

Convolution

Convolution, a pixel-averaging feature that makes Mac video look better on traditional TV screens, is built in to the Quadra 950. The feature is used when you connect a TV-style video cable and set your monitor to 16-bit color or less. Quadra convolution doesn't work in 24-bit-color mode.

Card Power

The beefy power supply in the 950 can support cards that take more than their fair share. According to Apple, the 950 will power two 25-watt cards and three normal 15-watt ones.

SCSI Termination Seeks The Inner Path

The Quadra 900's internal bus is terminated on the motherboard and on the internal cable itself, so all internal SCSI devices should be unterminated. In all other Macs, including the Quadra 700, the (usually sole) internal SCSI device should be terminated.

The Quadra 900's external bus operates like other Mac SCSI buses. So in general, the external devices should be unterminated, and you add a gray plug-in terminator to the last device in the chain.

QUADRA 700

SCSI Internal Termination

The Quadra 700 needs internal termination, which is normally supplied by an internal hard drive. If no internal hard drive is installed, an internal terminator must be installed instead. The Apple part number is 630–0408.

QUADRA

Two External Sound-Input Connectors

The Quadra has two external sound-input connectors: a microphone jack and a pair of "line" inputs typical of stereo equipment. You can use both simultaneously; the sounds will be mixed together (and flattened considerably).

RAM

Recycling 256K SIMMs For Video RAM

If you have leftover 256-Kbyte SIMMs (single in-line memory modules) and want to use them as extra video RAM for a Mac LC, think again. The video RAM for the Mac LC (and the Quadra 700 and 900) is different from ordinary system RAM. Video RAM is "dual ported"—it can be accessed by two circuits at the same time, so the on-board video circuitry can read data from VRAM to create the screen image at the same time that the Mac CPU writes new data into VRAM.

Your 256-Kbyte RAM SIMMs can't do this trick and are electrically incompatible in other ways as well. It's a sign of the times that 256-Kbyte SIMMs are almost worthless as RAM. They do, however, make nifty high-tech earrings.

Using A Slower Speed SIMM

SIMMs (the memory boards that make up RAM) come in all speeds, and each Mac requires a mimimum SIMM speed; for example, the Mac IIci requires a speed of 80 nanoseconds.

Placing slow SIMMs in your Mac won't slow your Mac down, but it will undoubtedly result in system errors. Look for an 80 printed somewhere on one of the memory chips to check for 80 nanosecond SIMMs.

Memory-Upgrade Options

When you want to add more RAM (random access memory) to your Mac, you add SIMMs. A SIMM is a single in-line memory module, which is a bunch of little chips attached to a small circuit board.

When selecting SIMMs you should consider two factors. The first is how the actual chip attaches to the board. The two methods are surface mount (low profile) and DIP (high profile). You want surface-mounted SIMMs, no matter which Mac model you own, because there's no longer a difference in price between the two (DIP SIMMs used to be somewhat cheaper); DIPs generate more heat; and DIPs are taller, which may interfere with the future installation of an internal hard-disk drive or other peripheral.

The second factor is speed. RAM speed is measured in nanoseconds (nsec), which are billionths of a second. The RAM in a stock Plus, SE or Classic runs at 150 nsec;

the RAM in a Mac II, IIx, IIcx, Classic II, LC or SE/30 runs at 120 nsec; the Mac IIsi uses 100 nsec or faster; the factory-installed RAM in a IIci runs at 80 nsec; the Macintosh Portable uses special low-power-consumption SRAM (static RAM); the PowerBooks use special pseudostatic RAM; the Quadra 700 and 900 support 80 nsec and faster RAM. The Mac IIfx requires special G4-pin SIMMs, which run at 80 nsec but are not interchangeable with the SIMMs in the IIci. When purchasing a RAM upgrade, check with the vendor to make sure you are getting the correct SIMMs and speed.

Types Of RAM

Have you been wondering what is the difference between static, pseudo-static and dynamic RAM?

Static RAM retains its data as long as power is available. DRAM does, too, but it will forget in a few milliseconds, power or no power, unless the data is "refreshed." Extra circuitry is required to perform this refresh function. Why would anyone ever use DRAM? Because even with the refresh circuitry it can be made much smaller and cheaper than static RAM. But the refresh circuitry drains more power.

Pseudo-static RAM is DRAM with the refresh circuitry built in. It's a reasonable compromise from cost and power standpoints and works well in PowerBooks.

Whose RAM Should You Buy?

If you are wondering whether to use genuine Apple SIMMs or if there really is any difference between Apple and third-party SIMMs, then it is difficult to tell that one RAM is better than another.

Some feel that third-party SIMMs are better – they're less expensive, and most vendors have a better warranty than Apple's. Apple doesn't make its own – they purchase SIMMs from the open market and from a variety of sources.

There is no technical reason why Apple's DRAM is any better than third-party DRAM. Apple published the specs for the SIMMs, and they're turning up all over the place.

So save yourself a few bucks, and get your RAM from a reputable third-party supplier.

What Is GWorld RAM

GWorld (pronounced "gee world") stands for "graphics world." It's a data structure in memory comprising

a graphic image and other data associated with it, such as color palettes. Normally, a GWorld exists in the main memory of the Mac, and the contents of an image are copied to the video memory on your video card as necessary. If you're moving a lot of data between main memory and the video card, as is the case with a large 24-bit-color image, the transfer over NuBus can become a bottleneck.

If the video card has its own GWorld RAM, the entire GWorld is stored on the card, so changes made to the image are displayed more quickly. Apple's Macintosh Display Card 8*24 GC is one example of a video card with GWNote. However, not all applications now available use on-card GWorld memory. System 7's Finder will, as will SuperMac's PixelPaint Pro, Aldus PageMaker and Adobe Photoshop.

SCANNER

Calibrate Your Monitor

When you're working with scanned images, you have to make critical color-editing decisions based on the tonal ranges and color balance you perceive on-screen. A calibrated monitor can help these values match the final print as closely as possible. Both software and hardware color calibrators are available. If your monitor is uncalibrated, set the contrast control to its center position and the brightness to about 80 percent.

What Scanners Can Do

Scanners convert an image into digital information that is understood by the Mac and can then be edited on your Mac with image-editing software or in the case of OCR — with a word processor.

Buying A Scanner: Comparing Scanner Quality

When comparing similar scanners, take along the kind of photograph, document, or piece of art you'll be scanning so that you can compare ease of use and the quality of results.

Buying A Scanner: Gray-Scale And Large Images Require Memory

Working with large images or images that contain several grays or colors? Look for a scanner that saves the file to disk rather than to RAM — gray-scale and color scanning require lots of memory.

Buying A Scanner: Picking Up Fine Details

If you need to pick up fine details or type in the work you're scanning, go for a scanner with a high resolution (expressed as dots per inch, or dpi). Keep in mind that a scanner with high resolution picks up dirt and flaws on the original art. Standard resolution is 300 dpi.

Buying A Scanner: Remote Scan Option

If you'll be using a sheet-fed scanner to scan several documents in succession (for example, if you're doing OCR work), look for a scanner that has a remote scan button, which lets you press a button every time you insert a new page to be scanned, as you would with a photocopier, or one that has an automatic document feeder. This will let you load the documents, start the scanner, and then get on with other work.

Buying A Scanner: Scanners Sold With Imaging Software

You'll probably pay more if the scanner comes with image-editing software — it can be the company's own software or a commercially available product such as a special version of Adobe's Photoshop (Photoshop LE, which doesn't include separation capabilities) or Letraset's ColorStudio. The advantage of such software is that you can scan and edit the image without having to switch among programs.

Buying A Scanner: Photoshop Scanner Support

If you own Photoshop and are looking for a scanner, look for scanners that include a Photoshop plug-in software that enables you to scan from within the program.

Buying A Scanner: OCR Software Support

If you want a scanner for OCR work, make sure the OCR software included is easy to use and scans in text accurately — otherwise you may spend as much time editing the text as you would have spent typing it.

Buying A Scanner: Cheap Scanners

For bargain hunters, most monochrome hand scanners cost less than $500. The good news is that they're small and convenient and even let you scan on vertical surfaces; the bad news is that they're suitable only for scanning small items such as logos and aren't good for extensive OCR work.

Buying A Scanner: Macintosh Connections

Determine how the scanner you're considering connects to your Mac. Most connect via the SCSI port (some require a special interface box to do so), a few are connected through the modem or printer (serial) ports, and others require the installation of a special card. A SCSI connection has the advantage of fast data transfer and is easy to install (all Macs from the Plus up have a SCSI port), but to avoid connection problems with other SCSI devices, find out if it has a pass-through connection. Otherwise, the scanner may need to be at the end of the chain, which can be inconvenient.

SCSI

Quadras And Apple OneScanner

The SCSI chip in the Quadra 700 and 900 isn't thoroughly compatible with the Apple OneScanner. If the scanner is on before you turn on one of these high-end Macs, the Quadra won't recognize the device. The solution is simple: Turn the scanner off and on again after the Quadra is up and running.

SCSI Stats

Apple's official stats for Mac SCSI port speeds: The Quadra's ports can transfer data rates up to 5 Mbytes per second; the IIfx runs at 3 Mbytes per second; all other models of Mac run at 1.25 Mbytes per second. Pass the salt.

Coping With Single-Connector SCSI Devices

SCSI devices with a single connector are loathsome things whose vendors have decided that saving a few dollars in manufacturing costs is more important than your time, effort and frustration level. If an alternative device with two connectors exists, buy it instead.

If you're stuck with a SCSI device with only a single connector, it's best to put it on the end of the SCSI chain — remember to insert a terminator between the device and the SCSI cable, though. You may be tempted to use a Y-connector; however, they often cause problems on a SCSI bus. Avoid them if possible.

SCSI Devices Powered Off

It is possible to have several SCSI devices connected while keeping some of them switched off some of the time, depending on how the device was manufactured. Most SCSI devices shut down the entire SCSI chain unless power is supplied to them. Some devices contain a diode that allows you to turn them off and still use other connected SCSI devices. Unfortunately, such devices are in the minority, and it's not a feature that many manufacturers place high on their priority lists.

The only way to tell whether a device will shut down the SCSI chain when the power is off is to try it. If your device is like most, though, you'll need to keep it turned on when you're using any of your SCSI devices.

SCSI Device Setup

Small-computer-system-interface (SCSI; pronounced "scuzzi") devices connect to the Macintosh by way of the SCSI port in the back of every Macintosh from the Mac Plus on up, but they also introduce complications in the way the Mac reads signals—even from an internal hard-disk drive. Some conflicts are serious enough to damage your data or Mac, but most are common and easy to fix. The two most common points of SCSI confusion are addressing and termination.

SCSI devices are connected in a single daisy chain. A single daisy chain should not exceed 18 feet in length and each device must have a unique numeric address between 0 and 7; the Macintosh is a SCSI device with address 7, and in an SE or II, an Apple-installed internal hard disk in an SE or II has a default SCSI address of 0.

Different devices have their addresses set in different ways — through software, through external DIP switches or simple push buttons or dials. Addresses must be unique, and two devices with the same SCSI address can cause System crashes or devices not to appear. Choosing certain addresses for each device is also important. When the Mac starts up, it checks to see if there is a disk with a System Folder in the floppy disk drives, then it checks for serially connected hard drives, and finally starts checking the SCSI chain. It looks at SCSI address 0 first and then jumps to address 6 and continues downward, booting off the first system it finds. The physical order in which you connect the SCSI devices doesn't matter — just their SCSI addresses.

Termination is another SCSI principle. A terminator is a resistor that reduces signal echoing along a chain of SCSI devices. It is recommended that only the first and

last SCSI device be terminated, for a total of two terminators.

The internal hard disk in an SE or II has an internal terminator, but if you have a Mac Plus or an SE without an internal hard disk, then you need a terminator at both ends of a SCSI chain.

Many SCSI devices (hard disks, scanners) have internal termination, and the easiest way to find out is to check the documentation or call the manufacturer.. Avoid peripherals with unremovable terminators.

If a device does not have internal termination, then an external terminator can be placed into one of the two SCSI ports of the peripheral device, or into the cable before placing the cable on the SCSI port.

SIMMS (SYSTEM 7)

Accessing Memory Beyond 8 Megabytes
If you recently upgraded your Macintosh to hold more than 8 megabytes, for example, four 4-megabyte chips in a MacIIsi in order to have 17 megabytes, make sure to turn on 32-bit addressing.

If you haven't turned on 32-bit addressing when you look at the memory bar in the About This Macintosh box (accessible from the Apple menu), you will find that the system files are hogging more memory than when you had less than 9 megabytes. You can turn on 32-bit addressing by going to System 7's Memory control panel.

This works with most Macs, such as the LC, LC II, Classic II, IIsi, IIci, IIfx, or Quadra. The II, IIx, IIcx, and SE/30 require that you install Connectix's MODE32, which Apple and Connectix have made available free to Macintosh users. You can download MODE32 from an on-line service such as AppleLink, America Online, or CompuServe or contact your user group or Macintosh dealer.

Troubleshooting SIMM Problems
You may have a SIMM problem (Single Inline Memory Modules, or your RAM) if you see a blinking question-mark icon or hear an error tone on startup.

Immediately after their power button is pressed on, all Macs run an internal diagnostic program. The more

RAM you have, the longer it takes. If the Mac passes the test and there's a startup disk on-line, the computer boots to the desktop. Otherwise the blinking question-mark icon is displayed. If you hear an error tone when you start up a Mac II, it can mean SIMM problems.

Test the SIMMs by replacing them with another set. Your SIMMs may be defective, in which case you need to replace them, or they may be too thick or too thin for the socket. It is possible to tighten the contacts on the sockets, but this is a sensitive operation and you need to use extreme care. To tighten the contacts, use a small, delicate tool such as a jeweler's screwdriver to move the contact wires closer together.

SOUND

Using Speakers
If you're using a lot of sounds with your Macintosh, you might want to consider buying an external speaker or a pair of them. Almost any speaker will do, but you'll get the best results from a speaker with built-in amplification; if your speaker doesn't have a built-in amp, it won't be very loud.

MacSpeakers are designed specifically for use with a Mac (Persona Technologies Division of Monster Cable, 274 Wattis Way, South San Francisco, CA 94080; [415] 871-6000). They sound great, they look great, and they're packed with features: 10 watts per channel, external controls for bass and volume, simulated stereo, and sturdy shielded cases.

For less expensive speakers, check your local Radio Shack store. Radio Shack carries several inexpensive speakers with built-in amplification. They won't sound as good as the MacSpeakers, but they are a lot less expensive.

STYLEWRITER

Driver Versions
According to Apple, all versions of the StyleWriter driver are compatible with all system-software versions since 6.0.7.

The latest StyleWriter driver is included with both versions of the System software. You also can purchase

the StyleWriter drivers as part of an expanded TrueType font set for $18 by calling Apple at 800–974–5176.

Reducing Printing Time For Large Text Documents

Here's how StyleWriter owners can reduce printing time for large word processing documents. The StyleWriter is definitely no speed demon when used with any computer less powerful than a Mac LC. But if you don't mind if the print quality is slightly less than the best, try this:

Use a bold TrueType font for your text. When the Print dialog box appears, choose the PrintFaster option. The document will print in about one-third of the time, and the output will be almost as good as that of the best printing quality.

SURGE PROTECTORS

What's The Best Kind Of Surge Protector For Your Mac?

Surge protectors are designed to protect electrical equipment – such as your Macintosh — from sudden surges of electricity. You might find one very useful if you've been experiencing power problems, if your power cuts off suddenly, or if you have an old power system and have been experiencing sudden electricity cuts.

Surge protector prices range from less than $30 to more than $200. The best surge protectors use silicon diodes, which have a reaction time of 5 billionths of a second and a clamp level of 220 volts. This technology apparently is superior to that of the standard MOVs (metal-oxide veristors) in all other surge protectors, which react too slowly and clamp at about 500 volts.

Surge suppressors get hyped a lot. To avoid getting burned, make sure that both the packaging and the product carry the UL (Underwriters Laboratories) 1449 trademark (1449 refers to the UL surge suppressor test). Counterfeit UL trademarks on some surge suppressors usually lack the 1449 designation.

Also, look on the packaging for the designation "UL Listed 1449 Suppression Voltage LN 400/L-G 400/N-G 400," which means that the suppressor clamps at 400 volts when power surges across the line, neutral, and

ground wires of the circuit. This is appropriate for Macs and their peripherals. The best UL rating, 330 volts, isn't mandatory.

The response time needs to stay at less than one millisecond, and most, if not all, UL 1449 suppressors are this fast. Buying a faster suppressor is like putting premium fuel into an automobile that's rated for regular.

No surge suppressor works against direct lightning strikes – for that, you need a surge arrestor. Your local power company can probably install one on the line leading into your home or office for less than $300.

SYSTEM PERFORMANCE

Speeding Up A Mac With A Cache Card

For most Macs, a cache card gives you the most bang for the buck. For just a few hundred dollars, the real speed of your Mac can go up by about a third.

A cache card is a card with special, wicked-fast RAM on it—information can move through it about four times as fast as through the RAM on the motherboard — and the card uses this fast RAM to hold whatever information the CPU has just called up from memory. So, the next time the CPU asks for that same information, instead of reading it from the 100- or 80-nanosecond RAM that makes up your regular system memory, it comes in from the 20-nanosecond RAM on the cache card.

The more expensive the cache card, the more cache memory you get.

In theory, more cache memory equals more speed, but in practice, the jump in speed from a 32K cache to a 256K cache isn't all that impressive, considering the extra expense. Cache cards are available for most Macs and are already built in to some.

Speeding Up Your Applications By Adding More Memory

More memory won't inherently speed up your Mac. It's just that the more memory your applications have to play with, the fewer times they have to run all the way to the hard disk for data.

Allocating more memory to important applications by changing the number in the application's Get Info box

will speed up individual application performance. There's always a bare-minimum amount of memory an application needs to run, but bumping that number up allows the application to keep more of itself in memory and less of itself on-disk when running under System 7 or MultiFinder. A general rule of thumb is that when you increase the memory allocated to an application by 15 percent more than the minimum, you begin to see a speed improvement — 25 percent gets you the most bang for the buck, but increasing it by more than 30 percent probably wastes RAM.

THUNDERSCAN

Solving Distortion With Acetate

If you're getting a lot of unwanted distortion from your ThunderScan, try putting a piece of clear acetate over the item to be scanned.

Focus in the high 50s and great scanned images will reduce possible distortion. Be sure the acetate lines up with the left-hand edge of your document to be scanned. Also, clean the lens on your scanner and adjust the height of your scanner cartridge (according to your printer manual) for optimum focusing.

Adjusting Lines In A ThunderScan Image

If you sometimes have trouble with just a few lines of a ThunderScan image, it may be because the scanner is having trouble with the end of the timing tape installed on the left end of the ImageWriter roller.

The easiest way to see if this is your problem is to scan an image at least 3-1/4 inches long that contains a series of vertical lines. Watch the Image window closely as the end of the timing tape passes under the scanner. If you see part of the vertical lines displaced to the left, it is probably because the timing tape doesn't reflect light back to the scanner accurately and the scanner misses its timing for a line or two. The problem is more noticeable if you magnify the image being scanned.

An easy way to fix the problem is to carefully apply some typewriter correction fluid even with the edge of the tape to fill the gap. If you accidentally get correction fluid on the rubber roller, it can be removed with isopropyl alcohol.

VIDEO CARDS

Old Models Take Over The Screen

Some old-model Mac color video cards will take over your screen on start-up. When placed in the same machine as a newer card, they will act as the default monitor, regardless of your preferences. The old-style card nearest the power supply wins.

Speeding Redraws: CPU vs. Video Acceleration

Speeding screen redraws depends on what you are doing, and can determine whether you want accelerated-video card or a CPU accelerator.

If you're looking for general increases in video speed, such as faster scrolling, faster drawing and selection-dragging operations in a paint program, an accelerated-video card will help, often dramatically. Using an add-in card's processor to move the pixel data around in the card's memory is much faster than having the CPU access and manipulate data over NuBus.

Graphics operations that involve more than just shuffling pixels — for example, manipulating multiple shapes in a drawing program or performing complex fills or curve-drawing operations that aren't part of QuickDraw —won't be helped by a video accelerator, since most of the work is in computing how the drawing will be performed rather than actually drawing. In these cases a CPU accelerator will provide the biggest performance increase.

Troubleshooting Video Card Problems

You see colored blotches, static, or buzz lines on the monitor display. Find out if the monitor is in trouble. Connect it to another Mac, and see if the problem persists. The monitor may just require Degaussing, which quite often is handled with a button in the back of the monitor (check the monitor manual).

If the monitor's OK, then the problem is in the video card. (With a IIci and other Mac II series with no external video card, the problem may be the video circuitry on the motherboard). To remove the card, turn the power off, wait at least 20 seconds, and then pull straight up on the card. Component-level repair of a video card costs about $115.

If you do not have a picture at all, but the monitor is

plugged in and the power is on, try straightening the cord connecting the monitor to the video card or Mac (in the case of built-in video). Sometimes the cord needs to be untangled.

Turning Off The RasterOps Video Card

If you use a RasterOps video card in an SE30, there's no way to turn off the RasterOps card, if your control panel is set to display the menu bar on the external monitor. When you take your Mac out of the office without the external monitor, you have to remember to change the control-panel setting to display the menu bar on the internal monitor before you shut down the machine.

One way around this problem is to boot from a floppy disk, but a better way is Under System 7, put an alias of the Monitors control panel onto the desktop of the internal monitor. Also make sure that you place the Monitors control panel on the internal monitor so that it opens up there rather than on the external monitor. Now, if you travel without the external monitor, you can just open the Monitors alias, reset the menu to display on the internal monitor, and restart.

HYPERCARD

HYPERCARD

Creating A Gray Drop Shadow Around A Field

You can create a drop shadow around a field in HyperCard by assigning the shadow style to the field, but this method offsets the drop shadow only one way and restricts you to a solid black shadow. Here's a simple trick that lets you create a gray drop shadow that you can place anywhere behind the field.

1. Choose the Field tool, and click on the field you want to give a drop shadow.

2. Copy the field, and then immediately paste it, thus creating the drop shadow.

3. Drag the drop shadow to the desired location on the original field.

4. Double-click on the field, or choose Field Info from

the Objects menu. Check the Lock Text, Show Lines, and Transparent check boxes in the Field Info dialog box. Click on the Font button, choose a font, and type a 2 in the point-size box. Click on OK.

5. Select Send Farther from the Objects menu so that the drop shadow you've created appears behind the original field.

By using the Browse tool, you can see how the drop shadow will look to users of the stack.

HYPERCARD 2

Using Handlers

If you're not an experienced HyperCard author, you may not be aware of the usefulness of HyperTalk handlers, especially those in the Home stack.

A script is divided into individual handlers, each of which is a miniprogram of its own, and the many helpful handlers in HyperCard 2's Home stack can be accessed for use in all other stacks. Most of these handlers are shortcuts you can type into the message box to trigger a lengthy process such as changing the default font in script-editor windows; others are useful utilities that aid stack design and maintenance.

Getting Quick Info

You can set several properties for stacks, backgrounds, and cards via the Stack Info, Bkgnd Info, and Card Info dialog boxes, respectively, which you access through the Objects menu. However, there's a quicker way of accessing these dialog boxes, using handlers.

First, access the message box via the Go menu (Command-M); type the letters s (for stack info), b (for background info) or c (for card info); and then press Return or Enter.

Stack Info Handler from the Home Stack

The Stack Info shortcut handler below does a great deal more than issue an equivalent doMenu command. Instead, it summons help from two other handlers in the script — setUserLevelFive and restoreUserLevel — and then returns you to the precise tool and UserLevel settings you were using when you requested the object's dialog box.

Stack Info Handler from the Home Stack:

```
on s
  put the tool into saveTool
  choose browse tool
  setUserLevel Five - another Home
  stack handler
  doMenu "Stack Info . . ."
  restorUserLevel - put things back
  choose saveTool — ditto
end s
```

For experienced stack authors, this may seem like overkill, because your UserLevel is probably already set to 5 (the Scripting level) and you're quite adept at choosing tools in the Tools palette. But if you're a beginner, these commands are helpful — they let you do what you want and then return you to your previous userLevel.

The XY Home Stack Handler

The xy handler in the Home stack can be used to measure pixel counts for layouts, which is particularly useful if you're doing animation work that might require precise starting and ending coordinates.

To start the handler, type xy into the message box and press Return or Enter. The cursor turns into a cross hair, and the message box displays coordinate information about the center spot of the cross-hair cursor. A repeat loop in the handler keeps showing you the cursor's x,y coordinates in the format accepted by several HyperCard-object properties as well as which coordinate is vertical and which is horizontal. To stop the loop, simply click the mouse button — the cursor coordinates at the mouse-click location remain in the message box.

Notice that if you drag the activated x,y cursor above or to the left of the window, the corresponding coordinates turn negative. The coordinates — like locations and sizes of all objects inside a HyperCard window — are relative to the window, not the screen. Also, the zero point for a window is the upper left corner of the active window area, not the window's title bar.

Neat Navigator Palette

To demonstrate HyperCard 2's palette feature, the Home stack includes the requisite resources (types PICT and PLTE) and message-box shortcut to display what is known as the Navigator palette. The buttons

in this palette are the same as the commands in the Go menu and are an example of what authors can use palettes for— replacing a menu or saving space on stacks written for use on small screens, for example. To access the Navigator palette, type nav into the message box and press Return or Enter.

Palettes in HyperCard float in a different window stratum from that of card windows— palettes always stay on the top level, and card windows are in the document-window domain. Within that domain, you can shuffle several HyperCard windows in any order while the Navigator palette in the palette-window domain stays in front of the HyperCard windows. To accommodate this, one of the buttons on the Navigator palette replicates the Window command, letting you cycle through open HyperCard windows while keeping the palette in front. Note that windows in the palette domain are hidden when you switch from HyperCard to another program under MultiFinder or System 7.

Two Debugging Windows

Two helpful HyperTalk debugging windows — Message Watcher and Variable Watcher — are not normally available unless you get the HyperTalk debugger running (this happens after you've encountered a script error, set a debugging checkpoint, or typed Option-Command-period while a script is running). Once the debugger is going, menu choices in the Debug menu (the one with the bug icon, of course) let you view either or both watcher windows.

The Message Watcher window, in particular, gives you an X-ray view of the inner workings of scripts as they run. As a handler churns, a list of all the messages being executed appears in the Message Watcher window. This is often a valuable debugging tool without the debugger —showing you duplicate executions of handlers in complex scripts, for example.

The Variable Watcher window is especially helpful when you're not stepping through a debugger-controlled handler, because it shows you the state of all global variables when no scripts are running.

If you want to see either of these watchers independently of the debugger, simply type mw (for Message Watcher) or vw (for Variable Watcher) into the message box and press Return or Enter. These two Home stack handlers perform no black magic — both the Variable and Message Watcher windows are opened

when you start HyperCard but are hidden until you ask to see them. These handlers simply show their respective windows, but with far fewer keystrokes than typing the full commands (show window "Message Watcher" and show window "Variable Watcher").

A Handler To Find That Script

In the original HyperCard Home-stack script, there was a practical utility handler that helped scripters slice through the scripts of all objects in a stack in search of any word or phrase. That handler, searchScript, has been enhanced in HyperCard 2, and it now comes with its own shortcut handler, ss.

The searchScript (or ss) command requires one parameter and accepts a second. The first parameter is the text, in quotes, for which the handler should search all object scripts. As an optional second parameter, you can also include the name of a stack to search, in case you want the search to be in a stack other than the one you're currently in. If you don't specify a stack, the handler will search only the current stack.

The ss handler is simply a shortcut to the searchScript handler. In fact, all ss does is call searchScript, passing along any parameters you've given the ss command.

As the handler twirls away, it systematically looks into the script of each object in the following order: stack, background, background buttons, background fields, card, card buttons, and card fields. When the text is in an object's script, the handler opens the script-editor window to display that object's script.

SearchScript does not control search behavior once the script-editor window opens — that's up to you. Fortunately, behind the scenes, the handler also puts the search text into a global variable called ScriptFindString. The script editor normally uses this variable to remember the last search performed inside a script. If you choose Find from the script editor's Edit menu (Command-F), you'll see your search text already entered for you. This means that when running searchScript, you can bypass the Find dialog box and simply choose Find Again (Command-G) to look for the match.

When the script-editor window opens, you also won't know how many instances of your search text exist in the current script. Keep pressing Command-G until

you hear a beep, indicating that the entire script has been searched (unless you've turned on Wraparound Search in an earlier script Find dialog box). .

Once you've examined your search text and made any changes to the script, the most efficient way to let searchScript continue its pursuit is to press the Enter key. Doing so saves changes to the script, closes the object's script, and lets the handler carry on searching in other scripts.

Script-Editor Fonts

You're not restricted to 9-point Monaco as the font for HyperCard script-editor windows. HyperCard 2 includes adjustable script-editor font and size properties— scriptTextFont and scriptTextSize. A Home-stack shortcut handler reduces the long typing required to change these attributes to a simple matter of filling out a pair of dialog boxes. To start the handler, type se and press Return or Enter.

Without using fancy dialog boxes with pop-up lists of fonts and sizes, this handler displays two HyperCard ask dialog boxes, which require you to type the full name and size of the font you want. The next script-editor window you open will use the new font. If you want to permanently change the font for your script editor, you can add some lines to the Home-stack script's getHomeInfo or startup handlers to automatically set font and size properties each time HyperCard starts up.

Danny Goodman's Home Stack Handlers

Adding Home-stack utility handlers to your stacks can make your easily authoring environment more productive and easier to use. Danny Goodman, the author of The Complete HyperCard 2.0 Handbook and cofounder of Concentrix Technology, has put together some tips on adding handlers to your scripts as well as some examples from his own scripts, which you can download from ZiffNet/Mac— look for the file name HCHAND.SIT in the MacUser Forum's Library 3 (Utilities), or send your request and a check ($5 in North America, $10 outside North America) to Concentrix Technology, Inc., 1875 S. Grant Street, Suite 760, San Mateo, CA 94402.

Working With The Tools Menu On A 9-inch Classic-style Screen

When you're authoring HyperCard stacks on a 9-inch

screen, you don't always have a convenient spot to stash the tools menu. You can hit the Tab key to go from button or field mode to browse mode, but this has the sometimes undesirable side effect of selecting the first unlocked field. The contents of fields can be lost this way. This can be avoided by adding these lines to the Home Stack script:

```
on tabKey
  get the tool
  if it is "button tool" or it is "field tool"
then
    choose browse tool
    pass tabkey
  end if
end tabKey
```

If you have the extended keyboard, you can change tools by using the function keys. Put the second group of lines below into the Home Stack script:

```
on functionkey num
  put "browse, button, field, select" into
fKeys
  if num > 4 and num < 8 then
  get "choose" && (item (num-4) of
fKeys) && "tool"
  do it
else
  pass functionkey
  end if
end functionkey
```

Don't use F1 through F4, since these are reserved for Undo/Cut/ Copy/Paste.

Outlining Hidden Buttons

Pressing the Command and Option keys simultaneously will outline all buttons. However, hidden buttons are only outlined in Button mode – other buttons will be shown in Button and Browse modes.

While in Field mode, you can outline all fields, whether hidden or not, by pressing the Command, Option, and Shift keys simultaneously. This is very useful when learning programming techniques from other stacks. Version 1.2 has a command to show all buttons.

Using Font/DA Juggler To Minimize Disk Space

To use Font/DA Juggler to minimize the size of HyperCard stacks, first, use the Fkey/Sound mover, included with Font/DA Juggler, to create the sound files. Hold down the Option key while opening files to open a HyperCard stack. Then create new Fkey/Sound mover files, and copy the HyperCard sounds to the new files. Font/DA Juggler can open these new Sound files at any time. Up to 12 sound files can be opened. The only limitation on the number of sounds is disk space. You can switch sets of sounds quickly and easily.

One problem: HyperCard can play only HyperCard sound resources. The Mac II beep sounds that come with Font/DA Juggler cannot be played in HyperCard.

Reports

While using HyperCard-compatible Reports, you can encounter an unusual problem. In the HyperCard script editor, using the Tab key simply realigns the indentation in the script. However, when using Reports' script editor, pressing the Tab key actually inserts a character (probably a tab character) that shows up as white space. When the script is executed, HyperCard cannot interpret the added character and this results in a "can't understand" error. To fix it, you must delete the added character. So don't use the Tab key in HyperCard Reports' script editor.

Printing A Range Of Cards

The HyperCard printing options allow only the printing of the current card or the entire stack. But if you create a button on any card of your stack with the following script, you'll be able to print a range of cards that you specify.

```
on mouseUp
  ask "First Card to Print?
  put It into Start
  ask "Last Card to Print?"
  Put It into Finish
  open printing with dialog
repeat with counter = start to finish
  print card counter
end repeat
close printing
```

```
end mouseUp
```

Opening A Card To The Current Date

If you'd like an appointment stack that'll always show the current day's card whenever you open the stack, do this: make a copy of the Appointment stack contained in Stack Ideas, create three months' worth of cards, then open the the stack's script via the Stack Info dialog box and enter this script:

```
on openStack
  if field "date" is the long date then
    exit openStack
  else
    find the long date
    push card
    hide message box
end openStack
```

The next time you open the stack, the current day's card will be on top. If it's not, see if there's a card with today's date. If there isn't, open the Message box, type extend, and press Return. That should do it. To check this, open the Message box again and enter find the long date, press Return, and the current day's card should appear.

Adjusting The Find Command

The Find command of HyperCard searches only for the first occurrence of a string in a stack. The Find menu item continues its search for the next occurrence of the string in the stack after the Return key is pressed.

If you want to prompt the user of your stack with a personal message (not the standard Find of the Message box), and want to continue the search after the first match, use the "Ask" dialog box to enter the string to find. Then "type" it in the message box with the Type command. All this can be done with the message box hidden if the BlindTyping is set to true. Here is an example of a script of a "Find" button:

```
on mouseUp
  go first card
  ask "Find what word or group of
  words?"
  type "find" & quote & it & quote &
  return
end mouseUp
```

If you type "Macintosh" as the string to find, HyperCard will itself type the string "Find Macintosh" in the visible or invisible message box, and will itself depress the Return key to begin the search. The next time you press the Return key, the search will continue, as with the Find menu item. With the command Find It (it = "Macintosh"), only the first occurrence of the string "Macintosh" would have been found, and the Return key as a "continue the search" command would not have worked.

Adding A Phone Hang-Up Script

When dialing numbers from the Address stack that comes with HyperCard, there is no obvious way to hang up once a number is being dialed or has been dialed. You can solve this problem by adding a background button to the address stack that sends a hang-up message to the modem. The script is:

```
on mouseUp
  send "dial " & quote & quote & "with
    modem " & ~ quote & "+++ ATHO" &
    quote to HyperCard
end mouseUp
```

This sends a hang-up message to the modem. If you have the phone off the hook, you will still be connected until you manually hang up.

Dialing With A Prometheus Modem

In HyperCard, using the dialing feature with a Prometheus modem can be a little difficult if the modem doesn't switch from data to voice transmission. Prometheus thinks this is a bug in HyperCard, but, not so.

In the Phone Stack that is supplied with HyperCard, open the Stack script. Find the code that reads: then send "dial" & quote & ~ dialNumber & quote .. Change it to read: then send "dial" & quote & ~ dialNumber &";H" & quote ...

Now the modem will switch to voice transmission immediately after dialing a number.

Expanding The Cursors In HyperCard

If you want to expand the cursors of HyperCard, make the ones you need with ResEdit, and call them from HyperCard by indicating the ID Number. The browse tool and all other HyperCard icons and cursors are in the Font resource of

HyperCard, shown as a strange "12 ID 31756."

You may not be able to open a resource with the ID number set so high. You can change the ID number, temporarily, to a lower number using Get Info from the menu bar. Now you can open the resource, make your changes, then reset the ID number to the the previous value. Be sure to save the changes.

Printing A Card With Better Quality

If you want to print a card from a stack with better quality, especially text, export the card data to a Paint program, and print in the best quality available.

Getting The Name Of A Tool With HyperTalk

If you need HyperCard to select a tool or pattern from the Tool menu or the Patterns menu but you're not sure what it's called, follow this procedure:

1. Tear off the menu that has the item in question.

2. Select the tool or pattern that you plan to use.

3. Type "get the tool" or "get the pattern" into the Message Box and press Return.

4. Type "it" into the Message Box and press Return.

The Message Box should contain the exact name (or, for patterns, a number) that HyperCard needs to identify that item.

Uninterrupted Keying While Refreshing Settings

Showing the time in a stack is nice, but it becomes a pain in the mouse if the stack is used for keyboard input. At the end of each minute, HyperCard updates the time. If you happen to be typing when the clock strikes, HyperCard abandons the text field to update the Time field. One way to ensure uninterrupted keying is to have HyperCard only refresh the time when you are not keying. The following lines in your stack script will do just that (assuming a field named "Time" is in the background):

```
on openField
  set lockText of field "Time" to false
end openField
```

```
on mouseLeave
  set lockText of field "Time" to true
end mouseLeave
```

```
on idle
  if lockText of field "Time" =true then
  put the time into field "Time"
end idle
```

Adding The Time In Any Stack

It's easy to show the time in any stack. Start by creating a field in the background called Time. Then add this short script to the existing background script, if any:

```
on idle
  put the time into field "Time"
  pass idle
end idle
```

If you want to add this feature to a single card rather than to all the cards of a background, simply create a card field named "Time." The script should now be added to the card script, changing the second line to put the time into card field "Time".

Compacting HyperCard Stacks With Hypertalk

HyperCard stacks can be real memory hogs, especially if you modify them occasionally. The HyperCard manual suggests you look at the amount of free space in the stack by selecting Stack Info from the Options menu. If there is a lot of free space, you can reclaim it by selecting Compact Stack from the File menu. If you forget to do this, your stack can grow to twice its normal size.

Start by choosing the Authoring level from the home stack. Then go to the desired stack and choose Stack Info from the Options menu. Click on the Script button and add the following script:

```
on closeStack
  if the freeSize of this stack>0 then
  doMenu Compact Stack
end closeStack
```

Another alternative script is the following:

```
on closeStack
  get the freeSize of this stack
```

```
if it > 1024
10 then do-Menu Compact Stack
end closeStack
```

This script will automatically compact the stack if you exit it and it has more than 10K (1024 = 1K) of free memory. If there is already a script for this stack just add the new part at the end, and if there is already an "on closeStack" script, just add the two lines before the "end closeStack."

Changing The Default Font In HyperCard

HyperCard uses the default (application) font to label icons as well as in the message window. It's also used as the default font for the Text tool and new fields. To make HyperCard use your favorite font as its default font, change your application font using any of the several excellent public domain and low-cost shareware programs that will do this. For example, to set the icon font to Geneva 9 you'll need to make the following changes using FEdit Plus or MacTools.

Change: **6720 3F2D F31E**

To: **6720 3F3C 0003**

The final 0003 is what sets Geneva.

Using Alphanumeric Keys To Set Polygon Shapes

When using the Polygon tool, it is not necessary to complete each polygon by clicking where you started drawing the polygon. If you are in the Fill mode, you can complete the polygon and fill it by typing any alphanumeric key.

Outline mode acts differently. When you type an alphanumeric key in that mode, the polygon lines stop where you last clicked the mouse. These methods work in MacPaint also.

Blind Typing Out Of A Jam

The message box is always there, even when it's not visible, just blind type your message, such as "open resedit" or "go home." Don't worry about getting the capitals right, but be sure you put spaces where they belong. Using this technique can get you out of a jam, such as when you use Recent to go to a card which you then discover has no menu or working buttons.

Attaching FONT Resources To Stacks

If you write a stack that includes text fields that use particular fonts, you can ensure that they will appear in your chosen font no matter what fonts other end users have available in their System. Using ResEdit, copy the Font ID number of the font you want to lock in from the System file. Then paste this ID number into the Font file in the stack you want that font used in. Even if there wasn't a Font file to begin with, pasting in the Font ID will create one.

Now when others open your stack, the fonts included within that stack appear in the text menu in HyperCard, along with the System fonts. You no longer have to worry about your stack using the default fonts and not looking the way you had planned it. Remember that Fonts (and snds) take up large amounts of space in a stack.

Seeing All Hidden And Transparent Buttons

It's easy to see where all the buttons are, including hidden and transparent buttons that have been painted over, on a HyperCard card. All you have to do is press the Command and Option keys at the same time. All buttons will be outlined with a dotted line.

Returning To The Finder Instead Of HyperCard

If you want to return to the Finder rather than to HyperCard when quitting applications or documents launched from HyperCard, hold down the Option key while quitting.

Creating A Scrapbook Of Buttons

Often when creating a new stack you'll want to use the same buttons on different cards, with different backgrounds. If you save these buttons in the Scrapbook, you lose all identifying information, and can easily forget which button is which. The solution is to create a "ScrapCard" on which to save these buttons.

First, add a new card at the end of the stack. Paste any button you intend to use again onto this card. Now all you need to do is press Command-4 to get to the ScrapCard (be sure to leave it as the last card in the stack), choose and copy the appropriate button, press Command– to return to the card you were working on, and paste the button in.

Setting Control-Key Combinations To Set The User Level

An easy way for Mac SE and II owners to switch between user levels is to create Control-key combinations by inserting the following lines into the Home stack:

```
on controlKey x

  if x=49 then set the user Level to 1
  else if x=50 then set the user Level to 2
  else if x=51 then set the user Level to 3
  else if x=52 then set the user Level to 4
  else if x=53 then set the user Level to 5
  else pass control Key end controlKey
  end if
end controlKey
```

Now you can press Control and any number from 1 to 5 and be transferred to that user level.

If you've ever wanted to make your HyperCard stacks like real Mac applications with an About . . . command in the Apple menu, copy the following resources (with ResEdit) to your stack from HyperCard itself:

DLOG "About" ID=2002

DITL "About"' ID=2002

STR# "About" ID=2002

ICON "Bill" ID=2002

ICON "HyperCard" ID=1001

Once you've loaded the resources in your stack by means of the scary magic of ResEdit, you can alter them to your heart's content without actually modifying the originals in HyperCard. To do so, make STR# read whatever you want; move, add, or delete any of the icons; or place your own text inside the DITL. You can even move the DLOG box elsewhere.

Now, when you open your HyperCard stack, the About . . . command will really tell other users what your stack is all about. So if you're tired of the same old HyperCard programming team, add a little spice, delete Bill's lovely face – and put in whatever you want.

Improving Performance By Turning Off Color

The speed of HyperCard varies depending on the color

setting, but in general you will gain significant speed if you are using a color monitor and the color is turned off completely when you are moving a lot of monochrome images. For HyperCard, if you have 256 colors, you should use either no color or 256 colors (2 colors or 256 colors).

In the Control Panel, the Control Panel Device (CDEV) called Monitors lets you adjust the number of colors your monitor shows. If you have 256 colors, your monitor will typically be at 2, 4, 16 or 256 colors.

Moving To The End Of A Scrolling Field

Let's say you have been using a stack that requires switching from card to card and entering text — but always at the end of a scrolling field. The speed of text entry is hampered because when you open a card, you have to scroll to the end of the field and click after the last word before you can type the text.

Here is a short background script that causes the cursor to appear automatically at the end of the scrolling field whenever you switch to another card.

```
on opencard
  select char (the number of chars in bg
  fld x) + 1 of bg fld x
  type selection
end opencard
```

If you want to make sure that the cursor always appears below the last line, even if the last line does not end in a carriage return, make the script read as it appears below

```
on opencard
  if last char of bg fld x <> return then
    put return after bg fld x
  end if
  select char (the number of chars in bg
  fld x) + 1 of bg fld x
  type selection
end opencard
```

Truly Hidden Buttons

HyperCard lets you create hidden buttons, but anyone can "peek" at the button location by holding down the Command, Shift, and Option keys simultaneously. What if you want to create a hidden button that truly stays hidden?

The answer is to create two hidden buttons. Create the button you want, and then copy it and paste the copy directly on top of the original button. Neither button will be visible when Shift, Option, and Command are pressed, although you'll still be able to see them when the button tool is selected.

