

## MARK 3B PRODUCT DESCRIPTION

### The Product

The Mark 3B has all the features of the Mark 3 computer except that the streaming tape controller has been replaced by a Shugart 850 compatible floppy disc controller.

### The Market

#### Low End Single User

A single user Mark 3B system with dual floppy disc drives can be offered at prices substantially lower than a hard disc system. OEM's who have existing IRIS based application software can offer their proven software at micro computer prices with the advantage of upgrading the system to multi users and more disc storage by simply connecting a hard disc to the existing SMD/CMD/LMD disc controller.

#### Trade-up Strategy

When competing with micro computers, the OEM can quote an inexpensive IRIS based floppy system to qualify on price. He then has the opportunity to convince the buyer of the advantages of going with a hard disc for more performance before installing the system.

#### Applications Requiring Floppy Disc's for Data Transfer

Many applications are suitable for floppy drives and diskettes are the preferred medium to transfer information between systems. The Mark 3B will be provided with a software driver to read IBM interchange format "1", commonly known as 3740 format. This permits the Mark 3B with 8" disc's to read and write IBM compatible diskettes. Diskettes from non IBM floppy based systems who use the IBM recording format will also be compatible with the Mark 3B.

### Technical Data

#### Hardware Differences - Mark 3 and Mark 3B PIB Board

	Mark 3	Mark 3B
Four Async Ports (9600) Baud	Standard	Standard
64KB Memory	Standard	Standard
3 Port Async Mux Expander Option Available	Yes	Yes
64KB Memory Expander Option Avail.	Yes	Yes
4 Port Archive 1/4" Streaming Tape Interface	Yes	No
4 Port Shugart 850 Floppy Disc Interface (8" or 5 1/4")	No	Yes
2 Port CMD, SMD, LMD, MMD, PMD Hard Disc controller	Standard	Standard

## Floppy Interface Specifications

The Mark 3B uses a Shugart 850 soft sectored interface. It supports single and double sided, single and double density drives with "head-load-on-select" jumper installed in the drive.

The interface will support either 8" or 5 1/4" disc drives but not both simultaneously. The drive type must be specified with each order because the two types require different connectors, cables, and timings.

The interface supports four drives. The following IBM formats are supported as specified in document GA21-9388-0:

IBM 1	PM
IBM 2	MPM
IBM 2D	MPM

## IRIS Software for Mark 3B

Point 4 will provide software that will give a floppy disc system consisting of double-sided/double-density 8" floppies all of the features and capabilities associated with a standard IRIS disk configuration. The following software will be available:

Discutility - Format and Analyze  
Copy  
Save from Hard Disc - Floppy  
Restore from Floppy - Hard Disc

IRIS - R7 and R8 Drivers  
Read Foreign Drivers (Read/Write IBM  
Format 1 Diskettes) - File System Independent

## Questions

1. What capacity must I have on floppy disc drives for a floppy only system?

IRIS LU/O as presently configured uses about 750KB. If no changes are made to LU/O the minimum acceptable capacity for the system floppy disc would be about 1MB formatted. It is recommended that an IRIS LU/O diskette not be used with any other logical unit.

Any floppy only system must always be configured with two drives.

2. How do I change my existing Mark 3 to a Mark 3B?

Order a Mark 3B PIB and order a new PROM set for the CPU, make a single cut and single jumper on the CPU if not already supplied that way to allow floppy and Mux to work together.

3. How Can I Change Between 8" Floppy Drives and 5 1/4" Floppy Drives?

Swap from 8" to 5-1/4" diskette cable, add two jumpers and make a potentiometer adjustment.

4. How do I move my software from:

A. Mark 3 to a Mark 3B?

Move the disc now used on the existing Mark 3 to the hard disc interface on the new Mark 3B. U.COPY will transfer your software to diskette.

B. Mark 5 to Mark 3B? - One of the following

1. Use the cassette tape unit and CTUTILITY to transfer non LU/0, or
2. Using the Mark 3 Discutility CONVERT function which requires Mark 3B to have (at least temporarily) two disk drives that are equivalent to the Mark 5 drive. Once the CONVERT is performed from the Mark 5 disk to the second disk on the Mark 3 use COPY or U.COPY to transfer files to the diskette, or
3. You can connect mux to mux and use \$COM to transfer text files.

