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Pwr Mac DOS Compatibility Card: Read Me File (11/95)

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TOPIC -----

This article contains the Power Macintosh DOS Compatibility Card ReadMe file.

DISCUSSION -----

Using DOS and Windows Applications
With the DOS Compatibility Card for Macintosh

This document contains important information about using your DOS Compatibility Card that is not included in your user's guide.

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Using the Clipboards

The DOSClip utility provides a limited emulation of the clipboards available with the Mac OS and Windows.

With the DOS Compatibility Card fully installed, you'll have three separate clipboards to work with: the Mac OS clipboard, the Windows clipboard, and DOSClip. Translation between the clipboards takes place each time you switch between the PC and Macintosh environments. When using these clipboards there are a few things to keep in mind:

- Copying items to the Macintosh clipboard, switching to Windows and copying items to the Windows clipboard, will write over the original Macintosh clipboard contents. To prevent this, remove the PC Clipboard extension from the System Folder.
- In order to translate the contents of the Macintosh clipboard to the Windows clipboard, Windows must be already running when you switch environments. If you switch to DOS, then launch Windows, the Macintosh clipboard will be translated into DOSClip, and the Windows clipboard will be blank.
- In order to translate the contents of the Macintosh clipboard to DOSClip, the PC should be running without Windows when you switch environments. This means that you must have already quit Windows. Running the "MSDOS Prompt" command from Windows won't work either. In short, If Windows is running when you switch to the PC, the Macintosh clipboard will be translated into the Windows clipboard, and DOSClip will be blank.
- DOSClip contents cannot be pasted into Windows, or vice versa.
- Graphics can be copied from a DOS application to DOSClip, but graphics cannot be pasted into a DOS application from DOSClip.
- After copying a graphic from DOS using DOSClip, you may experience difficulty in pasting the graphic into a Macintosh application. If this happens, trying increasing the Macintosh application's memory:
 - Highlight the application's icon
 - Select Get Info from the File Menu
 - Adjust the Preferred Size setting

- Close the Get Info window

- Sounds are not translated between the Macintosh and the PC.
- Plain text is automatically translated from one environment to another, but in order to retain font and style information, additional Macintosh Easy Open translators must be used (for example, MacLink Plus from DataViz).

When using DOSClip from within certain applications, it may not be possible to select the text using the mouse. In these cases, either:

- Use the keyboard to select your text, or
- Check that the Standard DOS Mouse Driver is NOT loaded

When the PC environment is active, all Macintosh applications are put in the background to allow PC Clipboard to run in the foreground. If you do not want your Macintosh applications to run in the background while you are in the PC environment, you must disable the clipboard translation.

- Remove the PC Clipboard Extension from the Extensions Folder.

Using the Serial Ports on the Macintosh

The maximum baud rate supported by the DOS Compatibility Card when a COM port is mapped to a Macintosh serial port is 19,200. However, when the "MODE" command is issued in DOS and the serial port is set at 19,200 baud, the erroneous message "Function not supported on this computer" is returned. This occurs because DOS is looking for specific hardware (a PC UART) that is not emulated by the DOS Compatibility Card. The DOS Compatibility Card WILL support 19,200 baud, and can be set by a number of communication applications.

Using Backup Programs

To back up the drive files on your Macintosh, either make a copy of the files by duplicating them in the Finder, or use a Macintosh backup application program. Do not use PC backup programs. PC backup programs do not work with the DOS Compatibility Card because these applications require direct access to PC floppy drive hardware. The floppy disk drive on this system is controlled by the Macintosh.

Using the Floppy Drive

Both PC and Macintosh floppies are automatically mounted when inserted into the floppy drive, in either operating environment.* This mounting process takes a few seconds. Macintosh users are familiar with this process; PC users will find that they should wait a few seconds before accessing the data on the floppy disk.

Certain DOS or Windows floppy disk utilities will not work with the DOS Compatibility Card. These utilities attempt to exercise direct control over the floppy drive, which they cannot do, since it is a Macintosh-controlled floppy drive. Instead, Macintosh disk utility applications should be used.

