

# PC Transporter™

The MS-DOS Card for Apple II® Computers

---

## User's Manual v1.31 & AEPC.System v2.0 Addendum

**AE** APPLIED ENGINEERING®

---

A DIVISION OF AE RESEARCH CORPORATION

v1.0



# PC Transporter User's Manual v1.3

## Addendum

---

### Changes to the board

The first thing you may notice upon looking at the PC Transporter is that the chips on the board are different from those pictured in the manual and on the box sleeve. We have changed from the 64K x 4 ZIP memory chips to the new 256K x 4 DRAMs to cut down on power consumption and to keep the overall price as low as possible. The board is functionally the same.

### Changes from the PC Transporter System Disk v1.2 to 1.3

Following is a list of changes that were made from v1.2 of the PC Transporter Operating System to v1.3. These changes have been incorporated into v2.0 of the software.

- New memory test, `PCTRAM.SYSTEM`, tests both the PCT's with ZIP chips and with 256K x 4 chips. (See `PCTRAM.SYSTEM` below.)
- Improved printing with the ImageWriter II when using v1.3 `IW2EMUL` driver.
- Improved communications data rates and data handling during upload and download.
- Improved operation with a wider variety of copy protection.
- Improved capability to read a wider range of disks from other MS-DOS based systems.
- Will now use up to 750K of available expansion RAM under MS-DOS (up from 360K).

Several new ProDOS files were added to v1.3 of the Transporter disk. Please note these additions in your manual.

### Manual v1.3 p.93-95

#### Read This File

- **READ.ME** -- This is a TXT (standard text) file that can be loaded into most ProDOS word processors. Read this file before doing anything else. It will contain the same information given in this addendum plus any additional changes that have been made.

#### Starting PCT

- **STARTUP** -- This is a simple selector program that runs when you boot the `/AEPC 3.5"` disk or the `/AEPC.UTIL 5.25"` disk. Select the proper number from the menu displayed to run the PC Transporter program, run `PCT.SWAP` (described later), run `PC.LAUNCHER` (described later), exit to Basic, or exit to ProDOS.

To run the program from BASIC, at the BASIC prompt (1), enter -STARTUP or RUN STARTUP. From the Finder, double-click the STARTUP icon.

### Testing PCT Memory

- ❑ **PCTRAM.SYSTEM** -- This program tests all the expansion memory on the PC Transporter for PCT's with ZIP chips and those with 256K x 4 chips. A graphics screen shows which chips are bad or not present. Press any key after you get the CARD PASSED message to stop the test.
- ❖ *Note:* If you have a PCT RAM disk (RAMAEPC) set up, running the test erases everything on the PCT including the format and Drivers loaded. You'll need to reboot to recreate the RAM disk.

### New Parallel Printer Driver

- ❑ **GENLPT1** -- This program is a generic parallel printer driver. It can be used with some printer cards that do not conform to the Apple interface standards. This printer driver has to be manually installed from the /AEPC.U 5.25" disk or the 3.5" disk using the control panel. It will not work with Auto Install. If Auto Install attempts to install it, the system will crash. After you assign the GENLPT1 driver through the control panel, save it to a configuration file so that Auto Install will not be executed during the boot cycle.

### Icons for the IIGS Finder

- ❑ **ICONS** -- Copy the AEPC.ICONS.2.0 file into the ICONS directory of your boot disk. This will replace "plain vanilla" icons with icons that have been described by many as "super cool" and by others as "interesting."

### Changes from the PC Transporter System Disk v1.3 to 2.0

Following is a list of changes that were made from v1.3 of the PC Transporter Operating System to v2.0. Changes to the manual are noted where needed.

- During initialization, the software now searches for a DataLink 1200 modem and, if one is installed, turns off auto answer. This prevents the phone from auto answering while the PC Transporter is in use. If a DataLink is installed and the slot is active, then a message is sent to the screen showing the DataLink slot and telling the user that auto answer is now off.
- Function keys 1-10 on Extended Apple Keyboards will now work in IBM mode.

Version 2.0 of the PCT software also contains several new programs. Please note these additions in your manual.

#### Activating/Deactivating/Rearranging PCT Drives Under ProDOS

- ❑ **PCT . SWAP** -- This program allows you to select which drives connected to the PCT you want to use under ProDOS and GS/OS. It also allows you to pick the access order of the PCT drives. Launch the program from the PCT main menu, from the Finder or from ProDOS 8.

From the PCT main menu, choose option 3. At the basic prompt (|), enter `-PCT . SWAP` or `RUN PCT . SWAP`. From the Finder, double-click the `PCT . SWAP` file.

#### GS/OS -- Continuously Spinning Drives

When using GS/OS v5.0 with the PCT, the PCT drives are continuously polled. `PCT . SWAP` lets you shut off the drives while in the Finder. Set the `/RAMAEPC` as active and the `TransDrives` as inactive.

