411X/412X/4170/4926/4041 WINCHESTER CONTROLLER HELPFUL HINTS

Ref: 4170 Service Maintenance Information, November 25,1985
4170 Service Manual P/N 070-7615-00
4110B MSIB Service Manual P/N 070-4811-00
4925/26 Instruction Manual P/N 070-4688-01
4926 Service Maintenance Information August 5, 1985
4926/4041 Option 3 Hard Disk Controller can Lockup MSIB/SCSI Bus W2 Issue 15- January 4, 1985

The Winchester controller board used in the 4110, 4120, 4170 and 4926 products, converts higher level commands to track and sector information so data may be stored on the 10 mega-byte Seagate Winchester (p/n 119-1644-XX). The Winchester controller is purchased from Xebec systems as a 119-1617-0X and used unmodified in the 856X products, and modified becoming p/n 670-8437-0X for use in the 41XX and 492X products.

The 670-8437-00 rolled to -01 when the wire jumper at board location 4J, to select a device address, changed to a double row of pins and a moveable jumper, see figure 1. Xebec rolled the board assembly number from 104526 to 104527 when they began to install the double row pins. Two other significant changes done by Xebec, when the board assembly number rolled, where straps W1 and W2 (which are not used by the field) where omitted and strap W3 got renomenclated to W2.

To maintain compatability with the 4041 and other SCSI bus interfaces, other than Option 45 (41XX MSIB interface) the 4926 Winchester controller rolled to 670-8437-02. This change is documented in the Wizard Workshop issue 15-1, article 4926/4041 Option 3 Hard Disk Can Lock Bus. The Option 45 interface is compatible with all three levels of the Winchester controller board 670-8437-00,01,02. Mass Storage Interface Bus (MSIB) is the Tektronix implementation of the ANSI Small Computer System Interface (SCSI).

STRAPPING

Configuring the Winchester controller is a matter of selecting the proper device address. The default device address is zero (0) as shown in the two exploded views on the Winchester controller board, figure 1. However, when connecting multiple devices, each device must be at a different device address. This requires the user to choose the device address. Device address 7 is always reserved for the host controller, such as the MSIB I/F (Option 45).

Sector size should be set for 512 bytes, strap W2 (on the 104526) or W2(on th-104527) should be set at 5, as shown in Figure 1.

ARTICLE CONTINUED ON NEXT PAGE.....

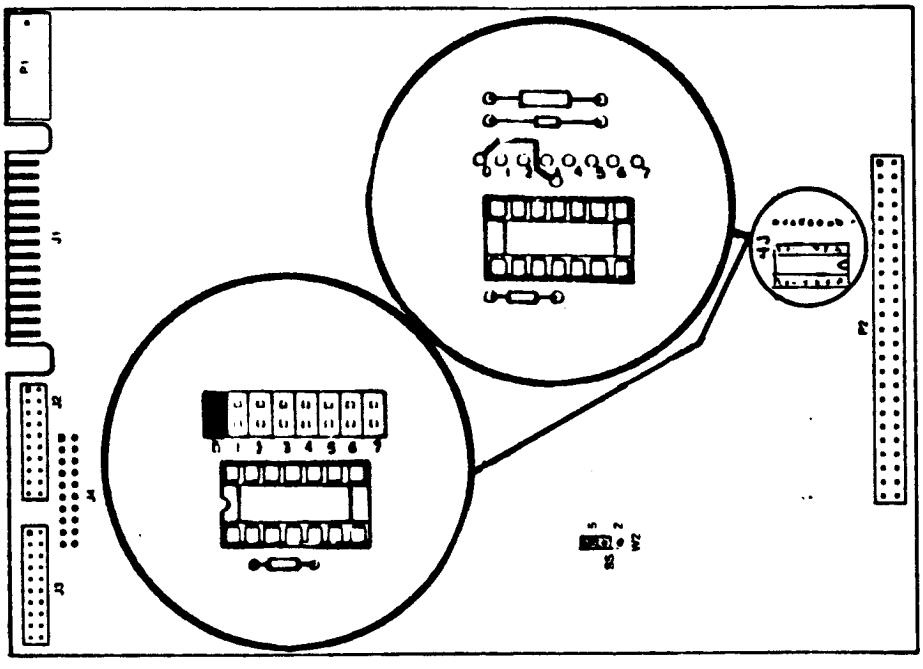

Figure 1

411X/412X/4170/4926

TERMINATION

The Winchester controller should not terminate the SCSI bus, the resistor network terminator (IC5J) should always be removed.

Termination in the 4926 and 4926 Option 26 is accomplished by an internal terminator board which mounts on top of Winchester controller board.

For the 4925 or 4626 Option 25 termination is accomplished by the two terminator resistors R50 and R60 on the floppy disk controller board. If multiple units are employed only the last unit is to be terminated, with all other terminator boards or resistors removed.

The 4170 Option 3 and the M4115B and 412X Option 46/47 and the 61XX/62XX products use the 011-0090-00 external terminator for terminating the SCSI bus.

4170'S WITH MULTIPLE DEVICES

The 4170 requires devices to be connected in consecutive order starting at zero. If there are three devices on the buss, device address 0,1, and 2 must be selected. Failure to connect devices in consecutive order will result in a format program error. Address zero is reserved for Option 3, internal hard disk, if installed in the 4170.

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463X PROCESSOR FRAME SECTION CONDUCTIVE COATING

REF: Corporate Mod 57135
Part Number 426-1043-XX
Part Number 426-1089-XX

The thermal processors in the 463X series of hard copies have been known to create phantom copies and jamming from random cutter clutch actuation. This is caused by the build-up of static electricity and occurs mostly during the drier winter months.

There is now a new conductive coating for the frame sections that is silvery in color and shows a very low 10 ohm per inch resistance. Tests have shown this new silvery coating to be very effective in reducing static related problems.

The part number of the frame sections is unchanged and stock may be mixed for sometime.

This change has been implemented in manufacturing, but change over of the existing exchange inventory may take a while. If you suspect static problems, request a processor with the conductive silvery coating on frame sections.

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