



Expanded Memory Board

You can go on expanding the AIM almost forever — this is an expansion chassis to hold a further eight circuit boards (there are also four and 16 slot sizes). The boards are a standard size and connect with the standard 96-pin Euro connector. You can buy cards for memory expansion (up to 128K of RAM and ROM), an IEEE standard interface and cards to allow the AIM to be connected to floppy disk drives, monitors and full size printers

to include the page address (binary 00000000) in the instruction, the latter become, in effect, shorter and thus much faster to execute than regular ones. This feature is part of the secret of the 6502's power and popularity, as it gives the chip 256 user-definable registers.

As noted, the AIM has quite a lot of ROM compared with other development machines. This is placed at the top end of the memory, again because that is where the 6502 locates it. A selection of languages and utility programs are available, though all of them depend on the monitor ROM, a four-Kbyte block of low-level system utilities that resides at \$E000 to \$EFFF. It contains a line editor, single stepper (which executes the program one instruction at a time so that the memory contents can be inspected and, possibly, changed at every stage) and tracer (which displays the contents of the program location register at every step during execution), as well as the usual register and memory alteration features.

The machine comes supplied with five ROM sockets, into which a variety of firmware options can be plugged. Among these are a version of BASIC, which has all the main functions, providing five-byte floating-point numbers and single-line

defined arithmetic functions.

Much more relevant to the potential buyer of the AIM 65, who is likely to be interested in control and monitoring of industrial processes, or other dedicated applications, are the other ROM sets. These include an assembler and an interesting but little-known language called PL/65, which looks a bit like ALGOL or PL/1 and compiles into assembler source code (see page 116). This can then be manipulated for fine-tuning and assembled by the assembler.

INSTANT PASCAL, an unusual language that has been strangely neglected, is available to the AIM 65. Unlike almost all other PASCAL dialects it is interactive and interpreted, providing almost all the benefits of structuring as well as the convenience and flexibility of BASIC. However, PASCAL is an extensive language and won't fit into the AIM 65 unless it is expanded. FORTH is also available, giving much the same advantages. As this demands rather less of the machine than PASCAL, it can be run without expansion.

Since development machines are intended to be used by engineers, often as controllers or monitoring devices for complex machinery, their hardware and I/O features are more critical than

Application Connector

This edge connector has two ports for connecting the AIM to whatever devices it is to control

Power Connector

The power supply connects here; the AIM needs the usual 5v for the computer and 24v to drive the printer

Printer

The AIM is very unusual in providing a built-in 20 column thermal printer — useful for control applications that require a permanent record of events

Reset Switch

Used to restart the computer

Keyboard

The AIM has an efficient keyboard that allows the standard machine to be easily programmed in BASIC and other languages — many equivalent systems have only hex keypads (just 0-9, A-F and a few other keys) and so aren't so easily usable. PRINT in the top right-hand corner is used in conjunction with the CTRL key to turn the built-in printer on and off. With the printer switched on, everything that appears on the display is also printed on the printer

Keyboard Decoder

A 6532 RIOT chip controls the keyboard



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