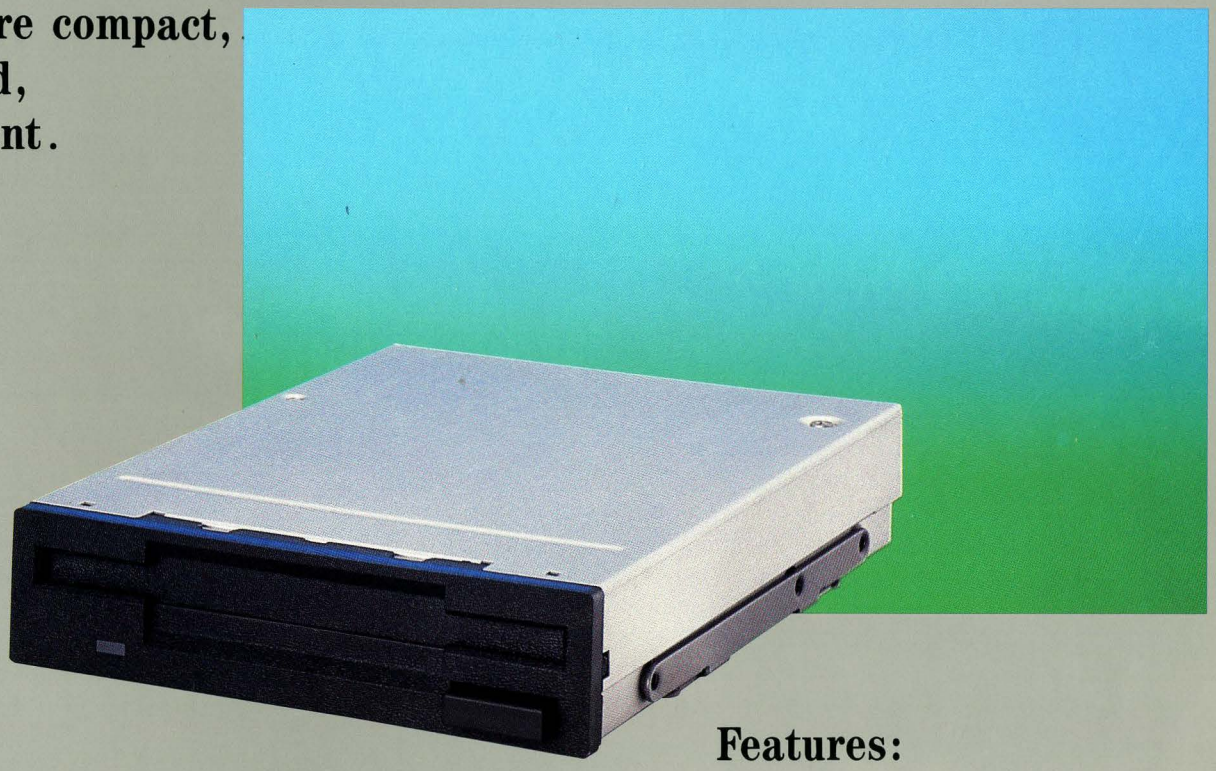
FD1037A
3½-Inch Microfloppy Disk Drive

Lighter, more compact, more rugged, more efficient.



NEC's FD1037A presents the best in 3½-inch microfloppy disk drive design. Extremely lightweight — only 14 oz., — and compact — only 1-inch high — it offers portable and desktop system designers 1 MB of storage capacity in a highly-efficient unit featuring a linear pulse positioning motor.

The linear pulse motor, which replaces traditional stepper motors, features:

- no rotating parts;
- increased positioning precision;
- low power consumption;
- a uniformly low acoustic level;
- inherently high reliability.

Direct linear drive of the head carriage assembly eliminates any need for a capstan and steel belt. Power consumption — 1.6 watts in read/write mode and .02 watts in standby mode — is less than that of stepper motor/band driven drives. And the motor's low acoustic level remains virtually uniform regardless of step rate.

The FD1037A is totally enclosed by shielding which shuts out electromagnetic interference (EMI) from monitors and power supplies, prevents the entry of dust and other contaminants, and decreases drive emissions. Modular construction decreases manufacturing costs and results in easier drive inspection or repair.

Features:

- 1 MB storage capacity (unformatted)
- 250 Kbit/sec data transfer
- 3 ms seek time
- 1.6 watt power consumption (.02 in standby mode)
- Linear pulse positioning motor
- Shielded read/write heads
- Modular construction
- 12,000-hour MTBF
- Disk change option

NEC

FD1037A Specifications

FEATURE	SPECIFICATION	
Capacity		
Unformatted	1 MB	
Formatted (16 sectors, 256 bytes/sector)	640 KB	
Maximum Bit Density	8717 bpi	
Data Transfer Rate (kbit/sec)	250	
Average Rotational Speed	300 rpm ± 1%	
Access Time		
Seek Time (track-to-track)	3 ms	
Motor Start Time	500 ms	
Head Settling Time	15 ms	
Recording		
Track Density	135 tpi	
Recording Method	MFM	
Power Requirements		
DC	12 V ± 5%	5V ± 5%
Start-Up Current	300 mA	80 mA
Drive in Ready State Current	80 mA	120 mA
Power Dissipation — Stand-By	.02 W	
Power Dissipation — R/W	1.6 W	
Physical Dimensions		
Height	1 in. (25.4 mm)	
Width	4 in. (101.6 mm)	
Length	5.3 in. (134 mm)	
Weight	14 oz. (.4 kg)	
Reliability		
MTBF	12,000 POH	
MTTR	15 minutes	
Device Life	15,000 POH or 5 years	
Data Reliability		
Soft Error Rate	1 in 10^9 bits read	
Hard Error Rate	1 in 10^{12} bits read	
Seek Error Rate	1 in 10^6 seeks	
Media		
3½-inch media	Double density, double sided diskette specified by NEC	
Media Life	3.0×10^6 passes	
Environmental		
Temperature		
Operating	39°F to 115°F (4°C to 46°C)	
Storage	−4°F to 122°F (−20°C to 50°C)	
Transportation	−40°F to 140°F (−40°C to 60°C)	
Humidity		
Operating	20% to 80% relative humidity	
Storage	10% to 90% relative humidity	
Transportation	5% to 95% relative humidity	
Maximum Wet Bulb Temperature		
Operating	84°F (29°C)	
Storage	104°F (40°C)	
Transportation	113°F (45°C)	
Maximum Temperature Gradient		
Operating	36°F/hr (20°C/hr)	
Storage	54°F/hr (30°C/hr)	
Transportation	54°F/hr (30°C/hr)	

Signal Interface

PIN		SIGNAL NAME
GROUND	SIGNAL	
1	2	Reserved
3	4	Reserved
5	6	Drive Select 3
7	8	Index
9	10	Drive Select 0
11	12	Drive Select 1
13	14	Drive Select 2
15	16	Motor On
17	18	Direction Select
19	20	Step
21	22	Write Data
23	24	Write Gate
25	26	Track 00
27	28	Write Protect
29	30	Read Data
31	32	Side Select
33	34*	Ready/DCG

*Ready is standard — DCG available as a factory option

INTERFACE FOR POWER SUPPLY

PIN	POWER SUPPLY
1	DC + 5 V
2	DC + 5 V Return
3	DC + 12 V Return
4	DC + 12 V

Information in this data sheet is subject to change without notice. For latest product information, call 1-800-343-4418 (in Massachusetts, 617-264-8635.)

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