

SCS 30/60 **SENTRY COMMUNICATIONS** **SYSTEMS**

RMX-140

- **DURESS ALARM**
- **ULTRASONIC ADDRESSABLE RECEIVER**
- **TRANSPONDER**
- **REMOTE DEVICE SWITCH**
- **QUAD HEAD**

GENERAL DESCRIPTION AND OPERATION

The RMX-140 is an integrated receiver and MUX combination. The following information applies to all RMX-140 devices.

The receiver section of the RMX-140 is activated by any of the three SCS/SCAN Transmitters (P-105, LC-210, LC-110). The receiver portion of the unit converts the 43Khz ultrasonic signal from the transmitter to an electrical signal and activates the multiplexer portion. Upon activation the red LED will flash and is visible for fifty feet in an indoor lighted environment. The receiver is an integral part of the multiplexer and serves as an addressable receiver in areas where a specific zone would require a single receiver. The RMX-140 also supports a normally open or normally closed dry contact reed relay with a current capacity rated at 10VA at 500 milliamps. This relay can be used to control auxiliary equipment. In addition, the receiver supports a mosfet open drain that may be used to operate additional auxiliary equipment. The MUX portion uses the same microprocessor controlled zone communication format as a MUX-100. It processes a momentary or latched contact closure and transmits that information to any of the master control and annunciator units (MPA-30/60) where an alarm signal is latched.

The RMX-140 communication and power lines are transient and short circuit protected.

COMMUNICATION

Communication with the MPA 30/60 is via an RS485 two conductor shielded AWG #20 cable at 19,200 BAUD. Each RMX-140 is polled a minimum of four times per second.

PROGRAMMING

Programming is accomplished by setting a six position dip switch to a unique address for each RMX-140 using an inverted six bit BCD code. Fig. 1 Shows a BCD code setting for the dip switch setting for zone number 22.

COVERAGE

The range for reliable reception of the signal from any SCS transmitter is not more than 50 feet at any angle up to 70 degrees off-axis. At greater than 70 degrees, range is dependent on the room acoustics but generally decreases to about 30 feet. The range of the RMX-140 may be adjusted by turning the 20K Ω potentiometer counterclockwise to decrease and clockwise to increase sensitivity. NOTE: Aside from the unique address the 20K Ω pot is the only field adjustment that may be required or should be made.

ELECTRICAL

The RMX-140 operates at 24 VDC and requires 15 milliamperes quiescent current. The RMX-140 is capable of supplying up to 500 milliamperes divided between the output to the MUX receiver and the local alarm output. All connections are made through removable screw clamp terminal blocks which will accept wires from AWG #22-#14.

MECHANICAL

The RMX-140 is 2.75 x 2.75 x 1.5 inches. It will fit into a standard 2 gang extra deep electrical outlet box. **NOTE: Care should be taken to insure that the dip switch setting is not inadvertently changed when inserting the RMX-140 into the two gang wall box.** The RMX-140 is the standard receiver and MUX combination. As such, the unit is mounted on a 2 gang stainless steel plate, operates with single frequency

transition, supports a normally open relay and has a single transducer. The receiver and MUX combinations can support the various mechanical and electrical combination offered by Sentry Products, Inc. These include multiple head configurations (RMX-140 & RMX-120), variations in faceplate materials (Stainless or High Impact Bone Color ABS Plastic), weather resistant and high security vandal resistant options, as well as single transmission frequencies, latching relays etc. For audio or dual frequency capabilities consult your factory representative.

When designing a system be sure to use the exact model designation for the desired RMX-140 options or combinations.

CONNECTIONS

System connections are by the seven pin terminal block located on the back of the RMX-140. System wiring includes a shielded twisted pair AWG #22 RS485 line for communication (Belden 8761, West Penn D291, or equivalent) and an AWG #14, 16, or 18 pair for system power.

A latched dry contact reed relay output is also provided from the two pin terminal block JP2 immediately adjacent to the seven pin communications connector JP1 on the back of the RMX-140.

ON LINE DIAGNOSTICS

The microprocessor on the RMX-140 updates the diagnostic status register approximately every 100 or so milliseconds. Based on the result it displays the status of the communications interface and the operation of the RMX-140 on the green LED DS1 located by TP3 and opposite the dip switches. The green LED ON indicates proper communication with the master control and properly functioning RMX-140.

MAINTENANCE

Normally no maintenance is required on the RMX-140. In the unlikely event of failure, please consult your system operations guide. In most cases, the unit can be repaired within 48 hours of receipt at factory.

ENGINEERING SPECIFICATION

The zone communicator and receiver combination must have the capability to function as a single unit and be mounted in a single two gang extra deep electrical outlet box. It must be able to support alarm contact closures of greater than 0.25 seconds. Communication must be via an RS485 two conductor shielded cable at 19,200 BAUD. The unit must have a latched local alarm output of 24 VDC. It must have the ability to reset the local alarm output by command. The dimensions shall not exceed 2.75 x 2.75 x 2.5 inches. All connections shall be via removable terminal blocks. One of sixty addresses must be selectable. The unit must be able to function as a single addressable receiver, and zone module where a

single receiver zone is required.

In addition, the unit shall have a flashing red alarm LED that is visible up to fifty feet. It shall have a range of not more than fifty feet up to 70 degrees off-axis from any given transducer (see Figure 2). It must be available in configurations that allow for cell, room, day-room, corridor, laundry, shower and outdoor areas. It must also have configurations that allow for single frequencies single and dual or quad head, latching or momentary relay operation and capability to communicate with other computing devices via RS-485 protocol if necessary.

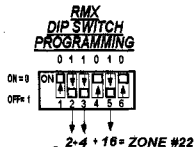


Figure 1

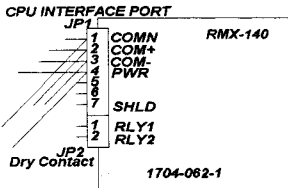
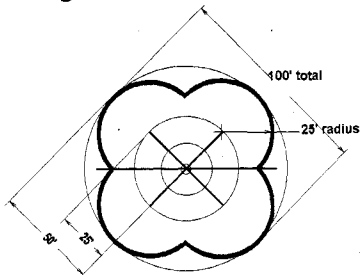


Figure 2



Quad Head Coverage Pattern
At Maximum Sensitivity