

DATA ORGANIZATION

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LOGICAL LAYOUT          DAL3-3540
Number of Heads         2
Number of LBAs          1056768
Sector Size             512
Total Customer
Usable Data Bytes      541,065,216

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DC POWER REQUIREMENTS

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The following voltage specifications apply at the drive power connector.
Damage to the drive electronics may result if the power supply cable is
connected or disconnected while power is being applied to the drive (No
hot plug/unplug is allowed). There are inductive loads in the drive
which could cause destructively high voltage spikes on the drive if the
power connection is opened. There is no special power on/off sequencing
required.

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Nominal Supply Voltages	+5	+12
Power Supply Ripple		
{mV}(0-10{Mhz}P-P)	100 max	150 max
Voltage Supply		
Tolerance (incl. ripple)	+/-5%	+10%/-8%
Power Supply		
Current		
Start up (Peak)	0.51A	1.16A
Idle (average)	0.23A	0.12A
R/W (average)	0.57A	0.14A
Seek (average)	0.41A	0.27A
Standby	0.20	0.01A

During the drive start up and seeking, 12 volt ripple is generated by the drive (referred to as dynamic loading). If several drives have their power daisy chained together then the power supply ripple plus other drive's dynamic loading must remain within the regulation tolerance of +10/-8%. A common supply with separate power leads to each drive is a more desirable method of power distribution.

To prevent external electrical noise from interfering with the drive's performance, the drive must be held by four screws in a user system frame which has no electrical level deference at the four screws position, and has less than +/-300 millivolts peak to peak level deference to the drive power connector ground.

SIGNAL DEFINITION

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The pin assignments of interface signals are listed as follows:

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PIN	Signal	PIN	Signal
01	Ground	02	-DB(0)
03	Ground	04	-DB(1)
05	Ground	06	-DB(2)
07	Ground	08	-DB(3)
09	Ground	10	-DB(4)

11	Ground	12	-DB(5)
13	Ground	14	-DB(6)
15	Ground	16	-DB(7)
17	Ground	18	-DB(P)
19	Ground	20	Ground
21	Ground	22	Ground
23	Ground	24	Ground
25	Open	26	TRM Power
27	Ground	28	Ground
29	Ground	30	Ground
31	Ground	32	-ATN
33	Ground	34	Ground
35	Ground	36	-BSY
37	Ground	38	-ACK
39	Ground	40	-RST
41	Ground	42	-MSG
43	Ground	44	-SEL
45	Ground	46	-C/D
47	Ground	48	-REQ
49	Ground	50	-I/O

SCSI CABLE

The disk drive uses single-ended drivers and receivers which will permit cable lengths of up to 6 meters (19.68 feet). For a single ended cable a 50 conductor flat cable or a 25 signal twisted cable can be used with a maximum length of 6.0 meters, and a stub length not exceeding 0.1 meters.

SCSI BUS TERMINATOR

The file has an internal Active SCSI bus terminator, and can be controlled on/off with one jumper block provided at the card edge. The user is responsible for properly terminating and powering the SCSI bus in the system.

MODE SELECT OPTIONS

Certain parameters are alterable using the SCSI 'Mode Select' command. This allows certain drive characteristics to be modified to optimize performance on a particular system. Refer to the DAL3-3XXXX Interface Specification for a detailed definition of Mode Select parameters. The changeable parameters are:

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Vendor Unique Parameters

UQE - Untagged Queuing Enable (1)
DWD - Disable Write Disconnect (0)
UAI - Unit Attention Inhibit (0)
ASDPE - Additional Save Data Pointer Enable (0)
CMDAC - Command Activated (LED) (0)
RPF AE - Report Failure Analysis Error (0)
CPE - Concurrent Processing Enable (1)
TCC - Thermal Compensation (0)
DSN - Disable Target Initiated Synchronous Negotiation (0)
FRDD - Format Degraded (1)
DPSDP - Data Phase Save Data Pointer (0)
CAEN - Command Age Limiter Enable (1)
LITF - Idle Time Function (0)
ADC - Adaptive Cache Enable (1)

QEMC - Queue Error Management Control (0)
DRD - Disable Read Disconnect (1)
LED - Not supported (0)
Command Aging Limit (48)
DRRT - Disable Read Reassign Target (0)
DNR - Disable Nested Reassigns (1)

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Read-Write Error Recover Parameters

AWRE - Automatic Write Reallocation Enable (1)
ARRE - Automatic Read Reallocation Enable (1)
TB - Transfer Block (0)
PER - Post Error (0)
DTE - Disable Transfer on Error (0)
DCR - Disable Correction (0)
Correction Span (0)
Read Retry Count (01h)
Write Retry Count (01h)

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Disconnect/Reconnect Parameters

Read buffer Full Ratio (00h)
Write Buffer Empty Ratio (00h)

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Verify Error Recovery Parameters

PER (0)
DCR (0)
Verify Retry Count (01h)

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Caching Parameters

WCE - Write Cache Enable (1)
RCD - Read Cache Disable (0)
MF - Multiplication Factor (0)
Disable Pre-Fetch Transfer Length (0)
Minimum Pre-Fetch (0)
Maximum Pre-Fetch (0)
Maximum Pre-Fetch Ceiling (0)
Number of Cache Segments (4)

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Control Mode Page Parameters

Queue Algorithm Modifier (0)
QErr - Queue Error (00h)
DQue - Disable Queing (0)

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Power Condition

Standby (0)
Standby Timer (00h)

NOTE: (xx) default options at Shipment

The drive meets the following EMC requirements when installed in the user system and exercised with a random accessing routine at maximum data rate:

United States Federal Communication Commission (FCC) Rules and Regulations Part 15, Subject J - Computer Devices "Class B Limits".

European Economic Community (EEC) directive #76/889 related to the control of radio frequency interference and the Verband Deutscher Elektrotechniker (VDE) requirements of Germany (GOP).

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WARNING: This disk drive can be damaged by Electro-Static Discharge, please follow recommended ESD procedures before unpacking or handling the drive. Ask your dealer for details if you need assistance.

PACKAGING:

The drive must be protected against Electro-Static Discharge especially when being handled. The safest way to avoid damage is to put the drive in an anti static bag before ESD wrist straps are removed.

Drives should only be shipped in approved containers, severe damage can be caused to the drive if the packaging does not adequately protect against the shock levels induced when a box is dropped. Consult your IBM marketing representative if you do not have an approved shipping container.

