

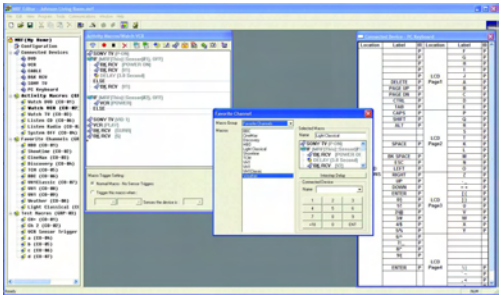
Hardware Designed For Professional Installers - Designed to Equip You With Instant Diagnostic Tools



Installing and programming the MSC-400 Master System Controller is sped enormously by a combination of hardware and software design features. The MSC-400 is optimized for installation in a equipment rack or cabinet. Softly glowing blue and green LED's on the front panel indicate connections, sensor status and the RF environment. In one glance, the professional installer can diagnose the system. When programming is required, the installer simply connects a laptop via USB cable to the front panel programming port. No controls are accessible to the end user (even if the end user were to connect to the MSC-400's programming port, they cannot upload the configuration).

Software Designed For Professional Installers - Designed to Optimize Programming Flexibility with SPEED

MRF Editor software offers extensive control options, RS232 Two Way Diagnosis, IF/ELSE nesting logic and elaborate speed options, like the channel favorites tool, which enables installers to program dozens of numeric keypad macros in seconds. The result, no limits on your imagination when it comes to dreaming up new features to make operation easier and fast, fast programming...



Expands to Control 22 Components

The unique Master/Slave programming options enables installers to combine two MSC-400's into one equipment location with complete integration of all macros in one Master MSC-400. The two MSC-400's are slaved together via the #12 RS-232 Ports on both units. Thus a combined system controls 22 components.

Specifications

Microprocessor: Advanced ARM7TDMI microprocessor enables the MSC-400 to perform sophisticated logic, with nested IF ELSE statements and tests of sensors and variables.

Memory: 32 Megabytes of SDRAM and 64 Megabytes of NAND Flash Memory enable the MSC-400 to support vast, complex configurations.

Macro Capability: Supports up to 32,640 macros of 255 steps in each macro. Since Macros can be nested as one step inside another Macro, there is no realistic limit for macro steps.

- Learning Capability:** Standard frequencies (15kHz to 460kHz)
- RF Range** (Radio Frequency): 50 to 100 feet, depending upon the environment
- RF Frequency:** 418 MHz
- Weight:** 77.6 oz.
- Size:** 17.25" x 8.5" x 2.5"



MSC-400 System

Narrow Band RF Remotes Trigger Automation of RS-232, IR and Relay Controlled Components and Systems

MSC-400 MASTER SYSTEM CONTROLLER

High performance audio video systems can include IR (infrared controlled devices such as Satellite and Cable set top boxes, DVD players etc.), RS-232 (serial controlled devices such as projectors, surround sound receivers and media servers), and Relay and Voltage controlled devices (such as lights, drapes, curtains and blinds). The MSC-400 Master System Controller is designed to seamlessly automate all of these types of devices. Installation of the MSC-400 insures that any future purchase can be successfully integrated regardless of its control method.

VARIETY OF USER INTERFACES

In the MSC-400 System, there are four compatible remote controls which can be programmed to interface with the Master System Controller; the MX-3000, MX-950, TX-1000 and the MX-900. All have unique options for customization to any client's tastes and needs, up to a unique graphical style for every room and every user.

THE COMBINATION - ULTIMATE RELIABILITY, FLEXIBILITY AND POWER

In a system equipped with an MSC-400, the remote control in the hands of the user has a very easy task compared to lesser systems. Instead of sending multi-step macros (each step vulnerable to a mistake in pointing or other accidental interference), the remote sends an instantaneous digital RF (Radio Frequency) command to the MSC-400. This RF command is constructed with a unique error correction algorithm for incredible RF range and reliability. Once the RF "trigger" command is received by the MSC-400, sophisticated sensors, control ports, vast memory and machine intelligence go to work. Instead of a simple macro, the MSC-400 intelligently tests each component to see whether it is on or off, then sends the exact commands needed to reconfigure the system. As a result, the system responds perfectly to the user, as if an invisible engineer was concealed in the system cabinet, operating the system for them.



