

Installation & Operating Instructions

R-1 Wireless Receiver



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GENERAL INFORMATION

The primary source of power for the R-1 is from the low voltage plug-in transformer included with the unit. Stand-by power can be provided by either dry cell batteries or by using the RK-12 Recharger Kit. When power is connected to the R-1, the system is on. If any associated transmitters are triggered, the R-1 will respond with a relay activation.

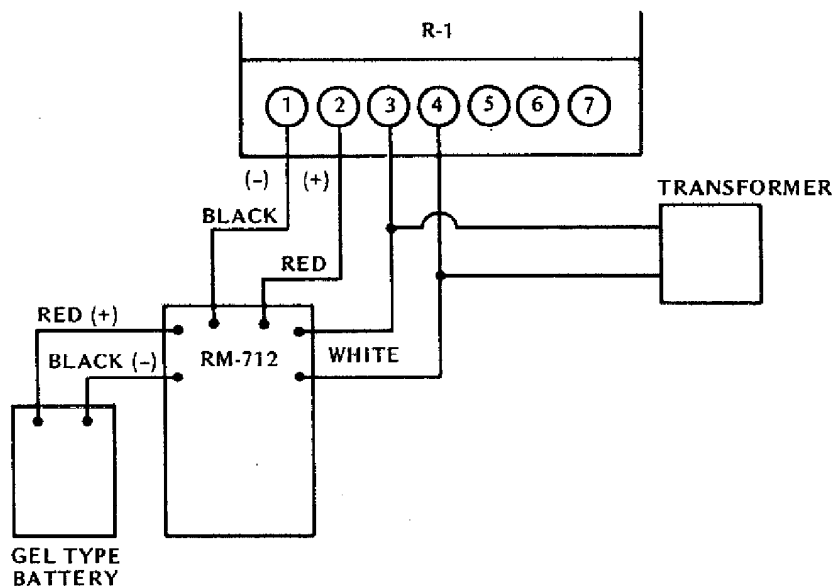
The unit has an internal relay that provides either a normally open or normally closed set of 2 amp contacts for approximately one second upon activation. This relay can be used in conjunction with any Napco control panel, telephone dialer, or digital dialer.

MOUNTING CONSIDERATIONS

1. The best receiver reception is obtained by locating the whip antenna vertically. Avoid mounting the receiver directly on or near large metal surfaces that might create shielding.
2. Do not mount the R-1 within a 30' radius of a garage door opener receiver, a Napco CAU receiver, or another R-1. Two or more receivers of this type in close proximity could cause false alarming.
3. Care should be taken when the R-1 shares stand-by battery power with other units (i.e. dialers or control panels). This is because the R-1's negative voltage output is connected to its housing. It therefore becomes imperative that the housing does not touch any metal surface. Whenever possible, the R-1 should be mounted using the double-stick tape pads supplied with the unit.

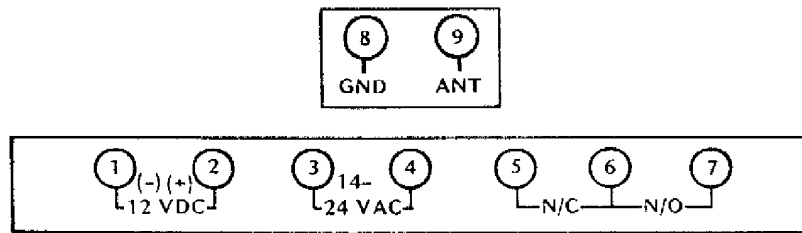
POWER

Primary power is derived from the low voltage transformer provided with the unit. For stand-by power, either a 12 volt DC dry battery (equivalent to an Eveready 732) or the Napco RK-12 Recharger Kit may be used. The 12 volt battery should be replaced once a year as part of normal maintenance. The recharger kit includes a gel type rechargeable battery and the RM-712 Recharger Module.



CAUTION: The recharger kit must be used only with the transformer supplied with the R-1.

