



APPENDIX C DEVELOPMENT SUPPORT

This section serves as a brief reference to Motorola development tools for MC68336 and MC68376 microcontrollers.

Information provided is complete as of the time of publication, but new systems and software are continually being developed. In addition, there is a growing number of third-party tools available. The Motorola *Microcontroller Development Tools Directory* (MCUDEVTDIR/D Revision. 3) provides an up-to-date list of development tools. Contact your Motorola representative for further information.

C.1 M68MMDS1632 Modular Development System

The M68MMDS1632 Motorola Modular Development System (MMDS) is a development tool for evaluating M68HC16 and M68300 MCU-based systems. The MMDS1632 is an emulator, bus state analyzer, and control station for debugging hardware and software. A separately purchased MPB completes MMDS functionality with regard to a particular MCU or MCU family. The many MPBs available let your MMDS emulate a variety of different MCUs. Contact your Motorola sales representative, who will assist you in selecting and configuring the modular system that fits your needs. A full-featured development system, the MMDS provides both in-circuit emulation and bus analysis capabilities, including:

- Real-time in-circuit emulation at maximum speed of 20 MHz
- Built-in emulation memory
 - 1-Mbyte main emulation memory (three-clock bus cycle)
 - 256-Kbyte fast termination (two-clock bus cycle)
 - 4-Kbyte dual-port emulation memory (three-clock bus cycle)
- Real-time bus analysis
 - Instruction disassembly
 - State-machine-controlled triggering
- Four hardware breakpoints, bitwise masking
- Analog/digital emulation
- Synchronized signal output
- Built-in AC power supply, 90–264 V, 50–60 Hz, FCC and EC EMI compliant
- RS-232 connection to host capable of communicating at 1200, 2400, 4800, 9600, 19200, 38400, or 57600 baud

C.2 M68MEVB1632 Modular Evaluation Board

The M68MEVB1632 Modular Evaluation Board (MEVB) is a development tool for evaluating M68HC16 and M68300 MCU-based systems. The MEVB consists of the M68MPFB1632 modular platform board, an MCU personality board (MPB), an in-circuit debugger (ICD16 or ICD32), and development software. MEVB features include:

- An economical means of evaluating target systems incorporating M68HC16 and M68300 HCMOS MCU devices.
- Expansion memory sockets for installing RAM, EPROM, or EEPROM.
 - Data RAM: 32K x 16, 128K x 16, or 512K x 16
 - EPROM/EEPROM: 32K x 16, 64K x 16, 128K x 16, 256K x 16, or 512K x 16
 - Fast RAM: 32K x 16 or 128K x 16
- Background-mode operation, for detailed operation from a personal computer platform without an on-board monitor.
- Integrated assembly/editing/evaluation/programming environment for easy development.
- As many as seven software breakpoints.
- Re-usable ICD hardware for your target application debug or control.
- Two RS-232C terminal input/output (I/O) ports for user evaluation of the serial communication interface.
- Logic analyzer pod connectors.
- Port replacement unit (PRU) to rebuild I/O ports lost to address/data/control.
- On-board V_{PP} (+12 VDC) generation for MCU and flash EEPROM programming.
- On-board wire-wrap area.

