Macintosh PC Exchange Ver. 2.0.3: Technical Notes (6/95)

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TOPIC --

What are the new features and changes contained in Macintosh PC Exchange 2.0
(version 2.0.3)? Which third party external media devices are supported?

DISCUSSION ---

The following are the Technical Notes for Macintosh PC Exchange 2.0 (version
2.0.3)

IMPORTANT
Macintosh PC Exchange 2.0 requires Macintosh system software version 7.0.1 or
later.

What is Macintosh PC Exchange 2.0?
Macintosh PC Exchange 2.0 is a System 7 compatibility utility that lets you use
DOS-format disks on your Macintosh. It lets you transfer files back and forth
between a Macintosh and a PC-compatible simply by copying the files between
disks. PC Exchange makes it easy to work with DOS data files on your Macintosh.
However, PC Exchange does not allow you to work with MS-DOS or Windows
application programs on your Macintosh.

New Features in Macintosh PC Exchange 2.0

• Now works with DOS-format and Windows-format SCSI fixed and removable
  media storage devices (such as Iomega Bernoulli and SyQuest cartridge
  drives).

• Now works with Apple II ProDOS-format floppy disks.

• Now works with NEC DOS-format 640K floppy disks.   [NEW FEATURE IN 2.0.3]
  [NOTE: PCX 2.0.3 does not work with NEC 1.2MB floppy disks. NEC 1.4MB
  floppy disks can only be read if the disk as been formatted as a
  standard DOS disk.]

• Lets you access DOS-format drive container files created by the DOS
  Compatibility Card for Macintosh.

• uses less random-access memory (about 5K) when not in use.

• Includes an on/off switch in the control panel that allows you to turn
  off the PC Exchange disk-mounting capability temporarily.

• Comes with built-in device drivers to support a wide variety of SCSI hard
  disk and removable media drives.

• Works on Power Macintosh systems in Macintosh 68000 emulation mode.

Software Fixes in Version 2.0.3

• Earlier versions of PC Exchange would fail to recognize and display DOS
  files on DOS-format disks when the filename contained certain
  international characters. In version 2.0.2 and later, DOS filenames
  containing international characters will be recognized by PC Exchange.
  However, in most cases, the DOS international characters will be replaced
  with alternate Macintosh international characters.

• Earlier versions of PC Exchange 2.0 would not allow File Sharing to be
  turned on when a DOS-format hard disk or removable media drive were
  mounted on the Desktop. This new version will allow you to turn on File
  Sharing while a DOS-format disk is mounted on the Desktop. However, the
  DOS-format disk cannot be shared using the File Sharing software.

• Macintosh PC Exchange 2.0.3 now accurately recognizes WorldScript 2-byte
  character DOS file and volume names.

• When erasing 800K floppy disks on a Macintosh Quadra AV system, the
  format popup menu would list the Macintosh 800K format option twice.
  This problem has been corrected in version 2.0.3 of PC Exchange.

Known Problems in Version 2.0.3 of Macintosh PC Exchange

• A "Sad Mac" error may occur on your Macintosh if a removable media
  cartridge is left in the drive during startup. To keep this problem from
  occurring, manually eject removable media cartridges from the drive
  before you turn on your Macintosh.

• PC Exchange cannot recognize SCSI hard disks, removable media devices, or
  drive container files which contain more than one gigabyte of disk space.

• After PC Exchange formats a new, uninitialized Bernoulli disk on a Quadra
  AV systems, it's possible that two disk icons will appear on the desktop.
  If this happens, drag both icons to the Trash, eject the Bernoulli disk
  from the drive, and then reinsert the disk. A single icon representing
  that disk will appear on the desktop.

• There is an incompatibility between some older SyQuest drives and the
  Power Macintosh Upgrade Card when installed in Quadra computers. The
  problem stems from an incompatibility between the SCSI Manager software
  built into the Power Macintosh card's ROM, the PC Exchange device driver
  software, and the ROM built into the older SyQuest drives. For example,
  if you are using PC Exchange 2.0.3 or earlier on a Quadra 700 with a
  Power Macintosh Upgrade card and a HammerDisk PE88c SyQuest drive, your
  system will crash when you attempt to mount a Mac or DOS format cartridge
  on the desktop.

