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Fujitsu Quality Storage Products

3.5-inch magnetic disk drives

M2622S/F/H/T

M2623S/F/H/T

M2624S/F/H/T



3.5-inch hard d

M2622/M2623/M2624

From Fujitsu's proven and precise manufacturing process come some of the industries' most advanced 3.5 inch disk drives. The Fujitsu M2622, M2623, and M2624 are high-performance 3.5-inch hard disk drives, which increase the performance levels of high-end personal computers, workstations, and network file servers.

The S/SA/SB/F/FA/FB/H/HA/HB models have an embedded SCSI controller, and the T models have an embedded PC-AT interface controller. These disk drives provide storage capacities from 330.17 MB to a remarkably high 520.10 MB for SCSI interface models and 326.75 MB to 513.51 MB for PC-AT interface models.

All disk enclosures are completely sealed, and include four to six disks, eight to twelve Whitney heads, a rotary voice coil motor (VCM), and a DC spindle motor.

Up to 520.10 megabytes of storage

The M2622, M2623 and M2624 feature large capacity in a standard-height, 3.5-inch disk drive. The M2622 SCSI models provide 330.17 megabytes of storage, and the PC-AT models have 326.75 megabytes capacity. For the M2623, storage capacity is 425.13 megabytes for SCSI interface models and 420.16 megabytes for PC-AT interface models. M2624 SCSI interface models have a high 520.10 megabyte capacity, and PC-AT interface models 513.51 megabytes. (All capacities are formatted)

High performance

The M2622, M2623 and M2624 feature fast positioning times — 3-milliseconds track-to-track, 12 milliseconds average, and 25 milliseconds maximum, including settling time. Each SCSI interface model has a 240-kilobyte data buffer, which further improves the total transfer rate to 5 megabytes per second for S types and 10 megabytes per second for F and H type in synchronous mode. The AT interface models have a 64 kilobyte buffer with a data transfer rate of 3.7 megawords per second (7.4 megabytes per second) maximum.



M2624 high-capacity storage devices

Embedded SCSI controller

The S, SA, and SB models each have an embedded single-ended SCSI controller; the F, FA, and FB types each have a single-ended fast SCSI-2; the H, HA, and HB types each have a differential fast SCSI-2 for quick and easy installation. The controller's commands meet the SCSI CCS (Common Command Set for Direct Access Device).

Embedded controller with PC-AT interface

The M2622T, M2623T, and M2624T each have an embedded controller with PC-AT interface. The controller supports PC-AT basic commands and additional commands.

Digital Signal Processor (DSP) controlled

The voice coil motor of these drives is controlled by a DSP. This simplifies the seek control circuit and further increases reliability.

Reliable, maintenance free

The completely sealed disk enclosure contains a breathing filter and a recirculation filter to provide

a contamination-free environment. Whitney heads eliminate moving parts for head loading and unloading. All models use LSI drive logic, and the Head IC prevents read errors caused by external electrical noise. With these features, the drives' mean time between failures (MTBF) is 200,000 power-on hours, and their mean time to repair (MTTR) is less than 30 minutes.

