



APPENDIX H

: USER'S MANUAL



MRX-12 OWNER'S MANUAL



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TOTAL CONTROL

MRX-12 OWNER'S MANUAL

Introduction

The MRX-12 Advanced Network System Controller controls is designed to meet the needs of large residential or small commercial environments.

Only **Total Control** software, products, and user interfaces are supported by this powerful device.

This device is **not compatible** with Total Control 1.0 legacy products.

Features and Benefits

- **Stores and issues commands** for all IP, IR, RS-232, Relays, Sensors, and 12V Triggers controlled devices.
- Provides **two-way communication** with **Total Control** user interfaces. (remotes and keypads).
- Easy rack-mounting via the included **rack mounting ears**.

Parts List

The MRX-12 Advanced Network Controller includes:

- | | |
|--|-----------------------------------|
| • 1x MRX-12 Advanced Network System Controller | • 1x Adjustment Tool |
| • 1x AC Power Adapter | • 6x IR Emitters 3.5mm (Standard) |
| • 1x Power Cord | • 2x Rack Ears |



Front Panel Descriptions

The front panel consist of two (2) indicator lights that illuminate during usage:

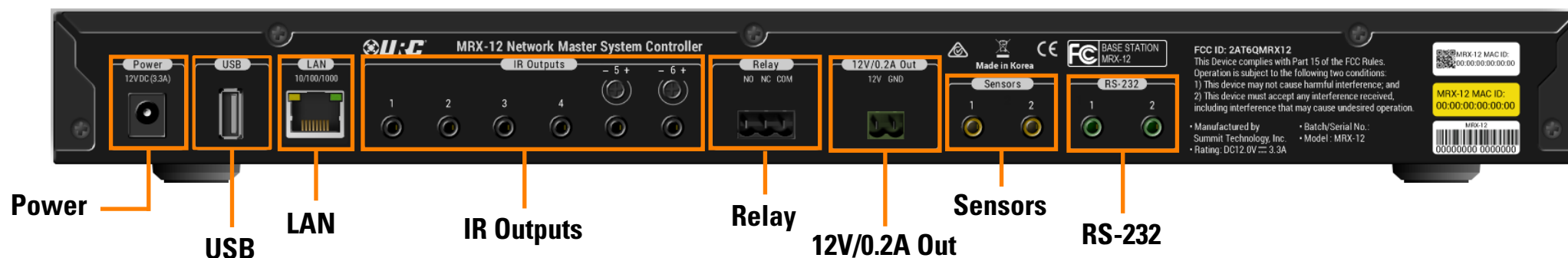
1. **Power:** Indicates that the MRX-12 is powered when illuminated.
2. **Ethernet:** When the device has a valid Ethernet connection the indicator light remains a solid blue.



Rear Panel Description

Below are the rear panel ports:

1. **Power:** Attach the included power supply here.
2. **USB:** For future expansion.
3. **LAN:** RJ45 10/100/1000 Ethernet port.
4. **IR Outputs:** Six (6) standard 3.5mm IR emitter ports with two output level adjustment screws for outputs five (5) and six (6).
5. **Relay:** Single programmable relay at NO, NC, or COM.
6. **12V Out:** Single programmable output. May be programmed to turn on, off, or momentarily toggle.
7. **Sensors:** Two (2) sensor ports that allow the programming of state dependent and triggered macros. Compatible with all URC sensors.
8. **RS232:** Two (2) RS-232 ports. Supports TX, RX, and GND connections for wired two-way communication.



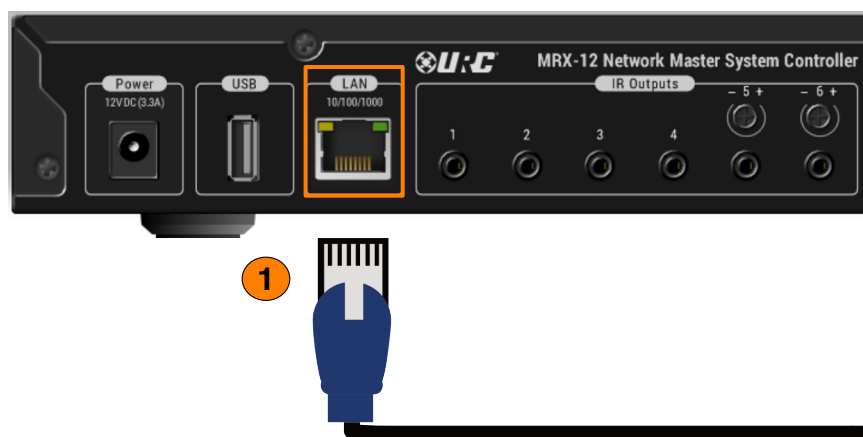
Installing the MRX-12

The MRX-12 Advanced Network System Controller can be installed almost anywhere in the home.