Easy UserLevel Settings

If you are tired of typing set UserLevel to 5 and set UserLevel to 2 when developing applications in HyperTalk, add the following into your Home-stack script: on ux

set userlevel to param (1) end u

Now I just type u 6 or u 1 in the message box.

HYPERCARD 1.2 AND 2

HyperCard 1 And 2 Co-existing On Your Disk

Some HyperCard 1 stacks can't successfully be converted to Version 2. If you've got some of these, and you need to keep them around, here's an admittedly awkward trick for keeping both versions on your disk.

Using a file-editing utility, change the creator of HyperCard 1 and any Version 1 stacks to something other than WILD.

Once you've done this, double-clicking on a Version 1 stack won't launch HyperCard 2, as is usually the case. In fact, double-clicking will result in an error message. But you can launch the HyperCard 1 application and open your older stacks from inside it. Your new HyperCard 2 stacks and any stacks you've converted will continue to open with Version 2.

Compacting 1.2 Stacks With HyperTalk

Even before you have a chance to convert a 1.2 stack to 2.0 (it's possible to run a 1.2 stack under 2.0 without converting it), you may encounter the script error message "Can't find menu item 'Compact Stack'." What's going on here?

Some stack authors build in routines that compact a stack according to some time interval (say, once a week) or a calculation based on a stack's freeSize property (for example, if the size of the free space is 20 percent larger than the stack size). Compacting a stack rearranges the current stack on the disk, remov-

ing any unused space so that it fits into the smallest possible space.

Although compacting regularly is highly recommended, a stack that has not yet been converted to HyperCard 2.0 simply doesn't have the Compact Stack menu item on the File menu. In its place is the Convert Stack menu item. Because compacting is dependent on the data structure of a stack, HyperCard 2.0 cannot compact a 1.2-generation stack until the stack's data structure has been converted to the 2.0 format. After you've converted the stack to 2.0, the Compact Stack menu item returns and the stack's compact routine should run fine.

Vision Problems

Depending on what kind of Mac you use, the speed of visual effects may differ under HyperCard 2.0. You can set a stack's visual effects to slow, very slow, fast, or very fast. Except for the very fast speed (which works as fast as your Mac's CPU chip does), these speeds have been normalized across all Macs in HyperCard 2.0, so that visual effects will have roughly the same impact when run on a Mac Classic as on a IIci. Because these speeds have been standardized to the slowest common denominator, if you use anything faster than, say, a Macintosh SE, you'll probably notice slower visual effects when the stack is converted to HyperCard 2.0 than you did under Version 1.2.

You can speed up these effects so that they're closer to what you're used to. To do this, start by using the searchScript command from the Message Box to let a helpful utility handler in the Home stack find the locations of the Visual Effect command.

Show the Message Box by pressing Command-M. Then type searchScript "visual", and press Return. If any object's script contains this command, the script-editor window will open to display the script. The script editor already knows what text you searched for with searchScript, so you can simply press Command-G to issue the Find Next command within that script.

The search will find a line that looks something like this: visual effect wipe left (or whatever is being applied to the visual effect). To the end of the line, add fast or very fast, as in visual effect wipe left fast. Press Command-G in this script until you hear a

beep, which means there are no more visual effects in the script. Press the Enter key to save the script change, and close the script window.

Sound Problems

As for sound, if you're running System 6.0.7 or later, you must use HyperCard 2.0 to ensure trouble-free sounds when using the Play command.

In addition, existing sound XCMDs (external commands), such as those provided in Farallon's HyperSound Toolkit, need to be upgraded to work successfully with HyperCard 2.0 (you need to get the upgrade from the company that created the sound). You may get some sound out of the old XCMDs but not consistently.

A note on XCMDs: Most existing XCMDs work in HyperCard 2.0 just fine. The ones that cause the most problems are those that create their own windows or are dependent on HyperCard 1.2 stack data structures. The former need to be redesigned around the new XCMD structure and libraries (both available from Claris); the latter need major overhauls.

Finding Missing Text

Some users have fretted over the apparent disappearance of text in fields after converting a stack to 2.0. To encourage users to keep entries in this field to a maximum of four characters, the script author might have carefully sized the field so that the rectangular border allowed just a few pixels of white space to the right of the last character.

When a stack is converted to HyperCard 2.0, however, it looks as though the last character of the field has been cut off. The full text is still there – it's just wrapped to the next line. If you widen the field a couple of pixels, all the characters will return to the first, visible line (for best results, widen these fields after converting the stack). Although some word-wrapping oddities of HyperCard 1.x have been corrected in 2.0 (for example, parentheses and quotes now stay with their associated words), a field still requires several pixels of white space between the last character and the right edge of the field rectangle for the character to be visible on that line.

Crippled HyperCard

Currently Macs come with a version of HyperCard 2 that appears to be partially disabled. It really isn't; the Home stack is locked at the second level (Typing).

To access the higher user levels, here is what to do:

1. Launch HyperCard, and go to the last card (Command-4).

2. Make the Message box visible (Command-M).

3. Type "Set the UserLevel to 5"; press Return.

4. Type "Magic"; then press Return.

Your copy should now have all five user levels available.

SUPERCARD

Using Stand-alone Files Without The Application

A lot of programs on the Mac market create stand-alone applications or self-extracting archives. Two good examples are SuperCard and Compact Pro.

If you get a project-only version but do not own SuperCard, it is impossible for you to run it. The same goes for Compactor: If you get a Compact Pro file but do not have the program, you cannot extract the file's contents.

The obvious answer is just to go out and purchase SuperCard or Compact Pro, but that's not always a cost-effective or timely solution.

A different approach is to convert the SuperCard project into a SuperCard stand-alone application or to convert a Compact Pro file into a self-extracting archive.

The following methods require ResEdit. If you're converting a SuperCard project, it also requires a SuperCard stand-alone application. If you're converting a Compactor file, it also requires a self-extracting archive.

Follow the steps (SuperCard project/Compactor file is referred to as the data file, and the SuperCard stand-alone application/Compactor self-extracting archive as the app file):

1. Run ResEdit.

2. Open the data file.

3. Open the app file.

4. Select and copy all the resources in the app file.

5. Activate the data-file window.

6. Paste the resources in.

7. Close the app file.

8. Save the data file.

9. Issue a Get Info command (Command-I) for the data file.

10. Change its type to APPL.

11. Quit to the Finder.

Now run the SuperCard or the Compactor file, and it will work perfectly.

MULTIMEDIA

MACROMIND DIRECTOR

Aligning Onstage
To align text or graphics onstage in MacroMind Director, create QuickDraw shapes as registration tools and then discard them when the layout is done. Also, use your tool bar or cast window for quick vertical registration.

Joining Endpoints
To make joining the endpoints of an open path easier, Option-select anywhere along the path and then use the Join command. This way, you don't have to go through the trouble of selecting both endpoints of the path.

Drawing Concentric Circles
Some graphics programs, such as MacroMind Director, don't provide a command for drawing concentric circles. Here's a quick and simple approach that works with any graphics program that doesn't include a concentric-circle command.

Open the Paint window. Draw a 45-degree line, using the line tool (you can restrain the line tool to 0 degrees, 45 degrees, or 90 degrees by holding down the Shift key). Choose the Sphere tool. Hold down the Shift key, and place the cross hairs on any point on the line. Draw the circle down or up at the same angel as the line.

Now choose another point further along on the same line, and draw out another circle in the same direction and angle as before. You now have perfect concentric circles.

QUICKTIME

System 6.07 And Higher
The QuickTime software defines a "movie" file format that can be played back on any 68020-or above (68030 and 68040) Mac equipped with color and running System 6.07 and higher.

Startup Movie
If you take your favorite QuickTime movie, rename it Startup Movie and place it loose in the System folder, the movie will play when the QuickTime extension loads during start-up.

Cheap Introduction To QuickTime
If you just want a collection of budget-priced QuickTime movies, check out TV ROM from BMUG (1442A Walnut Street #62, Berkeley, CA 94704; 800–776–2684 or [510] 549–2684; $35). It contains almost 400 MooV files (MooV is the file type for QuickTime movies).

It's an eclectic collection, organized into categories such as animals, talking heads, traffic, computers, and others, with a nicely designed HyperCard stack that lets you find and preview movies quickly and easily. The disk even includes the QuickTime extension and the Popcorn QuickTime movie viewer. There are some gems in the collection, but the overall quality of the clips is uneven at best. Still, for $35 you won't find a better introduction to QuickTime.

Voyager Movies
One of the most prolific producers of QuickTime movies on CD-ROM is Voyager (1351 Pacific Coast Highway, Santa Monica, CA 9040; [310] 451–1383). Its batch of releases includes "You Can't Get There from Here" (1946–1960), which consists of motion-picture clips, cartoons, commercials, and educational films, all in QuickTime format. This CD-ROM even includes a classic high-school health-class film about "making out."

Other Voyager titles include Poetry in Motion—

QuickTime movies of performances by Charles Bukowski, John Cage, Jim Carroll, Allen Ginsberg, Tom Waits, and others; and Baseball's Greatest Hits, a compendium of statistics, facts, and figures as well as pictures and QuickTime movies about America's national pastime.

QuickTime Beeps

VideoBeep, from Rock Ridge Enterprises ($40), lets you choose QuickTime movies to play when your Mac beeps as well as when you start up, shut down, restart, insert a disk, eject a disk, or empty the Trash.

Memory

Start off with as much RAM-disk space as you can muster. QuickTime software is RAM-hungry, and QuickTime-movie files can be big.

Creating Your Own Movies

Next you'll need software that lets you create your own QuickTime movies. Adobe Premiere is one such program and it's powerful, feature-packed and sports an intuitive interface. Adobe Systems Inc., 1585 Charleston Rd., P.O. Box 7900, Mountain View, CA 94039-7900, (415) 961–4400.

Turning Videos Into QuickTime Movies

If you want to import video from tape or a camcorder, you'll need a digitizer. The VideoSpigot, from SuperMac is one such tool. It's inexpensive (less than $600 for NuBus; less than $500 for the LC or IIsi), and it works flawlessly.

Capturing Screen Activity

If you plan to design Mac training videos or just want to record screen actions, check out Spectator (Rock Ridge Enterprises, 620 Hidden Valley #102, Ann Arbor, MI 48104; [313] 663–0706; $200). It's a screen recorder that captures activity on your screen and makes a QuickTime movie of it. Although it has a basic feature that lets you add a soundtrack, it doesn't have editing capabilities, so you'll want to edit your Spectator-generated movies in Adobe Premiere, which lets you easily add sound and smooth out any rough spots. Adobe Systems Inc., 1585 Charleston Rd., P.O. Box 7900, Mountain View, CA 94039-7900; (415) 961-4400.

Presentations

If you're in the market for a QuickTime presentation pro-

gram, check out Cinemation (Vividus, 651 Kendall Avenue, Palo Alto, CA 94306; [415] 494–2111; $495) or Magic (MacroMindParacomp, 600 Townsend Street, San Francisco, CA 94103; [415] 442–0200; $395). Cinemation and Magic let you do more than just paste in or import QuickTime movies. Each includes a full-blown animation program, painting and drawing tools, and several megabytes worth of ready-to-use animation clips.

Another benefit: Magic and Cinemation let you export your presentations as QuickTime movies. Cinemation even lets you import Persuasion and PowerPoint presentations and automatically animate the text.

VIDEO

Two Video Display Problems

When creating a successful video presentation you need to recognize desktop video's limitations and know how to get around them by choosing the best graphics for your presentation.

There are two display problems — overscanning and flickering —that you should take into consideration when designing a presentation. Overscanning occurs because a TV picture covers the screen from edge to edge, extending past the visible edges of the picture tube. You never see the outer edges of a broadcast image, but that usually doesn't matter. However, when you send a 640 x 480-pixel computer image to a TV, overscanning magnifies the image, placing important items — such as the menu bar, Trash, and disk icons — at the edges of the TV's display area and practically out of sight. When designing your presentation, try to keep important items within the viewable screen area.

A bigger display problem is the flickering that occurs in display of thin horizontal lines, such as those in a spreadsheet. Computer monitors refresh the entire screen 60 times per second or faster. A TV, however, paints the screen only 30 times per second, in two interlaced passes. One pass lays down the even-numbered rows, and the next lays down the odd-numbered rows. Any thin horizontal line in a document occupies a single odd or even row, so it's painted only during odd or even passes — or just 15 times per second, which creates a flickering effect.

An Expensive Flicker-Free Solution

There's an expensive (about $2,500) flicker-free solution in the form of VideoLogic's Mediator (a scan-converter/NTSC-encoder-box combination).

Reduce Flicker With Two Video Cards

Two video cards that correct flicker are Apple's Macintosh Display Card 8*24 and Macintosh Display Card 8*24 GC. These cards also produce a smaller desktop that compensates for overscanning on the TV display.

To set the flicker-free option, go to the Monitors control panel and select the monitor icon that represents the video card you're using with the TV or VCR. Set the monitor to black-and-white or 4, 16, or 256 colors (or grays). Select Options, and click on the Flicker Filter check box in the subsequent dialog box. Close the control panel, and restart. After startup, you'll see a smaller desktop on your video device and the image will be flicker-free.

An Older Video Card Gives Flicker-Free Presentations

You can also get a flicker-free presentation with the older (and discontinued) Macintosh High-Resolution Display Video Card. You need to use the Macintosh II Video Card Utility (available from user groups) to adjust this card's display rate for TV/VCR output. The utility's flicker correction works only in black-and-white mode.

Avoid Background Grids To Reduce Flicker

If you're working without a flicker-fixing setup, avoid background grids when using graphics programs and don't display spreadsheet grid lines. Tuck the window's title bar as far as possible under the top of the screen or menu bar so that the horizontal lines won't flicker.

Use 2-Pixel-Wide Lines To Reduce Flicker

Try using 2-pixel-wide lines for drawing. This eliminates most flicker. Lines angled at 20 degrees or more from horizontal don't flicker.

Use A Colored Background

Use a colored background to reduce the contrast between the foreground objects and the background.

Avoid Using Patterns

If you must use them, open your application's Pattern palette and check it on the TV screen to see which patterns flicker most.

Reducing Text Contrast By Anti-Aliasing

To reduce the contrast between the edges of the text and the background, use a program such as Photoshop to create anti-aliased (smooth-edged) text whenever possible.

Design With The Equipment In Mind

Design for the kind of equipment that will be used to display the presentation to an audience. Make allowances for the loss of quality from duplicated videotape.

Measure The Distance

Judge the size and readability of elements such as text and graphics on the TV display from the distance at which your audience will be viewing it. Make adjustments accordingly.

Fit Presentations To The Screen

Compose presentations to fit the TV screen, not the Mac screen. If you don't want to work directly with a TV as your composition monitor, use a drawing program to construct a 512 x 342-pixel rectangle and save it in the Scrapbook or in a template document. Use it as a guide for composition.

Font Legibility

Use larger font sizes than usual, because a TV display's lower resolution makes small font sizes hard to read. Try boldface styles. Font legibility depends upon the quality and compatibility of your video card, converter box, recording unit, and display system. The better they are, the smaller the point size you can get away with. Typically, 18 points is legible on most screens. 12-point Geneva Bold and 12-point Chicago are good regular-sized starting fonts.

Contrast With Shadowed Text

Use shadowed text occasionally to add contrast between text and the background.

Spreadsheet Font Sizes

For spreadsheets, use larger font sizes so that important symbols such as + and = are clear.

Record At The Standard-Play Setting (SP)

Record your session at your VCR's standard-play (SP)

setting for the best playback quality.

Adjust Your TV Or VCR

At show time, use your TV or VCR sharpness control and adjust it until you get the best-looking image. This generally helps reduce residual flickering, false color, and ghost-edged pixels.

Use A Good Microphone For Sound Capture

Your video production will be a silent film unless you use a sound-capturing system that includes a good microphone (these cost $20 or so) and a tape desk and microphone amplifier or audio mixer. You don't need anything elaborate or expensive — you're not using the tape desk to record sound, only to accept and control the microphone input and send it through the Line-OUT or Play jack to the VCR's Audio-IN jack.

MUSIC

DELUXE MUSIC CONSTRUCTION SET

Hooking Older Mac Models Up To Your Stereo

You can get really great sound from older (128K or 512K) Macs when working with DMCS or other music software. Hook the Mac up to your stereo with a cable that has a mini-phone plug on one end and a pair of phono plugs on the other. Put the phono plugs into the equivalent AUX jacks on your stereo, then fit the mini-phone plug into the back of the Mac, near the modem port.

When you do this, remember to turn the volume slider all the way down on the Control Panel or else the music will distort. You should also set the External Speaker option on. Then, set the stereo to Mono, turn it on, and make music to your heart's content.

Don't Modify The Program's System Fonts

Deluxe Music Construction Set uses special musical notation fonts which won't work properly after they've been modified.

PROFESSIONAL COMPOSER

Place Ties And Articulations After Transposing Parts

When working with transposing instruments, make sure to place your articulations and ties AFTER you Transpose Parts. This is because the program won't allow for the fact that the direction of note stems often change after transposition. Your articulations and ties will often end up on the wrong side of the notes, and redoing all of them can be tedious work.

SPREADSHEETS

1-2-3

1-2-3 And Excel Differences

Microsoft Corp.'s Excel and Lotus Development Corp.'s 1-2-3 for Macintosh have a difference of opinion. Specifically, the Average and Integer functions behave differently in the two spreadsheets.

Average. If you select a range of cells to be averaged in 1-2-3, you have to be careful. If you include a cell with no number, either a blank cell or one containing text, 1-2-3 treats the cell as if it held the number zero. Excel ignores non-numeric cells.

Integer. You use this function to round off numbers, but Excel always rounds down while 1-2-3 rounds to the nearest whole number. For example, the number 14 becomes 1 in 1-2-3 and 2 in Excel. (The less-common Modulus function, which returns the remainder of a division, also uses the Integer function.)

EXCEL

Avoiding The Prompt To Update References

When opening an Excel file, it can be annoying to get an alert dialog box that tells you to update references

to unopened documents. This is especially annoying when hidden macro sheets are associated with the "workspace."

Here's how to avoid this unwanted prompt. Files are opened in alphabetical order as specified in the saved workspace. To make your macro sheets open before the worksheets that reference them (thus avoiding the prompt), simply add a zero at the beginning of each macro-sheet name. This technique also works for combinations of worksheets and charts that are opened by a single document.

Working With Several Work Areas

If you have several work areas on the same Excel worksheet (for example, one for expenses, one for income, and one for a summary), you can sometimes run into layout problems when you add columns or rows to one of the areas. To avoid this, stagger the various work areas along an invisible diagonal running through the worksheet. This ensures that adding rows or columns in one area will not affect any of the other areas.

Insert New Row/Column Without Using File Menu

You can select Insert to insert a new row or column without going back to the file menu every time. Hold down Option while clicking on the row or column in which you want to add a new area.

Selecting The Entire Worksheet

You can select an entire worksheet without using the mouse by typing Command-A. This is the equivalent of clicking in the upper left corner of the worksheet.

Single-Letter Command Selection

You can quickly select commands within most dialog boxes by typing the first letter of a radio button command. That often selects the command without your having to actually click the mouse on the button.

Customizing Chart Formats

If you use charts a lot and like to use custom chart formats built from those already available, this tip will make your charting chores more palatable.

You can store libraries of custom chart formats, instead of re-creating a custom format every time you need it. Simply use the Clear command to empty the formulas of a chart with a format you

find particularly useful, and use Save As to store it to disk.

To use your custom chart format, copy the data from the worksheet that you want to see in the chart and use Paste Special to paste the formulas into the formatted chart window. You now have the data illustrated in your custom chart format, without spending an hour or so to re-create that custom format.

If you encounter a situation where you can't copy the data directly (a discontinuous selection, for example), select the data you want charted and create a new chart file. Then open your customized chart file. Do a Select Chart on the customized chart file, use the Copy command, and then switch to the new chart file. Use Paste Special to paste the format of your customized chart file onto the new chart file.

Displaying/Printing Columns Starting With Zero

Some zip codes have leading zeros (for example, 05091 for Woodstock, Vermont). If you always want Excel to display and print these zeros, select the row/column in question and select Number... from the Format menu. Type in five zeros at the bottom of the dialog, then click OK. The selected area will now allow for zip codes with zeros as their first digits.

Highlighting Multiple Cells

Highlight a large number of cells by clicking on the top left cell of the range and choosing Go To... from the Formula menu. Then specify the lower right cell of the desired range and press Shift while clicking OK or pressing Return.

Cursor Key Movement

When a group of cells is highlighted, you can't move the cursor outside the selected area if you're using the keyboard to control it. However, you can use the cursor keys to move around within the selected cells. When the cursor hits the bottom or the edges, it will wrap to the other side.

Naming Cells In Columns Easily

If you find yourself entering a column of labels, only to have to manually name each cell in the column just to the right of the labels for use in formulas, here's an easier way:

Select the first cell that you want to have the same name as the contents of the label cell to its left. Then use Command-L (or choose Define Name from the Formula menu) and press Return. Excel will automatically assign the contents of the label cell to the left as the selected cell's name.

Centering Tables With Borders

To center a table with a border, increase or decrease the left margin. Check your centering by viewing the page with the Preview option in the Print dialog. The left and right margins will both appear if the table is centered. Only the left margin appears in the reduced view if it is not.

Enter Some Text Strings As Formulas

You might find that entering some text strings into a cell produces odd results. For example, pasting 10A into a cell results in Excel displaying 10:00 A.M. Work around this by entering the text as a formula. Instead of 10A, type = "10A", and the cell will show 10A.

For The ImageWriter Page Setup Dialog...

Command-U activates "US Letter"
Command-A activates "A4 Letter"
Command-I activates "International Fanfold"
Command-T activates "Tall Adjusted"
Command-5 activates "50% reduction"
Command-N activates "No Gaps Between Pages"
Command-P activates "Print Row and Column Headings"

For The ImageWriter Print Dialog...

Command-B activates "Best"
Command-F activates "Faster"
Command-D activates "Draft"
Command-A activates "All"
Command-H activates "Hand Feed"
Command-P marks "Preview"

For The LaserWriter Page Setup Dialog...

Command-U activates "US Letter"
Command-A activates "A4 Letter"
Command-B activates "B5 Letter"
Command-F marks "Font Substitution"
Command-S marks "Smoothing"
Command-P marks "Print Row and Column Headings"

For The LaserWriter Print Dialog..

Command-A activates "All"
Command-F activates "From...To"
Command-M activates "Manual Feed"
Command-P activates "Paper Cassette"
Command-N activates "No" (for No Cover Page)
Command-L activates "Last Page" (for cover page)
Command-H activates "Help"

Formatting Commands In Headers And Footers

To embed formatting commands or other instructions in the header or footer of an Excel document, insert the commands in the Page Setup dialog box. The keyboard equivalents are:

&L: Align the characters that follow at the left margin

&C: Center the characters that follow

&R: Align the characters that follow at the right margin

&P: Print the page number

&D: Print the current date

&T: Print the current time

&F: Print the document name

&B: Print the left, center, or right side of the header or footer in boldface

&I: Print the left, center, or right side of the header or footer in italics

&&: Print a single ampersand

Extra-Long Text In Headers Or Footers

You can enter header or footer text that's longer than the box can display. If you need to edit this text later, view it by placing the cursor in the visible text near the rightmost end of the entry box and then dragging off the end. The text will scroll to the left and the extra text, already highlighted, will appear.

Loading A Work Space By Default

To load a work space by default when opening Excel, save your worksheet, chart, macro sheet, or work space into a file, label it Excel Startup, and place it in your system Folder. Excel then automatically opens that file whenever the application is started.

Inserting Cells Without The Dialog Box

To insert cells without bringing up a dialog box that asks whether you want to shift cells up or to the right , do the following:

Hold down the Option key, and select the range you want to insert. Excel will insert the range according to the default setting in the dialog box.

Line Up Numbers With Mixed Formats

You can line up the numbers exactly when using both the regular number format and the dollar format in the same column. Select the cells with the regular number format and choosing Number on the Format menu. Then select the dollar format, and delete the dollar signs in the Format Number dialog box.

Using The SUM Function To Add Up Time

How can you use the SUM function to add up individual times of less than 24 hours when the sum of the times exceeds Excel's clock limit of 24 hours? This is a frequently encountered problem for many Excel users, and the solution is a simple formula.

Say you want to add three triathlon times, 14:10:00, 16:15:00, and 13:23:00 and get an answer in hours and minutes. (1 4: 1 0:00 is 14 hours, 1 0 minutes, and 0 seconds.) Type the times into cells A1:A3.

Enter the following formula in cell A4 in General format to sum the times in hh.mm.ss format:

```
=INT(SUM(HOUR(A1:A3))
+SUM(MINUTE(A1:A3))60)
+(MOD(SUM(HOUR(A1:A3))
=SUM(MINUTE(A1:A3))/
60,1)*.6)+MOD(SUM(MINUTE
(A1:A3)),60)/100
```

In this case, the range is A1:A3—the cells in which you entered the times but you could substitute a different range for your own spreadsheet.

To enter the formula as an array, press Command-Enter after typing in the formula. The formula should give you a total of 43:48 (43 hours, 48 minutes).

Inserting Lines Into A Chart Label

To insert more than one line of text into a chart label, go to the formula bar, press Command-Return. This creates a larger space in which you can type multiple lines of text.

Rearranging Linked Data

When you link worksheets in Excel, you can rearrange the data on the supporting worksheet without affecting the link.

Let's say you have a total in cell C5 of Worksheet1 (W1) that is linked to cell D7 in Worksheet2 (W2), using the formula =Worksheet1! C5. If you insert a row into W 1, which pushes your total down to C6, the value in D7 of your second worksheet changes, because it's still linked to cell C5. You can adjust for rearrangements by using a name instead of a cell reference. For this example, select C5 in W1. Choose Define Name from the Formula menu, type in a name such as Total, and click on OK.

On W2, change your link to read:
=Worksheet1!Total.

Now if you cut and paste the value in C5 to some other area of W1 or insert rows that push C5 down, the name will follow the original value in C5 wherever it goes and the link will be properly maintained. Note: This won't work if you sort the rows into a new order.

Displaying Formulas

You can display, in a cell, the formula that produced a value. Command-tilde (~) lets you toggle between showing a formula and displaying a value in a cell.

Deleting Formulas While Maintaining Values

To delete formulas in selected cells on a spreadsheet while maintaining the values, select and copy the cells. With the same cells selected, choose Paste Special from the Edit menu and select Values from the resulting dialog box.

Creating An X-Y Chart?

You can plot an x-y chart for one or more series of y data by using the Scatter format from the Gallery menu. If your data is in columns, enter the y data into the columns directly to the right of the x data on your worksheet. If your data is in rows, enter the y data into the rows directly below the x data on your worksheet.

Next, select the data you want to plot, including column headings if you want to plot them as well. Copy the data to the Clipboard. Open a new chart. Choose New from the File menu, and select Chart. Click on OK, and a blank chart will appear on your screen.

Choose Paste Special from the Edit menu. If your data is in columns or rows), choose Values in Columns (or Rows) and Categories in First Column (or Row). If you have also copied column (or row) headings for inclusion in the chart, click on Series Names in First Column (or Row).

Click on OK, and the data will be plotted in a bar chart. Select Scatter from the Gallery menu, and the data will be plotted as an x-y chart.

Hiding Sensitive Data From View

Using the Cell Protection command only hides formulas from being viewed. To really protect sensitive information, eliminate the column containing the data from view. Select all of the columns you want to hide, choose Column Width from the Format menu, and set the width to zero. Although hidden, the values will still be used in computations.

Now, protect the document with a password. No one will be able to view the hidden data without knowing your password and unprotecting your document.

Manipulating The Insertion Bar With Arrow Keys

Editing the Excel Formula Bar with the mouse can be a test of dexterity. It might actually be impossible for a physically impaired user.

The Microsoft manual does not mention that the insertion bar can be manipulated with arrow keys. The trick is to activate the Formula Bar first with Command-U instead of with the mouse. Once activated from the keyboard, the left and right arrows will then move the insertion point one character. With the Command prefix, the left/right arrows move one field per stroke. This field can be a word, a space, a symbol, or a cell reference, for example. With the Shift prefix, the region through which the bar moves is extended and highlighted in the usual way.

Quickly Returning To Where You Left Off

When you're using several worksheets, charts and macros simultaneously, quitting the application and later returning to where you left off can be painful – you have to open every worksheet, macro, and chart separately.

However, Excel lets you return to where you left off

with the Resume Excel icon, which is created after quitting Excel. It works only if you haven't tried to use Excel with another worksheet.

If you want to save a configuration, drag the Resume Excel icon out of your System folder and rename it. Resume Excel remembers all the windows last opened, their positions, and the locations of all files.

This also works in earlier versions of Excel, where the Resume Excel icon appears in the folder that was open when you launched the application.

Using Excel To Simplify Word's Mail Merge

If you are left intimidated by Word's mail-merge features, Excel can simplify the mail-merge process for you and provide a simple flat-file database as well.

Here's how to set things up:

1. Create an Excel address database. You can sort, print, edit, or search it. Make sure you save a version in the CSV (Comma Separated Values) text format so Word will be able to access it.

2. Set up a Word "main document" (see the Word 4.0 manual) – not a difficult process. The first line contains the DATA statement followed by the name of the "data document," or address database. Text prints as usual. Field names are enclosed in double-angle brackets (Option-\, Shift-Option-\).

3. Now here's the good part. See all those field names? They're common to both the Excel address database and the Word main document (the form letter). Just make sure the name you use in the Word form letter is the same as the name you've given the Excel file saved in the CSV text format.

To print form letters, open your main document in Word, select Print Merge, and choose which records (the row numbers in your Excel address database that contain the names and addresses you want) to print. Click on the Print button, and you're finished.

EXCEL 3.0

Incorporate Messages Into Macro Functions

When creating a macro that will take 30 seconds or so, incorporate the MESSAGE function into the macro to

let users know, via the message/status bar, what to expect. For example:

=MESSAGE(TRUE,"Values are being reset. Please wait…")

is sufficient to describe what's taking so long. Be sure to use =MESSAGE(FALSE) to clear the status bar when the work is finished.

Adding To And Subtracting From The Page Number Printed

You can add or subtract from the &p command in Excel's Page Setup dialog box. For example, if you type &p+10 (there can be no spaces between the characters, or it won't work) in the Header or Footer section, the first page will have page 11 in its header or footer and so on. This is useful if you're printing spreadsheets or graphs that need to be inserted in the middle of a report.

Aligning Number Formats

It's possible to modify noncurrency number formats in Excel 3.0 so that they align properly with currency formats by using the Format Number command.

In previous versions of Excel, the number in noncurrency cells didn't line up properly with cash or currency number in columns. This was because positive numbers formatted as currency included a space the width of a right parenthesis so that they aligned with negative currency amounts, which are always enclosed in parentheses.

In order to avoid encountering this problem in Excel 3.0, select the noncurrency number cells, and choose Number from the Format menu. After the number format, which appears in the Format box, type an underline character and a right parentheses: _).

When you press Return, the noncurrency and currency numbers should align properly. Note: This tip does not work with the General number format.

Microsoft Excel Has A Special Look That Says System 7

To make System 7 users feel extra special, Microsoft gave Excel 3.0's Toolbar and outlines a 3-D, Excel-for-Windows-style appearance when run under System 7. But System 6 users don't have to miss out on the fun. Just hold down Shift-3-D when you start up Excel 3.0

and you, too, can have puffy buttons in your spreadsheet.

Suppressing Screen Updates In Macros

You can suppress screen updating when creating macros, especially if other users will see only the end result or if the task takes a long time. For example, =ECHO(TRUE) displays all the actions until =ECHO(FALSE) is encountered.

Using The Workgroup Command To Save Time

When working on dissimilar, multiple spreadsheets simultaneously in Excel, you may find that the Workgroup command saves critical time. Although the Workspace command brings up multiple spreadsheets, it doesn't let you work with them all at the same time. Workgroup, however, lets you save and print the dissimilar spreadsheets without going into each separate sheet. For example, imagine you have 20 interactive spreadsheets arranged on your screen and do not want to save and print 20 separate times. Simply select all the spreadsheets in Workgroup, and with just two commands – Save and Print—all your work is done. However, be careful not to make layout changes to one sheet or all the sheets will be changed.

Keyboard Combinations For Modifying Bar Charts

To modify the pattern, foreground, and/or border of one occurrence of a bar representing data in a bar chart, hold down the Command key and double-click on the desired area. Make your modifications, and click on OK. The other bars of the same original color will remain unchanged.

Keyboard Combinations To Select A Group Of Rows

Normally when you create a chart, you highlight all the columns and rows starting from the first cell and work your way down to the last cell. Sometimes, though, you might want to exclude a certain row between the first and the last cells. The Command key comes to the rescue once again.

Select all the rows up to the row you want to exclude, in normal fashion. Now hold down the Command key, and choose only the rows after the excluded row. Click on the Chart button to create the chart.

Improving Business Graphics With A Drawing Grid

Excel 3.0's drawing tools make Excel a fairly decent drawing environment for simple business graphics such as flowcharts. You can make this feature even better by setting up a grid similar to those found in most drawing programs.

To do this, select the entire worksheet and use the Format menu to set the row heights to 12 and the column width to 1. Hold down the Control or Command key as you draw with one of Excel's drawing tools, and the object will automatically align to the grid. Experiment with the row-height and column-width settings to come up with a variety of grid sizes.

Microsoft Excel Catches Up, Caches On

Microsoft Corp.'s Excel 3.0 has problems with the copy-back cache on the 68040 chip used in the Quadra 700 and 900. You can use Excel 3.0 on a Quadra with the caches off, but your performance in this situation is equal to or less than that of a Mac IIci.

Microsoft has a free upgrade, Version 3.0a, that fixes the problem. If you have a Quadra — and, according to Microsoft, 3.0a has no advantages for anyone else — you should call Microsoft customer service at 800–426–9400 and ask for the newer version.

EXCEL 3.0A

Some Bug Fixes For Excel 3.0

Several little buglets crept into the 3.0 release of Excel, and Microsoft issued a maintenance upgrade, Version 3.0a. The update fixes include, among others, making Excel compatible with the Quadras and corrected incompatibilities with version 1.3 of Apple's DAL (Data Access Language). Registered users can get the update free from Microsoft Corp., One Microsoft Way, Redmond, WA 98052; 800–426–9400 or (206) 882–8080.

FILE CONVERSION

Tab-Delimited Format

The tab-delimited format, which most spreadsheet software can read, can be used to import and export data to and from a spreadsheet. A spreadsheet has each of its rows on a separate line, with tabs separating the data in individual columns.

You can use your text editor to create and enter tab-delimited data into your Macintosh spreadsheet. Just open the text file with the spreadsheet program and the data will flow into the spreadsheet cells.

WINGZ

Using HyperScript To Add Hide And Show Commands

You can use HyperScript to easily add Hide and Show commands to the Sheet menu.

First, select New Script from the Script menu, and then type the following script (the indents are unnecessary):

select menu "sheet"

add menu separator

add menuitem "Hide" command

  "repaint off

    hide sheet hide tool box hide entry bar

    select report border no line border

  repaint on

  repaint window"

add menuitem "Show" command ·

  "repaint off

    show sheet show tool box show entry bar

    select report border single line border

  repaint on

  repaint window"

The Repaint Off command in this script stops Wingz from redrawing the screen after hiding each element, which would slow down the script. The No Line Border command hides the border that Wingz normally draws around every printed sheet.

Improved Date Formats

Wingz's five date formats all use hyphens, but you may

prefer Excel's compact m/d/yy format. This script replaces the fourth date format (mm-dd-yy) with m/d/yy. The fourth format was chosen for modification because Wingz uses it by default for entering a date into a cell, but you can change the script to substitute this new format for any of the five Wingz formats:

```
select menubar "main"
select menu "format number"
select menuitem "MM-DD-YY"
rename menuitem to "M/D/YY"
date 4 "m/d/yy"
```

The new date format is not stored with spreadsheets – to use it, the script must be executed each time you start the Wingz program, making it a good candidate for placement in your Startup script.

Restoring Row Height And Column Width

Wingz lets you adjust the height of rows, but this ability is a mixed blessing. Rows are narrow, and it's easy to accidentally change the height of a row when all you actually meant to do was select it. Once it's been changed, there is no simple way to restore a row to its original height. This script does exactly that — all selected rows are reset to their default height:

```
row height 240
```

The 240 measurement is in TWIPs, Wingz's standard unit of measure. One TWIP is 1/20 point, so 240 is 12 points, the standard row height. A similar script restores default column widths:

```
column width 1480
```

Setting Row Height And Column Width

This script allows you to set the height of all selected rows by simply entering the desired height, in points, into a dialog box:

```
row height value(dg:dgask ("Enter height in points";
round (rowheight ( ) / 20, 0), 5)) *20
```

The dialog box initially displays the height of the first row in the selection. The dg:dgask function, which ships with Wingz, displays a dialog box with a message and a text field in which the user can enter a response.

It takes three arguments: the message string, the initial value to display in the response field, and that field's desired size in characters. The multiplication

and division by 20 handle the conversion of values between points and TWIPs.

A similar script lets you set the width of all selected columns:

```
column width value (dg:dgask ("Enter width in
points"; round (columnwidth () / 20, 0), 5))*20
```

Time Made Simple

Wingz is not smart when it comes to accepting time values. For instance, if you enter 10:35 or 12:30pm into a cell, Wingz does not understand that you are entering a time – it interprets the entry as ordinary text.

This script converts the text in the active cell to a genuine time value and then formats the cell to use the HR:MN AM format:

```
put timevalue (cell () into

range (makecell (col (), row ())) format
time 2
```

Adding Additional IF Statements To Expressions

WingZ's manual describes how to use the IF function to enter one of two expressions into a cell, depending on whether a given condition is true or false. For example, =IF(E2>=60, "Pass","Fail") returns Pass if the value of cell E2 is greater than or equal to 60; otherwise it returns Fail.

The IF function may also contain additional IFs and criteria so that one of several expressions is placed into a cell. For example, the formula =IF(E2>=90,"A", IF(E2>=80,"B", IF(E2>=70,"C", IF(E2>=60, "D", "F")))) returns the letter grade for the 90-80-70-60 percentage grading scale.

A Goodies Menu

Wingz features a HyperScript programming language, which lets you easily create custom features and menus. You don't have to be a programmer to use the following scripts. To enter a script into Wingz, select New Script from the Script menu; type the text of the script; and then save it, using whatever name you like. To run the script, select Run Script from the Script menu and open the file containing your script. If you create a script named Startup and put it into the same folder as Wingz, it will be executed automatically each time Wingz is launched.

SPREADSHEETS

This script combines several previously mentioned scripts and includes an additional script for selecting the last cell in a spreadsheet. Directly out of the box, Wingz won't let you select the last cell — this script defines the last cell. The Startup script provides the new date format and then creates a Goodies menu that has an entry for every one of the remaining commands. Be especially careful to type the script exactly as it is shown here: Quotation marks in the scripts appear doubled when they are embedded as menu commands in the Startup script. Name this script Startup and put it into the same folder as Wingz; that way, you'll get the Goodies menu automatically each time you launch Wingz.

```
{set 4th date format (the default date format) to
m/d/yy}
select
menubar "main"
select menu "format number"
select menuitem "MM-DD-YY"
rename menuitem to "M/D/YY"
date 4 "m/d/yy"
{create Goodies Menu}
add menu "Goodies" with 6 items
{restore selected rows to default height}
add menuitem "Fix Row Height" command "row
height 240"
{set row height in points}
add menuitem "Set Row Height..." command "row
height value (dg:dgask ("Enter height in points",
round (rowheight ( ) / 20, 0)) *20"
{restore selected columns to default width}
add menuitem "Fix Column Width" command "col-
umn width 1480"
{set column width in points}
add menuitem "Set Column Width..." command "col-
umn width value (dg:dgask (""Enter width in
points"", round (columnwidth ( ) / 20, 0)) *20"
{convert current cell's text representing time to time
value}
add menuitem "Fix Time" command "put timevalue
(cell ( ) into range (makecell (col ( ), row ( ))) format
time 2"
```

```
{select last cell in spreadsheet}
add menuitem "Select Last Cell" command
"define sel, lastrow, lastcol
repaint off
select Active Cells
sel = selection(1)
lastrow = rowof(sel) + rows(sel) - 1
lastcol = colof(sel) + cols(sel) - 1
select range range (makecell(lastcol, lastrow))
repaint on
repaint window"
```

WORKS

Taking Advantage Of The Draw Module

The Draw module is a hidden treasure that you can use only in conjunction with the word-processing or spreadsheet program of Microsoft Works. You can use it to dress up documents or as a graphics program. Objects and text created in the Draw module exist in a separate layer from the word-processing or spread-sheet information — similar to an acetate overlay — so you can read underlying text through a graphic if you choose.

The module lacks a vertical ruler and precise sizing tools — serious omissions, but you can precisely position objects in two ways: A snap-to-grid system lets you specify grid increments down to 1/36 inch or 1/14 centimeter, and the keyboard arrow keys and the directional arrows in the tool palette let you move objects one pixel at a time.

Spreading Text With The Draw Module

Works' Draw module has some exotic features. It can make text follow and spread evenly along an arc or diagonal line. You can also use this technique to adjust letter spacing.

Cut or copy your chosen text to the Clipboard, and draw an arc or line in the Draw module. Make it invisible by selecting White or No Line on the Line Pattern menu, and then select the Spread Text command on the Format menu. Each letter becomes a separate draw object that you can move or size independently. If you group the letters, using the Group

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Picture command on the Format menu, you can stretch or distort them.

Desktop Publishing

Yes, you can create multiple-column newsletter pages and fliers with Works. To create columns, select the text tool from the palette and hold down the Option key while you draw text frames, just as you would in a desktop publishing application. To link columns, hold down the Option key and, with the pointer, click on the columns in the order you want. Headings above each column indicate the name or number of the current column and the column it is linked to. You can edit these headings manually with the text tool.

Once you've created the columns, typed or pasted text flows from column to column. This doesn't work as smoothly as it does in conventional DTP applications – you must deselect a column before text reflow occurs – but for occasional use, Works is a competent desktop publishing application.

Better-Looking Charts

Works is at its best when you use two or more modules together. You can't edit a Works chart in its own window, but if you paste it into a spreadsheet, you can edit it by using standard draw techniques.

To improve a chart's appearance, use the Ungroup Picture command on the Format menu. This breaks the chart into individual draw objects. You can then pull a wedge out of a pie chart, change the fill or line patterns, add additional text labels, circle important information, or draw lines with arrowheads.

Make Works Desktop

The Make Works Desktop commands on the File menu creates a file (its icon looks like a desk) that remembers groups of Works documents: Open the file, and you automatically open the whole group. You can use this feature to file any kind of linked documents, such as letters or mailing labels.

Creating a Works Desktop file is simple: Choose the Make Works Desktop command on the File menu while the files you want to include are open, and then name the new file.

How can you put this feature to practical use? Try creating a check-writing module with the Make Works Desktop command. You'll need three Works files:

A database that contains all the information that will appear on the check, another database containing a list of companies to whom you write checks regularly (including the check amount, in some cases), and a word-processor document that prints the checks by merging the data from the check-register file. Name this Works Desktop file Banking; double-clicking on it gives you instant access to the three files you need to write checks.

Moving A Selected Range Of Cells In The Spreadsheet

While in the spreadsheet, you can quickly move a selected range of cells by holding down Command-Option while clicking in an empty cell. The cell that you click in will become the upper left cell of the moved range.

Date and Time Shortcuts

Works provides a shortcut – Command-D – for entering the current day's date into a date field in a database. For time fields, Command-T has an analogous effect.

Alternatively, you can enter a date in the current year by typing month/date (12/22, for example), and Works automatically adds the year. This shortcut works even if you want to display the date in medium or long format; Works will display the date in your chosen format.

Presentation Spreadsheets

Like a high-end spreadsheet program, Works lets you insert charts within a spreadsheet. Starting with a chart window on-screen, select the Copy command, switch to the spreadsheet window, and paste in your chart.

Works lets you ungroup your charts after you've drawn them. Select Ungroup Picture on the Format menu, and you can adjust the placement of bars, legends, titles, and so on.

Spreadsheet Cell Notes

Cell notes are like Post-it notes that you can attach to individual cells. Use them for comments about the calculation for the cell or instructions about what to enter. This information, although useful, is unnecessary in the main display.

