

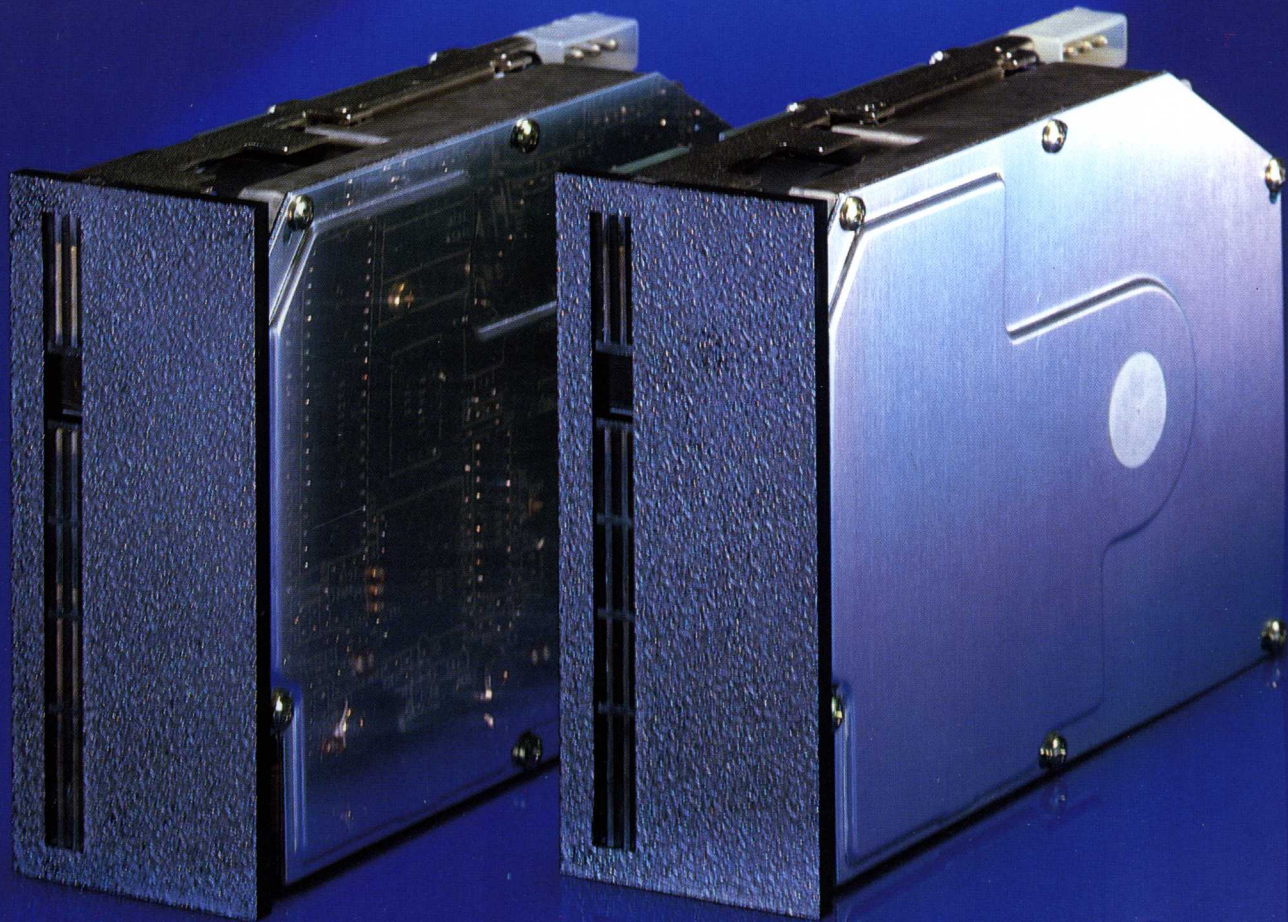
FUJITSU

Quality OEM Products

Large-capacity, high-performance
3.5-inch disk drives

MAR 15 1986

M2220A
M2223A
M2224A



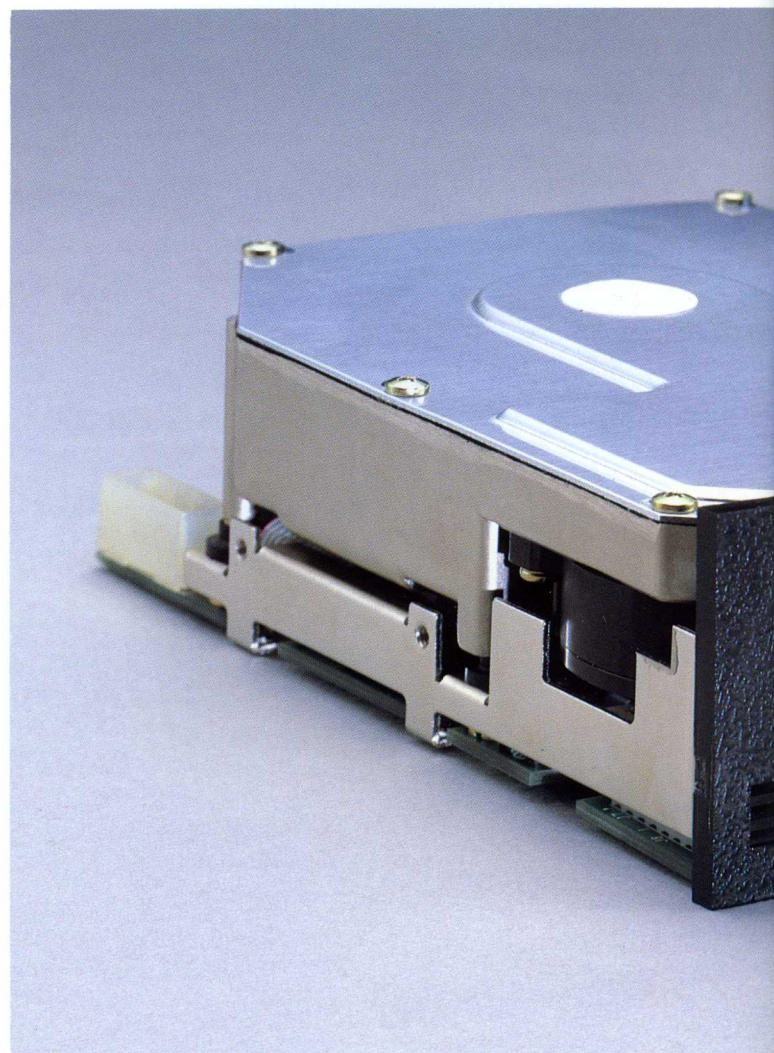
The M2220A, M2223A, and M2224A are 3.5-inch disk drives designed to provide high-performance, reliable storage for personal computers and other compact office automation equipment.

Large capacity, fast access

The M2220A, M2223A, and M2224A respectively provide 6.37 megabytes, 12.74 megabytes, and 19.12 megabytes of unformatted storage. Their average positioning time, including the settling time, is 85 milliseconds, and the data transfer rate is 625 kilobytes per second.

Compact, reliable

Each of these disk drives measures only 41.3 mm (1.625 in) high, 101.6 mm (4.0 in) wide, and 146 mm (5.75 in) deep, and can fit into a 3.5-inch floppy disk drive cabinet. With the use of Whitney heads as well as advanced LSI technology and a stepping motor, the drive mechanisms are greatly simplified, enhancing reliability. Their MTBF is more than 20,000 power-on hours, and no preventive maintenance is required.

