

MRX-1 Installation Manual

Network Base Station



**COMPLETE
CONTROL**™

 Universal Remote Control®

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Introduction

The MRX-1 Network Base Station receives IR and Serial commands from any URC Network Controls (like the KP-4000, MX-6000 or MX-5000) over the network. Each MRX-1 has a unique MAC Address, which allows correct routing to multiple MRX-1 units throughout the home.

In installations with URC RF Lighting, the optional RFTX-1 transmitter will transmit RF commands from all URC Network Control's. This enables installations with multiple MRX-1's and RFTX-1's to become whole house lighting control systems capable of multiple room paths and scenes.

In addition, the MRX-1 offers traditional IR only control from URC Narrow Band RF Controls via an optional RFX-250.

1. The KP-4000 communicates over the LAN (Local Area Network) to IP controlled components and the URC MRX-1 Network Base Station.

2. The MRX-1 receives commands and controls the components via IR or Serial.



WiFi Router



IR Controlled Device

3. Self-adhesive "Flashers" affix to the Infrared sensors on the front panels of your client's components. The Flashers relay commands to components. The flashers plug in to the MRX-1 rear flasher line outputs via their 10 foot cables. The MRX-1 can also connect to components with rear panel IR Inputs via its adjustable IR Line Outputs.

Features and Benefits

The Bridge for Network Remotes and Keypads

The MRX-1 enables IR and RS-232 devices to be controlled by URC Network Controls.

2-Way RS-232 Thermostats, Security Systems, Home Theater AVRS and Multi-Zone Matrixes

Via the unique URC 2-Way database installers can drag and drop 2-Way pre-programmed modules into any URC Network Control powered by the MRX-1's two RS-232 ports. RS-232 components can display Volume Pop Ups, Status displays, Tuner Modules, 2-Way Transport Controls, etc.

Whole House URC Lighting via RFTX-1

Via the RFTX-1 transmitter, the MRX-1 can relay commands from any URC Network Control to URC Lighting devices. By installing multiple MRX-1/RFTX-1 relay stations around a home, installers can create seamless coverage of any size house, allowing lighting paths and whole house scenes.

Utilize MRX-1 Sensor Port to Automate TOAD Devices

The MRX-1 offers URC Network Controls automation capability for devices that do not have discrete codes. It is equipped with a sensor port compatible with optional URC video or voltage sensors, thus an installer can program macros that test whether a device is on or off before issuing input commands etc.

Control Devices with Relays

URC Network Controls can control lifts, screens etc. via the MRX-1's NO, NC or Momentary set of contacts.

Traditional Narrow Band RF

Complete Control remotes and keypads can also control the same IR devices with an optional RFX-250 or RFX-250i.

Parts Guide

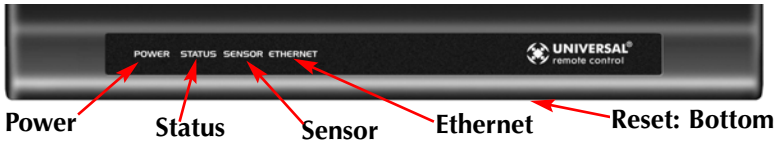
The MRX-1 Network Base Station includes:

- | | |
|--|--------------------------------------|
| 1 - MRX-1 Network Base Station | 1 - Two Meter 3.5mm Stereo to |
| 1 - 12V-1000mA Power Supply | 3.5mm Stereo (for daisy chaining |
| 6 - Visible Emitters with 10 foot plug | multiple MRX-1 with one RFX- |
| in cables including 1 pink sleeved | 250) |
| emitter for the RFTX-1 port | 1 - Adjustment Tool |
| | 1 - Mounting Plate for wall mounting |
| | the MRX-1 |

Front and Rear Panel Descriptions

Front

The front panel consists of 4 indicator lights which will illuminate when in use.



Power: Illuminates when the power supply is connected to an outlet

Status: Flashes in blue when an RF or Network signal is received.

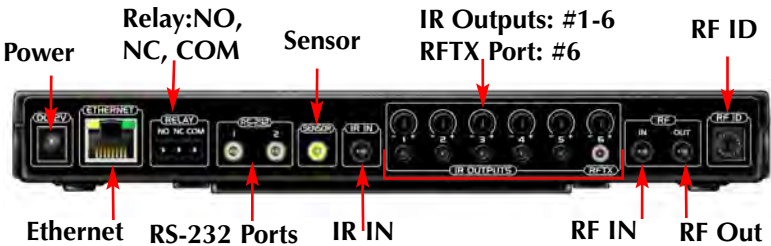
Sensor: Illuminates to indicate that it is sensing the presence of composite video or AC or DC voltage.

Ethernet: Illuminates when connected to a Network Router

Reset: Press the reset button located under the MRX-1 to restart the unit.

