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Macintosh Quadra 700, 900 & 950: SCSI Termination Issues 1/93

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Article Change History

01/26/93 - UPDATED

- To include Quadra 950.

08/21/92 - UPDATED

- Clarified how to get internal SCSI terminator for Quadra 700

TOPIC -----

This article addresses SCSI termination issues with the Macintosh Quadra 700, 900 and 950 computers.

DISCUSSION -----

What is SCSI?

SCSI (Small Computer System Interface) is a standard by which one connects a device to the CPU. This device can be an external hard drive, CD ROM, Printer, Scanner, etc. The SCSI bus needs to be terminated at both ends to eliminate signal reflections.

How is the Quadra 700 Terminated?

With an internal hard disk drive, there are termination resistors on the drive itself. This would terminate the internal end of the bus.

If the internal hard drive is removed, a internal SCSI terminator must be installed (Apple Part Number 630-0408). This part was originally designed for the Macintosh Classic computer and a service provider can locate this part listing in the Macintosh Classic section of the Service Source CD, Technical Procedures or Macintosh Service Guide book. Apple US Service Administration can help a service provider order this part by overriding the standard minimum order.

Floppy only system: Apple will install a plug-in terminator (Apple Part Number 630-0408) into the internal SCSI connector on the motherboard; thereby terminating one end of the bus as an internal drive would do. As external devices are added the last device should have an external

terminator installed (Gray Terminator, Apple Part Number 658-8032). This way the bus is terminated at both ends.

How is the Quadra 900 and Quadra 950 Terminated?

The Quadra 900/950 has two SCSI buses, Internal and External.

The Internal Bus is terminated on both ends (one termination on the logic board and the other at the other end of the internal SCSI cable). THIS MEANS THAT ANY INTERNAL DEVICE SHOULD NOT HAVE TERMINATION RESISTORS. THEREFORE, MAKE SURE THE TERMINATION RESISTORS HAVE BEEN REMOVED BEFORE INSTALLING A DEVICE INSIDE THE QUADRA 900/950!

Note: All prior Macintoshs required the internal hard disk drives to have termination resistors on them. Hence, most hard disk drives' vendors ship their internal disk drives with termination resistors installed. With the Quadra 900/950, the terminators need to be removed since the internal bus is already terminated at both ends.

External SCSI is terminated on the logic board. As external devices are added the last device should have an external terminator installed (Gray Terminator- Apple Part Number 658-8032).

Though the Quadra 900/950 has two independent SCSI buses, system software views the two as a single logical bus. Like with other Macs, the CPU ID is 7. This allows for a total of 7 SCSI devices (IDs 0-6) to be added internally and externally. Users must be careful not to use the same ID on more than one device (internal or external).

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