To create a cell note, select the cell you want, select the Open Cell Note command in the Edit menu, and type your message in the cell-note window. The notes

are saved with the document, and a mark appears in the upper right corner of any cell that has an associated note.

Telecommunications Sessions

Many communications applications forget text that has scrolled beyond the top edge of the window. To review a session later, you must save the screen text to a disk file. This approach has two disadvantages: The file can't be read while the communications session is in progress, and you need a separate word processor or text editor to read the file. But what if you just want to reread information from three screens back?

During a session, Works can remember up to 100 previous screens (the more screens you select, the more memory you need).

Works also permits up to 14 windows to be open simultaneously and supports background communications, uploading, and downloading. You can save text from the screen into a new document, and you can also paste text you want to transmit into the communications window.

Using A Word Processor To Change Fonts

Although the spreadsheet has no font changing capabilities, you can move a block of cells from a spreadsheet to a word processing document via the Clipboard, and then change the font, sizes or styles in the new word processing document. The only problem with this is that you lose the display grid, if you had one. Works' drawing functions allow you to easily reintroduce one.

Microscrolling

When horizontally scrolling, your view usually shifts a fixed length. Scrolling in the word processor happens one inch at a time, while scrolling in the database or spreadsheet moves you one column.

Hold down Shift while scrolling to microscroll, allowing you to position all or parts of a window more exactly.

Hanging Up Fast In Telecommunications Mode

While in the communications mode, you can quickly hang up the phone or modem by typing Command- =.

Pasting In Data Without Field Names

If you have cut or copied information from the database, hold down Option while pasting it into a word processor to avoid pasting in the field names along with the data.

Saving Files With Return At End Of Each Line

Hold down Option while saving a word processor file as text (Export File) to save the file with Return characters at the end of each line. This will come in handy when transmitting text files.

Bringing The Bottom-Most Window To The Front

When working with multiple documents, type Command-comma to bring the bottom-most window to the front. Use this to quickly switch between different documents you're currently working on.

Entering Page Breaks From The Keyboard

Enter a page break without having to go to the Format menu by hitting Shift-Enter while you're typing. The page break will be entered at that point.

Quickly Accessing Graph Specifications Dialog

Double-click in a chart window to quickly bring up the graph specifications dialog box, which allows you to change the graph.

WORKS 2.0A

Going From Works 1.1 to 2.0a

If you would like to transfer all information from Microsoft Works Version 1.1 to version 2.0a, it's simple. First, launch Version 2.0a. Now use the Open command on the File menu to open any file you created with Version 1.1. Once the file is open, select Save from the File menu. That's it. The file is now in Works 2.0a format.

Microsoft Works 2.0a Patch

Microsoft Corp., while working on Version 3 of Works, released Version 2.0e. This update fixed a strange bug: If a folder's directory ID (a number the operating system uses internally to identify a folder) was out of bounds, Works would fail to save documents in that

folder. Directory IDs can be out of bounds on really old hard disks and some non-AppleShare file servers.

A patcher application updates Works 2.0a or later to Version 2.0e; the patch is available in Microsoft support forums on AppleLink, CompuServe, GEnie, America Online and from Microsoft customer service at 800–426–9400 or Works technical support at (206) 635–7160.

WORKS 2.0

Rounding Off Numbers

The Microsoft Works database and spreadsheet modules don't round off numbers consistently.

Here's a formula used initially to round off test grades:

=Round(((B7 + C7)/200),2)

When this formula averages the test scores of 87 and 84, it rounds up the result, 85.5, to 86. But with scores of 91 and 100, the average, 95.5, is instead rounded down to 95. By adding a very small number (.0000001) to the formula, as in

=Round(((B7 + C7)/200) + .0000001),2)

you can force Works to consistently round up to the next-higher whole number.

Navigation Commands When Without The Extended Keyboard

Here are some undocumented navigation tips for anyone who is using Microsoft Works 2.0 without an extended keyboard:

To go to the top of a document, press Command-A.

To go to the end of a document, press Command-D.

To move up approximately one page at a time, press Command-K.

To move down one screen at a time, press Command-L.

SYSTEM SOFTWARE

32-BIT ADDRESSING

Accessing More Thank 8 MB Of RAM Without 32-Bit Addressing

In order to use more than 8 megabytes of RAM on any Mac, you must turn 32-bit addressing on. That's the simple answer, but, of course, there's an exception to the rule. If you use Maxima, RAM-disk software from Connectix (125 Constitution Drive, Menlo Park, CA 94025; 800–950–5880 or [415] 324–0727), you can access as much as 14 megabytes of RAM without turning on 32-bit addressing. Maxima requires a 68030 processor or a Mac II with a PMMU chip installed.

ALARM CLOCK DA

Why Your Menu Bar Or Apple Is Flashing

If your menu bar (or the Apple icon at the top left of the screen) is flashing and you don't know why, chances are it's because someone set your alarm clock. Choose Alarm Clock from under the Apple menu and click on the tiny flag at the far right side of the window. From there, choose the alarm clock icon (in the far right corner). Look into the middle section of the window — see that small switch image on the left? Set it to the up position by clicking on it, and your alarm should stop flashing.

APPLE DESKTOP BUS (ADB)

Power Down First

Never connect or disconnect anything without first shutting down your Mac and all the peripherals. You may get away with it some of the time, but there's always a chance of damaging an internal component when you connect a peripheral without first powering everything down.

Don't worry about turning your Macintosh on and off

a few extra times. Also, don't forget to use the Shut Down command before you turn off the power.

APPLE FILE EXCHANGE

Recovering Files From A Damaged Disk

Occasionally the Desktop file on a floppy disk will become damaged so that it can't be rebuilt in the usual way. You can tell that the file is damaged when there is a long pause after you insert the disk into the drive, followed by an alert dialog box that says the disk needs minor repairs and asks if you want to repair it.

If you click on OK to repair the disk, however, often the head shuffles around a bit and the disk is ejected without being read.

Although you may loose the disk, you can retrieve all the files, not with an expensive recovery application but with an application, AFE (Apple File exchange), that comes free with the System software.

Launch AFE, and the entire file list appears. Now transfer all the files safely off the damaged disk to another floppy or hard disk. Other programs could probably do the same, but AFE is fast and efficient – and the price is right!

Fooling The SuperDrive

Here's a tip aimed at people who do a lot of MS-DOS-to-Macintosh conversion, using the Apple File Exchange. IBM PS/2s and compatibles that use a 3.5-inch 1.44-megabyte drive can read, write, and format a high-density disk at the lower 720K density. Unfortunately, when trying to read these disks on a SuperDrive-equipped Macintosh, Apple File Exchange assumes that it formatted at the 1,440K density. AFE is looking at the extra notch on the disk before it attempts to read the actual format.

You can fool the SuperDrive hardware into thinking it has a standard DS/DD (double-sided/double-density) disk by using a piece of tape to cover the extra notch (or to further confuse the issue, you can use a write-protect sticker, as used on those archaic 5.25-inch floppies).

Also, AFE displays hidden files, such as the desktop, and seemingly transfers them to an MS-DOS disk. However, the only thing that gets transferred is an empty file that is hidden on the MS-DOS side (i.e., the

file's contents are not transferred, but a hidden file is created). If you make a habit of hiding your data files under a security program, you'd best un-hide them before trying to transfer them to an MS-DOS disk.

APPLE INSTALLER

Reducing Disk Swapping

When using Apple's Installer under System 7 (or MultiFinder) to create startup disks, you normally have to put up with a lot of disk swapping – especially if you're working from a hard disk and your system has only one floppy drive. You can reduce the number of disk swaps by increasing the amount of memory allocated to the Installer program, so that each of the four System disks needs to be inserted only once to obtain the necessary information. Here's what to do:

Select the Installer icon, and choose Get Info from the File menu (or press Command-I). Increase the amount of memory allocated to the Installer in the Application Memory Size box. Give the Installer at least 1 megabyte of RAM to work with.

Using the same method, you can increase the amount of memory allocated to Font/DA Mover. This will reduce the number of system crashes when you're copying or deleting large font or DA files.

AU/X 3

Can't Spool To Non-PostScript

A/UX 3 can't spool printing jobs to non-PostScript printers, such as the StyleWriter and Personal LaserWriter LS.

CLIPBOARD

Creating A Macro To Edit Clipboard Items

One shortcoming of the Mac's Clipboard is that you can't add to it or edit it. You can create a set of macros that alleviates the problem by turning an ordinary untitled window into a quasi-Clipboard.

First, create a macro (using any macro program) to open a new document that will be "under" the doc-

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ument you're working on: Press Command-N, and go back to your original document by choosing it from the Window menu in the application you're using. Because both this and the macro that follows depend on mouse position, make sure your untitled document is below the original one on the Window menu. (Unless the filename begins with a letter that comes after T, just leaving the Untitled name is OK.) This untitled hidden window is your new Clipboard.

Next, create a macro that copies text from the original document: Press Command C, select Untitled from the Window menu, then press Command-V, and finally, select the document you are working on from the Window menu. You can create a separate macro that cuts from the original, by substituting Command-X for Command-C in the sequence.

The Copy macro, which you can call Library Paste, is especially handy for selecting items from a long general list (such as a large bibliography) for inclusion on a specialized list. The Cut macro, which you can call Gather, is useful for collecting and moving material in a document. As a companion to the Gather macro, you might want to create a fourth macro, Spill, that places the newly assembled information in your document at the desired insertion point and empties the fake Clipboard. Before beginning to record the macro, click on the insertion point and select Untitled from the Window menu, press the command that selects all in the application, press Command-X, select your original document, and press Command-V.

COLOR

Cycling 24-Bit Color On And Off

A good rule for using 24-bit-color in your system is: Don't use it all the time.

For example, when you have 24-bit color active, whatever program you're using may develop the annoying habit of flashing as you scroll or as the screen redraws. Turn off 24-bit color off while working with programs that aren't dependent on color, such as word processors or spreadsheets. As a side benefit, you get faster scrolling and graphics drawing.

How do you turn 24-bit color off? If you think the only

way is to pull down the Apple menu, choose the Control Panel, and go to the Monitors cdev, you're wrong. Fortunately, there's a much easier method. The second rule for using a 24-bit-color-system (indeed, any color system) is: Get a copy of Switch-A-Roo. Similar utilities are available. Screen Flipper, for example.

Switch-A-Roo is simple, and it's free (you can get it from Zmac and other freeware sources). Switch-A-Roo is an Fkey that lets you configure Command-Shift-as 9 and toggle between two video parameters, and set the toggle between 24-bit and 8-bit color. Switching to the lower color resolution results in faster screen updates (and gets rid of those annoying screen flashes). Then when you're manipulating color or touching up color transitions in a graphic with Adobe Photoshop, for example – you can turn on 24-bit color.

CONTROL PANEL

Controlling The Happy Mac At Startup

If you use a Mac with more than one monitor, here is a way to select which monitor you want to use as the main one for the Welcome to Macintosh dialog box or a Startup screen. Choose Monitors from the Control Panel, and hold down the Option key. When the Happy Mac appears, drag it to your main monitor and reboot.

DESK ACCESSORIES (SYSTEM 7)

Receiving Error -97

If, after upgrading to System 7.0, you get a -97 error when trying to invoke a desk accessory (DA) or extension, this error occurs because the DA or extension grabs DRVR slot 12, which System 7.0 wants for its own purposes. Contact the Company's customer service department for an upgrade.

DESKTOP (SYSTEM 7)

Replacing Your Desktop Picture

If you want to change your desktop to a favorite picture, but do not want to fool around with ResEdit, there are a couple of utilities out there that will do the trick.

Clay Maeckel's venerable DeskPict is free and it works under System 6. BigPat, a System 7-compatible control panel written by Charles Dunn that lets you create desktop patterns made up of 32 x 32-bit elements (as opposed to the normal 8 x 8), and that makes for undreamed-of realism in brick-wall designs. If you want these public-domain programs, try your user group or an on-line service.

DeskPicture is a System 7-compatible utility that lets you replace your desktop with a picture; DeskPicture comes with Now Utilities — which includes Super Boomerang (an Open-and -Save-dialog-box enhancer), Startup Manager (an INIT and control-panel manager), and Now Menus (for sub-menus in your Apple menu), among other things.

Also, check out Wallpaper, from Thought I Could ([212] 673–9724). It's a control panel that lets you create your own desktop pattern with patterns measuring up to 128 x 128 pixels (64 x 64 under System 6). It includes hundreds of patterns, and you can create your own with its built-in drawing tools. You can even import pictures from most Mac graphics programs.

Rebuilding The Desktop Without Files Present

Before System 7, you could quickly regain extra space on an empty floppy by rebuilding the desktop, but this doesn't seem to work under System 7.

Finder 7 apparently won't rebuild the desktop info on a floppy that contains no files. Solutions: You can reinitialize the disk, or drag a single file over to it, rebuild the desktop and then throw the file away.

Rebuilding Multiple Desktops

If you have more than one hard disk or partition, when you rebuild the desktop, hold the Command and Option keys down longer. If these keys are pressed when the partition is first mounted, you should see the "Are you sure you want to rebuild the

desktop" dialog box for each partition or disk.

DESKTOP FILES (SYSTEM 7)

Recovering Disk Space By Removing An Old Desktop File

If you've upgraded to System 7, you can save many kilobytes of space on your hard disk by deleting your old Desktop file with a package such as CE Software's DiskTop.

Alternatively, you can make the normally invisible Desktop file visible with ResEdit and then just drag it to the Trash. Be careful, however, that you don't delete the files Desktop DB or Desktop DF. These are the files System 7 uses instead of the single Desktop file used by previous systems. (Note: If you frequently switch between System 6 and System 7, don't delete the old Desktop file or you may find yourself waiting three or four minutes for your hard drive to mount when you start up with System 6.)

DIRECTORY DIALOG BOX

Three Ways To Search The Directory Dialog Box

You have just selected Open from the File menu to find yourself staring at a folder with multitudes of files. How can you speed up your search for a file that's in the middle or toward the bottom of the list?

1. Scrolling or using the arrow keys lets you see every file in a folder, but these are also the slowest ways to search the directory dialog box.

2. No matter how you have your view set in the Finder windows, the directory dialog box always lists files in alphabetical/numerical order. Typing the beginning letter (or number) of the filename takes you right to the file or to a range close to it. If the file is near the bottom, try typing Z.

3. Typing the tilde (~) key takes you to the very bottom of the list.

These techniques also work on windows in ResEdit, Symantec Tools, DiskTop, and DiskTools II, but they don't work with all file editors. You might find other instances in which these work.

Press On The Drive Name
If you want to go upwards in the hierarchy of a drive while in a dialog box, click on the name of the drive.

DISK FIRST AID

Get More Info
Apple's Disk First Aid gives a few clues about various catalog components if you use the secret key combination, Command-S, to display a status window after opening a volume.

Each disk volume has an invisible "catalog" (also known as the "directory"). This critical data is what actually enables the Finder and other programs to find files on the disk. The catalog and its associated "extents" data are private to the operating system and invisible to all normal applications.

DOS EMULATION

Running DOS Programs On The Old Mac SE
To run DOS programs on an old Mac SE, you can use a program called SoftPC, from Insignia Solutions. You have to upgrade to at least 2.5 megabytes of RAM to run it, but going to 4 megabytes is recommended for the best results.

That solves only half of your problem, though, because the old SE doesn't have the DOS-reading SuperDrive that's standard equipment on all newer Macs. The old Mac SE lacks the SWIM chip that would enable it to use Apple's cheap external SuperDrive. However, you can get a 3.5-inch and/or 5.25-inch SCSI floppy drive called the DaynaFile from Dayna Communications that will work just fine.

SoftPC Or Mac286, 386?
Since it uses a real 80286 or 80386 processor, Anaheim, California-based Orange Micro Inc.'s Mac286 NuBus card is faster than Sunnyvale, California-based Insignia Solutions Inc.'s SoftPC,

which is a software emulation of a processor. Typically, the Mac286 will be four to five times as fast in raw CPU throughput. Depending on the case, SoftPC can deliver close to the same performance as the Mac286, and it's a lot cheaper.

EASY ACCESS

Using Easy Access
Easy Access is a startup utility, which comes with the Macintosh System software, for those who can't use a mouse. Easy Access turns the numeric keypad into a substitute mouse.

Put Easy Access into your System Folder and restart your Mac. Command-Shift-Clear invokes the Easy Access-mode mouse keys. The 5 key performs the mouse-button functions (clicks and double-clicks), and the other numeral keys from 1 through 9 move the mouse. The 0 key locks the mouse button down, and the period key unlocks it. This is documented in the system documentation which comes with every Macintosh.

Sticky Keys Feature Of Easy Access
Sticky Keys is a feature of Easy Access that allows single-finger operation of the keyboard.

To turn the Sticky Keys feature on, press the Shift key five times in a row. Be careful not to move the mouse at all while pressing Shift, or you'll have to start all over.

A Frozen Screen May Really Be Easy Access
Here is a simple tip for those who often use cursor keys in Easy Access. If your screen freezes and it appears that your Mac has bombed, always try pressing the period key on the numeric keypad. You may have accidentally hit the keypad 0 key, causing the mouse to stay clicked and creating the illusion of a System error.

With Sticky Keys turned on, the "modifier" keys (such as Shift) can be pressed before the key they modify, rather than at the same time. Pressing the modifier key once modifies the next keystroke only; pressing it twice locks it on until it is turned off by being pressed again. Multiple-modifier key sequences (like Shift-Option) can be executed using Sticky Keys. An indicator in the menu bar shows you which modifier key is active.

With Sticky Keys turned on, you type as usual until you want to type a multiple-character keystroke. Instead of pressing the keys together, you can now press one of the modifier keys, and the icon in the menu changes to a down arrow indicating that the last key you typed is still pressed.

The other half of Easy Access, Mouse Keys, uses the numerical keypad for mouse movements by pressing the keystroke combination Command-Shift-Clear.

Using Easy Access For Fine Tuning Graphics

Easy Access was meant primarily to aid physically impaired Mac users who have trouble using the keyboard and the mouse. But any user can profitably use the utility from time to time. For example, using the Mouse Keys function of Easy Access, you can easily implement a "nudge" command, which moves a selected object one pixel at a time in any direction. Such a command exists in SuperPaint and Cricket Draw but is sadly lacking in many other draw programs – like FreeHand. Here are the steps:

1. Make sure Easy Access is in the System folder when you start (or restart) your computer. You have to be using System 4.1 or later.

2. Open your draw program and position the pointer over the item you want to nudge. Click the item to select it.

3. Press Command-Shift-Clear to turn Mouse Keys on. With Mouse Keys on, the numeric keypad operates as a mouse substitute.

4. Press the keypad's 0 key to lock the mouse button down. (This is an electronic locking, not a physical one.)

5. Tap any of the keys surrounding the 5 key to move the selected item exactly one pixel in the direction specified by the position of the key. For example, the 2 key moves the item straight down, the 8 key moves it up, and the 6 key moves it to the right.

6. When you've nudged the object into place, press the keypad period key to unlock the mouse button.

You can leave Mouse Keys on as long as you don't need to use the keypad for regular input (the Enter key is unaffected by Mouse Keys, however). To turn Mouse Keys off, press Clear on the keypad.

Mouse Keys can be incredibly useful for very fine mouse movement – and it's lots of fun once you get used to it.

EXTENSIONS

What Is The A/ROSE extension?

A/ROSE is used by a few Apple NuBus boards— an example is Apple's Token Ring card — that have their own 68000 processor and memory and are, in fact, separate computers. A/ROSE is their operating system. The System 7.0 Installer will copy A/ROSE to your disk if you tell it you're using a Token Ring card; some other third-party cards may use it as well. If you're not using one of these cards, you don't need it.

Dialog Box For Extensions

Do you see a dialog box telling you what a system extension is when you boot up your Mac? Extension is a generic System 7 term used to describe the software we used to call Startup documents (INITs), Chooser devices and the like. System 7 maintains a lot of special folders inside the System folder for extensions. In your case, an extension is in the Startup Items folder inside your System folder. Drag the extension out, then drag it onto the System folder icon and let the Finder put your extension where it belongs.

Trashing Active Extensions

If you attempt to trash a system extension and get a message saying the application is locked or busy, it is because the extension was in the System Folder at startup time, and so it is activated. Many extension cannot be removed while they're active. (Most extensions are found in the Extensions or Control Panels folders in the System folder.)

There are several ways to deactivate them and then trash them.

The easiest is to boot from a floppy disk with a System folder on it and then drag the extension from the System folder on your hard disk to the trash. Another way is to use an extension manager, such as Extensions Manager. Turn the extension off, reboot, and then drag it into the trash.

Finally, you can move the extension out of your System folder and onto the desktop (or into another folder) and restart your Macintosh.

FILE SHARING (SYSTEM 7)

How It Works

File sharing is a personal version of AppleShare— it lets you share volumes and folders (and the files inside them) with other users on an AppleTalk network. With your permission, other users can view or edit documents that are on your hard-disk drive from their Macs. File sharing includes some security features that provide password control over who can see or change files on your hard disk.

What you get here, as a part of System 7, is distributed (also known as peer-to-peer) file sharing — meaning that it doesn't require a dedicated file server as AppleShare does. (With distributed file sharing, any user on the network can make his files available to any others; dedicated file sharing, in comparison, requires that one machine, the server, contain all shared files.)

There are five easy-to-use components: the Sharing Setup, Users & Groups, and File Sharing Monitor control panels; the Chooser; and the Sharing command on the File menu.

Installing File Sharing

Installing file sharing is a breeze — it's automatically installed when you install System 7 (unless you perform a custom System installation, in which case you need to install the file-sharing software).

Getting Started

Open the Sharing Setup control panel and type in your name, a password, and your computer's name. Your name is your account name for the network. It lets you log on to your Mac's shared folders and volumes if you want to access them from another Mac on the network. The computer name you enter is the name that will appear in the list of available file servers on the network when another user clicks on the AppleShare icon in the Chooser. Click on the Start button for file sharing, and close the Sharing Setup window: File sharing is now turned on.

Next, select a folder to share, and choose Sharing from the File menu. After the privileges window appears,

click on the check box next to "Share this item and its contents," and your name appears as the folder's owner. You can set the following privileges: See Folders, See Files, and Make Changes (these are usually selected as defaults). Close the window, and click on the Save button when you're prompted. That's all you have to do to make a folder available for sharing.

Accessing Your Own Computer

Accessing a shared folder or disk is the same as accessing an AppleShare server. Simply go to another Mac on the network, use the Chooser to select AppleShare, select your computer's name, and click on OK. Type in your name and password; click on OK; and when the dialog box appears, select the shared folder and click on OK. An icon (the same one you'd see if you accessed an AppleShare server) with the name of the folder appears on the desktop, and you can access anything in the folder, although you're using someone else's Mac. You can even use file sharing to access your entire hard disk across the network by making your hard disk a shared volume.

Restricting Access With Users & Groups

Generally, you're going to want to make volumes and folders available to other users. The Sharing command lets you give privileges to everyone on the network. You can also restrict access to certain users or groups, however. To do this, go to the Users & Groups control panel, choose New User from the File menu, type in the name of the user to whom you want to give access to the folder, and then double-click on the icon with that user's name. The dialog box that appears lets you assign a password and privileges to that user (now a registered user). Close the window, and save your changes. To make a shared folder available to the new user, select the folder, choose Sharing from the File menu, and select the new user's name in the pop-up User/Group menu.

If you want to create a group of registered users, the process is similar: Select New Group from the Users & Groups control panel's File menu, and then give it a name. When the New Group icon appears, drag in the icons of the users you want to make members of that group.

Mixing Systems 6 And 7 Users

If you have a mixed System 6/System 7 network, you can still use file sharing. Although System 6 users

can't share folders from their Macs, they can access shared volumes and folders that are on Macs running under System 7. The procedure is exactly the same as accessing a normal AppleShare server, so if they don't have it yet System 6 users must install the AppleShare client software, which is part of the Mac's System software.

Sharing Removable Media

If you use removable media, such as CD-ROMs or SyQuest cartridges, and you have file sharing turned on, the removable media are shared automatically (only you have privileges, however, until you give privileges to other users). This means that all mounted volumes on your desktop are available to you from other Macs on the network, but it also means that to eject these disks or cartridges, you must turn file sharing off.

Removable Volume Troubles

You may have trouble with removable volumes when file sharing is turned off. Some of these troubles stem from a bug in System 7's file sharing; others are subtleties in its operation whose purposes aren't immediately obvious.

The bug: In some cases, the Mac may report that the volume you're trying to remove can't be ejected because it's being shared, even though file sharing is turned off. This can happen if a file was copied to the volume when file sharing was turned on. Sometimes turning file sharing on, then off again, will let you remove the volume; other times it might be necessary to restart.

Subtle feature: Ejectable volumes such as optical disks or SyQuest cartridges are reported as shared when file sharing is on, even if you haven't explicitly shared them. Why? Because they are being shared — kind of. Sign on to your Mac from another Mac on the network, using your user name and password, and you'll discover that all your volumes are available, even the ones that aren't explicitly shared.

User Limitation

A limitation that will affect most users is the fact that file sharing lets you share only ten folders at a time. Furthermore, only ten users can simultaneously be connected to any shared volume. If you need more capacity than this, you need more-powerful file-sharing software.

If your network is big, heavily used, or complex, it's probably better to use AppleShare——Apple's heavy-duty dedicated file-server software — or a third-party alternative such as Novell NetWare for Mac.

File Sharing Performance

According to Apple, using System 7's personal file sharing is slower than using a dedicated server. File sharing is optimized for small workgroups, and you get the best performance when traffic isn't too heavy. Dedicated file servers, on the other hand, are designed for high traffic and many users, so depending on your network configuration, an AppleShare server can be about 25 percent faster than a Mac using file sharing. If performance is an issue, look beyond System 7's built-in file sharing.

Unoriginal Names May Be A Bane For File Sharing

Many people give names to hard disks to personalize the company computers sitting on their desks. Others leave their hard disk with the name Apple gives to all such devices: Macintosh HD.

In a world connected via System 7's file sharing, those whose desktops are graced with Macintosh HDs may be in for a little trouble. Some programs, notably Microsoft Excel and Lotus Development Corp.'s 1-2-3 for Macintosh, cannot open files on a shared disk that has the same name as a local disk. The solution is to rename one of the hard disks.

File-Sharing Workstation Performance

A drawback, particularly if you have a Mac Classic or an LC, is a perceptible performance degradation when other users are accessing your files over the network. Some of the symptoms include erratic cursor control and windows that flicker as they open or close. If this is bothersome, switch to a dedicated file server.

Decentralized Administration

File sharing doesn't involve any kind of centralized administration. All administrative responsibility (deciding who has access to files and who can make changes, for example) is in the hands of individual users. There's no network-administration software, no way to monitor which users are added and deleted, no systemized backups, and so on. Although such a democratic system can work for small groups, it is discouraged for larger networks, where good network

administration is vital for a smooth-functioning net-work.

Another potential problem is the unavailability of files on Macs that are shut down or disconnected from the network. A dedicated file server eliminates this problem, because when it's on, all files are available.

FINDER 7

Setting The Memory Allocation

While operating under System 7, you cannot set the amount of memory that Finder uses, even if working on a copy of the file. No "Suggested Size" or "Current Size" boxes appear if you select Get Info. (This is true even if you look at a System 6 Finder file while started under System 7.)

Instead, the amount of RAM that the Finder uses is dynamically set under System 7. If it needs more memory and there is unused memory available, the system heap will expand to accommodate the Finder. It increases the size of the system software, which you can see under About this Macintosh. Conversely, when the system needs to free up memory, it will close Finder windows to allow other applications to open.

However, you can start your Mac under System 6, in which case the Suggested Memory Size and Application Memory Size boxes will appear and allow the adjustment of the application memory size of the System 7 Finder file. (Although the box names are different than System 7, they serve the same function.) By default, the System 7 Finder is set to 295 Kbytes. If allocated a greater amount of memory, the Finder can keep more windows open, but that additional memory is then reserved solely for the Finder's use.

Closing Finder windows will not free up that reserved RAM to allow launching of other applications. This can be especially frustrating when working on a low-memory configuration where the Finder has been set to use significantly more memory than normal. Your system-software allocation will appear inflated, preventing other applications from launching, and normal memory-saving techniques such as turning off extensions (Shift key held down at start-up) will not fix the problem. To detect and correct this situation, you need to keep a System 6 start up disk handy to look at the Finder's Get Info window and reset Finder

memory to a lesser amount.

Using ResEdit To Reduce File Naming Delay

The length of the delay after you click on an icon name varies with the setting of the mouse's double-click speed in the General Controls control panel: the longer the double-click time, the longer the delay.

There is no direct user control over this rename delay, but there is a way to make the adjustments by using a resource editor on Finder 7.

If you wish to try this unsupported patch, you should work only on a copy of the Finder. You make the changes to CODE resource No. 11.

The following values can be substituted for the original value of E388 at offset A28 of the resource to shorten the delay time:

-One-half normal delay: 4E71

-One-quarter delay: E288

-One-eighth delay: E488

The double-click setting still has an effect on the delay after modifying the resource.

Other values are also possible, and the delay time may be lengthened, although that seems counterproductive. A better alternative may be to eliminate the delay entirely. This is accomplished by changing the value at location A5A from 5DC0 to 50C0.

FINDER

An Inherent Organization Tool

This tip provides a quick and easy To-Do List function for the Finder. There are other list generators, outliners, and organizers — both applications and DAs — but in most cases you have to open the program or the DA to look at your list. Although a program such as Smart Alarms solves that problem for a certain price —in money, INIT conflicts, and memory — here's a free and easy way to keep organized lists on your desktop:

Press Command-N to get a new folder. Then, in 31 characters or fewer, enter a brief description of your memo. Do this for each item on your list. Drag these folders onto the desktop, where they're constantly under your nose as a reminder of some important

activity or event. Or you can neatly arrange these folders inside other folders appropriately entitled To Do Today, Letters, Appointments, and so on. You can easily create, trash, rearrange, and modify these folders as needed. They're also useful as repositories of further information on a particular project.

Easy Editing Of File Names

There's a quick and easy method for adding prefixes or suffixes to a file name without carefully placing the insertion point. Select the file/folder you want to modify by clicking on it once. Press the left-arrow key, and when the blinking insertion point precedes the filename, type your prefix. Press the right-arrow key to deposit the blinking insertion point at the end of the filename, and then type in your suffix.

If you press the arrow keys and no insertion point is deposited, the file is locked. If that's the case, make sure the file is selected and choose Get Info from the File menu (or press Command-I), click on the Locked check box, and close the Get Info window. The tip will now work.

Ejecting Disks

There are keyboard shortcuts to eject disks from disk drives using the Command-Shift keys.

Command-Shift-1 ejects a disk from the first drive;

Command-Shift-2 ejects a disk from the second drive;

Command-Shift-0 ejects a disk from a third drive.

To just eject a selected drive, press **Command-E**.

Ejecting Floppy Disks Without Ghosting

When you eject a selected floppy disk using the keyboard shortcut Command-E, a ghosted image of the floppy remains on the desktop and your Mac can demand that you insert the floppy when you least want to. To keep that from happening under System 6, press Option-Command-E or hold down the Option key when you select Eject From the File menu, when you want to eject a disk. Under System 7 press Command-Y.

You can use the Option key for the same purpose when you click on the Eject button in the standard Open dialog box; Option-click on that button to ensure that the Mac doesn't pester you again for that floppy during your work session.

Printing From The Finder

To print a document directly from the Finder without opening it, select the document and use the Print command on the Finder's File menu. The Finder will run whatever application created the file and print it out. This is really useful if you have a whole folder full of documents you want to print. If you select them all and print from the Finder, many applications, such as Word, will show you only one Print dialog box and then print the documents in succession.

The requirement is that you must have a copy of the correct application on a mounted disk, of course, or you get the dreaded "the application is busy or missing ..." error message. You can't select two files from different applications – this works with only one application at a time. Many applications, such as Word, won't let you print from the Finder if the application is already open.

Use Special Characters To Arrange Files

Add special characters to the beginning of filenames to force grouping in the Apple menu (or in list views). For example, placing an exclamation point (!) in front of application names groups them at the top of the Apple menu, and adding the grave accent (`) character to folder names moves them to the bottom. You can also start a filename with a space, numerals (0, 1, 2, 3 ...) or an asterisk.

Rebuilding The Desktop Of A Disk

Holding down the Option and Command keys when the Finder launches rebuilds a disk's desktop. Rebuilding the desktop speeds up the process of launching applications. Be aware that you will loose any comments in the Get Info box of all documents and applications when you rebuild the desktop.

Keep Folders Small

The more items there are in a folder, the longer it takes to open it, so you want to keep folders small. On the other hand, when folders contain fewer items, folder nesting becomes deeper. You'll want to find a balance between too many items in a folder and too many levels of nested folders. Some programs locate files by using their full pathname. This includes the name of the volume the file is in and every folder name, in order, on the path to the file, with each name separated from the next by a colon (:).

For example, the full pathname to WriteNow in the hierarchical organization might be like this— Hard Disk: Applications: Word Processing: WriteNow: WriteNow. As you can see, the more deeply folders are nested, the longer the pathnames get. Most programs can't handle full pathnames longer than 255 characters. This 255-character limit is also a reason not to make file or folder names too long.

Why Isn't My Memory Reclaimed When I Quit?

Sometimes, when you quit a program, it seems as if the memory it was using isn't reclaimed – at least according to the About the Finder window. Why?

Actually, the memory's really there. If you look at About the Finder under the Apple menu, you will see that the second number isn't Total Memory Available; it's Largest Unused Block.

When you run a program under System 7 (or Multifinder), the program is run as high up in memory as it can. When you run another program, it loads under the first program. When you quit the first program, its memory is available, but the size of the largest unused block of memory might not change, since the second program is sitting there with free memory both above and below it. MultiFinder can't move running programs, so your memory remains fragmented until you quit the second program or reboot.

In this situation, the amount of memory available could be as much as twice the memory shown as the Largest Unused Block. But no more than the amount indicated could be used by any one program. If a program crashes under MultiFinder, it may leave parts of memory allocated even though it's not running any more, which results in even more fragmentation.

Organizing Icons Alphabetically

Here's a quick way to alphabetize a column of icons:

Select them, drag them to a new folder, set that folder to View by Name, then reselect all the files and drag them back to the original folder, And don't forget that you can make a column look tidy by dragging a selection rectangle around it and then choosing Clean Up Selection from the Special menu.

Neatness Counts

It's worth the effort to arrange your desktop neatly —

and to keep it that way. You can size and place windows so that as you open nested folders, the display is compact and all the windows are visible. You can also drag a folder to the desktop and keep it there over the span of your project, making it easily accessible. Later, you can select the folder and use the Put Away command in the File menu to return it to its home location.

Closing All The Windows On The Desktop

By holding down the Option key while closing a window, you can make all the windows on the desktop close.

Moving Windows Without Activating Them

When you hold down the Command key and click in the title bar of an inactive window, you can move that window on the desktop without activating it and bringing it to the front.

Cleaning Up Windows In The Finder

Want to neaten the appearance of the application and document icons inhabiting windows in the Finder? Open the window you want to tidy up. Go to the View menu and set it so that the window is showing your applications and documents by Name and not Icon or Small Icon. Use the Select All command under the Edit menu. Drag everything out onto the Desktop and wait a second or two while the Finder catches up with you. Go back to the View menu and reselect By Icon or By Small Icon – whichever you prefer. Then go to the File menu and select Put Away. Your applications and documents will begin quickly arranging themselves in the window in alphabetical order.

Drag-Selecting In List View

When viewing a folderful of files by icon, you can click and drag to create a selection rectangle that scoops up a bunch of icons all at once. You can use this tip when using any of the text-list views (name, date, size, kind or color) as well.

Speed Up Folder Copying

If your Mac takes too long to copy a folder full of small files from a floppy disk to your hard disk, open the folder first, use the Select All command, and drag all the files to the hard disk.

Preventing Pirating Of Applications From Your Hard Disk or Network

Here's a way to stop people from pirating applications from a hard disk or a network:

First, create a blank document with the application you want to protect and give it a name similar to that of the application (such as "Word 5" for Microsoft Word 5.0)

Next, use ResEdit to make the program invisible (highlight the application name, choose Get Info from ResEdit's File menu, and click on the Invisible box). Quit ResEdit and restart.

Copying Disks From The Finder
When using the Finder to copy a disk, you can avoid typing the new disk name. Simply click on the icon of the original disk and select Copy from the Edit menu (Command-C), then click on the icon of the disk.

Virus Protection
Here's a very simple and effective way to protect programs on your hard disk from virus infection.

While in the Finder, do a Get Info on each of the programs on your disk and click in the Locked box at the upper-right corner of the window. This usually protects the selected file from accidental deletion, but it also guards it against virus contamination, since it prevents new resources from being written to the application.

Quick Disk Erase
The quickest and easiest way to erase a disk is to copy a blank disk over it. To do this, just insert a blank, formatted disk in a drive and drag its icon onto that of the disk you want to erase. You'll usually save a minute or so over using the Special menu's Erase Disk command.

Activating A New System Folder
To bless or select a new active System Folder, hold down the Option and Command keys while double-clicking on the Finder icon in the desired System Folder.

Get Info To Stay
It is a good idea to rebuild the desktop occasionally by holding down the Command and Option keys when turning on your Mac. The only drawback is that rebuilding your desktop deletes the Get Info comments permanently. (To see the Get Info window, select a file and choose Get Info from the File menu while in the Finder.)

DiskTop (CE Software) has a feature called CD Comments that lets you rebuild your desktop without losing the Get Info comments.

Closing All Open Windows With The Close Box
In the Finder, holding down the Option key while clicking on a window's close box closes all open windows.

Closing All Windows After Quitting An Application
After you quit an application, holding down the Option key closes all windows that were left open on the desktop before returning to the Finder.

Problems Trashing Files?
If a file won't budge, like when you try to move it or to send it to the Great Trash Icon in the Corner, the following alert comes up: "Cannot be duplicated or moved", you may have a locked or protected file. In this instance, the file's attribute File Protected or File Busy flag has been checked. (File Protected means that the file cannot be copied or deleted; File Busy means it's currently being used by some application, such as the AppleShare.)

To change a file's attributes, you need a program such as DiskTop or ResEdit. If the File Protected or the File Busy flag is set, try turning it off (after you've made a note of which attributes were turned on before you started making changes). A document generally has just its Inited flag set; an application usually has its Inited and its Bundle bits set. Use a little caution at first – maybe another application really is using that file, and trashing it could ruin your whole day.

Ideally, file attributes should be modified only by the System, the Finder, and other programs that know what they're doing.

Still can't trash the file? Maybe there's an INIT that's struggling to keep the file open, such as Suitcase II or a networking INIT. Disable all your INITs, and try again.

Changing The Application Memory Size
When in the Finder, if you highlight a file and choose Get Info from the File menu, a window about the file appears.

On the bottom of the window are the Suggested Memory Size and the Application Memory Size.

How much memory — minimum — does a program need to run? The answer is more complicated than it might appear. What you see in Suggested Memory Size is what the publisher officially says is the minimum memory required to run the application under MultiFinder. You can always assign a program a greater slice of the RAM pie, but you should not try to run it with less memory than is listed here.

Application Memory Size, a user-modifiable field, lets you change the amount of memory assigned to a program while it is running under MultiFinder. When you launch a program under MultiFinder, it claims a certain amount of RAM real estate as its own.

There is no correct answer to the question of how much memory an application needs. It depends on how much RAM you have to divvy up, what other applications you will be using at the same time, and what demands you will be placing on the application while you are using it. The best strategy is trial and error: Start out with the recommended amount (which should be the default setting anyway). If you find you are running out of memory at critical moments, start increasing the amount of memory by small increments until your problems cease or you run out of memory and have to buy more, whichever comes first.

Many people forget that the Finder itself is an application and that it can be assigned an amount of memory to be used. In some situations —when you are using a large hard disk or a CD-ROM disc, for example — you might find yourself running out of Finder memory. Increasing the Finder memory not only solves that problem but also improves file-copying performance in general.

Keeping Get Info Comments Using ResEdit

Rebuilding the desktop from time to time can save some hard-disk space, but it causes the comments in the Get Info boxes to be erased. Here is a way around this problem for anyone who is comfortable with ResEdit or some other resource editor:

1. Start Apple File Exchange or any other program that lets you see and copy invisible files.

2. Make a copy of the file called Desktop, giving it a dif-

ferent name if the application you are using allows you to. If it does not, save the copy to a different folder so that you will not overwrite the original Desktop file. With Apple File Exchange, choose Rename Destination Files from the File menu to change the name.

3. Rebuild the desktop by holding down the Option and Command keys while your Mac is starting. Just before your hard disk is mounted, you will get a confirmation dialog box asking whether or not you want to rebuild the desktop. Click on OK.

4. Once the desktop has been rebuilt, open ResEdit and open the copy of the Desktop file that you made in Step 2. Find the FCMT resource in the list of resources. This resource contains the Get Info information that was erased when the desktop was rebuilt. Select and copy it.

5. While still in ResEdit, open the rebuilt Desktop file and paste the FCMT resource into it. Now select the copy you made of the Desktop file and choose Clear from the Edit menu.

6. Quit ResEdit, and answer Yes to "Save 'Desktop' before closing?" Your Get Info boxes will now have their comments restored.

Using Put Away To Eject Disks

The File menu's Put Away command (Command-Y) ejects and/or dismounts disks, removable media, or file-sharing volumes.

Adding Keyboard Commands With ResEdit

Several of the commands in System 7's Finder lack keyboard command equivalents. Some obvious ones spring to mind – Command-M for Make Alias and Command-P for Page Setup. You can easily add these keyboard shortcuts to the Finder's Edit menu with ResEdit. (ResEdit can be obtained from on-line services and local user groups.)

1. Make a copy of the Finder, and work only with the copy – editing an active file with ResEdit is always a bad idea. Open the copy of the Finder in ResEdit.

2. Locate the fmnu resources (resources are listed alphabetically). Double-click on the icon, and then double-click on ID 1252. This brings up a window filled with arcane text and numbers.

3. The far-right column contains some familiar strings of text, such as New Folder, Close Window, and other Finder menu commands. The keyboard command

equivalents for these (and other Finder menu items) are stored in the third character before the name of each item – the N before New Folder and the W before Close Window, for example, are what determine the keyboard command equivalents for these options. A menu item without a keyboard command equivalent has only a box in this place.

4. To change or add a keyboard-command equivalent, select the appropriate character in the far-right column and type in uppercase the character you want instead. It's important that you select only the character you want to replace. If you delete the character and then replace it, the Finder may reorder your menus or behave in other unpredictable ways.

5. Save the changes, and quit ResEdit. To restart with the newly customized Finder, move the current Finder out of the System Folder, rename the Finder copy so it's called Finder, and restart your Mac.

The new keyboard command equivalents should appear on the menus once the new Finder has loaded.

Editing Icons On Folders

There is a way to edit or colorize icons in System 7 with nothing more complicated than a paint program. Here's how:

1. Select an icon, and choose Get Info from the File menu (Command-I).

2. In the Get Info window, click on the icon once to select it, and copy it.

3. Open a new document in a paint program, and paste the icon into the document.

4. Modify the icon in any way you want, and then select it, and copy it.

5. Return to the icon's Get Info window, and paste in the new icon.

Desktop Manager Is A Part Of Finder 7

In System 7, Apple finally fixed the nasty problems – including delays, freezes, crashes and error messages – that had long plagued people using many applications (or other files with resources) on a single disk volume. The new Finder uses the same approach as Desktop Manager, software Apple developed years ago to eliminate the problem on AppleShare servers. The software, which many users with large disks had

installed on their personal systems, bypasses the Resource Manager, which was at the heart of the problem.

Using Desktop Manager on your System 6 disks avoids the hassle of rebuilding the desktop every time you switch between the old and new systems, since they can share the same invisible Desktop DB and Desktop DF files. Finder 7 needs to make some one-time modifications to the old Desktop Manager's files, but thereafter you can switch freely between the two systems, as long as Desktop Manager is installed on the System 6 disk.

Rebuilding The Desktop

Whenever you rebuild the desktop under System 6, even with Desktop Manager installed, it must be processed once again the first time you restart with Finder 7.

