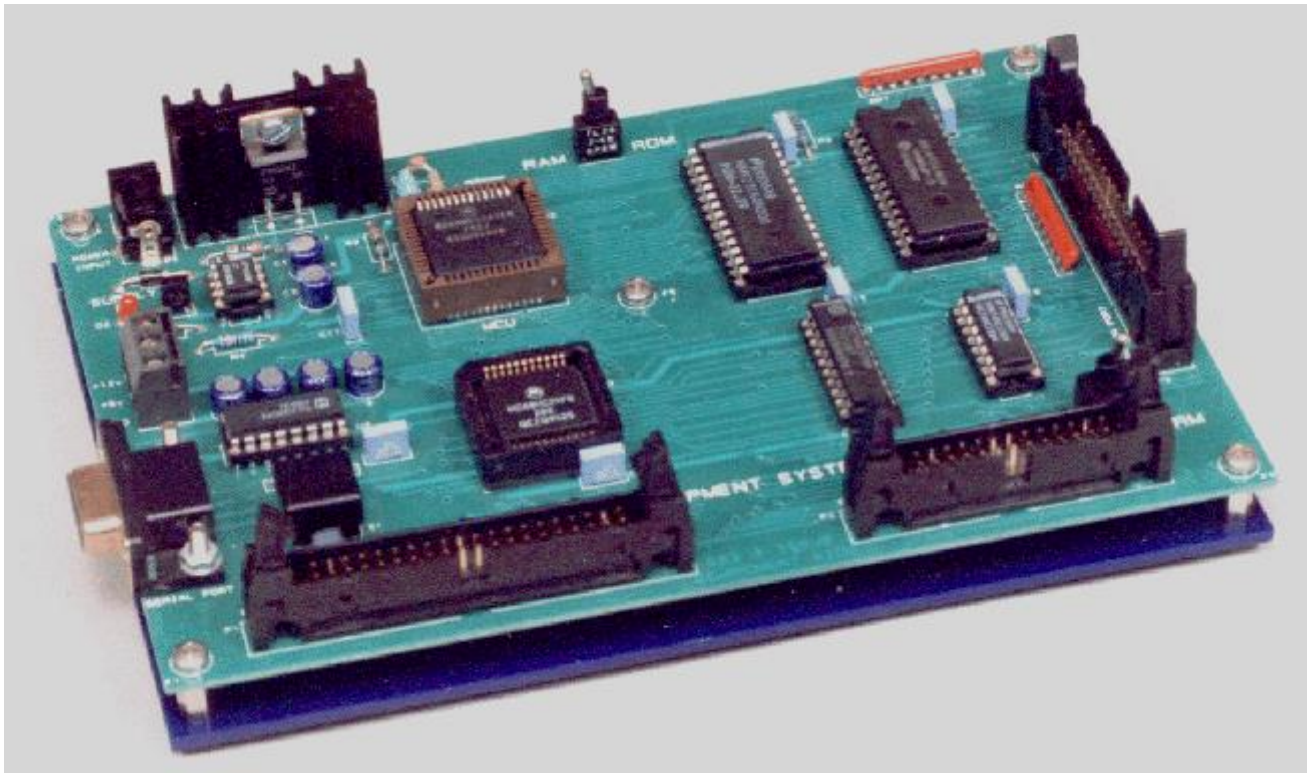


MC11-DATS

68HC11 DEVELOPMENT & TRAINING SYSTEM



MC11-DATS is a comprehensive single-board computer based on the powerful and popular Motorola MC68HC11 micro-controller unit (MCU). This highly flexible product can be used in various applications; it is designed for use as a development system and training aid or may just as easily be used as a stand-alone controller or computer.

For EDUCATIONAL purposes, the MC11-DATS is ideal for classroom training. Using the 'WinMC11' Windows software supplied, it is linked to and communicates via a serial port on a PC and allows easy development of control code.

