SWSD3-SA 1.05-GB 3.5-Inch Disk Drive SBB For Sun™ Product Notes

Thank you for purchasing our SWSD3-SA StorageWorks Building Block (SBB), designed and manufactured by Digital Equipment Corporation. This drive is preformatted and prelabled for Sun and is ready to go.

Brief Overview of SWSD3-SA Drive:

This 3.5-inch drive has a formatted capacity of 1.05 GB. It features an average seek time of 9.5 ms and an average latency of 5.6 ms, providing an average data-access time of 15.l ms. The drive has a 512-KB segmented cache buffer that maximizes cache hit rate for sequential reads, using a unique firmware algorithm to store a copy of the next track to be read before your host system asks for that data.

The SWSD3-SA drive offers unsurpassed data integrity, featuring a 264-bit ECC that can correct up to 11 non-contiguous bytes per block. The drive provides multiple copies of the header for each sector, along with embedded servo data for fine-tuning the head position to ensure addressing. In addition, the drive electronics add end-to-end checksum error detection code (EDC) to ensure the integrity of the data returning to the system bus.

Other special features of note include:

- Fast SCSI-2 interface.
- Automatic sector reallocation.
- Tagged command queuing.
- Zero-latency read and messages.
- Self diagnostics.
- 500,000-hour MTBF.
- UL, CSA, and VDE standards.

/etc/format.dat Information:

For your convenience, we have labeled this drive with a format utility for the following settings, giving the drive traditional partitions, so you can install this unit and get it up and running quickly. Note that we designated a fixed *nsect* value, even though this banded drive allows a different number of sectors/track, depending on the radius of a given track. We determined this value by dividing the total number of blocks by the total number of heads, dividing that result by the total number of cylinders, and then rounding down the result to the next whole number. Some partition sizes also were selected to be consistent with the *newfs* command. (For example, we reduced the "g" partition to avoid truncation of the last cylinder group.) We recommend you enter the applicable information into your */etc/format.dat* file so that the data will be readily available for any possible future use:

```
disk_type = "DEC_RZ26" \
  : ctlr = SCSI : fmt_time = 4 \
  : ncyl = 2568 : acyl = 2 : pcyl = 2570 : nhead = 14 : nsect = 57 \
  : rpm = 5400 : bpt = 29184
```

For SunOS systems, the partition data is as follows:

```
partition = "DEC_RZ26" \
  : disk = "DEC_RZ26" : ctlr = SCSI \
  : a = 0, 66234 : b = 83, 132468 : c = 0, 2049264 : g = 249, 1850562
```

For Solaris systems, the partition data is as follows:

```
partition = "DEC_RZ26" \
  : disk = "DEC_RZ26" : ctlr = SCSI \
  : 0 = 0, 66234 : 1 = 83, 132468 : 2 = 0, 2049264 : 6 = 249, 1850562
```


Printed in U.S.A. (02/94)
EK-SM2DA-PN. A02

SWSD3-SA Specifications:

Physical Configuration	
Number of discs (platters)	7
Number of read/write heads	14
Servo	Embedded
Unformatted capacity	1,372 MB
Formatted capacity	1,050 MB
Number of cylinders	2,570
Tracks per surface	2,5700
Track capacity	29,696 bytes
Bytes/sector	512
Sectors/track	57
Sectors/drive	2,050,860

Power Requirements	
Seeking current	
+5 Vdc +/-5% (typical)	0.71 A
+12 Vdc +/5% (typical)	0.85 A
Power consumption:	
Active (100% seeking)	13.7 W
Active (40% seeking)	12.2 W
Idle	11.2 W

Performance Specifications	
Interface transfer rate:	
Synchronous	10 MB/s
Asynchronous	5 MB/s
Media transfer rate	2.6 MB/s
Cache buffer	512 KB
Track-to-track seek:	1 ms

Recording	
Track density	2,756 tpi
Bit density	56,000 bpi
Areal density	153 MB/in^2
Recording method	RLL (1,7)

Physical	
Height	41.4 mm/1.63 inches
Width	101 mm/4.0 inches
Length	146 mm/5.75 inches
Weight	0.82 Kg/1.8 lbs

Environmental Specifications	
Non-Operating:	
Temperature	-40^o C to +66^o C
Humidity (RH)	8% to 95%, noncondensing
Operating:	
Temperature	+5^o C to +55^o C
Humidity (RH)	10% to 90%, noncondensing
Shock	10 G peak half-sine 10 ms duration
Vibration	22–500 Hz @ 0.5 G peak
Acoustics:	
Seeking	36 dBA @ 1.0 meter
Idle	33 dBA @ 1.0 meter

Power On Test

Disk drive status is displayed by two LEDs on the front of the storage device (Figure 1). Each LED has three states: *on*, *off*, and *flashing*. When the drive is powered on, both LEDs flash as a hardware/lamp test and then assume the following normal operating status activity:

- The left LED (green) is a device-controlled activity LED and is on or flashing when the drive is active
- The right LED (amber) is the drive fault LED and indicates an error condition when either on or flashing

Figure 1 Disk Drive Status LEDs