

# Tandon Model TM-100 Mini-Floppy Disk Drives

Tandon's TM-100 family of mini-floppies offer the absolute highest storage capabilities of any 5¼" high-speed, random access disk drive. Available in two single head and two double head models, all double density, the TM-100s provide unformatted storage capacities of 250K bytes to an incredible 1000K bytes of information! And due to Tandon's patented head design (one fixed and one gimbaled), the TM-100 ensures maximum signal transfer and extended media life at a remarkably reasonable price.

**Unsurpassed Storage Capacity** The single-sided Model TM-100-1 offers a storage capacity of 250K bytes unformatted. Track capacity is 40, and recording density is 5535 BPI. The TM-100-2 offers similar capabilities in a double-sided head configuration. 80 tracks are capable of storing 500K bytes information (unformatted) with a recording density of 5877 BPI.

Tandon's TM-100-3 and TM-100-4 provide excellent storage capabilities. The TM-100-3 is the 96 TPI single-sided model, affording 500K bytes storage capacity (unformatted) with a recording density of 5535 BPI.

The TM-100-4 delivers the highest storage capacity of any Tandon double-sided mini-floppy — an incredible 1000K bytes information on 160 tracks. Recording density is 5877 BPI.

Up to four Tandon TM-100s can be daisy-chained on a single bus. With the model TM-100-4, this provides a capability of up to four megabytes of on-line storage (unformatted) in a single system. With the model TM-100-1, a full megabyte of on-line storage is possible.

**Advanced Dual-Head Design** Tandon Magnetics has for years been the leading designer and supplier of read/write heads to most major disk drive manufacturers, and is the only manufacturer that controls the entire head process from R&D through manufacturing. The TM-100 family is the only viable, operative dual-headed mini-floppy series in the industry. This is due in large part to Tandon's patented head design (U.S. Pat. #4,151,573).

This unique design represents a significant improvement over prior technology, and features a fixed bottom head in conjunction with a gimbaled top head. Such an arrangement maintains the transducers in operative relation for maximum flux interchange, but without introducing undue wear.

The Tandon dual recording head is guaranteed for up to 20,000 hours of media contact wear, and  $4 \times 10^6$  passes per track.

**Increased Throughput** Tandon's TM-100 mini-floppies have a track-to-track access time of only 5 milliseconds (an incredible 3 milliseconds double track density). That's more than five times faster than any other mini-floppy on the market. Average access time is only 75 milliseconds (and a remarkable 90 milliseconds in double track density), and head settling time is a mere 15 milliseconds. Due to Tandon's superior design and unique head finish, absolutely no head load time is required. Even when not reading or writing, the head can remain loaded.

**Proven Reliability** Tandon's TM-100s have been designed for total reliability, as demonstrated by the more than 50,000 production models in operation, day-after-day. Every Tandon floppy disk drive design begins with the head itself, assuring dependability throughout each drive.

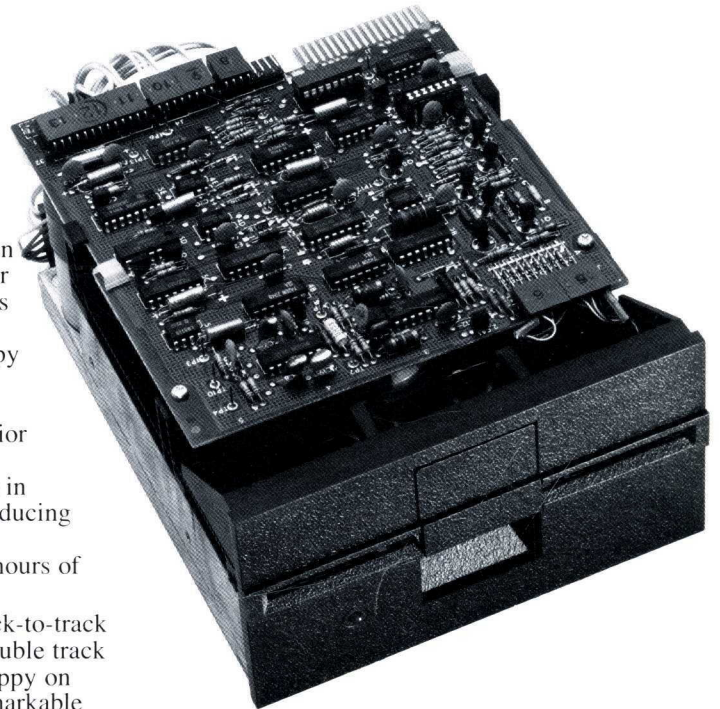
**Functional Characteristics** The TM-100 Mini-floppy Disk Drive consists of read/write and control electronics, drive mechanism, read/write head, and precision (split band) track positioning mechanism. These elements perform the following functions:

1. interpret and generate control signals,
2. move read/write head to the correct position,
3. read and write data.