Once physically installed, it requires **programming by a certified URC integrator** in order to operate local equipment using IP (network), RS-232 (serial), IR (infrared), or relays. All cables must be connected to their respective ports at the rear of the device.

Network Installation

1. Connect an **Ethernet cable (RJ45)** to the rear of the MRX-12 and the onto an available LAN port of the network's local router (Luxul preferred).
2. A certified URC integrator is **required** for this step, configure the MRX-12 to a DHCP/MAC reservation within the local router.



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Connecting IR Emitters

IR emitters are used to communicate to AV devices such as cable boxes, televisions, blu-ray players and more.

1. Plug IR Emitters (six (6) supplied in the box) into any of the six (6) IR outputs available on the rear of the MRX-12.

IR Output **5** and **6** include an adjustable sensitivity dial. Turn this dial to the right to increase the gain and to the left to decrease it.

2. Remove the **adhesive covering from the emitter** and place it over the **IR receiver** of the 3rd party device (cable box, television, etc.).



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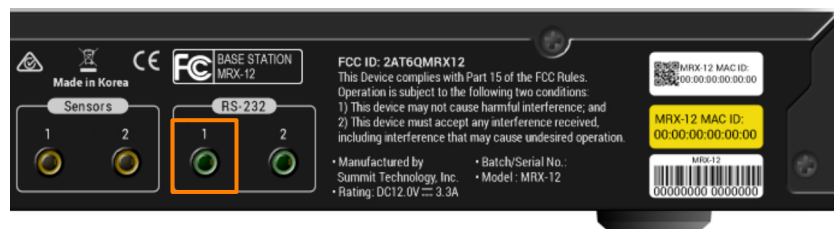


Connecting RS-232 (serial):

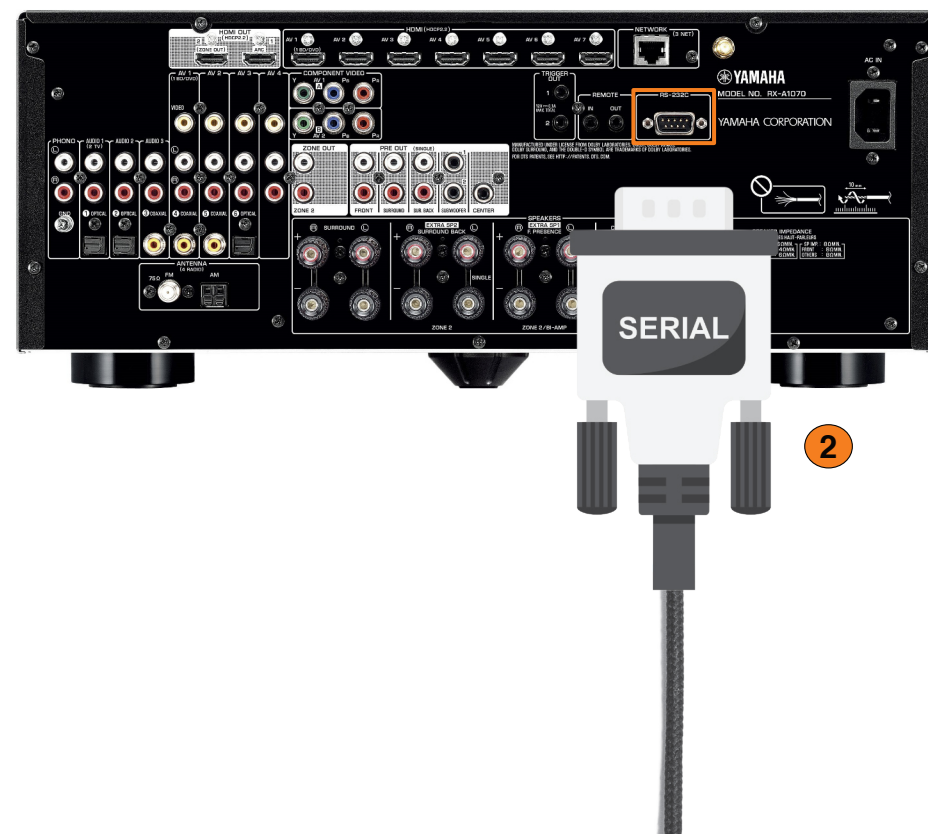
The MRX-12 can operate equipment via RS-232 communication. This allows discrete serial commands to be triggered from the Total Control system.