MSC-400 System Control Capabilities

A Control up to 12 Devices via IR - Controls standard IR (Infrared) controlled audio video components. There are six IR-only outputs, and six IR or RS-232 outputs. Each can be individually adjusted and is compatible with rear panel IR inputs on components or can be connected to IR emitters (6 IR emitters are included with the MSC-400, additional emitters can be purchased six at a time).

B On/Off Status of up to 6 Devices - There are six video or voltage sensor inputs to test whether a component is On or Off. Components like DVD players and VCRs output video when on, no video when off. By installing a URC VID Video Sensor and connecting to the MSC-400, the MSC-400 will detect that the component is on or off. Components like CATV set top boxes have a switched outlet. If a low voltage wall adapter (5-24 V AC or DC) is plugged into the components switched outlet and

then connected to a URC VS-100 Voltage Sensor, the MSC-400 can detect whether the component is on or off. By combining the optional VS-100 with products from other companies that detect light, current, RF etc. the MSC-400 can reliably test on off status of almost any kind of component.

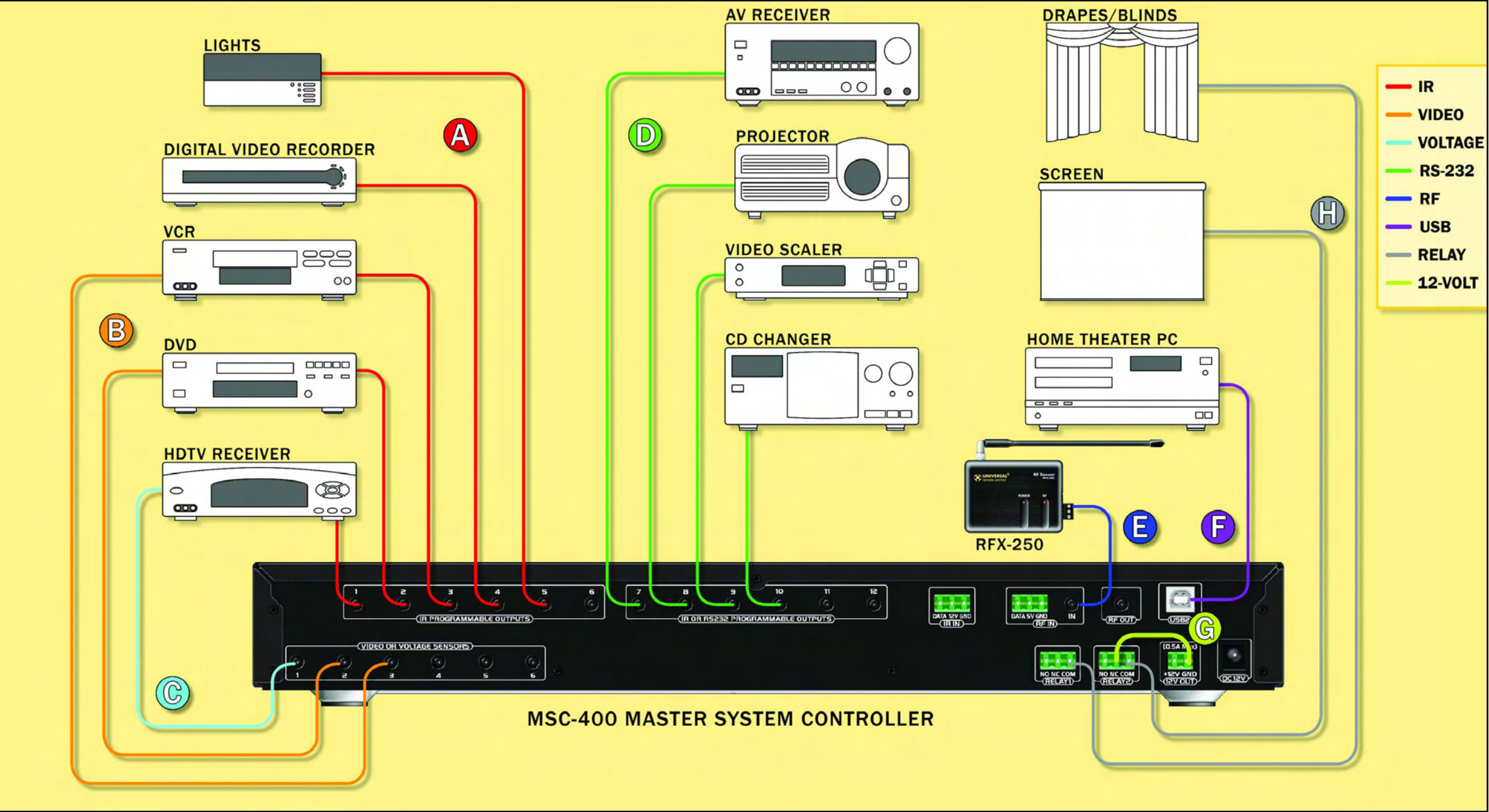
D Control up to 6 Devices via RS-232 - IR ports 7-12 can be configured to be RS-232 instead of IR. The installer uses the optional URC RS232 cables and when needed, the URC MM6 Male to Male gender adapter to connect the MSC-400 to any RS-232 device that can be controlled via TX, RX and GND only.

