

*A modular approach to product development -*

## MMDS1632 Motorola Modular Development System

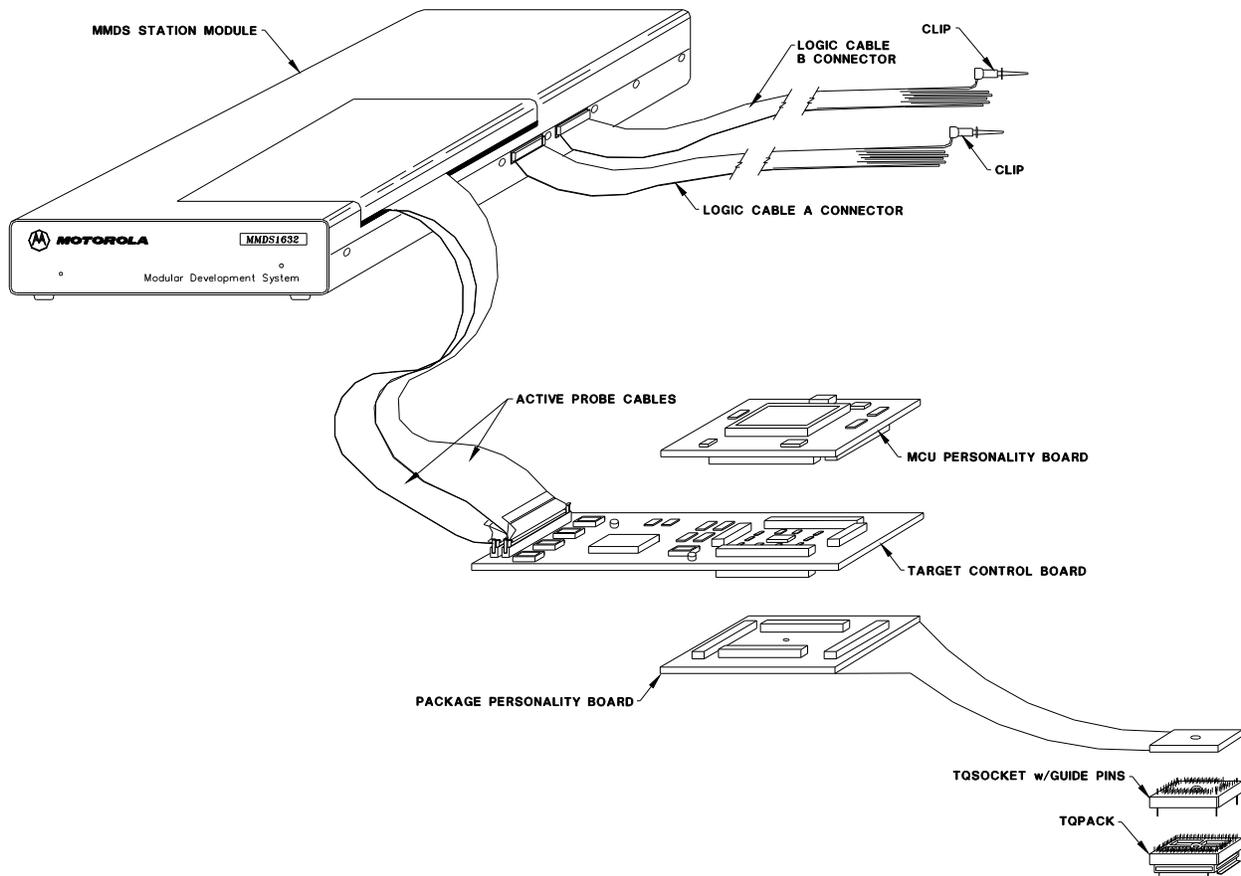
The MMDS1632 provides high-speed, real-time hardware and software emulation for target systems based on Motorola's M68HC16 and M68300 families. This full-featured development system uses a standard active probe with a variety of microcontroller personality modules to emulate different microcontroller devices.

The MMDS1632 is based on a modular design that enables you to emulate various MCU-types and packages by switching out MCU-specific personality boards. The modular design reduces development system costs by allowing you to purchase only the modular components necessary and enables the MMDS1632 to support future M68HC16 and M68300 family microcontrollers.

The device-specific MCU personality board (MPB) is also compatible with the Enhanced MEVB Modular Evaluation Board.

