

# Total control<sup>®</sup>

## Owner's Manual

MRX-8

System Controller



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## Introduction

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Congratulations on purchasing the Total Control MRX-8 System Controller for automation and control. Using the Total Control line of interfaces provides you full access and control for every compatible device using IR, IP, RS-232, and Relays. This network based control is also compatible with URC sensors, like audio sensor and video sensor, which detects the status of a device and provides automation triggers.

The MRX-8 makes it easy to turn on multiple devices at once such as a TV and Blu-Ray, even lights with one button press. Enjoy controlling your space!

## Features and Benefits

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- Stores and issues commands and macros for all IP, IR, RS-232, Relay to compatible devices and other Total Control series base stations in the system.
- Provides two-way communication with Total Control interfaces. (*TRC-780 remote requires optional UZ-1 to be compatible with MRX-8*)
- Can be programmed offsite via the internet, after initial programming is completed onsite, and project is registered with URC's Offsite Programming portal.

## Parts Guide

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The MRX-8 System Controller includes:

- |                                     |                                |
|-------------------------------------|--------------------------------|
| 1 - System Controller               | 5 - Standard Emitters/Flashers |
| 1 - Sleeved Emitter for RFTX-1 port | 1 - Adjustment Tool            |
| 1 - Wall Mount and 4 Screws         | 1 - Installation Manual        |
| 1 - AC Power Adapter                |                                |

## Front Panel Descriptions

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The front panel consists of two indicator lights which illuminate when in use.



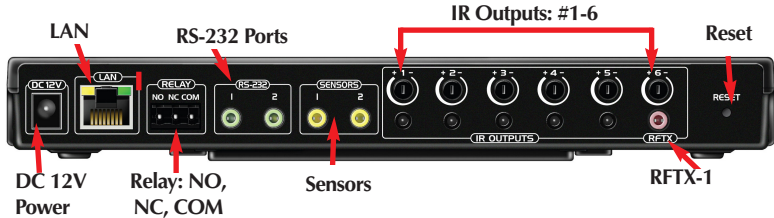
**Power LED:** Indicates that the MRX-8 is powered on when lit.

**Ethernet LED:** Indicates the network connectivity status:

- On = Connected
- Off = Not connected
- Blinking = Attempting to connect.

## Rear Panel Descriptions

The rear panel ports are:



**DC 12V Power:** Attach the included 12V power supply here.

**LAN Connection:** RJ45 standard Ethernet connection to the local network.

**Relays (NO, NC, COM):** Programmable relay to be normally opened (NO), normally closed (NC) or momentary contact. An application shall require less than 30V/.5A.

**RS-232:** Two RS-232 ports support Tx(Transmit), Rx(Receive) and GND(Ground) connections for two-way communication. Compatible with URC cables RS232F and RS232M.

**Sensors:** Two sensor ports allow programming of state dependent and triggered automation macros. Compatible with URC Video (SEN-VID), Voltage (SEN-VOLT), Audio (SEN-AUD), Current (SEN-CMF), Light (SEN-LITE), and Contact Closure (SEN-CCLS) sensors.

**IR Outputs:** Six standard 3.5mm IR emitter ports with individual output level adjustment screws. Always use the supplied sleeved emitter with pink connector, in port #6. *Plugging a regular emitter to this port may cause it to damage the unit and prevent it from operating correctly.*

**RFTX-1 Port:** Connect the included 3.5mm stereo to 3.5mm stereo to the optional RFTX-1 transmitter and control URC Lighting products via 418MHz or 433.92MHz wireless RF.

**Reset:** Press and release to reboot. Pressing and holding for 15 seconds factory defaults the unit.

## Installing the MRX-8

### Physical Installation of the MRX-8 and Accessories

The MRX-8 System Controller can be installed anywhere in the home or office network. Once installed, program it to operate all local equipment using IP/Network, IR, RS-232, or Relays. As well as query the status of a device using Sensors. All cables are plugged into their respective ports in the rear of the unit.