Rear

The rear panel ports are:



Power: Provides connection to included 12V/1Amp Power Supply.

Ethernet: Provides connection to LAN(Local Area network) via RJ45 cable.

Relay NO, NC, COM: Provides configurable switch closure control.

RS-232 Ports: Two RS232 ports provides direct control.

Sensor: Provides connection to one URC Voltage Sensor (VS-1006) or to one URC Video Sensor (VID-6) for status in sensor based macros.

IR IN: Allows MRX-1 control from a base station such as a MRF-260 (IR Routing capability is lost from commands coming from the MRF-260)

IR Outputs: Connect emitters for IR control of connected devices.

RFTX Port: Dual port #6 for the RFTX-1 connecting cable or included sleeved IR emitter.

RF IN: Connects to a optional single RFX-250 (refer to manual)

RF Out: Used for daisy chaining MRX-1s for RF Operation (Refer to RFX-250 manual)

RF ID: 15 unique RF ID's provide RF control and routing to multiple MRX-1's in the same home. (RF ID #0, the interference "sniffing" position, is used to detect RF interference in the area.)

Network Installation

The MRX-1 is a network base station that allows full control of your components. Once installed to the network, and a button is pressed on the remote, a command is transferred over the customer's network to the MRX-1 which sends IR, RS232 or Relay commands to the devices you specify. Note that the MRX-1 can only be utilized by URC Network Controls.

1. Connect the Ethernet cable (RJ45) to the rear of the MRX-1 and into the network router.
2. Connect your laptop into the same network as the MRX-1.
3. Plug flashers into any of the six flasher ports on the rear of the MRX-1. If you utilize IR output #6, you must use the pink sleeved emitter. IR Output #6 is a dual purpose port, it can be used for IR control or to connect the RFTX-1 for URC Lighting.

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 TiVo, Replay TV, Satellite Receivers and Cable Boxes are all extremely sensitive to IR overload or saturation, you should test them thoroughly. Put up the 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.

Note: Line 6 is a dual port and requires the included sleeved emitter for long term IR use.

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 components IR sensor.

IR Outputs: These ports can be conditioned as discrete, 'routed' outputs that only send IR commands to the specific device that each emitter is attached to. This allows selective control of multiple same-brand, same-model components, (multiple DVD players, SAT receivers, etc.) and assures accurate control in that a given component's commands are routed only to it's dedicated IR output and emitter, preventing IR splash from multiple emitters flashing at the same time. Port #6 is a dual port with the RFTX-1 and requires a sleeved emitter when in use as an IR emitter. POLARITY: Tip=IR data, Sleeve=GND.

Integrating Optional RFTX-1 to control URC Lighting

RFTX-1

The RFTX-1 provides control of the URC Lighting

1. Simply plug the RFTX-1 with the 10' pink connecting cable (included with the RFTX-1) into the MRX-1 pink fixed port #6.
2. Set the RFTX-1 to either 418MHz or 433MHz.



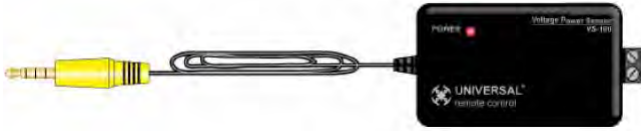
3. Set the URC Lighting Device in the CCP Editor to Network and set the IR output to Port #6.
4. Download to the MX remote and begin controlling your lights.

Device	Signal	Receiver	IR Output
Main	RF	MRX-1 [Home Theater]	ALL
TV1	Network	MRX-1 [Home Theater]	Port 1
TV2	Network	MRX-1 [Home Theater]	Port 2
TV3	Network	MRX-1 [Home Theater]	Port 3
Air Conditioner	IR		
AV Receiver	Network	MRX-1 [Home Theater]	Port 4
iPod	Network	MRX-1 [Home Theater]	Port 5
URC Lights	Network	MRX-1 [Home Theater]	Port 6

Integrating Optional Video or Voltage Sensors

Voltage Power Sensor VS-1006

The VS-1006 Voltage Power Sensor allows voltage output of a system component to be used to monitor that component's ON/OFF status for power management when the device does not have discrete commands or a composite video output is not available for video sensing. Some components provide 12V Status outputs while with other applications, a DC power supply plugged into a component's switched outlet can be used to provide device status.



Connections

Control Voltage Out/Switched AC Out (VS-1006)

When using a switched AC outlet, an AC or DC power supply adapter can be used to trigger a VS-1006 Voltage Sensor. Using AC or unregulated DC adapters is recommended given the instant ON/OFF characteristics such supplies. Regulated DC adapters are slower to respond when turned on and off and are therefore not considered ideal for status sensing. RATING: 3-25V AC or DC.