TERMINAL IDENTIFICATION



TERMINAL 1: (-) 12 volt DC stand-by power source (observe polarity).

TERMINAL 2: (+) 12 volt DC stand-by power source (observe polarity).

TERMINALS 3 & 4: AC power from transformer included with unit (no polarity).

TERMINALS 5 & 6: Normally closed output which opens the circuit upon activation.

TERMINALS 6 & 7: Normally open output which closes the circuit upon activation.

TERMINAL 8: Antenna ground - use *only* when ERA-1 remote antenna is used.

TERMINAL 9: Antenna connection - either whip or optional ERA-1 Extended Range Antenna.

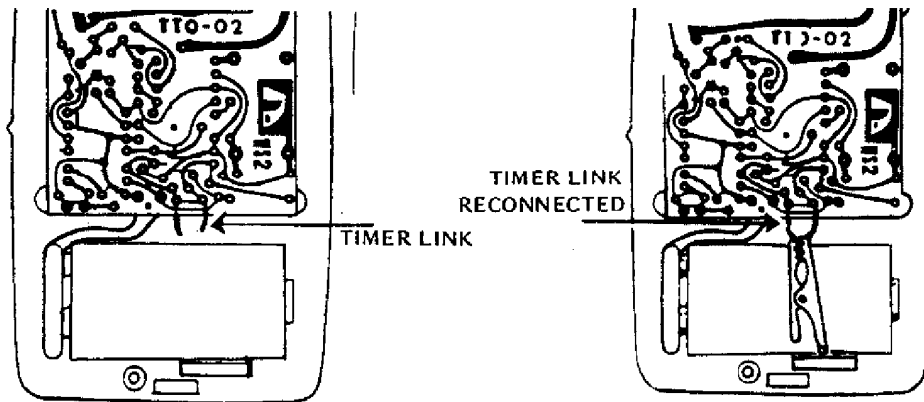
RANGE ADJUSTMENT

The R-1 is supplied with a 10" whip antenna which allows a clear field transmitter to receiver range of 200'. By attaching the optional ERA-1 antenna, the clear field range increases to approximately 800'. To prevent interaction between systems installed in neighboring apartments, condominiums, or offices, the R-1 range can be field-reduced by a single range adjustment which is factory set for maximum range.

There are two common methods of range adjustment.

Method 'A'

1. Remove the cover of a WS-2 (leave the pigtails closed).
2. Hold the WS-2 with the battery closest to you.
3. Locate the jumper on the right corner of the printed circuit board near the battery. This jumper is the timer link which has been cut so that the transmitter will comply with FCC regulations by shutting off after one second of transmission.
4. Remove the insulation from the link with a pair of needle-nose pliers.
5. Reconnect the link with an alligator clip.
6. Put this WS-2 as near as possible to the farthest transmitter from the R-1 and plug in the R-1 transformer.
7. Set the range adjustment for minimum range by turning it fully counterclockwise.
8. Open the pigtails of the WS-2. Because its timer link has been reconnected, the WS-2 will continue to transmit until the pigtails are closed.
9. Gradually increase the range of the R-1 by turning the range adjustment clockwise until a click is heard. This is the proper range setting.
10. Disconnect the timer link of the WS-2. (A WS-1 or WS-3 may also be used. With the timer link connected, the WS-1 will transmit as long as the magnet is removed from the side of the sensor. The WS-3 will transmit as long as the pigtails are closed.)



Method 'B'

1. Remove the metal button at the upper left corner (holding the R-1 with the antenna terminals up) with a screwdriver or pliers. The proper range is obtained as follows:
2. Set the adjustment for slightly more than minimum range by turning it fully counterclockwise, and then slightly clockwise. Use a small blade or jeweler's screwdriver for this purpose.
3. Activate the farthest transmitter from the R-1.
4. If this does not initiate an alarm, turn the adjustment slightly clockwise.
5. Repeat steps 3 and 4 until the transmitter initiates an alarm. At this point, the range adjustment is properly set.

