

TEAC®

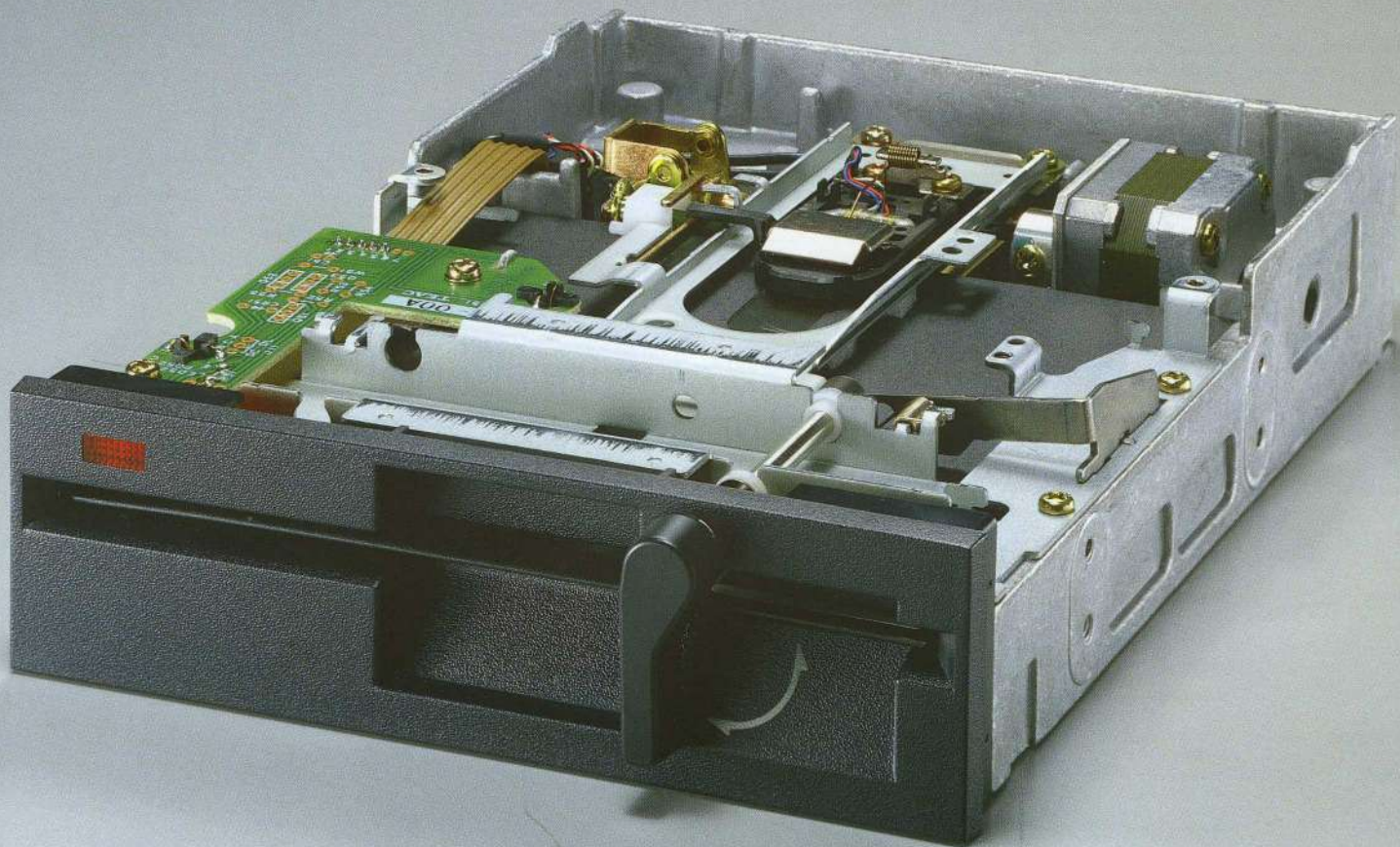
5-1/4-inch
Mini Floppy
Disk Drive

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FD-55R SERIES

FD-55BR / FD-55FR / FD-55GR / FD-55GFR

- Four models to match all system needs
- Low power consumption (Standby: 1.5 W; Operating: 4.1 W)
- Reduced heat generation for increased reliability
- Simplified mechanism
- Complies with UL and CSA safety standards



TEAC's FD-55 Series of mini floppy disk drives are widely used as external memory devices. Now the new R Series, with a newly developed custom LSI and low energy circuitry, offers improved performance and functions. The FD-55R Series consists of four models, from the double-sided, 48 tpi FD-55BR to the FD-55GFR, capable of reading from five different types of disks. You can choose the drive to best match your system requirements. Electronic and mechanical improvements have resulted in a simplified mechanism with low power consumption and reduced heat generation.

Low power consumption
TEAC has drastically reduced the number of components and achieved more efficient circuitry by integrating almost all circuits in two LSIs. The result is low power consumption: only 1.0 W waiting and 3.9 W in operation.

4 Models, 5 Types
The four models available include the FD-55BR, a 48 tpi double-sided 500 KB drive, and the powerful FD-55GFR that can read five types of disks.

Improved reliability
A thorough upgrading of electronic circuits has reduced power consumption, while heat generation has been substantially reduced. The result is high precision and reliability.

High precision head positioning
The high precision hybrid stepping motor com-

ined with a highly precise band actuator permits high accuracy in head positioning.