#### ProDOS 8 -- Disk to Disk Copies

Under ProDOS 8, set up a dual TransDrive or two 3.5" drives as devices 1 and 2 for disk to disk copies.

- ❖ *5.25" Note:* The 5.25" TransDrives cannot read regularly formatted ProDOS disks. When you format disks in the TransDrives using any ProDOS format utility (Filer, System Utilities, etc.), they are actually formatted with a special brand of ProDOS, MF<sub>M</sub>. Disks formatted in the 5.25" TD's can have ProDOS files read from and written to them by TransDrive systems only.
- ❖ *3.5" Note:* The 3.5" drives connected to the PC Transporter can be formatted, read to and written from under ProDOS in the normal manner.

#### Booting MS-DOS Programs Directly from ProDOS

- ❑ **PC . LAUNCHER** -- This BASIC program allows you to create a file that can launch an MS-DOS program directly from ProDOS. Create separate `PC . LAUNCHER` files for each MS-DOS program you want to launch from ProDOS.

`PC . LAUNCHER` is most useful for hard disk users.

To run the program:

- ⊕ From BASIC, at the BASIC prompt (|), enter `RUN PC . LAUNCHER` or `-PC . LAUNCHER`.
- ⊕ From the Finder, double-click the `PC . LAUNCHER` icon.

When prompted by the program, enter a single MS-DOS command. For example, if you want to run Lotus 1-2-3 from your hard drive, you would enter "123" (do not type the quotes). If you're running Launcher from one drive and the MS-DOS program from another drive, you would need to include the drive path. "A:123" would run 123 from drive A. You can also include any parameters in the one line command. For example, if you only occasionally use the mouse, you may not want to load the mouse drivers every time you boot the system. So, instead of loading the mouse with a batch file, you can create a launcher file with the command "MSMOUSE /2" then call the ProDOS file "MOUSE".

At the "File name to save:" prompt, enter the name you want to call the launcher program under ProDOS. You can name it any name acceptable to ProDOS.

You need to have a copy of LAUNCHER.EXE on your MS-DOS disk. The AUTOEXEC.BAT file must be set up to locate the file. You also need to add "LAUNCHER" to the end of your AUTOEXEC.BAT file using a line editor program such as EDLIN, SEE, or SideKick's NOTEPAD.

When you run the newly created file from ProDOS, it launches AEPC.SYSTEM which in turn enters the single MS-DOS command when launcher is run.

#### Extended Keyboard Support

- ❑ **AEPC.KEY.2E/GS** -- Function keys 1-10 on Extended Apple Keyboards will now work in IBM mode. (Refer to Ch. 7, p. 115, "Keyboard Reference.")

#### Recognizing PCT Drives as ProDOS Drives with Improved PC Install (Manual v1.3 pp.95, 141, 183)

PC Install is a ProDOS program that installs the device drivers located in the AEPC.DISKS file into any file called PRODOS. The drivers allow ProDOS to recognize and use the TransDrives and PCT RAMDisk as ProDOS drives.

Run PC Install from ProDOS, not from MS-DOS.

- ❖ At the BASIC prompt (]), enter -PCINSTALL.
- ❖ From the Finder, double-click the PCINSTALL file.

PC Install will no longer create a file called PRODOT when it encounters a locked PRODOS file as described in the manual. Instead, PC Install unlocks the file, PRODOS and modifies it.

- ❖ *GS Owners:* If you've deactivated some of your drives with the PCT.SWAP program, you'll need to rerun the program after using PC Install.

### Improved Hard Disk Support (Manual v1.3 pp. 151)

Older versions of the PCT software limited PCT to one hard disk of up to about 16 Meg (16,777K). Version 2.0 of the PCT software allows you to have two hard disks of up to about 32 Meg each. The hard disks are still simulated using ProDOS files and are therefore initially limited to about 16 Meg apiece, but you can now continue the hard disk(s) onto a second ProDOS file. The two files act together to form a single large disk.

A few rules to remember are:

- ❑ If you add a continuation to an existing drive, both the main drive and continuation must be partitioned and formatted together. You will lose any data currently on your main drive.
- ❑ You must activate both parts of the two part drive. If you leave off the continuation of a two part drive, the system will expect to find memory at a location that is not active and will fail.
- ❑ You can create a two-part hard drive with two 3.5" drives. However, you must remember to have both disks containing the hard disk files in the proper drives. Refer to p. 147 of the manual for more information.

Refer to the instructions later in this addendum for creating an MS-DOS hard disk on your hard drive.

