16 Bit SCSI Host Adapter (250-4161) Settings Faxback Doc. # 5083

HOST ADAPTER CONFIGURATION (250-4161/250-4161A)

The following section details the hardware installation procedure for the Tandy 16 bit SCSI host adapter. The installation of the board consists of checking a few jumper settings to ensure that they are set for a particular Tandy computer, inserting the board into a full length 16 bit connector, and connecting a SCSI cable from the on board connector to a SCSI target.

The host adapter comes configured with the following default settings:

* SCSI Address 7
* SCSI Parity Enabled
* SCSI Terminators Installed
* SCSI Terminators Power Enabled
* Synchronous SCSI Negotiation Disabled
* DMA Channel 5
* Interrupt Channel 11
* Port Address 330H
* BIOS Address 0DC000H
* Zero BIOS Wait States
* Computer System Configuration Jumper set for Tandy 4000

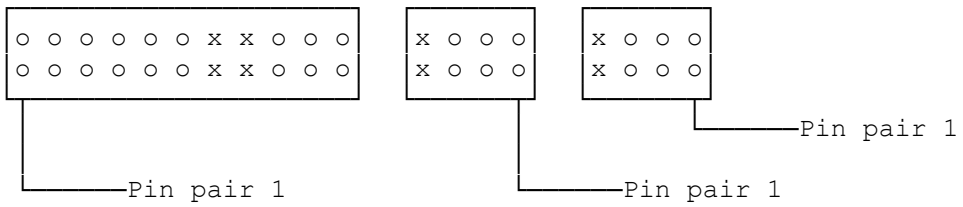
All jumper block locations and settings are detailed in Appendix A, however, the jumpers should remain in their factory default settings except as noted below.

TANDY 4000

The host adapter comes configured for the Tandy 4000 computer system. All jumpers should remain in the factory set default locations.

TANDY 3000

If you are installing the host adapter in a Tandy 3000 computer system you need to install the Computer System Configuration jumper. This jumper is located in jumper block J5 as outlined above. You also need to set the DMA channel to channel 0. this is accomplished by changing the location of three jumpers as shown below:



x = Jumper Installed

The host adapter configurations as described above will not conflict with any Tandy Monitor Adapters, COM1, COM2, LPT1, LPT2, or the standard hard disk controller.

If you have other adapter boards in your system you may need to change some of the other jumper settings. If this is required, please refer to Appendix A for

help.

NOTE: The system must be turned off during the installation procedure.

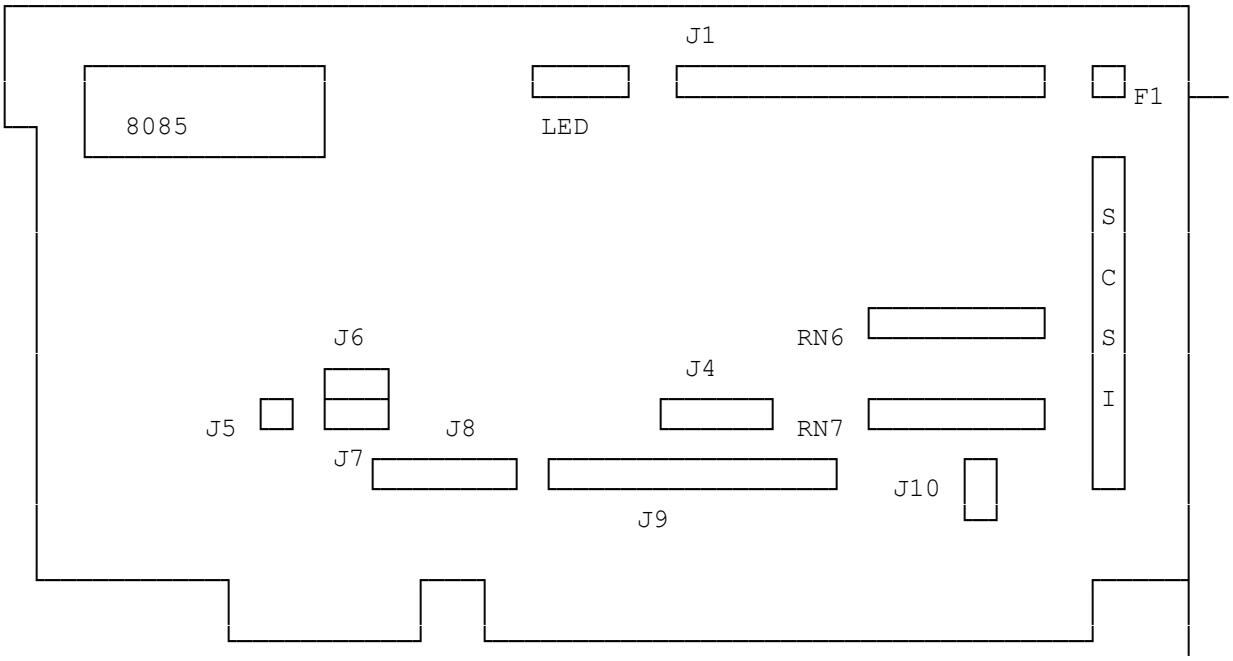
NOTE: The host adapter, like all electronic equipment, is static sensitive. Please take the proper precautions when handling the board. Keep the board in its conductive wrapping until it is configured and ready to be installed in your system.

