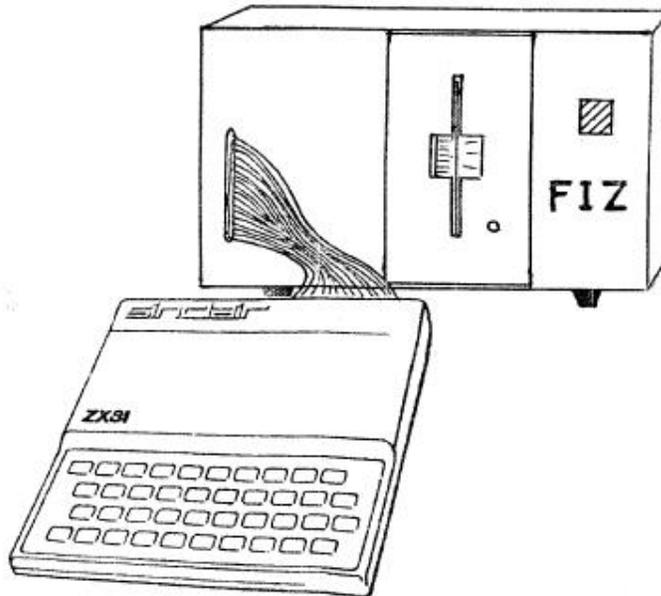# MACRONICS
26 SPIERS CLOSE - KNOWLE - SOLIHULL
WEST MIDLANDS B93 9ES - UNITED KINGDOM

MACRONICS F.I.Z.
Floppy Interface for ZX81

This is a low-cost disk file storage unit designed to interface to the Sinclair ZX81 and to become the basis of a complete computer system for Educational, Small Businesses or Domestic users.

The Hardware comprises:-
*   A Shugart SA400(or equivalent) 5¼" Diskette Drive.
*   Motherboard with connectors for interface cards for the 16K RAM pack mounted internally, and for the ZX81.
        (for users who have modified their ZX81 by adding a full-size keyboard an adapter kit will be available to permit internal mounting of the ZX81 P.C.E., the only external connections being to the keyboard)
*   Power Supply - also powers ZX81
*   Attractive Cabinet.
*   Uses 10 sector diskettes.
*   TTL Interface - no expensive disk controller

Capacity and Performance
34 tracks and 1 directory track
10 x 128 byte records per track
File size any multiple of 1280 bytes up to 43520 bytes.
Program loading speed - approximately 22 seconds for an 8K program.

Productions of the Macronics Floppy Interface for the ZX81 system is due to commence in February 1982 and first deliveries are expected to be made towards the end of March.

At first, production will be limited, orders will be fulfilled in strict rotation, and only on a "cash with order" basis.

---ORDER   FORM--

To: Macronics, 26 Spiers Close, Knowle, Solihull, West Midlands B93 9ES

Please supply ...... 'Floppy Interface for ZX81' unit(s) at £259.00 + £4.50 carriage + VAT.
(Export Orders - No VAT but carriage at cost.)

Cheque No. .... Total £............
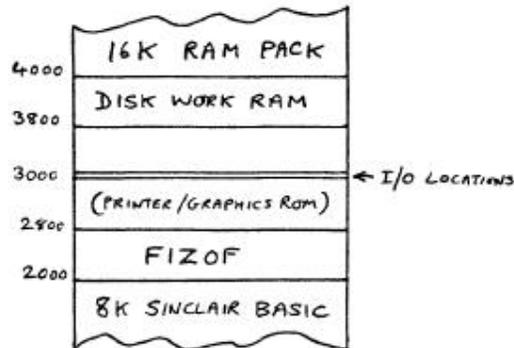
Name   Mr./Mrs./Miss. ....
Address ....
         ....
Post/Zip code .... Date ..../..../....

MEMORY MAP

The 2K Operating Firmware ROM starts at 2000 Hex.

There is 2K of CMOS Static RAM at 3800 Hex.
this is worksspace for the disk system but the first 128 bytes may be used for short machine code programs.

Input/Output is memory mapped, normal Z80 I/O is too slow for the disk system and tends to produce disturbing patterns on the TV screen.

PHYSICAL LAYOUT
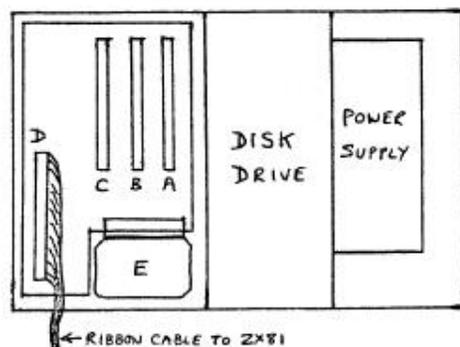
A - Slot occupied by disk interface card
B+C - Spare slots.
D - Slot for ZX81 connecting cable (or for ZX81 PCB adapted for large keyboard)
E - 16K RAM mounted inside cabinet to overcome "drop-out problem".

Macronics is to produce a range of interface cards for the spare slots, the first of these will be for the Seiko plain paper graphics printer.

Later in 1982 a Network card will be produced which will enable a number of ZX81s to be connected to a master disk unit so that the costs and difficulties of file storage are minimised. This would be useful in a learning lab of classroom situation.

<div align="center">

MACRONICS FIZOF Version 1.0
Floppy Interface for ZX81-Operating Firmware

</div>

The disk interface programs are held in 2K of Read Only Memory and do not take up space in RAM, however space in the BASIC variables area is needed to pass parameters and data between the Sinclair BASIC systems and the disk interface.

The following Reserved Variables must be dedicated to the disk system in any program which is to be stored on disk:
F$ Filename.Type   e.g. MUSIC2.BAS
- and in any program which is to use disk data files:
R$(128)   128 bytes data record
R   Record No./No. of records.

Other Reserved Variables may optionally be used for Statements and Commands but where memory is limited numeric addresses may be used instead.

LET E =USR(9999) is used either directly or in a program to load all the Reserved Variables into the Variables area. Thereafter the following functions may be actioned by name in the form LET E =USR(WRITE) etc. where E is an error code returned to BASIC:-

INIT   Same as USR(9999)
DSAVE   Saves program currently in memory on disk with the name F$
DLOAD   Loads program with name given by contents of F$.
DIR   Lists Filename.Type and length of all files on disk.
STAT   Prints full details and Narrative for a particular file.
CREATE   Opens a new data file of length R, each record being 128 bytes.
WRITE   Writes the contents of R$(128) to record R of file F$
READ   Reads the contents of record R of file F$(128) into R$(128)
KILL   Delets file F$ from the disk
NEWD   Newdisk - Creates a new directory track containing only the disk identity
            details. Optionally performs a Read/Write check on all sectors.