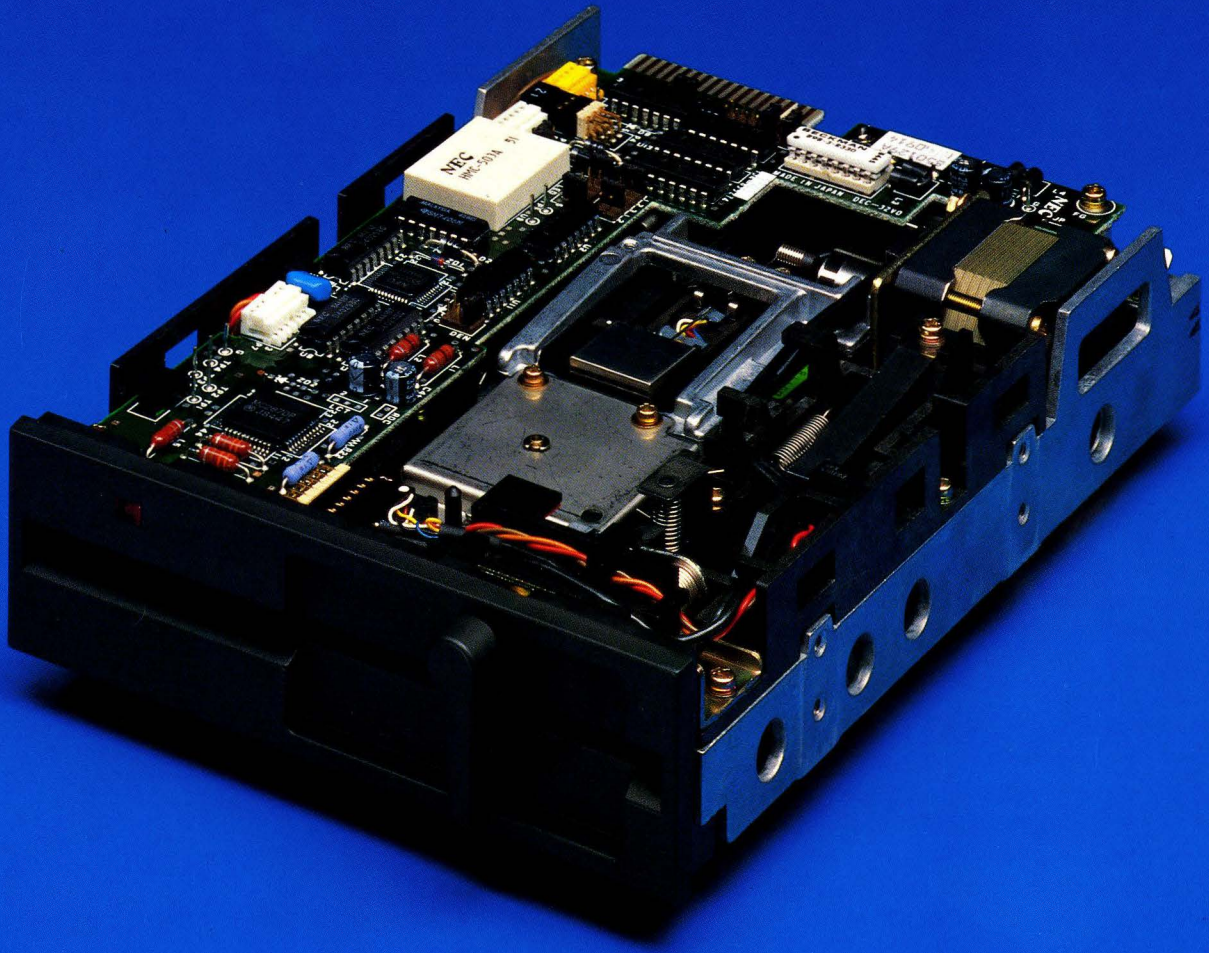
NEC

FD1155C
5¼-Inch Minifloppy Disk Drive



Features

- Compact design — half the height of standard 5¼-inch disk drives
- Large storage capacity — 1.6 MB, dual-sided, double density
- Low power consumption — 4.8 watts
- Direct-drive, brushless DC motor — no AC requirements
- Disk change function and IBM PC AT® compatible
- High-speed data transfer — 500 Kbit/sec, compatible with 8-inch drives
- Dual-speed control — 360 rpm and 300 rpm
- Outstanding reliability and fast maintenance — MTBF of 12,000 hours, MTTR of less than 30 minutes

General Description

The new FD1155C disk drive continues NEC's tradition of outstanding reliability while adding versatility to system design. Two FD1155C drives fit into the same space as one full-size 5¼-inch drive, yet they provide the storage of two 8-inch drives. The FD1155C drive eliminates the need for controller redesign because it is compatible with OEM systems. Thus, you can double your system storage capacity at minimal cost.

