

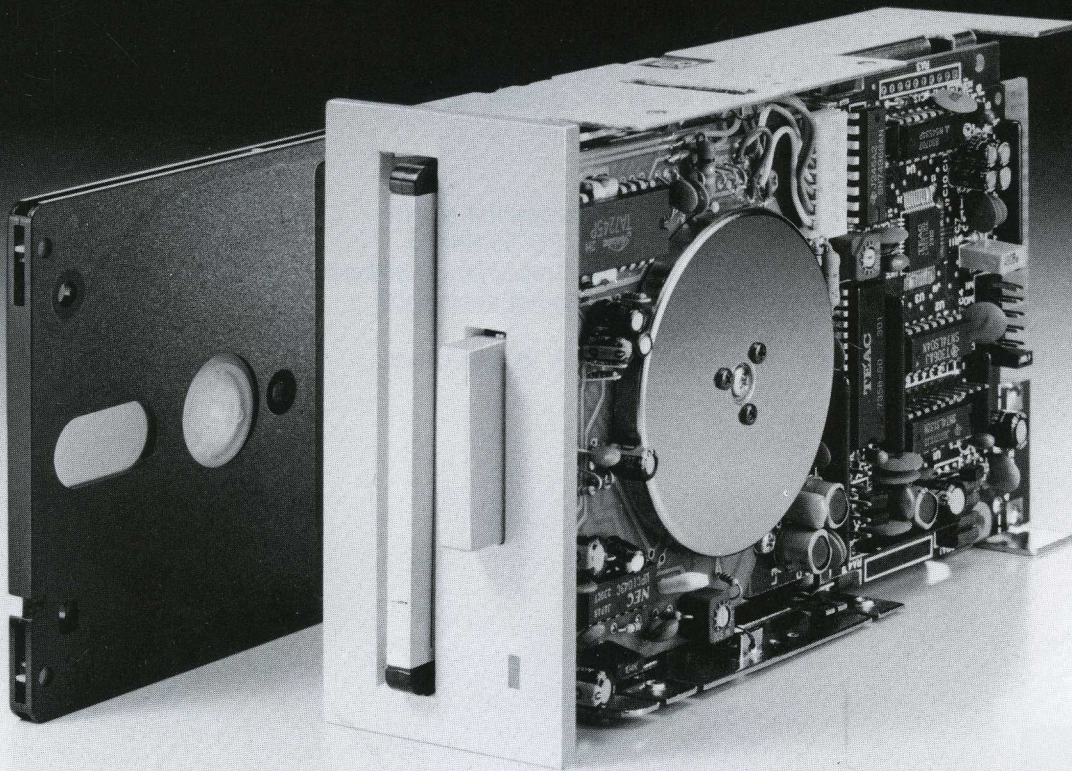
# TEAC®

## 3" Compact Floppy Disk Drive

MAY 19 1983

# FD-30

- 3" compact floppy format
- Plug compatible with industry-standard 5-1/4" disk drives
- New TEAC LSIs reduce power consumption, increase reliability
- Contact Start Stop (CSS) mechanism
- Brushless DC direct drive motor
- Simplified head positioning mechanism



# New 3" Floppy Makes Compact Designs Easy

With the personal computer boom gaining momentum around the world, 3" compact floppy disk drives are more and more in demand. Now there's good news. The TEAC FD-30. Drawing on our long experience in developing 5-1/4" floppy disk drives, we've produced a 3" drive that sets the industry standard for performance and reliability. Data capacity is 250 kilobytes, with 40 tracks and 100 tpi track density. And there are no problems with compatibility. All connections, track format, data transfer rate, etc. are the same as standard 5-1/4" disk drives. So whether you're adding to a system or creating a new compact system, the FD-30 is an ideal way to meet your disk drive needs.

## Full Compatibility

The FD-30 is the equivalent of TEAC's FD-50A and FD-55A 5-1/4" floppy disk drives in every way except size. Capacity, format, density, disk rotation speed, and transfer rate, as well as connections, are identical. This compatibility ensures that data transfer or drive replacement will cause no problems.

## Low Power, Heat Generation

TEAC floppy disk drives have always been low power consumers, and the FD-30 is even more so, due to a new motor and circuitry. This low power consumption and the resulting low heat generation makes system planning a whole lot easier.

## Contact Start Stop Mechanism

When a disk is inserted into the drive the head is automatically loaded, eliminating the need for a head load

solenoid. The motor is started when a drive select signal is received. No head loading noise is produced during operation, and media wear is reduced because the motor only runs when needed.

## Brushless DC Direct Drive Motor

This motor is extremely durable (lifetime over 8,000 hours). The electrical noise caused by brushes in conventional motors has been eliminated. Belt replacement and other periodic maintenance is unnecessary.

## LED/Photo Sensor System

Mechanical sensors have been eliminated in the FD-30 Write protect, index, and track 00 sensing are all done by an LED and photo sensor system. Precision and reliability are both significantly higher.

## Supports Double-Sided Disks

The reverse side of double-sided disks can be accessed by flipping them over. The drive-select LED lights red for side A and green for side B.

## Simple Head Positioning Mechanism

A linear-action lead-screw is used for positioning. The mechanism is very small and simple, and it consumes little power.

## Other features

- Connector compatibility with TEAC FD-50, FD-55 Series
- FM and MFM recording methods
- Protection against accidental erasure
- Daisy-chain up to four drives

## SPECIFICATIONS

### Recording Method:

FM (single density), MFM (double density)

**Disk Rotational Speed:** 300 rpm

**Motor Starting Time:** 500 ms

**Head Load Time:** 50 ms

**Index:** 1

**MTBF:** more than 8,000 hours

### Error Rates

**Soft Errors:** 1 per 10<sup>9</sup> bits (up to 2 retries)

**Hard Errors:** 1 per 10<sup>12</sup> bits

**Seek Errors:** 1 per 10<sup>6</sup> seeks

### Temperature

**Operating:** 4° — 46°C

**Transportation:** — 40° — 65°C

**Storage:** — 22° — 60°C

### Relative Humidity

**Operating:** 20—80% (noncondensing)

Max. Wet Bulb Temperature: 29°C

**Transportation:** 5—95% (noncondensing)

Max Wet Bulb Temperature: 45°C

**Storage:** 10—90% (noncondensing)

Max. Wet Bulb Temperature: 40°C

### Power Requirements

DC + 12 V/DC + 5 V

Total: 3 W

### Dimensions

**(W × H × D):** 90 × 40 × 150 mm

(3-1/2" × 1-5/8" × 5-7/8")

**Weight:** less than 750 g (1 lbs. 10 oz.)

		FM	MFM	
Transfer Rate (K bits/sec)		125	250	
Capacity (K bytes)	Unformatted	Per Track	3.125	6.25
		Per Disk	125	250
	Formatted (16 sectors/track)	Per Sector	0.128	0.256
		Per Track	2.048	4.096
		Per Disk	81.92	163.84
Inside Track Recording Density (bpi)		4473	8946	
Inside Track Flux Density (frpi)		5536		
Surface		1		
Track Density (tpi)		100		
Tracks/Disk		40		
Track Radius (mm)	Outside	32.500		
	Inside	22.594		
Average Access Time (ms)		171		
Track Access Time (ms)		12		
Settling Time (ms)		15		

Features and specifications are subject to change without notice.



TEAC CORPORATION: 3-7-3, Naka-cho, Musashino, Tokyo, Japan Phone (0422) 53-1111

TEAC CORPORATION OF AMERICA: 7733 Telegraph Road, Montebello, California 90640, U.S.A. Phone: (213) 726-0303

© Copyright TEAC CORPORATION