NOTE: Wait at least 30 seconds between transmissions to obtain an accurate setting.

SENSING DEVICES/TRANSMITTERS

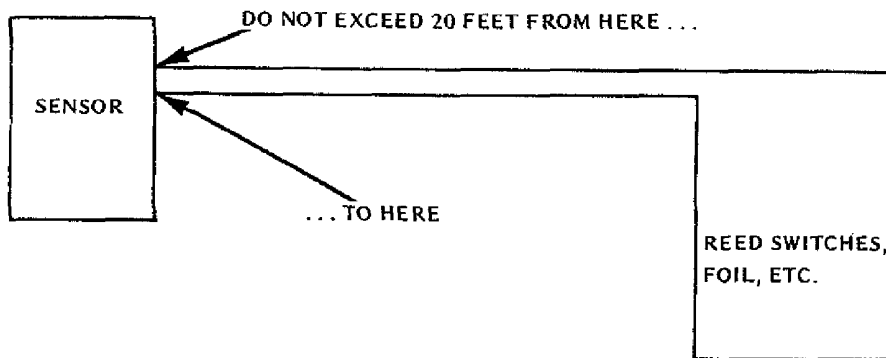
FREQUENCY CODING: The standard frequency code of the R-1 is 277 mHz - 14 mHz. Be sure to order all transmitters tuned to this code. If another frequency is required, order transmitters to match.

MAINTENANCE: All transmitters are designed such that ordinary maintenance consists of only battery replacement. Battery life is essentially the shelf life of the battery: typically, one year for zinc-carbon batteries. Transmitters should be checked periodically and the batteries should be replaced when necessary. Recommended replacement batteries are: Eveready 216, Burgess 2U6, RCA VS323, Mallory M1604.

INSTALLATION CONSIDERATIONS:

1. For the best long range operation, try to avoid mounting on metal doors, ducting, and all other metal surfaces that might create shielding.
2. Avoid placement of transmitters in direct sunlight. Unusually high temperatures, as created by direct sunlight, may severely reduce battery life.
3. It is recommended that all transmitters and magnets be mounted with screws wherever possible. Mounting holes are provided on all transmitters and magnets. In areas where screws cannot be used, double-sided tape can be substituted. The surface upon which the double-sided tape is attached must be clean and dry.
4. External input leads for DS-2 and DS-3 are independent of the key switch. These inputs can be activated when the key switch is in either the 'On' or 'Off' position. These external inputs do not have a 15 second delay.
5. If private company labels are to be inserted *anywhere* within the transmitters, *do not use* foil or metallic labels of any sort.

6. *Avoid* connecting leads from WS-2 or DS-2 into any circuit containing a vibration contact. This device must be adjusted to near-peak sensitivity in order to obtain sufficient 'broken-circuit' time for transmitter response which could lead to false alarming. The WS-4 is designed for use with the Napco GG-1 window break detector and vibration detectors.
7. When wiring the WS-2, WS-3, DS-2, DS-3, or TD-1 to reed switches, foil, switch mats, internal detection devices, etc., do not allow the total loop (single wire) to exceed 40 feet. (A 40 foot loop is 20 feet of two-conductor wire.) If twisted wire is not used, give the two-conductor a half twist about every two feet.



FIRE TRANSMITTER: Fire transmitters of the fixed temperature variety are available in two temperature ranges; 131°F for areas of normal room temperature, and 175°F for high temperature areas such as boiler rooms and attics.

PANIC BUTTON: The panic button is an emergency aid summoning device which can be carried about the protected premises. It is used anywhere within the operating radius of a receiver. Activation is accomplished by firmly pressing the emergency button.

WS TRANSMITTERS: The WS series of intrusion transmitters provide surveillance of windows and other openings.

