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FD1157C
5¼-Inch Minifloppy Disk Drive

High storage capacity, fewer parts, less weight . . .

We've improved on our well known 5¼" minifloppy technology with a drive featuring fewer components, fewer mechanical parts, and a smaller printed circuit board. The result? Our FD1157C. An even more cost-effective half-height drive with high storage capacity, less weight, *and* all the features our 5¼" minifloppy customers have come to expect.

The FD1157C offers unformatted storage capacity of up to 1.6 MB while retaining a 3 ms track-to-track access time and a data transfer rate of up to 500 Kbits per second (compatible with 8" drives). It also offers a high/normal density control, permitting operators to select spindle speeds of 360 or 300 rpm and enabling the drive to read and write to both high and normal (1.6 and 1.0 MB) 96 tpi media.

Incorporating the latest advances in semiconductor technology, the FD1157C's single LSI component controls both interface logic and read/write functions and contains the drive's interface drivers and receivers — thus providing high reliability while reducing circuit board size and drive weight. The read/write heads and carriage assembly are positioned by a stepper motor/steel band mechanism which has proven to be highly reliable in delivering precise, accurate head positioning.

The drive can operate in two read-write modes (MFM and FM) in both high and normal density. It is completely IBM PC AT® and NEC FD1155C compatible, permits OEM tailoring of six drive functions for greater design versatility, and features a head-loading mechanism which uses a solenoid and bail to increase media life.

Features

- Large 1.6 MB capacity (unformatted)
- Low 4.8 watt power consumption
- High-speed 500 Kbit/sec data transfer
- Fast 3 ms seek time
- Dual-speed control — 360 rpm and 300 rpm
- Two read-write modes — MFM and FM
- Outstanding 12,000 hour MTBF
- Compatible with NEC FD1155C and IBM PC AT

NEC

FD1157C Specifications

FEATURE	SPECIFICATIONS			
	HIGH DENSITY		NORMAL DENSITY	
	MFM	FM	MFM	FM
Capacity (unformatted)	1.6 MB	0.8MB	1.0 MB	0.5 MB
Data Transfer Rate (Kbit/sec)	500	250	250	125
Mean Rotational Speed	360 rpm ± 2%		300 rpm ± 2%	
Number of Tracks	160		160	
Number of Cylinders	80		80	
Maximum Bit Density	9870 bpi		5922 bpi	
Seek Time (Track-to-Track)	3 ms			
Seek Settling Time	15 ms			
Head Load Time	35 ms			
Motor Start Time	500 ms			
Motor-On to Ready Time	800 ms			
Track Density	96 tpi			
Number of Heads	2			
Recording Mode	MFM/FM			
Power Requirements (DC)	+12V ± 5%, +5V ±5%			
Start-up Current	390 mA, 460 mA			
Steady-state Current	210 mA, 460 mA			
Power Dissipation	4.8W			
Dimensions				
Height	1.6 in. (41 mm)			
Width	5.7 in. (146 mm)			
Length	8.0 in. (203 mm)			
Weight	2.6 lb (1.2 kg)			
Environmental Temperature				
Operating	39° to 115°F (4° to 46°C)			
Relative Humidity (noncondensing)				
Operating	20% to 80%			
Maximum Wet-Bulb Temperature				
Operating	84°F (29°C)			
Largest Temperature Gradient				
Operating	27°F/hr (15°C/hr)			
Allowable Vibration* (less than 100 Hz)				
Operating	0.5G			
Allowable Shock (less than 10 ms)				
Operating	10G			
Reliability				
MTBF	12,000 POH			
MTTR	30 minutes			
Device Life	15,000 POH or 5 years			
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 Life	3 x 10^6 passes/track			

Signal Interface

PIN NUMBER		NAME
GROUND	SIGNAL	
1	2*	High/Normal Density
3	4	In Use/Head Load
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 †	Disk Change/Ready

*** Inverted logic jumper selectable** **† Jumper selectable**

Interface for Power Supply

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

Information in this data sheet is subject to change without notice. For latest product information, call 1-800-343-4419 (in Massachusetts, 617-264-8635.

C&C
Computers and Communications

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NEC Information Systems, Inc.