### Network Installation

1. Connect an **Ethernet cable (RJ45)** to the rear of the MRX-8 and onto the network.
2. **Plug flashers** into any of the six IR outputs on the rear of the MRX-8. *(Make sure the 3.5mm pink connector cable is reserved for port #6.)*



## Optimizing IR Flasher Levels

Test a few commands for each device before fixing the flasher in place on the front panel of a device. Since Satellite Receivers and Cable Boxes are extremely sensitive to IR overload or saturation, you should test them thoroughly. Put up the cable or satellite on-screen guide and test the navigation arrows. Compare operation via RF to the original remote control. Operation should be identical. If operation is inconsistent or sluggish, lower the IR line output and/or reposition the flasher.

If you still have sluggish operation, check that the remote control is set to a particular LINE OUT, rather than ALL. When IR commands are sent to all the flashers in a cabinet, you can have difficulty adjusting the IR Output. Reprogram the remote control to send IR commands only via a specific (1-6) Line Output, then readjust the IR Line Output level.

1. **Connect an IR emitter** to each IR output and run the emitter wire to the front panel of each component. **DO NOT STICK** the emitter in place. **Adjust** the level first.
2. **Adjust** each of the **IR Output levels** with the included adjustment tool for best operation. If the component operates best at minimum level, but is still operating sluggishly or intermittently, move the emitter farther away from the component's IR sensor.

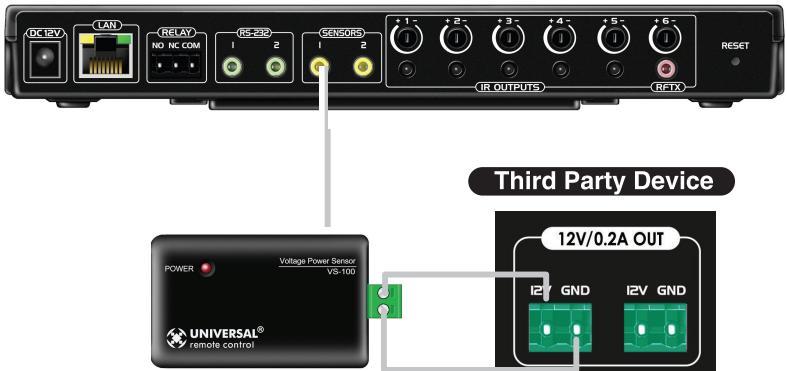
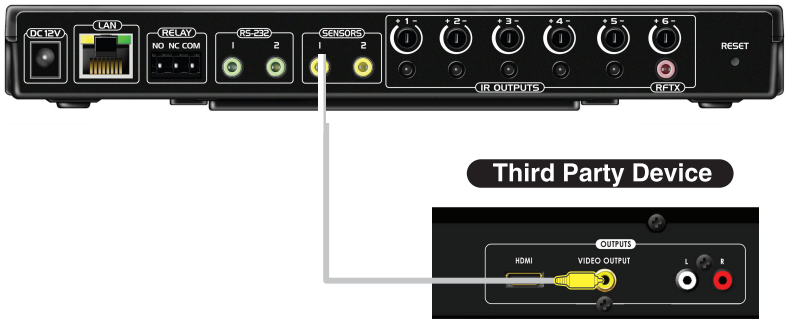
## RS-232 Connection

The MRX-8 can operate equipment via **RS-232** communication. This allows **discrete serial commands** to be triggered from a Total Control remote to a MRX-8. The signal is then sent to the device over proprietary URC RS-232 cables. These use either male or female DB-9 connections with standard pin-outs.



## Using Sensors with the MRX-8

The MRX-8 uses sensors to detect audio, light, video, voltage, current and contact closures to determine the equipment status, query the state of a device or other automation triggers for the equipment it controls. For example, using a video sensor cable with the MRX-8 can detect a video signal from a composite or component video output.