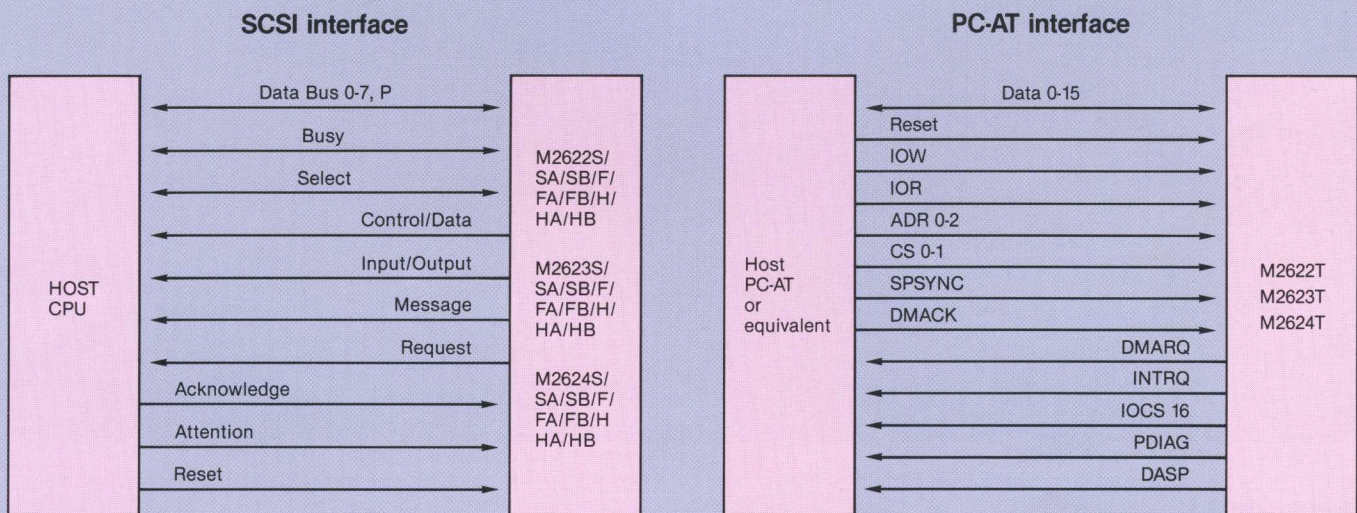
Compact, economical

The new drives' large capacities and high performance have not been achieved at the expense of compactness. The SCSI interface model consumes only 11 watts (S and F types), and 10 watts (AT type).

Noise and vibration have been also minimized. These features make the drives the ideal choice for office applications.

Internationally compatible

The M2622, M2623, and M2624 disk drives use low-voltage DC power of +12V and +5V, permitting international applications and freedom from the effects of power line fluctuations.



FUNCTIONAL SPECIFICATIONS

	M2622S/F/H	M2623S/F/H	M2624S/F/H	M2622T	M2623T	M2624T
Storage capacity (512 Bytes/sector Formatted)	330.17 MB	425.13 MB	520.10 MB	326.75 MB	420.16 MB	513.51 MB
Disks (3.5-inch)	4	5	6	4	5	6
Heads (Read/write+Servo)	7+1	9+1	11+1	7+1	9+1	11+1
Track capacity (512 Bytes/sector Formatted)	28,672/31,744/33,792/35,840 bytes (4 zones)			28,160/31,232/33,280/35,328 bytes (4 zones)		
Tracks per cylinder	7	9	11	7	9	11
Cylinders	1,435					
Sectors	56/62/66/70 (4 zones)			55/61/65/69 (4 zones)		
Positioning time (including settling time)	Track to track		3 ms			
	Average		12 ms			
	Maximum		25 ms			
Average latency time	6.82 ms					
Rotational speed	4,400 rpm					
Data transfer rate	S type 3 MB/s (async. mode), 5 MB/s (sync. mode) F type 4 MB/s (async. mode), 10 MB/s (sync. mode) H type 4 MB/s (async. mode), 10 MB/s (sync. mode)			max. 3.7 MW/s (7.4 MB/s)		
Recording code	RLL (1/7)					
Interface	S type Single-ended type SCSI-2 F type Single-ended type FAST SCSI-2 H type Differential type FAST SCSI-2			PC-AT (ATA)		
Start time	Less than 15 seconds					
Stop time	Less than 30 seconds					

PHYSICAL SPECIFICATIONS

	M2622S/F M2623S/F M2624S/F	M2622H M2623H M2624H	M2622T M2623T M2624T	
Power requirements	Operating	12V ±5% ... 0.5A Ave. 5V ±5% ... 1.0A Ave.	12V ±5% ... 0.5A Ave. 5V ±5% ... 1.5A Ave.	12V ±5% ... 0.5A Ave. 5V ±5% ... 0.8A Ave.
	Start Up	12V 2.5A Peak	12V 2.5A Peak	12V 2.5A Peak
Dimensions	Height	41.3mm (1.6 in.) [43.8mm (1.7 in.)]*		
	Width	101.6mm (4.0 in.) [104.1mm (4.1 in.)]*		
	Depth	146mm (5.7 in.) [151.3mm (6.0 in.)]*	161mm (6.3 in.) [166.3mm (6.5 in.)]*	146mm (5.7 in.) [151.3mm (6.0 in.)]*
Weight	1.2kg (2.6 lbs.)			
Ambient temperature	Operating	5°C to 45°C (41°F to 113°F)		
	Non-operating	-40°C to 60°C (-40°F to 140°F)		
	Gradient	Less than 15°C (27°F/hour)		
Relative humidity	Operating	20% to 80% RH, non-condensing		
	Non-operating	5% to 95% RH, non-condensing		
Vibration	Operating	0.5 G (5Hz to 250Hz)		
	Non-operating	2 G (5Hz to 250Hz)		
Shock resistance	Operating	5 G (max. 10 ms)		
	Non-operating	50 G (max. 10 ms)		
Altitude	Operating	3,000m (10,000 ft)		
	Non-operating	12,000m (40,000 ft)		

*With a front panel

RELIABILITY SPECIFICATIONS

	M2622S/F/H/T M2623S/F/H/T M2624S/F/H/T	
Mean time between failures (MTBF)	200,000 power-on hours	
Mean time to repair (MTTR)	Less than 30 minutes	
Component life	5 years	
Error rates	Unrecoverable errors	≤ 10 per 10 ¹⁵ bits read
	Seek errors	≤ 10 per 10 ⁷ seeks

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