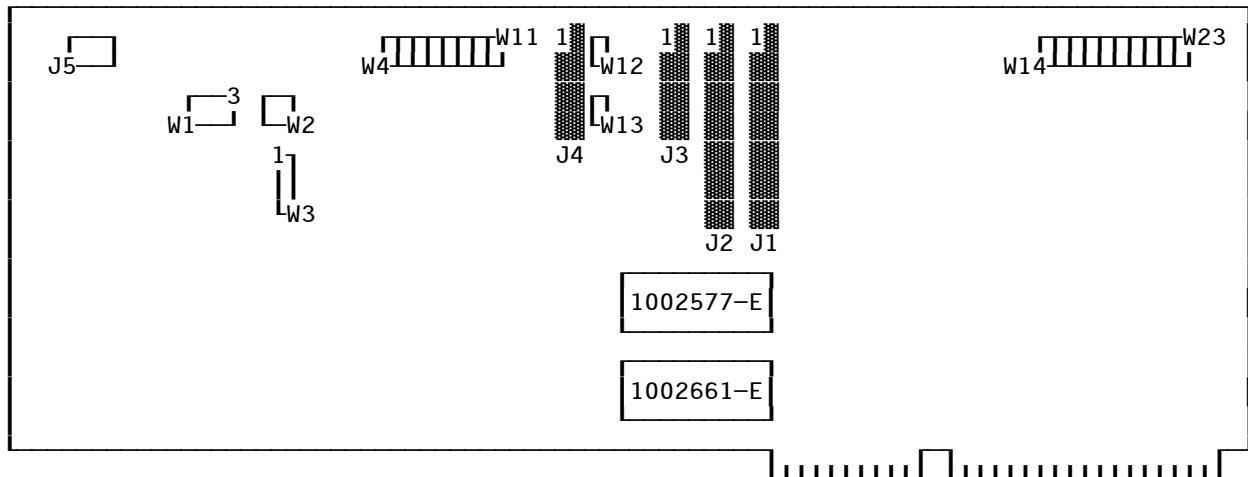


**Scientific Micro Systems  
SMS OMTI 8620 Rev. D  
Installation Guide**

## Board Layout

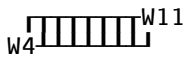


### Jumper Setting

\* = factory default

#### Jumper W1-W3

NOT USED!!!



#### Jumper W4

OUT\* LUN1 is a removable disk drive  
IN LUN1 is a fixed media disk drive

#### Jumper W5

OUT\* LUN1 is an ST506/412 disk drive  
IN LUN1 is an ESDI disk drive

#### Jumper W6

OUT\* LUN1 is a soft sectored disk drive  
IN LUN1 is a hard sectored disk drive

#### Jumper W7

OUT\* LUN0 is a removable disk drive  
IN LUN0 is a fixed media disk drive

Jumper W8

OUT\* LUN0 is an ST506/412 disk drive  
IN LUN0 is an ESDI disk drive

Jumper W9

OUT\* LUN0 is a soft sectored disk drive  
IN LUN0 is a hard sectored disk drive

Jumper W10, W11

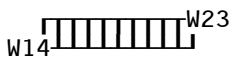
W10	W11	
OUT*	OUT*	512 bytes per sector, 17 SPT
OUT	IN	512 bytes per sector, 18 SPT
IN	OUT	1024 bytes per sector, 9 SPT
IN	IN	1056 bytes per sector, 9 SPT

Jumper W12

IN Both hard disk drives are either ESDI or ST506/412 Interface.  
OUT\* An ESDI hard disk drive is connected to J3 and an ST506/412 hard disk drive is connected to J4.

Jumper W13

IN Both hard disk drives are either ESDI or ST506/412 Interface.  
OUT\* An ESDI hard disk drive is connected to J4 and an ST506/412 hard disk drive is connected to J3.



Jumper W14

OUT\* Floppy drive I/O Address is 03F0Hex  
IN Floppy drive I/O Address is 0370Hex

Jumper W15

OUT\* Controller BIOS address is C8000Hex  
IN Controller BIOS address is CA000Hex

Jumper W16

OUT\* BIOS controller enabled  
IN BIOS controller disabled

### Jumper W17-W19

W17	W18	W19	
OUT*	OUT*	OUT*	Hard disk I/O Address 0320Hex
OUT	OUT	IN	Hard disk I/O Address 0324Hex
OUT	IN	OUT	Hard disk I/O Address 0328Hex
OUT	IN	IN	Hard disk I/O Address 032CHex
IN	OUT	OUT	Hard disk I/O Address 01A0Hex
IN	OUT	IN	Hard disk I/O Address 01A4Hex
IN	IN	OUT	Hard disk I/O Address 01A8Hex
IN	IN	IN	Hard disk I/O Address 01ACHex

### Jumper W20

RESERVED!

### Jumper W21

OUT\* High performance I/O speed option  
IN Normal I/O speed

### Jumper W22

OUT\* LUN1 is a Seagate ST225 or compatible, with 612 cylinder and 4 heads.  
IN LUN1 is an ESDI hard disk drive.