An unlocked DOS floppy (e.g. an install floppy) inserted while running in the Mac environment will not be visible from the DOS environment. You must switch to the DOS environment before inserting the floppy for it to be accessible to the PC. This is especially important to remember during DOS installation. However, locked DOS floppies inserted in the Mac environment WILL be visible to both the DOS and Macintosh environments.

Disk Copy won't read a DOS-formatted floppy unless it is unlocked.

Floppy disks formatted by the DOS Compatibility Card in DOS 720K format are not readable by some DOS computers. Instead, format the disk in the Macintosh environment:

- Switch to Macintosh environment
- Insert an unlocked, low-density floppy disk
- Select "Erase Disk" from the Special menu
- Select the "DOS 720K format" from the dialog box
- Click "Erase"

Booting the PC from Floppy

To reboot the PC environment with a floppy, insert the disk in the floppy drive and press <Ctrl-Alt-[keypad] period>. Selecting the "Restart PC" option from the PC Setup Control Panel, or pressing <Cmd-Ctrl-Alt-[keypad] period> will eject the floppy from the drive. Alternatively, the user may select either of the two latter options and immediately reinsert the floppy after it is ejected.

Configuring the Memory

On pg. 73 of the User's Guide, it states: "The SIMM that your card uses is the same type of SIMM that your computer uses." "Your computer" refers to your Macintosh.

Many DOS and Windows applications require "conventional memory" to run. At the same time, many device drivers and "TSR's" may be loaded into conventional memory. You may find that you do not have enough conventional memory to run some of your DOS or Windows applications. To correct this we recommend:

To increase Upper Memory Block (UMB) space to 122K instead of 64k:

```
DEVICE=C:\WINDOWS\EMM386.EXE RAM=D000-EFFF FRAME=D000 in CONFIG.SYS
```

To load DOS into the UMB (high memory):

```
DOS=HIGH, UMB in the CONFIG.SYS file
```

Insert LH before all TSRs/device drivers in the AUTOEXEC.BAT. For example:

```
LH C:\DOS\SMARTDRV.EXE /X
```

This will load these into UMB (high memory). If you run out of UMB space, you may see an error message like this during the boot process:

```
Run time error R6009
-not enough space for environment.
```

In this case, remove "LH" from TSRs/device drivers one or two at a time, and try again until the error message does not appear.

If a DOSClip copy command is executed from within Harvard Graphics 3.0 then the PC crashes when Harvard Graphics is quit. To prevent this, use the steps outlined above, making sure that SMARTDRV is one of the drivers preceded with LH.

Important:

To prevent the System BIOS from becoming corrupted when the DOS Compatibility Card is configured for 2 MB of memory, set the switch in the CONFIG.SYS file to turn memory testing off:

```
DEVICE=C:\DOS\HIMEM.SYS /TESTMEM:OFF
```

The DOS Compatibility Card does not support memory management utilities for DOS/Windows as mentioned on pg. 38 of the User's Guide. In addition, RAM Doubler, and similar applications, are not supported.

When sharing memory with the DOS Compatibility Card, the Macintosh allocates a portion of its memory to the PC. Because of this, the Macintosh may not be able to load all extensions desired by the user.

If this problem occurs, try:

- Adding memory to the DOS Compatibility Card.
- Decreasing shared memory setting
- Do not use PowerTalk
- Reducing the number of System Extensions loaded
- Removing CloseView from the Extensions folder
- Do not use QuickDraw GX. QuickDraw GX prefers 16MB of RAM.
- Do an Easy Install of System 7.5, or, if you need to do a custom install, install only what you need
- Renaming the "PC Setup" Control Panel to "!PC Setup" so that it loads first.

Note: Start your Macintosh with the SHIFT key held down during the boot-up process. Extensions will not be loaded and you will be able to relocate those extensions that are not desired to a location outside of the System Folder. Restart the Macintosh to have the new extension configuration take effect.