1. Using a two conductor stranded 24-14 AWG wire, connect the Control Voltage Out of the sensed device, or stripped ends of a Power Adapter, to the Two-Pin Plug In Connector on the VS-1006. Polarity is not critical with the VS-1006, as it can sense AC or DC.
2. If using a Power Adapter, plug it in to the Switched Outlet on the Sensed Device.
3. Connect the 4-circuit mini plug from the VS-1006 to the appropriate Video or Voltage Sensor Input on the MRX-1 Rear Panel.
4. Once the system has been powered up, the VS-1006 Power LED should illuminate Red.
5. To test Voltage Sensing, turn the Sensed Device on. The Sensor LED on the MRX-1 front panel should illuminate in blue. Turn the Sensed Device off and the LED should turn off as well. If not, check the connections and measure the device control out or power adapter with a volt meter to confirm voltage output.

Current Sensing AC Outlet (VS-1006)

1. Connect the Power cord from the sensed device to a sensed AC outlet on a current sensing AC outlet.
2. Using two-conductor stranded 24-14AWG wire, connect the con-

trol voltage out of the current sensor to the two-pin plug-in connector on the VS-1006. The VS-1006 can sense AC or DC so polarity is not critical.

3. Connect the 4-circuit mini plug from the VS-1006 to the sensor input on the MRX-1 rear panel.
4. Plug the power cord on the current sensing device into an unswitched AC outlet.
5. Once the system has been powered up, the VS-1006 Power LED should illuminate Red.
6. To test Voltage Sensing, turn the Sensed Device on. The Sensor LED on the MRX-1 front panel should illuminate in blue. Turn the Sensed Device off and the LED should turn off as well. If not, check the connections and measure the device control out with a volt meter to confirm voltage output. Also confirm that the Sensed Device's Power Cord is connected to a Sensed Outlet.

VID-6 Video Sensor Cable

The Video Sensor Cable VID-6 is a special cable for sensing composite video. When composite video is detected, the MRX-1 recognizes that the connected device is ON. System Power ON/OFF macros, conditional IF/ELSE Smart Macros and other control modes are typically associated with the status of these sensor inputs. When an ON condition is detected at the sensor input, the corresponding Front Panel Sensor LED will illuminate in blue to indicate the ON condition. Not all devices turn the composite video output off when in standby, some switch to a black screen. A black screen looks off and protects some types of video displays from 'burn in', but there is still a sync code present that is not compatible with video sensing for ON/OFF status. For devices that output a black screen, use a Voltage Power Sensor from a switched outlet (or status output on the device if available), a sensed AC outlet that outputs 12V or discrete IR ON/OFF codes or RS-232 commands.



Connection

Composite Video (VID-6 Video Sensor Cable)

1. Connect the MALE end of a single male to two female RCA plug 'Y' Adapter to the Composite Video Out on the device to be sensed.
2. Connect the RCA Plug end of the VID-6 Sensor Cable to one of the jacks on the Y Adapter.
3. Connect the 4-circuit mini plug end of the VID-6 cable to the Sensor input on the MRX-1 Rear panel.
4. Connect the Second Jack on the Y adapter to the appropriate

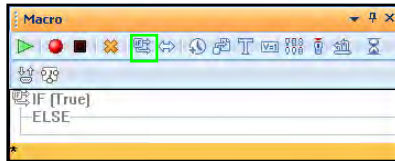
Composite Video Input (A/V Receiver DVD, VCR input, etc) using a shielded RCA to RCA video cable with gold ends.

5. To Test Video Sensing, once the system has been powered up, turn the sensed device on. The Sensor LED on the MRX-1 front panel, should illuminate in Blue. Turn the Sensed device off. The LED should turn off. If not, check connections and confirm the device is not outputting a 'black screen' or some other video sync information when off.
6. Confirm Video Signal to the A/V Receiver by selecting the Input to which the Sensed device is connected. (Be sure TV or video display is on, connected and switched to the appropriate input.)

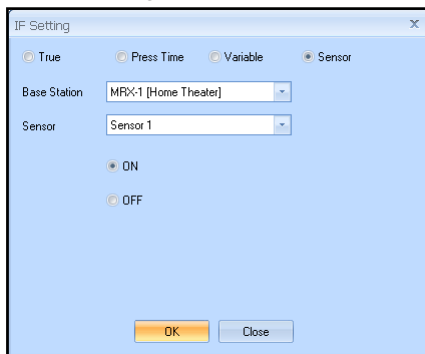
Programming

To program a Video or Voltage Sensor into CCP MRX-1:

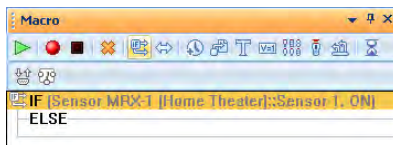
1. Click on the IF/Else icon within the macro window to add an IF/Else statement.
2. Double click on the IF(True) line to open the IF Setting window.



