

NewBrain

OASI Trust
I - Income
O - Outlays
B - Balance at start



NewBrain

The NewBrain is a Personal Computer designed for business, professional, scientific and technical use, for educational purposes and for the home.

In these areas demand a reliable, cost-effective computer built to a high specification and with the ability to expand easily. NewBrain meets these requirements handsomely, offering the following comprehensive specification.

NewBrain HARDWARE

The Powerful Z80A

The most widely used of the latest microprocessors enables the NewBrain to take advantage of a wide range of readily available software.

32K Random Access Memory (RAM)

32K of memory is standard on all models. When an 80 column video display is selected over 28K of RAM is available for user program and data. When a 40 column display is selected, this rises to over 30K.

28K Read Only Memory (ROM)

28K of ROM resident systems software including BASIC, Operating System, Maths Pack, Screen Editor and Device Drivers.

Keyboard

The NewBrain has a full size standard patch typewriter keyboard which has been designed to accept the high burst rate keying of the professional touch typist and at the same time is easy for the inexperienced to use.

Built-in Display (Model AD)

NewBrain's built in vacuum fluorescent display has large, easily read letters. The fourteen segment pattern represents letters, numbers and punctuation symbols in a natural and pleasing form. The display is tilted forward, it has a wide viewing angle and the blue-green colour minimises eye fatigue.

Dual Cassette Ports

Two tape recorders can be connected to a NewBrain - these allow updating and copying of files as required. The NewBrain output may be adjusted easily to match the majority of available



NewBrain SOFTWARE

NewBrain comes complete with some impressive software: the BASIC compiler, an enhancement of the ANSI standard language, the powerful operating system, the leading point Mathematical Package accurate to ten significant figures, the Screen Editor which provides cursor control for screen and line formatting and editing



and the Graphics Package permitting the drawing of lines and arcs with ease as well as giving a full plotting capability. All of this software is included in ROM and additional ROM slots are available in the ROM Buffer Expansion Module. This additional software can either extend or replace the software already present and includes Z80 Assembler, COMAL, language system, the Statistics Package and the Text Processing Package.

CP/M* the world's most popular operating system for disk based microprocessor systems is to be available with NewBrain. A very wide selection of applications programs and languages is thus readily available.

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NewBrain EXPANSION

NewBrain expansion boxes connect to both models and may be clipped under the main module or built up into separate stacks.

ROM Buffer Expansion Module

This module is required for all expansion of models A and AD with the exception of the battery back-up module and provides the necessary additional expansion circuitry as well as some extra ports.

- Memory paging circuitry enabling up to 4Megabytes of memory to be addressed.
- Parallel input and output ports for interfacing communications and control.

e.g. of laboratory equipment

- Input and output analogue ports for joystick controls and laboratory apparatus
- Two fully autonomous multi-speed V24 ports

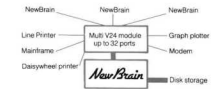
This module is required for all expansion of models A and AD with the exception of the battery back-up module and provides the necessary additional expansion circuitry as well as some extra ports.

Memory Expansion Modules
These modules contain 64K, 128K, 256K or 512K of memory. A maximum of four modules may be connected to increase RAM to an astounding 2 Megabytes.

Multiple Communications (Network) Modules

These modules contain 8, 16 or 32 additional bi-directional V24 ports so that NewBrains may be connected together allowing the

sharing of expensive peripherals at minimal cost. These allow for simultaneous communications between a NewBrain and a multitude of peripherals and services.



Tape output level controls

Dual cassette interface connector for program and data storage

RS232C/V24 interface connector for VDUs, modems etc.

RS232C/V24 printer interface connector

Composite video connector for standard video monitor

Expansion connector

TV connector for domestic TV sets

16 character blue-green display represents characters in ASCII/ISO 64 character teletype shift

Power connector

Hardwiring ABS case

Control key enables all 32 ASCII/ISO control codes to be generated

Shift key operates as standard typewriter shift, allowing the generation of all 64 upper and lower case ASCII/ISO printing characters. Shift lock is provided under software control.

Repeat key

Graphics key enables the 64 viewpoint graphics symbols to be produced, or other graphics symbols, according to mode of use.

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YOUR COMPUTER

Cursor control keys for line and screen editing. These keys repeat automatically if held down

Video text key used in conjunction with the NewBrain video text module

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TECHNICAL SPECIFICATION

HARDWARE

Model A and AD

Z80A microprocessor running at 4MHz
COP 420M micro controller with 1K system ROM
32K byte RAM
28K ROM
Dual 1200 baud cassette ports with drive motor control
75 ohm UHF channel 36 output
CCITT 1v, 75 ohm composite video output
RS232/V24 Bi-directional port
RS232/V24 Printer port
(both RS232/V24 ports are software driven and non-autonomous)

Character Generator provides 512 characters including the 96 upper and lower case ASCII/ISO printing characters, 64 viewdata mosaic graphics symbols, Western European accented characters, full Greek upper and lower case characters, line drawing graphics, games graphics and other symbols generated in 8 x 10 and 8 x 8 matrices. Video and UHF outputs provide a display of up to 25 or 30 lines of 40 or 80 characters per line. A high resolution display of up to 250 dots vertically by 256, 320, 512 or 640 dots horizontally may be mixed with a separately scrollable character mode display.

Model AD

An on-board blue-green vacuum fluorescent 16 character, 14 segment display behind a brown tinted filter.

SOFTWARE

Enhanced ANSI BASIC

Independent operating system
Uniform I/O commands to handle up to 255 active streams
Full user proofing of applications programs
Direct interrupt handling capability

Unlimited length string handling
Chaining and run time program generation
External Call capability
All major routines RAM vectored

Screen Editor

Up to 255 pages each with up to 255 lines of 40 or 80 characters, or continuous lines
Insertion and deletion of lines and characters

Send page, line and character
Access to all functions from keyboard or line
Selectable character sets
Direct cursor addressing

Maths Pack

10 significant figure floating point arithmetic

2ms multiply
All trigonometrical and inverse trigonometrical functions

Graphics

Absolute and relative plotting
Line and arc drawing

Scaling
English language BASIC commands

Optional Read Only Memory Additions in NewBrain expansion boxes

Z80 Assembler
COMAL
CP/M® Disk Operating System

Statistics Package
Text Processing Package

... and many more planned.

Disk Memory Module

These modules support 5 1/4" floppy disk drives storing from 100K bytes to 1 Megabyte and Winchester disk drives storing from 4 1/2-18 Megabytes. Each module will support up to four drives.

Battery Back-up Module

This module, using rechargeable batteries, protects the NewBrain from failure of mains power supply and provides a fully charged battery life of about 1 1/2 hours. The standard NewBrain power supply is used for recharging the batteries even while the NewBrain is being used.

Videotext Module

This module enables communications between the NewBrain and Teletext, Prestel and other Viewdata and Videotext services.

These expansion modules will be introduced progressively throughout the coming months and further expansion modules are in development.

NewBrain PERIPHERALS

A wide range of carefully selected video monitors and printers are available to match the NewBrain range. Floppy and Winchester Disk Drives will be available to communicate with the NewBrain expansion modules.



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