You may find that, even when SIMMs are added to the Power Macintosh 6100 DOS Compatible mother board, you get less shared memory (MB) than you requested from the PC Setup Control Panel.

Begin_Table

SET	ALLOCATED
8	4
16	8
32	8

End_Table

The design of some memory SIMMs do not permit the DOS Compatibility Card to utilize the full capacity of the memory.

When sharing memory other than 8 MB (e.g. 2,4,16, etc.), the Modern Memory Manager must be turned on. This is done through the Memory Control Panel. There are applications which are incompatible, to varying degrees, with the Modern Memory Manager. If shared memory must be set at a level other than 8MB, there are two options for problems occurring with these applications:

- Add a memory SIMM to the DOS Compatible Card
- Upgrade the application to a version compatible with the Modern Memory Manager

If the DOS Compatibility Card shares 16MB or more and Disklight of Norton Utilities 3.1.1 is installed, the system will hang during startup. This does not occur with 8MB or less shared memory.

Using the Drive Files

Use caution when handling the Drive File. Erasing one of these is equivalent to reformatting the hard drive it is emulating! To prevent this, lock the Drive File using Get Info.

Correction to the User's Guide, pg. 43:

A PC-formatted SCSI drive may be used as the C: drive, as long as it is formatted to be bootable by using the `FORMAT C: /S` command.

When using a PC-formatted SCSI device as the PC's C: or D: drive, ensure that the driver for that device is not loaded by PC Exchange. This would cause PC Exchange to mount the drive instead of the DOS Compatibility Card. To correct this, open the PC Exchange control panel, and click the Options button. Make sure the SCSI driver for the device is not checked. Then click OK. This will ensure that the DOS Compatibility Card will be able to load the C: drive.

Using Shared Folders

Because two operating systems have access to each shared folder, there may be a noticeable slowdown in performance when using these folders for high-speed PC applications, such as multi-media programs, or during large file transfers between them. For optimum performance, place the PC applications and their files on the C: or D: drive rather than on a shared folder. The performance of Macintosh applications is unaffected by placing them in shared folders.

Since the PC doesn't understand the concept of resource forks the same way the Macintosh does, information in a Macintosh file's "resource fork" is lost when it is copied by the PC. For example, if a Macintosh file is copied between two shared folders using the COPY command in DOS, that file's original icon will be lost, and the file itself may be unusable.

Many document files do not have resource forks and can be copied between shared folders with no problems. The applications that created the files contain the resource information for these files. However, QuickTime files cannot be successfully copied between shared folders. Refer to PC Exchange documentation for more information.

In some Microsoft applications, there is a misrepresentation of the shared drive icons. When you open a file from a shared folder in Microsoft Excel or Microsoft Word, the shared drive icon may appear as a floppy or CD. This does not affect the file's functionality.

Do not attempt to use shared folders from a DOS shell run from Windows.

Strange Text Characters in a Document

When using shared folders to exchange documents between your Macintosh and the DOS Compatibility Card, in some cases a Macintosh application program may not be able to interpret the file format of a PC document. When this happens, the document's formatting is displayed incorrectly and you may see strange characters in the document:

- Try using a different application program
- Translate the document into a different file format using one of the file format translation utilities available for the Macintosh (such as MacLinkPlus/Easy Open Translators from DataViz).
- Transfer the text using DOSClip
- Use the "Export" feature found in many applications
- Use a PC-Macintosh translation utility. There are many shareware applications available.

Rebuilding the Desktop

If you need to rebuild the Macintosh desktop, you must either wait for the desktop to rebuild while in the Macintosh environment, or switch to the DOS environment and remain there until the rebuild is complete. Switching back to the Macintosh environment during rebuild will cause the Macintosh to crash.

