

0664 Model P1S

3 1/2-Inch
2GB Unformatted IPI-2 Disk Drive

The 0664 Model P1S is the first 3 1/2-inch drive available that uses the industry-standard Enhanced Intelligent Peripheral Interface (IPI-2). Emerging as the standard high-performance device-level interface, IPI-2 allows for complete control of the drive's advanced features and capabilities.

Availability of the P1S opens up new design possibilities for system designers using the IPI-2 interface in high-performance subsystems. The smaller form factor not only takes up less space but also requires less power and generates less heat, creating opportunities for new system designs.

This drive builds on the tradition of IBM 3 1/2-inch high-capacity drives begun in 1989 with the 0661 (320 MB) and enhanced in 1991 with the 0663-E devices (1.2 GB). Advanced recording technologies coupled with a sophisticated digital servo provide industry-leading capacity and performance.

HIGHLIGHTS

- Enhanced IPI-2 command set
- 3 1/2-inch form factor
- Dual-port interface
- All Sector and Field Data Controls
- Low command overhead
- Voltage mode differential driver/receivers
- Spindle Synchronization
- Fault-tolerant sync byte detection
- Predictive Failure Analysis for increased reliability
- Magneto-resistive heads, thin film disks
- Rotary actuator
- Automatic actuator lock
- Flexible thermal compensation
- PRDF data channel (PRML with Digital Filter)
- Industry-standard mounting
- LED driver supported

PRODUCT DESCRIPTION

3 1/2-Inch 2GB IPI-2 Disk Drive**P1S**

Configuration

Device Capacity	Unformatted	2000 MB
	Formatted (4KB Sector)	1741 MB
Track Capacity		58024 bytes
Data Heads		15 data/1 servo
Disks	8	
Cylinders	2304	
Linear Density		68.7 KBPI
Track Density		3168 TPI
Areal Density		223 Mb/sq in

Performance

Media Data Rate		5.22 MB/sec
Rotational Speed		5400 RPM
Latency		5.56 ms
Full Stroke Seek Time	Read	<18 ms
Full Stroke Seek Time	Write	<20 ms
Average Seek Time	Read	9.4 ms
Average Seek Time	Write	<11 ms

Reliability

MTBF		750,000 hours
Error Rates	Hard data errors	<10 in 1E 14 bits
	Soft data errors (typ)	<10 in 1E 10 bits
	Seek errors (typical)	<10 in 1E 7 seeks

Power Requirements

+12 VDC +5%,-7%	Nominal StartUp	2.70 Amps
+12 VDC +/-5%	Maximum Seek	2.55 Amps
	Average Idle	0.60 Amps
+5 VDC +/-5%	Average Typical	1.30 Amps
Heat Dissipation	Average Idle	13.7 Watts
	Typical Seek	14.7 Watts

Physical Size

Height	1.63 in (41.3 mm)
Width	4.00 in (101.6 mm)
Depth	6.27 in (159.3 mm)
Weight	1.8 lbs (0.8 kg)

Environmental

	Operating	Non-Operating
Ambient Temperature	50-122 F (10-50 C)	34-140 F (1-60 C)

Relative Humidity		
Non-Condensing	8% to 90%	5% to 95%
Maximum Wet Bulb		
Non-Condensing	80 F (26.7 C)	85 F (30 C)
Shock	10 G	60 G
Vibration	<Note 1>	2 G

1) File vibration levels are available upon request; values vary with frequency and orientation

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