To rebuild the desktop manually in System 7, hold down the Command and Option keys during the last part of the start-up process, just as you do with Finder 6. (The option of rebuilding the desktop by holding these same keys down when quitting an application is no longer available).

Under System 7, there is another, quicker way to rebuild the desktop, but it is not recommended. System 7's abort key combination – Command-Option-Escape – will quit from the Finder, letting you hold down Command-Option to rebuild the desktop immediately as Finder 7 starts back up again.

Saving Desktop Patterns Under Finder 7

If you like to create custom patterns for your desktop instead of using the default patterns in the General cdev, you now can save them by double-clicking on the cdev's miniature desktop. No longer will your handiwork disappear forever as soon as you choose another pattern.

Color Screen Shots In System 7

Pressing Command-Shift-3 takes a color PICT snapshot of your screen, complete with a camera-shutter sound effect. (In previous Systems, this command produced only a black-and-white MacPaint file.)

Emptying The Trash

If you don't want a warning message every time you empty the Trash, turn off the appropriate button in the Get Info dialog box. To do this, highlight the Trash

and choose Get Info from the File menu or type Command-I.

Renaming Files Faster Under Finder 7

Some people are feeling a little disoriented since Apple changed the way users rename files, folders and whatnot in the Finder. Under System 6, you simply select an item and type the new name, but under System 7, typing selects files instead of renaming them.

If you select an item and wait, however, System 7 eventually will present you with a text-editing box around the item's name. The length of the delay is determined by the double-click speed set in the Mouse control panel. For the really impatient, selecting the item and hitting the Return key or moving the mouse slightly make that box appear immediately.

Keyboard Shortcuts In Finder Windows Under System 7

You can navigate within a window by using the arrow keys. Command-down arrow opens a selected file or folder (additionally holding down the Option key closes the current folder); Command-up arrow opens the parent folder or volume window (adding the Option key closes the current folder).

The Tab key moves you through files alphabetically. Type the first characters of a filename to jump to a particular file. Command-W closes the active window. In list views, press Command-Option-right arrow to expand the entire outline and Command-Option-left arrow to collapse it. (More shortcuts are now listed on the Finder's Help menu.)

Sorting Icons

Holding down the Option key while selecting the Clean Up command lets you sort file icons. To choose the type of sort, select a list view (such as View by Date) immediately before selecting View by Icon or View by Small Icon. Using the View control panel's Staggered Grid and Snap To Grid options helps Finder windows stay tidy even before cleanup. Holding down the Command key as you drag icons toggles the Snap To Grid option on and off temporarily. In list views, clicking on a column title sorts files by that field.

Background Copying

You can copy files in the background while continu-

ing to work in an open application. You can't launch a new application while copying is in progress, however.

Opening Documents In System 7

You can open a document by dragging its icon onto the icon of an application, provided that the program supports the document's format. This lets you open a file in programs other than the one that created it (for example, open a MacWrite file in Word).

Locating The Original File For An Alias

Need to find the real McCoy? Go to the Get Info dialog box for the alias, and click on Find Original. The Finder window containing the original file opens and the icon is highlighted.

Closing/Hiding Windows

The Option key brings flexibility to window management in the Finder. Holding down the Option key when you launch an application closes the window containing the application icon. Using it as you bring a background application to the foreground hides the current application. Pressing the Option key and clicking on the desktop hides all the open application windows.

Reducing The File-Naming Delay

In Finder 7, you can no longer simply click on an icon and immediately type a new name for it. The standard procedure in Finder 7 is to click on the name itself and then wait until the Finder lets you edit or replace the text. The new Finder actually has a separate rename mode, which you can get into in several ways.

If you select an icon, either by clicking directly on it or by typing its name, pressing the Return or Enter key puts you in rename mode; hitting the same key again lets you exit from this mode.

If you click on the icon name instead of the icon itself, you must either wait for rename mode to appear automatically or move the mouse to make it happen immediately. (Return and Enter also switch modes in this scenario.)

Formatting More Than One Disk At A Time

Many applications include utilities or commands for erasing and reformatting a series of floppy disks. Yet there are occasions when you have to rely on the Erase Disk command of the Special menu in the Finder. Here's a trick to speed things up if you have two floppy drives:

Insert the two floppies you want to reformat or erase, and highlight the icons of both disks on the desktop. Now you can use a single Erase Disk command for both disks, with only two prompts required during the process. This shortcut is also useful for reformatting multiple partitions on a hard disk.

Why Do Disk File Aliases Lose Their Icons?

Icon information for items on a disk is stored in the disk's desktop files, but these normally won't have icons for, say, a MacWrite document unless Claris Corp.'s MacWrite program is also on that particular disk.

If you have the MacWrite application on, say, a SyQuest cartridge and a MacWrite document on your internal disk, the document will be shown with its proper icon only when the SyQuest cartridge is mounted - as you noticed. When it's removed, the Finder no longer has access to the desktop files with the proper icons.

You can force the Finder to add any file's icon information to the desktop files on your internal hard disk by copying the creating application to your disk and then throwing it away. Since the Finder never removes information (on its own) from the desktop files, the icon info that is added when you drag the application over will be available until the next time you rebuild the desktop.

Speeding Up On-Disk Backup

If you like to create on-disk backup versions of PageMaker or Word files in addition to your working versions, you can save some time by duplicating the main version at the Finder level instead of using the Save As command. Saving a large PageMaker or Word file under a new name can be a time-consuming process, but the Finder removes a couple layers of overhead and gets the job done faster.

Deleting Busy Folders And Files

Sometimes you just can't throw a folder away: You place it in the Trash and select Empty Trash, and you keep getting a message reading, "The Trash couldn't be emptied (a file was busy or a folder was not empty)." Shortly thereafter, the (nonempty) folder reappears on your desktop. Even though there are no "busy" files in the folder, there isn't anything you can do to throw it away.

Sometimes this happens when a document has been closed within an application but you haven't yet quit the application. In such a situation, the Finder lets you throw away the closed document directly, but if you try to throw away a folder containing the document, you run into this snag: Although the file itself has been trashed, there is no way to throw the folder away until you've quit the application.

To get around this when you're trashing a folder, remember to select its contents by opening the folder and pressing Command-A. Throw away the selected files, empty the Trash, and then throw the folder away. This procedure may work and will save you the time spent resorting to the nuclear weapons that are available for unlocking files.

If you do want to resort to "nuclear weapons," try HellFolderFix, a utility available from freeware sources such as on-line services and user groups. You can download HellFolderFix from the Application Library of ZiffNet/Mac's Download & Support Forum (HELLFL.SIT is the filename).

FINDER (SYSTEM 7)

No More Physical Icons

Physical icons were a feature of Finder 6. Instead of showing a floppy disk as a generic disk icon, the Finder showed a little picture of the appropriate Mac model with an arrow pointing to the appropriate floppy disk drive. Alas, physical icons are not supported in Finder 7 and are probably gone for good.

Creating Window Headers

One of the more productive things you can do with System 7 is create dividers or headers in a window that's in icon view. Here's how:

Create a new folder (Command-N), and name it; using bullets (Option-8) or other symbols works well for creating dividers. Use a drawing program to create a borderless white rectangle that will fit over the folder's icon in the Get Info box (accessible from the File menu or by pressing Command-I). Copy the rectangle to the Clipboard, select the folder's icon in the Get Info box, and paste the rectangle over the icon. Now when you view this folder by icon, you'll see only its name.

Keyboard Commands To Expand And Contract Folders

A hot but not very obvious feature: You can expand and contract folders in the outline views (View By Name, Size, Kind, or Date), using Command/left arrow and Command/right arrow.

Using Keyboard Equivalents In The Finder

The keyboard command equivalents in System 7 are among of its best features, yet some people don't use them, because they haven't noticed the shortcuts or they haven't practiced using them.

If you're not already doing it, try using only keyboard command equivalents in the Finder for a few days. Resist the urge to reach for the mouse. The arrow keys select icons in the window or the desktop, the Tab key select icons in aplphabetical order, Shift-Tab selects icons in reverse alphabetical order, typing the first few letters of an icon's name selects it, and windows scroll automatically to the selected icon!

Why The Finder Won't Play A Sound

When you play a sound in the Finder, the entire sound is loaded into the system heap, then played. If there's not enough room in the system heap, and the heap can't expand enough to make room available, the sound won't be played. Generally, this means you're either very low on memory or trying to play a very large sound.

Finder Settings Not Sticking

If you find that you change the way the Finder displays some items, but the next time you boot the changes are gone, you have a damaged Finder Preferences file.

Open the Preferences folder in your System folder, find the Finder Preferences file, throw it away and reboot. Now make the changes you want in Views, and they'll stay around between restarts.

Using Labels To Keep Track Of Files Copied

When copying lots of files onto various disks or folders, it becomes difficult to keep track of which files have already been copied and which remain. Here's an easier way to keep track of them.

Use the Labels control panel to create a new category – say, Copied– in a bright color. Then go to the folder with the files you want to copy, and highlight the ones

you'll copy first, just as you would before dragging them to the target disk or folder. But before dragging them, go to the Label menu and choose the new Copied category. Now copy the files. Repeat the process for each set of files you need to copy.

It's easy to see which files have already been copied, by either the color or the label name. Of course you won't want to use this method if you need to preserve the labels the files already have. If you don't regularly use the Labels feature, the Copied label can keep track of the files that have been backed up onto a floppy.

FLOPPY DISKS

Requests For Disks Long Gone

Have you ever been plagued by requests for a disk after the floppy is long gone?

Type Command-period, and if the alert box doesn't go away, type it again. You may have to do it several times, but it will usually end the plague.

Command-period is versatile and has lots of other uses. Think of it as yelling "Halt!" at your Mac. If you double-click on an icon and then change your mind, Command-period will abort its launch. Command-period also stops most print jobs.

To avoid those floppy requests in the future, make sure to eject and dismount a floppy disk. There is a difference between ejecting and dismounting. If you eject a disk (using Command-Shift-1, Command-Shift-2, Command-E, or Eject Disk on the Special menu), the disk's dimmed icon remains on the desktop. Dismounting removes the dimmed icon and makes your Mac forget completely about that disk.

Here are a couple of ways (besides dragging the disk's icon to the Trash) to dismount disks under System 6 and System 7:

System 6:

1. Hold down the Option key, and choose Eject from the File menu.

2. Use the Command-key shortcut Command-Option-E.

System 7:

1. Choose Put Away from the File menu.

2. Use the Command-key shortcut Command-Y.

Another way to avoid floppy requests is to lock your disks before inserting them. More often than not, the Finder wants to see a disk again only so it can update its invisible Desktop file, but if the disk's been write-protected, the Finder will leave it alone.

Formatting 400K Disks As HFS

There is a key combination that lets you format 400K disks as HFS (Hierarchical File System) disks.

In the old days, all Macs came equipped with 400K drives, and all floppy disks were formatted with MFS. When the Mac Plus appeared in 1987, Apple introduced HFS, the now-familiar system that allows folders within folders. The difference between the two systems is that MFS was a flat-filing system (every file on a disk was at the same level, as if there were no folders) and HFS is, well, hierarchical (files are separated by the folders they're in). With MFS, folders were visible only when you looked at the disk in the Finder, and they disappeared in the Open and Save dialog boxes.

It is not recommended to store important information on disks formatted this way, because 400K disks are tested only on one side during manufacturing: To format a 400K disk as an HFS disk, simply hold down the Option key when you click on the One-Sided button in the disk-initialization dialog box and continue to hold it down while the disk is being initialized.

FOLDERS (SYSTEM 7)

Using Folders To Post Messages

You can use folders under System 7 to post handy messages to yourself on the desktop.

First, select a small block of blank or white pixels from a new document in a painting or image-editing program or select a nonfilled, nonstroke object in any drawing or page-layout program. Copy this selection to the Clipboard (in Illustrator hold down the Option key when you copy). Go to the Finder, create a new folder (Command-N), and choose Get Info from the File menu with the folder selected. Now click on the folder icon in the Get Info window, and paste in your selection from the Clipboard. The folder you've created has no icon, but you can type as many as 31 char-

acters in the folder name to serve as your message.

You can post the message anywhere on-screen and, because there is no icon, you can put it at the very top of your desktop. The message stands out, because it's unusual for text to be on the desktop without an icon.

To make the message even more obvious, precede it with some bullets (Option-8). You can also copy and paste this non-icon from one Get Info window to another to remove icons from folder, files, or applications to save space in a window. You can open an icon-less file, application, or folder by simply double-clicking on the text.

FONTS

Using Both TrueType And ATM

It is not advisable to use both TrueType and Adobe Systems Inc.'s Adobe Type Manager on your Mac. You are better off sticking with only one font-imaging technology; it'll make your life easier. If you have a PostScript printer, stay with ATM. But if you want to keep them both, here's the order in which screen and printer fonts are handled.

For the screen, the first choice is an existing bit-mapped font of the correct size, followed by a TrueType font, followed by an ATM font, followed by the last resort, a scaled bit-mapped font.

On a non-PostScript printer, it's TrueType, followed by ATM, followed by a bitmap of the correct size, followed by a scaled bitmap.

On a PostScript printer, it's internal PostScript font, downloaded PostScript font, TrueType, bitmap of the correct size and scaled bitmap.

GENERAL

The Application Has Unexpectedly Quit

In many cases, unexpected quitting can be fixed simply by increasing the application-memory size of the offending program. If a program unexpectedly quits, try giving it more memory. To do this, select its icon in the Finder, issue the Get Info command (Command-I), and type a larger value into the Current Size box

(called Application Memory Size under System 6).

Increase the memory size by at least 10 percent, and then see if the problem recurs. If it does, try increasing the size some more. This technique won't hurt anything; it'll just make that particular program use more RAM. If your application still quits unexpectedly after this, it's likely that something is seriously wrong. Try replacing the application and any support files with fresh ones from locked master disks, and if that doesn't fix things, call technical support.

ICONS

Switching Hands On The Generic Application Icons
Generic application icons in System 7 are left-handed for DAs but right-handed for applications. If you're a left-handed user, you can copy and paste the left-handed DA icon into other applications by using the Get Info dialog box.

INTERRUPT SWITCH

A Crash Recovery Trick
There are two "switches" on all Macs, the reset and interrupt switches. One serves as a restart switch and the other is programmers switch. When you press the interrupt key, the machine enters a very simple debugger. In it, you can type G for Go, SM for Set Memory, and a few other commands.

Programmers who need a real debugger for the Mac can use MacsBug, which is available from Apple Programmer and Developer Association (APDA can be reached at 800–282–2732; (408) 562–3910 International). MacsBug is a complete, full-feature debugger with breakpoints, tracing, and so on.

Here is a trick for using the interrupt switch: If you've crashed or the cursor is frozen, press the interrupt switch and then type G FINDER at the >prompt. Leave a space after the G, and type a carriage return after the R. If the crash wasn't too severe, you'll be returned to the Finder, where you can use the Restart or Shut Down commands to close things up tidily. You'll probably see a message telling you that the application

you were working in has "unexpectedly quit." That's OK. Even though you'll probably lose any work you've done since your last Save, chances are your file won't be damaged. (See also System Errors)

KEYBOARD

Keyboard Secrets!
Option key : Hold down the Option key while dragging a file from one location to another within a single volume, and the file is copied to the new location, not moved.

Option – Command: Hold down these keys and double-click on a Finder file to switch to a different Finder without restarting your Mac.

Option – Command: Hold down these keys when you mount a hard disk to rebuild the Desktop file.

Option : Holding down the Option key while dragging a file into the Trash overrides any file lock or query from the System about whether you really want to throw away an application.

Option: Holding down the Option key when opening folders that contain folders will close the previous folder – a great way to keep your desktop uncluttered with open folders.

Option: When running DOS software on the Mac, the Option key doubles as an Alt key.

Option: Press the Option and the semicolon key, and you'll discover this is where Apple hid the ellipsis (...).

ESC Key: Cancel an action (in some applications) (same as Command - period)

Tab Key: Move through fields in a dialog box

Shift–Tab: Move through fields backwards in dialog box

LASERWRITER DRIVER

Different Versions Of The LaserWriter Driver On A Network
When using AppleTalk on a network, make sure all

Macs have the same version of the LaserWriter driver in their System Folder, assuming you are using a version of the LaserWriter driver which is less than version 5.2. The LaserWriter driver series 6.0x can be mixed across a network, for example 6.01 and 6.02.

If you are upgrading computers to System 7, all the computers accessing the same printer should have the System 7 printer drivers, whether or not they are upgraded to System 7.

MAP

Changing The Map Figure

The world map image in Apple's CDEV Map can be copied to the Clipboard simply by choosing Copy from the Edit menu when Map is on- screen. Make sure the city name box is not highlighted (or you will copy the name instead of the map). So what's so great about that? Several things.

First, if you have a color system, you can copy and paste the map image into a program like Photoshop, color it, and then copy and paste the colored version back into the cdev's window. Oceans could be blue, continents in contrasting colors, and so on.

If you live in a black-and-white world, you can still modify the map in MacPaint, using patterns instead of colors.

And in any case, you have a fairly decent world map that you can store separately with your clip art for use in other documents.

And, by the way, you don't have to worry about cutting or clearing the map image accidentally – only Copy and Paste work from the Edit menu while you have the cdev open.

MONITOR CONTROL PANEL

Changing The Pixel Depth On The Fly

You may have several applications that require a given pixel depth or number of colors to run or launch smoothly. Switching among the number of colors can

be a real headache; however, there are shareware and commercial products that can customize applications for the correct setting so you don't have to constantly use the Monitors control panel.

The freeware solution is Switch-A-Roo, an Fkey by Bill (Pyro) Steinberg that lets you switch between any two pixel depths — say, black-and-white and 256 colors — using a keyboard command equivalent.

On the shareware front, you've got your choice of Michael (Screen Shot/Exposure Pro) Whittingham's Screen Flipper INIT or Chris Sanchez's PixelFlipper INIT/control panel. Both let you change the pixel depth of any monitor simply by holding down a user-defined command-equivalent key and clicking anywhere on-screen.

Switch-A-Roo, Screen Flipper, and PixelFlipper are available from on-line services such as ZiffNet/Mac and other shareware sources.

At the high end, we have the commercial products HAND-Off II, from Connectix (2655 Campus Drive, San Mateo, CA 94403; 800–950–5880 or [415] 571–5195), and Multi-Master, part of Now Utilities, from Now Software (520 S.W. Harrison Street, Suite 435, Portland, OR 97209; 800–237–3611 or [503] 274–2800). Both are file launchers and the only products that let you set pixel depth on an application-by-application basis. So, for example, if you always want Apache Strike to run in the black-and-white mode, just tell HAND-Off II or MultiMaster. Then every time you launch Apache Strike, using HAND-Off II or MultiMaster, your monitor will automatically switch into the black-and-white mode.

The cool thing about HAND-Off II and MultiMaster is that they can control other aspects of your Mac's environment, too, such as cranking the volume way up when they launch a game and then bumping it back down again when you open up your spreadsheet program.

PARAMETER RAM

Resetting The PRAM In The Mac Under System 6

The parameter RAM (PRAM) is where the Mac stores basic information like the time and default font (and other things) that it must know when you start it up. It's

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powered by the battery. And occasionally it gets fouled up and must be reset.

If you are running System 6 on a Mac Plus resetting, the PRAM is simple. Just shut the machine off and remove the battery for 5 or 10 minutes. It's impossible to do that on the SE or the II, however. But Apple has provided another way to reset the PRAM. Here's what to do:

In System 6, as you select the Control Panel, hold down the Shift, Option, and Command keys. You'll get a dialog box asking if you want to zap (reset) the parameter RAM. Select Yes, and then Restart your Mac. This will set most of the PRAM to zero, and will change all your Control Panel settings to default settings, but will not reset the clock. Reset all your other options as they were or as you wish.

Resetting The PRAM In The Mac Under System 7

Under System 7, the secret trick for rebuilding parameter RAM is more unfriendly and obscure than in System 6. (PRAM is a special chunk of battery-backed memory that retains data such as your control panel settings even when the computer is shut off.)

In System 6, you could reset almost all of this special memory by selecting the Control Panel DA while holding down Command-Option-Shift. In System 7, you must hold down Command-Option-P-R while restarting the computer. When the system sees this key combination, it resets PRAM and restarts the computer.

POWERBOOK

A Bigger Cursor
There is a way to make the I-beam cursor bigger. The I-beam cursor is a resource in the System file, which you can edit with Apple's ResEdit program, but it's also a resource in the ROMs of the PowerBook. Therefore, you also will have to alter a ROM-override resource to force the PowerBook to use the edited cursor resource rather than the ROM version.

First, make a backup of your PowerBook's System file. Then run ResEdit and open the running System file on your PowerBook. You'll see a window full of strange icons with weird four-character labels. Look for the

one labeled CURS and double-click on it. It will open into a small window with several icons, one of which will be the I-beam text cursor. Double-click on the cursor —you'll get a message that it's a compressed resource and that it'll be saved uncompressed if you change it. Click OK, and you'll be in a simple icon editor that will allow you to change the icon to better suit the PowerBook's screen. Edit the icon (making it three pixels thick seems to work well) and close the editor and CURS windows.

Now open the ROv# resource and double-click on item No. 1660. Scroll to the bottom of the display and click on the last item, labeled *****. Select Insert New Fields from the Resource menu, and blank text fields labeled Type and Resourc˘ ID will appear.

Type in CURS (all caps) for the Type field and 1 for the Resource ID field. Now you're done. Quit ResEdit, answering all the questions it poses with OK, and you'll have your thick I-beam cursor.

Some applications, such as Claris Corp.'s MacWrite II, have their own I-beam cursors that you'll have to edit separately. And some, such as Microsoft Word, have cursors you can't easily edit. Experimentation (on a copy of the program) is the key.

Powering Up System 6 On Your PowerBook
Running System 7 with only 2 Mbytes of RAM on a PowerBook doesn't leave room for much else. System 6.0.8 requires several hundred Kbytes less RAM than System 7, and several brave pioneers who've installed it report that System 6.0.8 seems to run fine on the PowerBook; however, the Brightness control panel no longer works.

This is a problem because the physical brightness control beneath the LCD screen really just signals software to lower the brightness rather than controlling it directly. Under System 6.0.8, your PowerBook screen will be locked at maximum brightness, which will reduce your battery life. Other than this one quirk, everything seems to work fine.

PRINTING (SYSTEM 7)

How To Work Around Printing Problems In System 7.01
If you have some documents that don't print correctly

under System 7.01, here are some work-arounds that may be effective:

-Try turning off the Background Printing option in the Chooser.

- Switch back to the LaserWriter 7.0 driver or even a driver from System 6. (Put both the LaserWriter and Laser Prep files in the Extensions folder.)

- If you can isolate the printing error to a given page, try changing the fonts on that page. Pay special attention to TrueType fonts, which seem to be implicated in some of these problems.

PRINTMONITOR

Queuing Print Jobs While The Printer Is Off

To queue documents when the printer is off under System 7, place an alias of the PrintMonitor application in the Apple Menu Items folder. Before queueing anything to print, select PrintMonitor from the Apple menu and select Stop Printing from the File menu. You can then "print" documents to your heart's content without having to turn on the printer.

When you're ready to print, turn on the printer, wait for it to eject its startup page, go to the PrintMonitor application, and select Resume Printing from the File menu.

You can do the same thing under System 6 by placing a copy of PrintMonitor on the desktop, going to the Finder from your application, and clicking on PrintMonitor.

Making Print Monitor 7 A Little Less Pushy

System 6 users who have turned on Background Printing and who also print manual-feed pages may complain. After they switch to System 7's LaserWriter drivers, they receive annoying alerts that "the LaserWriter is waiting for a sheet of paper." As they say, this is a feature, not a bug.

To turn off these prompts, choose the Preferences command in the PrintMonitor application (you can do this while printing) and click the "Give no notification" radio button.

Allocated Memory In The Finder

The PrintMonitor is allocated its own memory in both

System 6 under MultiFinder and System 7. It does not use the Finder's nor the system's RAM allocation. Note that under close-to-the-limit low-memory configurations, the Finder will try to make RAM available (by closing windows) to open up PrintMonitor, just as it would for any other application.

Manually increasing RAM assigned to PrintMonitor enables it to handle more-complex files.

How to Turn On The Print Spooler

To turn on the PrintMonitor spooler, open the Chooser, select your printer, and click on the On button next to Background Printing. If you're using a version of the system software earlier than System 7, print spooling works only in the MultiFinder mode; you can't use if you're running under the Finder.

PRINTMONITOR (SYSTEM 7)

Support For The StyleWriter

Apple's system level print spooler, the PrintMonitor, works only for laser printers! Background printing with the PrintMonitor is, for some reason, unsupported for ImageWriter users.

Under System 7, the spooler also works with Apple's StyleWriter inkjet printer, which is the logical successor to the ImageWriter.

PRINTER DRIVER

Changing The Default Printer Settings In Page Setup

Using ResEdit, you can change the default settings in a Page Setup dialog box so that they're the defaults for future printing.

With ResEdit, open your printer driver (it's in the Extensions folders of System 7 users, or in the main level of your System folders for System 6 users) and look at the PREC resources. PREC 0 is the default resource; PREC 1 is the one containing the settings you used last. Copy PREC 1, delete PREC 0, then paste PREC 1 and renumber it to 0. Quit ResEdit, save the changes, and you're done.

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PUBLISH/SUBSCRIBE

Publisher/Subscriber Options In System 7

You can see what material in a document has been published or subscribed to by selecting the Show Borders command. This places a gray border around all the sections that are published or subscribed to. Double-clicking on this border brings up either the Publisher or Subscriber Options dialog box – depending whether the text has been published or subscribed to – which includes options for updating or canceling editions.

SOUND

Sound Recordings Are Memory Intensive

The biggest problem with sound on the Mac is that it eats up disk space and can require a lot of RAM to record. Adding a mere two-word voice annotation to a 2,000-word Word 5.0 document causes the file size to balloon from 15K to 200K. This can be a problem if you have limited disk space or limited RAM or plan to send such a file across a network.

You can reduce a sound's RAM and disk-space requirements by recording it at the lowest quality level your program allows. Most programs offer a choice of recording qualities, such as good, better, or best. The better the recording quality, the more disk space the sound consumes and the more RAM it takes to record it. A sound recorded at the best setting is bigger and requires more RAM to record but sounds great; sounds recorded at the good or better setting use less disk space and need less RAM to record but don't sound as good. Play around with these quality settings. For most voice recording, the lowest quality is good enough to help you make your point.

System 7 Sound Format

System 7 brought with it a new sound-file format known, cleverly enough, as System 7 Sound. Older file formats included SoundEdit, snd, and sound resource.

You can easily tell the difference System 7 sounds are the only ones that make noise when you double-click on their icons in the Finder.

SYSTEM 7

Making Files Invisible

You can make a file invisible without using a software utility. Open the Labels control panel, in the Control Panels folder. Double-click on a label color you don't use. Enter 0 in the hue and saturation boxes, and then type 65535 as the brightness. Apply this label color to a file you want to protect, and change the name of the file to one or more spaces. Provided that the file is kept in a folder, it will appear to be invisible.

Turning Color Off To Speed Application Performance

If your work doesn't depend on color, you should turn off the color display. Color can really cost you time in ordinary operations such as scrolling. The two main time consumers are:

1- the cost in time required to put the color in, including the time needed to make appropriate color choices and

2- the cost incurred in using the color file, which will take up more disk space and time than a monochromatic document.

In the Control Panels folder in the System folder, the Control Panel Device called Monitors lets you adjust the number of colors your monitor shows.

Clicking On Installer Scripts

Don't double-click on a script to open the Installer application. Unlike most applications, the Installer doesn't pay attention to how it was launched and opens only the documents it wants to. If you've copied the program to your hard disk, the script that it reads might not be the one you double-clicked on.

Aliases Multiply File Sharing Options

If you need to share the same application programs or files with several groups of people, you may want each group to have its own set of file sharing privileges. System 7 lets you define different privileges for a group of owners and one other group. The way to accommodate more than two workgroups is through System 7's aliases.

First, you make aliases of the files you want to share and put them in a folder. Then you share that folder,

and give it a set of access privileges. For a second group of users, make another set of aliases, put them in a different folder and give that folder its own privileges. You can repeat this process as many times as you like within the system's limit of 10 shared items.

System Utilities Upgraded For System 7

This software is incompatible with System 7, but compatible versions are included with the System 7, or available through a user group or on-line service:

Apple File Exchange (prior to 7.0)

Disk First Aid (prior to 1.5)

LaserWriter Font Utility(prior to 6.0)

TeachText (prior to 7.0)

QuickMount (prior to 1.0.7)

Apple CD-ROM (prior to 3.0)

The Namer (prior to 2.1)

Invisible Applications Under System 7

In System 7, an application that is marked invisible will not be found when you try to open one of its documents, and the result is an error message.

Under System 6, documents are always connected with applications, even if the application is invisible.

Each approach has its advantages. Under System 6 you could set up your Macs so naive users couldn't delete, rename or move applications, but could still run them by double-clicking on a document.

Under System 7, the applications are more completely hidden, and you can open them only with the help of a utility such as the DiskTop desk accessory from CE Software Inc. (DiskTop is convenient both for launching applications and for setting the Invisible attribute.)

Software No Longer Needed Under System 7

The following software is no longer needed under System 7 because Apple has incorporated its functionality into System 7:

800K Eject INIT

Font/DA Mover

Memory Manager INIT

TrueType INIT

No Need To Initialize Your Hard Disk For System 7

There is no need to re-initialize any hard disk on which you plan to run System 7, unless the disk has been damaged in some way, or it is a third-party drive that requires initialization. Check with your third-party hard-drive vendor for more information on that specific drive.

If you plan to use virtual memory, the SCSI driver will need to be updated using HD SC Setup v7 or above. This requires that you boot from the Disk Tools floppy, choose the target drive, and click on "Update". This process takes a second or two to complete, and does NOT require any reformatting, or re-initializing of your hard drive.

Disabling Extensions

Holding down the Shift key while the Mac starts will prevent the launch of all INITs in the Extensions, Control Panels, and System folders. You must restart the machine to turn them back on.

With Virtual Memory, Is There Any Reason To Buy More Real RAM?

Virtual memory (disk space used to simulate RAM) is obviously cheaper than real memory. It's also a lot slower. SIMMs (single in-line memory modules) with 1 Mbyte of RAM are cheap enough these days to make real memory readily available, at least up to 8 Mbytes.

Using virtual memory in a low-RAM configuration can make sense if you use one or two programs that benefit from the extra memory or if you use several programs but switch between them infrequently. In these cases, virtual memory might make more sense than paying for rarely used RAM, and the performance penalties will be minimal.

In other cases, virtual memory doesn't work well. Using a graphics program to edit a large 24-bit-color image will be slow if most of the image was stored in virtual memory, resulting in continual thrashing of the disk as parts of the image were swapped into and out of RAM. Try out System 7's virtual memory to see how it works for you; after all, it's free.

Crash Recovery Using The Keyboard

If you crash in any application under System 7, you can usually recover to the Finder by pressing Command-Option-Shift-Escape and clicking on OK

in the resulting Force Quit? dialog box. To be safe, you should then immediately close all applications and reboot the machine.

Hidden Viewing Options

The Clean Up command in the Finder's Special menu has always had some more-or-less secret options. Under System 6, holding down the Option key while selecting this command force-fits all the icons in a window into an orderly pattern. Under System 7, Clean Up options let you sort icon or small icon views by any other available viewing criteria (date, size, label, etc.).

First, you select one of the non-icon views from the View menu. Then you switch to one of the icon views – poof! The icons lose their sorted order.

But if you then hold down the Option key while selecting the Clean Up command, the icon view will be sorted by whatever criteria you had chosen for your earlier list view.

Opening Desk Accessories In The Application Heap Under System 7

Under System 6 with MultiFinder, holding down the Option key while choosing a DA causes the DA to open in the application's memory partition instead of the system heap. This trick is useful with DAs that depended, for example, on the current program's color environment.

DAs installed via the Apple Menu Items folder under System 7 are unaffected by the Option key. But if the DA is in a file opened with Fifth Generation Systems Inc.'s Suitcase II, the old trick still works. You also can use Font/DA Mover 4.1 (available from CompuServe and local user groups) to install the DA in a specific application.

Apple's System 7 Answerline

For further information regarding System 7, don't forget the System 7 Answerline at 900–535–2775 or the toll-free number available to purchasers of the Apple System 7 Personal and Group Upgrade Kits.

Dialog Shortcuts

Command-up arrow moves you up one level, to the parent of the current folder.

Command-left arrow or Command-right arrow cycles

through all available drives the same way the Tab key did in System 6.

The tilde key takes you to the bottom of the list.

The System 7 Save dialog box has two components: the file list and the name field. The Tab key toggles between them.

Typing any letter takes you to the first item in the current folder that starts with that letter. (In a Save dialog box, the file list must be active for this to work; see the previous tip.) If you're quick about it, you can type the first two or three letters and get directly to the first file that starts with those two or three letters.

Typing Command-period is the same as clicking on the Cancel button.

Clicking on the volume name is the same as Command-up arrow: it moves you up one level, to the parent of the current folder. (The volume name is the name of the current disk. It usually appears just above the buttons on the right side of the dialog box.)

Alternating Between Systems 6 And 7 Hard Disks

Would you like to alternate the designation of your startup device between an internal hard drive that's loaded with System 6 and an external hard drive that has System 7? If so, it isn't necessary to keep using the Startup Device control panel and rebooting. I have System 6 on my internal drive, which is the Startup device, and System 7 is installed on an external drive.

When you want to use System 7, boot the Macintosh while holding down the Delete Option-Command-Shift keys, which makes the Macintosh by pass the internal drive at startup. When the disk icon with the flashing question mark appears, release the key and the external drive kicks in with System 7! A more elegant solution, which is also easier on the fingers, is to obtain a copy of System Switcher 1.1, a shareware utility that lets you designate which system will boot when you restart the Mac.

Invisible Desktop And Trash Folders

If you have both System 6 and 7 on your hard disk, when you boot under System 6 you will discover two new folders called Desktop Folder and Trash. These residual files are required by System 7. They store the

files and folders located on the desktop and in the Trash. If you delete these files, System 7 will recreate them, but they clutter the desktop. Do not trash either folder if they contain files.

If you don't want to see these folders under System 6, you can make them invisible by using ResEdit, DiskTop, or another program that lets you edit folder attributes. (If you use DiskTop, for example, simply check the Invisible attribute in the folders' Get Info dialog box.) When you're running under System 6, you won't see these folders, and System 7 uses them without any problem when the Invisible attribute is turned on.

One note of caution: If you make System 7's Desktop Folder invisible and then leave files on the desktop, you won't be able to see the files when your Mac's running under System 6. For example, you can't see or double-click on an application that's on the invisible System 7 desktop. You can still see and open invisible files in applications, however, in their Open dialog box. Also, aliases don't work if their original files are in invisible folders.

Using Aliases To Free Up Hard Disk Space

System 7's aliases provide a unique way of archiving infrequently used files and freeing up space on your hard disk. First, get a few floppy disks and label them clearly (as an example: Archive1, Archive2, and so on).

Next, go through your hard disk and copy to the floppy disks files you don't often use. Finally, make aliases of the files on the floppies, and copy the aliases back onto your hard disk. Now, whenever you need one of these files, double-click on its alias on your hard disk. Your Mac will ask you to insert the proper floppy disk.

Hidden Fun Stuff In The Monitor Control Panel

Here's a System 7 secret that no one needs to know but that's fun to try. Open the Control Panels folder, and then open the Monitors control panel. Click on the 7.0 in the upper right-hand corner of that window, and you'll see the names of the programmers who worked on this part of System 7. Then, while holding down the mouse button, press the Option key. You'll see the happy face move its eyes and stick its tongue out. If you press the Option key several more times while continuing to hold down the mouse button, you'll see the names change.

Zapping The PRAM

To zap the parameter RAM (PRAM) under System 7, hold down the Option, Command, P, and R keys when starting up.

Speeding Up System 7

Apple has released its System 7 Tune-Up, and says that using it will improve memory management, fix bugs, and generally speed things up. It's being distributed free, and is a highly recommended upgrade. Here are some other techniques for speeding up System 7.

First, make sure the Calculate Folder Sizes option in the Views control panel is turned off. Calculating Folder Sizes slows the Finder to a crawl.

Second, try increasing the size of your disk cache in the Memory control panel in System 7. Chances are it's set to 256K right now, which is the default for an 8-megabyte machine. Try increasing it to at least 384K, and then reboot. The speed improvement is subtle, so if you don't notice that your Mac runs faster after a day or so, return to the control panel, increase the setting some more, and reboot. If you don't notice a difference by the time you get to 768K or 1,024K, return to the control panel and set it back to the default—there's no sense in wasting perfectly good RAM on the cache if you don't see any improvement.

Finally, you may notice that whenever you double-click on an icon in the Finder, you see animated zooming rectangles before it opens. These are called ZoomRects, and they slow the Finder down quite a bit. Luckily, if you're handy with ResEdit, you can turn ZoomRects off. (Of course, the standard ResEdit disclaimer applies. In case you've forgotten here it is again: ResEdit can do lots of really cool stuff, but it can also destroy your files. Never use ResEdit on a master or original file; always work on a copy.) Here's how to turn ZoomRects off:

1. Open a copy of the Finder with ResEdit 2.1 or later.

2. Open the CODE resource.

3. Open CODE ID = 4 (you'll need to decompress it).

4. Select Find Hex on the Find menu, and then look for 4E56 FFE0 48E7 1F38.

5. Select these bytes.

6. Replace them with 205F 700A DECO 4ED0.

7. Save the copy of the Finder, and close ResEdit.

8. Move the modified Finder into your System Folder, and reboot. (You can boot from a floppy to perform this step.)

Switching Between Systems 6 And 7

You can have System 7 and System 6 on your Mac at the same time; normally however, the Mac becomes profoundly befuddled when it goes through its startup procedure and finds more than one System Folder on the same volume. At best, you'll have no control over which System Folder the Mac boots from – although typically it's the folder that was created first – and at worst you'll get a cheerful system error.

There are a variety of solutions. A shareware program called System Picker searches for folders that contain a System file and then lets you reboot the Macintosh with the System Folder you select.

A simple solution is to make a System 6 or System 7 startup disk by creating a minimal system folder on a floppy disk. The System 7 installer program has an option to create a miniature system.

Another solution is to have the old and new Systems on separate volumes and then use the Startup Device control panel (called the Startup Disk under System 7) to select which volume your Mac should boot with. If you have more than one hard drive (say an internal and an external drive), you can install a different system-software version on each one without further muss or fuss. If you have only one hard drive, then partition its disk into separate volumes, using a partition utility. Then put a folder with System 6 onto one volume and System 7 onto another.

Unfortunately, the Mac Plus, because it lacks the special section of PRAM (parameter RAM) where the control panel records the startup info, can't use the Startup Disk Control panel.

Yet another solution is a freeware INIT called SwitchBoot. It lets you choose which volume you want to boot from at startup time. Without it, you have to wait for the Mac to boot, use the Startup Disk control panel, and then restart. With SwitchBoot, if you hold down the S key during startup, you'll see a dialog box with a list of your bootable hard drives. Choose one and click on the Reboot button, and your Mac will start up with the System on that volume. SwitchBoot

doesn't work with a Plus or earlier Mac models.

SwitchBoot and System Picker are available from user groups and on-line services.

Cleaning Up The View By Icon

System 7 makes it easy to sort a window's contents by Size, Kind, Label, Date, or Name while you're in the View by Icon mode. To sort a window by Name while in the Icon view, pull down the View menu and select by Name. Return to the Icon view. Hold down the Option key, and select Clean Up by Name from the Special menu. Now your icons are oganized alphabetically within the window. The same procedure works for the view by Size, Kind, Label, and Date modes.

Using The True Gray Dimming In Dialogs

System 7 uses true gray to represent dimmed items in menus and dialog boxes instead of using the old black-and-white dithered pattern. Many application menus use this new standard, but most dialog-box items still use the old pattern. If you have ResEdit, you can update your applications to use true gray in dimmed dialog-box items, too.

Open a copy of the application in ResEdit (never work on an original application), and double-click on the DLOG-resource icon. It lists the ID number (and often the name) of all the application's dialog boxes. Find the dialog box you want to alter, and double-click on its ID number. A dialog box that shows a miniature version of the dialog box you want to change appears on the left of the screen, and two buttons (Default and Custom) appear on the right. Click on the Default button, and change one of the colors the dialog box uses by double-clicking on the color and selecting a new color in the resulting Color palette. I usually change one of the blacks to a dark gray.

When you change the colors, ResEdit asks if you want to create a dctb resource, which is needed to store the color information. Click on OK (if you want to remove the color and revert to the default, simply delete the dctb resource). Then save your changes, and replace the old application with the altered version.

Tune It Up!

Apple's System 7 Tune-Up will tune up your Mac. You can get it at no charge from on-line services, user groups, and Apple dealers, and it's packaged with new Macs.

System 7 Tune-Up is easy to install: just double-click on the installer icon, and the program does the rest. Once you've installed it, you'll see fewer "out of memory" messages and you'll have more memory available for application programs. You'll also experience faster, more reliable printing. You can check to see if System 7 Tune-Up is already installed on your Mac by going to About This Macintosh on the Apple menu. If there's a dot to the right of the system software version number in the top right corner of the dialog box, the program is installed.

System 7 Tune-Up consists of a new Chooser, a new File Sharing extension, and new printer drivers for the LaserWriter and StyleWriter as well as an extension called System 7 Tuner that provides better memory management, particularly if you have four or fewer megabytes of RAM.

Loading Extensions

System 7 extensions, otherwise known as control panels (cdevs) and extensions (INITs), live in your system folder. When you drag a file of either type into your System Folder, the Finder informs you that these items need to be stored in special places inside the System Folder in order to be available to the Mac. It politely asks if it may put them where they belong. Once that's done, your Mac tells you where it's stashed the files.

As you may recall, under System 6, INITs and cdevs were commingled in the System Folder and there was no Control Panels folder or Extensions folder. When you started up your Mac, INITs (in the Extensions folder) and cdevs (in the Control Panels folder) loaded in alphabetical order. The loading order was something like this: Aardvark (INIT), Badger (cdev), Cobra (INIT), Deer (cdev), and so on.

System 7 loads extensions and control panels differently: First it goes through the Extensions folder and loads its contents alphabetically. Then it loads the contents of the Control Panels folder alphabetically. Finally, it looks in the System Folder itself and alphabetically loads any extensions or control panels it finds there. Under System 7, the loading order looks something like this: Aardvark (extension), Cobra (extension), Badger (control panel), Deer (control panel), and so on.

Controlling The Loading Order Of Extensions

On startup of your Macintosh, system extensions load first and then control panels. A problem can arise when certain extensions and control panels want to be loaded first or last. This category includes extension managers (more about this type of program in a moment); virus detectors; and drivers for removable-media devices such as SyQuest, Bernoulli, or optical storage drives, all of which need to load first. These programs generally arrive from their manufacturers with a space inserted before their names, which forces them to load first. Other extensions and control panels, such as Adobe Type Manager, like being loaded last. Their names are usually preceded by a z or a tilde (~).

You must place a control panel that needs to load first in the Extensions folder, or else all the extensions will load before it. But if you just drag it into the System Folder, the Finder will put it into the Control Panels folder. Here's how to work around this apparent impasse: First, double-click on the System Folder to open it, and then drag the extension or control panel into the appropriate folder or into the System Folder's open window if you want the control panel to load after everything in the Control Panels and Extensions folders.

Using this technique, you can place an extension in the Control Panels folder, a control panel in the Extensions folder, or either type of file in the System Folder rather than in the Control Panels or Extensions folder. If you do move a control panel to the Extensions folder to force it to load earlier, it's convenient to put an alias of it into the Control Panels folder so you can still access it to change settings.

Holding Down The Shift Key Disables More Than Extensions

Holding down the Shift key disables more than just the items in the Extensions folder. Any file with an INIT resource —whether that file is in the Extensions folder, the Control Panels folder or loose in your System folder —is disabled. With the Shift key held down, anything placed in the Startup Items folder is bypassed, too.