Sound Control Panel Settings

For sounds generated by the Sound Blaster card and for sounds from the PC, the Sound Control Panel must be set with the Internal CD playthrough enabled. The User's Guide will explain how to make this setting (see pg. 54). With System 7.1.2, however, the setting is lost after each reboot. Install the System

Update 3.0 software to correct this problem so that the playthrough setting is retained after each reboot.

QuickTime also turns off the playthrough option. This has the effect of cutting off all PC and Sound Blaster card sounds. QuickTime v1.6.2 will turn off playthrough and not restore it, while v2.0 will restore playthrough back to its original state.

Using the Sound Blaster Card

The PC Sound control in the PC Setup control panel does not effect sounds produced by the Sound Blaster card. Only PC-generated sounds such as the system beep are affected by this control. Use the master volume control of the Mixer Control application from the Audio program group, or turn off the Internal CD playthrough to turn off both PC and Sound Blaster generated sounds (see pg. 54 of the User's Guide).

The Sound Blaster daughter-card included on your DOS Compatibility Card will play sounds as expected, but is not able to record them.

The DOS Compatibility Card does not fully support Sound Blaster 8-bit, Sound Blaster 2.0 or Sound Blaster Pro drivers. If problems occur, select the Sound Blaster 16 driver that comes with the DOS Compatibility Card.

Using CD-ROM Drives

Simultaneous use of multiple CD-ROM drives is not supported.

Audio CDs cannot be controlled from both Windows and the Macintosh environment at the same time. One or the other must be used.

The PC side sets up a drive letter (E:) for a CD-ROM drive although no drive is attached. If no CD-ROM drive is connected to your system, this drive letter can be freed up (and some memory) by editing these files:

```
AUTOEXEC.BAT
REM LH C:\DOS\MSCDEX /D:CDDRVR /L:E
```

```
CONFIG.SYS
REM DEVICE=C:\Apple\CDROM.SYS /D:CDDRVR
```

Prefacing these commands with "REM" will make DOS ignore them.

Playing an audio CD in Windows while running low-level media tools, such as PC Tools or Microsoft Anti-Virus, may cause a crash. It is best to reduce computer activity to a minimum while using such tools.

Multimedia, MIDI, Game Applications

These types of applications, whether they are run in the PC or Macintosh

environments, will see a marked performance improvement with the installation of a memory SIMM onto the DOS Compatibility Card. QuickTime application performance is especially improved with the addition of a SIMM.

Some DOS-based MPEG players require a VGA monitor to output video. All VGA modes can be displayed on Macintosh monitors supported by the DOS Compatibility Card. In a two monitor configuration, if the monitor specified to display the PC is a VGA monitor, simply select "VGA" in the Display box in the PC Setup Control Panel. You cannot select VGA for a shared monitor configuration from the PC Setup Control Panel if your monitor is not capable of displaying VGA. Multi-scan monitors are VGA-capable.

The Flightstick Pro Joystick for the Macintosh triggers the System beep 'Indigo' when entering the DOS environment. It also triggers this sound twice upon bootup. To correct this:

- Remove the Indigo sound from the System file in the Macintosh System Folder.

Video Configurations

If you have a 16" monitor, the PC doesn't use the entire screen unless you install a display driver for the program that you're using. See "Installing Video Drivers" pg. 39 of the User's Guide for more information.

On pg. 39 of the User's Guide: "Installing video drivers", select "Windows 3.1" as the application during the installation process.

If you are working with two monitors, make sure that both monitors are connected before booting the Macintosh and PC. The monitor dedicated to the Macintosh environment should be connected to the video port on the back of your Macintosh.

The monitor dedicated to the PC should be connected to your DOS Compatibility Card. If your DOS-dedicated monitor is a 14", and you connect this monitor to the DOS Compatibility Card after you have booted the PC, you may see interference on the monitor or the PC will hang at the DOS prompt. This is because, when no monitor is connected, the PC defaults to expect a 16" monitor. If this should happen, select 14" from the "Display" menu in the PC Setup Control Panel and restart the PC.