SOFTWARE INSTALLATION

Please refer to your peripheral's installation guide for software installation instructions.

APPENDIX A

The following diagram shows the approximate location of the various customer configurable items on the host adapter. Except as noted in Section 3.0, these jumpers should remain in their factory set default positions for proper operation in your Tandy system.



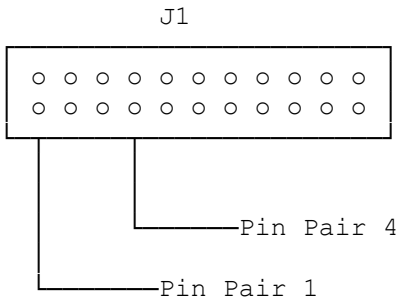
NOTE: All of the jumpers have been set at the factory for proper system operation with all Tandy 3000/4000 series computer systems and Tandy option boards except as noted is Section 3.0. This information is provided only as a guide for the use of third party option boards that may create system conflicts. See your authorized Tandy Computer dealer for additional information.

A.1 SCSI ADDRESS

Jumper set J1, pin pairs 4,5, and 6, defines the SCSI address. The SCSI address consists of pin pairs 4,5, and 6 in the large block of jumper pins located in the upper right hand corner of the PCB. Pin pair 1 is the left most

pair of pins. the SCSI Address is selected according the Figure A-2. The default address is 7.

JUMPER PAIR			SCSI ADDRESS
4	5	6	
x	x	x	0
-	x	x	1
x	-	x	2
-	-	x	3
x	x	-	4
-	x	-	5
x	-	-	6
-	-	-	7



A.2 SCSI PARITY

Jumper set J1, pin pair 3, is the parity/disable jumper. The SCSI parity jumper, pin pair 3, is located in the large block of jumper pins located in the upper right hand corner of the PCB. Pin pair 1 is the left most pair of pins. The SCSI parity checking is disabled if this jumper is installed. The default is parity checking enabled.

A.3 SCSI TERMINATORS

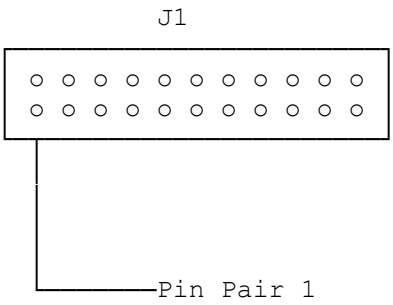
RN6 and RN7 are the SCSI terminators. If the host adapter is not the first or the last SCSI device in a string of SCSI devices, or if inline terminators are used, then both of these resistor networks must be removed. Default is terminators installed.

A.4 SCSI TERMINATOR POWER

F1 controls the terminator power. If another SCSI device is supplying terminator power, then F1 may optionally be removed. No more than 5 SCSI devices should be configured to supply terminator power to a single SCSI bus. Default is F1 installed with the host adapter supplying the terminator power.