Background Copying

Under System 7, you can copy files in the background

while continuing to work in an open application. If you're a longtime Mac user, however, you may be so accustomed to being unable to do anything during a copy operation that you forget to launch a program before you start the copying process. As a result, you still can't do anything, because the Finder doesn't let you launch an application while it's copying files.

If you have QuicKeys 2.1, you can perform almost any task that has a QuicKeys macro assigned to it while your files are copying in the background. For instance, you can launch your favorite word processor or spreadsheet program while you copy files from your hard disk to a floppy in the background.

Also remember that if you have your application running in the background when you begin copying, you can choose it from the Applications menu or click on any of its windows, which lets you continue working while your files are copying in the background.

Easy Startup Sounds

Do you want your Mac to play the opening phrase of the "Star Trek" theme whenever you boot it? If you're running System 7, this is a cinch — just place the (double-clickable) sound file (or an Alias of the file) in the Startup Items folder. Voilà!

If you decide you don't want to hear the startup sound, hold down the Shift key just before the desktop appears. If you do it too soon, your extensions won't load, but if you time the use of the Shift key just right, it will prevent everything in your Startup Items folder from executing.

Smart Apple-Menu Tricks

Many users complain that Apple didn't make it easy to put items other than DAs onto the Apple menu —they don't like having to open the System Folder to add things to the Apple Menu Items folder. You can, however, make an alias of the Apple Menu Items folder and put it inside the Apple Menu Items folder. When you want to add something to the Apple menu, simply select the alias for the Apple Menu Items folder from the Apple menu and drop the item inside, just as you do with control panels.

Protected File Sharing

Once you've configured a Mac for file sharing, you can use ResEdit or DiskTop to make the Sharing Setup control panel invisible, which will prevent other users

from changing its configuration. Just turn on the Invisible file attribute.

Suppressing The Startup Items

If you load startup items by placing them in the Startup Items folder in the System 7 folder, hold down the Shift key just before the desktop appears. If you do it too soon, your extensions won't load, but if you time the use of the Shift key just right, it will prevent everything in your Startup Items folder from executing.

Hierarchical Apple Menus

To make this tip work, you need a utility that creates hierarchical menus for your Apple menu. Make an alias of your hard disk, and put into the Apple Menu Items folder. That's it. Now you have instant, single-point access for every folder and file on your hard disk.

To get your hierarchial Apple menu, you need Now Menus (part of Now Utilities 3.0), from Now Software (800–237–3611 or [503] 274–2800); Super Menu (part of HAND-Off II), from Connectix ([415] 571–5100); or HAM, from Microseeds Publishing ([813] 882–8635).

Keyboard Commands In Dialogs

In the Open and Save dialog boxes, Command-D takes you directly to the desktop level, Command/ right arrow and Command/left arrow cycle through all mounted volumes, and Command/up arrow and Command/down arrow move you up or down one folder.

Easy Access On The Apple Menu

The icons on System 7's Apple menu slow down the scrolling process. To avoid scrolling, move your frequently used items to the top of the menu by putting a space before their name. For example, create an _Applications folder on your desktop and put an alias for it into the Apple Menu Items folder (the _ character stands for a space) and then place all your programs in the folder. Because the Applications alias starts with a space, it appears at the top of the Apple menu, giving you easy access to its contents.

Placing Spaces

The first 15 items on my Apple menu have one or more spaces before their names. The more often I use a file or folder, the more spaces before its name. The more spaces I put before its name, the higher the item appears on the menu.

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If you use Microseeds' HAM, you don't have to bother with the spaces. In addition to its hierarchical Apple menu, HAM has a very Mac-like list (implemented as a control panel) that lets you rearrange items on the Apple menu by clicking and dragging them.

Editing Icon Names

When you edit an icon name, pressing the down-arrow key places the cursor at the end of the icon's name. This is helpful if you're trying to delete the word alias from all your aliases. After all, the names are already in italic, so the word is redundant — and besides, it takes up valuable space.

Organizing the Apple Menu

One of System 7's best features is its customizable Apple menu. When creating several aliases of your most often used applications and files and putting the aliases into the Apple Menu Items folder, you will find that they are listed alphabetically among your DAs. Although DAs are treated just like applications under System 7, you may prefer to find Calculator near the top of the list, where it's always been — not mixed in with a bunch of other items in a long list.

One solution is to rename DAs so that they appear in the order you want them. Instead of renaming the DAs, you can rename the aliases of the DAs by making the apple character (Shift-Option-K) the first character in their names. Now your Apple menu will have an alphabetical list of DAs, followed by a list of aliases, each of which is flagged with a little apple.

In a similar vein, if you want a file to appear at the top of the Apple menu, use one or more spaces as its first character(s). You can use this technique to group files and folders on the Apple menu.

Copying System Files To The System Folder

System 7.0 creates several folders inside your System folder and uses them for specific purposes. When you drag a file onto the System folder icon, the Finder will tell you where it's going to put the file. The Finder makes its choice based on the file's type and it's generally right.

Specifically, the maintenance of the Extensions and Control Panels folders should be left up to the Finder, unless you have good reason to disagree. In the case when you want to override the Finder's default destination, simply double-click on the System folder icon

to open its window and drag the file into this window while avoiding any of the folders inside.

A Busy Hard Disk

If your hard disk seems to be almost constantly busy, even when you're not doing anything, this is probably because you have turned on "Calculate folder sizes" in the Views control panel. When this option is enabled, the Finder seems to compute folder sizes constantly, so it can display them in list views, such as By Name. Unless you really need to see the folder sizes — which you can always do by selecting a folder and choosing Get Info — disable this option. Your disk will be a lot quieter.

Creating An Alias

Aliases are one of System 7's best organizational features. Let's say you create a memo to the marketing department about Joe Client. Do you store it in the Memo folder, the Marketing folder, or the Joe Client folder? With aliases you don't have to decide — simply store the actual file wherever you like, and put aliases into the other folders. Then, no matter which of the folders you look in, you'll be able to find and open the memo.

Creating aliases is easy: Select the file that needs the alias, go to the Finder's File menu, and choose Make Alias. Then you can move the alias to the desired location.

Aliases For Frequently Used Files

Keep aliases of frequently used files and folders on the desktop or in the Apple Menu Items folder (or in both places — aliases consume very little disk space). You can keep aliases of folders on your desktop that pertain to projects you're currently working on as well as aliases for your contacts database and to-do list.

Although the actual folders and files are buried three or four levels deep, use the desktop aliases to get at them with a double-click. Items on the desktop are also easy to find when you're in an Open or Save dialog box — simply click on the Desktop button or type Command-D.

Aliasing The Apple Menu Folder

Keep an alias of the Apple Menu Items folder somewhere convenient such as on the desktop or inside the Apple Menu Items folder itself. This lets you add files and folders to the Apple menu by putting them into the folder. Conversely, you can weed out the folder without having

to wade through the System Folder to find it.

Aliasing Applications For The Desktop

Because System 7 lets you launch files by dragging them over an application's icon (or an alias of an application's icon), keep aliases of frequently used applications on the desktop. That's where I keep my graphics program (Canvas), because it lets me open several file types even if they weren't saved in Canvas. You can open any file (regardless of the file's creator, by dragging it over the application's icon. Back in the pre-System 7 days, you had to launch the program first and then use the Open command to access the file.

Performing Multiple-Criteria Searches With Find

The Find function lets you perform multiple-criteria searches. For example, to find all the file names that contain the word doc; are smaller than 10K; and were created after June 4, 1991, all you have to do is press Command-F and click on the More Choices button. Choose the volume you want to search from the Search pop-up menu, check the All at Once box, and click on OK. When the search is complete, and without clicking in the window containing the found items, choose Size from the Find pop-up menu, choose Is Less Than from the Criteria pop-up menu, and type 10 in the size field. Choose The Selected Items from the Search pop-up menu, and click on OK.

When this search is complete and without clicking in the window containing the found items, choose Date Created from the Find pop-up menu, choose Is After from the Criteria pop-up menu, and set the date to 4/4/91. Choose The Selected Items from the Search pop-up menu, and click on OK.

When the search is complete, all the files that meet all your search criteria are selected. The only limitation is that multiple-criteria searches can be performed on only one volume at a time.

Once you've gotten the hang of this technique, it's almost impossible to lose files — if it's somewhere on your hard disk, you'll find it easily.

Create Your Own System Beep

The first thing you need is a way to get sound into your Mac. If you have one of the Macs that includes a microphone, adding sound is a piece of cake.

Otherwise, you will need to obtain a microphone that connects to the serial port. Here's all you have to do to create your own System beep:

1. Open the Sound control panel, and click on the Add button.

2. Click on the Record button, say "beep" into the microphone, and then click on the Stop button.

3. Save the beep, give it a name, and click on OK.

4. To hear your beep, either click on its name in the Sound control panel or double-click on its icon in the Finder.

The beep you've just created is now a standard Mac document stored inside the System file. After you've created a sound, you can move it, copy it, or drag it into the Trash, just as you would any other file. You can even use the standard Copy and Paste commands to add sounds to the Scrapbook (to hear a sound, just click on the Play Sound button, on the Scrapbook page). If you don't want to store all your sounds in the System file, you can use Suitcase II, from Fifth Generation Systems, or MasterJuggler, from ALSoft, to manage sounds stored elsewhere on your hard disk.

Aliasing AppleShare Volumes

If you're on a network and frequently access an AppleShare volume or a shared folder on another Mac, make an alias of that volume or folder. Whenever you need to access that volume or folder, all you have to do is double-click on its alias — you don't have to go to the Chooser first to mount it.

Conflicting Extensions And Control Panels

Conflicts can occur between an extension and a control panel. When this happens, your Mac may crash when you boot up or even refuse to start up at all. Unfortunately, even System 7 can't diagnose or resolve a conflict between an extension and a control panel. Fortunately, you can often resolve conflicts among these system files by simply changing the loading order.

To force an extension or control panel to load first, preface its name with one or more spaces and move it manually to the Extensions folder if it's not already there. To force an extension or control panel to load last, move it outside the Control Panels or Extensions folder into the System Folder itself and precede its name with one or more tildes. Experimenting with the

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loading order usually gets things working or at least it does so most of the time.

If a conflict prevents your Macintosh from starting up properly, holding down the Shift key during the start-up process disables all extensions and control panels, which allows you to rename the files.

Disabling Extensions And Control Panels At Startup

Holding down the Shift key during the Macintosh startup process disables all extensions and control panels. You will have to restart the Macintosh for them to load into RAM again.

Extension Utilities

If you use a lot of extensions or control panels, an extension management utility such as Now Software's Startup Manager (part of the highly recommended Now Utilities package), Baseline's INIT Manager, Microseeds' INITPicker, Icom Simulations' On Startup (part of the On Cue II package), or Apple's Extension Manager can make life a lot easier. These utilities let you turn extensions and control panels on and off, change their loading order without renaming or moving them, enable or disable extensions before each startup, and automatically disable whichever extension or control panel causes a crash on startup.

Aliases In The Apple Menu Items

You can put aliases for frequently used applications, documents, and folders in there. Once you've done this, your most frequently used files will always be handy when you need them — just pull down the Apple menu, and there they are. (To create an alias, highlight the file and choose Make Alias under the File menu in the Finder.)

Making Your Apple Menu Hierarchial

As excellent as System 7's Apple menu is, there are several inexpensive utilities that make it even better. The best of these are extensions that add hierarchical menus to the Apple menu. Look for NowMenus (part of Now Utilities), HAM (Microseeds), SuperMenu (part of Connectix's HandOff II package), or MenuChoice (shareware; available from user groups or on-line services such as MacUser's ZiffNet/Mac).

When you install one of these utilities, any folder or alias of a folder in your Apple menu sprouts a hierarchical arrow so you can open any file or folder it contains by merely clicking and holding down the mouse as you scroll through the Apple menu.

Each of these utilities has slightly different features. For example, HAM and MenuChoice create a folder in your Apple Menu Items folder called Recent and store a list of recently opened folders there for easier access. SuperMenu and NowMenus let you pop up the Apple menu anywhere on the desktop by clicking while holding down a modifier key or keys. This feature is particularly useful if you have a large monitor or more than one monitor. SuperMenu has another nice feature that lets you choose a smaller font for displaying its pop-up menu.

Installing Fonts

The Font/DA Mover is not necessary under System 7.01. Installing a font is as easy as dragging its icon (or icons, if it's a PostScript font) onto the System Folder. The Finder automatically places the files where they belong — screen (or bit-mapped) fonts in the System file itself, PostScript printer (or outline) fonts in the Extensions folder.

With 7.1, things have changed a little bit. The system now contains a special folder, Fonts. When you drag any type of font file — bit-mapped, TrueType, or Type 1 —onto the System Folder icon, the file automatically gets placed in the Fonts folder.

The Floating Desktop Window

Many applications open their windows to full-screen size. This can be a nuisance when you switch to the Finder and discover that all the disk icons are covered by inactive windows from open applications. It's particularly annoying on the PowerBook, where screen space is at a premium.

Instead of hiding and showing or resizing windows, you can use a floating desktop window. Here's how it works:

First, create a folder, and name it Floating Desktop. Next, make aliases for all your disk (or volume) icons and the Trash icon, and put them into the Floating Desktop folder (you can also put aliases for remote volumes into the folder). Open the folder, size the window, and move it to a convenient location.

Now when you switch to the Finder, clicking on this window gives you access to all your disks (or volumes) and

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the trash, even when an inactive-application window is covering the icons on the right side of the desktop. Put an alias of the Floating Desktop folder into the Startup Items folder, so that it opens every time you start up your Mac. You can also make a QuicKey (with QuicKeys from CE Software) that pops this window to the front.

Mac-To-DOS And Back File Exchange Utitlies

Apple File Exchange is a utility for PC interoperability that ships with every Mac, and is a foreground application that enables a Mac to read a file from a DOS floppy disk.

Third-party programs that read the DOS files automatically in the background may provide better solutions depending on how often you interchange between formats; these include DOS Mounter, $89.95 from Dayna Communications ([801] 531–0600), and AccessPC, $99 from Insignia Solutions ([415] 694–7600). Apple also sells a program called Macintosh PC Exchange (800–538–9696, ext 180).

A PC-based program that reads Mac disks, called Mac-in-DOS, is available from Pacific Microelectronics ([415] 948–6200) for a list price of $199.

Using Font Management Utilities

As simple as System 7's font installation is, if you use a lot of fonts, there is an alternative: a font manager such as MasterJuggler or Suitcase II.

Installing fonts under System 7 has two major drawbacks. First, it's painfully slow, especially on slower Macs. When you drag a font into or out of the System folder, you can wait a long, long time to regain control of your Mac. The second problem is that if you use a lot of fonts, your System folder soon swells to massive proportions with all the screen (or TrueType) fonts it contains. Having many fonts installed can be inconvenient and can chew up disk space at an alarming rate.

MasterJuggler, from ALSoft, and Suitcase II, from Fifth Generation Systems, address both of these problems: Both install and uninstall fonts far more quickly than System 7 does and compress your fonts so they take up less disk space. They also let you put any type of font screen, TrueType, PostScript-printer font in any folder on any volume.

Creating Screen Shots In A Drawing Program's Format

To do this you will need to change the System file so that screen snapshots are created in your favorite drawing program's native format:

1. Launch ResEdit, and open a copy of the System file (do this on a copy of the System file, not the active System file).

2. Open the FKEY resource.

3. Open FKEY resource ID 3. Click on OK when warned about saving your changes uncompressed.

4. Choose Find ASCII from the Find menu.

5. Type PICT into the first text field of the window, and click on the Find Next button.

6. Close the window, and examine the highlighted string in the FKEY ID = 3 window.

7. Click on the down arrow, and examine the four-letter creator type for TeachText (ttxt) directly under the boxed PICT string.

8. To find out the creator type of your drawing program, use ResEdit to open a document created by that application and choose Get File/Folder Info from the File menu. Copy the four-letter creator string in the window that appears, and close that window.

9. Select the ttxt string in the FKEY ID = 3 window, and paste.

10. Choose Save from the File menu, and quit ResEdit.

11. Move your old System file out of the System Folder, and replace it with the new one. Make sure the new file is named System.

12. Restart to activate your changes.

Now when you double-click on a document you've created by pressing Command-Shift-3, it's opened by the specified drawing program.

Using RAM Cache To Speed Up Your Mac

Try tweaking the RAM cache: Start with a setting of 256K, and add another 32K for every megabyte of RAM you have over 2 megabytes. The RAM cache setting in in the General Control Panel under System 6, and in the Memory Control Panel under System 7.

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Enhancing Scrolling Speed

You can also greatly enhance scrolling speed and even (to a lesser extent) system performance by dropping down to a less impressive video mode. If you do most of your work in 256-color mode or 24-bit mode, you'll see a vast improvement if you switch to simple black-and-white mode.

SYSTEM

Ten Basic, Good-Natured Tips

Here are ten tips for using your System (or your system) wisely. They're so fundamental that you're probably already honoring some of them now and can check them off immediately.

1. Save your work often enough.

So often that it becomes a reflex. If you press Command-S whenever you get up to refill your coffee cup, if you press Command-S before answering when asked a question, if you press Command-S whenever you pause to gather your thoughts or wool, yours is the world and everything in it, and that's not bad.

2. Back up all your work adequately.

There are a lot of strategies for backing up files. Two is the minimum for any files you really care about, but if you think you need five, make them.

3. Organize your files somehow.

Pay attention when the Save As dialog box comes up the first time you try to save a newly created file. That way, you can save the file into the folder in which it belongs rather than into whatever folder you happen to have opened most recently, which is exactly what will happen unless you specify otherwise.

4. Use spelling checkers often.

5. Rebuild your desktop annually (if not sooner).

Rebuilding the desktop improves your system performance.

6. Don't use commercial software or shareware without paying for it.

Commercial software and shareware authors deserve compensation and sometimes even respect for their efforts. It's a matter of payment for value received. If you use it, pay for it.

7. Send in your registration cards promptly.

Sending in your registration cards is just good sense; it makes it possible for the company to reach you in the event of a product upgrade or recall.

8. Keep your computer reasonably clean.

What this means is that you shouldn't crush potato chips into the keyboard or pour liquids on the motherboard.

9. Experiment.

Try new things.

10. Look out of the window now and then.

Virus Checker Says "Encountered FCB Expansion"

FCB stands for file control block, a data structure the Mac uses to reference an open file; there must be one FCB for each open file. Under System 6, the number of FCBs was fixed at start-up. Sometimes after opening lots of files, you can run out of FCBs, in which case you can't open any more files; applications often report this as a -42 error.

System 7 automatically creates more FCBs as they're needed. This is what your virus checker is reporting, and it is harmless.

Surviving A Crash

In the event of a crash or a freeze, press the interrupt key. (Technically speaking, when you press the interrupt key, you invoke the mini-, or built-in, debugger.) It usually brings up an empty dialog box that has a caret (>) prompt. If it does, try typing

SM 0 A9F4 <Return>

The 0 in this line and the next one you'll type are both numeric zero; <Return> means that you should press the Return key once. Type the characters exactly the way they appear here, including spaces. After the first return, the box fills with characters, but you can still type. Type this:

G 0 <Return>

That's it. If it works, you'll be returned to the Finder. This procedure works only with certain kinds of sys-

tem errors, and there's no way to tell beforehand whether it's going to work. But if you're hopelessly crashed, you might as well try it.

Using this trick leaves your Mac in an unstable state. If you return to the desktop successfully, save all unsaved documents immediately and then restart your Mac, using the Restart command.

The Mac's restart sequence is infinitely better than a crash —it shuts down the file system in an orderly fashion. Crashing doesn't.

If you're really determined to recover from as many crashes as possible, check out Crash Barrier (Cassady & Greene, 22734 Portola Drive, Salinas, CA 93908; [408] 484–9228; $79.95), a nifty control panel that replaces the normal System Error message with its own friendly dialog box. If your Mac crashes, Crash Barrier pops up instead of the bomb dialog box and gives you a chance of recovering. Although it doesn't work every time, Crash Barrier is more effective than any mini-debugger voodoo.

SYSTEM 6

Zapping The PRAM

To zap the parameter RAM (PRAM) under System 6, hold down Shift-Option-Command while selecting the Control Panel on the Apple menu.

Typing A Space Character In Front Of A File Name

System 6 doesn't allow you to type a space character as the first character of a file/folder name; it doesn't test to see if the second character is blank if you try to delete the first.

If you want to add a space to the beginning of a file-name or folder name under System 6, here's a sneaky way to do it: Type a character followed by a space at the beginning of the name. To get rid of the initial character, simply press the left-arrow key, the Delete key, and then Return — and there you have it.

Too Many Files Open

If you are getting the message "Too many files open" dialog box under System 6, you need to increase your Mac's open-file count, using either Suitcase II or MasterJuggler. The Mac's default setting is 40 files

(documents, applications, font or DA suitcases, and so on). Both Suitcase II and MasterJuggler let you reset this to any value as high as 99.

Your problem is actually underallocation of FCBs (file control blocks), which are specified in the boot blocks on your hard drive. This results in an ID -42 error. In English, this means that somewhere in the boot blocks, there's a number that indicates how many files can be open at once. The Mac checks this number at startup and allocates a fixed number of FCBs. So if a program tries to open one file more than the limit, you get the "Too many files open" dialog box (system error ID -42). The term "files open" is a bit misleading, however. The number of open files involves not only how many documents you're working with but also all your fonts and DAs, every single application running at the time, and all the little files those applications have open behind the scenes; 40 open files can be exceeded pretty easily.

Another solution is a freeware program from Peter Helme called Up Your FCBs. Pete has written a control panel that changes the open-files ceiling as you work. If one fatal file too many is about to be opened, Up Your FCBs automatically increases the maximum number of open files so the additional file can be opened without incident. It's all done in memory rather than by writing to your boot blocks, so it's a bit safer.

Another utility is called MaxFiles Fix. MaxFiles Fix is an application which allows you to change the maximum number of open files defined by your startup disk's boot blocks. MaxFiles Fix is available from online services and user groups.

SYSTEM FOLDER (SYSTEM 7)

Shrinking the System Folder

If you are tight on hard disk space, you can look to your system folder to recover space. You can free up as much as a megabyte through judicious file deletion.

For what it's worth, your Mac can function with nothing more than a System and the Finder in the System Folder. You don't need DAs, control panels, or extensions, although doing without some of them — such as the Chooser and General Controls control panels—

would be inconvenient, to say the least.

If you do decide to delete files and later realize that you need or want them, you can run the Installer once more to create fresh copies of them. (Some files, such as control panels, can be copied directly from the master system disks.) If reinstallation is too much trouble, copy each file to a floppy disk before you trash it. Then if you need it later, just drag it from the floppy to your System Folder.

Removing Network Extensions

Look inside the Extensions folder in the System folder. If you're not connected to a network and aren't sharing files, get rid of AppleShare (72K), File Sharing Extension (168K), and Network Extension (93K). These files, along with the File Sharing Monitor and Sharing Setup control panels (more about them later), are needed only if you share files with other Macs. Not only that, but file sharing uses about 300K of RAM when it's turned on.

Removing Printer Drivers

Look inside the Extensions folder in the System folder. Get rid of printer drivers for printers you'll never use. If you don't have an ImageWriter, trash the file named ImageWriter (45K); if you don't have a Personal LaserWriter SC, trash its file (72K). And so on.

Removing Miscellaneous Extensions

Look inside the Extensions folder in the System folder. A couple of extensions you might want to trash are DAL (84K) and Finder Help (36K). DAL is used for accessing networked or remote databases; Finder Help contains the five screens you see when you choose Finder Shortcuts from the Help menu. (Read the screens before deleting Finder Help, though.)

Reducing The Number Of Control Panels

Look inside the Control Panels folder in the System folder. You can remove control panels that are inappropriate for your Mac. For example, if you have a black-and-white Mac, such as an SE, you don't need Color (12K). If you're not sharing files, get rid of File Sharing Monitor (5K), Sharing Setup (5K), and Users & Groups (5K). Map (29K) can also be removed.

Another file you can probably do without is Easy Access (12K), which lets you control the cursor from the keyboard and/or use a Mac one-handed. A complete description appears on page 354 of Macintosh

Reference, the manual that comes with System 7 upgrade kits.

Slimming The Size Of The Apple Menu Items Folder

The Apple Menu Items folder contains the standard DAs. With the exception of the Chooser, you don't need any of the Apple-supplied DAs: Alarm Clock (12K), Calculator (8K), Key Caps (12K), Note Pad (9K), Puzzle (14K), or Scrapbook (11K). On the other hand, they're small and relatively useful (except for Puzzle), so you needn't toss them unless you're really hard-pressed for disk space.

Rescuing The Size Of The System File

Take a look inside the System file itself (double-click on it). The Installer places about a megabyte of fonts and sounds inside the System file, but you don't actually need most of them. If you're really determined to whittle down your System Folder, get rid of your least-used fonts (3K to 68K each) and sounds (2K to 8K each).

SYSTEM INSTALLER (SYSTEM 7)

Customizing the Installer

If you choose Easy Install, as most users do, the Installer will install 48 files, many of which you will never need. If you try to remedy the situation by choosing Customize, you're presented with a list of almost 40 items. Here's how to navigate through this list:

Choose the ones you want to install by Shift-clicking on them — hold down the Shift key while you scroll and click on each item you want installed. To find out more about an item, click on it and an explanation appears below the scrolling list.

Custom Selecting A System To Install

In the Custom Install dialog of the installer, there are three categories of software — system software, printer software, and file sharing/networking software. They are arranged in five sections in the scrollable list.

System software is broken up into System Software for any Macintosh (the first choice on the list) or System Software for [a specific Mac model].

System Software for any Macintosh installs everything you need to start up any Mac model from your hard disk. System Software for [a specific Mac] installs only the resources that model requires. So, for example, if you choose System Software for Macintosh Plus, control panels such as Monitors and Colors are not installed. If you never expect to use your hard drive with a different Macintosh model, choose System Software for [your particular model]. But if there's a chance you'll someday need to use your hard drive with a different Mac model, choose System Sofware for any Macintosh.

Creating A Bootable Floppy Disk

The last section of the Custom Install dialog list contains a set of items called Minimal Systems. These are used only to create high-density (FDHD) startup floppies. (Even a minimal installation of System 7 is too big to fit on an 800K floppy.)

Min System for any Macintosh creates a startup floppy that works with any Mac model. Min System [for a specific Mac] creates a startup floppy that works with that particular model. Minimal System installs a System and the Finder and little else — no control panels, extensions, or DAs. The Installer does place the standard five subfolders (Apple Menu Items, Extensions, and so forth) inside the System Folder, however, and it provides an empty Control Panels folder as a DA. (It also installs a single font, 9-point Geneva in the System file.)

Installing Printer Drivers

In the Custom Install section of the installer, there is a section listing printer files to install. You can selectively choose which printer drivers to install — LaserWriter, ImageWriter, Personal LaserWriter LS, StyleWriter, and so on. Shift-click on each one you'll need. You also can choose Software for all Apple Printers, which automatically installs all eight drivers.

Installing Network Software

In the Custom Install section of the installer, there is a section listing the network files to install in the System folder. If you're on a network and will be sharing files, Shift-click on File Sharing Software. If you'll be using an EtherTalk or TokenTalk network, Shiftclick on those items as well.

TECHNICAL INFORMATION

How To Get The Macintosh Technical Notes

The Macintosh Technical Notes are a resource for all Macintosh developers. Every time there's a topic that seems to be perplexing the developer community, Apple's DTS (Developer Technical Support) prepares a note that will cover the situation in detail. When bugs are discovered in system software or in ROM code, Technical Notes that fully describe the problems and how to solve them are written and distributed. When there's no other way to distribute documentation on certain system software (such as TeachText), it's disseminated as a Technical Note.

DTS wants its Notes to get the widest distribution possible, so all the more than 300 notes can be downloaded from many on-line services. You can also buy them on-disk or in printed form from APDA (800–282–2732).

TRUETYPE (SYSTEM 7)

Changing The System Font Default With SetOutlinePreferred

The Chicago 12 font is the only font that's actually burned right into the Macintosh's ROMs, and it's the default font for menus and title bars and all kinds of other cool stuff. Whenever the System needs Chicago 12, it ignores any disk files and just gets the bit maps from ROM.

Apple included a new set of Font Manager routines with TrueType. One of them, appropriately called SetOutlinePreferred, tells the system always to use the TrueType version of a font instead of the bit-mapped version, including 12-point Chicago in ROM. (The TrueType version of Chicago contains both the full extended character set and a large number of extra characters, including the Command-, Option-, Shift-, Tab-, and Delete-key symbols.)

This routine needs to be turned on, and you can do so with an Fkey called SetOutlinePreferred, created

by David Fowler, of Cotati, California. This Fkey lets you force the TrueType version of a font to be displayed and printed in any application. It's "smileware" (you can distribute it freely) and is available from MacUser's on-line service, ZiffNet/Mac.

You can install this and other Fkeys by using utilities such as ALSoft's MasterJuggler or Fifth Generation's Suitcase II, or you can use Apple's resource-editing software ResEdit (available from on-line services and user groups). If you have ResEdit 2.1 or later installed, just double-click on the FKEY icon and ResEdit will launch. Double-click on the Fkey resource, highlight the ID number, and press Command-C to copy the Fkey to the Clipboard. Now, open a copy of your Mac's System file (move the original System file to a safe place outside the System Folder), double-click on the Fkey resource, and press Command-V to paste in the Fkey. Rename the copy of the System file, place it in the System Folder, and restart your Mac.

TrueType Symbols For Control Keys

The True Type version of Chicago font that ships with System 7 has numerous special symbols. To get the Command-key cloverleaf, type Control-Q. Typing Option-Control-Shift-D gives you a Shift-key symbol. Likewise, Option-Control-Shift-A produces the Option-keys symbol. The latter two symbols are not in the bit map Chicago font that came with older Macs and previous system versions.

Because a bit map font has priority over a TrueType font for screen display and output, you should remove any bitmap versions of Chicago that are in your System file if you need to use any of the Option and Shift symbols. This allows them to display and print properly. Furthermore, a 12-point bit map version of Chicago is built in to the Mac's ROM, so you won't be able to use the Shift and Option characters at that size.

These symbols may not print properly in some applications, but they do appear on-screen.

VIRUSES

Virus Protection Across A Network

If someone on your network has mounted your hard disk as a remote volume, it's possible that your disk could become infected by a virus on that person's hard disk, transmitted through the network. For this reason, any attempt at virus protection has to be applied to all the Macs on the network in order to be effective. Of course, if you install virus protection on every networked Mac, you'll eliminate the problem entirely.

UTILITIES

32-BIT ADDRESSING

Go 32-Bit Clean

If you have a Mac II, IIx, IIcx, or SE/30 and run System 7, you may have heard that your computer's not 32-bit clean, which means that you can't take full advantage of System 7 features such as virtual memory. To correct this problem, Apple bought MODE32, an extension from Connectix that adds 32-bit-addressing capabilities to these computers. Apple is giving MODE32 away through dozens of on-line services, BBSs, and user groups. For more information, call Apple Customer Service Center at 800–776–2333 or (408) 996–1010.

ACCESSPC

System 7 Invisible Files

If you are using AccessPC under System 7, and have mounted a DOS disk, you will find files created with names like DESKTOP&.

What's happening is System 7.0 creates invisible folders and files as part of its normal operation. Two such folders, called Trash and Desktop Folder, are created on every hard disk that is mounted on the Mac desktop. AccessPC lets you mount DOS disks as though they were Mac disks.

But DOS allows only eight characters in a file name, so longer names (such as Desktop Folder) get truncated; AccessPC adds the trailing ampersand to indicate that the truncation has occurred.

ADD/STRIP

Powerful File Filter And Converter

Jon Wind's Add/Strip shareware application is a file filter that combines powerful conversion options, such as converting spaces to tabs, up to nine strings of characters to replacement strings, cleans up spaces, blank lines, double hyphens to em dashes and much more.

Add/Strip also has built-in tables for conversion between DOS and Macintosh text formats and a encryption/decryption system. Add/Strip is available on ZiffNet/Mac and your local user group.

AFTER DARK 2

Editing The MultiModule

Even After Dark 2's extensive collection of modules can fail to stimulate after a while. But the screen saver's MultiModule allows an amazing amount of customization without you having any programming knowledge whatsoever. One of my favorites is Stormy Skyline. To turn Stormy Skyline into one hell of an electrical storm, simply follow these instructions:

1. Duplicate the Zot! module twice while you're at the desktop, renaming the copies Zot!2 and Zot!3.

2. Open the MultiModule to Stormy Skyline (a predefined combination of Starry Skyline and Zot!), and click on the Edit button. Add Zot!2 and Zot!3 to this MultiModule, making them transparent instead of opaque. You should now have all three of the Zot! modules and the Starry Skyline module combined.

3. Resize and reposition the Zot!s – it looks better to have them different sizes.

4. Close the edited MultiModule, but first rename it something like Really Stormy Skyline.

5. Open the individual Zot! modules, and edit the forkiness, kinkiness, and delay of each.

ALIAS

Aliases Anonymous

It doesn't take much effort to create aliases. You do, however, have to go through a few steps to create an alias and then put it where you want it. Wouldn't it be nice to have a one-step method of creating an alias and placing it anywhere on your hard disk? Well, MacUser has just the thing for you — it's Nom de Plume, developed exclusively for MacUser by Birmingham, Alabama, programmer Bill Monk, who also created Alias Assassin.

Nom de Plume is a utility that lets you create an alias of a file, folder, or disk and choose its location on the hard drive from within one dialog box. Nom de Plume makes it so easy to create aliases that you'll probably need Alias Assassin before too long to get rid of your excess aliases. Luckily, both of these utilities are available on MacUser's on-line service, ZiffNet/Mac, in Library 3 (Utilities) of the MacUser Forum. Nom de Plume's filename is PLUME.SIT. If you want to find Alias Assassin, its filename is ALIASA.SIT.

Alias Assassin

Aliases are a mixed blessing. Aliases are duplicate icons for files, folders, and volumes that are linked to an original file. Unfortunately, when you delete a file, the aliases remain, so you could easily have a hard disk full of aliases relating to nonexistent files.

Apple hasn't provided an easy way of getting rid of "orphaned" aliases, which is where Alias Assassin comes in. Alias Assassin, an application developed exclusively for MacUser, seeks out and destroys orphaned aliases. It scans your hard disk to find all unattached aliases and lets you choose whether the orphans should be trashed. If you have aliases relating to unmounted volumes, Alias Assassin asks you to mount the volume to confirm whether it still exists.

Alias Assassin is smart. It attempts to reunite an alias with its parent file, even if the path between the two has been lost because you've shuffled files around on your hard disk. And if you're fed up with aliases entirely, Assassin can kill them all at your discretion.

Alias Assassin was programmed by Bill Monk, of Birmingham, Alabama. Alias Assassin can be found

UTILITIES

only on ZiffNet/Mac, MacUser's on-line service on CompuServe. The filename is AliasA.SIT, and it's in Library 3 (Utilities) of the MacUser Forum or Library 1 (Applications) of the Download & Support Forum.

Automate Your Aliases
Nearly a dozen utilities can creat aliases. Here's a sampling of the coolest. AKA (Fred's Finder Hacks) creates an alias when you control-drag an icon to a new folder. MacUser's Nom de Plume, available on ZiffNet/Mac, creates an alias and automatically puts it into common folders such as the Apple Menu Items folder. MacUser's ZMakeAlias creates aliases from within an application's Save and Save As dialog boxes.

Clean Up Alias Files
Making aliases is a lot easier than getting rid of them. When you trash a file, its alias remains. MacUser's Alias Assassin combs through your hard disk, searching for unattached aliases. A list displays the orphans, and you have the option to delete them or reattach them to lost files. TrashAlias, a freeware extension, provides a more automated solution. When you throw away a parent file, the alias follows it into the Trash.

Load Extensions With Aliases
You're out of luck if you want aliases to load extensions that aren't kept in the System Folder, unless you have the freeware utility INITLoader. INITLoader even lets you load extensions across a network — a boon for network managers who want to keep everyone up-to-date on virus-detection extensions.

ALARM CLOCK

Get Message Alarms
If you need to be reminded of impending appointments, then go a step further than Apple's Alarm Clock with one of the many alarm utilities.

The shareware application CClock (CClock, 2655 S. Peoria, Aurora, CO 80014) alerts you with a customized message when an alarm sounds. AlarmClock (Now Utilities, Now Software, Inc., 520 S.W. Harrison, Suite 435, Portland, OR 97201; 800–237–2800) and Easy Alarms let users enter alarm items that can repeat every hour, day, week, and so on. Alarming Events (CE Software, Inc., 1801 Industrial Circle,

PO Box 65580, West Des Moines, IA 50265; 800–523–7638) is a full-featured DA that adds detailed alarm messages and a calendar.

AMT

One-Stop Modem-Tool Customization
Information Electronics of Hammondsport, N.Y., has released a nifty, free utility for users of Apple's Macintosh Communications Toolbox. AMT Configure, a 38-Kbyte program available through on-line services, lets you edit the modem initialization strings stored inside the Apple Modem Tool.

Apple's tool lets you set custom strings, but each string you enter is tied to a particular use of the tool. You need to recreate your custom string in each application or electronic-mail gateway that uses the tool. AMT Configure alters the resources of the tool itself, making your changes universal. With AMT Configure and knowledge of the modem's command set, you could, for instance, turn off a specific type of modem's speaker or flow control.

Version Note: AMT Configure 1.0 does not work with the Apple Modem Tool 1.1.

APPLICATIONS

Lauch Applications From Anywhere
System 7 lets you launch applications and documents from the Apple menu. HAND-Off II and MultiMaster (Now Utilities, Now Software, Inc., 520 S.W. Harrison, Suite 435, Portland, OR 97201; 800–237–2800) let you launch files from anywhere on-screen through a popup menu. HAND-Off II also includes a powerful set of hot keys for launching documents and programs.

BACKUP

Crashproof Your Data
Your information is only as safe as your last save. However, Last Resort (Working Software, PO Box 1844, Santa Cruz, CA 95061; (408) 423–5696) gives you a second chance in the case of a system crash.

This unique utility saves every keystroke you type as you type it, saving everything to a text file, including symbols for such actions as a deletion or a backspace keystroke. If your system crashes, you can rebuild your document from the backup file. A new text file is created every time you turn on your computer.

Back Up Data Continuously

Increasingly, users are turning toward automatic backup systems that mirror their main disk as they work. These systems are extra safe and make it likelier that you'll get nearly all your files back after the inevitable crash. AutoBack (TerraNetics, 1538 N. Martel Avenue, Suite 413, Los Angeles, CA 90046; [818] 446–7692) and Twin-It (Golden Triangle, Computers, Inc., 4849 Ronson Court, San Diego, CA 92111; [619] 279–2100) both give you the luxury of duplicating your disk on a second hard disk as you work.

BACKUP SOFTWARE

Why Doesn't Time Stamp Work On Backups?

Each Mac volume has a "date and time of last backup" parameter that's created when the volume is initialized. While a few backup programs set this date whenever you perform a backup, most newer software doesn't.

This is not as bad as it seems, though. Modern backup software lets you pick and choose what to back up, so a single time stamp doesn't make that much sense anymore. All modern backup programs keep track of the date and time of the last backup internally.

BALLOON HELP

Use A Hot Key For Balloons

On-screen Balloon Help is a good idea that is abundantly annoying. Turning on Show Balloons activates every balloon your cursor travels over. How many times do you need to be told what a menu bar is? Helium (Robert L. Mathews, PO Box 21271, Oakland, CA 94610) inflates Help Balloons when you hold down a hot key. Letting go of the key deactivates Show Balloons.

Hide The Balloon Icon

If you are so frustrated by Balloon Help that you'd rather be rid of it altogether, then get NoBalloonsMenu, a freeware extension that removes the icon from the menu bar, thereby freeing up space on the right-hand side for other menu enhancements.

BBEDIT

The Programmer's Word Processor

A word processor is not usually the best tool when you are writing source code for an application, converting files from one format to another or working with typical on-line information services.

For such purposes, a text editor, one of those bare-bones programs from the old days of graphics-free computing, is still a useful tool, even on the Macintosh. Fortunately, the humble nature of these applications has kept prices down. BBEdit, a great editor, is a freeware product.

The program has plenty of programming features, such as balancing of parentheses, multifile searches and compatibility with such other tools as Macintosh Programmer's Workshop. What gives BBEdit a real kick, though, is grep, a sophisticated pattern-matching and replacement language derived from Unix. It's already implemented on the Mac, in Paragon Concepts Inc.'s QUED/M and Nisus, but not at BBEdit's bargain price.

The program and documentation are available from user groups and on-line services, including ZiffNet/Mac, where they are compressed in file BBED-IT.CPT in Library 1 at GO ZMC:DOWNLOAD.

Siegel also accepts stamped, self-addressed mailers sent to the address listed below. Include a floppy or $2.

Richard Siegel is at 6 Village Way, No. 23, Natick, Mass. 01760. E-mail siegel @ world.std.com.

CALCULATOR (SYSTEM 7)

Customize Your Calculator

The calculator that ships with System 7 hasn't changed its interface since the Mac was introduced, but a bevy of more complex calculators offers specific features geared toward the type of number crunching you do most. Desktop publishers and designers should check out Calc+ (Abbott System, Inc., 62 Mountain Road, Pleasantville, NY 10570; 800–552–9157), a calculator with an easy-to-use interface and the ability to automatically convert among different units of measurement such as picas, inches, and centimeters. Scientists and engineers will want to add RPN (reverse Polish notation) Calculator or Sci Calculator (both part of File Director). Each adds a host of functions and modes you're likely to find in a midlevel stand-alone calculator. As the name implies, 2000 Digit Calculator displays as many as 2,000 places for a calculation.

CALENDAR

Use A Desktop Calendar

If you want a date keeper for your desktop, try out Calendar DA, a shareware DA that goes well into the next millennium. This monthly calendar has a notepad for each day. The commercial DiskTools Calendar (File Director, Fifth Generation Systems, 10049 N. Reiger Road, Baton Rouge, LA 70809; 800–873–4384) offers a similar layout and also has a Find command and the ability to archive daily notes.

COLOR

Color Your Menus

Even with a color monitor, the Mac still ships with dull black-and-white system software. ClickChange (Dubl-Click software, INc., 9316 Deering Ave, Chatsworth, CA 91311; [818] 700–9525) and the shareware application Colorize add hue and shade to the common desktop. These applications color the Mac's basic elements—

such as windows, menus, dialog boxes, and scroll bars — with any of the Mac's 16.7 million available pigments. ClickChange also replaces the Mac's factory-issued cursor with something different, such as an index finger or a pointer of your own creation.

CURSORANIMATOR

Animating Your Cursor

Remember how gee-whiz exciting it was when Apple first introduced animated wait cursors like the rotating watch and the spinning beach ball? You can recapture that excitement all over again and then some with CursorAnimator from Wilhelm Plotz and Alex Falk.

CursorAnimator is a freeware control-panel/INIT combo that allows you to substitute various animated or static color and black-and-white cursors for any of the standard Apple system cursors (text insertion, crosshairs, plus sign, watch, and the arrow). The control-panel interface permits you to choose the cursors, import new CursorAnimator cursors you download from on-line services or create yourself, change the speed of animated cursors, and delete cursors you no longer want.

CursorAnimator comes with several cursors preinstalled. Changing the standard cursors is easy. You simply drag the new cursor from a scrolling list to a grid beneath representations of the standard system cursors. To create your own cursor, you must delve into the mysteries of ResEdit 2.1 or higher. CursorAnimator includes an extension for ResEdit that allows you to preview animated cursors while in ResEdit. And if you find ResEdit too intimidating, you'll be happy to discover that CursorAnimator comes with a collection of 27 black-and-white and 23 color cursors you can import. There are even six cursors provided just for lefties.

DESKTOP PRINTERS

DTPrinter

Desktop Printers were originally supposed to be part of System 7, but they dropped out along the way. Now the same idea is back with DTPrinter, a freeware extension. Desktop Printers are icons that represent various print-

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ers on a network. Drag a document or folder onto the icon to print from the Finder.