### Jumper W23

OUT\* LUN0 is a Seagate ST225 or compatible, with 612 cylinder and 4 heads.  
IN LUN0 is an ESDI hard disk drive.

## SMS OMTI 8620 INSTALLATION PROCEDURE

The OMTI 8000 Series Data Controller is designed to plug directly into any unused location on the system motherboard. The peripherals are connected to the controller by ribbon cables.

Winchester Disk drive configuration:

ESDI or ST drives on both J3 and J4 connectors:

You may attach up to two (2) ESDI Winchester drives or up to two (2) ST412 Winchester drives to the OMTI controller.

ESDI on J4 and ST drive on J3 or ESDI on J3 and ST drive on J4:

You may mix ESDI and ST412 type drives, but:

- - if an ESDI drive is connected on J4 connector the trace jumper W13 shall be cut.

- - If an ESDI drive is connected on J3 connector the trace jumper W12 shall be cut.

#### Floppy Support:

The OMTI 8000 controller provides floppy disk support which is fully AT bus and hardware compatible. Therefore, you may remove the AT Winchester/floppy controller (if installed) and connect the floppy cable to connector J1 on the OMTI controller to support the floppy drive.

#### Case when a disk controller is already installed:

If a Winchester disk (non-ESDI) is already attached to IBM AT controller and you wish to attach an ESDI drive to the OMTI controller, you may leave the AT controller in place. In this case, only one of the two controllers should control the floppy drive. To avoid conflicts between the two controllers, the OMTI controller must be strapped for the secondary floppy base I/O address (W14 on).

#### SETUP utility:

IBM's SETUP utility should NOT be informed of the presence of any Hard disks attached to the OMTI controller. This utility is only concerned with those drives (if any) which are attached to the AT controller. Thus, if the only Hard Disk(s) installed in the system is (are) attached to the OMTI controller, the number of Hard Disks in the system must be reported as zero (0) when initializing the system configuration parameters in the SETUP utility.

#### USERS of OMTIDISK diskette utility:

CAUTION: You should NOT use any version of OMTIDISK below V3.0 (for the purposes of auto-configuration, defect handling or low-level formatting) with any of the following BIOSes which are the latest BIOSes available:

BIOS AT3 BIOS #1002579  
BIOS AT4 BIOS #1002580  
BIOS AT5 BIOS #1002661  
BIOS AT6 BIOS #1002662

The above features have been incorporated into the Rom-resident BIOS initialization routine accessed with the DEBUG utility.

If you wish to use the SMS DOS device driver included in the OMTIDISK package (available on diskette), you need to acquire a copy of OMTIDISK version V3.0.

#### INSTALLATION PROCEDURES:

##### Installation of One Drive System:

1. Cabling Requirements: One (1) 34-pin straight through cable. One (1) 20-pin straight through cable.
2. On Winchester hard disk: Install drive select jumper to lowest Drive Select (DS0 or DS1).
3. On controller: Install jumpers W20 to W23 accordingly. During execution of BIOS low-level format routine, if your drive is a non-ESDI drive type and it does not correspond to the default ST506 drive type(s), answer "N" to the "Use defaults (Y/N)?" prompt and enter drive characteristics.
4. If the only hard disks installed in the system are attached to the 862x, the number of hard disks in the system must be reported as zero (0) when initializing the system configuration parameters using the SETUP utility.
5. Install the 34-pin Winchester drive interface cable to the J1 connector. Install the 20-pin data cable to either the J3 or J4 connector. For 862X, install the 34-pin floppy drive cable to the J1 connector.

6. Install the controller in any available slot on the PC/AT motherboard. CAUTION: Power must be off!
7. Boot system with DOS diskette from drive A:. If you get a 1701 error code see "1701 Error Code Description" for explanation.
8. Execute BIOS low-level format routine in BIOS by executing DEBUG utility, then entering: g=c800:6.
10. Answer all questions properly. If your drive is not listed in the BIOS drive table answer "N" to "Use defaults (Y/N)?" prompt. See BIOS Low-level Format Routine Instructions flowchart.
11. Create DOS partition by executing FDISK utility.
12. Initialize the drive by executing the command: FORMAT C:/S (or FORMAT D:).
13. Your hard disk should now be bootable drive C: (or D:).

#### Installation of Two Drive System

1. Cabling Requirements: One (1) 34-pin daisy chain straight through cable. One (1) 20-pin straight through cable.
2. On winchester hard disks: set Drive Select to DS1 (or DS0) on drive C:, and Drive Select to DS2 (or DS1) on drive D:. Install termination resistor on drive at end of daisy chain cable. Remove termination resistor on drive in the middle of daisy chain cable.
3. On controller: Install jumpers W20 to W23 accordingly. During execution of BIOS low-level format routine, if either of your drives is a non-ESDI drive type and it does not correspond to the default ST506 drive type(s), answer "N" to the "Use defaults (Y/N)?" prompt and enter drive characteristics for that drive.
4. Follow steps 4-12 above.