### Wiring to the Relay on the MRX-8

The MRX-8 has a **Relay** with three contacts, NO, NC, and COM. These can be used as dry contacts or to an electrical switch or motor for use with screens, blinds, curtains, etc. The Relay can be programmed as either a latching or a momentary contact.

### Using an RFTX-1 for URC One-Way Lighting products

The MRX-8 can use an **RFTX-1**, via the available RFTX-1 port. It controls URC One-Way Lighting products at 418 or 433.92 MHz. Use the included 3.5mm to 3.5mm to connect to the RFTX-1 and plug the other end into the RFTX-1 port (#6).



## Specifications

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**Network:** One 10/100 Ethernet port

**Relay:** One relay configurable to be NO, NC or Momentary

**Sensor:** Two Sensors support Video (SEN-VID), Voltage (SEN-VOLT), Audio (SEN-AUD), Current (SEN-CMF), Light (SEN-LITE), and Contact Closure (SEN-CCLS) sensors.

**RS-232:** Two RS-232 ports support TX, RX and GND two-way communication via URC cables.

**IR:** Six adjustable IR ports enable the included URC emitters to control IR devices *Note: 6th IR Output requires the included sleeved emitter (identified by a pink connector), since it can optionally be used to connect an RFTX-1.*

**Weight:** 10.5 oz.

**Size:** 9.76" X 4.72" X 1.10"

**Power:** 12V External Power Supply

## Limited Warranty Statement

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### 1. Limited Warranty and Disclaimers

Universal Remote Control, Inc. ("URC") warrants that the URC equipment shall be free from defects in material and workmanship under normal usage for two (2) years from purchase when such is purchased from URC. **This limited warranty is valid only in the United States of America.** URC warrants that the software will substantially conform in any material respect to its functional specifications at the time of delivery. URC SHALL NOT BE LIABLE FOR OPERATIONAL, TECHNICAL OR EDITORIAL ERRORS AND/OR OMISSIONS MADE IN THE URC DOCUMENTATION. URC DOES NOT WARRANT THAT THE URC SOFTWARE IS BUG-FREE OR ERROR FREE OR THAT THERE ARE NO ERRORS/BUGS IN THE URC SOFTWARE.

URC warrants that at the time of purchase the URC equipment and the URC software complied with all applicable regulations and policies of the Federal Communications Commissions ("FCC") regarding electromagnetic interference caused by electronic/computing devices and to the extent that the URC equipment and/or the URC software fails to so comply, URC shall, at its own expense, take all reasonable measures to promptly cause such to comply.

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The warranty limitations and warranty disclaimers may not apply to end user in whole or in part, where such are restricted or excluded by applicable law and such shall apply to the maximum extent permitted by applicable law.

In the event of any warranty claim, URC will, at its sole option, repair the URC equipment using new or comparable rebuilt parts, or exchange the URC equipment for new or rebuilt equipment. **In the event of a defect, these are the end user's exclusive remedies.**

All the URC equipment returned for service, exchange or repair require an RGA number. To obtain an RGA number, you must complete a Return Request Form which you may obtain by calling (914) 835-4484 or contacting URC at [returnrequest@universalremote.com](mailto:returnrequest@universalremote.com). To obtain warranty service, end user must deliver the URC equipment, freight prepaid, in its original packaging or packaging affording adequate protection to URC at 420 Columbus Avenue, Valhalla, NY 10595. It is end user's responsibility to backup any macro programming, artwork, software or other materials that may have been programmed into the unit. It is likely that such data, software, or other materials will be lost during service and URC will not be responsible for any such damage or loss. A dated purchase receipt, bill of sale, installation contract or other verifiable proof of purchase is required. For the URC equipment support and other important information, please visit URC's website available at [www.universalremote.com](http://www.universalremote.com) or call the Customer Service Center at (914) 835-4484.

