

# MT488A-RC



## Remote Control IEEE 488 Instrument or Automatic Test Station.....

The MT488A-RC is a low cost remote controlled and personal test controller. The built in micro-computer and IEEE 488 controller are integrated with the infrared remote handheld transmitter and receiver.

It's capable of serious test and control solutions. The MT488A-RC includes a fully integrated Windows(tm) based C environment for program development.

## MT488A-RC Applications:

- Safe remote operation in dangerous test conditions including; high voltage, toxic gas or chemicals.
- Remote control for product demonstrations, trade shows and training.
- Instrument sequencer, the MT488A-RC stores repetitive command sequences and test setups.

## MT488A-RC Functions:

- Remote Control any GPIB instrument; Each key on the remote corresponds to a key or function on the instrument.
- Remote test control; Each key controls a specific test function or feature for an automatic test system.
- Combined Remote Instrument control and test control.

## IEEE 488 Bus Overview.

The IEEE 488 interface, also known as the General Purpose Interface Bus (GPIB) is the industry standard for connecting electronic instruments and peripherals to computers. The MT488A-RC can control oscilloscopes, logic analyzers, power supplies, plotters and printers. Modifying sample applications creates test applications quickly and easily. Drivers for the IEEE 488 interface, communication ports and peripherals are included with the developer kit.

## MT488A-RC, a Tidal Engineering Solution

Whether you are designing a new instrument with a GPIB interface or you use instruments with the interface, we probably have a solution for you.

We provide unique and innovative solutions to GPIB product development and product testing with our embedded IEEE 488 products.

## MT488A-RC features:

- ♦ Battery powered infrared (IR) remote is addressable with 16 unique channels.
- ♦ Robust IR communications operate up to 30 ft standard with 150 ft long range optional.
- ♦ Remote control has 3 X 5 membrane switch matrix.
- ♦ IEEE 488 (GPIB) interface using National Instruments NEC7210 Talker/Listener/Controller.
- ♦ IEEE 488 drivers are National Instruments compatible enabling rapid software conversion from a PC based system to the MT488A-RC and vice versa.
- ♦ Windows™ based Dynamic C™ Integrated Programming Environment
- ♦ Serial RS-232 port for Dynamic C programming and debugging.
- ♦ Real Time Clock.
- ♦ Powerful Z180 based processor module.
- ♦ 32 Bi-directional digital I/O.
- ♦ 2500 VAC Optical Isolation for Digital I/O.
- ♦ 128K bytes battery backed SRAM for program storage.
- ♦ EEPROM: 512 bytes for calibration and other constants.
- ♦ Software compatible with MT-488A handheld controller.

**Other Products:**

- ♦ **The SBC488A Single Board Computer**  
Rapid development of test instruments incorporating GPIB, A/D, D/A conversion, digital I/O and RS-232 com.
- ♦ **The MT488A**  
Hand held GPIB test controller features user interface, microprocessor and IEEE 488 bus in a hand held unit..

**MT 488A-RC SPECIFICATIONS**

<b>Handheld Remote</b>	
Size	2.75" X 6.5" X 0.60"
Keypad	3 X 5 Matrix Membrane
Power	Two AA batteries
Encoding	Manchester
IR	650 nm
<b>Base unit with IEEE-488 connector</b>	
Processor	Zilog Z180 based processor Core w/ EPROM, SRAM, EEPROM and RTC.
Clock freq.	9.216 MHz or 18.432 MHz (optional)
Power	7-24VDC, 3 Watts max. (wall transformer incl.)
RS-232	Up to 9600 Baud
IEEE 488	NEC/National Instruments 7210 ASIC SH1, AH1, T5, TE5, L3, SR1, DC1, C1,-C5, E2
Digital I/O	32 Bit Bi-directional w/optional pull up resistors

**IEEE 488 Interface**

The IEEE 488 bus interface provides talker, listener and controller functions. The industry standard NEC 7210 type GPIB controller ASIC provides full functionality.

**Serial Communications**

The MT488A-RC includes RS-232 capability and allows communication with any terminal or PC.

**Digital I/O**

The digital I/O capability is 32 bits and based on Phillips  $\mu$ C bi-directional data ports. Sockets for SIP resistor pull-ups are provided to increase source current.

**Battery Backup and Real-Time Clock (RTC)**

The MT488A-RC includes a 3 volt lithium button cell for SRAM memory retention and RTC functions. The RTC provides accurate time keeping even without power.

**Programming Interface**

The Dynamic C programming interface is built in to the MT488A-RC. Software development can be made without the use of any hardware emulators or logic analyzers. Downloading programs, setting breakpoints, watching variables and single stepping are all supported. HEX file generation is automatic. Programs can be stored in SRAM or EPROM.

**Keypad**

The MT488A-RC remote controller includes a 15 button membrane switch matrix for user input. The graphic overlay artwork is provided on disk so custom keypad legends can be created.

**Remote Controller**

The MT488A hand held remote controller includes a 3 X 5 membrane switch keypad. The battery power unit operates over a control range of 30 ft. (standard) with longer range units available. With it's channel addressing capability, up to (16) MT488A-RC units can operate without interference.

**Technical Manual**

A complete technical manual includes:

- ♦ Complete specifications.
- ♦ Functional descriptions.
- ♦ Operating instructions.
- ♦ Programming instructions including examples.
- ♦ Test and troubleshooting information.

**Software**

MT488A-Dev software package includes the following drivers, libraries and examples:

- ♦ IEEE 488 Talker/Listener and Controller functions.
- ♦ RS-232 Functions and I/O.
- ♦ Digital I/O commands.
- ♦ Full C library including formatting and printf string functions and floating point trig. functions.

**Price List (prices effective until September 2000)**

Model	Description	EA.
MT488A-RC	9.2 MHz, IEEE 488 & RS-232 Interfaces, RTC, 3 X 5 Membrane Keypad.	\$845
MT488A-Dev	MT488A-RC Windows based C software development package, one per programmer.	\$375

The MT488A-RC is available exclusively from:

**ADI American Distributors Inc.**

ADI is an ISO-9002 certified distributor of Electronic and Electro-Mechanical components and assemblies. Founded in 1983, ADI serves domestic and international customers in both commercial and military markets. ADI has introduced several high technology board level solutions in joint venture with Tidal Engineering. Tidal Engineering was founded in 1994 and is co-located with ADI. Tidal does contract engineering and product development in embedded software, digital, analog and power electronics.



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For more information contact Craig Borax  
This product was recently recognized in Test and  
Measurement World Magazine "Best in Test" Awards.