Installation Guide
AXR-RF RF Receiver

Overview

The AXR-RF Radio Receiver provides wireless reception of AMX radio frequency (RF) transmitters. The AXR-RF connects to an Axcess Central Controller with an AXlink, 4-pin captive-wire connector. When required for large areas, or multiple-room coverage, multiple receivers can be connected in parallel on the AXlink bus.

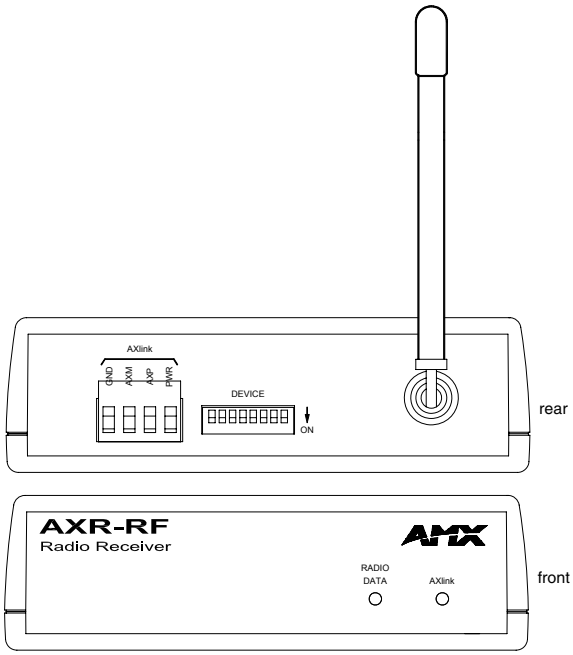

FIG. 1 AXR-RF RF Receiver

Specifications	
Power Consumption	780 mW; ±12 VDC, 65 mA (max.)
Dimensions (HWD)	1.5" x 5.09" x 5.27" (3.81 cm x 12.93 cm x 13.39 cm)
Weight	10.56 oz. (299.37 g)
Front Panel Components:	
Radio data LED	Red LED lights to indicate the AXR-RF has received an RF signal from an AMX transmitter.
AXlink LED	Green LED that lights to indicate AXlink power/data status as follows: • One blink/second indicates power is active and AXlink communication is working. • Two blinks/second indicates the devices specified in the main program do not match the devices found. • Three blinks/second indicates there is an AXlink communication error • Full on indicates there is either no AXlink control/activity (but the power is On) or the Axcess program is not loaded.
Rear Panel Components:	
AXlink connector	4-wire captive-wire AXlink connector for the Central Controller provides data and nominal ±12 VDC power.
Device number DIP Switch	8-position DIP switch sets the device number for the AXR-RF.
RF antenna	Receiving antenna screws into the TXC antenna connector. If it is necessary to place the antenna in a remote position, use up to 6 ft. (2 m.) of RG-174 coax cable as an extension. Extend the antenna vertically during use.
TXC antenna connector	Antenna coaxial connector
Receive Frequency	418 MHz standard (other frequencies are available)
Maximum Range	300 feet (91.44 m)
Enclosure	Molded black matte plastic
Options	• Alternate frequencies available • PS2.8 Power Supply

Installation

Configuring the AXR-RF

Use the eight-position DIP switch on, the rear of the AXR-RF, to set the device number. A device number is assigned to devices connected to the AXlink bus. Every device on the bus must have a unique device code. The device number must match the device assignment in the Axcess program. AMX assigns device numbers in three groups:

- Axcess Control Cards: 1 - 95
- Axcess Bus Boxes: 96 - 127
- Axcess Panels/Receivers: 128 - 255

Setting the DIP Switch

Locate the device DIP switch on the rear panel of the AXR-RF and set it to the desired binary device number. The device number is set by the total value of DIP switch positions that are ON (down).

***NOTE**: If you change the device number, remove and reconnect the AXlink connector. This enters the new device number into memory.*

Although the AXR-RF is a bus device, it should be numbered in the 128-255 range, because it is a receiver.

Setting the RF Validation Level

An RF transmitter must send repetitions of data for the receiver to accept it as valid data. In some installations, interference and physical structures may interfere with the receiver's ability to detect the transmitted signal. The signal may become distorted. The receiver can be set to use either two or three repetitions of sequential signals to validate and accept the signal data. To set the receiver's RF level.