A.5 SCSI SYNCHRONOUS NEGOTIATION

Jumper set J1, pin pair 1 is the synchronous negotiation enable jumper. This jumper set consists of pin pair 1 in the large block of jumper pins in the upper right hand corner of the PCB. Pin pair 1 is the left most pair of pins.

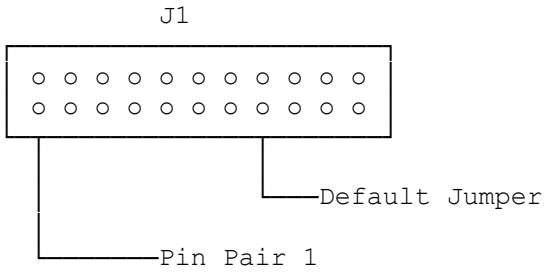


The host adapter will initiate SCSI synchronous negotiation during initialization of after a SCSI reset if this jumper is installed. If the jumper is not installed, the host adapter will still support synchronous SCSI transfers, but the target must initiate the negotiation. Default is jumper removed, synchronous negotiation initiation disabled.

A.6 DMA CHANNEL SELECTION

There are three jumper blocks involved in selecting the DMA channel. These are J1, J6, and J7. The DMA channel selection jumpers consist of pin pairs 7 and 8 located in the large block of jumper pins in the upper right hand corner of the PCB. Pin pair 1 is the left most pair of pins. The DMA channel reported to the Tandy System during the Return Configuration command is set by these jumpers according the Figure A-4. default is DMA channel 5.

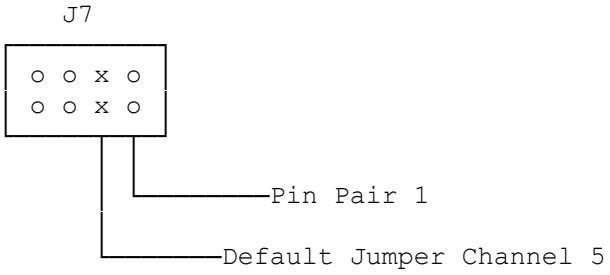
JUMPER PAIR		DMA CHANNEL
7	8	
x	x	0
-	x	5
x	-	6
-	-	7



x = Jumper Installed

Jumper set J7 select the DMA ACK signal to be used by the host adapter. This jumper set is located near the left corner of the small bus connector. Pin pair 1 is the right most set of pins. Default is DMA Acknowledge 5.

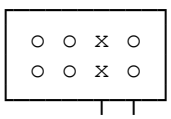
JUMPER PAIR				DMA CHANNEL
1	2	3	4	
x	-	-	-	0
-	x	-	-	5
-	-	x	-	6
-	-	-	x	7



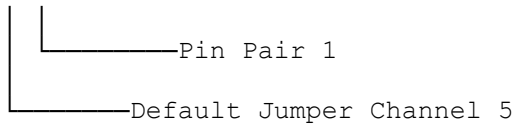
x = Jumper Installed

Jumper set J6 selects the DMA REQ signal to be used by the host adapter. This jumper set is located near the left corner of the small bus connector. Pin pair 1 is the right most pair of pins. The default is DMA Request 5.

JUMPER PAIR				DMA CHANNEL
1	2	3	4	
x	-	-	-	0
-	x	-	-	5
-	-	x	-	6



-	-	-	x	7

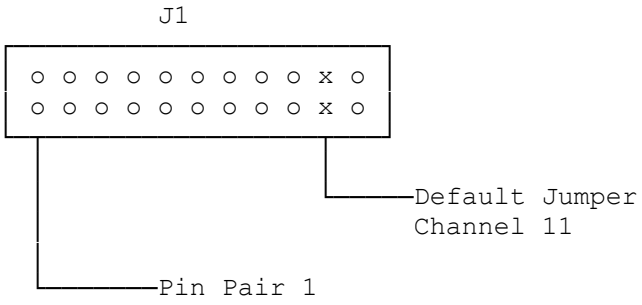


x = Jumper Installed

A.7 INTERRUPT CHANNEL

There are two jumper blocks involved in selecting the interrupt channel. These are J1 and J8. The interrupt channel jumpers consist of pin pairs 9,10, and 11 in the large block of jumper pin pairs located in the upper right hand corner of the PCB. Pin pair 1 is the left most pair of pins. The interrupt channel reported to the Tandy System during the Return Configuration Command is set by these jumpers according to Figure A-7. The default is interrupt channel 11.