3. Click the Sensor button.
4. Select the MRX-1 base station from the Base station drop down list.
5. Click on the Sensor drop down list to select Sensor 1 and check whether the Sensor should check if it is on or off.
6. Press Ok to save the configuration.



7. Now the macro will Sense if a device is on.



Integrating RS-232 and Relays

RS-232

There are two versions of the RS232 cable. The RS232M has a male DB9 connector and the RS232F has a female DB9 connector. Be sure to verify the proper cable configuration by visually inspecting the RS232 terminal on the device to be controlled. Some devices will use other types of connectors such as RJ45 and mini jacks. Custom cables can be made using the pin-out for the MRX-1 jacks. Please refer to the devices' owner's manual for the pin-out of RS232 Terminals that are not DB9 connectors. (Universal Remote Control Part #'s: RS232M-male DB9 and RS232F-female DB9). Polarity (RS232): Tip = no connection, Ring 1 =TX (red wire), ring 2 = RX (white wire), ring 3=GND (shield).

1. Connect the 3.5 mono 4-circuit mini plug end of a URC RS232 Male or Female to the appropriate RS232 programmable output jack of the MRX-1 Network Base station.
2. Connect the DB9 Connector to the device RS232 Terminal. Tighten the thumb screws to secure the connection.

Once the connections have been made, the RS232 device properties need configuring before RS-232 communication can be established. The Baud Rate, Data bits, Parity and Stop Bit is supplied in the manufacturer's manual and must be entered into CCP. Once all the information has been supplied, each of the entered RS-232 commands can be tested to ensure communication and accuracy.



1. Within CCP, double click on MRX-1 within the House Designer Tree.
2. Double-click on MRX-1 in the House Designer tree.
3. An image of the MRX-1 appears in the middle window.

4. Click on the MRX-1 in the Model Designer window.
5. Click on the "Properties" tab at the lower right side of CCP
6. Click on RS-232 Port #1 on the actual MRX-1 image.
7. The Port 1 RS-232 Properties appear in the Properties tab.
8. Set the Baud Rate, Data, Parity and Stop Bits for the connected RS-232 component. (The manufacturer of the RS-232 component will provide the correct values.)
9. Click on RS-232 Port 2 and repeat the process if it will be controlling a component RS-232.

Relay

When connecting the MRX-1 Relay, the controlled device end may be terminated with a plug or connected to wire terminals. In either case, the connections to the MRX-1 Relays are the same for a given switch closure configuration. Discrete commands for open and close are programmable for three modes of operation: Latching, where the relay stays closed until told to open, (or stays open until told to close), Timed Momentary, where the relay can be set to stay open or closed for a specific duration, or Momentary, where the relay stays open or closed for as long as the remote button is pressed and held. *DURATION (TIMED MOMENTARY): .1 – 99.9 seconds. RATING: 30V;.5A*

NO (Normally Open)

1. For a device that PROVIDES VOLTAGE for use with a switch closure:
 - a. Connect the +V Terminal on the controlled device to the Relay NO terminal on the MRX-1 rear panel, using one of the included three -pin plug-in connectors.
 - b. Connect the Ground Terminal on the controlled device to the Relay COM Terminal using the same plug-in connector.
2. For a device that REQUIRES EXTERNAL CONTROL VOLTAGE:
 - a. Splice the ends of a 12 volt wall adapter and connect it to the Relay COM Terminal.
 - b. Connect the Relay NO Terminal to the +V Terminal on the controlled device.
 - c. Connect the GND terminal on the controlled device to the GND terminal on the MRX-1 rear panel.

When a properly programmed MRX-1 compatible remote sends an ON command, (latching, momentary or timed) RELAY will close and the controlled device will respond (turn ON an amplifier or powered sub, raise a lift, drop a screen, open or close drapes etc.). When the OFF command (latching, press and hold or time) is sent, RELAY will OPEN and the controlled device will respond (reverse previously switched mode). *WIRE GAUGE: 24-14 AWG two-conductor stranded; MAX LOAD: 30V;.5A.*

NC (Normally Closed)

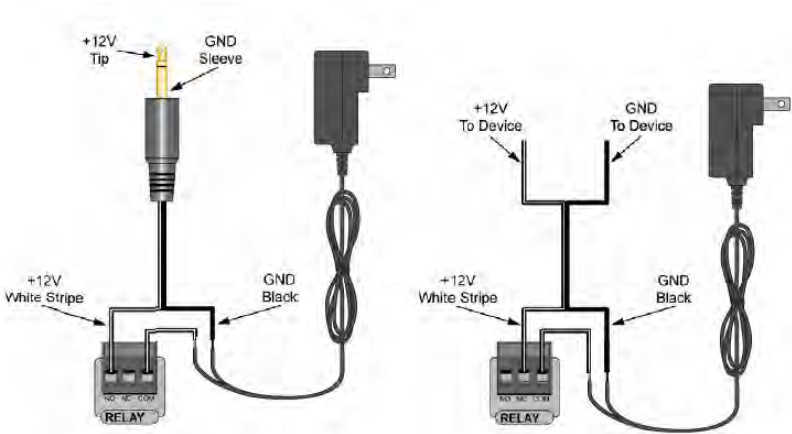
1. For a device that PROVIDES VOLTAGE for use with a switch closure:

- a. Connect the +V Terminal on the controlled device to the Relay NC Terminal on the MRX-1 rear panel, using one of the included Three-pin plug-in connectors.
- b. Connect the GROUND Terminal on the controlled device to the RELAY COM Terminal using the same plug-in connector.

2. For a device that REQUIRES EXTERNAL CONTROL VOLTAGE:

- a. Splice the ends of a 12 volt wall adapter and connect it to the Relay COM Terminal.
- b. Connect the RELAY NC Terminal to the +V Terminal on the controlled device.
- c. Connect the GND Terminal on the controlled device to the GND terminal on the MRX-1 rear panel.

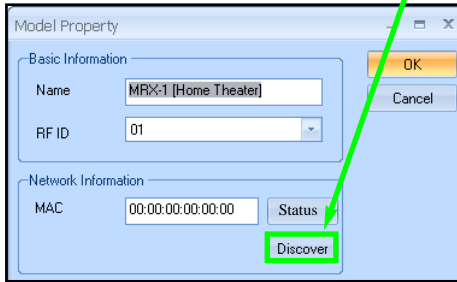
When a properly programmed MRX-1 compatible remote sends an ON command (latching, press and hold or timed), RELAY will OPEN and the controlled device will respond with an interruption to its normal action. When the OFF command (latching, press and hold or timed) is sent, RELAY will CLOSE and the controlled device will respond by resuming its normal action. WIRE GAUGE: 24-14 AWG two-conductor stranded; MAX LOAD: 30V; .5A.



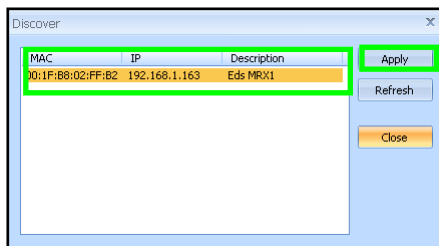
Network Discovery

Adding a MRX-1 in CCP, modifying it's Settings and testing RS-232 and Relay Commands.

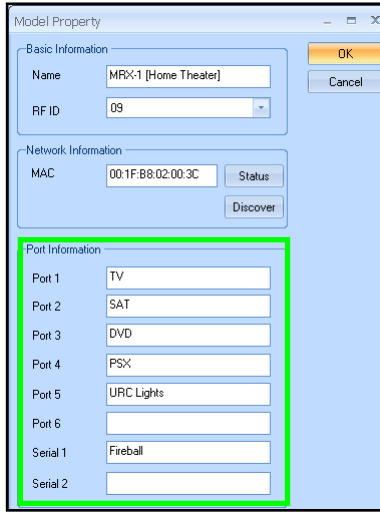
1. Inside the CCP editor, select Program then Configure Home.
2. Add a MRX-1 base station and the properties window opens.
3. Type in a descriptive Name for the MRX-1 unit and select a RFID if using a RFX-250.
4. Either type in the MAC address which can be found on a sticker located on the bottom of the unit or click on the Discover button.



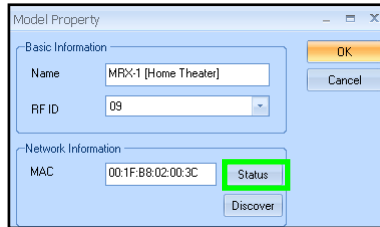
5. The Discover window opens to reveal a list of connected MRX-1 units. Highlight the preferred MRX-1 MAC address and select Apply. The Discover window closes.



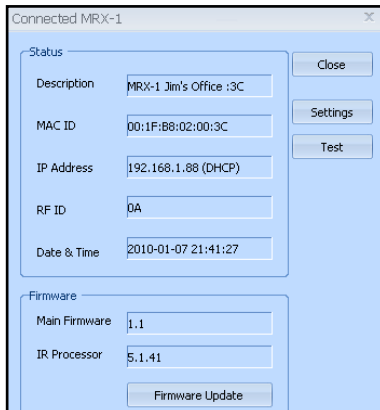
6. Now the MRX-1's MAC address will populate the MAC address field.



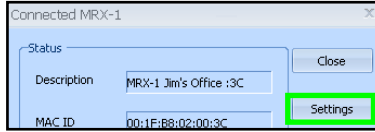
7. Within the Port Information field, type in the devices designated to each IR and Serial port.
8. Press the Status button to open the Status and Firmware window.