  The only workaround is to turn off either PC Exchange or the Power
  Macintosh card and then restart. However, then you will not be able to
  read DOS format SyQuest cartridges. This problem occurs with both System
  7.1 and System 7.5. The problem does not happen when running PC Exchange
  2.0 on a regular Power Macintosh 6100, 7100 or 8100 with the HammerDisk
  PE88c SyQuest drive.

 [NOTE: We do not have a way of determining whether a particular SyQuest
         drive has newer ROM and is, therefore, more compatible with the
         Power Macintosh Upgrade card.]

PC-compatible SCSI Adapter Cards Supported by PC Exchange 2.0

PC Exchange has been tested with and should be fully compatible with PC SCSI
adapter cards manufactured by Adaptec (the Adaptec 1520 and 1540 series). SCSI
devices formatted with other types of PC SCSI adapter cards may work with PC
Exchange 2.0, as long as they use the following values when formatting media
(which are the same values Adaptec uses):

   •BytesPerSector = 512
   •SectorsPerTrack = 32 (maximum of 64)
   •Heads = 64
   •Cylinders = volumeSize / (Heads * SectorsPerTrack)

[NOTE: These are the same values that PC Exchange uses when formatting a new
DOS-format fixed or removable media disk.]

SCSI Hard Disk & Removable Media Devices Supported by PC Exchange 2.0.2

PC Exchange 2.0 includes device drivers for SCSI hard disk and removable media
drives from the following vendors:

CDC
Connor
Epson, MOD312
Epson, OMD-50
Fujitsu
Fujitsu, M2511A
IBM
Insite, I325VM
IOMEGA Bernoulli

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Matshita, LF-300
Microp
Most, RMD-51
Olympus, MOS300
Optima, SMO
Quantum
Ricoh RO
Rodime
Seagate
Sharp, JY
Sony, SMO
SyQuest
Teac, OD-300
Toshiba
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SCSI Hard Disk and Removable Media Drives Not Supported

The following disk drives are not supported by Macintosh PC Exchange 2.0:

• Apple 5.25-inch floppy disk drive
• Maxtor 230MB SCSI hard disk drive
• Pinnacle Micro PMO-650 magneto optical drive

Potential Conflicts with Other Apple & 3rd Party Products:

Quadra 610 DOS Compatible System
The PC Setup control panel that comes with the Quadra 610 DOS Compatible systems
allows the user to create drive container files up to a maximum of 2 gigabyte in
disk space. However, PC Exchange can only recognize DOS-format drive containers
that take up less than 1 gigabyte of disk space.

PC Exchange may fail to format floppy disks on the Macintosh side of a Quadra
610 DOS Compatible system while the PC side is running and the 040 Cache Switch
is turned off. If this occurs, either turn on the 040 Cache Switch or shut down
the PC side of the Quadra 610.

Strange Text Characters in a Document
In some cases your 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 or 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).

Paint Programs
Some paint programs, such as MacPaint and SuperPaint, save documents on
DOS-format floppy disks very slowly. To avoid this problem, always save paint
documents on your computer's hard disk. If you like, you can then copy the
documents to a DOS-format floppy disk.

Apple File Exchange
The Apple File Exchange software is not compatible with PC Exchange and should
not be used while PC Exchange is installed. Macintosh PC Exchange 2.0 contains
an easier and more intuitive method for accessing DOS and Apple II ProDOS disks
on a Macintosh.

AutoDoubler
To use AutoDoubler with Macintosh PC Exchange, you must first open the
AutoDoubler control panel and turn off the "Show DD on Compressed Files"
option.

ClarisWorks (Version 1.0v2 or Earlier)
Some versions of ClarisWorks cannot read or write files on DOS-format floppy
disks. To open a PC document in ClarisWorks, you must first copy the document
to your computer's hard disk. Always save ClarisWorks documents on your
Macintosh hard disk. If you like, you can then copy the documents to a
PC-format floppy disk. Contact Claris to obtain version 1.0v3 or later of
ClarisWorks.

Directory Assistance II
Directory Assistance II should not be used while the Macintosh PC Exchange
control panel is open. You can turn off Directory Assistance II from the PC
Exchange control panel by holding down the Option key while you click the Add or
Change button in the control panel window.   Directory Assistance II will be
turned off temporarily while you use the PC Exchange control panel and will be
reactivated when you close the PC Exchange control panel.

Compressed PC Disks and Files
Macintosh PC Exchange does not work with DOS-format floppy disks or SCSI hard
disks that have been compressed using Stacker or other MS-DOS or Windows
disk-compression utilities. Before transferring compressed DOS files to a
Macintosh, you must decompress the files and save them to a non compressed
DOS-format disk.