- WS-1 Transmitter that has an internal magnetic switch and is activated by separating it from its associated magnet. While the protected opening is closed, the distance between the magnet and the transmitter should be no more than ½", and the magnet and transmitter index points should be in line with each other.
- WS-2 N/C transmitter that has a 24" lead wire, that can be connected to any normally closed sensor that opens the circuit upon activation.
- WS-3 N/O transmitter that has a 24" lead wire, that can be connected to any normally open sensor that closes the circuit upon activation.
- WS-4 N/C transmitter that has a 24" lead wire, used with normally closed GG-1 window break detectors or vibration contacts that open the circuit upon activation.

DS TRANSMITTERS: The DS series of intrusion transmitters provide surveillance of entrance doors. A 15 second time delay is provided to allow authorized persons to enter and exit freely without setting off the alarm.

- DS-1 Transmitter that has an internal magnetic switch and is activated by separating it from its associated magnet. The distance between the magnet and the transmitter should be no more than ½" when the door is closed, and the magnet and transmitter index points should be in line with each other.
- DS-2 Same as DS-1 with the addition of a N/C lead that can be used with window foiling, if there is glass on the protected door.

- DS-3 Same as DS-1 with the addition of a N/O lead that can be used in conjunction with a switch mat.
- TD-1 Transmits 15 seconds after normally closed pigtails are opened. May be armed and disarmed by keyswitch. For use with magnetic switches, ultrasonics, infrareds, photo electric, or any other device supplying open circuit upon activation.

DS OPERATING PROCEDURE:

- A. How to establish door intrusion surveillance upon leaving the premises.
 1. Insert key into door intrusion transmitter and turn to 'Off' position, then turn to the 'On' position, and remove the key.
 2. Exit within 15 seconds and close the door behind you.
 3. Automatically, door intrusion surveillance is established after 30 seconds.
- B. How to establish door intrusion surveillance while remaining inside premises.
 1. With door closed, insert key into door intrusion transmitter and turn to 'Off' position, then to the 'On' position, and remove the key.
 2. Automatically, door intrusion surveillance is established after 30 seconds.
- C. How to establish free passage through door.
 1. Set key switch to 'Off' position.
 2. Door is disarmed allowing free passage.
- D. How authorized persons enter a protected door.
 1. Open door and enter.
 2. Insert key in door intrusion sensor and turn key to 'Off' position. This must be accomplished within 15 seconds to avoid sounding the alarm.

USING THE R-1 WITH TELEPHONE & DIGITAL DIALERS

MK-4000 Series & MK-5000 Series: For convenience, power to the R-1 may be provided by using the transformer of the dialer. The dialer's stand-by power, either dry cell or rechargeable battery may also be used with the R-1.

WIRING:

R-1 TERMINAL	DIALER TERMINAL CONNECTION
7	2 -- for Channel A activation
7	6 -- for Channel B activation
6	3 -- must be connected to use either channel.

When using the R-1 to activate Channel A, set the automatic abort switch in the 'Off' position.

TD-420 & DD-450: For primary power, the R-1 must use its own transformer when working with the TD-420 or DD-450. Stand-by 12 volt DC power may be shared by using either a dry cell battery or the Napco RK-12 Recharger Kit which includes Recharger Module RM-712 and Rechargeable Gel Type Battery RBAT-1. When using the recharger kit, it will be found to be advantageous to mount the components within the dialer's case.

WIRING:

R-1 TERMINAL	DIALER TERMINAL CONNECTION -- FOR TD-420 ONLY
7	1 -- for Channel A activation
7	4 -- for Channel B activation
6	3 must be connected to use either channel.

R-1 TERMINAL	DIALER TERMINAL CONNECTION -- FOR DD-450 ONLY
6 & 7	5 & 12 -- for Zone 1 (cut DD-450's jumper 'A')
6 & 7	9 & 12 -- for Zone 3 (cut DD-450's jumper 'C')

Since Zone 2 is non-latching (momentary), it cannot be used with the R-1.