1. Locate jumper pins labeled **P3** on the circuit board.
2. Position the P3 RF validation jumper to select the number of valid RF data repetitions to be accepted, as shown in FIG. 2:

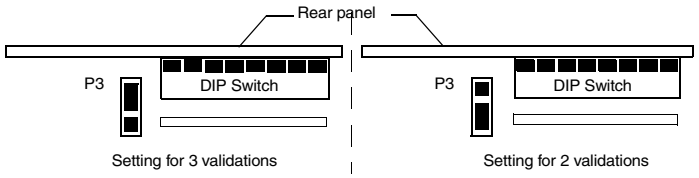

FIG. 2 RF validation jumper settings

Wiring Guidelines

The AXR-RF requires regulated ±12 VDC power to operate properly. The Central Controller supplies power via the AXlink cable. The maximum wiring distance between the Central Controller and AXR-RF is determined by power consumption, supplied voltage, and the wire gauge used for the cable. The table below lists wire sizes and maximum lengths allowable between the AXR-RF and Central Controller. The maximum wiring lengths for using AXlink power are based on a minimum of ±13.5 VDC (no load voltage), available at the Central Controller's power supply.

Wiring Specifications	
Wire size	**Maximum wiring length**
18 AWG	1805.7 feet (550.37 m)
20 AWG	1142.4 feet (348.20 m)
22 AWG	712.2 feet (217.07 m)
24 AWG	448.9 feet (136.82 m)

If you install the AXR-RF farther away from the Central Controller than recommended in the Wiring Specifications table, an auxiliary ±12 VDC power supply is required for operation.

Wiring the AXR-RF

The AXR-RF uses a rear 4-pin AXlink connector for power and data. Power can be supplied by Central Controller's AXlink cable, or with an optional auxiliary ±12 VDC power supply.

Using the AXlink 4-pin connector for data and power

Connect the Central Controller's AXlink connector to the AXlink connector (male) on the rear panel of the AXR-RF for data and ±12 VDC power.

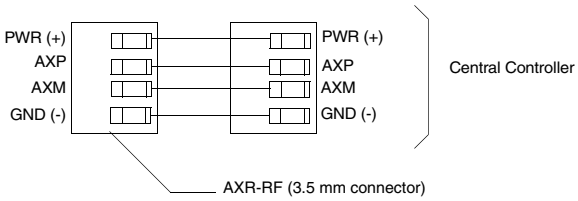

FIG. 3 AXlink wiring diagram

Using the AXlink 4-pin connector with an external ±12 VDC power supply

Use an auxiliary ±12 VDC power supply when the distance between the Central Controller and AXR-RF exceeds the limits described in the Wiring Specifications table. To use an external power supply, connect the Central Controller's AXlink connector to the AXlink connector on the rear of the AXR-RF, as shown in FIG. 4..

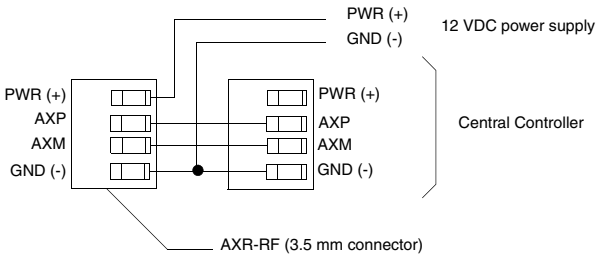

FIG. 4 AXlink and 12 VDC power supply wiring diagram

***CAUTION**: Do not connect the wire from the PWR (+) terminal on the Central Controller to the PWR (+) terminal on the AXR-RF when you connect an external power supply. Do not connect power to the AXR-RF until the wiring is complete.*

Connect only the GND (-) wire on the AXlink connector when using an auxiliary ±12 VDC power supply. Do not connect the PWR (+) wire to the AXlink connector's PWR (+) terminal on the Central Controller side of the connector.

Installing the AXR-RF

1. Set the device DIP switch to assign an AXlink device code to the unit.
2. Install the wiring for the AXlink bus.
3. Position the AXR-RF in the location where it will be used. Place the receiver close to, or in the middle of, the area to be covered. It is recommended that you mount the unit where the antenna is away from metal obstructions.
4. Extend the antenna vertically for best reception. If it is necessary to place the antenna in a remote position, use up to 6 ft. (2 m) of RG-174 coax cable.
5. Connect the AXR-RF to the Central Controller with the AXlink cable.

***NOTE**: To avoid potential problems with Axcess processing, do not install two or more AXR-RF devices, using the same RF frequency, in one system. The AXR-RF is available in frequencies other than 418 MHz (on request).*

6. Locate the green AXlink LED on the front panel and verify that it flashes once per second. If so, the AXR-RF is communicating properly with the Central Controller system.

   If the LED is on and not flashing, disconnect the AXlink connector and recheck all AXlink wiring connections. Reconnect the AXlink connector to the AXR-RF and verify the LED is flashing once per second.

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