



**68-HC11 Micro-controller Trainer - 24-102** - The 24-102 is a comprehensive single board computer, based on the Motorola MC68HC11 micro-controller unit (MCU). The unit may be used as a development system or trainer. A suitable dc power supply is supplied.

**Programming** - A ROM-resident monitor allows user programs to be assembled quickly on a line-by-line basis, then run and debugged. More advanced programs may be assembled on the host PC using the cross-development software 24-904. The assembled code may then be downloaded, run and debugged and a serial cable and power supply is supplied with the Trainer.

**For both Micro-controller trainers a PC is required that runs an operating system of WIN 95 or higher.**

### **8051 Micro-controller development & Training System 24-104**

The highly flexible 8051 single board computer, based on the Atmel AT89C51ED2. "In System Programmable" member of the MCS51 family of micro-controllers, can be used as an educational trainer or target board and user and experiment manuals are supplied. This product is compatible with the Applications Board 24-200 and the 8051 cross-assembler 24-946.

**Programming** - Using the PC serial port, Intel Hex format programs are entered directly into the Windows based Cross-assembler, Disassembled & debugged with the powerful Monitor facilities. Register contents can be displayed on the screen. The monitor software may be integrated into user code for flexible code development. Programs can be developed in high level languages, compiled and then assembled into Intel Hex format.

### **Features - 24-102**

- 2MHz MCU
- 256 bytes of RAM
- RS232 serial communications
- Two input/output ports
- 8k monitor program-ROM
- Hardware reset button
- Register contents can be viewed and modified
- Debugging facility
- Hexadecimal number handling

### **Features - 24-104**

- Operates up to 33MHz
- 64K bytes of Flash memory
- 1Kx8bitRAM
- Programmable UART serial port
- 32 programmable I/O lines
- Full debug facilities
- Single step facility
- Memory view/alter facility
- On-screen help
- Trace facility