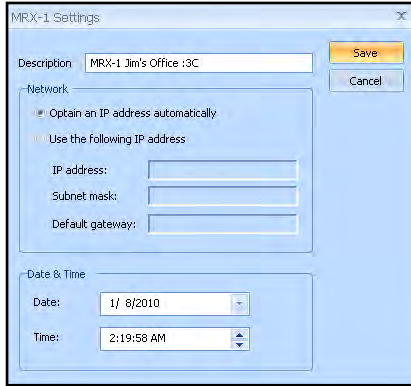
9. The Status and Firmware window opens to reveal the current description, MAC ID, IP Address, RFID, Date and Time, Firmware version and update button.



- From the Status window, press the Settings button to open the Settings window.



- The Settings window allows changes to be made to the description name, a dynamic or static IP address, or the Date & Time. Press Save to return to the Status window.

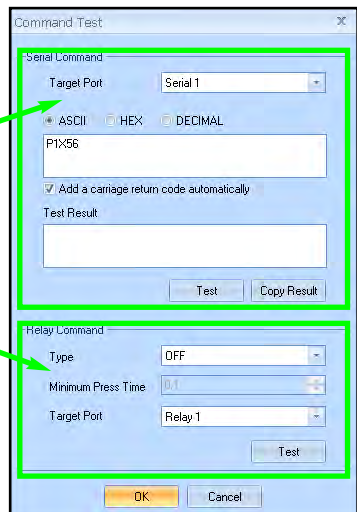


- From the Status window, press the Test button to open the Test window.

- The Test window provides realtime RS-232 and Relay command testing. Press Ok to return to the Status screen.

The Serial Command field box allows you to enter RS-232 commands in either ASCII, HEX or DECIMAL then Test and see it's result.

The Relay Command field allows for device command testing.



Overview of IR Routing

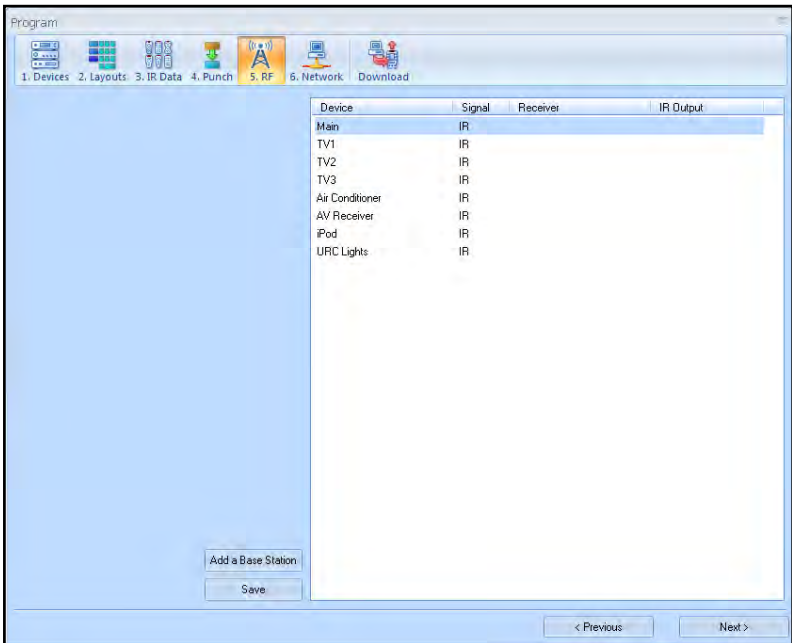
There are several considerations to take into account when you are installing an MRX-1 to control an array of identical components:

1. Each identical component must receive IR commands ONLY from a dedicated Flasher affixed to its front panel or a rear panel direct IR input. The SIGNAL of the remote should be set to Network or RF ONLY for each identical component. IR can still be utilized for other devices in your system!
2. When connecting a flasher from the MRX-1 to your component make sure to notate the Flasher Output Number being used.

Network or RF Setup in CCP

1. Open the RF Setup Window in CCP

The RF Setup window opens after selecting RF Control from the Program Menu. The RF Setup window is composed of a “spread sheet” of options for EACH of your devices.



2. Adjust the Signal For Each of the Identical Devices

The RF Setup window enables you to adjust the Signal output for each device individually, by clicking on the intersection of a row and a column and then selecting Network or RF (for optional RFX-250) from the three options shown in the pull down list box.

Select Network or RF (for optional RFX-250) from the three options shown for EACH of the identical TVs. You may leave the other components with no flashers set to IR.