This limited warranty only covers the URC equipment issues caused by defects in material or workmanship during ordinary consumer use. It does not cover product issues caused by any other reason, including but not limited to product issues due to commercial use, acts of God, third-party installation, misuse, limitations of technology, or modification of or to any part of the URC equipment. This limited warranty does not cover the URC equipment sold as used, as is, refurbished, so called "B stock" or consumables (such as batteries). This limited warranty is invalid if the factory applied serial number has been altered or removed from the URC equipment. **This limited warranty specifically excludes the URC equipment sold by unauthorized resellers.**

With the exception of URC's IR-only, broad-based consumer remotes, none of

URC's PC programmable remotes or any of our Total Control® whole-house equipment are authorized for online internet sales. Buying URC's PC programmable remotes or any of our Total Control® whole-house equipment online means buying equipment that does not have a URC's limited warranty. Such equipment is not eligible for URC tech support or software support, either.

## **2. URC'S Limitations of Liability**

IN NO EVENT SHALL URC BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY KIND OR LOSS OF PROFITS OR BUSINESS OPPORTUNITY, EVEN IF URC IS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

IN NO EVENT SHALL URC BE LIABLE FOR LOSS OF OR DAMAGE TO DATA, COMPUTER SYSTEMS OR COMPUTER PROGRAMS. URC'S LIABILITY, IF ANY, FOR DIRECT DAMAGES OF ANY FORM SHALL BE LIMITED TO ACTUAL DAMAGES, NOT IN EXCESS OF AMOUNTS PAID BY END USER FOR THE URC EQUIPMENT.

IN NO EVENT SHALL URC BE LIABLE FOR ANY EVENTS BEYOND ITS CONTROL, INCLUDING ANY INSTANCE OF FORCE MAJEURE. IN NO EVENT SHALL URC BE LIABLE FOR THE ACTS OR OMISSIONS OF END USER OR ANY THIRD PARTY.

THE LIMITATIONS OF LIABILITY MAY NOT APPLY TO END USER IN WHOLE OR IN PART, WHERE SUCH ARE RESTRICTED LIMITED OR EXCLUDED BY APPLICABLE LAW AND SUCH SHALL APPLY TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW.

URC SHALL NOT BE HELD RESPONSIBLE FOR THE STATEMENTS MADE BY OTHERS.

SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO END USER. THIS LIMITED WARRANTY GIVES END USER SPECIFIC LEGAL RIGHTS AND END USER MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE OR JURISDICTION TO JURISDICTION.

## **End User Agreement**

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The terms and conditions of the End User Agreement is available at [www.universalremote.com/eua.php](http://www.universalremote.com/eua.php) shall apply.

## Federal Communication Commission Interference Statement

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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one more of the following measures:

- ◆ Reorient or relocate the receiving antenna.
- ◆ Increase the separation between the equipment and receiver.
- ◆ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ◆ Consult the dealer or an experienced radio/TV technician for help.

### **Warning!**

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Note : The manufacturer is not responsible for any Radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

### **FCC Caution**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

# Declaration of Conformity

Company Name : OH SUNG ELECTRONICS CO., LTD.  
 Company Address : #181 GONG DAN-DONG, GUMI, GYEONG BUK,  
 REPUBLIC OF KOREA  
 Contact Information : Phone: +82-54-468-7281, Fax: +82-54-461-8368  
 Brand Name : UNIVERSAL remote control  
 Product Name : System Controller  
 Model Name : MRX-8

This product herewith complies with the requirements of EMC Directive(2004/108/EC) issued by the Commission of the European Community

Compliance with these directives implies conformity to the following European Community

- EMC Directive
  - EN 55022
  - EN 55024
  - EN 61000-3-2
  - EN 61000-3-3

List of test reports and/or certificate verified compliance with the standards above

- EMC Directive
  - Report No.
  - Testing Laboratory : Gumi College EMC Center

Date of issue : \_\_\_\_\_

Name and signature of authorized person : \_\_\_\_\_  
 OH SUNG ELECTRONICS CO., LTD.







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