### Where the Files Are

All the files are included on the 3.5" PC Transporter disk. If you're using the 5.25" disks, here's where the files are:

<u>/AEPCT.UTIL</u>	<u>/AEPCT</u>	<u>/AEPCT</u>
PRODOS (modified)	PRODOS (unmodified)	MSDOSVOL
BASIC.SYSTEM	STARTAEPCT	
STARTUP	AEPCT.SYSTEM	
PCT.SWAP	AEPCTBIOS	
PCINSTALL	AEPCTKEY.GS	
AEPCT.DISKS	AEPCTKEY.2E	
ICONS	AEPCTBIOS	
PCTRAM.SYSTEM	AEPCT.DRIVERS	
READ.ME	PC.LAUNCHER	
	GENLPT1	

### Running PC Transporter for the First Time (Manual v1.3 p.59)

This section takes you through the steps necessary to run PC Transporter for the first time. You may find parts of this process are not applicable to your hardware configuration.

## Automatic Pilot, or The Easy Way

### 1. Single 5.25" Drive

Put a copy of the 5.25" disk, /AEPC.UTIL, in the boot drive.

### Two 5.25" Drives

Put your copy of the front side of the 5.25" disk, /AEPC.UTIL, in the boot drive and a copy of the /AEPC disk in the second drive.

### 3.5" Drive

Place the /AEPC disk in the 3.5" boot drive.

### 2. Place a copy of a bootable MS-DOS system disk in the MS-DOS A: drive.

- ❖ *Reminder:* This should be a copy of either PC-DOS or a standard MS-DOS system disk. Some MS-DOS operating systems are modified for IBM work-alikes and will not function properly with PC Transporter.

This is usually the first drive (the bottom drive in a dual TransDrive system) in the disk drive daisy chain connected to PC Transporter.

### 3. Turn on the Apple's power supply. If peripherals (like the monitor) are not on yet, turn them on too.

You will be presented with the PC Transporter menu.

- ❖ *Note:* If you're running PC Transporter from the Finder or other Launcher, run the STARTUP program to get the menu. Booting from the 3.5" /AEPC disk or the 5.25" /AEPCT disk will load the modified ProDOS. This version of ProDOS has been modified with PC Install to recognize the PCT drives while in ProDOS.

### 4. Select "Run the PC Transporter from the menu (press 1 and



### Single 5.25" Drive

Insert your copy of the /AEPCT disk in the drive and press the spacebar.

### Two 5.25" Drives

Insert your copy of the /AEPCT disk in the drive and press the spacebar.

### 3.5" Drive

The program will run AEPC.SYSTEM.



After a moment or two, a splash screen appears welcoming you to the world of PC Transporter. Then PCT runs a memory test. (For information about what the memory test's numbers mean, see the *AE Bios Memory Test* section in Ch. 5.) This message is then displayed at the bottom of the screen:

```
Automatic Configuration in progress...
```

That means that your PC Transporter software is configuring the drivers for the card.

After a brief memory test, you'll see the following message:

```
LOADING FROM DISK
```

At this point, PCT is accessing your MS-DOS disk. You should then get the MS-DOS prompt, A>. If you do get the prompt, go to the section, *Transferring Files* (p. 63 of the manual).

If your MS-DOS A: drive is a 3.5 drive, you will see an approximation of the following message.

```
LOADING FROM DISK
Non-System disk or disk error
Replace and strike any key when ready
```

(The actual message will vary according to the version of MS-DOS you are using.) If the message above appears, refer to page 60 of the manual for instructions on how to make PCT recognize a 3.5" drive as the boot device.

## Setting Up a PCT Hard Disk

Follow the steps below to create a hard disk file:

- 1) If you haven't already, copy the PC Transporter disks using any ProDOS copy utility. If you're using 3.5" disks, or copying the PCT disks to your hard disk, go to step 2. If you're using 5.25" disks, remove any non-applicable files to allow space for saving the configuration file you're about to create. For example, //e users should remove AEPCKEY.GS. (Refer to p. 148 of the manual for a minimal PCT/ProDOS system disk.)
- 2) Place your MS-DOS startup disk in your PCT TransDrive. It must have at least 120K disk space available. Refer to "Transferring the System Files" (p. 63) for information about setting up an MS-DOS System disk.

