

Backing up Test Controller CompactFlash Disk

Introduction

This note documents how to make a duplicate of the Single Board Computer (SBC) test controller CompactFlash disk. Configuring the disk, copying essential files, and testing the disk are described along with a list of required items for duplication.

Items Required

- 1) Backup Disk needs to be a high quality CompactFlash card with a capacity \geq 2GB. Two known good brands are SanDisk and PNY.
- 2) CompactFlash Reader. This is a standard option of some desktop and laptops computers. External USB readers are available.
- 3) Windows operating system, typically XP or newer, capable of recognizing USB and/or CompactFlash disks.
- 4) Test Controller CD (P/N 14010)
- 5) Test Controller Boot Floppy (P/N 14011)
- 6) Phillips screwdriver.

Removing Original Disk

The original disk is removed so the backup one can be configured. These instructions assume a CompactFlash reader is connected to a Windows computer.

- 1) Test Controller is powered off.
- 2) Phillips screwdriver is used to remove the seven screws securing the Test Controller cover.
- 3) With cover off, Test Controller is set on its side to reveal the bottom of the SBC.
- 4) The CompactFlash disk located under the SBC is gently removed using the release lever. If the SBC does not have a release lever for the disk, it can be wiggled out of the connector.
- 5) Once removed, the CompactFlash disk is inserted into the CompactFlash reader on the Windows computer.

Copying Original Disk

On the Windows computer, files on the removed disk are copied to a folder, with the folder view settings configured to show hidden and system files.

- 1) A backup folder is created on the Windows computer, for example C:\TCBACK.
- 2) The contents of the original disk are accessed through My Computer and double clicking on the removable disk drive (drive naming and letter will vary per Windows computer).
- 3) All files are copied from the original disk to the newly created backup folder.
- 4) The original CompactFlash disk is removed using the "Safely Remove Hardware and Eject Media" icon located in the system tray and temporarily placed in a safe location.

Configuring Backup Disk

The new backup disk must be configured with active bootable partitions and DOS 6.22 before the backup files are transferred.

- 1) The backup CompactFlash disk is inserted into the CompactFlash slot under the SBC.
- 2) The Test Controller Boot Floppy (P/N 14011) is inserted into the floppy drive and the controller is powered on.

Partitioning DOS Disk Using FDISK

Once the controller boots via the floppy disk FDISK is run to configure logical partitions:

- 1) A:\FDISK starts the FDISK utility.
- 2) "3" is pressed to delete a partition.
- 3) "4" is pressed to delete a non-DOS partition.
- 4) Deletion is confirmed by pressing "1" and "Y" to continue.
- 5) "Esc" returns to the FDISK utility.
- 6) "1" is pressed to create an active DOS partition.
- 7) "1" is pressed to create a primary DOS partition and "Y" to make active.

Adding More Partitions (Optional)

Additional partitions on CompactFlash disk larger than 2GB can be made and might be useful in RDS DOS environments. They are not needed for RDS Intranet/Windows test environments.

- 1) Return to the FDISK utility and press "1" to create an active DOS partition.
- 2) "2" is pressed to create an extended DOS partition.
- 3) The maximum allowable partition size is chosen and "Esc" is pressed.
- 4) The logical drive is defined by pressing "Enter".
- 5) "Esc" is pressed twice to return to FDISK.

Formatting Primary DOS Partition

Once the partitions have been made, the test controller is rebooted and the partitions are formatted in DOS for FAT-16:

- 1) A:\Format C: is typed in to format the primary partition.
- 2) The format is confirmed with "Y" and the volume label is kept blank.
- 3) For additional partitions A:\Format D: is used with the same options.

Installing MS-DOS 6.22

MS-DOS 6.22 is installed onto the backup disk using the Test Controller CD (P/N 14010) – which should be mapped to Drive X:\.

- 1) X:\DOS622UP\setup.exe /g is run with all default options kept.
- 2) When complete, the controller is rebooted into DOS without the boot floppy and the Test Controller CD in either drive to confirm that a DOS bootable disk was created.

Copying Saved Files to Backup

The controller is powered off; the backup CompactFlash disk is gently removed from the SBC and placed into the CompactFlash reader.

- 1) Contents of the backup folder are copied to the primary DOS partition of the backup disk. The primary partition will have a higher drive letter associated with it in My Computer (Ex. E:\ - Primary, F:\ - Extended).
- 2) Prompts to overwrite/replace files are accepted.

Testing Backup Disk

The backup disk should be a duplicate of the original disk; this section is used to verify that the copy was completed properly.

- 1) The backup disk is reinserted into the SBC and the Controller is powered on.
- 2) The Controller is booted into RDS DOS and confirmed to be identical.
- 3) After confirmation, the Controller is powered off and the backup disk is removed.

Wrapping up

The original CompactFlash disk is returned to the SBC, the Test Controller cover is screwed back on, and the Test Controller is returned to operation.

The backup disk should be stored in a safe location inside the plastic CompactFlash case. The system serial number and date of backup should be recorded and kept with the backup disk.