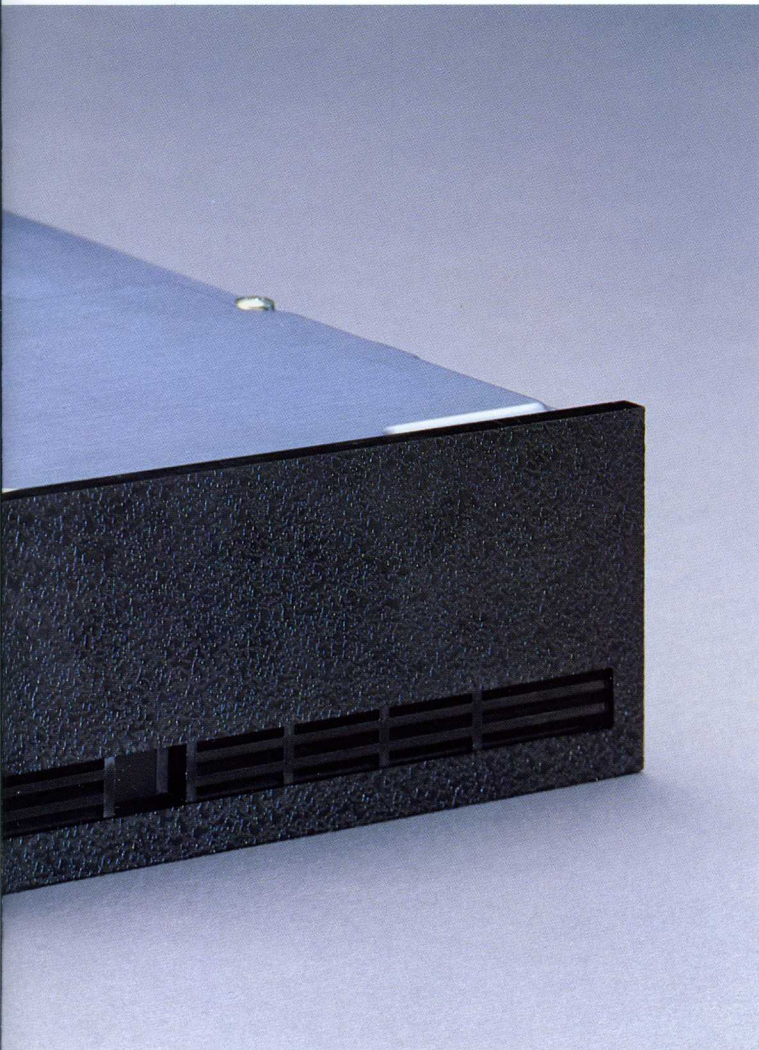
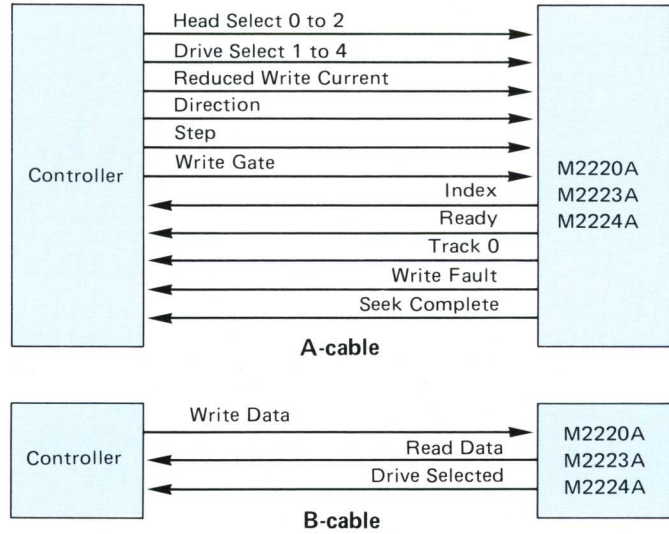


M2224A

Internationally compatible

The M2220A, M2223A, and M2224A are available in Industry Standard ST506/412 Interface. They also use low-voltage DC power of +12V and +5V, permitting international applications.

ST506/412 interface



FUJITSU QUALITY OEM PRODUCTS

FUNCTIONAL SPECIFICATIONS

		M2220A	M2223A	M2224A
Storage capacity	Unformatted	6.37 megabytes	12.75 megabytes	19.12 megabytes
	Formatted	5.01 megabytes	10.03 megabytes	15.04 megabytes
Disks (3.5-inch)		1	2	3
Heads (read/write)		2	4	6
Track capacity	Unformatted	10,416 bytes		
	Formatted	8,192 bytes		
Tracks per cylinder		2		
Cylinders		306		
Sectors		32		
Positioning time (including settling time)	Track-to-track	15 milliseconds		
	Average	85 milliseconds		
	Maximum	175 milliseconds		
Average latency time		8.3 milliseconds		
Rotational speed		3,600 rotations/minute		
Recording density		12,500 bits/inch		
Track density		450 tracks/inch		
Data transfer rate		625 kilobytes/second		
Recording code		MFM		
Interface		ST506/412		
Start time		Less than 15 seconds		
Stop time		Less than 10 seconds		

PHYSICAL SPECIFICATIONS

		M2220A, M2223A, M2224A
Power requirements		12VDC±5%, 0.6A (max. 1.8A) 5VDC±5%, 0.6A
Dimensions	Height	41.3 mm (1.625 in)
	Width	101.6 mm (4.0 in)
	Depth	146 mm (5.75 in)
Weight		1.0 kg (2.2 lb)
Ambient temperature	Operating	5°C to 45°C (41°F to 113°F)
	Not 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%, non condensing
	Not operating	5% to 95%, non condensing
Vibration	Operating	Max. 0.2G (3Hz to 60Hz)
	Not operating	Max. 0.4G (3Hz to 60Hz)
Shock resistance	Operating	Max. 3G (max. 10 ms)
	Not operating	Max. 20G (max. 10 ms)
Altitude	Operating	3,000 m (10,000 ft)
	Not operating	12,000 m (40,000 ft)

RELIABILITY SPECIFICATIONS

		M2220A, M2223A, M2224A
Mean-time-between-failures (MTBF)		More than 20,000 power-on hours
Mean-time-to-repair (MTTR)		Less than 30 minutes
Component life		5 years
Error rates	Recoverable errors	10 per 10 ¹¹ bits read
	Unrecoverable errors	10 per 10 ¹³ bits read
	Seek errors	10 per 10 ⁷ seeks

Specifications are subject to change without notice. For the latest information, contact your local Fujitsu representative.
Third edition, December 1985

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Printed in Japan
OL1020-85ZS2