

0663 Models L11, H11, L12, H12

3 1/2-Inch Winchester Drive Series - SCSI Interface

### Product Description

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The 0663 with the Enhanced Small Computer System Interface (SCSI-2) features high reliability, data integrity, and provides exceptional performance.

These 3 1/2-inch Winchester drives bring a new level of intelligence and storage capacity to a popular interface. The intelligence and capacity give system integrators and manufacturers leverage in leading edge applications.

These drives are available in low power versions or higher performance versions. Both are available in 865 MB and 1 GB models.

### HIGHLIGHTS

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- SCSI-2 Interface
  - Self Diagnostics
  - Magnetoresistive Head Nanoslider
  - Full Shock Mounting
  - Dedicated Head Landing Zone
  - Dedicated Digital Servo
  - Horizontal, Vertical, or Connector side down Mounting
  - 1:1 Interleave
  - 400,000 Hour MTBF
  - 256K byte Segmented Data Buffer
  - Tagged and Untagged Command Queuing
  - Automatic Actuator Lock
  - Automatic Sector Reallocation
  - Variable logical Block Length (256-6000 bytes)
  - Read-Ahead Cache
  - Down-loadable SCSI Firmware
  - Automatic Thermal Compensation
  - Scatter/Gather Function Support

### Technology Leadership

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IBM shipped the first movable-head disk storage product in 1957. Since that time, we have developed and shipped a wide range of DASD products, from diskettes to the 3390 Direct Access Storage device.

Now IBM is offering a family of 3 1/2-inch drives. Each incorporates the well established Winchester technology, a disk storage approach developed and enhanced by IBM.

### Manufacturing Quality and Availability

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The IBM 3 1/2-inch drives are manufactured to stringent standards for quality and performance. Sensitive components are assembled in a rigidly controlled, clean environment.

Extensive quality control and testing procedures are used throughout the manufacturing process to assure product reliability and data integrity.

The IBM manufacturing facilities are providing volume quantities in various models of 3 1/2-inch drives.

Specifications	Model H11/L11	Model H12/L12
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General

Capacity	Unformatted	1111 MB	1283 MB
	Formatted	868 MB	1004 MB
Sectors(512 bytes)		66	66
User Cylinders		2051	2051
User Tracks		26663	30765
Data Heads		13	15
Disks	8	8	
Rotational Speed (RPM)		4316.06	4316.06
Recording Density (BPI)		58874 RLL	58874 RLL
Track Density (TPI)		2238	2238
Areal Density (Mbits/sq in)		131.8	131.8
Media Transfer Rate (MB/s)		3.0	3.0
Interface Transfer Rate (MB/s)		5	5
Latency (ms)		6.95	6.95
Access Timing (ms)			
Average		9.8/11.0	9.8/11.0
Trk/Trk Read		0.6	0.6
Trk/Trk Write		2.5	2.5
Maximum Read		18.5/20.0	18.5/20.0

Maximum Write	20.5/22.0	20.5/22.0
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Reliability Specifications	Model H11,L11,H12,L12
MTBF*	400,000 Hours
Error Rates	
Hard Read Errors	1 per 10E 13 Bits Read
Soft Read Errors	1 per 10E 8 Bits Read

\*Includes early life and end of life failures

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Environmental Specifications	
Ambient Temperature	50 to 122 F (10 to 50 C)
Relative Humidity Operating	8% to 80% Non-Condensing
Maximum Wet Bulb	80 F (26.7 C) Non-Condensing
Operating Shock	
Operating	10 G's
Non-Operating	35 G's
Vibration	
Operating (Random)	0.53 G's Rms (5-500 Hz)
Non-Operating	0.5 G's (2-200 Hz)

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Power Requirements	
+12 VDC +5%,-7% Nominal Start Up	3.7/3.6 Amps
+/-5% Peak During Seek	2.8/1.8 Amps
Average Idle	0.5 Amps
+5 VDC +/-5% Average Idle	1.1 Amps
Heat Dissipation Average Idle	11.4/11.0 Watts
Average Seek	12.5/11.6 Watts

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Physical Size	
Height	1.63 Inch (41.3 mm)
Width	4.00 Inch (101.6 mm)
Depth (HDA)	5.75 Inch (146.0 mm)
Depth (Electronics Card)	6.00 Inch (152.4 mm)
Weight	1.8 Pounds (0.8 kg)

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Specifications subject to change without notice.

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