### Features

- **Real-time, non-intrusive, in-circuit emulation at the MCU's operating frequency**
- **Real-time bus analysis**
- **Real-time read/write emulation memory**
- **Complete MCU emulation, including reset and analog/digital functions**
- **Four hardware breakpoints**
- **Background mode operation**
- **C source-level debugger**
- **16 logic clips for individual signal selection**
- **Built-in power supply**
- **Power-on self test**



*Buy only the components you need – switch out the device specific and package specific modules to emulate multiple MCU devices.*

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## SYSTEM COMPONENTS

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A complete MMDS1632 system consists of four components:

- **Station Module** —  
The MMDS1632 Station Module (SM) comes with a built in power supply (90 to 264 Vac), and includes a target control board (TCB), two TCB ribbon cables, two logic clip cable assemblies, a 9-pin RS-232 serial interface cable, a 9 to 25-pin adapter, and an AC power cable.
- **MCU Personality Board (MPB)** —  
A device and package -specific board that defines the MCU to be emulated. *The MPB must be purchased separately.*
- **Package Personality Board (PPB)** —  
A package-specific rigid flex cable that connects the TCB to the target system. *The PPB must be purchased separately.*
- **System Software** —  
Hi-Light and the MCUinit™ initialization tool are supplied with the MMDS, see below for more information.

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## SYSTEM SOFTWARE

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The MMDS1632 is shipped with Windows 3.x compatible software that supports both target system emulation and bus state analysis. The system is shipped with Hiware's Hi-Light, and the MCUinit initialization tool.

Since MMDS software implements the Windows 3.x open architecture environment, you can run both MMDS software applications simultaneously. Applications communicate with the emulator via a server (a dynamic link library) that manages communication to the MMDS.

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### ***Hi-Light***

Hi-Light is a complete package that lets you quickly develop assembly language code. Hi-Light includes a linker, debugger, and assembler for the M68HC12, M68HC16, and M68300 MCUs and a. WinEdit is the editor provided for your code development.

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### ***MCUinit Initialization Tool***

The MCUinit initialization tool is a set of windows or "dialogs". Each dialog lets you graphically initialize and debug configuration registers for internal MCU peripherals. It either generates code to set these registers with user defined parameters, or utilizes the MMDS to affect any changes directly in the target MCU. The initialization tool accomplishes these tasks using automated rules and algorithms taken from the standard MCU reference manuals. This makes code generation faster and more error free than can be achieved by manual coding. Initialization code may be viewed with any standard text editor.

## SPECIFICATIONS SUMMARY

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### MMDS Specifications

Characteristic	Specification
Temperature	Operating 0° to 40° C Storage -40° to 85° C
Physical Dimensions	15.38 x 10.19 x 2.75 in. (390.6 x 258.8 x 69.85 mm)
Weight	5.44 lbs. (12 kilograms)
Power Supply Input (Req.) Station Module Output	90-264 VAC, 50-60 Hz +5 Vdc @ 1 Amp

### MMDS Minimum Host Requirements

Characteristic	Specification
Compatibility	486-based PC or higher
Operating System	DOS – 5.0 or later Windows – 3.1 or later
Disk Storage	Hard disk drive – requires 20MB to install
Communication I/O	Serial port – COM1, COM2, COM3, or COM4
Memory	8MB of RAM
Disk Drive	3.5" floppy floppy disk 1.4MB

## ORDERING INFORMATION

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### MMDS Part Numbers

Device	Package	MMDS Station Module	MPB	Rigid-Flex PPB
MC68HC16Y1	160 QFP (FT)	M68MMDS1632	M68MPB16Y1B	M68PPB16FTAG
MC68HC16Z1	132 PQFP (FC)	M68MMDS1632	M68MPB16Z1B	M68PPB16FCAG
MC68331	132 PQFP (FC)	M68MMDS1632	M68MPB331B	M68PPB32FCAG
MC68332A	132 PQFP (FC)	M68MMDS1632	M68MPB332AB	M68PPB32FCAG
MC68332G	160 PQFP (FT)	M68MMDS1632	M68MPB332GB	M68PPB32FCAG
MC68F333	160 PQFP (FT)	M68MMDS1632	M68MPB333C	M68PPB32FTBG

## WARRANTY INFORMATION

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Motorola provides a one year limited warranty.

## CUSTOMER SUPPORT

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