- 3) Boot the PCT disk you're using. If you're booting the PCT system from your hard disk, you can run the "STARTUP" program. At the BASIC prompt (1), enter -STARTUP. From the Finder, double-click the STARTUP file.
- 4) Enter the PCT control panel (shift/caps lock-caps lock).
- 5) Press 2 and <return>. Selects "Configure Drivers."
- 6) Press 3 and <return>. Selects "Assign/Configure Devices"
- 7) Press 1 and <return>. Selects "Disk Drives"
- 8) Press 5 and <return>. Selects the first hard disk option.
- 9) Press <esc> or backspace to go to the beginning of the default pathname at the bottom of the screen.
- 10) Type a slash and then enter the name of your ProDOS hard disk (or 3.5" disk you're using as a hard disk) followed by the name you want to give your MS-DOS hard disk file, for example, /HARDNAME/DOS1. (Suggestion: If you plan to create a continuation to the hard file, you may want to indicate that it is a two-part drive in the name, for example /HARDNAME/DOS1OF2. The file name you assign to your hard disk file will appear in ProDOS as filetype = \$6F.
- 11) When asked if you want to preallocate, Type "Y" (recommended) if you want to immediately set aside the amount of space available to the MS-DOS volume/file, or "N" if you want to allow blocks to be allocated as needed. Refer to p. 149, "Thoughts on Preallocation," for information on deciding what to choose.
- 12) Enter the maximum number of kilobytes of disk storage that you expect to use and press <return>. You must allocate at least 140K to allow room for FDISK and FORMAT. The maximum allowed by ProDOS is 16 Meg (16,777K). MS-DOS will round the amount you enter to the nearest whole cylinder (about 68 blocks or 34,816 bytes). For example, you may allocate 800K to the hard file, MS-DOS will actually create a file of 765,952 bytes.
- 13) If you want to create a second MS-DOS hard file or create an MS-DOS hard file larger than 16 Meg, repeat the steps above, starting at step 4, substituting the proper menu option in step 8.
- 14) Press <esc> until you are at the Configure Drivers menu.
- 15) Press 5 and <return>. Selects "Save Configuration." If you're using the 5.25" disks and get an error trying to save the configuration, you probably didn't make enough room on the disk in Step 1 to save the configuration file. Make room and start again.

- 16) Press <esc> until you are at the Main Menu.
- 17) Press 4 and <return>. Selects "Reboot and Run PC Transporter."

Now that you have created space for the MS-DOS hard disk, *you must partition and format the disk* under MS-DOS.

#### **Partition the Hard Disk**

- 1) At the A> prompt, enter, "FDISK".  
The A drive should contain your MS-DOS system disk.  
❖ *Note:* If you are formatting the second hard disk, you'll need to choose option 5, "Select Next Fixed Disk Drive" from the first menu screen.
- 2) Press <return> as many times as is necessary to accept the default settings.  
FDISK will reboot the MS-DOS system when it has partitioned the hard disk.

#### **Format the Hard Disk**

- 1) At the A: prompt, enter, "FORMAT C:/S/V".  
"C" is the location of your hard drive (it could also be D or E or F depending on how many drives are configured).  
/S tells MS-DOS to transfer the system files onto the diskette after it is formatted. The system files transferred are invisible and are difficult to transfer later. Don't leave out this command unless you are formatting the second hard drive in which case no system files are needed.  
/V allows you to name the MS-DOS portion of your ProDOS hard disk. This command is optional.
- 2) When you see the warning, "All data on non-removable disk Drive C: will be lost!" this means all MS-DOS data, the ProDOS data will not be touched.  
Press "Y" to format.

#### **Copy Files to the Hard Disk**

- 1) Copy the files from your MS-DOS startup disk to your hard disk. With the MS-DOS disk still in drive A, enter "Copy A:.\* C:".
- 2) If you have not already, copy the MSDOSVOL file provided on the AEPC disk to the system directory on your hard disk. These files are MS-DOS files that enable PC Transporter to read the ProDOS clock, transfer files between ProDOS and MS-DOS, launch MS-DOS programs directly from ProDOS, and more.

- ❖ *Note:* If you set up the MSDOSVOL file as the second hard disk using the Configure Drivers options, you can copy from the second hard disk to the first using the MOVETO program or COPY.

Refer to "Transferring Files" on p. 63 of the manual for instructions. Instead of the command, MOVETO A: (step 5), enter MOVETO C: or the proper location of your hard drive.

## Reminders

### PC Transporter Memory

The PC Transporter's memory can be used as a RAM Disk under ProDOS but not as system memory. PCT is a slot 1-7 card, not a memory expansion card. AppleWorks is the exception to the rule; it will use PCT memory as expanded desktop. Refer to App. D (p. 183 of v1.31) of the manual for instructions on using AppleWorks and PCT memory. See p. 143 of the manual for instructions on using PCT as a ProDOS RAM Disk.

### MS-DOS System Disk

Some versions of MS-DOS were created to recognize the hardware in IBM work-alikes. Therefore, many of these customized MS-DOS operating systems will not work with PC Transporter. Although the new PC Transporter system recognizes several of these customized versions, if the version you have does not work, we suggest that you use either a version of MS-DOS created for use with IBMs or PC-DOS. Either MS-DOS 3.3 or PC-DOS 3.3 is recommended. MS-DOS/PC-DOS 3.2 or higher is required to recognize 3.5" disk drives.

### Disk Drives

Do not connect a UniDisk to PC Transporter's drive connector.

**AE**  
**PC Transporter**