Setting General Controls

Using the "Switch at Startup" Option:

This applies to System 7.5 users only. The "Shut Down Warning" in the General Control Panel should be disabled. If the "Switch at Startup" option in the PC Setup Control Panel is set to switch over to the DOS environment during boot-up, the switch from the Macintosh to DOS takes place before the "improper shutdown" dialog is displayed on the Macintosh. If a System 7.5 user has this option set and has either a system crash, or used the on/off switch instead of selecting Shutdown from the Menu Bar, the user will be unable to return to the Macintosh environment from DOS. The user with two monitors will see this dialog box in the dimmed Macintosh environment but will be unable to switch back to the Macintosh environment immediately. The user with only one monitor will not be

able to return to the Macintosh to see this dialog box. This dialog box WILL go away after a few minutes. At this time, the user can return to the Macintosh environment and should disable the "Shut Down Warning" in the General Controls control panel.

Using the "Show Desktop when in background" Option:

This applies to System 7.5 users only. The "Show Desktop when in background" control in the General Control Panel should be "ON". If it is "OFF", desktop folders, Trash, etc, will not be visible when an application is running on the Macintosh. If there is an application running in the background on the Macintosh, and the user switches to the DOS environment, switching back to the Macintosh shows the application now in the foreground. All desktop icons are hidden. This can be confusing to the user.

Bypassing the CONFIG.SYS and AUTOEXEC.BAT files

To bypass these DOS startup files during the boot-up process, press and hold the F5 key (Command-5 on non-extended keyboards) after the memory testing is complete.

Installing Corel Draw

If you allow Corel Draw to update the AUTOEXEC.BAT file, the line:

```
LH C:\Apple\MacShare
```

is replaced with the line:

```
C:\DOS\SHARE.EXE /L:500 /F:5100
```

If the former line is needed, you should edit the AUTOEXEC.BAT file to add it back.

Using Norton Utilities

If Norton Utilities for the Macintosh v3.0 or v3.1 is being used, the "More Compatible" option should be chosen:

1. Go into Control Panels and Open FileSaver
2. Click More Choices
3. Click Preferences and Update Now
4. Click More Compatible and Save

Using After Dark 3.0

The use of After Dark's 3.0 for Macintosh external screen saver modules in a single-monitor configuration can cause a crash. Unless you have a dual-monitor configuration, you must use one of After Dark's built-in modules, such as Starry Night.

Additionally, do not use the PC Setup control panel "Switch at Startup" option when using After Dark.

Using Debabilizer

If Debabilizer (for the Macintosh) is running when switching to the PC environment, the system crashes. You can avoid this by quitting Debabilizer before switching. Items copied to the clipboard before quitting are still translated to the PC environment

Using SAM 4.0

When using SAM 4.0 for the Macintosh with the "Prompt: 'Skip' is the default button" check box selected in the Floppy Drive preferences, inserting a floppy while in the PC environment causes the system to hang. The floppy cannot be accessed nor can the user switch to the Macintosh environment. To avoid this, select the "Always scan" option.

Using PC Tools Pro 9.0

The CPTASK.EXE utility (Central Point Task Manager) is incompatible with the DOS Compatibility Card.

Using MWUNDEL

MWUNDEL does not work on shared folders, so files deleted by the PC in shared folders will not be recoverable. However, files in shared folders can be recovered if they are deleted from the Macintosh. Use a Macintosh utility such as Norton Disk Doctor.

Support of Operating Systems

Only MS-DOS and Windows 3.1 are supported by the DOS Compatibility Card.

DESQview 2.6 has problems with certain memory configurations.

Networking

The DOS Compatibility Card supports network drivers that conform to Novell's Open Data-Link Interface (ODI). For help in installing these drivers, please refer to README.NET, located in the C:\APPLE directory.

Network performance is improved by adding a SIMM to the DOS Compatibility Card.

Using the Serial Port

If you are using communications software that uses the serial port, the following are known errors:

- For Procomm, the auto-answer mode does not work.
- For LapLink, transferring files between two machines may not work, especially for large files.