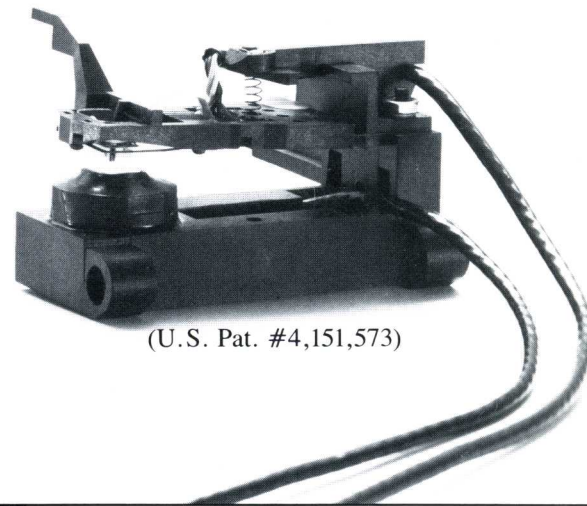
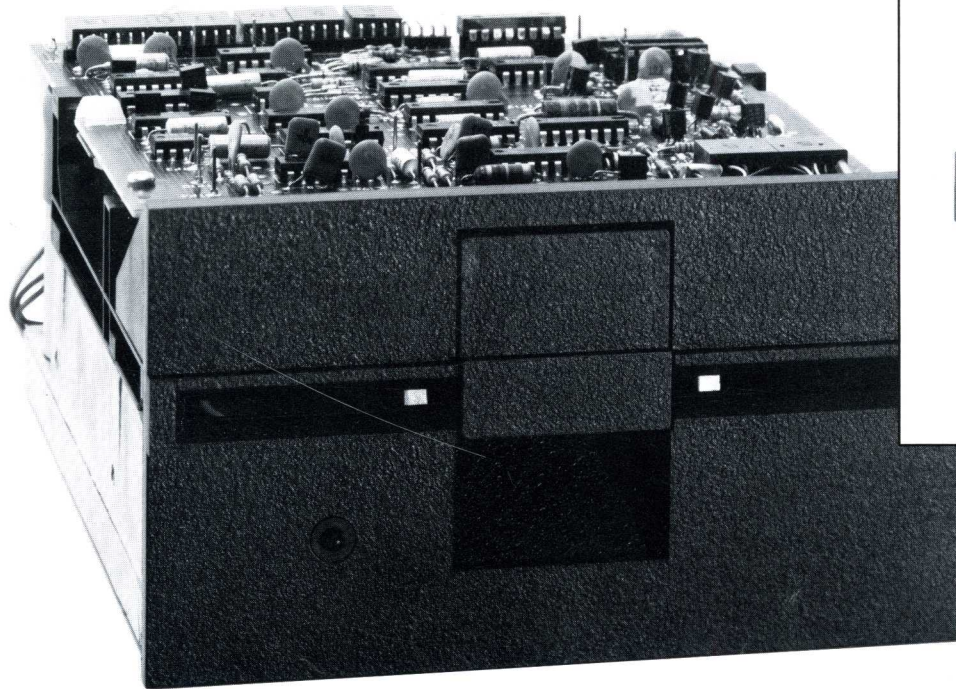
The electronics are packaged on two PCBs which contain logic and read/write circuitry, and motor control.

**Drive Mechanism** The DC drive motor, under linear servo speed control, rotates the spindle at 300 RPM through a belt-drive system.

**Applications Flexibility** Typical applications for the Tandon TM-100 include word processing systems, entry-level microprocessor systems, "intelligent" calculators, program storage, and small business computer systems. In general, the TM-100 is an exceptional choice for any application where low-cost, random access data storage is required.



## Tandon



(U.S. Pat. #4,151,573)

MODEL TM-100-	-1	-2	-3	-4
<b>Recording</b>	Single Side	Double Side	Single Side	Double Side
<b>TPI</b>	48	48	96/100	96/100
<b>Track/ Diskette</b>	40	80	80	160
<b>RPM</b>	300	300	300	300
<b>Capacity (unformatted)</b>				
<b>Double Density</b>	250KB	500KB	500KB	1000KB
<b>Access Time</b>				
<b>Track to Track</b>	5 ms	5ms	3ms	3ms
<b>Average</b>	75ms	75ms	90ms	90ms
<b>Head Settle Time</b>	15ms	15ms	15ms	15ms
<b>Head Load Time</b>	-0-	-0-	-0-	-0-
<b>Power up Delay</b>	1 sec	1 sec	1 sec	1 sec
<b>Start Time</b>	250ms	250ms	250ms	250ms
<b>Stop Time</b>	150ms	150ms	150ms	150ms
<b>Mechanical Dimensions</b>				
<b>Width</b>	5.75	5.75	5.75	5.75
<b>Height</b>	3.25	3.25	3.25	3.25
<b>Depth</b>	8.0	8.0	8.0	8.0
<b>DC Voltage Requirements</b>	+12/ +5	+12/ +5	+12/ +5	+12/ +5
<b>Current Requirements</b>	900ma/ 600ma	900ma/ 600ma	900ma/ 600ma	900ma/ 600ma
<b>Reliability</b>				
<b>MTBF-Typical Usage</b>	8000HR	8000HR	8000HR	8000HR
<b>PM</b>	None	None	None	None
<b>MTTR</b>	.5HR	.5HR	.5HR	.5HR
<b>Error Rates</b>				
<b>Soft Read</b>	1-10 <sup>9</sup>	1-10 <sup>9</sup>	1-10 <sup>9</sup>	1-10 <sup>9</sup>
<b>Hard Read</b>	1-10 <sup>12</sup>	1-10 <sup>12</sup>	1-10 <sup>12</sup>	1-10 <sup>12</sup>
<b>Media Life</b>	4 x 10 <sup>6</sup>	4 x 10 <sup>6</sup>	4 x 10 <sup>6</sup>	4 x 10 <sup>6</sup>

# Tandon

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Heads above the rest in disk technology.