40 MB SCSI Hard Drive (250-4159) Codes Faxback Doc. # 4800

* The 40/80-megabyte SCSI hard disk drive is a 3.5" form-factor Winchester fixed disk drive.

* The 40/80-megabyte SCSI hard disk drive is compatible with the industry-standard (ANSI) SCSI host interface.

* The 40/80-megabyte SCSI hard disk drive features an automatic shipping lock (AIRLOCK*) that disengages when the drive is powered on and engages when power is removed.

Note: Do not move the drive for 20 seconds after DC power is removed, to make sure the actuator is completely locked.

* The standard drive select setting preset at the factory configures the 40/80-megabyte SCSI hard disk drive as the primary (first) disk drive. The standard terminator setting configures the hard disk drive as the primary disk drive. Possible pin settings for the 40/80-megabyte SCSI hard disk drive are shown in the following chart.

Quantum ProDrive 40S/80S

The ProDrive 40S and 80S have six pairs of configuration pins that are functionally the same on both models.

SCSI BUS DEVICE IDENTIFICATION (A0, A1, and A2) - These three pairs of pins comprise a 3-bit binary number in which A2 is the most significant bit and A0 is the least significant. Jumper installation represents a one, meaning that with all three jumpers installed, the device is identified as SCSI ID 7. With no jumpers installed, the device is identified as SCSI ID 0. The factory setting is SCSI ID 0, no jumpers installed. The A1 and A2 jumpers are partially installed from the factory for shipping purposes only and should be removed before installation.

WAIT SPIN (WS) - The WS jumper determines whether the drive will immediately apply power to the drive motor at power-up. With this jumper installed, the motor in the hard disk drive will not spin-up until the host sends a start/stop command across the SCSI bus. If WS is not installed, the motor will immediately start spinning when power is applied. The factory setting is WS not installed, the motor will spin immediately on power-up.

ENABLE PARITY (EP) - The EP jumper determines whether data across the SCSI bus will be checked for parity. If EP is installed, parity is checked; with EP removed, no parity checking is performed. The factory setting is EP installed, parity checking enabled.

SELF SEEK (SS) - The SS jumper is provided as a method to continuously exercise the actuator of the drive. With the SS jumper installed, the drive will perform random seek patterns, and communication with the SCSI bus will be cut off. The factory setting is SS not installed, no self seek test.

The ProDrive disk drives contains three resistor networks in sockets, to terminate the SCSI bus. Be sure the three resistors are installed to configure the hard disk as the primary drive. Remove the resistors to use the 40/80-megabyte hard disk drive as the secondary drive.

SENSE ERROR CODES

Sense Key (hex)	Additional Sense Code (hex)	Description
0		NO SENSE. Indicates there is no specific sense key information to be reported.
	00	No additional information.
1		RECOVERED ERROR. Indicates that the last command was completed successfully with some recovery action performed by the ProDrive. Details may be determined by examining the additional sense bytes and the information bytes.
	00	No additional information
	02	Recovered seek timeout
	10	Recovered CRC error
	11	Recovered data ECC on last retry
	13	Recovered data sync timeout
	14	Recovered no record found
	15	Recovered seek error
	16	Recovered data marker not found
	17	Recovered data ECC with retries
	18	Recovered data ECC error
	86	Recovered unexpected sequencer error
	95	Recovered SOLO timeout
	96	Recovered bump
	97	Recovered underrun/overrun error
	98	Recovered timeout in settling
	A8	Spurious nmi interrupt
	AB	Requested format not available
2		NOT READY. Indicates that the ProDrive cannot be accessed. Operator intervention may be required to correct this condition.
	00	No additional information
	B0	Drive recalibrating
	B1	Drive not up to speed
	B2	Drive waiting for command to start
3		MEDIUM ERROR. Indicates that the command terminated with a non-recovered error condition that was probably caused by a flaw in the medium or an error in the recorded data.
	00	No additional information
	10	All IDs have CRC errors
	11	Uncorrectable data error
	13	Data sync timeout
	14	No record found

	16	Data marker not found
	19	Bad defect list
	1C	No primary defect list found
	31	Format failed or not formatted
	32	No more spares available
	80	Can't write system sector
	81	Can't read system sector
	95	SOLO timeout
	97	Underrun/overrun error
	A3	Reassign Blocks READ failure
	AA	Reallocated uncorrectable data read
4		HARDWARE ERROR. Indicates that the ProDrive detected a non-recoverable hardware failure while performing the command.
	00	No additional information
	01	No index signal
	02	Seek timeout
	03	Write fault
	06	Recalibrate failure
	09	Servoing error
	15	Seek error
	1B	Synchronous request error
	32	Defect list is full
	40	Buffer RAM failure
	41	ECC failure
	42	Power-on failure
	43	Message reject
	44	Firmware error
	45	Reselect timeout
	82	No digital P1 or P2 signal
	83	Analog P1 or P2 are bad
	84	Failure writing to format parameter RAM
	85	Rejected message was not sent
	86	Unexpected sequencer error
	87	A and B servos not equal
	88	Airlock stuck closed
	89	Bad head amplifier
	8A	Bad head select
	90	Synchronous acknowledge error
	91	FIFO unload error
	92	FIFO load error
	93	FIFO predicted full error
	94	Undocumented SPICY error
	96	Bump timeout
	98	Timeout in settling
	99	Bump retry counter expired
	9D	Motor never gets up to speed

	9E	Motor drops out of legal speed range
	9F	Internal ROM checksum error
	A0	External PROM checksum error
	A1	Sequencer rollover register failure
	A2	External RAM failure
	A4	Bad thermistor
	A6	A and B servos not detected
	A7	Offtrack timeout
	A9	SOLO DMA pointer error
	AC	Airlock stuck open
	AD	No servo interrupt
5		ILLEGAL REQUEST. Indicates that there was an illegal parameter in the command descriptor block of in the additional parameters supplied as data for a command.
	00	No additional information
	19	Entered defect list in error
	1A	Parameter overrun
	20	Invalid command
	21	Invalid LBA
	22	Illegal function for device type
	24	Illegal field in CDB
	25	Invalid LUN
	26	Illegal field in parameter list
	8A	Invalid head
	8B	Invalid cylinder
	8C	Select from same initiator while active
	8D	Bad BPB/BPS
	8F	Invalid sector
	9B	Invalid period or offset in sync message
	9C	Active initiator attempted another select
	A5	Defect list out of order
6		UNIT ATTENTION. Indicates that MODE SELECT parameters have been changed by another initiator, or the ProDrive has been reset by one of the following: 1) BUS DEVICE RESET MESSAGE 2) "Hard" RESET condition (RST asserted) 3) POWER ON RESET
	00	No additional information
	29	Drive reset
	2A	Mode select parameter changed
	8E	Unexpected SCSI interrupt occurred
	9A	Target attempted to reselect ProDrive
B		ABORTED COMMAND. Indicates that the ProDrive aborted the command. The initiator may be able to recover by trying the command again.
	00	No additional information
	40	Buffer RAM parity error

47	Parity error on SCSI bus
48	Initiator detected error
49	Inappropriate/illegal message

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