Printing

For DOS or Windows printing on the DOS Compatibility Card, we recommend using LPT1.DOS or LPT1. In general you must use printers that are Macintosh compatible, and use their corresponding printer extension for the Macintosh, selectable in the Chooser. However, in a PC Novell Netware™ environment you can print to a PC-compatible printer attached to a Novell network (refer to the Network Installation Guide on how to set up a Novell client).

Printing to a Postscript Printer

If you have a Postscript printer, open the Printers icon in the Windows Control Panel and select a Postscript driver. We recommend the Laserwriter IINT driver or Windows Postscript driver. In the Macintosh Chooser, select the corresponding printer extension for your type of printer.

Printing to a QuickDraw Printer

If you have a QuickDraw (non-Postscript, non-PCL printer) such as an Apple's ImageWriter or StyleWriter, or HP's DeskJet printer:

- Open the Printers icon in the Windows Control Panel and select the Epson LQ-2500 driver.
- In the Macintosh Chooser, select the corresponding printer extension for your type of printer.
- In the Macintosh Extension folder, launch the PC Print Spooler by double-clicking its icon in the Extension folder.
- From the File menu, select "Preferences".
- Click on the Epson option for "Interpret non-Postscript As" to enable the Epson emulator.

The Epson emulator works by first translating the DOS text to a similar Macintosh font, then interpreting that text into a series of QuickDraw commands.

Some characters in the original DOS character set may not have exact translations to a Macintosh font. The use of a PostScript font is recommended in these cases, since use of the PostScript standard requires no translation.

The Epson emulator does not support color or greyscale. When printing from the PC to a Color or Grayscale printer, make sure to select the Black & White option from the Print dialog.

Printing to a PCL Printer

If you have a PCL (Page Control Language) printer, printing is limited to text-only or graphics-only when printing using AppleTalk. To print text only:

- Open the Printers icon in the Windows Control Panel and select your printer's driver.
- In the Macintosh Chooser, select the corresponding printer extension for your type of printer.
- In the Macintosh Extension folder, launch the PC Print Spooler by double-clicking its icon in the Extension folder.
- From the File menu, select "Preferences".
- Click on the PCL option for "Interpret non-Postscript As" to enable PCL printing.

To print graphics only, apply the steps listed above, except choose the LaserJet III driver from the Windows Control Panel instead.

If you need to print mixed graphics and text, many Windows applications "bit-map" their text so that it becomes a graphic. Such programs include Paintbrush, Corel Draw & Adobe Illustrator.

Additionally, PCL printing of text and graphics together is possible when printing over a Novell network, where a PC print server is connected to the PCL printer and handles the printing job. Select your printer's own driver in the Windows Control Panel.

On pg. 69 of the User's Guide, it states: "If you try to print a file and you're using a PostScript printer driver for a non-postscript printer, your file will not be printed. Instead, the file will be moved to a folder called "Spooler Rejected" in the Mac OS." This happens only with Non-Postscript set to Epson. If you have Non-Postscript set to PCL, the file is sent to the printer without the "spooler rejected" dialog.

AppleShare Print Server

The AppleShare Print Server should not be installed in a DOS Compatibility system, as the server's software would conflict with the PC Print Spooler. You may, however, connect your DOS Compatibility system to a network that uses the AppleShare Print Server.

Other Notes

If you have purchased the DOS Compatibility Card as a separate product for the Power Macintosh 6100, it will be necessary to install the required software. After installation, the Macintosh must be restarted for the new software to be enabled. The Desktop will be automatically rebuilt. This is normal.

The components of the card become very hot, therefore, operate your Macintosh

with the cover on.

*This information is incorrect. Macintosh formatted disks are automatically ejected in the MS-DOS environment. The correct information is documented in the "DOS Compatibility Card for Macintosh User's Guide" on page 59.

Article Change History:

29 Nov 1995 - Corrected minor typo.

16 Oct 1995 - Removed keyword.

Support Information Services

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