Working With PC-Format Disks Containing Multiple Partitions
If a SCSI hard disk or removable media cartridge has been formatted to contain
multiple partitions, you can use PC Exchange to mount the Macintosh, DOS, or
ProDOS-format partitions as individual logical drives on the Macintosh Desktop.
If the disk contains both Macintosh and DOS/Windows-format partitions, PC
Exchange will only recognize the Macintosh partition. In addition, PC Exchange
will only recognize ProDOS-format partitions on SCSI hard disks that are less
than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard
disk or removable media cartridge to the same format. However, you cannot use
PC Exchange to reformat and resize individual partitions contained on the disk.
Nor can you format a Macintosh-format hard disk or removable media cartridge as
a DOS-format disk. To resize or reformat multiple Macintosh, DOS, or ProDOS
partitions, you need to use third-party software designed for partitioning hard
disk and removable media drives.

Tips for Working with DOS-Format SCSI Removable Media Devices
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In order for PC Exchange to recognize SCSI removable media devices, you must
turn on the device and eject any cartridges before you turn on your Macintosh
system.

Do not install the device driver software that came with your removable media
device. Instead, open the PC Exchange control panel, click the Options button,
select your SCSI device from the list, and then restart your Macintosh. PC
Exchange will install it's own device driver for that SCSI device.

The Eject Disk command is unavailable when working with removable media devices.
To unmount and eject a removable media cartridge, drag the device's icon to the
Trash. Once the device has spun down and the red light goes out, you can
manually eject the cartridge from the drive. To access a removable media
cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a
PC-compatible computer, use the disk setup and partitioning software that came
with the SCSI controller card installed in your PC or that came with your
Bernoulli or SyQuest device. Do not use the MS-DOS Fdisk command to initialize
a removable media cartridge.   In addition, you should use the MS-DOS Format
command to format the disk before you copy DOS files to a newly initialized
removable media cartridge on a PC.

When you initialize a removable media cartridge on a PC-compatible computer, you
must fully partition, initialize, and erase the cartridge using the software
that came with your SCSI controller card or removable media device. If you do
not, PC Exchange may not recognize the new DOS-format partitions on that
cartridge.

PC Exchange has been tested with and should be fully compatible with PC SCSI
adapter cards manufactured by ADAPTEC. SCSI devices formatted using other types
of SCSI adapter cards may not be recognized by PC Exchange 2.0.

Tips for Working with DOS-Format SyQuest Removable Media Devices
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In order for PC Exchange to recognize SCSI removable media devices, you must
turn on the device and eject any cartridges before you turn on your Macintosh
system.

Do not install the device driver software that came with your removable media
device. Instead, open the PC Exchange control panel, click the Options button,
select your SCSI device from the list, and then restart your Macintosh. PC
Exchange will install it's own device driver for that SCSI device.

[NOTE: IOMEGA has recently updated their Bernoulli device drivers to support PC
Exchange. If you are using a PCX-savvy Bernoulli device driver, install the
Bernoulli driver per IOMEGA instructions and DO NOT select the Bernoulli device
in the PC Exchange Control Panel. You should contact IOMEGA to verify if you
have a PCX-savvy Bernoulli driver.]

The Eject Disk command is unavailable when working with removable media devices.
To unmount and eject a removable media cartridge, drag the device's icon to the
Trash. Once the device has spun down and the red light goes out, you can
manually eject the cartridge from the drive. To access a removable media
cartridge that has been ejected, simply reinsert the cartridge in the drive.

When initializing and formatting Bernoulli and SyQuest cartridges on a
PC-compatible computer, use the disk setup and partitioning software that came
with the SCSI controller card installed in your PC or that came with your
Bernoulli or SyQuest device. Do not use the MS-DOS Fdisk command to initialize
a removable media cartridge. In addition, you should use the MS-DOS Format
command to format the disk before you copy DOS files to a newly initialized
removable media cartridge on a PC.

When you initialize a removable media cartridge on a PC-compatible computer, you
must fully partition, initialize, and erase the cartridge using the software
that came with your SCSI controller card or removable media device. If you do
not, PC Exchange may not recognize the new DOS-format partitions on that
cartridge. If the cartridge had been formatted as Macintosh and then
reformatted on a PC to DOS, it's possible that the Macintosh partition map
information might not be deleted. In those cases, PC Exchange will not
recognize the DOS format on the cartridge because it still sees the Macintosh
partition map and trys to mount it as a Macintosh disk.

