Memotech 5·25" Disc System
Runs CP/M 2.2 with 1000's of tried and tested applications programs.
options include:
Digital Research CP/M 2.2
with
New Word Word Processor
SuperCalc spreadsheet analysis
Memotech Disc Basic
Contact Communications Program
Disc Drive plus Disc Controller
80 Column Colour Display board
Twin RS232 Interfaces
250K, 500K or 1MB Drive Capacity
MicroPro.
MicroPro.
MicroPro.
MicroPro.
PBAS
Sales Ledger
Purchase Ledger
Nominal Ledger
SAGE
LEVEL II COBOL
prophet
MICROSOFT
muLISP /muSTAR
SuperSoft
STOCK CONTROL
EQUITY AS A PERCENT OF ASSETS
PERCENT
1980
1981
1982
SORCIM
MEMOREX
PUSH
DRIVE B
MEMOTECH
PUSH
MEMOTECH
SDX CONTROLLER
MEMOTECH
CP/M
Illustrated: Twin Drive CP/M System with 80 Column Colour Display

Memotech 5·25" Disc System

TECHNICAL DESCRIPTION

Memotech have kept one thought uppermost in the design of this new disc system – expandability. The design is such that a user may purchase a system which initially provides high speed data and program storage, with a powerful set of file handling commands, running under Memotech floppy disc BASIC. Disc drive capacities of 250K, 500K and 1Megabyte are currently available. At a later date, the system may be expanded to run Digital Research CP/M 2.2, and all the pre-written software packages that are available under this industry standard operating system. Whether the user is experienced in the use of disc operating systems, or it is just starting out, the Memotech disc system will provide an appropriate starting point.

The Hardware

The Memotech 5¼" Disc System hardware consists of three separate units:

1 – Disc Drive Unit

A 5¼" Disc Drive, which may be 250K, 500K or 1MByte capacity, and power supply form the drive unit. These are housed in a black case which is connected by a ribbon cable to the disc Controller Board.
The overall function of this unit is to supply power to the drive, and carry out the mechanics of reading and writing diskettes.

2 – Disc Controller Boards – FDC03

The Disc Controller Board lives in a brushed aluminium case, the profile of which matches the MTX. The unit is externally fitted to the left hand side of the computer, and takes data from the Z80 processor and organises the way it is saved on disc, so it may be quickly and accurately retrieved.

Disc Controller Board Capabilities

The Disc Controller Board is capable of controlling two floppy disc drives. These may be any mix of 5¼" or 3½" single or double-sided, single or double density drives with Shugart standard interfaces.

Disc Controller Board Software

The disc handler software has been written especially for the FDC03 controller board. It allows for 8 possible drive configurations, which range from 5¼" or 3½" single sided, single density, 40 Track drives to 5¼" or 3½" double sided, double density 80 Track drives. This gives a storage capacity range of from 250KBytes to 1MByte. The FORMAT program supplied with the system is capable of formatting diskettes to any of these configurations.
For maximum compatibility, 48 TPI disc drive formats are supported on 96 TPI drives, so that a double density 1MByte disc drive is capable of reading single density diskettes.

3 – 80 Column Display/Twin RS232 Board

The 80 Column Board

The visual display system built into the 80 Column/RS232 board is a powerful and complex piece of hardware, and it therefore has a comprehensive set of control codes, which are described below.
An 8K character generator prom is provided, containing ALPHA characters and bit-mapped GRAPHICS characters. The 256 entries in the ALPHA section are split up into 3 groups:

1 the STANDARD character set of 96 characters,
2 the ALTERNATE set of 96 condensed characters, and
3 64 special graphics symbols (additional to the bit-mapped GRAPHICS set).

The GRAPHICS character section simply contains all the 256 possible combinations of the 8 pixels available in a graphics character block.

MONOCHROME DISPLAY FEATURES	COLOUR DISPLAY FEATURES
Underline	Red foreground
No effect	Green foreground
Bright	Blue foreground
No effect	Red background
Reverse 1	Green background
Reverse 2	Blue background
Flash	Flash
Graphics	Graphics

Character Sets

ASCII Code	Character Set
0– 31	Special graphics set
32–127	Standard Alpha set
128–159	Special graphics set
160–255	Alternate Alpha set
plus	
0–255	Bit-mapped Graphics

Additionally, 48 Control and Escape sequences are provided, covering home cursor, plot points, clear screen, etc., to give complete control over screen operations.