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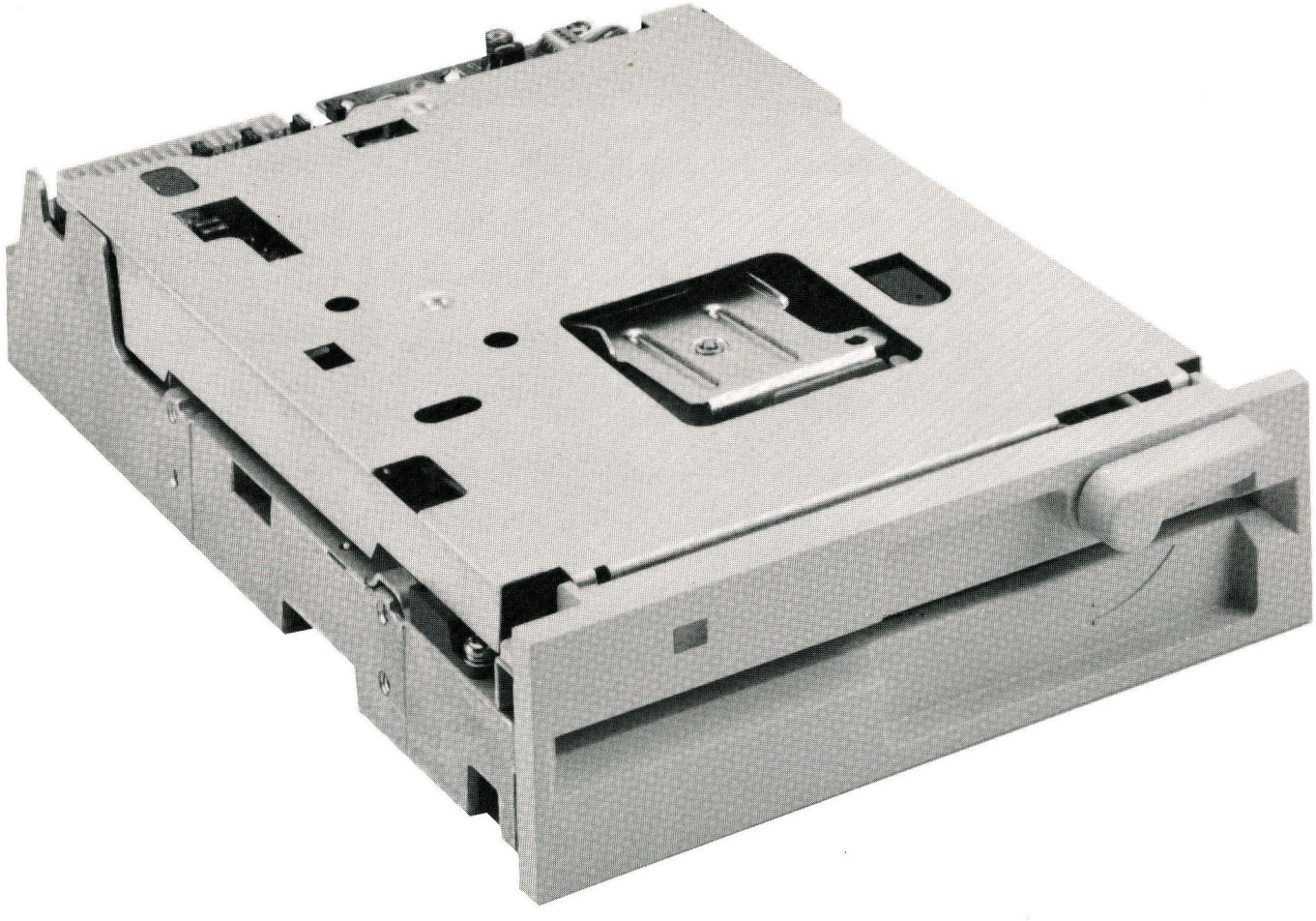
NEC FD1157C 5¼-Inch Floppy Disk Drive

High storage capacity,
fewer parts, more reliability...

- 1.2 MB capacity (formatted)
- Low power consumption
- Dual-speed control-360 rpm and 300 rpm
- 30,000 hour MTBF
- Compatible with IBM PC-AT



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FD1157C Disk Specifications

		720-KB Mode	1.2-MB Mode
Unformatted Capacity		1 MB	1.6 MB
Formatted Capacity		720 KB	1.2 MB
Data Transfer Rate (Kb/sec)		250	500
Rotational Speed (rpm)		300	360
Recording Density			
	Bit density (bpi)	5,922	9,870
	Track density (tpi)	96	96
	Number of tracks	80	80
Seek Time			
	Track-to-track	3 ms	3 ms
Settling Time		15 ms	15 ms
DC Power Requirement		+12/+5V	+12/+5V
Power Dissipation (watts)			
	Read/Write mode	4.8 W	4.8 W
Environmental			
	Operating temperature	39° to 115°F (4° to 46°C)	39° to 115°F (4° to 46°C)
	Non-operating temperature	–4° to 140°F (–20° to 60°C)	–4° to 140°F (–20° to 60°C)
	Relative operating humidity	20% to 80%	20% to 80%
	Non-operating humidity	10% to 90%	10% to 90%
Dimensions			
	Height	1.6 in. (41 mm)	1.6 in. (41 mm)
	Width	5.7 in. (146 mm)	5.7 in. (146 mm)
	Depth	8.0 in. (203 mm)	8.0 in. (203 mm)
	Weight	2.6 lb. (1.2 kg)	2.6 lb. (1.2 kg)
Reliability			
	MTBF	30,000 POH	30,000 POH
	MTTR	<30 minutes	<30 minutes
	Device life	15,000 POH or 5 years	15,000 POH or 5 years

Information in this publication is subject to change without notice. For the dealer nearest you call 1-800-NEC-INFO. In Canada, call 1-800-343-4418.

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