Connect RS-232 device using URC's proprietary RS-232 cables. These use either male or female DB-9 connections with standard pin-outs.

1. Connect the **3.5mm** into the **RS-232 Output** available on the MRX-12.
2. Connect the Serial connection onto the **available port** on the 3rd party device, such as AVRs, Televisions, Matrix Switchers, and other devices.



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Specifications

Microprocessor: ARM Cortex-A5 Processor 536MHz

Memory: eMMC 4GB

RAM: SDRAM 1GB x2

Network: RJ45 10/100/1000 (Shielded LAN cable is recommended.)

USB: USB 2.0 A Type Plug

IR Outputs: Six (6) standard 3.5mm IR emitter ports

Relay: 3-pin Terminal

DC Out: 12V/0.2A 2-pin Terminal

Sensor: Two (2) programmable sensor ports

RS-232: Two (2) programmable sensor ports

Power: 12.0V 3.3A

Operating Temp: 0-40 °C

Size: 140 x 433 x 42.6 (mm)

Weight: 1370g

Limited Warranty Statement

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 one (1) year 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.

URC equipment purchases from other than an authorized URC dealer or distributor are without warranty.

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TOTAL CONTROL

MRX-12 OWNER'S MANUAL

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WITHOUT IN ANY WAY LIMITING THE GENERALITY OF THE OTHER PROVISIONS HEREIN, WARRANTY DOES NOT COVER: (I) DAMAGE FROM MISUSE, NEGLECT OR ACTS OR NATURE, (II) MODIFICATIONS, (III) INTEGRATION WITH THIRD PARTY CONTENT (IV) BEYOND THE WARRANTY PERIOD AND/ OR FAILURE TO FOLLOW URC WARRANTY CLAIM PROCEDURE.

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. 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 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 Page 36 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

The terms and conditions of the End User Agreement available at www.universalremote.com/eua.php shall apply.

Federal Communication Commission Interference Statement

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.

Declaration of Conformity

Company Name : Summit Technology, Inc.
 Company Address : 08589 Namsung plaza 611, 130, Digital-ro, Geumcheon-gu, Seoul, Republic of Korea
 Product Name : BASE-STATION
 Model Name : MRX-12
 Test Report Number : GETEC-E2-21-042
 Test Laboratory : Gumi University EMC Center

This document relates is in conformity with the following standards

- EMISSION
 - EN55032: 2015 + A11: 2020 class B
 - EN61000-3-2: 2014
 - EN61000-3-3: 2013 + A1: 2019
 - AS/NZS CISPR 32: 2015
- IMMUNITY
 - EN55035: 2017 + A11: 2020

This product herewith complies with the requirements of EC Council EMC Directive 2014/30/EU.

Date of issue : Jul. 27, 2021

Name and signature of authorized person : 
 Park Yong Seong / Senior Director
 Summit Technology, Inc.

Test Laboratory:
 This is the result of tests that was carried out from the submitted sample in conformity with the specification of the respective standards. The manufacturer has the right to affix the CE-mark for EMC on the product complying with inspection sample.



GUMI UNIVERSITY EMC CENTER
 Approved EMC Laboratory by KOLAS(ILAC-MRA) according to the requirement of ISO17025.

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.

Regulatory Information to the User

● CE conformity Notice

Products with "CE" marking comply EMC Directive 2014/30/EU issued by the commission of the European Community.

1. EMC Directive

- Emission
- Immunity
- Power

● Declaration of Conformity

"Hereby, Universal Remote Control Inc. declares that this MRX-12 is in compliance with the Essential requirements"