80 Megabyte
5 1/4" Winchester
Disk Drive From
Computer Memories

CM 7000 features:
- Capacities of 60 and 80 megabytes unformatted.
- 40 millisecond average access time
- Closed loop servo positioner
- 15.74 megabytes formatted data per platter
- Proven Winchester technology
- Identical mounting to standard 5 1/4" floppy drives
- Interface compatible with readily available controllers
- Internal microprocessor
- Step-pulse buffering
- Head velocity profile control
- Optimized temperature compensation
- High output, high resolution heads
- All electronics and motors located outside clean area
- Parking zone
- Head locking mechanism
CM-7000 disk drive product information. The Computer Memories CM-7000 series of Winchester disk drives offers exceptionally high storage capacities in a minifloppy size package. The CM-7000 series is offered in 60 and 80 Mbyte versions, with an average access time of only 40 msec. The intelligent integration of Winchester technology with solid and proven design techniques assures the OEM the ultimate in quality and reliability, thus profitability.

System integration is simplified because the CM-7000 series have the identical physical dimensions and mounting hole locations as a standard 5¼ inch floppy disk drive. DC voltage requirements are also the same as a mini-floppy drive, thus permitting the use of the same power supplies for both types of drives.

The exceptionally high capacities, performance and features of the CM-7000 series are achieved through the use of a closed loop servo positioning system, onboard microprocessor, step-pulse buffering, head velocity profile control, narrower track width and gap length manganese zinc heads, parking zone, head locking mechanism and associated electronics as well as innovative mechanical design. Utilization of a swing-arm actuator used in concert with the appropriate electronics and head configuration achieves a track density of 1173 tpi and a bit density of 9275 BPI.

### CM 7000

#### Performance Specifications:

<table>
<thead>
<tr>
<th>Capacity</th>
<th>CM-7660</th>
<th>CM-7880</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unformatted Per Drive</td>
<td>60 Mbytes</td>
<td>80 Mbytes</td>
</tr>
<tr>
<td>Unformatted Per Surface</td>
<td>9.99 Mbytes</td>
<td>9.99 Mbytes</td>
</tr>
<tr>
<td>Unformatted Per Track</td>
<td>10.4 Kbytes</td>
<td>10.4 Kbytes</td>
</tr>
<tr>
<td>Formatted Per Drive</td>
<td>47.22 Mbytes</td>
<td>62.97 Mbytes</td>
</tr>
<tr>
<td>Formatted Per Surface</td>
<td>7.87 Mbytes</td>
<td>7.87 Mbytes</td>
</tr>
<tr>
<td>Formatted Per Track</td>
<td>8.2 Kbytes</td>
<td>8.2 Kbytes</td>
</tr>
<tr>
<td>Formatted Per Sector</td>
<td>256 bytes</td>
<td>256 bytes</td>
</tr>
<tr>
<td>Sectors/Track</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Transfer Rate</td>
<td>5.00 Mbits/sec</td>
<td>5.00 Mbits/sec</td>
</tr>
<tr>
<td>Access Time (includes settle time)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Track to Track</td>
<td>10 msec</td>
<td>10 msec</td>
</tr>
<tr>
<td>Average</td>
<td>40 msec</td>
<td>40 msec</td>
</tr>
<tr>
<td>Maximum</td>
<td>80 msec</td>
<td>80 msec</td>
</tr>
<tr>
<td>Average Latency</td>
<td>8.3 msec</td>
<td>8.3 msec</td>
</tr>
</tbody>
</table>

#### Functional Specifications:

- Rotational Speed: 3573 rpm
- Recording Density: 9275 bpi
- Flux Density: 9275 csi
- Track Density: 1173 tpi
- Cylinders: 960
- Tracks: 5760
- R/W Heads: 6
- Disks: 3

#### Physical Specifications:

- **Environmental Limits**
  - Ambient Temperature: 50°F to 115°F (10°C to 46°C)
  - Relative Humidity: 8% to 80%
- **DC Power Requirements**
  - +12 VDC ± 5% typical: 3A seeking, 1A on track max: 3.5A
  - +5VDC ± 5% 0.9A typical, 1.0A max
- **Mechanical Dimensions**
  - Height: 3.25 in. (82.6 mm)
  - Width: 5.75 in. (146.1 mm)
  - Depth: 8.00 in. (203 mm)
  - Weight: 5 lbs. (2.3 Kg)
- **Heat Dissipation**: 100 BTU/hr. typical (28.5 watts)

#### Reliability Specifications:

- MTBF: 12,000 POH typical usage
- PM: Not required
- MTTR: 30 minutes
- Component Life: 5 years
- **Error Rates**
  - Soft Read Errors: 1 per 10¹⁰ bits read
  - Hard Read Errors: 1 per 10¹² bits read
  - Seek Errors: 1 per 10⁶ seeks