E Expand RF Range to Cover Estates, Connect up to 3 RF Receivers - The MSC-400 includes one RFX-250 RF Receiver. The receiver is separate from

the Master System Controller to optimize freedom from RF Interference and speed installation. Via the MSC-400's RF Inputs, up to three RFX-250's can be connected. Since each RFX-250 typically gives 50-100 feet of range, huge estates can be given robust, reliable RF via a network of wired RF receivers.

F Use remotes as PC Keyboards - Via the USB connector on the rear of the MSC-400, Complete Control remotes can be programmed to act as PC keyboards on any winPC with a USB port.

G H Control Screens, Drapes and Lifts - Via the two relay connectors and the convenient 12v power outlet on the rear of the MSC-400, devices that are controlled by applying a 12v Trigger voltage or by contacts opening and closing, can be automated by the MSC-400.



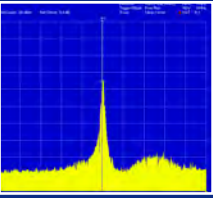
New Narrow Band RF Transmission and Reception

Any audio video system, by it's very nature, includes components with high speed micro-processors which produce wide band localized RF interference. The combination of new versions of the MX-3000, MX-950, TX-1000 and the MX-900 with the RFX-250 provides ultra reliable RF via the extraordinarily specific narrow band reception of the RFX-250. A new protocol enables hundreds of complex macros, each with hundreds of steps and all stored in the MSC-400 to be individually triggered with a single button push on the remote control regardless of the interference and noise in the environment.



MX-3000 Color Touch Screen

The combination of very narrow transmission of digitally encoded packets sent THREE times at digital speeds in milliseconds, assures that every button press on the remote will be received by the MSC-400. The MSC-400's sophisticated error correction circitry stores all three packets and compares them. Once two packets are identified as identical, the MSC-400 goes to work.



Narrow Band RF Transmission.



MX-900 Wand Style

This new technology not only increases range, but increases reliabilty by a vast margin. Only the Complete Control MX-3000, MX-950, TX-1000 and MX-900 are equipped with both the new Narrow Band Transmitters and the new RF Protocol.



TX-1000 Tablet Style



RFX-250 Narrow Band RF Receiver (Included with the MSC-400)

COMPLETE CONTROL