DIALOGS

Mouseless Dialog Boxes

Keep your hands on the keyboard when dialog boxes pop up, with one of these three solutions. DialogKeys (QuicKeys 2, CE Software, Inc., 1801 Industrial Circle, PO Box 65580, West Des Moines, IA 50265; 800–523–7638) lets you cycle through buttons in a dialog box with Command-Tab.

Dialog Power! (QuickTools, Advanced Software, 1092 E. Duane Ave, Suite 103, Sunnyvale, Ca 94086; 800–346–5392) and the Freeware extension Escapade assign a letter to a dialog-box button as the Equivalent of a click. Dialog Power! also lets you cut, copy, and paste into any dialog box — very handy if you're transferring information.

DISK FIRST AID

A Hidden Command

Disk First Aid contains a hidden command that offers more information about the program's operations. Press Command-S after opening a disk in Disk First Aid, and a scrolling field appears below the normal dialog box. This field displays a list of actions performed by Disk First Aid as they are executed.

DISKSWITCH (SYSTEM 7)

Switching Drives

Some software upgrades sacrifice familiar features for new concepts. Take, for example, the Drive button in the System 6 Save dialog box. The Drive button lets you choose where to save a file by conveniently switching among mounted hard drivers, floppy drives, and AppleShare serves.

In System 7, however, Apple replaced that button with one that takes you straight to the desktop, where you can view all volumes and folders simultaneously. An improvement? Yes, but some users now must perform

two operations, instead of one, to switch drives. MacUser's DiskSwitch utility adds an icon to all Open or Save dialog boxes; click on the icon, and you get a pull-down menu that lets you quickly select any floppy drive, hard drive, AppleShare server, or other mounted volume without going through the desktop.

DiskSwitch was programmed by Mike Throckmorton, an Ann Arbor, Michigan-based developer. DiskSwitch is available exclusively through ZiffNet/Mac, MacUser's on-line service. Look for DSKSWT.CPT in Library 3 (Utilities) of the MacUser Forum or Library 3 (INITs) of the Download & Support Forum.

DOS MOUNTER

Initializing A Disk Across A Network

If, when trying to mount a shared volume across the network, your Mac asks if you want to initialize the disk, you're probably running an old version of Dayna Communications Inc.'s DOS Mounter. DOS Mounter is an extension that enables you to read data off DOS disks in your SuperDrive-equipped Mac. Early versions conflict with System 7.0's file sharing. Contact Dayna at (801) 972–2000 for an upgrade.

ENDNOTE PLUS

Tracking Figure And Table Numbers

EndNote Plus is wonderful for keeping a list of references for a document, but it would be even better if it could keep track of figure and table numbers for a report.

You can add this ability by copying the EndNote Plus application onto your hard disk. For references, figures and tables, you'll need two extra copies. Name the new versions EndNote B and EndNote C. These copies of EndNote Plus need to use unique characters to mark the temporary citations in your document. EndNote Plus stores these characters in a preferences file in the System Folder, so you must use ResEdit to rename the preference files the copies use.

Open EndNote B in ResEdit, and open STR# resource number 128. The eighth string in this resource is the name of the preferences file. Change it from EndNote

Prefs to EndNote B Prefs, and save it. Make a similar change for EndNote C.

Next, launch EndNote B and select Citation Markers from the Edit menu. Change the markers from [and] to {and}. Similarly change the citation markers in EndNote C to < and >.

Now, when you're writing your document, create a reference-list file in EndNote Plus, a figure-list file in EndNote B, and a table-list file in EndNote C. When the time comes to format your document, open your base document in one copy of EndNote and format it, open the first formatted document in the next copy of EndNote and format it, and open the second formatted document in the third copy of EndNote and format it. You can then open the final formatted document in your word processor and move the figure list and table list to wherever you want them.

This workaround sounds quite complicated, but it's really not that bad once you start using it. The EndNote Plus application exists quite happily in a 512K memory partition, so your three copies occupy about 1.5 megabytes of memory. Obviously, you can't do this on a 1-megabyte Mac Plus, but it works well on an 8-megabyte Mac IIcx. Each additional copy of EndNote Plus occupies 321K of hard-disk space plus 5K for the preferences file.

EXTENSIONS

Managing Extension Conflicts
The only problem with extensions is that it's sometimes impossible to get them all to work together. Some conflicts may result in system crashes unless you pull the extension out of the System Folder. The freeware utility Extension Manager provides a checklist of extensions you can toggle on or off at startup or through a control panel. If you want more features, look to commercial products such as INIT Manager (BaseLine Publishing, 1770 Moriah Woods Blvd., Suite 14, Memphis, TN 38117; 800–926–9677), INITPicker (Microseeds Publishing, Inc., 5801 Benjamin Center Drive, Suite 103, Tampa, FL 33634; [813] 882–8635), or StartUp Manager (Now Utilities, Now Software, Inc., 520 S.W. Harrison, Suite 435, Portland, OR 97201; 800–237–2800). With these utilities, you can define

and load groups of extensions that work with one another or make extensions dependent on each other.

EXTENSION MANAGER 1.6

Managing Extension Manager
Apple's Extension Manager 1.6 utility lets you take care of extensions and control panels, but you can also use it to manage other items that are loose in your System Folder, such as applications, startup sounds or screens. Here's how:

Open the Extension Manager control panel, click on the button labeled 1.6, and then click on the button labeled Configure. This brings up a window that lets you add new file types to Extension Manager's scrolling list of what's in your System Folder. You can find out what a file's type extension is by using ResEdit or a utility such as DiskTop.

Here are a couple of ways to use this feature:

1. Add the file extension for applications (APPL) to the lower list in the Configure dialog box (just ignore the upper list). Applications you have in the System Folder, such as PrintMonitor, will now show up in the list on Extension Manager's initial screen, letting you turn them on or off.

2. Control the contents of your Startup Items folder by storing aliases of the programs and files you want to open on startup, rather than the programs themselves. By adding adrp (the type extension for a file alias) and fdrp (the type extension for a folder alias) to Extension Manager's list on the initial screen, you can disable these aliases if you don't want a particular program to open on startup.

FILES

Create File Work Sets
If you want to open multiple documents simultaneously, get Out to Launch, a freeware Fkey that lets you define groups of documents of the same type to launch at one time and lets you define "work sets" of multiple applications and documents that can be launched

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with one command. HAM (Hierarchical Apple Menus, Microseeds Publishing, INc., 5801 Benjamin Center Drive, Suite 103, Tampa, FL 33634; (813) 882–8635) has the ability to take snapshots of open documents and store them as a work set, which can be launched later. Tiles is the most feature-laden application in this group. It manages dozens of work sets easily.

Preview Graphics Files

The process of opening a graphic from within a painting, drawing, or page-layout program can be time-consuming. Screen redraws and color files combine to make the process slow. Opening the wrong file is even more frustrating. PickTURE (Right Answers, Box 3699, Torrance, CA 90510; (310) 325–1311) solves the problem by letting you preview thumbnail graphics from within the Open dialog box, which gives you an idea of what the image looks like.

Launch Files With Substitute Applications

One of the more annoying dialog boxes is "Application not found," which you get when you double-click on a file in the Finder for which you don't have the application.

Jump Start, a shareware program (Insanely Great Software, 126 Calvert Avenue E., Edison, NJ 08820), launches documents with a substitute program. For instance, it automatically launches Mac Write documents with Microsoft Word, or vice versa. HAND-Off II (Connectix Corp., 2655 Campus Drive, San Mateo, CA 94403; 800–950–5880) is the commercial alternative, and it adds a host of features - not the least of which is the ability to launch DOS documents.

Get A List Of Recently Opened Files

You usually don't realize that a file has been lost until you have the Open File dialog box on-screen. Shortcut and Super Boomerang (Now Utilities, Now Software, Inc., 520 S.W. Harrison, Suite 435, Portland, OR 97201; 800–237–2800) build lists of commonly used files and folders so that you can easily "jump" to a different folder from within the Open and Save dialog boxes. Super Boomerang is the stronger utility, but it comes at a higher price, because it's grouped with other applications.

FILE COMPRESSION

Automatically Compress Files

Hard disks may be getting larger, but so are files. Here are two programs to help keep your disk from over-flowing by compressing files when you're not using them. DiskDoubler (Salient Software, 124 University Ave, #103, Palo Alto, CA 94301; [415] 852–9567) puts a Compress File menu onto the Finder so that you can highlight files and squash them down to half their size. SuperDisk (Alysis, 1231 31st Avenue, San Francisco, CA 94122); [415] 566–2263) automatically compresses files or folders saved with the suffix.s.

Compressed Mac To PC And Back

If you worked in a mixed environment, Macs and PCs, you will eventually run into compressed files: primarily ZIP or ARC archives on the PC side, and SEA, SIT, or CPT archives in the Mac domain.

Without compression, graphics files, especially TIFFs, can be mammoth in size and must frequently be compressed to shorten modem transfers to within one person's lifetime or to make the file fit onto one floppy. How does a Mac user deal with ZIP or ARC files? Or a PC user with SIT and CPT archives? Fortunately, there are some commercial and shareware/freeware solutions.

Macintosh users stymied by an ARC or ZIP archive can turn to a couple of shareware or freeware programs: ArcMac or UnZIP. Both are available from the major on-line services. Both are older programs and may not always work on some ZIP or ARC files. If you own Stufflt Delux, a commercial Mac compression utility, you'll find it has menu commands for deARC-ing or UnZIP-ing archives. The program isn't free, but it's very dependable when it comes to PC-compressed files.

DOS users, confronted with a SIT or CPT archive from a Mac colleague, can use either UnSIT or ExtractorPC to delve into Mac Stufflt (SIT) or Compact Pro (CPT) archives. Some caveats need to be heeded, however. SIT or Stufflt files come in a couple of flavors, since Stufflt exists both as a commercial product (Stufflt Deluxe) and as a shareware utility (Stufflt 1.5.1 or Stufflt Classic). UnSIT will only process SIT files saved in the 1.5.1 format. If you find yourself with a Stufflt Deluxe or Classic file, you're stuck. Luckily, both

UTILITIES

StuffIt Deluxe and Classic can save in the 1.5.1 format.

The other chief Mac compression archive a PC user will encounter is one created with Compact Pro (a.k.a. Compactor). The file extension is usually CPT. Compact Pro's author, Bill Goodman, has himself provided a solution— ExtractorPC. It extracts not only CPT archives, but also SEA (Self-Extracting Archives) files created on the Mac with Compact Pro. StuffIt Deluxe also generates SEA archives, but ExtractorPC will not process them.

Generally speaking, try to avoid compressing files to be transferred unless it's absolutely necessary. If you must use compression, make sure the recipient can handle your method.

FILE CONVERSION

Transporting PC TIFF Files To The Mac

TIFF (Tag Image File Format) is one of the best and most troublesome formats for transferring PC-based raster or scanned graphics to the Mac. TIFF is widely supported in both the Mac and PC environments, but the format differs on the Mac and PC which leads to some curious problems.

Simply bringing a PC TIFF file over to the Mac can be quite frustrating at first. If you try to open a TIFF created on the PC in a Mac graphics program, you're likely to receive an error message telling you the program encountered an unexpected end-of-file error. What you need to do is run the file through Macintosh conversion software, like MacLinkPlus/ Translators, before graphics programs will even take so much as a sniff at your TIFF.

Adobe PhotoShop and Deneba Canvas (for the Macintosh) can translate foreign graphics through an impressive variety of file filters that enable you to open, import, and edit graphics carried over from a different platform.

If you don't want to do any editing with another program, you'll discover that Aldus PageMaker 4.1 imports PC TIFFs without prior processing or conversion. This feature can speed up the layout cycle, although the PC TIFFs often import at about 25 percent of their original size, making resizing necessary.

Transporting Mac TIFF Files To The PC

On the PC, DoDOT (Windows-based and raster or bitmap images only) from Halcyon and HiJaak (DOS, raster, and vector formats supported) from Inset Systems, are two screen-capture utilities for PCs that do double duty as graphics converters. There is dedicated file-conversion software for the PC, such as The Graphics Link Plus+ from Harvard Systems, but for most mainstream graphics formats, such as EPS (Encapsulated PostScript), PCX (Paintbrush), PICT (Mac format), and TIFF (Tag Image File Format), you may find dedicated products unnecessary.

Bringing Mac TIFFs over to the PC does present some problems. PC programs like DoDOT or CorelDRAW! refuse to recognize Mac TIFFs saved with LZW compression. Uncompressed Mac TIFFs, however, open or import quite well without prior massaging in a conversion program. PC users should make sure that their video card and driver is supported and set to 256 colors when working with color TIFF files. Otherwise, the imported TIFFs will appear distorted and substandard. Likewise, Mac users should set the monitor's control panel to 256 color or grays for best results when viewing or editing TIFFs.

Transporting EPS Files To Macs And PCs

EPS (Encapsulated PostScript) is nearly omnipresent on the Mac (and making considerable inroads in the DOS/Windows world); serious Macintosh graphics, especially good clip art, nearly always come in the form of EPS files. Suppose you want to bring Mac EPS clip art over to the PC?

The answer is fairly simple. When an EPS Mac file is opened in a program like CorelDRAW! on the PC, you can even perform edits (modify colors, line widths, etc.). Here's a tip that will spare you some grief: CorelDRAW! will usually connect with just about any Mac EPS file you care to throw at it, but it fails somewhat more frequently with EPS files exported from Aldus FreeHand.

Adobe Illustrator EPS works a bit better. CorelDRAW! usually works well with Illustrator files saved on the Mac in 1.1 or 3.2 format with or without the PC Preview option selected. It imports files saved with the Mac preview without a shudder. But CorelDRAW! can sometimes choke even on Illustrator EPS with the alert that the file is too complex. To almost always work around this, go back to

the Mac and save the file in the Illustrator 1.1. format with the PC Preview option turned on.

If you plan to bring the Mac graphic into a non-graphics program, like Word for Windows 2.0, you'll quickly discover that they strike out on straight Mac EPS files. You must either translate the files within CorelDRAW!, or export them from Illustrator or FreeHand with the appropriate PC Preview (Illustrator) or MS-DOS option (FreeHand) selected.

EPS Files Containing Fonts

If an EPS file contains text elements and the file is being used on a Mac and PC, make sure that both the PC and the Mac platforms have the same PostScript fonts installed. If not, you may find text strings missing in the graphic.

If, for some reason, the same fonts aren't available on both machines, it's fairly easy to work around the problem. On the Mac side, you can use Adobe Illustrator's Create Outlines command to convert selected text strings into objects. The font issue then becomes moot. Aldus FreeHand offers a similar function.

If an EPS file is traveling from the PC to the Mac, you can rely upon PC-based CorelDRAW!'s Convert to Curves command in the same way. This trick only works if the amount of text is relatively small—some legends or titles, perhaps. And it generally works better if the point size of the text is over 12 points.

Another ruse is to open the EPS file in a program that can export as TIFF. The letters become part of the raster image and cease to be text. PhotoShop, Canvas, and CorelDRAW! all enable you to do this.

GIF Converter

The GIF file format is a graphical format originating from Compuserve. CompuServe offers tens of thousands of GIF (Graphic Interchange Format) images in various forums throughout the service. This raster or bitmap format is more well-known in the PC environment, but Mac users are depriving themselves of a precious and ready resource of graphics clip art and scanned images if they don't know how to access and use it.

Fortunately, there's an outstanding Mac $40 shareware product and called GIF Converter that can handle GIF files (and many other raster graphics formats as well). It's available on all major on-line services.

Converting PCX And BMP Files

Two common PC bit map formats are PCX (Paintbrush) and BMP (Windows bitmap) can be converted over to the Mac. When bringing BMP or PCX graphics from the PC over to the Mac, you'll probably either need to convert them into a Macintosh format on the PC or use a conversion program like MacLinkPlus/ Translators (MacLinkPlus/PC Data Viz, 55 Corporate Drive, Trumbull, CT 06611; (203) 268–0030; $199) to get the job done on the Mac. Adobe's PhotoShop, the "universal graphics translator" for the Mac, can handle PCX files through its Acquire command. BMPs require reprocessing in a separate conversion utility like MacLinkPlus before they can be used in Mac programs.

Converting MacPaint Files To The PC

To take a graphic saved in MacPaint file format to a PC, you can transfer it over and convert it on the PC using the PC-based DoDOT in Windows; The Graphics Link Plus+ and HiJaak likewise come to the rescue from the DOS command line.

DoDOT's MacPaint to PCX filter doesn't always function well if you're planning to do any editing in Paintbrush — the image opens as solid black. If you experience difficulties in this way, save the MacPaint file in the BMP format instead and the PC-based Paintbrush will handle it without a burp. And if you simply want to place the PCX-ed MacPaint graphic into a word processor or page-layout program, the DoDOT MacPaint-PCX conversion works fine.

Converting PC CGM Files To Macintosh PICT

The PC world is awash in CGMs (Computer Graphics Metafiles). How does a Macintosh user bring them over to the Mac?

Unfortunately the CGM standard is not very standard, with different CGM "dialects" being generated according to the program that created them. Once you finally bring a CGM file over to your Mac, there are several options.

The Mac program MacLinkPlus/ Translators (from DataViz) easily handles CGMs exported from Harvard Graphics and Lotus Freelance, but handles other CGM files poorly. Deneba's Canvas 3.0 draw program provides a CGM import filter that's fairly speedy on the import, but slow on the save. It opens CGM files well, but saves them as huge PICT files that can be 10 to 15

times bigger than the original CGM file.

The best solution for many Mac users is a small $179 program called MetaPICT from GSC Associates that makes good on its promises to convert almost any CGM file into a PICT file on the Macintosh. The program's ugly DOS-like interface will be jarring to the Mac user, but it gets the job done, bringing even complex, poorly parsed CGM files over to the Mac quite well. One caveat: It sometimes creates lines that are too thick (1-point where hairline would be better), but this can be easily corrected by opening the converted PICT in a Macintosh draw program, selecting all, and applying a hairline width. This added step greatly improves CGMs converted with MetaPICT.

One thing you should keep in mind when doing CGM to PICT conversions is that you will not, for the most part, be able to do any extensive editing of the PICT conversion, regardless of whether you use Canvas, MacLinkPlus/Translators, or MetaPICT. Complex editing issues should always be resolved on the PC side before a file is ported to the Mac.

FIND (SYSTEM 7)

Get A List Of Found Files

The System 7 Find command lacks one critical element — a list of found files. Several programs (some old and some new) have stepped in to fill the void. Mr. File builds a list of found files from which you can launch, copy, and delete files. DiskTools and MasterFinder (File Director) are faster alternatives with more search criteria, such as by file size and modification date.

Add Your Own Command-Key Shortcuts

Have you ever wanted a Command-key shortcut for Empty Trash or another Finder menu item that doesn't have one? The shareware program Finder 7 Menus! allows you to choose a menu and define a key without having to resort to ResEdit (Apple's powerful but tricky resource editor).

Instantly Access The Comment Field

The Get Info box in the Finder lets you add comments to a file, but those comments are relatively useless unless you are in the habit of having dozens of Get Info boxes open. The freeware utility SFComment

makes the comment field instantly accessible by displaying file comments in the Open dialog box of any application.

FINDER 7 MENUS!

If You Don't Want To Use ResEdit

If you don't want to dirty your hands with ResEDit, check out Adam Stein's shareware program Finder 7 Menus! You can download a demo version from MacUser's on-line service, ZiffNetMac, and other on-line services and user groups, or you can send $11 to Stein at 126 Calvert Avenue E., Edison, NJ 08820. Finder 7 Menus! lets you change Command-key combinations or add them to the menus of the System 7 Finder without ResEdit.

It's an easy-to-use little application — just double-click on it, and open a copy of the Finder. The File, Edit, and Special menus appears. Enter a key, press OK, and quit. Now move the modified copy of the Finder into the System Folder, and reboot. That's all there is to it.

FKEYS

Install Your Own Fkeys

Lots of great Fkeys are available for the Mac. The problem is that there's no easy way to install them, barring the use of ResEdit. The shareware extension Easy KEYS (Kerry Clendinning, PO Box 26061, Austin, TX 78755) comes to the rescue. It lets you assign Fkey documents (such as Balloon Printer or Out to Launch) to a key combination. The commercial equivalent is Suitcase (Fifth Generation Systems 10049 N. Reiger Road, Baton Rouge, LA 70809; 800–873–4384), which adds the ability to let you easily install sounds and fonts.

FONTS

Display Fonts In Menus

Unless you know your fonts well, you may be left wondering what a particular typeface on your menu looks like. Two products display menus in a font's native typeface. MenuFonts (Dubl-Click software, Inc.,

9316 Deering Ave, Chatsworth, CA 91311; [818] 700–9525) and WYSIWYG Menus (Now Utilities, Now Software, Inc., 520 S.W. Harrison, Suite 435, Portland, OR 97201; 800–237–2800) let you group families and otherwise organize your Font menus across multiple applications.

Keep Fonts In Suitcases

Installing fonts in System 7 is as easy as dropping them into the System Folder. If your system goes south, though, so do the fonts. Also, a system with lots of fonts can get really slow. That's why the venerable font and DA loaders Suitcase (Fifth Generation Systems, 10049 N. Reiger Road, Baton Rouge, LA 70809; 800–873–4384) and MasterJuggler (ALSoft, P.O. Box 927, Spring, TX 77383; [713] 353–4090) are still necessary tools for anyone who deals with lots of fonts. Both programs also include ways to avoid font-ID conflicts when you're switching documents among computers.

GENERAL

Claris Products

Here's a time-saving tip for most Claris products:

Hold down the Command key while launching the software, and instead of a new, empty document, you will get an Open dialog box that allows you to select an existing document.

HARD DISK

Change Your Hard-Disk Icon

Tired of your boxy hard-disk icon? The shareware program Visage (Scott Searle, 9025 61st Place W., Mukilteo, WA 98275) lets you easily select a new hard-disk icon from 24 images, including cartoon characters and groovy-looking hardware.

Analyze Your Hard Disk

You can take a look under the hood of your hard drive with FWB's Hard Disk ToolKit (FWB Inc., 2040 Polk Street, Suite 215, San Francisco, CA 94109; [415] 474–8055). This disk-formatting and utility package includes an application that automatically analyzes your disk (no matter how mysterious the drive's origins) and installs an optimized System 7-

savvy driver. The package's diagnostic utilities to ensure that you can find out everything there is to know about any storage devices you may have connected to your Mac.

Recovering Hard Disk Space

A worthwhile option when disk space gets tight is to get your hands on a file-compression utility such as StuffIt Classic (shareware), Compact Pro (shareware), StuffIt Deluxe (from Aladdin Systems), or DiskDoubler (from Salient Software). Each of these programs can compress a file by as much as 90 percent, depending on the type of file.

The StuffIt products and Compact Pro are totally manual — you choose files and then compress them. You must also decompress files manually before you use them.

DiskDoubler, on the other hand, is semiautomatic. Once a file has been compressed with DiskDoubler, the file automatically decompresses and launches the appropriate application when you double-click on the file and recompresses itself when you close or quit the application.

The latest generation of file-compression utilities — AutoDoubler (Salient), StuffIt SpaceSaver (Aladdin), and More Disk Space (Alysis Software) — works in a way that is entirely transparent to the user. Merely install them and set a couple of parameters, and your files will be compressed and decompressed automatically as you use them. Not only that, but the programs can crunch files in the background when the computer is idle.

IN TOUCH 1.1.5

Removing The Publisher Name From The First Record

InTouch 1.1.5 is a great program, but it has one annoying feature — the first record of the file is present with the name and address of the publisher, Advanced Software, and this information normally can't be modified or deleted. The following tip lets you change it to whatever you want:

1. Open a copy of the InTouch DA suitcase with ResEdit.

2. Open STR#-15999.

3. Scroll down to string 17 and 18; these are the left and right sides of the first record, respectively. Change them to whatever you like.

4. Quit ResEdit, saving your changes to the InTouch DA suitcase. Install the modified InTouch DA suitcase.

5. InTouch creates the permanent first record when it creates a new InTouch file. Create a new InTouch file, and you'll have your personalized permanent record as the first record. You can then export your existing entries (if any) from your old InTouch files and import them to new ones.

INITS

INIT Conflict Resolution Made Easy

There is a better way to resolve conflicts than by removing INITs (extensions under System 7) one at a time.

Two products attempt to make the process of finding software conflicts easier. The first is Baseline Publishing Inc.'s $69.95 INITInfo Pro, a collection of information on system configurations and conflicts written by Glenn Brown and Gary Ouellet. It was originally a shareware product built from reports of software conflicts gathered on various online services.

INITInfo Pro includes a 245-page book and a HyperCard stack, which duplicates most of the information in the book. The stack allows you to look at System 6 information, System 7 information or both.

While INITInfo Pro's HyperCard stack can produce a printed report of all the extensions and applications in your Mac system, you have to look up each one manually to check for conflicts. Help! from Teknosys Inc. of Tampa, Fla., has taken the next step. Its $149-product scans your system and attempts to spot potential software conflicts for you. Help! also will alert you to duplicate, out-of-date and damaged applications and files. The result of a Help! session is a detailed report, which may be read on screen or printed.

In cases where out-of-date or incompatible software is detected, the Help! report provides information on contacting the company for an upgrade.

JUST CLICK

Just Click Under System 7 To Switch Between Applications

If you want to have the old MultiFinder-style application switching (clicking in the upper right corner of the screen) to System 7, then Just Click (a freeware utility) is a system extension for you. If you're tired of pulling down System 7's Application menu and long for the good old days, Just Click will bring them back. You can find Just Click on ZiffNet/Mac and from local user groups.

KEY CAPS

Access Special Characters

Can't remember what key combination creates a trademark or other obscure symbol? You've probably used Apple's Key Caps DA. An easier and quicker route, however, is to use PopChar, a freeware Key Caps substitute. PopChar displays the character set for the current font and then lets you select a character and paste it into your document without any complex Shift-Option keystrokes.

KEYBOARD

Delete Files From The Keyboard

Basura (Fred's Finder Hacks) lets you highlight a file in the Finder and use Command-Delete to put it into the Trash. Command-Option-Delete puts the item into the can and empties it.

List Command-Key Shortcuts

Perhaps your problem is that you have too many Command-Key shortcuts and you can't remember which does what. When you invoke a hot key, the freeware program MenuKey displays a list of all available Command-key shortcuts for the application you're currently running.

KIWIENVELOPES! 3

Bar Coding With Dot Matrix Printers

KiwiEnvelopes! 3, an envelope-addressing DA, doesn't currently support bar coding on non-laser printers. The feature is disabled.

If you own SuperGlue, though, you can print the bar coding on your dot-matrix printer. Open the DA, and select Super Glue's SuperImageSaver II instead of your dot-matrix printer. Print your envelope from KiwiEnvelopes 3, and save the file in SuperGlue format. Reselect the printer from the Chooser DA. Open the SuperGlue file and print.

Kiwi Software has stated that tests administered in close cooperation with the U.S. Postal Service indicate that dot-matrix printers cannot position a print job precisely enough to produce valid bar codes. Kiwi disabled the bar-code feature for dot-matrix printers deliberately, and this is documented in their manual. A bad bar code may move your mail more slowly through the postal system than no bar code at all.

LAYOUT

Doesn't Work With System 7

Mike O'Connor's freeware application, Layout, lets people control how Finder 6 handles the desktop, including how icons are staggered, how many windows can be open at once, how text is displayed and much more.

In Finder 7, Layout no longer works because the new Finder lacks the LAYO resource O'Connor's software modified. System 7 offers a Views control panel instead, with a few of the same functions, but far less flexibility.

LIFEGUARD

Eye and Body Saver

You may have seen many screen savers, but have you heard of an eye and body saver? The National Academy of Sciences reports that more than half of all video-display and microcomputer users polled complained of eyestrain, headaches, and muscle pain, and Business Week reports that RSI (repetitive-strain injury) is the fastest-growing occupational disease of the 1990s.

The best way to protect yourself is to take a break every so often and do something else. You can do this with a software product called LifeGuard.

LifeGuard is an INIT and DA from Visionary Software that interrupts your work at customizable intervals – with an audible or visual notification – and reminds you to do something else. It also keeps track of the number of keystrokes you've made in the past hour (according to the manual, experts recommend you keep your keystrokes to fewer than 12,000 per hour). The DA includes illustrated exercises for the eyes, neck, shoulders, back, arms, wrists, hands, and legs, plus ergonomic reference diagrams to help you create a workstation that won't cause you pain.

MACROS (SYSTEM 7)

User Scripting

Apple used to ship a low-end macro program called MacroMaker with its OS, but it dropped it with the release of System 7. Macros define a set of actions (such as opening and printing a file) and activate them when you issue one command. Apple had favored a higher order of user macros called Apple Scripting; however, this too fell out of the final release of System 7. Several third-party tools let you have low-, medium-, or high-end macro and scripting capability.

MacroMaker was picked up by GO Technology (PO Box 7667, Incline Village, NV 89450; 800–468–5391), which markets a System 7-compatible version. Tempo II (Affinity Microsystem Ltd., 1050 Walnut Street, #425, Boulder, CO 80302; 800–367–6771) is a higher-end program that has conditional branching for its macros.

QuicKeys is another scripting and macro creation programs. You can perform any task that has a macro assigned to it, including complex tasks such as program linking and batch processing of files. QuicKeys is from CE Software Inc., 1801 Industrial Circle, West Des Moines, Iowa, 50265; [515] 224–1995.

UTILITIES

One program has taken macros to the next -level scripting is Frontier (UserLand Software, 490 California Ave, Suite 202, Palo Alto, CA 94306; [415] 325–5700). Frontier is a high-end development environment that provides sophisticated users with the tools to really tie applications together. With Frontier, you can write a script that searches a database for information, extracts that information, places it in a page-layout program, formats it, and then uploads the layout to a service bureau for printing — all without any user interaction.

MAIL-ORDER

Buying Software Overnight

Buying from a mail-order company is the easiest way to shop for Mac hardware and software or a Mac itself, for that matter. Just find the ad in the cᴏᵢ ᵢputer magazine, get out your credit card, dial the number, and place your order. Most mail-order companies promise big savings, fast delivery, and, in some cases, money-back guarantees. For more on your consumer rights (and responsibilities) when buying from a mail-order company or dealer, see MacUser's "Buying Smart," January '91, page 174.

Here are some tips on how to be a successful mail-order consumer:

Know exactly what you want before you call. It's hard to browse over the phone, and in many cases, the person on the other end is trained to take your order only, not to help you make a decision. If possible, get some hands-on experience before you dial go to a dealer to comparison-shop, or borrow a friend or colleague's copy of the software package you're interested in. Your local user group may also be able to give you advice. Find out if the product you're interested in is compatible with your system. You should be able to get help from an Apple dealer, or you can call Apple customer service at 800–776-2333 or (408) 996-1010.

Use a credit card. Some credit-card companies will do such things as double your warranty or give you a refund if you find a lower price elsewhere. Even if your credit-card company won't go that far, it's worth using plastic to pay for your purchases. If the product is never delivered or is defective, you can contest the charge with your credit-card company and the credit-card company

will deal with the mail-order company.

Confirm the price when you place your order. Sometimes the printed price isn't current or there are hidden charges. If the price is higher than you thought it would be, it's worth trying to see if the company will accept the lower price. You should also find out how much the delivery charge is. Some companies will waive the delivery charge if you order at a certain time of day (after 8 p.m., for example). The savings depend on what and how much you buy, but you may be able to shave at least $5 off the final cost. Ask about delivery methods, find out what carriers are used, how fast they are, and how much each one costs.

Make sure the company has a return policy you're comfortable with. In most cases, a money-back guarantee or a trade-in policy is a must. Find out if you're responsible for paying shipping charges on returned goods and whether you'll be charged a "restocking" fee.

Before you use your new merchandise, make sure it's exactly what you ordered the correct model or version number, for example. Errors are not uncommon, and it's easier to return goods before they've been unpacked.

If you're buying hardware, find out how the company handles repairs or replacements. Ask how quickly you can expect to get your equipment back if you have to send it in for service and whether the company offers loaner equipment.

Technical support varies from company to company. When buying memory, for example, you may find that some companies offer step-by-step installation and troubleshooting advice over the phone; others send written instructions only. Unless you happen to be a techno-expert, it's best to work with a company that offers free technical support.

NODE CHECK

No Ethernet Checking

Node Check, Apple's simple address-checking utility for LocalTalk that used to be called NetCheck, won't give you any useful information about AppleTalk networks running on Ethernet.

NORTON UTILITIES

Using The Fast Find DA

When you're using The Norton Utilities for the Mac's Fast Find DA, Command-T gives you access to a dialog box that allows you to search by type or creator – a useful feature for power users that's not mentioned in the manual.

Fast Find Faster

Although Norton Utilities' Fast Find command is extremely speedy, you can make it work even faster if you hold down the space bar while it's searching – this stops the animated sprinting-man icon.

NOTE PAD

Better Note Pad DA?

There's an excellent shareware notepad DA called Flash Write II (Andrew Welch, 29 Grey Rocks Road, Wilton, CT 06897; $15). It lets you create as many pages as you want, and each page can contain as many as 32,000 characters. Text can be shown in any font, size, or style. FlashWrite II can import and export text files, find text on any page, and count words.

ON LOCATION

Calling On Source-Code Collections

Using On Location is a dandy way to keep track of what's on your hard disk, and it's even dandier for programmers. For example, if you have megabytes of sample source code scattered throughout thousands of files, you can use On Location to fully index these files.

When you need an example of how to use any function, just call up On Location and search for all the references to the function from the source-code collection. This also lets you view the text in each sample source-code file and cut and paste the sample into your own program. It's fast and a great way to make your programming more efficient.

PARTITIONING SOFTWARE

Organizing Your Hard Disk

Partitioning software divides your disk into multiple volumes, each of which is its own "virtual" disk. You can use partitions to help organize your files. They're a great aid with most backup programs, which work volume by volume. If you create a small partition for your recent documents, you can back up that volume daily and the backups will go quickly. Keep older documents in a separate partition. For security, partitions can be password-protected, and if you share your hard disk, partitions can give all users their own private work areas.

You can keep older versions of software in a separate partition for when it's necessary to use an old version of a program. You don't want both the old and new version on the same volume, because when you double-click on a document, you don't know which version of the application will open.

The Finder also slows down when a disk has too many files and the System Desktop file gets too big— so partitioning your disk limits each volume to a size the Finder can manage.

POSTSCRIPT PRINTER

Finding PostScript Problems

Many Mac users have yet to come to grips with the fact that their PostScript printers, far from being simple output devices, are separate computers of labyrinthine complexity, and that the printers' internal page description language is understood completely by only three people, all of whom work at Adobe Systems Inc.

A company called Chesire Group has quietly been selling a killer utility called PinPoint Error Reporter. This little $89.50 gem is a program that loads into your PostScript printer, intercepts error conditions and produces a very detailed error report. PostScript hackers will love it, but even those of us who don't know PostScript will find it useful since it isolates the location on the page where the error occurred, letting you

change your work to eliminate the error.

Cheshire Group is at 321 S. Main St., Suite 36, Sebastopol, CA. 95472. Phone (707) 887–7510; fax (707) 887–2595.

POWERBOOK

CursorFixer

Dennis Brothers has written a handy extension that solves a problem for PowerBook users: the disappearing I-beam cursor. His CursorFixer extension replaces the near-invisible-on-LCD-screens I-beam with a fatter one that is easier to see. It also swaps a thicker cross-hair cursor for the one-pixel-wide one used in many graphics programs. Brothers has uploaded the free program to several on-line services.

PowerSleep

Although you can put the PowerBook to sleep from either the Battery DA or the Special menu, a better method is to use the freeware Fkey program PowerSleep (available from ZiffNet/Mac and other on-line services). PowerSleep lets you use a keyboard command equivalent to put the system to sleep, and unlike other methods of invoking Sleep, it won't wake up a sleeping hard disk, which can be a significant power drain.

PRINTER (SYSTEM 7)

View Printer Queues

System 7 prints more slowly than does System 6. Maybe that's why Blue Parrot (Casa Blanca Works, Inc., 148 Bon Air Center, Greenbrae, CA 94904; [415] 461–2227) is such an attractive application. It lets you view who's printing what and in what order on a shared printer. With multiple printers on a network, you can choose the one that's less busy.

QUICKEN

Customizable Command Keys

Hold down the Command key when you choose a menu item that lacks a keyboard command equiva-

lent. This action brings up a dialog box that lets you assign Command-key shortcuts. You can also use this technique to delete or change existing keyboard shortcuts.

Keyboard Navigation In Lists

When the Account, Category, Class, Memorized Transaction, or Transaction Group list is the active window, simply type the first letter or first few letters to select the desired item in that list.

Adjust Date/Check Number. You can use the + key or the - key to increase or decrease the date and/or check number by 1.

QUICKEYS 2

Updating Application-Specific Macros

QuicKeys 2 lets you create program-specific macros that are stored according to the name of the individual application. After you upgrade a program to a newer version, you may discover that all your QuicKeys macros for that program have disappeared. You can retrieve them by opening the QuicKeys resource and changing the program names and/or version numbers to the new ones. Here's how:

Open the Preferences folder in your System Folder. Inside the QuicKeys folder is a QuicKeys Preferences folder, which contains a KeySets folder where all your macro sets are arranged by program name. Simply change the version number on the filename, and you're set.

Using QuicKeys To Print

If you program QuicKeys to scan the menus looking for "Print…" and find that it doesn't work in some applications, remember that some applications do the ellipsis after Print with three periods and some do it with Option-semicolon. They may appear the same on the screen, but to QuicKeys they're quite different. Solution: Define an application-specific QuicKeys file for each of these applications.

Recovering After A Program Upgrade

QuicKeys 2 lets you create program-specific macros that are stored according to the name of the individual application. After you upgrade a program to a newer version, you may discover that all your

QuicKeys macros for that program have disappeared. You can retrieve them by opening the QuicKeys resource and changing the program names and/or version number to the new ones. Here's how:

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QUICKEYS 2.1

Timing QuicKeys To Empty The Trash

Since the Trash under System 7 doesn't automatically empty at shutdown or restart as it did under System 6, several freeware and shareware utilities have arrived to automate the process. QuicKeys 2 can do this just as easily, however. Just create a Menu/DA macro that selects Empty Trash from the Special menu in the Finder, and click on the Timer Options button to set macro to be activated 0 seconds after your Macintosh starts.

If you have any applications in your Startup Items folder, you'll instead want to make a sequence in QuicKeys 2: First, set up a Menu/DA macro (look on the Define menu in the Sequences dialog box) that chooses the Finder from the Application menu in the upper right corner of the screen. Second, use the Menu/DA selection, on the Define menu, to choose Empty Trash from the Special menu. QuicKeys waits until everything in the Startup Items folder has been launched before it starts to execute any macros. [This QuicKeys macro is available in Library 5 (Scripts & Templates) of the ZiffNet/Mac Download & Support Forum; the filename is QTRASH.CPT.]

QUICKTIME

Add a Video Beep

VideoBeep, QuickTime freeware, replaces the standard system beep with a video of your choice.

READ MACWRITE

Reading MacWrite Files Without The Application

Many software developers continue to use MacWrite format as their standard for on-disk program documentation. This can be inconvenient if you don't have MacWrite. You have to open up Microsoft Word or some other word processor and import the file, even if all you want to do is take a peek at the documentation.

You can modify Word's Creator to MSWD using ResEdit. However, if you're not comfortable with ResEdit or if text files are what you're after, there's a nice shareware utility, Read MacWrite, that opens MacWrite files and scrolls through them on the screen while saving the contents as a plain text file. Now if you need to take a look at some documentation on the fly, you can just open the file with a DA such as miniWRITER (which is also shareware).

You can pause the scrolling, but Read MacWrite lacks a text buffer and elevator boxes for scrolling back over what you've read. Once the text has scrolled by, it's gone until you reopen the file and start at the beginning.

Read MacWrite's quick production of text files from MacWrite-formatted documents would also come in handy if you had several MacWrite files that you needed to get into plain-text format in a hurry.

Read MacWrite is available in the Download Library Forum on ZiffNet/Mac.

RESEDIT

What Is ResEdit?

ResEdit is Apple's resource-editing software. All Mac software contains resources, which create things such as menus, cursors, icons, dialog boxes, and so on. When you're adept with ResEdit, you can edit menu items, colors, desktop patterns, and keyboard command equivalents; alter wording in dialog boxes; create and modify icons; and so on.

You can get ResEdit directly from APDA (the Apple Programmers and Developers Association) for $49.95. Contact APDA at 800–282–2732 or

(408) 562-3910. And if you have a modem, you can download the latest version from CompuServe, America Online, or GEnie. Try your user group, too.

If you don't have a modem or a user group, BMUG (Berkeley Macintosh User's Group) offers a $15 package that includes ResEdit and BMUG's excellent book Zen and the Art of Resource Editing as well as several utilities and a beautiful collection of icons and jumbo desktop patterns. Contact BMUG at 1442A Walnut Street, Suite 62, Berkeley, CA 94704; (510) 549–2684.

A more sophisticated and full-featured resource editor is Resorcerer, available from Mathemaesthetics Inc. at P.O. Box 67156, Chestnut Hill, MA, 02167; (617) 738–8803. Developers will appreciate features such as scripting repetitive tasks, System 7 feature support, templates, editing of Apple-Events scripting resources and much more.

NITs Across Your Startup Screen

If you dislike those INIT startup icons goosestepping across your startup screen and the programmers didn't see fit to give you the option of disabling the icons, there is a simple solution: You can change the icon ID number, using an icon editor such as Icon Designer or a resource editor such as ResEdit, thereby eliminating the startup icon without affecting the INIT itself.

Use a consistent pattern when you change the numbers so that you can restore them later if you need to. For example, change ID number 128 to 12800 or change ID number -4023 to +4023.

The patterns you use don't matter – just be consistent. After you've changed the ID numbers, your startup screen will be untrodden.

Changing The Shutdown Screen

If you want to change the Shut Down screen that says "You may now switch off your Macintosh safely," use a copy of ResEdit and follow the steps below:

1. Make a copy of the System file, using the File menu's Duplicate command.

2. Launch ResEdit, open the duplicate copy of the System file, and locate the DSAT resource.

3. Double-click on this resource, and then double-click on the ID 2 file.

4. Scroll down until you see the "You may now..." message in the narrow right column.

5. Starting with the letter Y, highlight the message through the last character, a period.

6. Carefully type in your message, using exactly 45 characters, including spaces. Save your changes.

7. Quit ResEdit, shut the Mac down, and restart from a floppy disk.

8. Save a copy of your original System file on a floppy disk. Replace the hard disk's System file with the duplicate copy, and change the copy's name to System.

9. Restart your Mac from the hard drive, and choose Shut Down from the Special menu.

10. Your message should appear the way you typed it. If you did something wrong, the Shut Down screen will flash, but that shouldn't cause any major problems. Simply trace these steps, and make sure that you typed exactly 45 characters.

Deleting Sound Resources To Save Space

Digitized-sound resources are fun but are also often very large and expendable. If you're running short of disk space or if you're looking for ways to reduce telecommunications time, you might want to use ResEdit to locate the snd resources on a copy of the application or stack. Delete the resource, save the program, and make sure the program still works. The About box or startup screen might be less entertaining, but the program will be a lot leaner.

Reassigning The Shift-Period Key Combo

If you've ever tried to type P.O. Box quickly on a typical Mac keyboard, you've probably wished that the Mac keyboard functioned more like a traditional typewriter, with Shift-period producing a period (instead of >) and Shift-comma producing a comma (instead of <). Here's a way to reassign these keys, using ResEdit 2.1 or later:

1. Make a copy of the System file in the System Folder by using the Duplicate command (Command-D) on the File menu. Remove the copy to a nonboot disk or partition (having two System files on your boot disk can cause problems).

2. Open the copy with ResEdit, and open the KCHR resource, which controls the mapping of ASCII characters to keyboard keys.

3. The keyboard display in the bottom third of the window changes as you press the modifier keys, in the same way as it does with the Key Caps DA. Hold down the Shift key to display the shifted keyboard map.

4. Using the mouse, drag the desired character (in this case, the period) from the palette in the top two-thirds of the window onto the key you want to represent it. Do the same with the comma. (Because this operation replaces the > and < symbols with the period and comma, you might want to assign the < and > symbols to the Option-Shift positions on their respective keys so they're still accessible.)