Device	Signal	Receiver	IR Output
Main	RF	MRX-1 [Home Theater]	ALL
TV1	Network	MRX-1 [Home Theater]	Port 1
TV2	Network	MRX-1 [Home Theater]	Port 2
TV3	Network	MRX-1 [Home Theater]	Port 3
Air Conditioner	IR		
AV Receiver	RF	MRX-1 [Home Theater]	Port 4
iPod	Network	MRX-1 [Home Theater]	Port 5
URC Lights	Network	MRX-1 [Home Theater]	Port 6

3. Select a Receiver to Control Identical Devices

Choose a Base station to send commands over the Network or via RF to control multiple components.

4. Adjust the IR Outputs For Each of the Identical Devices

The RF Setup window enables you to adjust which Flashers output by the remote control for each device individually, by clicking on the intersection of a row and a column and then selecting **Ports 1-6** from the seven options shown in the pull down list box.

Select the correct IR Output (refer to your connection notes) for EACH of the identical TVs. You may leave the other components of the system set to ALL. In the figure below, each device is set to a specific flasher.

Device	Signal	Receiver	IR Output
Main	RF	MRX-1 [Home Theater]	ALL
TV1	Network	MRX-1 [Home Theater]	Port 1
TV2	Network	MRX-1 [Home Theater]	Port 2
TV3	Network	MRX-1 [Home Theater]	Port 3
Air Conditioner	IR		
AV Receiver	Network	MRX-1 [Home Theater]	Port 4
iPod	Network	MRX-1 [Home Theater]	Port 5
URC Lights	Network	MRX-1 [Home Theater]	Port 6

5. Close the RF window and Download to the Remote.

IR Over Narrow Band via Optional RFX-250

Note: RF remotes via RFX-250 can only control IR components. RS232, Relay and Sensor control are not available to RF remotes.

1. Power on all AV components, lower all dimmers to 50% and power on anything that may create RF Interference (particularly devices with high speed microprocessors or hard drives).



2. Check that the address wheel on the back of the MRX-1 is set to ID#0 (the interference “sniffing” position). If it is not, use the included small flat blade screwdriver to set the RF ID# to 0.
3. Connect the MRX-1 to its DC wall adapter and plug the wall adapter into a live AC outlet. Place the MRX-1 in a convenient central location in the equipment rack. Unlike an MRF-250, the MRX-1 can be placed next to components with hard drives or high speed microprocessors. There is no RF circuitry inside the MRX-1 itself.
4. Connect the RFX-250 to the MRX-1’s RF INPUT jack as shown.

When connecting a single RFX-250 to the MRX-1 utilize the cable with 3.5 mm plugs on both ends. When you need a longer wire or are connecting up to three RFX-250s, use a cable with tinned ends or splice it. Cable can be extended as much as 200', then connected to the spliced end of a 3.5mm cable.