PC Exchange has been tested with and should be fully compatible with PC SCSI
adapter cards manufactured by ADAPTEC. SCSI devices formatted using other types
of SCSI adapter cards may not be recognized by PC Exchange 2.0.

Brands of PC SCSI Adaptor Cards that PC Exchange 2.0 may not support
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-AIC
-Future Domain
-Data Technology Corp
-Always Technology
-Seagate STD1/STO2
-Trantor T338 & Trantor T128
-ATL Controller
-UltraStor
-Buslogic
-PowerCard (PCMCIA)

Working With PC-Format Disks Containing Multiple Partitions

If a SCSI hard disk or removable media cartridge has been formatted to contain
multiple partitions, you can use PC Exchange to mount the Macintosh, DOS, or
ProDOS-format partitions as individual logical drives on the Macintosh Desktop.
If the disk contains both Macintosh and DOS/Windows-format partitions, PC
Exchange will only recognize the Macintosh partition. In addition, PC Exchange
will only recognize ProDOS-format partitions on SCSI hard disks that are less
than 32 megabytes.

You can use PC Exchange to erase existing individual partitions on a SCSI hard disk or removable media cartridge to the same format. However, you cannot use PC Exchange to reformat and resize individual partitions contained on the disk. Nor can you format a Macintosh-format hard disk or removable media cartridge as a DOS-format disk. To resize or reformat multiple Macintosh, DOS, or ProDOS partitions, you need to use third-party software designed for partitioning hard disk and removable media drives. Recommended 3rd-party disk formatting products include:

- •DOS Mounter 5.0 from Software Architects
- •Formatter Five from Software Architects
- •AccessPC from Insignia Solutions

Common MS-DOS File Suffixes

.BAK Backup document (used by word processing programs)
.BAS BASIC program   (cannot be used on a Macintosh)
.BAT Executable DOS program (cannot be used on a Macintosh)
.BMP Windows Bitmap graphic
.CDR CorelDraw graphic
.CGM Computer Graphics Metafile graphic
.COM Executable DOS file (cannot be used on a Macintosh)
.CWK Clarisworks document
.DBF dBASE database file
.DIF Data Interchange Format (used by spreadsheet and database programs)
.DLL Windows Dynamically Linked Library (cannot be used on a Macintosh)
.DOC Microsoft Word document
.DOX Multimate v4.0 document
.DWG Autocad drawing
.DXF Autocad drawing in exchange format
.EPS Encapsulated PostScript file
.EXE Executable DOS file   (cannot be used on a Macintosh)
.INI Windows preference file
.OBJ Compiled object file (cannot be used on a Macintosh)
.PCC PC Paintbrush graphics file
.PCX PC Paintbrush graphics file
.PIC Lotus 1-2-3 graphics file
.PM3 PageMaker 3.0 document
.PM5 PageMaker 5.0 document
.PM4 Pagemaker 4.0 document
.PRG dBASE program file (cannot be used on a Macintosh)
.PRN DOS 'Print' file
.RFT DisplayWrite Revisable Form Text (DCA format)
.SAM AmiPro document
.STY Microsoft Word style sheet
.SYL SYLK format   (used by spreadsheet and database programs)
.SYS DOS system file   (cannot be used on a Macintosh)
.TIF TIFF graphics file
.TXT ASCII text file
.WDB Microsoft Works database
.WKS Lotus 1-2-3 spreadsheet, version 1
.WK1 Lotus 1-2-3 spreadsheet, version 2

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.WK3 Lotus 1-2-3 spreadsheet, version 3
.WMF Microsoft Windows Metafile
.WP OfficeWriter or WordPerfect document
.WPF WordPerfect document
.WPG WordPerfect graphics file
.WPS Microsoft Works word processing document
.WQ1 Quattro Pro spreadsheet
.WS WordStar document
.XLA Microsoft Excel add-in macro
.XLT Microsoft Excel template
.XLC Microsoft Excel chart
.XLM Microsoft Excel macro
.XLS Microsoft Excel spreadsheet
.XY XyWrite document


Article Change History:
15 June 1995 - Added additional information on removable media compatibility
03 Mar 1995 - Corrected version number in short title.
15 Feb 1995 - Reviewed for technical accuracy, revised System 7.5 keyword.



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