5. Close the KCHR resource, and save the changes to the System file. Restart the Mac from a floppy disk, store the old System file in some place other than the boot disk, and place the edited version of the System file in the System Folder. Restart the Mac. This will eject the floppy disk, and your Mac will reboot with the new System file in place.

This change affects the keyboard mapping, not the font information, so it should be font-independent.

Customizing The Shutdown Message

If you want to change the message in the Shut Down screen (the one that says, "You may now switch off your Macintosh safely.") – Here's how to do it, using ResEdit on a copy of your System file:

1. Make a copy of the System file, using the File menu's Duplicate command.

2. Launch ResEdit, open the duplicate copy of the System file, and locate the DSAT resource.

3. Double-click on this resource, and then double-click on the ID 2 file. 4. Scroll down until you see the "You may now ..." message in the narrow right column.

5. Starting with the letter Y, highlight the message through the last character, a period.

6. Carefully type in your message, using exactly 45 characters, including spaces. Save your changes.

7. Quit ResEdit, shut the Mac down, and restart from a floppy disk.

8. Save a copy of your original System file on a floppy disk. Replace the hard disk's System file with the duplicate copy, and change the copy's name to System.

9. Restart your Mac from the hard drive, and choose Shut Down from the Special menu.

10. Your message should appear the way you typed it. If you did something wrong, the Shut Down screen will flash, but that shouldn't cause any major problems. Simply re-trace these steps, and make sure that you typed exactly 45 characters.

Increasing The Desktop Pattern Pixel Grid

Under normal circumstances, the desktop pattern contains a series of 8 x 8-pixel grids, which you can edit in the General Controls control panel (usually located on the Apple menu). You can use ResEdit to increase each grid's size to as much as 64 x 64 pixels, which allows you to create much more detailed desktop patterns (for example, you might re-create your company's logo as your desktop pattern). You can also paste in a picture (as large as 64 x 64 pixels) from the Clipboard and use that as your desktop pattern. Here's how:

1. Launch ResEdit, and open a copy of the System file.

2. Double-click on the ppat resource, and then double-click on the resource with the ID number 16. This opens the pattern editor.

3. Choose Pattern Size from the ppat menu. Choose a new pattern size in the dialog box, and then click on the Resize button.

4. Create a new pattern in the pattern editor, or paste in a picture from the Clipboard. (If you paste in a picture that's bigger than the size you set, you'll see only one corner of it. To get around this, choose Command-A [Select All] from the Edit menu — ResEdit will resize the pasted picture to fit the area you've selected.) To see how your new desktop looks, choose Try Pattern from the ppat menu.

5. When you're satisfied, choose Save from the File menu and quit ResEdit. Move the edited copy of the System file into your System Folder (you may have to boot from a floppy to do this), and restart your Mac.

Opening A Generic Document With A Specific Application

When you double-click on a generic text or PICT document in the Finder, you get a message that tells you that the document couldn't be opened because its application couldn't be found and then asks if you want

to open the document in Teach Text. Most of the time, you'd rather open it with your word processing, painting, or retouching program, wouldn't you? If so, all you have to do is change the associated creator code in the Finder's fmap resource. Here's how to do it:

1. Launch ResEdit, and open a copy of the Finder file.

2. Double-click on the fmap resource, and then double-click on resource ID 17010.

3. Notice that the first line displayed on the far right side is TEXTttxt. Since ttxt is the creator code for Teach Text, all you have to do is drag-select those four characters and replace them by typing in the four-character creator code of your favorite word-processing program. For example, Word is MSWD, Nisus is NISI, and MacWrite II is MWII. (To find an application's creator code, use ResEdit to open a document created by that application and choose Get Info.)

4. While you're messing around, change the ttxt after PICT in the second line to match the code of your favorite graphics application that can read PICT files. For example, MacDraw Pro is dPro, Canvas 3.0 is DAD2, and Photoshop is 8BIM.

Note: Type the creator codes exactly as shown —using uppercase or lowercase letters actually matters here.

5. Save the file, and quit ResEdit. Move the edited copy of the Finder file into your System Folder (you may have to boot from a floppy to do this), and restart.

The Finder even knows to substitute the name of your application for Teach Text in the dialog box. Now it'll read, "The document X couldn't be opened, because the application program that created it couldn't be found. Do you want to open it using Microsoft Word?" (or whatever program you've chosen).

Adding A Command-Key For Save As

Command-key shortcut for Save As to a copy of Teach Text (you can extend this technique to many other applications).

1. Launch ResEdit, and open a copy of Teach Text.

2. Double-click on the MENU resource, and double-click on the picture of the File menu (it should have a small figure 2 beneath it). This opens the menu editor.

3. Click on Save As in the picture of the menu at the right of the menu editor, and then click in the text-

entry box next to Cmd-Key and type the Command-key shortcut you want to assign to Save As. Be careful not to choose a key that is in use elsewhere in the program. After examining all the menus and determining that it wasn't used elsewhere, I chose the letter E.

4. When you're satisfied, quit from ResEdit, saving the file when prompted.

That's all there is to it. The next time you use Teach Text, Command-E (or whatever you've chosen) will invoke the Save As command. By the way, you may have noticed that this resource lets you add color to the text and Command-key shortcuts as well as add icons.

Editing The Finder's Menus

Here's how to edit the Finder's File menus:

1. Launch ResEdit, and open a copy of the Finder file.

2. Double-click on the fmnu resource, and then double-click on ID 1252. This brings up a window filled with arcane text and numbers.

3. In the far right column of text, you'll notice some familiar strings from the Finder's File menu, such as New Folder, Close Window, and other commands. The Command-key shortcuts for these (and all other Finder menu items) are stored in the third character before the name of each item — the N before New Folder and the W before Close Window, for example, are what determine the Command-key shortcuts for these options. A menu item with no Command-key shortcut just has an empty box in the appropriate place.

4. To change or add a Command-key shortcut, select the appropriate character in the right-hand column and type in capital letters the key you want. It's important that you select only the character you want to replace. If you put the cursor to the right of the character, delete it, and then replace it, the Finder may reorder your menus or behave in other unpredictable ways.

5. Save the changes, quit ResEdit, move the edited copy of the Finder file into your System Folder (you may have to boot from a floppy to do this), and restart your Mac. The new Command-key shortcuts should show up in the menus once the new Finder has loaded.

This technique works on the other Finder menus as well. The Edit menu is ID 1253, and the Special menu is ID 1255.

RESEDIT 2

Turning An EPS Image Into A Startup Screen

If you want to turn your favorite EPS image into a startup screen, for example, or want to otherwise process it on a pixel level, try ResEdit.

Open the EPS file with ResEdit and you'll find a resource of type PICT. Open it and click on the image and copy it to the clipboard (with Command-C). Open MacPaint (or any graphics program that can save files as startup screens), and paste (Command-V) the image into the MacPaint window. You can do this even if the original PICT image was in color – although it will be converted to black-and-white.

RESEDIT (SYSTEM 7)

Freeing The Finder

Although it's true that System 7 can run on a 2-megabyte Mac, you won't have room in memory to run much else. Here's how to make the Finder quit when you're running an application, thus freeing up (approximately) 300K of RAM:

1. Make a copy of the Finder. (Never use ResEdit on an original file.)

2. Launch ResEdit, and open the copy of the Finder file.

3. Double-click on the fmny resource.

4. Double-click on ID 1252. This will bring up a window filled with arcane text and numbers.

5. Scroll to the bottom of the window. Click once to place your cursor just to the right of the characters 016D.

6. Type 7175697481000000045175697400 (ResEdit automatically inserts the spaces for you).

7. Scroll back to the top of the window. In the upper left corner, you'll see 000000 and, just to the right of that, 0001 0011. Change 0011 to 0012.

8. Save the changes, and quit ResEdit. Move the edited copy of the Finder file into your System Folder (you may have to boot from a floppy to do this), and then

restart your Mac. The Finder now sports a Quit command.

Note: There are a couple of drawbacks to adding this command — mainly that you'll lose your Apple menu. You'll still have the Apple and probably the About menu item, but you won't be able to see any of the other goodies on that menu. The other major annoyance is that the only way to get the Finder running again is to quit all open applications. If you try to quit when no other application is open, the Finder will simply restart itself.

SAVE

Auto-Save Documents

Unless you save documents meticulously every few minutes, it's likely that you've had a system crash destroy some of your work. Programs such as AutoSave II do a save for you at regular intervals. The same type of utility is being bundled with other packages - WorkSaver (QuickTools, Advanced Software, 1092 E. Duane Ave, Suite 103, Sunnyvale, CA 94086; 800–346–5392), and NowSave (Now Utilities, Now Software, Inc., 520 S.W. Harrison, Suite 435, Portland, OR 97201; 800–237–2800), to name two.

SECURITY

Password-Protect Folders and Disks

If you lock your file cabinet at work or home, then you'll want to do likewise with your Mac. It's easy to go overboard with complicated security packages, but a little basic protection may be good enough to serve as a deterrent for prying eyes. FolderBolt (Kent Marsh Ltd., 1200 Post Oak Blvd., Suite 210, P.O. Box 460289, Houston, TX 77056; 800–325–3587) simply locks designated folders through use of a password. DiskLock (Fifth Generation Systems, 10049 N. Reiger Road, Baton Rouge, LA 70809; 800–873–4384) and Barricade (QuickTools, Advanced Software, 1092 E. Duane Ave, Suite 103, Sunnyvale, Ca 94086; 800–346–5392), on the other hand, require use of a password for you to mount a hard disk.

SCREEN

Enlarge Your Screen Area

MaxAppleZoom (Naoto Horii, BP 1415, B-1000, Brussels, Belgium) eliminates the black border you usually see on an Apple 13-inch monitor so that you can use it as screen space. The utility uses some previously unused RAM on the video card to create an image with more pixels. As a result, you can increase the display area of your Apple 13-inch monitor by about 20 percent — from 640 x 480 to 704 x 512 pixels.

Switch Among Screen Depths

Some applications work better in black-and-white, and others demand color. If you want to avoid going to a control panel to switch among pixel-depth modes, then get Pixel Flipper or Screen Flipper, share-ware extensions that provide a Command-key short-cut to invoke a change. The commercial alternative, HAND-Off II (Connectix Corp., 2655 Campus Drive, San Mateo, CA 94403; 800-950-5880), is smarter. It lets you define the correct mode for each application and then switches to it automatically as you switch applications.

Switch-A-Roo is a freeware utility that will do the same thing. See Switch-A-Roo later in this section.

SCROLL BARS

Add Bidirectional Scroll Bars

The problem with Mac's scroll-bar arrows is that you have to travel to either end of the screen to go in a par-ticular direction. Scroll2 (Mayson G. Lancaster, 1492 W. Colorado Blvd., Pasadena, CA 91105) puts bidirectional arrows at both ends of the scroll bar so that you can go down even if your cursor is at the top of the screen.

Another utility that will do this is AltCDEF. AltCDEF, by Alexander Colwell, puts bidirectional arrows at each end of the scroll bars. Compared to other renditions of scroll bar enhancers, AltCDEF has the cleanest and most unobtrusive interface, and it comes with special shift and option commands for added scrolling bene-fits. AltCDEF is freeware, System 7 compatible and is available from on-line services and user groups.

SEARCH UTILITIES

Search All Text on a Disk

If you can't jog your memory for the filename you're after, you may need more powerful search software — a text-retrieval program. Gofer (Microlytics, Inc., Two Tobey Village Office Park, Pittsford, NY 14534; 800–828–6293) and On Location (ON Technology, Inc., One Cambridge Center, Cambridge, MA 02142; [617] 225–2545) are two heavyweight applications that can scan the contents of files for a string, word, or phrase.

On Location pre-indexes your entire hard disk (or other mass-storage device) to make text retrieval nearly instantaneous. For the "lite" version of text retrieval, look at Super Boomerang (Now Utilities, Now Software, Inc., 520 S.W. Harrison, Suite 435, Portland, OR 97201; 800–237–2800). You use its Find command to search through files for a string. Super Boomerang doesn't have the feature set of the other programs, but it still gets the job done.

SET CLOCK

Recalibrating The Mac Clock

If your Mac gains several minutes a month, you can recalibrate the internal clock with a program called Set Clock. It makes a 10-second call to an atomic clock in Toronto or Chesapeake, Va., and resets your Mac clock to match. It's available as SETCLK.SIT in the Utilities library of MacSys on CompuServe (GO CIS:MACSYS), as well as other on-line services and user groups.

SHADOWWRITER

Networking The Laserwriter LS, SC And StyleWriter

Gizmo Technologies of Fremont, California, sells soft-ware called ShadowWriter that lets you network Apple's LaserWriter LS, SC and StyleWriter.

The Mac to which the printer is connected sponsors the printer on the network, so other Macs can select

the device in the Chooser and print to it. Each Mac on the network must have the printer driver for the type of printer in use, and of course you need to make sure that the various fonts and font renderers, such as TrueType and Adobe Systems Inc.'s Adobe Type Manager, are consistent.

SOFTPC

Speeding Up The Display Screen

There are a few things you can do to speed up SoftPC graphics besides upgrading to a faster Mac or an accelerated display card. Running in black-and-white mode will make text display a lot faster. Another trick is to use a fast console driver replacement such as QCRT, which reportedly almost doubles SoftPC's text-scrolling speed. The driver is available as QCRT21.ZIP in the IBM Hardware forum on CompuServe (type GO CIS:IBMHW).

SOUND CONVERTER

Editing Sounds

When you want to turn sounds into sound resource files, the sounds are often at the wrong sampling rate. A utility called Sound Converter converts SoundEdit, SoundWave, or SoundCap files into sound resources and lets you choose the sampling rate when you convert sounds (although it doesn't let you change the sampling rate of an existing sound resource).

Sound Manager is a sound-manipulating shareware utility that can do any type of conversion, play sounds, and let you do some light editing. But you'll also need SoundEdit (one of the applications that is included with Farallon's MacRecorder sound digitizer) if you want to change the sampling rate of the resource. Sound Manager can convert sounds to SoundEdit format; SoundEdit can save the sounds with a different sampling rate (although it can convert only from faster rates to slower rates).

SOUNDMASTER

Add Sounds To Mac Actions

Bruce Tomlin's SoundMaster, a popular shareware control panel, lets you add sound to most Mac actions. Install it, and you'll be able to specify a sound that will play when you start up; restart; shut down; insert a disk; eject a disk; press the Tab, Shift, Return, or Delete key; and more.

Yes, SoundMaster is silly, but it sure makes using a Mac a lot more fun. If you want to use it with System 7, however, make sure you get Version 1.73, now widely available from on-line services and user groups; you can download SoundMaster sounds plus some cool sounds and other sound-manipulating software by downloading a package of goodies on MacUser's on-line service, ZiffNet/Mac. You'll find it in the Download & Support Forum (filename BTSSNS.CPT).

STEPPING OUT II

Disabling Stepping Out II Upon Launching An Application

Stepping Out II is a useful addition to the Mac, giving the effect of a larger screen. Many people keep it on all the time. But some programs, particularly games and telecommunications software, are better off without it. To save yourself a trip to the Control Panel, launch your program while holding down the Option key, and Stepping Out II will automatically shut off. You should use the Control Panel to turn it back on when you Quit, though. This is an undocumented and handy reversal of Stepping Out's QuickStart feature.

Stepping Out As A Screen Shrinker

Stepping Out II is a screen extender that allows the creation of large virtual screens on the Mac. Although most people can readily see the benefit of this (particularly for the 9-inch screen of the Plus and SE), there is another benefit for those who would rather use a larger monitor while developing applications for the smaller, standard screens.

Stepping Out II also functions quite effectively as a screen shrinker. Creating a small screen size is simple. First, call up Stepping Out II from your Control Panel.

Click New and enter the pixel count for the screen size you want (512 pixels wide by 342 high for the Mac SE). Then, enter a name for your screen definition (such as "Mac SE Screen") and click Save. Finally, highlight the name of your new screen setup and click Set. If you have enough memory reserved for the new screen (and assuming that Stepping Out II is active), the change takes place immediately. Otherwise, you will first need to reboot.

Once all this is accomplished, you can easily switch from one screen size to the other by simply turning Stepping Out II on or off from the Control Panel.

STUFFIT

Automatically Unstuffing All Archived Files

StuffIt has a hidden (and very handy) feature. After selecting the archive you wish to open (or after clicking in the About box if you opened an archive and not the program itself), hold down the Shift key and StuffIt will automatically select all the files, decompress them, and save them to disk.

Halting StuffIt Operations

Simply pressing Command-period – the usual method for halting operations on the Macintosh – doesn't stop the stuffing/unstuffing operation in StuffIt. Instead, you need to hold down Command-period continuously until the operation has stopped.

Archiving Several Files

If you need to send more than 20 files via modem, you will need to send data in at least two sessions. Save yourself some time by enclosing all the files in one folder. StuffIt can archive entire folders of various sizes.

SUITCASE II

Distinguishing Between Bitmapped And Postscript Fonts

If you can no longer remember which of your fonts are bitmapped and which are PostScript, you can use Suitcase II to find out.

Select Suitcase II from the Apple menu, and click on the Fonts radio button or type Command-F. Select any

font name and click on Show, or double-click on a font name.

Above the sample text, Suitcase will list the printer font filename if the font is PostScript. If the font chosen is a bitmapped font, the message "This is a bitmapped font" will appear.

SWITCH-A-ROO

Switching Among More Than Two Screen Depths

Switch-a-Roo is one of the most useful FKeys available for the Mac II. If you need to switch between more than two screen depths, however (because you have a 24-bit monitor, for instance), the FKey will come up short. If you need to switch among 2, 16,256, and 16 million colors often, you can modify Switch-a-Roo to allow two copies of the program to run at the same time. Here's how:

1. Make a copy of Switch-a-Roo.

2. Using ResEdit, select the copy of the FKey. First, use the Get Info command to change the ID to a number other than 9 that your system isn't using currently.

3. Next, open the file and scroll down to byte 2417. In the ASCII translation of the hex code, you will see Roo File. Change this filename to something that uses the same number of letters (for example, Row File).

4. Save the file, and install it into your system, using ResEdit, or load it with Suitcase II.

This modification will make the two copies of a Switch-a-Roo run concurrently, with each assigned to a different keystroke. You may want to make one copy switch between 2 and 256 colors and have the other switch between 16 and 16 millions colors. Even if you have to switch among only three screen depths, it's still easier to have two copies running concurrently than to go to the Monitors cdev or to call up the full screen to reconfigure Switch-a-Roo. In addition, you can assign these FKeys to the functions keys on the extended keyboard, so any screen depth is no more than one or two keystrokes away.

SYSTEM

Analyze Your System Configuration

If, for example, you have extension-management problems and you need to get advice from an expert, it helps to know exactly what sort of system you're using. Several report generators can tell you intimate details about your Mac. Profiler (Now Utilities, Now Software, Inc., 520 S.W. Harrison, Suite 435, Portland, OR 97201; 800–237–2800) and Technical Assistance Assistant (distributed with most CE Software packages) give an exhaustic report on your system configuration, down to the number of bytes each extension takes up in the system heap. TattleTale is a freeware DA that does all of the above and has an excellent help system, too.

SYSTEM ERROR TABLE DA

Printing The Error Table

Pyro! co-author Bill Steinberg produces a concise list of system error and bomb-code definitions on the Macintosh in the form of a DA, called System Errors DA.

You can't order it directly, but you can download it from ZiffNet/Mac or from CompuServe's MAUG forum..

You can view any error opening the DA, but you have to have a working Mac before you can use it! A good idea is to keep a printed list of codes tacked up by your desk.

Here's how to do just that, if you have a copy of ResEdit. First, make a copy of the system Errors DA. (Always work on a copy when you're using ResEdit

Launch ResEdit, and double-click on the System Errors DA. In the window that opens, double-click on the TEXT item. Now double-click on TEXT "SysErrorList 2.1c ID=-15392 (it may have a slightly different name if you have a different version of the DA).

Next, select all the text by either dragging from the beginning to the end or clicking just before the first character, scrolling to the end of the text, holding down the Shift key, and clicking after the very last character. Select Copy from the Edit menu. Now quit ResEdit, launch your favorite word processor, and paste. You now have a text version of the error codes.

SYSTEM PICKER

You Can Keep System 6 And 7 On Your Hard Disk

Yes, you can, although it's a little clumsy. If you have a disk that can be partitioned, one solution is to define separate partitions for the two systems and switch partitions to switch systems.

If your disk can't be partitioned or you don't want to reformat it, the solution is a little more complex. You need to keep a separate System folder for each system and select which one you want to use with a little utility called System Picker (previously known as Blesser), available from ZiffNet/Mac, CompuServe and local user groups.

First, install System 7. (To do this without erasing System 6, select your current System folder and choose Duplicate from the File menu before installing). You now can use System Picker to select which System folder will be used the next time you boot up. Note that you should always reboot the Mac immediately after using System Picker. Otherwise, your Mac can get confused.

When you're running under System 6, you'll see extra folders on your disk called Desktop and Trash. Don't erase these; they're created and maintained by System 7. When you switch back to System 7, you'll likely see it update the disk. This step is necessary to accommodate whatever changes you've made to the disk and file structure under System 6.

TATTLETALE

Great System Reporting Utility

TattleTale is a desk accessory, from John Mancino, for examining Macintosh configuration details, and it's free. Mancino asks only that you do something positive for the environment in return for using the software (it's also Ecoware).

TattleTale details all aspects of a Macintosh configuration, including NuBus cards, SCSI chain, memory, processors, ROM and operating system versions, Desktop Bus devices, fonts, system extensions, open files, and active processes.

TattleTale is also System 7 compatible, and also provides a special feature list for programmers that lists the "traps" that are available and those that are missing from the system.

TRASH (SYSTEM 7)

Empty Trash on Shutdown
Under System 6, trash gets thrown away when you shut down. But under System 7, it keeps piling up until you select Empty Trash from the Special menu. TrashChute is a freeware extension that empties the trash when you shut down. It also uses Apple events to delete files when you drag them over the application icon.

USER GROUPS

Obtaining Utilities Without A Modem
If you want to obtain many of the utilities mentioned here or elsewhere but don't have a modem to download the stuff from on-line services, there are Macintosh user groups.

If you don't have a local user group, you can try the BMUG (Berkeley Macintosh User Group) software library, one of the most complete in the country. It offers a catalog of programs and sells disks of programs. You might consider joining BMUG just to get its newsletter – a semiannual 300-to-400-page extravaganza.

BMUG can be reached at 1442A Walnut Street, #62, Berkeley, CA 94709-1496; 800–776–BMUG or (510) 549–2684.

Another user group is the BCS-Mac (Boston Computer Society Macintosh) Group. BCS-Mac also has a nice fat PD catalog and a great monthly magazine. It's located at 1972 Massachusetts Avenue, Cambridge, MA 02140; (617) 864–1700.

Of course, you can call Apple at 800–538–9696 for the name of your local Mac user group.

VIRTUAL MEMORY

Use Virtual Memory With Syquest Drives
System 7's virtual-memory feature lets you operate with more memory than you have in physical RAM by using hard disk space to swap memory blocks. You can't assign removable drives as the home for your virtual RAM, however. Fortunately, a freeware utility, VMEject, corrects this for owners of SyQuest removable-cartridge drivers.

WINDOWS

Control Your Windows
With a dozen windows open on your desktop, getting to the one at the bottom means a lot of shuffling. Instant Menus (QuickTools, Advanced Software, 1092 E. Duane Ave, Suite 103, Sunnyvale, CA 94086; 800–346–5392) has a Windows feature that lets you instantly bring any open window to the front. Kiwi Power Windows Kiwi Power Windows (Kiwi Software, Inc, 6546 Pardall Road, Santa Barbara, CA 93117; 800–321–5494) advances that concept by bringing any open window in any application to the foreground.

WORD PROCESSING

WORKS

Apple ProDOS-To-Mac Translation
Need to deal with an Apple ProDOS-to-Mac-OS translation? The most common of these translations is necessary when you're transferring an AppleWorks file to Microsoft Works. The standard way to do this is to save the AppleWorks file on a 3.5-inch ProDOS disk and then use AFE (Apple File Exchange) with Microsoft's Works-Works Translator. The problem is that most Apple II-family computers have only 5.25-inch-disk drives, and for AFE to do the conversion the source file must be on a 3.5-inch ProDOS disk.

Here's a workaround that doesn't require finding an available ProDOS drive. If you can get the AppleWorks

file onto a Mac disk by electronic transfer, you can get the file onto a 3.5-inch ProDOS disk.

Launch AFE, put in a blank disk, and choose ProDOS Formatting from the File menu. After the disk has been formatted, use AFE to "default copy" the AppleWorks file from the Mac disk to the ProDOS disk. Then make sure that the AppleWorks to Microsoft Works translator is available and checked in the ProDOS to Mac menu, and convert the file.

GENERAL

Underlining Words With Descended Characters

There's not a whole lot you can do about poor underlining of letters with descenders – for example, when you underline a word such as change and the g gets sliced through. Words with such letters in the middle look better if you change the offending letter(s) to plain text and leave the rest of the letters underlined.

MACWRITE

Opening MacWrite Files Without The Application

Many software developers continue to use MacWrite format as their standard for on-disk program documentation. This can be inconvenient if you don't have MacWrite. You have to open up Microsoft Word or some other word processor and import the file, even if all you want to do is take a peek at the documentation.

You could change Word's Creator to MACA, using ResEdit. However, if you're not comfortable with ResEdit or if text files are what you're after, there's a nice shareware utility, Read MacWrite, that opens MacWrite files and scrolls through them on the screen while saving the contents as a plain text file.

Now if you need to take a look at some documentation on the fly, you can just open the file with a DA such as miniWRITER (which is also shareware).

You can pause the scrolling, but Read MacWrite lacks a text buffer and elevator boxes for scrolling back over what you've read. Once the text has scrolled by, it's gone

until you reopen the file and start at the beginning.

Read MacWrite's quick production of text files from MacWrite-formatted documents would also come in handy if you had several MacWrite files that you needed to get into plain-text format in a hurry. (Read MacWrite is available in the Download Library Forum on Zmac.)

Save As Text When You're Exporting Files

While there are a few word processors that can't recognize and open MacWrite files (most notably Microsoft Word), in general you'll find it easier to export data to other programs or via modems by saving it as a Text Only file. The Text format is easily transmissible over ASCII data lines, and works well when you're transferring data to other types of computers.

Lack Of Disk Space Can Cause Printing Problems

You can run into trouble trying to print documents if there isn't enough space on the disk to save the document to the buffer. If your disk is too full to print, either delete some files or else transfer the document to a less-overburdened disk. In a pinch, you can print a few pages at a time.

Hidden Spaces Can Affect Printouts

If your text doesn't print correctly after you've set up tabs for columns, check problem lines or columns carefully to see if any spaces were mistakenly entered there. As soon as these inadvertent spaces have been erased, your printouts should come out spaced the way you meant them to look.

Identifying Hookup Problems

If you're getting the message that your document can't be printed, try again, watching the dialog box while the Mac tries to print. If the Mac displays the message "Looking for the ImageWriter/LaserWriter" for longer than usual and then tells you it can't print your document, check all the connections to be sure the printer is hooked up correctly.

Creating Flash Cards

Here is a simple way to use the Mac to make flash cards. All you need is a program that prints two columns on a page (or you can do it the hard way and use tabs). These instructions are for using Claris' MacWrite II, but sophis-

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ticated word processors such as Word, WordPerfect, or Nisus work just as well.

1. Create a format with two columns. Make sure that if the page were folded down the middle, the columns would be situated on either side of the crease.

2. Type in the words or phrases in your target language—let's say Spanish — in the left-hand column.

3. Do a column break. Directly across from each Spanish word or expression, type the equivalent in English. Make sure that the equivalents are directly opposite each other, on the same imaginary horizontal line.

4. Increase the space between the selections, either by double-spacing (pressing Return twice) or by increasing the line spacing. This step isn't essential, but the results look better.

5. Print out the list. You'll have a column of foreign words and phrases on the left and their equivalents in English on the right.

6. If your printer has a sheet feeder, turn the paper over and run it through the printer again, head first, printing the other side. If you have a continuous form printer, make sure the paper is rolled to exactly the same point before printing each side.

7. Cut the paper vertically up the middle. This yields two strips, each with English expressions on one side and their equivalents in the other language on the opposite side. Put one strip away to use if you make mistakes in the next step or if you later lose some of the printed phrases and want to make a new set.

8. Trim off all the excess white paper.

9. Cut the printed words and phrases apart, and mix them up.

10. Whenever you want to test yourself, review, or learn new expressions, just pull a slip of paper out and look at one side. After you've tried the translation, turn the paper over to see if you were correct.

Nifty Smart Quote Feature

MacWrite II has a nifty smart-quote feature that automatically converts the typewriter-style single- and double-quote marks (like this:"") to the more-professional-looking curly quotes.

What do you do if you customarily use special foreign

quote marks (such as guillemets in French, Italian, and German)? You can change MacWrite II to be smart in any language by changing the SMQT resource with ResEdit. Open the resource and substitute the guillemets (both single and double) for the curly quotes. The keystrokes for << and >> are Option-backslash and Shift-Option-backslash, respectively. The keystrokes for < and > are Shift-Option-3 and Shift-Option-4, respectively. Close ResEdit and save the changes you've made. Now the program will smartly insert the new types of quote marks as you type.

The Trick To Editing Footnotes

If you place footnotes at the end of a MacWrite II document, you will discover that the footnote page cannot be fully edited. That means that you cannot easily add a title, such as "REFERENCES," to the top of a page. Claris' technical support says that the official solution is to save the document as a text file, reopen it, and edit the final footnote page as needed.

A better solution is to create footnotes in the usual way —in this case, auto-numbered and placed on the last page. Before you print, change your footnote preferences to disable the Auto Numbering option. Now place the insertion bar somewhere before the first footnote marker and insert a dummy footnote.

When you are prompted for the footnote marker, use a space, which will be invisible in the body of the text. For the actual footnote, type the desired title. It will be unnumbered on the footnote page and will appear before footnote 1. You can edit this title/footnote to change its size, style, and ruler configuration so it matches other titles in the document.

If you want to add other footnotes to the paper after you have created the title/footnote, do not enable auto-numbering. Instead, when the prompt for the footnote appears, press Return, and the appropriately numbered footnote marker will appear —without disturbing the title/footnote.

NISUS 3.05

Nonbreaking Spaces

Sometimes you don't want a sequence of characters that includes spaces to break between lines at the

spaces (for example, in a mathematical equation). You can avoid this in Nisus 3.05 by using an Option-space (called a nonbreaking space in other programs). To create such a space, hold the Option key down while you press the space bar.

If you want to globally change the spaces within a selection to Option-spaces, you can do so by creating the following one-line macro:

1. Choose New from the Macro submenu, on the Tools menu.

2. Type the words "Find/Replace", followed by a space. Type a pair of straight (dumb) quotation marks with a space between them. Type a second pair of quotes, this time with an Option-space between them. Type a final set of quotes containing an "s" (this tells the macro to replace the spaces in the current selection only).

Your macro should look like this:

Find/Replace " " " " "s"

3. Save the new macro, and assign a key to it. Select the text that you want to change, and invoke the macro with this key.

Zooming The Unzoomable

Sometimes you might position a window on the screen so that its zoom box in the right corner of the menu bar (for resizing) is off the screen. However, Nisus lets you use the zoom box – even if it's off-screen – simply by double-clicking on the window's title bar. This is true for all of your windows, including the Macro, Glossary and Catalog windows.

Making Smart Quotes Stupid

If you use smart quotation marks a lot, you should probably set up your Editing Preferences with Smart Quotes checked. Then whenever you type an ordinary quote (double or single), the correct curly quote will be substituted automatically.

Sometimes, however, you want to insert straight quotes (when using the symbols for feet or inches, for example). Rather than going to the Editing Preferences menu and changing the settings each time, all you have to do is hold the Command key down while you type the quotes. Holding down the Command-key modifier reverses the Smart Quotes setting for that entry.

Doing Windows

Here's a tip that's very useful if you have several windows open simultaneously.

Press the Command key, and click on the title bar of any window (including the Catalog and Macro windows). The Windows submenu (which you ordinarily access on the Tools menu) will pop up and show you which windows are open. You can then access any window by double-clicking on its name on the Windows submenu.

TEACHTEXT

Placing Graphics In TeachText Documents Using The ScrapBook

Using the Paste command to paste pictures into TeachText documents doesn't work. TeachText's document-creation facilities aren't the greatest, but graphics can be included. Here's how:

- Collect all the pictures you plan to include in your document and save them in the Scrapbook.

- At every place in your TeachText document that you plan to have a graphic, hold down the Option key and press the space bar. You won't see anything on screen, but a place will be reserved for your graphic.

- When you're finished with the document, open both the document and your Scrapbook file with ResEdit. ResEdit will ask if you wish to create a resource fork for the TeachText document —you do.

- Copy the pictures from the PICT resource in the Scrapbook file and paste them into the TeachText resource fork. Then select each picture resource, type Command-I to open an Info window on it, and set the resource ID of the first picture to 1000, the second to 1001 and so forth.

When you next open your TeachText document, a picture should appear in each place where you entered Option-space. TeachText will center each picture, but you'll probably need to add some blank lines to open up white space for the pictures to occupy.

Placing Pictures In Teach Text Documents

To place pictures in Teach Text documents, type Option-space where you want the picture to appear.

The pictures must be stored as resources of type PICT in the document, copied there by ResEdit. The first Option-space is drawn as picture 1000, the second as 1001, etc. Leave enough blank lines after the Option-space so the picture does not cover the following text. To make the document read-only, change the file type to "ttro." Teach Text will display additional lines of credits while holding down Command-option and selecting About Teach Text.

Placing The TeachText Newspaper Icon On Files

Ever wonder how some of those little TeactText ReadMe files appear on the desktop as newspaper icons? It's really simple.

1. Launch ResEdit or a similar program that allows you to edit the type/creator information of a file.

2. Choose Get File/Folder Info from the File menu (that's how it appears in ResEdit 2.1; your version may be different).

3. Choose the TeactText document file you want represented by the newspaper icon. The file type of normal TeactText files is TEXT, and the creator string is ttxt. Change the type to ttro, save your changes, and quit.

4. Close the folder that contains your file, and reopen it. There's the newspaper icon!

TEXT FILES

Mac, DOS And Unix Text Files

Mac text files ("text with line breaks," or some such in most word processors) terminate each line with a carriage-return character, while DOS text files use a carriage return and a line feed. Unix, of course, is different: It uses just the line-feed character. Programs that let you search for and replace non-printing characters can be used to convert text files from one of these formats to another. Two such shareware programs are Add/Strip and McSink, both available on ZiffNet/Mac or from your local user group.

WORD

Setting Predetermined Spaces

If you find yourself restricted to a word-processing program for DTP after experiencing the relative luxury of a dedicated DTP product, you'll quickly begin to miss the ability to set predetermined spaces. Word, for instance, has a nonbreaking space, but that's it.

You can, however, create spaces by "whiting out" characters of the desired width – namely, an em dash, an en dash, or any number (in most fonts, all numbers are the same width to aid in alignment). Here's how to do this in Microsoft Word:

Type a dash or a placeholding number, select it, and choose White from the Character dialog box. You can assign a key combination to White and Black through the Commands option on the Edit menu, or you can use a macro program to create the entire space. This technique greatly speeds up typesetting chores in which lots of specified spaces are needed.

Dashes in text should have a tiny bit of space on both sides. Normally typesetters use one or two units, with units being defined as 1/18 of an em. You can create your own thin space in any program that allows you to print in white by using any punctuation mark, such as a period or a comma, that is the same width as a thin space. Store the entire dash-with-spaces combination in a macro, and you'll be able to provide the perfect dash instantly.

In Show Paragraph mode, Word does not display white text as invisible, although the text does print that way.

Discovering New Keyboard Combinations

Sometimes while using Word, I accidentally discover new key combinations without knowing exactly what function they serve. Here's a quick way to find out the action of any key sequence:

1. Choose Commands from the Word Edit menu.

2. Pick any command from the list on the left, and click on the Add button in the Keys section of the dialog box.

3. Word will ask you to type a key sequence for the command you've chosen. Type the key sequence that performed the unknown action, and you'll get

another dialog box telling you what command this key sequence is now assigned to. No more mystery, but be sure to click on Cancel to prevent reassignment of the key.

Mail Merge With The Table Feature

One of the worst aspects of Microsoft Word's mail-merge feature is all the stupid punctuation rules you have to follow. Trying to make sure you have quotes and commas in all the right places often isn't worth the effort, and it can make inputting addresses sheer hell.

If you use Word's Table feature to create the data documents for the merge, however, you can put the entire address — including commas and Return — into one cell. Not only do you avoid having to enclose fields containing punctuation with quotation marks but you also don't need to use as many fields, because all address information (company name, street, city, state, and ZIP code) is contained in one cell under one field name. Unfortunately, you can't use the Table format if you want to sort your data by its parts, such as by ZIP code or city.

Fast Save Uses Disk Space

Microsoft Word has a Fast Save feature, which lets you save files relatively quickly in exchange for greater disk-space consumption.

When the Fast Save option in the Save As dialog box is checked, Microsoft Word doesn't actually delete text or graphics that you remove from a document; it just skips over them when you're displaying, editing, or printing the document. So, files don't get smaller when you delete things from them, and there is more overhead when you add new information. When you choose Save As and un-check the Fast Save check box, Microsoft Word actually erases all the deleted information, so the file size should decrease.

Spell-Checking Without Putting The Cursor At Document Top

It's possible to run your spelling checker on a Word document without having to move all the way back to the beginning. First, select the entire document by moving the cursor to the left margin, where it changes into an arrow, and then click the mouse while pressing the Command key. When you run your spelling checker, the entire document will be checked in a single pass,

without the annoying "Continue Check from beginning" message.

Re-Spacing Between Letters

Word creates its own "normal" spacing between letters, based on the type and size of the font you're using. The problem is, sometimes the spacing created isn't exactly what you want.

You can fix spacing between letters by selecting the text you want to change, choosing Character on the Format menu, and then selecting Expanded when the list of options appears. The program will suggest an expansion amount in the By box. Override this suggested spacing by typing in any value from .25 to 14 points. As you experiment with different results, you'll find the re-spacing that works best for you.

Hiding Outline Headings

People who compose a lot of outlines will be vexed to find that most headings must be left out of the finished product. You can delete the outline headings manually, but in a long document this can be extremely time-consuming and can hinder your efforts to revise the file later.

A solution is to use Define Styles to create a style sheet on which all outline styles are based. Its style would be the same as Normal Text. Using Define Styles again, you can define each of the subsequent outline styles as being based on this "normal" style by entering that name in the "based on" box. Now, any changes you make to the definition of the base style will automatically be made to all outline styles.

When you've finished composing and want to hide the outline, choose Define Styles and add Hidden Text to the style definition. All outline heads will vanish, unless you select Show Hidden Text. When you print documents created with this method, be sure Print Hidden Text isn't selected in the Print Dialog Box.

Using Define Styles To Create Outline Styles

A problem with Word's outlining capabilities is that there is no Hide Outline Headings command. Often, one wants to compose in an outline, but most headings must be left out of the finished product. You could delete the outline headings manually, but this can be very time consuming in a long document and can also hinder future document revision.

The solution is to use Define Styles to create a style sheet on which all outline styles are based. You could call this "base style." Its style would be the same as Normal Text. Again, using Define Styles, each of the subsequent outline styles should be defined as being based on this Normal style by entering that name in the Based On Box. Now, any changes made to the definition of the base style will automatically be made to all outline styles.

When you have finished composition and want to hide the outline, choose Define Styles and add Hidden Text to the style definition. Text to the style definition. All outline heads will vanish (unless you select Show Hidden Text). When you print, make sure Print Hidden Text is not checked in the Print Dialog Box.

"Auto-Date" Headers And Footers Anywhere In A Document

When you paste "auto-date" headers and footers anywhere you want in your document, it continues to change automatically whenever you start a new document. This is especially useful if you work from templates.

The "auto-date" can be distinguished from text by using the Show Paragraph command (press Command-Y), which displays a dotted outline around all "auto-dates."

This also works for time and page numbering. As an extra shortcut, try pasting "auto-date" into your glossary and then add it to a menu.

Key Strokes For Line Formatting

In Word, the Return key is used to end a paragraph, while Shift- Return is used to end a line without creating a new paragraph. Shift- Return works fine as long as it isn't used in a justified paragraph. In the latter case, the line created with Shift-Return is justified — something most people will want to avoid. And you can avoid it by pressing Shift-Option-Return.

This undocumented method of concluding a line is very useful for lines within a justified paragraph that, for example, are to contain only a mathematical equation located at a center tab. It's also the only way to create the appearance of multiple justified paragraphs within a single box. Simply apply the boxed format to the paragraph and conclude each pseudo paragraph within the box with a Shift- Option-Return.

The concluding line of each "paragraph" will not be fully justified.

Incidentally, the Shift-Option-Return symbol that appears when Show is active looks just like the Return symbol.

Condensing The Space Between Italicized Characters

Sometimes Word puts too much space between italicized words (especially if each word is capitalized, as in subheads or titles). Simply condensing italicized type usually results in squished type. But if you turn on Show from the Edit menu, you can select the space markers between the words and condense only them by using the Condense feature found in the Character dialog box. You can condense by anything from 0 to 1.75 points. After you've highlighted the first space mark and condensed it, go on to the next space mark, highlight it, and press Command-A ("Again") so you don't have to reenter the values in the dialog box.

Dialog Box Command Keys

Word allows users to substitute command key combinations for mousing in all dialog boxes. Any dialog box can be canceled by using Command-period.

In The Save As... dialog box:

Command-S saves the file;

Command-C cancels;

In the Open... dialog box:

Command-O opens the highlighted file;

Command-C cancels.

In the OK or Cancel dialog box:

Command-O presses the OK button;

Command-C cancels the box;

Creating Double And Triple Lines In Word

Set Below and Double borders on the Paragraph selection under the Format menu to create a double line underneath a paragraph. For a really interesting effect, go to the paragraph directly below the double-underlined one and set the borders for Double and Above. The results will be three horizontal lines.

Placing A Background Screen Behind A Paragraph

There are times when you may want to accent Word

paragraphs with a background screen. The following PostScript command, placed before a paragraph, will do the job:

para. 0 0 moveto 0 1000 rlineto 1000 0 rlineto 0 -1000 rlineto closepath gsave .97 setgray fill grestore

This instruction must be in PostScript style, which is one of Word's automatic styles and can be applied by entering PostScript in the Define Styles dialog box. The value 1000 will handle any paragraph up to 13 inches square, but if you want a smaller area, which will also print faster, you can pick a more realistic value by multiplying the number of inches by 72 and using that result. You can adjust the intensity of the gray scale by changing the .97 next to setgray. The closer this value is to 1, the lighter the screen. Word considers the space above and below your paragraph to be part of it, so some white space may get filled unless you use the Paragraph command and set this space to zero.

Shortcuts When You "Save As..."

There are a number of keyboard shortcuts you can take if you'd rather work through the keyboard than the mouse:

Command-S saves the file.

Command-E ejects the disk.

Command-C cancels the dialog box.

In the Delete dialog box, the same commands work, except that Command-S activates the Delete command.

Copying Parts Of A Style Sheet

It's possible to copy one or just a few styles from one Word document's style sheet to another, without bringing in the entire style sheet. First, open the document that contains the style(s) you want to copy. Select a paragraph that's formatted in that style (to copy several different styles, copy a series of paragraphs).

Now, open the document to which you're going to copy the styles, and paste the paragraphs into the style sheet. The new styles are now a part of the old style sheet. So now, you can delete the text you pasted in, and the styles will remain in the document.

Spell-Checking Around Ligatures

If you use a lot of fi and fl ligatures in long documents, you'll save time running the spelling checker by replacing the character pairs "fi" and "fl" with the ligatures AFTER the spell-checking is completed.

The spelling checker can't recognize ligatures as alphabetic characters, and you can't add words that contain them to your dictionary. So, if you put the ligatures in before running the spelling checker, the program regards any remainder of a ligature word to be misspelled – unless the remainder happens to match a word in the Main dictionary.

After the spelling checker has finished running, go to the start of the document (Command-Keypad 9), open the Change dialog box (Command-H), set the replacement parameters, select Match Upper/Lowercase, and click Change All.