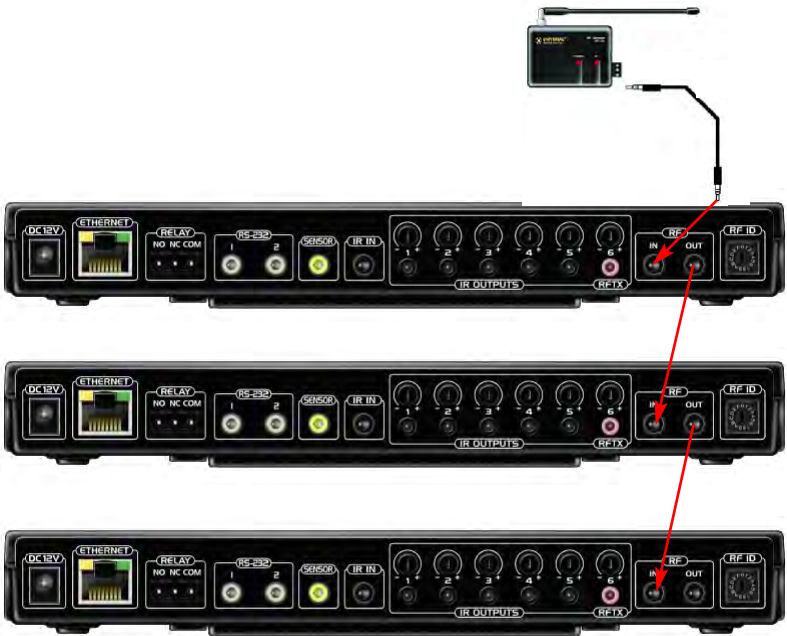


5. Observe the RF LED of the RFX-250. Cup your hand over the RFX-250's RF LED. If it is glowing or flickering you must relocate the RFX-250 to a location where the LED does not flicker.
6. Observe the STATUS LED of the MRX-1. It is a little more sensitive than the RFX-250. If you see any flickering of this LED, move the RFX-250 to a new location. If your installation location simply doesn't offer you any choice and you are detecting interference everywhere you place the RFX-250, you have three last resort options:
 - a. Remove the RFX-250's antenna. This will reduce the range enormously, but may still be enough for this client.
 - b. Extend a wire to another room. Try this over the floor first, before attempting to conceal the wire.
 - c. Admit defeat and install a "pointing again" IR repeater system. If no buttons are pressed on any remote control, no valid RF transmissions are being received.
7. Once you have found a location that is absolutely clean with all components on, test to see if the range is adequate and that macro reliability is perfect. Start with the antenna angle set to 45 degrees and positioned so that the long side of the antenna is facing the customer's favorite seating position. When testing, set both the remote and the MRX-1 to the same VALID RF ID#. Keep in mind that zero (0) is not a valid RFID#. Watch the STATUS LED on MRX-1 - it should light every time you press a button on the remote. This will tell you that the signal was received and understood. You can ignore the RF LED on the RFX-250 (it only indicates that a signal was received, not that it was understood).
8. If the range is inadequate, you may extend the wire to any area that is not getting good results and place an additional RFX-250 in that area. Up to three RFX-250s can be connected to one MRX-1.
9. Should you need more than six IR Outputs, connect as many as three different MRX-1s to one RFX-250 in a daisy chain using the supplied cable. To preserve addressability, set each MRX-1 to a different RF ID number. Remember "0" (zero) is not a valid RF ID.

Connecting multiple MRX-1's via RF Out

Multiple MRX-1 units can be daisy chained to control an unlimited amount of components in a home theater equipment rack. Follow the procedure below to daisy chain two or more MRX-1 units.

1. Connect the RFX-250 to the RF In 3.5 mm jack of the first MRX-1 unit.
2. Use another 3.5mm cable included with each MRX-1 to connect to RF Out of the first MRX-1 to RF In of the second.
3. Repeat Step 2 for multiple MRX-1 units.



RF IN: using the included 10' three circuit mini-mini plug cable.
 POLARITY: Tip=+5VDC; RING=data; SLEEVE=GND.
RF Out: TIP=data; Sleeve=GND.

Frequently Asked Questions

Can I use flasher/emitters that I have already installed in the system to connect to the MRX-1?

Yes, the flashers are compatible if they use 3.5mm mono mini plugs with the same polarity (Tip is data, sleeve is ground). It is important to notate the RFTX-1 shared port utilizes a sleeved emitter for long term use.

I'm getting inconsistent operation regardless of flasher level or position.

Some components are easily overloaded with IR from nearby flashers. Prevent IR from affecting the problem component from other flashers by setting the device to a specific IR Line Output instead of ALL, then adjust the Line Output.

I am unable to control my URC Lighting Dimmer/Switch with the MRX-1. Now what?

Make sure the RF switch on the RFTX-1 is set to the correct frequency for the URC Dimmer or Switch. URC Lighting Models MRFA is 418MHz and MRFB is 433MHz.

How do I update the firmware?

Make sure the MRX-1 is connected to the Network then open CCP and click on the Firmware button located

How can I set my MRX-1 to factory default?

Look on the bottom of the MRX-1 and remove the cover plate to reveal a reset button. Reboot the unit by pressing the reset button once or press and hold for three seconds to factory default the unit.

Specifications

Network: One 10/100 Ethernet port

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

Sensor: One sensor supports Video or Voltage sensing via URC 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: 8.4 oz.

Size: 248 x 120mm x28mm

Power: 12v External Power Supply

USA Limited Warranty Statement

Your Universal Remote Control, when delivered to you in new condition, is warranted against defects in materials or workmanship as follows: UNIVERSAL REMOTE CONTROL, INC. warrants this product against defects in material or workmanship for a period of one (1) year and as set forth below. Universal Remote Control will, at its sole option, repair the product using new or comparable rebuilt parts, or exchange the product for a comparable new or rebuilt product. In the event of a defect, these are your exclusive remedies.

This Limited Warranty covers only the hardware components packaged with the Product. It does not cover technical assistance for hardware or software usage and it does not cover any software products whether or not contained in the Product; any such software is provided "AS IS" unless expressly provided for in any enclosed software Limited Warranty.

To obtain warranty service, you must deliver the product, freight prepaid, in its original packaging or packaging affording adequate protection to Universal Remote Control at the address provided in the Owner's Manual. It is your responsibility to backup any macro programming, artwork, software or other materials that may have been programmed into your unit. It is likely that such data, software, or other materials will be lost during service and Universal Remote Control 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 product support and other important information visit Universal Remote Control's website: <http://www.UniversalRemoteControl.com> or call the Universal Remote Control Customer Service Center (914) 835-4484.

This Limited Warranty only covers product 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 Universal Remote Control product. This Limited Warranty does not cover Universal Remote Control products 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 product. This Limited Warranty is valid only in the United States of America. This Limited Warranty specifically excludes products sold by unauthorized resellers.

Information To The User

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.



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