For simple applications, a ROM-resident monitor allows user programs to be quickly assembled on a Line-by-Line basis, then run and debugged. More sophisticated programs may be assembled (or compiled) on the host PC using our (or the customer's own) cross development software. The assembled code can then be downloaded to the MC11-DATS. It can then be run and if necessary further debugged.

The MC11-DATS consists of the MC11 board (size 120 x 180mm), complete with 8K monitor program ROM, 8K RAM and serial port connection is via 9-way D socket. Two IDC connectors (26 and 40 way) permit easy interfacing to peripheral hardware. Using the CAB-MC11 adaptor, Abitec's Application Board (APPS-BD) can be connected to the 40 way IDC peripheral connector.

A third (expansion) port enables the system to be easily expanded. This expansion may consist of additional memory, additional serial communications, or extra input/output (I/O).

With the facilities offered by MC11-DATS, the user is able to develop and thoroughly test programs, which can eventually run directly on an MCU working in the single-chip mode.

MC11-DATS standard package is supplied with: MC-11 board, User Manual, Power Supply, Serial Cable and WinMC11 PC Communications software. The MC-11 board is mounted on an acrylic sub-plate.

To operate the MC11-DATS a PC is required running an operating system of WIN95 or higher.

MC11-DATS Hardware Features

- Powerful Motorola MC68HC11A1 MCU running at 2MHz, with 256 bytes of RAM, 512 bytes of EEPROM and 8 lines of "on-chip" ADC.
- Single input power requirement (9-18V dc unregulated) via standard 2.1mm power inlet plug. Alternatively a screw terminal power connector allows the use of regulated +5Vdc and an LED indicates power healthy.
- RS-232C Serial Port for communication with host computer.
- 8K monitor program ROM (can be substituted with the by user's EPROM).
- 8K RAM/pseudo-ROM.
- Two input/output ports (26-way and 40-way IDC headers).
- System Expansion Port via 34-way IDC header.
- All integrated circuits are socketed for ease of maintenance.

WinMC11 Communication Software Features

File Menu

- Edit - allows access to PC Text Editor supplied with WinMC11
- Assemble command - allows access to users cross-assembler
- Download - assembled programs can be downloaded to the MC11's on board memory

Options Menu

- Register window - permits register contents to be examined, updated and modified.
- List window - shows the listing when a program is downloaded to the MC11 board.
- Memory window - can be used to read and/or write data to a specific memory location.
- Breakpoint window - up to 4 breakpoints are provided by the MC11 monitor. These can be set to a specific address and enabled or disabled.
- Line Assemble - enables machine code entry of programs to the MC11. Programs can be saved, loaded to the line assembler and downloaded to the MC11's on board memory.
- Disassemble - displays the disassembly of a program in the MC11 memory.
- Watches window - allows the user to make a list of memory locations updated after single stepping, a breakpoint or returning to the monitor.
- Memory dump - displays 256 bytes of memory from a specified address. This window is updated after single stepping, a breakpoint or returning to the monitor.
- Copy window - allows the user to copy a block of memory from one location to a new location.
- File window - permits the user to fill a block of memory from a specific address and ending at another specified address. This window also has the Erase EEPROM facility.
- Halt command- this stops the 68HC11 processor which will remain dormant until the hardware RESET is pressed.

Debug buttons

- GO - starts execution of the user's program from the appropriate address.
- STEP - programs may be single stepped one instruction at a time. All relevant window contents are updated after execution.
- PROC - proceeds with program execution after a breakpoint
- RESET - restores the original (default) values to certain variables such as the stack pointer, A & b accumulators etc.

The MC11-DATS is fully supported by our range of low cost, professional grade cross-development software. An extensive range of parallel I/O applications products and interface cables are available for Educational and Training needs.

Ordering Information

MC11-DATS-W.....MC11 training system for WIN95,98,NT etc (specify UK, US or EU PSU)
 CAB-MC11.....Cable Adaptor to connect to APPS-BD Applications board
 EM-MC11.....Experiments manual for MC11-DATS (68HC11 assembly language).



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