Avoiding Disk-Swapping Hassles

A lot of people use several different document disks during a single work session. If you do, and you work on a floppy disk-based system, you can avoid a lot of disk-swapping by double-clicking on the Word application, instead of a document, when you start working.

Correcting Pagination Problems With Serial Printer Drivers

When you use the serial printer driver with either a 12- or 15-pitch printer, you must first set the line spacing for all paragraphs, or the pagination will be incorrect. When you create a new document, first go to the Paragraph dialog box under the Format menu and set the line spacing to 12 points instead of the default spacing, "auto."

If you are having problems printing an existing document, select the entire text and then go to the Paragraph dialog box and do the procedure described above.

Twelve is the proper setting to emulate a single-spaced typewriter which produces 6 lines per inch. To emulate other spacing, set a value of 72 divided by the number of lines per inch.

Speeding Up The Graphic Redrawing Routine

Word can take what seems like forever to redraw a complex graphic, especially one that has had smoothing activated for its curves. You can avoid this by creating a special Graphics style for each graphic, and including Hidden as one of its characteristics. Make sure that your Preferences setting has Show Hidden Text set to Off. Now, you'll be able to quickly scroll through and edit text in the docu-

ment, without having to wait forever for graphics to redraw.

Just remember to redefine your Graphics style by cancelling the Hidden characteristic before you print or repaginate.

Printing Long Documents With Page Numbers

The Word manual describes a rather involved procedure for people who need to print long documents (meaning documents composed of several Word files) that have page numbers. One particularly annoying hoop you have to jump through is having to repaginate each part of your document, finding out what its last page number is, and then having to set up the next file so that it starts with the next page number.

There is a work-around to this situation. Choose Page Setup for each file, and type the file name of the next file, as the manual says. Then, WITH THE EXCEPTION OF THE FIRST FILE of the set of files composing the document, blank out the Start Page Numbers At box. That is, leave a 1 in the Start Page Numbers At box for the first file, and erase the 1 in that box for all the other files. Now, reopen the first file of the document and tell the Mac to print.

The entire document will print out with the right pagination, without your having had to repaginate each file.

This only works if you begin printing with the first file of the series. If you print a file that appears in the middle or end of the set of document files, you'll have to follow the instructions in the Word manual.

Cleaning Up Returns In Print Merge Documents

When creating a list of names or addresses, for example, for print-merging in Word, making sure you have appropriately "Commanded" and "Shift-Returned" each and every set of data can be unnerving. (Remember a Return is only entered at the end of each record, while a Shift-Return may be used for arranging the data more logically.) To eliminate most of the problem, you can use the Document Renumber command to number each set of data which isolates the entries with just a Return instead of the desired Shift-Return. Where you find the erroneous Return, put the cursor in front of the entry

and press the Delete key, then press Shift-Return. Using the Document Renumber command also lets you know just exactly how many names or addresses you have.

Finding The Missing Comma In Data Record

The easiest way to find a missing comma in a data record, while doing a Print Merge, is to select the New Document button in the Print Merge window. This creates a document on the screen. When you come across the "Missing Comma in Data Record" dialog box, quit the Merge and scroll the document to the last record. The next record in your data file is the one with the problem. Once you have a successful Merge to the screen document, select Print and you are assured of printing the entire batch successfully.

When You Get The "Missing Comma In Data Record" Error Message

Word's Print Merge capability requires that you separate field names with commas or tabs. Unfortunately, when you accidentally omit one, the program simply puts up an error message, without telling you where your comma might be missing. Instead of going through each and every record you're working with, you can use this shortcut:

Count the number of commas in the header record, and then use the Change command to systematically isolate the record that's missing a comma. You do this by entering a comma into both the Find What box and the Change To box. Then select sections of records and start searching.

Word counts the number of changes that it makes, and puts that number into the lower left corner. If the number of changes is not evenly divisible by the number of commas in the header record, you know that the defective record is somewhere in the records you just selected. If the number is evenly divisible, you can move on and select another section.

Continue this process until you narrow down the data records sufficiently to isolate the one or more records with missing commas.

Accessing Help Fast

You don't have to dig out your manual every time you need help, if you have Apple's Extended Keyboard. The key, labeled "Help," is right under the F13 key. When

you press it, you'll see a question mark appear. This is your cursor. Move it to whatever you want explained, including menu choices, and then just click the mouse for the help you need.

If you don't have the Extended Keyboard, press the Command key and and the ? key to get the question cursor.

Using The ASCII Code Search-And-Replace Capability

Microsoft Word has an ASCII code search-and-replace capability that can come in handy when using Word to edit and reformat text files created on an IBM PC or PC clone. To find a particular ASCII code within a Word document, type a caret (Shift-6) followed by the decimal value of the ASCII code in the Find What dialog box. Here's how to use this feature to fix a typical PC text file imported into the Mac environment (always work on a backup copy of the file you wish to convert):

1. Select Change from the Search Menu (Command-H).

2. Replace the double carriage-Return / line-feed (CR/LF) pairs at the end of each PC text paragraph with a special Mac character as follows. Click the I-beam to the left of the first character in the file. In the Find What box, type ^ 13 ^ 10 ^ 13 ^ 10 ^ (13 is the decimal value of the ASCII carriage-return code; 10 is the decimal value of an ASCII line feed).

3. In the Change To box, type Option-8 for a bullet or another special Mac character not used in the file. Click Start Search or Change All to make the changes.

4. Now, replace the CR/LF codes at the end of each line within paragraphs with a space: With your insertion point at the top of the document enter ^ 13 ^ 10 in the Find What box; in the Change To box, type one space; and then click Start Search or Change All.

5. Finally, go back and replace the special Mac characters (used to mark the end of PC text file paragraphs) with a Return. First click the I-beam at the top of the file. In the Find What box, type a bullet (or whatever special character you used). In the Change To box, type ^p (a caret followed by a lowercase p represents a Word Return character). Click Start Search or Change All as before.

You can also use this ASCII code search feature to fix

PC word-processing documents within Word. For example, some PC documents contain normal text with only occasional ASCII control codes (such as decimal value 12 for form feeds or 9 for tabs). Use FEdit Plus or another Mac file editing utility program to examine the codes in the PC document, and then use this technique to search for and delete these codes within Word. For a complete list of the decimal values for all ASCII codes, see the Appendix in the Microsoft Word manual.

By the way, the reverse of this process works as well. You can replace return characters in a Word text file with ASCII CR/LF codes. This allows you to create readable text files for your PC friends and customers without leaving your Mac.

Slow Save In Word

Other applications, such as Correct Grammar and PageMaker, seem to hate documents saved with Word's Fast Save feature. If you want to eliminate the Fast Save feature in Microsoft Word, add the Fast Save Enabled option to the File menu using Word's Commands feature and then un-check it.

To accomplish this, choose Commands from the Edit menu in 4.0 and the Tools menu from Word 5.0. Scroll until you see Fast Save Enabled, and place this item in the File menu. Then select the Fast Save Enabled item under the menu you placed it in so that it does not have a checkmark next to it.

Fitting Long Entries In Mail-Merge Fields

As you're creating the data file, you might well find that some of your entries are too long or that they just don't fit the pattern you've established in the header information. You can get around this problem by breaking the field entry into two or more lines with a soft Return (Shift-Return).

If you enter a soft Return, the mail-merge will bring that onto the next line without disrupting the field order. Be sure to save the data file as a normal Word document – soft Returns are stripped out of ASCII documents. To see the difference in a Word data file, just be sure that Show Paragraphs is on.

Spacing Paragraphs In Styles

One useful aspect of Word's style-sheet feature is its ability to assign a space before and/or after a paragraph to a style. A space before and after in a style def-

inition lets you maintain consistent spacing between elements such as body text and section titles throughout a document.

If you assign Space Before to a style, however, and a paragraph with that style begins at the top of a page, Word adds the extra space at the top of the page, leaving a gap. As a result, the top margin for that page appears to be shifted down, making it inconsistent with the other pages. Unfortunately, the only way to avoid this unwanted result requires manual labor:

1. Place the cursor in the paragraph with the unwanted space.

2. With the Paragraph command, change Space Before to 0 points.

Word removes the extra space at the top of the page.

Note: Because page breaks can change while you're editing a document, it's wise to wait to make this correction until you're ready to print a final draft.

Adding Words To A Dictionary

Here's a relatively easy way to add large groups of words to Word's dictionary. Create a file containing the words you want to enter. Then select Spelling from the Utilities menu in Full Menus. Select the dictionary to which you want to add the words. When the first word is queried, create a macro (with your macro program of choice) that clicks on the + button and then on the Continue button. Assign a keystroke for the macro, and press it as necessary as you continue to check spelling in the document.

You'll find that this also makes your regular spell checking go faster, because you don't need to reach for the mouse when you add words to the dictionary.

Managing Data With The Table Feature

An easy and straightforward solution to manage data in Word is to keep data in Word's tables.

From scratch, simply type your merge field names on a single line, separating them with tabs. Select the line by pointing in the left area of the window and clicking once. Now, from the Document menu, select Insert Table, and accept the defaults presented to you. Your data is now in an easy-to-manage grid, one that changes height as you enter data.

To enter data, click on the last cell in the row and

press Return – a new row is started, and you can start entering your merge data.

If you don't like the column widths, you can change them: Click on the Ruler icon in the ruler, and T markers appear; shift these markers around until the table suits you. You can also change the page setup to landscape instead of portrait, because only the characters in your table – not their format – will be merged.

If you're merging from a database such as one produced in FileMaker, the process is even easier: Select the entire document you've exported from your database (Command-click in the selection bar or press Command-Option-M), and choose Insert Table from the Document menu. FileMaker can output data in the exact format Word needs to produce a merge document, and the Table feature organizes the information so that you can see what you have without having to wade around in all those defaulted tabs.

Time-saving Indexing

To use Word's indexing feature, you must mark each word that you want to index with i. in front of the word and ; after it. This is extremely time-consuming, especially if you want to index a word every time it appears in a document. Here's an easy way to add hidden.i. and ; characters around all occurrences of a given word in an open document:

1. Index the first instance of the word as you normally would. Choose Save As from the File menu.

2. In the Save As dialog box, click on File Format and choose Interchange Format (RTF). Click on OK.

3. Give the RTF document a name, and save it. You'll see a new version of the file with all kinds of strange control codes embedded in it.

4. Find the first instance of the word that you indexed normally. it will be surrounded by codes that might look something like this: {\v {\xe\pard\plain\s240 Indexwork}}.

5. Select the word and all of this index code ——which always starts with {\v and ends with }} — and copy the selection to the Clipboard. Next, place your insertion point after this word and all the code that surrounds it.

6. Choose Change (Command-H) from the Utilities menu. Type the word you want to index into the Find

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What: box, and then paste the contents of the Clipboard into the Change To: box.

7. Click on Start Search (choose No when Word asks you if you want to continue the search from the beginning of the document). This will add the correct index codes at the beginning and end of each occurrence of the word you want to index. Repeat this process for all words you want to index.

When you've finished, save and close the RTF document. When you reopen the document, Word will ask, "Interpret RTF text?": click on Yes. The document will then appear in normal format with all the relevant entries properly indexed. You can verify that all the words have been correctly labeled by choosing Preferences from the Edit menu and toggling the Show Hidden Text button on. You can then create an index for the document as normal, using the Index command, on the Utilities menu.

The Word Screen Saver

Ordinary screen savers may dim your screen or offer fireworks and clock displays, but in Word 4.0 and later, there's an animated display that is quite beautiful in color. Select Commands from the Edit menu and choose Screen Test from the list of commands in the dialog box. Click on the Do button. If you click once while the images are dancing across the screen, a dialog box will let you customize the display or cancel it.

Formatting Fields From A Database Using The Mail-Merge Function

Most database programs can export to PageMaker (and other desktop publishing programs), but formatting text with anything but paragraph-based styles is difficult. (For example, you might want one field to come out in bold, one in italic, and one in a different font than the rest). The answer is to use Word's mail-merge function. Format the main document as desired, using the field names from your database; for example, you could boldface the name field and italicize the phone field, as shown here: <<DATA Data document>> <<Name>> tab <<Address>> tab <<Phone no>>

Export your database to a tab-delimited ASCII file, and set this exported file up in Word as a data document. Then you can enter the field names in the data document.

Make sure that no commas appear within the fields

(you can search for commas to be certain).

Go to the main document, choose Print Merge from the File menu, produce a new document, and use the Change command to get rid of the page breaks between entries. You can now import the formatted Word document into PageMaker or any other page-layout application.

Creating An On-Line Hints Menu

Word users have been inundated with documentation, help files, and third-party books discussing all the program's intricate features. Trying to keep track of all this information in its present state is mind-boggling but worth the effort.

To have this information literally at your fingertips, create a file named Hints in which you store a personalized set of commands, shortcuts, and tricks that you want to keep at your fingertips. Give this Hints file menu-bar status by adding it to the Work menu. Press Command-Option-+ (plus symbol). When the cursor turns into the plus symbol, click on your Hints document, either in the Open dialog box or in its title bar (if it is the active document).

Word will create a Work menu on the right-hand side of your menu bar or add your Hints document to an existing Work menu.

Launching MacWrite Documents With Word

Whenever you double-click on a plain-text MacWrite document (such as the documentation files you download frequently from bulletin boards), it won't open unless you have MacWrite on your disk. As a lot more people use Word 4.0 than MacWrite, here's a way to make Word 4.0 automatically open those MacWrite documents in its own format when you double-click on them.

First, make a backup copy of MacWrite (if you have it installed) on a floppy and then delete it from your hard drive.

Next, make a duplicate copy of Word 4.0 on the hard drive and rename it MacWord.

By using ResEdit, you can change the Creator of MacWord from MSWD to MACA (highlight MacWord and choose Get Info from the File menu). Make the changes in the Creator box.

Now, when you double-click on a MacWrite document,

MacWord will launch and the document will be converted automatically.

Quickly Adding Fonts To Word's Font Menu

If you need to add font names to Word's Font menu, pressing Command-Option-+ each time can get tedious in a hurry. Here's a fast, undocumented way to add all the currently installed fonts to your menu.

Choose Commands from Word's Edit (Tools in Word 5.0) menu, and choose List All Fonts from the list of commands. Then click on the Do button.

The menu bar will flash as Word adds Suitcase fonts one at a time to the Font menu.

Using Insert Graphic To Speed Printing Time

Inserting a graphic in a word-processing document can significantly increase printing time. Here's a trick for trimming your printing time on working drafts and proofs.

Measure the illustration's height (many object-oriented draw programs have a Show Size option). Insert the graphic into a Word document. With the graphic selected, choose Paragraph from the Format menu. Type a minus sign in the Line Spacing box and then enter the graphic's measurement. The minus sign adjusts the paragraph's height to match the size of the graphic.

Select the graphic again, choose Character from the Format menu, and format the graphic as hidden text. When you print draft documents, be sure Print Hidden Text in the Print dialog box is not selected. The illustrations will be replaced by an appropriate amount of white space, and you'll know where your page breaks are. When you're ready for the final version, recheck Print Hidden Text, and the graphics will print properly.

Printing Grey Text

Microsoft Word lets you assign one of eight basic colors to text. Most users don't have access to color output devices, and if they do, they probably don't want to print those overripe colors anyway.

But there's a clever application of this feature that almost everyone can use. If you color text and then print to a laser printer with Version 6.0 or later of the LaserWriter driver, the text is halftoned. The order of grey-scales, increasing in darkness, is Yellow, Cyan, Green, Magenta, Red, Blue.

Customizing Word To Open The Ruler Automatically

You can make your documents open with the ruler automatically displayed by using Commands from the Edit menu. Here is how to do it:

1. Open any Word document. Make sure Full Menus is selected.

2. Choose Commands from the Edit menu.

3. Make sure the dialog box says "Configuration: Word Settings (4)" in the lower left corner. This tells you the name of the file you are customizing.

4. Scroll down the command list until Open Documents With Ruler show up. (Shortcut: Press the O key to jump to the beginning of the O listings.) Click on the command name to select it.

5. Click on the Add button.

6. Click on Cancel.

The Open Documents With Ruler command will now be listed on the Format menu. It will not be checked, though, so you will have to activate it. Highlight the new menu command to select it. Every document you open from now on will automatically show the ruler.

It's worth looking through the entire list of commands in the Commands dialog box, since many useful items are tucked away in there, and some of them are not documented in the Word manual.

Accessing The Macron Character

In most Adobe laser fonts, you can access a plain macron character by pressing Shift-Option-comma (although the macron may not show on-screen if you do not have the appropriate screen font).

Microsoft Word's formula language allows you to overstrike one character with another, placing a macron over long vowels.

To put a macron over the desired vowel, type the Formula character, Command-Option-\ (it may not be visible if the paragraph markers are hidden). If you get a beep instead of the Formula character, select Full Menus from the Edit menu.

Next , type an O for Overstrike, and then type (and the character you want to have the macron. Finally type a comma, the macron and).

A Macro For Transposed Characters

You can design a macro for Microsoft Word that transposes two letters accidentally typed in the wrong order, a common typing error. There may be a drawback to this method if the macro uses the standard Cut and Paste commands, because it empties the Clipboard. Here's a macro that does the job without using the Clipboard.

First, be sure that Num Lock (toggled by the Clear key) is off – the status box in the lower left corner of the active window should not read Num. Lock. Now begin recording your macro. (The macro assumes that you've placed the insertion point just after the second mistyped letter.) Press Shift-keypad-4, which highlights the second letter. Next, press Command-Option-X (the status box will now read Move To), and then press the keypad 4 twice, which moves a flashing gray vertical line to the spot just before the first letter. Now press Return, and then move the insertion point back to its original spot by pressing the keypad 6 once. Stop recording and assign a keystroke.

Globally Replacing Formats

There are two indirect ways to globally find and replace fonts or formats in Word, for example, if you want to be able to change underlined text in a file to italicized text.

The first is to convert the document into RTF (rich text format). To do this, choose Save As from the File menu, click on the File Format button, and choose Interchange format (RTF). When you save the document, it appears on screen complete with the formatting code. Because the code for underlined text is \ul and the code for italicized text is \i, you can globally change the formatting by using the Change command (Command-H). In the Find What box, type \ul; in the Change To box, type \i; and then close the document and save your changes. When you reopen the document and Word asks if you want to interpret RTF text, click on OK. All underlined text is now italicized in the new (untitled) document.

The other way to do this is to use the obscure Find Format command, described in the Word manual. It lets you search for underlined text, but you have to change it to italic manually.

Here's how it works: To find each occurrence of underlined text, first select an underlined character. Invoke Find Formats by pressing Command-Option-R, and the program finds and selects the next occurrence of underlined text. Change it to italic by choosing Italic from the Format menu (or type Command-Shift-1). To find the next occurrence of underlined text, choose Find Again from the Utilities menu (or type Command-Option-A).

This procedure isn't global; however, it does what you want fairly easily. If global-format changing is important to you, you should know that other word processors do it faster and more easily. MacWrite II, for example, does it with a few simple selections in its Find/Change dialog box, and Nisus and FullWrite Professional work similarly.

Ask yourself how much pain Word's lack of a Change By Style feature causes you; if it's really affecting your quality of life, think about changing word-processing programs.

Speeding Table Scroll

When you're working with a table-laden document in Word, it can take forever to scroll through the table sections. If you frequently use tables in your work, here's a trick that can eliminate scroll crawl:

1. Select the entire table, and choose Copy as Picture from Commands in the Edit menu (and while you're at it, place this command on your Edit menu). Click on Do.

2. With the table still selected, perform a Paste (Command-V). The text table will be replaced by a graphic version of the same table. Now that the table has been changed to a graphic, you can scroll it much faster.

3. Go back to the Commands menu and choose Use Picture Placeholders (you can add this to the Edit menu as well). Click on Do.

Caution: If you ever expect to revise the table, you should first save a copy of the text version in a separate file. Once you have replaced a table with its graphic image, you can no longer edit it, with one exception: You can cut rows from the bottom up and columns from right to left if Show Paragraph (Command-Y) and Use Picture Placeholders are off. Just grab one of the handles on the graphic and drag to crop it.

Add The Fast Save Enabled Command To The File Menu

The Fast Save command increases the speed of the Save command, thereby making it less painful to save your files frequently. When you use the Fast Save Enabled command, Word saves files in a special file format that's fine for saving work in progress. Fast Save isn't suitable for final versions, though. If files saved in this format are damaged, it's much harder, if not impossible, to recover them.

Placing Fast Save Enabled on the File menu makes it easy for you to select or deselect the command before you save. Word's default option is to add this command to the Edit menu, but it makes more sense to add it here.

To add the Fast Save command, choose Commands under the Edit menu and look for the Fast Save Enabled option in the scrolling field on the left. Highlight it, and choose the File menu and click the Add button. (You may have to remove the command from another menu before adding it to the File menu.)

Add The Make Backup Files Command To The File Menu

Normally, each time you save your work, the new version of your file overwrites the previous version. When you select the Make Backup Files command, however, Word makes a copy of the previous version of your file and names it Backup of Filename before executing the save. As a result, you always have the last two saved versions of your file on-disk. This means that you can go back to the previous version of your file, and you also have a backup in case something happens to the current version of your file.

To add the Make Backup Files command, choose Commands under the Edit menu and look for the Make Backup Files option in the scrolling field on the left. Highlight it, and choose the File menu and click the Add button.

Add The Load File Into Memory Command To A Menu

This command, which is normally in the Preferences dialog box, causes Word to keep the current document in RAM rather than keep only the currently displayed portion of the file in RAM and read the rest from disk as you scroll the file. If you're going to be scrolling up and down within your file frequently or executing commands that require Word to access the whole document (such as Spelling, Hyphenate, Repaginate Now, or Print), keeping the file in RAM can speed up Word's performance.

If you always work on files for long periods, you may be better off checking the Always Load File into Memory option in the Preferences dialog box rather than adding this command to your menu. However, if you sometimes open and close files without performing extensive editing, using this option as a command is more efficient.

Add The Move To Commands To A Menu

Word provides an exhaustive array of cursor-movement commands that most users never discover. If you use the arrow keys to scroll across your files, learning to use these commands can give you a whole new perspective on word processing.

Once you are familiar with the commands, learn the keyboard command equivalents for real efficiency. You can also use these commands to select text; just add the Shift key to any of the keyboard command equivalents, and text is selected as you move the cursor.

To add any of the Move To commands, choose Commands under the Tools (or Edit menu in Word 4) menu and look in the scrolling field on the left.

Add The Select Whole Document Command To The Edit Menu

People often want to select an entire Word document, but it's hard to remember the keyboard command equivalent (Command-Option-M) or inconvenient to use the mouse-click method (Command-click with the arrow tool at the far left edge of the window). With the Select Whole Document command in the Edit menu, selecting an entire document is no longer a brain-teaser. Interface purists will also want to assign it the Option-A keyboard equivalent.

Recovering Word Temp Files

Before you save a Word document, Word sets up a temporary file and places it in the System Folder. If your system has crashed and you want to try recovering a Word Temp file, you can try opening it by holding down the Shift key and choosing Open Any File from Word's File menu. That should enable you to open the Temp file (try the one with the highest number). If

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you want to, you can add the Open Any File command to your menu permanently by using Word's command option, which you'll find on the Edit menu.

WORD 4.0

Changing The Default Font

There is an easy way to change the default font in Word. Choose Define Styles from the Format menu, click on the Normal style, pull down the Font menu (or type Command-D), choose the font you want, and click on the Set Default button. A dialog box will confirm that you want to record your choice to the default style sheet. Click on OK. That's it— your default font is changed.

Indexing Technique Using The Clipboard

Here's an easy technique that you can use for indexing all occurrences of a word.

Start by manually indexing the first occurrence, using Insert Index Entry, on the Document menu. Then select the word (make sure you include the index characters that appear at the beginning and end of the word), and copy it to the Clipboard. In the Change dialog box (Command-H), type the word you want to index in the Find What Field and type ^c (caret and c) in the Change To field (^c represents the Clipboard contents). Replace all nonindexed occurrences of the word by clicking on either the Change or the Change All button. The pasted text retains all formatting.

Using Word Finder With System 7

If you use System 7 and Microsoft Word 4.0 or a later version, you've probably already discovered that you can't use the Word Finder thesaurus DA that comes bundled with Word. Because of the way System 7 handles DAs, Word Finder gets confused when it looks to see if Word is running.

There is a workaround for this problem, however. (Note that this procedure should be performed only on a copy of the Word application— never experiment with the original program!)

First, open the Font/DA Mover utility. (You need Version 4.1 if you're running System 7. If you have only an earlier version, boot from a System 6 floppy disk and follow the rest of the directions.)

Open the Word Finder DA suitcase file on the left side

of the Font/DA Mover dialog box. Hold down the Option key while clicking on the other Open button, and open Microsoft Word on the right side of the dialog box. Select Word Finder, and copy it into the Word application. Now quit Font/DA Mover.

Now, whenever Word is the active application, the Word Finder DA will appear on the Apple menu and function properly.

Inserting Graphics Into A Print-Merge Document

You may be familiar with Word 4.0's Print Merge features, which allow you to generate form letters by using data exported as text files from database programs. But you aren't limited to using text files for your data document; you can also use Word documents formatted as tables in which each row is a record and each column is a field.

One advantage of this method is that it lets you include graphics in your data document. For example, to include your scanned signature in documents to be sent by fax modem, put it into a table cell in your data document instead of pasting a copy into each file. Then set up the main document to be faxed as a print-merge document. Your signature will automatically be "scribbled" on each page.

Use PostScript To Control Cell Border Width In Tables

Word 4.0 has a great table feature, but only limited border options for each cell. All it takes is a little PostScript programming, however, to make a cell border of any width. Place the cursor in the cell that you want the border around, and type the following two lines:

```
.cell..75 setlinewidth

wp$box stroke
```

and press Return.

Then highlight only these lines (not the actual contents of the cell to be printed), and format with the PostScript style by pressing the Shift key and choosing All Styles from the Format menu. Select PostScript in the scrolling list that appears, and click on Apply.

The number .75 can be replaced with any number of your choice. Make sure you've deselected Print Hidden Text in the Print dialog box before you print. Note that

Print Preview doesn't accurately reflect your actual hard-copy output. Also, this tip works only if you are printing to a PostScript printer.

Combining Box And Check Mark Zapf Dingbats

Here's how to put a Zapf Dingbat check mark into a box with a drop shadow:

1. Press Command-Y to see the symbols for paragraphs, spaces, and tabs.

2. Press Command-Option-Backslash, and then type 0(0,4).

3. Select the text (including the backslash), and choose Zapf Dingbats from the Font menu. Press Command-Y again to hide the paragraph and space symbols. You now see a box containing a check mark. You can experiment with the various boxes and check marks in Zapf Dingbats until you have a combination you like.

Boxing In Text

Just about any currently available word processor offers a variety of ways to format words to make them stand out from the main body of the document. But what do you do when underlining or boldface or even something as exotic as a shadow doesn't fit the bill? Try a box! Here's how:

1. Select and format the text to be boxed. (Note: After it's been boxed, the text itself can't be reformatted.)

2. Use Command-Option-D to copy the selection to the Clipboard as a graphic.

3. While the text is still highlighted, use Command-V to replace it with the graphic image of the copied selection.

4. Click on the graphic to select it, and box it in by choosing the Outline style from the Format menu (Command-Shift-D). You can also add shadow or boldface format to the outline style for extra emphasis.

The secret here is that the style commands don't work just with text – which is what most people assume – they also work with graphics.

If the boxed text is on a line with other text, it will sit higher, because the bottom of the box sits even with the baseline of the text on that line. To correct this,

select the graphic, choose the Character command from the Format menu (Command-D), select subscript, and offset the text as needed (the larger the font size, the greater the offset required).

Using Postscript Code to Shade A Cell

You can use PostScript code to shade a cell in a Word 4.0 table by typing: .cell. .75 setgray wp$box fill and pressing Enter. Then select the text, and format it with the PostScript style by pressing the Shift key and selecting Define All Styles from the Format menu. You can replace the number .75 with whatever number you choose. Make sure that you have deselected Print Hidden Text in the Print dialog box.

Viewing Landscape Tables

Here's a tip for creating full-page landscape-oriented (horizontal, not vertical) tables in Microsoft Word when using a small-screen Mac. This tip avoids the constant (and painfully slow!) screen redrawing that occurs when the cursor moves past the edge of the currently visible portion of the table.

1. Create your table. After you've created the column headings and table layout, use the Insert Row command to specify the number of rows.

2. Resize the window you're working in so that it fills the entire screen horizontally but only half of the screen vertically. Place the window at the top of the screen.

3. Now open a second window for the table; don't split the window you're working in – open a new one. Resize the new window so that it fits just underneath the original one.

4. Use the horizontal scroll bar to shift the view in the new window so that you can see the right edge of the table.

Now you can see your whole table – the top window shows the left edge of the table and several of the columns toward the middle; the bottom window shows the right edge of the table and some of the same middle columns.

Enter the table information. When you've finished with the last fully visible column in the top window, use the mouse to move to the column following it in the bottom window. When you get to the right edge of the table, use the mouse to move back up to the next row in the top window.

This is a much quicker and more accurate method of creating a table – you never have to wait for the screen to redraw while you're typing, and you never lose your place because you can't see the row headers at the left edge of the table.

Sorting A Mail Merge

Do you want to sort a mail merge data file by zip code when the first field is LASTNAME and ZIPCODE is somewhere in the middle of the record? You can try using Option-drag to select just the ZIPCODE column. You need to set your tabs so that all the zip codes are left-aligned in a column. Hold down the Option key as you drag the mouse to highlight the desired column of text.

Once you've selected a column of text, using the Sort command sorts the records based on the first word of each line in the selected column rather than on the first word of each paragraph in the data document. And remember not to select the field name at the top of the document.

Using Outlining To Navigate

Word 4.0's outline feature is frequently underused, probably because most people don't make outlines. But this feature can be helpful for more than outlining.

Here is a way to jump quickly to a specified place in a long document:

1. Select Outlining mode (Command-U) from the Document menu.

2. Click on the line of paragraph you want to go to (collapsing or expanding as needed). In effect, you're creating a kind of bookmark by entering an insertion point.

3. Choose Outlining again to go back to normal editing mode. Now your cursor is at the right spot, but it's probably off-screen.

4. Press the right- or left-arrow key to scroll the document to the cursor's location.

Using The NEC Daisywheel Printer

If you use Word 4.0 and a NEC daisywheel printer, you may find that the 12th line of text on a page often prints over the 11th line. This didn't occur with earlier versions.

You can count down 11 lines and then insert a blank line to overcome the problem, but there is a better

solution. The NEC printer uses a pitch of 12, so if you choose the Paragraph command from the Format menu (Command-M) and replace Auto in the Line Spacing box with-12, the overlapping stops.

Creating Tables With Varying Column Widths

The Insert Table command in Word 4.0 only lets you create table with columns of equal width. Ordinarily, you have to struggle with the column markers across the ruler to vary the column widths, but there is a shortcut that makes it easy:

1. Say you're creating a three-column table with one narrow column on the left for labels and two wide columns to the right for entries. As you create the table, enter 5 in the Number of Columns box.

2. Select all the cells in the second and third columns by holding down the Option key while dragging the mouse over these columns.

3. Choose Table from the Edit menu and select the option for merging the two columns. Repeat this procedure with columns 4 and 5.

You now have a three-column table. To get a narrower first column and wider entry columns, just increase the number of columns in the table by a factor of 2.

A Patch For Fractional Font Widths On ImageWriters

If you do not own Adobe Type Manager, and you are using Microsoft Word, there is a patch — a set of modifications to Word — that allows for fractional font widths on ImageWriters. It's called WORD4MOD.SIT. (It should be available from the usual shareware outlets such as user-group libraries, BBSs, and so on. On CompuServe it's called WORD-MO.BIN in the Macintosh Productivity Forum's word-processing library.)

Installing the patch requires familiarity with ResEdit (available from the same outlets). Obligatory ResEdit warning: Never use ResEdit on an original or master of anything. Always work on a copy. And don't forget to lock your master disks. That way, if you happen to make a mistake and damage something, you can always make a fresh copy from the master disk.

Kerning With The Displace Command

Microsoft doesn't mention kerning anywhere in the

Word manuals, but you can do rudimentary kerning with two characters:

1. Choose Show from the Edit menu.

2. Place the cursor between the two characters you want to kern.

3. Press Option-Command-backslash and then type the letter D (the formula code for Displace).

4. Press Option-Command-backslash again, and then type the letters BA (the formula code for Backward).

5. Enter the number of points to kern (in whole points).

6. Follow this with both open and close parentheses to end the formula. The code you see on-screen should look like this: \d\ba3 ( ) (using 3 points as an example).

7. Choose Show again or print your text, to see the difference in spacing. If you save this formula as a Glossary item, you'll have to enter it only once.

Inserting The Date Into Documents

Word lets you insert the date into documents through its Commands dialog box, but you're stuck with its date formats, which include the day of the week (except for the short format — for example, 3/31/89). If you want a date such as March 31, 1989, you'll have to suppress the weekday in the System file with ResEdit 1.2. (Try this on a copy of your System file before you change your working System file.)

1. Open the System file and scroll down to it11.

2. Open it11. Select it11 US" ID=0 and open it.

3. Next, click on the Suppress Day box (see Figure 2).

4. Close ResEdit and save the changes. Open a Word document. To get the date, make sure you're using Full Menus and select Glossary from the Edit menu. You'll see the following date entries: date - now - abbreviated, date - now - long, and date - now - short.

Select either the long or the abbreviated format and click on Insert. The date will appear either as March 31, 1989, or as Mar. 31, 1989, respectively.

Inserting PostScript Code In A Word Document

Placing bits of PostScript code (or even lengthy routines) into a Word document is simple. But Word

requires that you first clearly define what part of the page will be affected by the PostScript code. Is it going to affect the entire page (for example, a box enclosing the page) or just a paragraph or inserted graphic?

You define the boundaries by inserting a group command immediately before the page element it will affect. In Word 3.02, you could use three such commands: .page., .para., or .pic. (referring to the entire page, the next paragraph, or the next graphic insertion). Version 4.0 has added .cell. and .row. to facilitate PostScript manipulation of tabular material.

1. Group Commands — Group commands create a drawing rectangle that specifies the overall size of a PostScript graphic. The actual dimensions of the graphic never have to be entered, because the command gathers this information from Word itself. The drawing rectangle created by .page., for example, is determined by the page size you've specified with the Page Setup command. If your page is 5 x 7 inches, the drawing rectangle mirrors those measurements exactly. Most other group commands, such as .para. and .pic. let you focus on increasingly smaller or more precise areas of the page — a paragraph, or a graphic frame within a paragraph.

After the group command is entered, you can enter PostScript code you've written or copied from another source. Here's a simple example that places a 5 x 7 - inch box on a page. At the top of the page, type the following:

```
.page.

newpath

.25 setlinewidth

126 144 moveto

360 0 rlineto

0 504 rlineto

-360 0 rlineto

closepath

stroke
```

Anyone with PostScript savvy will notice some peculiarities here. The primary one is that the PostScript inclusion hasn't been bracketed by a save /restore or gsave/grestore pair, which prevents certain PostScript

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operators (rotate, for example) from changing the graphics environment of the entire page. Why this apparent breach of PostScript etiquette? Because the group commands automatically bracket each grouping of PostScript code with a save/restore couplet.

You might also notice that the origin point (0 0) in Word's version of the PostScript coordinate system corresponds exactly to that found in PostScript itself. This means that the origin point (0 0) is found at the lower left corner of the current drawing rectangle, whether it is a page, paragraph, or graphic frame.

2. Creating Global Commands—When PostScript requires specific measures or positions that can't be referred to through the built-in variables, the dimensions are expressed in points. If you feel more comfortable working in inches, simply place the following code after a group command such as .para. or .page. (and, of course, format it in Word's PostScript Style):

/inch (72 mul) def

Then you can use code such as 1 inch 1 inch moveto instead of 72 72 moveto. The routine you've inserted automatically multiplies the inch units by 72, converting them into PostScript's point system.

Ordinarily, such a routine applies only to the drawing rectangle indicated by the group command. So if you had a .page. and several .para. PostScript groups on the same page, you would have to insert /inch 172 mull def in each group. When Word scans the page for PostScript, it does each group in turn and discards the variables or routines of that group as soon as it has been processed. Even routines or variables placed after the .page. command can't be used by other groups on the same page.

3. Executing The Postscript Code—If you print the document now, you won't magically have a PostScript-generated box on the page. The code prints as ordinary text. To have it executed, you must do several things.

First, select the PostScript code (including any group command). Then hold down the Shift key and pull down the Format menu. You'll see that Styles has been replaced by the All Styles command. All Styles has several predefined styles, including one called PostScript. Select it and click on OK. The PostScript code has now been changed into a form that will be interpreted rather than printed. To see the code after this point, make sure that Show Hidden Text is selected in the Preferences dialog box (Edit menu). You can't see the results of your tinkering by using the Print Preview command; you must print the document on a LaserWriter.

When you print, make sure that Print Hidden Text isn't selected in the Print dialog box and check the Chooser to make certain that Background Printing is turned off. If Background Printing is left on, the PostScript effects will be shifted down and to the right from where you want them on the first page of the document. Subsequent pages will print correctly.

4. Modifying Word's PostScript Code Style—The on-screen appearance of Word's native PostScript style leaves something to be desired.

Fortunately, you can easily modify most of the attributes. While holding down the Shift key, select Define All Styles from the Format menu. Select PostScript. The description box defines the style as "Normal + Font: 10 point, Bold Hidden." The main culprit here is Bold, which makes the type hard to read. So just pull down the Format menu while the dialog box is showing and turn off Bold. You can safely change anything in the Postscript style other than the Hidden attribute.

Zapf Dingbat Check Mark With Drop Shadow

Here's how to put a Zapf Dingbat check mark into a box with a drop shadow:

1. Press Command-Y to see the symbols for paragraphs, spaces, and tabs.

2. Press Command-Option-Backslash, and then type O(o,4).

3. Select the text (including the backslash), and choose Zapf Dingbats from the Font menu. Press Command-Y again to hide the paragraph and space symbols. You now see a box containing a check mark. You can experiment with the various boxes and check marks in Zapf Dingbats until you have a combination you like.

Exporting Tables

Microsoft Word is a great tool for making tables to export into page-layout and drawing programs. To

capture the table's border and cell relationships, you must use Word's Copy as Picture command (Command-Option-D), but this command doesn't work properly when you want to include text that is not part of the table with the table (as a title or caption, for instance). Here's a work-around:

First, move the table away from the header or caption to another part of the document. Select the table, choose Copy as Picture, and paste the picture where the table was before you moved it. Select the picture you just pasted, along with the accompanying title or caption, and choose Copy as Picture again. The whole thing can now be pasted into the DTP or drawing program, and you still have a copy that's suitable for editing in your Word document.

At first glance, it may seem easier just to make the caption or header part of the table by putting the text into a table cell, but because this involves deleting columns, repositioning cell boundaries, removing cell border, and applying styles, it's generally quicker and easier to use the two-step Copy as Picture solution.

Underlining Equations

Underlining equations with subscripts or superscripts can be hard in Word 4.0. The underline style (Command-Shift-U) places separate underlines under the subscripted or superscripted numbers. Here's how to get a solid underline under equations, whether the format is displaced or in-line:

1. Choose the Show Paragraph command from the Edit menu (or type Command-Y).

2. Press Command-Option-/. This is the preparatory command for doing mathematical typesetting.

3. Enter the letter-typesetting code – in this case, X (for the Box command).

4. Press Command-Option-/ again, followed by BO for the bottom border of the box.

5. Type in the arguments, and enclose them in parentheses. Apply superscript and subscript formatting where necessary.

6. To view the formula, select Hide Paragraphs. Word's typesetting code draws a solid line under the equation and won't interfere with the rest of the paragraph's formatting.

WORD 5.0

Producing White Type On A Black Background

With Word 5.0's Border Shading feature, you can easily produce white type on a black background. It looks great for headings in text or tables. Here's how to do it:

First select the text (a thick, sans serif font works best). In the Character dialog box (Command-D), choose bold for the style and white as the text color. Click on OK.

With the text still selected, choose Border from the Format menu. Select 100 percent from the Shading option (to create a solid black background), and click on OK. If you don't want the black background to stretch across the page, adjust the right margin on the ruler.

To apply inverted headings quickly, save this format as a style. If you plan to reuse the same heading text, save it in the Glossary or the Scrapbook.

You can vary this basic procedure to produce attractive headings or chapter titles by changing the text's alignment, by using a text color other than white, or by using a border shade other than 100-percent black.

Word Finally Calls Fonts By Name

With Version 5.0, Word finally calls fonts by name.

You may have encountered a font substitution problem at some point. This usually occurs when the ID numbers of fonts in your system don't match those in another system. This is a problem only if your application tracks fonts internally by ID number; in such a case, ID number 1578 may be Palatino on your Mac and Brush Script on another Mac. Current versions of most applications — PageMaker, QuarkXPress, and FreeHand, for example—identify fonts by name, which eliminates the problem.

If you use older versions of Word or other programs, you may run into problems. One workaround for Word is to save files in its Interchange Format (RTF), which does store font information by name.

Copying And Pasting Headers And Footers

To copy headers and footers into a new document, simply select and copy (Command-C) the old document's last paragraph return (turn on paragraph

display by pressing Command-J if necessary) and paste (Command-V) the paragraph return into the new document. It doesn't matter how many pages long the old document is. When you display the headers and footers in the new document, you'll find that the old header or footer text has also been copied and pasted. The footers and headers remain in the new document even if you delete the pasted paragraph return.

WORDPERFECT

Working Around The Default Application Folder

WordPerfect's file selector usually defaults to the WordPerfect folder, which is a nuisance if you group documents into folders other than the application folder. It's also annoying that Page Setup selections can't be saved as a part of a style even though they can be saved in a document file.

The solution to these problems is simple under System 7: first, start WordPerfect, and then select your default style and make whatever changes you want in the Page Setup dialog box. When you've saved the document as you normally would, save it as a WordPerfect stationery pad, and put it into the same folder that contains your WordPerfect documents. You can also create an alias of the document and place it in the folder from which you usually launch WordPerfect. It's a good idea to paste the WordPerfect application icon on to the stationery document so other users will know to double-click on it.

From now on, whenever you want to use WordPerfect, double-click on the stationery pad's alias. Not only will you open to an empty document that is set up exactly the way you want but your file selector will also default to the WordPerfect document folder instead of to the application folder.

Graphic Rulers

WordPerfect's drawing environment doesn't provide a ruler, but there are a couple of easy workarounds. You can use a screen-capture utility such as Capture to graph the ruler in the main document window and paste it into the drawing window. Save the ruler in the Scrapbook for future use. The other option is to leave an untitled document open with the ruler displayed.

Open a second document and then open the drawing window. Move the document window down until the ruler in the first untitled document becomes visible.

Quick Kerns

Kerning is an option of the Layout menu's Line command. It brings up a dialog box in which you can enter kerning values, but a quick kerning method is to use the F1 and F2 keys.

Place the insertion point between the two letters you want to kern. Press Shift-F1 to move letters together 1 point or Shift-F2 to move them apart 1 point. You'll see the change in your document immediately.

WRITENOW

Setting Up Informal Style Sheets

You can set up informal style sheets, using the dummy formats that you frequently use, in a document template that is kept open whenever you're working in WriteNow.

When you need a style, just switch windows, click on the paragraph containing the format you need, and copy the ruler (Command-1). Then switch back to the document window and paste the ruler in (Command-2). Although this method only copies ruler settings (not font or style changes, for instance), it can still be a real time-saver. It also helps ensure that your documents all have a uniform style.

Later, if you want to change a particular format, you can use WriteNow's identical ruler feature. Just select the text from the first occurrence of the format to the end of the document and then hold down the Shift key while making the change in its ruler.

MacUser Hints & Tips is a collection of MacUser's tips, tricks, and undocumented features. Edited and compiled by Erica Kerwien. Special thanks to Ric Ford's keen eyes. Questions regarding this stack can be forwarded to Erica Kerwien on CompuServe at 72511,241, and on AppleLink at EKerwien. Ziff-Davis Publishing Company.

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