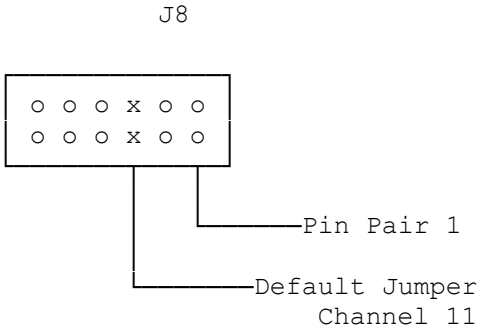
JUMPER PAIR			INTERRUPT CHANNEL
9	10	11	
x	x	x	NOT DEFINED
-	x	x	NOT DEFINED
x	-	x	15
-	-	x	14
x	x	-	12
-	x	-	11
x	-	-	10
-	-	-	9



x = Jumper Installed

Jumper set J8 selects the interrupt channel to be used by the host adapter. This jumper set is located just above the small bus connector. Pin pair 1 is the right most pair of pins. The interrupt channel used is set according to Figure A-8. The default interrupt channel is 11.

JUMPER PAIR						INTERRUPT CHANNEL
1	2	3	4	5	6	
x	-	-	-	-	-	9
-	x	-	-	-	-	10
-	-	x	-	-	-	11
-	-	-	x	-	-	13
-	-	-	-	x	-	14
-	-	-	-	-	x	15

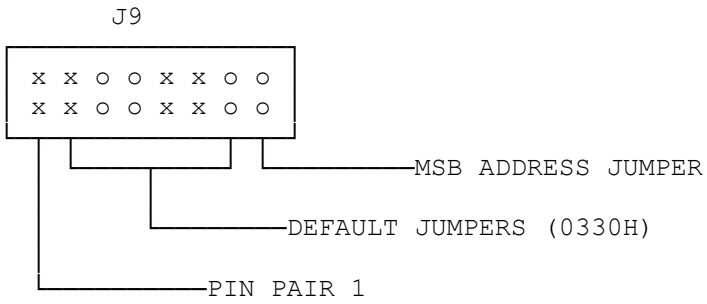


x = Jumper Installed

A.8 PORT ADDRESS

The starting address of the block of four I/O ports required by the host adapter is selected by the jumpers in jumper block J9. This jumper set is located just above the left corner of the large bus connector. Pin pair 1 left most pair of pins. The default address is 0330H.

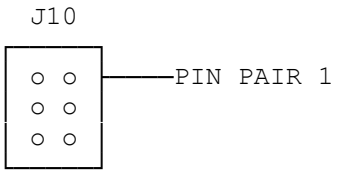
JUMPER PAIR	PORT I/O ADDRESS BIT
1	004H
2	008H
3	010H
4	020H
5	040H
6	080H
7	100H
8	200H



A.9 BIOS ADDRESS

The starting address of the block of address space reserved for the BIOS is selected by the jumper pins located in J10. This jumper set is located just above the large bus connector. The default address is 0DC000H. This address must not conflict with any other BIOS in the system.

JUMPER PAIR			BIOS ADDRESS
1	2	3	
x	x	x	0C0000H
-	x	x	0D0000H
x	-	x	0C8000H
-	-	x	0D8000H
x	x	-	0C4000H
-	x	-	0D4000H
x	-	-	0CC000H
-	-	-	0DC000H



x = Jumper Installed

A.10 BIOS WAIT STATE

Access to the BIOS can have one wait state added by installing the jumper located at J4. This jumper set is located to the left of the SCSI terminator RN7. The default is no wait state.

A.11 RESERVED JUMPERS

The jumper, pin pair 2 located in jumper block J1, is reserved for factory use only and must not have any jumper shunts installed. If this jumper is installed, normal operation is prevented. Default is no jumper installed.

A.12 COMPUTER CONFIGURATION JUMPER

This jumper, J5, must be removed for proper operation in a Tandy 4000 computer system. The jumper must be installed for use in the Tandy 3000 series of computers. Default is no jumper installed.

(SMM/jlc-03/27/94)