Twin RS232 Interface option

The Twin RS232 Interfaces available on the 80 column board function completely independently, and may be used to control external devices such as modems and serial interface daisywheel printers, etc., plus the Memotech Local Area Network.

RS232–0 (CHANNEL A) Control Lines available:	RS232–1 (CHANNEL B) Control Lines available:
1 RXDA	1 TXDB
2 TXDA	2 RXDB
3 DTRA/RTSB	3 DTRA/RTSB
4 CSTA	4 CTSB
5 OV	5 RIB
	6 DTRB
	7 OV
	8 DCDB

Control Line Descriptions

RXDA, RXDB – Receive Data, (inputs, active high)
TXDA, TXDB – Transmit Data, (output, active high)
DTRA, DTRB – Data Terminal Ready, (outputs, active low)
CTSA, CTSB – Clear to Send, (inputs, active low)
RTSB – Request to Send, (outputs, active low)
RIB – Ring Indicator, (input, active low)
DCDB – Data Carrier Detect, (input, active low)

The Software package

Two different software packages are supplied, dependent upon whether a particular system runs CP/M or Memotech's BASIC operating system.

The CP/M Software package (500K+) includes the following:

CP/M 2.2– Operating System and licence, with all utility programs, including:
STAT.COM For checking disc free space and setting up Input/Output.
FRMSDX.COM and **FORMAT.COM** For formatting blank discs (CP/M O/S).
SYS.COM and **SYSCOPY.COM** For copying the operating system on to formatted discs.
COPY.COM For copying files across discs (BASIC O/S).
PIP.COM For copying files across discs and to and from Input/Output devices (CP/M and BASIC O/S).
ENTER.COM For executing sub files in batch processing.
SUB.COM As above.
FDXB.COM Memotech disc BASIC, supporting Random and Sequential disc files, plus memory block read and write and auto start programs.
CONTACT.COM Modem Communications software. Designed for Modem control/terminal Emulation, CONTACT supports both RS232 Channels at baud rates from 300 to 9600, with full control over Half/Full Duplex, Parity, automatic save to disc, etc.

F.COM Function Key Definer. Enables any command or command string to be assigned to one key.
ERAQ.COM Provides Yes/No option to delete files or groups of files.
MTX.COM When executed passes control to the ROM Basic 40 column system.
EPROM.COM A menu driven program which creates disc files suitable for loading on to EPROMS.
NEWWORD– NewStar Associates Word Processing Package. As sophisticated and powerful as any package on the market, NewWord has all the facilities of a professional level word processor plus built-in user friendliness.
SUPERCALC– Supercalc by Sorcim Inc is a tried and tested spreadsheet the applications of which include accounts processing, financial forecasting, preparation of price lists, home accounts, etc., with the ability to easily alter data and ask "What if?" type questions.

Dependent upon whether one or two drives is present, Memotech supplies its own modified versions of CP/M utilities PIP, STAT and FORMAT, so that a single disc CP/M system can provide the functions normally available on twin drive systems only.

Disc BASIC Operating System (250K+)

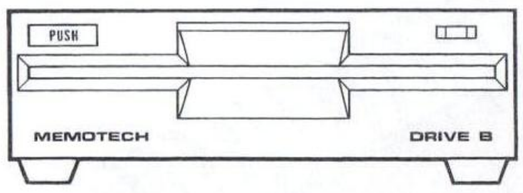
Included on the disc supplied with a system using BASIC to control disc file handling, are:

RENUMBER BASIC Renumber program.
HDB Hexadecimal to Decimal to Binary converter.
Two Games With Memotech's compliments.

All Utility programs, (FORMAT, COPY, etc.) are supplied on a ROM, which is installed on the controller board case.

NewWord is a registered trademark of NewStar Software Inc.
CP/M is a registered trademark of Digital Research Inc.
SuperCalc is a registered trademark of Sorcim Inc.

MEMOTECH

Memotech Limited, Station Lane Ind. Est., Witney, Oxon. OX8 6BX.

Memotech Corporation, 99 Cabot Street, Needham MA 02194 USA