

**BBC COMPATIBLE 3½ DISK DRIVE**



- CSX351 is a single sided 40 track drive giving 125K Bytes unformatted single density capacity and 250K Bytes in double density recording mode.
- CS351 as CSX351 but includes integral power supply unit.
- CSX354 is a double sided drive with 80 tracks on each side giving a total unformatted capacity of 500K Bytes single density and 1m Bytes in double density recording mode.
- CS354 as CSX354 but includes integral power supply unit.
- CDX352 is a dual drive offering 2 x 40 track single sided disk drives. Total storage capacity is 250K Bytes unformatted in single density and 500K Bytes unformatted in double density recording mode.
- CD352 as CDX352 but including integral power supply unit.
- CDX358 is a dual drive offering 2 x 80 track double sided disk drives. Total storage capacity is 1m Bytes unformatted in single density and 2m Bytes unformatted in double density recording mode.
- CD358 as CDX358 but including integral power supply unit.
- All drives Shugart SA400 compatible.
- Fast Head positioning time is achieved by advanced stepper motor and steel belt driving method.
- High reliability ceramic head, small stepping motor and powerful direct D.C. drive motor have been designed and developed providing higher accuracy and reliability.
- Maintenance free operation is achieved by the adoption of a direct drive brushless motor.

These mini floppy disk systems have been designed to provide on-line disk storage that will easily interface to the B.B.C. microcomputer. The drives are housed in attractive cabinets. The 'X' versions are supplied with power plug and cable to connect directly to the B.B.C. power unit. The CS and CD versions are supplied with an integral power supply unit, mains power cable and moulded mains plug. The computer interface is via a 34 way ribbon cable which is inserted into the cabinet and secured by a cable clamp.

Based upon high quality Japanese mini floppy disk drives, the units are interface compatible with Shugart SA400.

Address selection is easily accessible on the upper printed circuit board (P.C.B.) for interfacing up to 2 drives. An L.E.D. indicator shows which unit has been selected by the computer.

Head positioning, track zero and write protect are controlled by an 'on board' microprocessor. Diskettes can be physically write protected by removing a tab from the envelope.

All units are tested individually and then run on one of our system test computers. We have disk test software and hardware which ensures that the full capacity of the unit has been tested, that alignment and mechanical adjustments are correct and that the drives conform to our rigorous specification.

Cumana give full 12 months warranty and all units are delivered in professional, re-usable packaging to enable us to offer a fast and efficient maintenance service on units returned to our workshops, should this be required.

## CUMANA MINI FLOPPY DISK SPECIFICATIONS

	<b>CSX351/CS351</b>	<b>CSX354/CS354</b>	<b>CDX352/CD352</b>	<b>CDX358/CD358</b>
<b>Media</b>	3½ inch Diskette	3½ inch Diskette	3½ inch Diskette	3½ inch Diskette
Tracks per inch	67.5	135	67.5	135
Number of Tracks	40	80	40 x 2	80 x 2
Single/Double sided	Single	Double	Single	Double
<b>RECORDING PARAMETERS</b>	<b>Single/Double Density</b>	<b>Single/Double Density</b>	<b>Single/Double Density</b>	<b>Single/Double Density</b>
Encoding method	FM/MFM	FM/MFM	FM/MFM	FM/MFM
Transfer Rate	125/250K bits/sec.	125/250K bits/sec.	125/250K bits/sec.	125/250K bits/sec.
Bits per inch	3125/6250	3125/6250	3125/6250	3125/6250
Bytes per disk (unformatted)	125,000/250,000	250,000/500,000 x 2	250,000/500,000	500,000/1,000,000 x 2
<b>ACCESS TIME</b>				
Average	97 ms	96 ms	97 ms	96 ms
Track to Track	6 ms	3 ms	6 ms	3 ms
Settling Time	15 ms			
Rotational Speed	300 rpm			
MTBF	10,000 power on hours			
MTRR	0.5 hour			
D.C.Current				
12V+/-5%	300 M.A. (Typical), 850 M.A. (max) at motor start			
5V+/-5%	320 M.A. (Typical), 420 M.A. (max)			
<b>AMBIENT TEMPERATURE</b>				
At Operation	5-45 Deg/C			
Relative Humidity at Operation	20-80% RH (Wet-Bulb temp under 29 Deg/C non-condensing)			

## CUMANA DISK SYSTEM SPECIFICATIONS

Power	220-240 Volts a.c.
Controls and indicators	Power ON/OFF (on rear panel of CS/CD versions) 1 amp Mains Fuse (on rear panel of CS/CD versions) LED Drive selected indicator, manual door lock and diskette eject button on the front panel of each disk unit

E. & O.E.

*NOTE: It is our policy to take advantage of new techniques and components as they become available. Cumana therefore reserve the right to alter specifications at any time.*

*For further information contact:*

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