C. Mark 3B to Mark 5? - One of the following

1. Use cassette tape unit and CTUTILITY for data, not LU/0, or
2. Use new Mark 5 Discutility (CONVERT function, available Dec. '82) and a Mark 5 with new Lotus 700 controller to support this feature. Temporarily connect Mark 3B hard disc to Mark 5, create Mark 5 using CONVERT to another like disk. Use U.COPY to copy to another Mark 5 disk or connected disk on Mark 5, or
3. Connect mux to mux and use \$COM to transfer text files.

5. How do I upgrade a dual floppy Mark 3B system with a hard disc?

Select a hard disc that is listed in the current Mark 3 IRIS Peripherals Handbook. Connect it to the SMD port of the Mark 3B.

For initially released systems use SAVE/RESTORE SMD to restore a copy of users hard disk to create LU/0.

Using the new diskette utility (available February '83) supplied on diskette, create IRIS LU/0 on hard disc. Then install the floppy controller as a "second controller" and move applications using U.COPY.

6. Can all Point 4 application software run on the Mark 3B?

Yes, however while TYPYST and Stylus will perform well the response time using Readinet or FORCE may prove to be unacceptable. Multi-user response will be favorably affected by using extended memory (128Kb).

7. How do I back up:

A multiple floppy system?

Use Mark 3 Discutility COPY. (A specific sequence might be: Copy Drive 0 diskette to scratch diskette on Drive 1, then copy original Drive 1 diskette to scratch diskette on Drive 0.)

Hard disc/diskette?

Use new hard disc SAVE/RESTORE (available in December 1982).

8. Can I read 8" or 5 1/4" diskettes from CPM systems?

If the 8" diskette is written in IBM 1D interchange format (single-sided, single-density), the diskette can be read. It will then be the responsibility of an application program to interpret the file structure.

There is no standard in the 5 1/4" world, therefore further investigation will be required.

9. What manufacturers of floppy disc drives will Point 4 qualify?

We are now looking at various products currently available. Some are:

	8"	5 1/4"
Shugart	850/851	400/450/460
CDC	9406-4	9408
Remex	RFD4000	RFD 480/RFD 960
Siemens	200-8	200-5

10. Will Point 4 supply floppy disc subsystems?

Floppy disc subsystems are freely available worldwide at very low (and dropping) prices. Point 4 does not plan to offer floppy disc subsystems, but will qualify a variety of products to assure the O.E.M. that they will function with the Mark 3B and IRIS.

11. Can I connect a mini winchester disc to the Mark 3B?

Some mini Winchester discs are available with Floppy interfaces and look like "big floppies" to the controller and mini winchester disks are available with a SMD/CMD/LMD interface. POINT 4 will be testing some of these units.

Most mini-wini drives use the SASI interface that cannot be connected to the Mark 3B.

12. Will Point 4 help OEM's obtain peripherals, subsystems and desk mounted chassis for the Mark 3B?

Point 4 will be talking to our distributors and master dealers about suppliers who could offer chassis (rack mounted and desk-top), equipped with both hard disc's and floppy discs or floppy disc only. More information will be available later.

13. Can I have streaming tape and floppies on a single Point 4 system?

No, the Mark 3 will support streaming tape, the Mark 3B supports floppy drives and the Mark 5/8 supports neither.

14. When will the Mark 3B be available?

First introductions of the Mark 3B will be at COMDEX/Las Vegas and COMDEX/Amsterdam in November. First production shipments will be in December 1982.

15. How many users can operate simultaneously on a dual floppy system?

Preliminary tests indicate single user response time is good. Multi-user response time is application and memory size dependent. Point 4 will be running performance tests to ascertain multi-terminal response time.

The floppy only configuration is conceived as a single user system but will support multi-users in some applications.

16. What is the price of the Mark 3B?

All Mark 3 computers have the same list price and all OEM discounts apply.