The Powerful FD-55GFR
The revolutionary FD-55GFR can read five types of 5-1/4 inch disks (from 48 tpi one-sided 250 KB to 96 tpi double-sided 1.6 MB type). The 1.6 MB type is its basic disk format.

Medium to be used	Normal density				High density
	48 tpi		96 tpi		
Track density	48 tpi		96 tpi		
Double sided/single sided	Single sided	Double sided	Single sided	Double sided	Double sided
Memory capacity	250 KB	500 KB	500 KB	1 MB	1.6 MB
Data transfer rate (K bit/sec)	250				500
Disk rotation speed	300 rpm				360 rpm
Data read	○	○	○	○	○
Data write	—	—	○	○	○

The simple mechanism is the fruit of repeated improvements.

Meets UL and CSA safety standards.

SPECIFICATIONS

Recording Method: FM or MFM
Media: 5-1/4-inch mini floppy disks
 High density or normal density
Starting Time: 400 msec (300 rpm)
 500 msec (360 rpm)
Average Latency Time: 100 msec (300 rpm)
 83.3 msec (360 rpm)
Index: 1/revolution
MTBF: More than 10,000 hours (FD-55FR/GR)
 More than 20,000 hours (FD-55BR/GFR)
MTRR: 30 minutes or less
Error Rate: Soft read error: less than 1/10⁹ bits (Retry up to two times)
 Hard read error: less than 1/10¹² bits
 Seek error: less than 1/10⁶ seeks
Safety Standards: Complies with UL and CSA
Ambient Temperature: Operating 4 to 46°C (40 to 115°F)
 Transportation: -40 to 65°C (-40 to 149°F)
 Storage: -22 to 60°C (-8 to 140°F)
Temperature Gradient: Operating: 15°C (27°F)/hour (no condensation)
 Storage and transportation: 30°C (54°F)/hour (no condensation)
Relative Humidity: Operating: 20 to 80% (no condensation)
 Maximum wet-bulb temperature 29°C (84°F)
 Transportation: 5 to 95% (no condensation)
 Maximum wet-bulb temperature 45°C (113°F)
 Storage: 10 to 90% (no condensation)
 Maximum wet-bulb temperature 40°C (104°F)
Vibration: Operating: less than 0.5 G (less than 55 Hz)
 less than 0.25 G (55 to 500 Hz)
 Transportation: less than 2 G (less than 100 Hz)
Shock: Operating: less than 10 G (less than 10 msec) (FD-55FR)
 Transportation: less than 40 G (less than 10 msec) (FD-55GR)
 Operating: less than 5 G (less than 11 msec) (FD-55BR)
 Transportation: less than 50 G (less than 11 msec) (FD-55GFR)
Dimensions: 146W x 41.3H x 203D (mm)
 5-3/4W x 1-5/8H x 8D (inch)
Weight: 1.1 kg (2.42 lbs) (FD-55FR/55GR)
 1.0 kg (2.2 lbs) (FD-55BR/GFR)

Data Capacity (Kbyte)	Unformatted	Per track	FD-55BR	FD-55FR	FD-55GR	FD-55GFR	
			High density	Normal density			
Per track	Per disk	6.25	6.25	10.416	10.416	6.25	
		500	1000	1604	1604	1000	
Formatted (16 sectors/track) ¹	Per sector	0.256	0.256	0.512	0.512	0.256	
		Per track	4.096	4.096	7.680	7.680	4.096
Per disk	327.68	655.36	1182.7	1182.7 (1228.8)	655.36		
	250	250	500	500	250/300 ²		
Data transfer rate			250	250	500	500	
Single-sided/Double-sided			Double-sided				
Innermost track bit density (bpi)			5876	5922	9646	9646 (9870)	5922
Innermost track flux density (frpi)			5876	5922	9646	9646 (9870)	5922
Tracks/disk			80	160	154	154 (160)	160
Track density			48		96		
Number of cylinders			40	80	77	77 (80)	80
Track radius (mm)			Side 0: 57.150 Side 1: 55.033				
Outermost			Side 0: 36.513	Side 0: 36.248	Side 0: 37.042	Side 0: 37.042 (36.248)	Side 0: 36.248
Innermost			Side 1: 34.396	Side 1: 34.131	Side 1: 34.925	Side 1: 34.925 (34.131)	Side 1: 34.131
Average access time (msec)			93	94	91	91 (94)	94
Track to track time (msec)			6				
Settling time (msec)			15				
Rotation speed (rpm)			300		360	300/360	
Power Requirements (A)			Permissible ripple				
DC + 12 V ± 5%			200 mVp-p				
Standby			0.01 A typ, 0.02 A max	0.03 A typ, 0.04 A max	0.01 A typ, 0.02 A max		
Operating			0.22 A typ, 0.54 A max				
Permissible ripple			100 mVp-p				
DC + 12 V ± 5%			Standby				
Standby			0.18 A typ, 0.23 A max	0.23 A typ, 0.28 A max	0.18 A typ, 0.23 A max		
Operating			0.25 A typ, 0.32 A max	0.3 A typ, 0.38 A max	0.28 A typ, 0.35 A max		
Power Consumption (W)			Operating		4.0		
Standby			3.9		1.0		
Standby			1.0		1.5		

¹ The FD-55GR/FD-55GFR (high density) is for 15 sectors/track. * The value in () for FD-55GFR is for 160 tracks.
² Value for when the left side is 300 rpm and the right side is 360 rpm. * Specifications apply when the MFM recording method is used.

External Dimensions (units mm)