The FD1155C incorporates the latest advances in read-write technology to optimize your investment. Engineering innovations include two read-write modes (MFM and FM) in both high and normal density, and heads that are positioned by a steel band and stepper-motor controlled through a custom gate array. The head-loading mechanism uses a solenoid and bail to increase media life. These innovations make the FD1155C one of the most accurate disk drives available.

NEC's state-of-the-art technology also produces rapid data access and transfer. Track-to-track access is a quick 3 ms. The interface transfers data at a remarkable 500 Kbit/sec. The dual-speed control allows the operator to select a spindle speed of 360 or 300 rpm so the drive can read 48 track-per-inch (tpi) as well as 96 tpi media. OEMs can custom tailor six drive functions on the FD1155C to provide greater operational versatility. In addition, the FD1155C is compatible with the IBM PC AT.

The direct-drive, brushless DC motor lowers power requirements so the FD1155C uses only 4.8 watts of power, providing lower operating costs. The high mean time between failures (MTBF) of 12,000 power-on hours (POH) and a mean time to repair (MTTR) of less than 30 minutes enhance the operational features of the FD1155C, giving you an efficient, cost-effective disk drive.

NEC's commitment to meeting OEM needs is backed by over 22 years of disk design and manufacturing experience. The new FD1155C disk drive reflects the same high standards of quality, versatility and reliability you've come to expect from NEC.

FD1155C Specifications

FEATURE	SPECIFICATIONS			
	HIGH DENSITY		NORMAL DENSITY	
	MFM	FM	MFM	FM
Capacity (unformatted)	1.6 MB	0.8 MB	1.0 MB	0.5 MB
Capacity (formatted)				
26 Sectors/Track	1025 KB	512 KB		
15 Sectors/Track	1183 KB	591 KB		
8 Sectors/Track	1262 KB	631 KB		
16 Sectors/Track			655 KB	328 KB
9 Sectors/Track			737 KB	368 KB
Data Transfer Rate (Kbit/sec)	500	250	250	125
Mean Rotational Speed	360 rpm ± 2%		300 rpm ± 2%	
Number of Tracks	154		160	
Number of Cylinders	77		80	
Maximum Bit Density	9646 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)	+12 V ± 5%, +5 V ± 5%			
Start-up Current	390 mA, 460 mA			
Steady-state Current	210 mA, 460 mA			
Power Dissipation	4.8 W			
Dimensions				
Height	1.6 in. (41 mm)			
Width	5.7 in. (146 mm)			
Length	7.9 in. (203 mm)			
Weight	3.3 lb (1.5 kg)			

FD1155C Specifications (Cont'd)

FEATURE	SPECIFICATIONS
Environmental Temperature	
Operating	41° to 115° F (5° to 46° C)
Storage	-4° to 140° F (-20° to 60° C)
Transport	-40° to 149° F (-40° to 65° C)
Relative Humidity (noncondensing)	
Operating	20% to 80%
Storage	10% to 90%
Transport	5% to 95%
Maximum Wet-Bulb Temperature	
Operating	84° F (29° C)
Storage	104° F (40° C)
Transport	113° F (45° C)
Largest Temperature Gradient	
Operating	27° F/hr (15° C/hr)
Storage	54° F/hr (30° C/hr)
Transport	54° F/hr (30° C/hr)
Allowable Vibration Point*	
Operating	0.5 G
Storage	3.0 G
Transport	3.0 G
Allowable Shock (less than 10 ms)	
Operating	10 G
Storage	15 G
Transport	40 G
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
Media	Standard 5¼-inch floppy disk

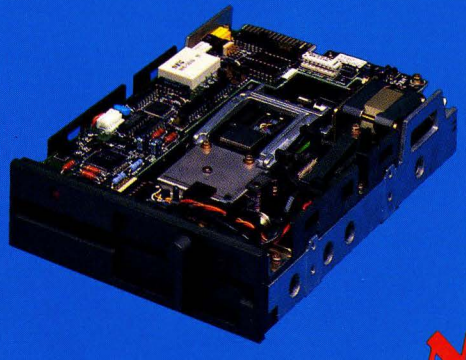
*Less than 100 Hz, except at resonance point.

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

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



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