AIR-EAGLE® XLT
900 MHz RF Receiver
MODEL 44-20100-X

DESCRIPTION
The AIR-EAGLE XLT is an RF system designed for medium to long range wireless remote control of electrical apparatus in a variety of industrial applications. Systems can consist of any number of receivers and handheld or contact input transmitters working together. This receiver is equipped with a single relay capable of switching 5 amps @ 120VAC or 30VDC and can be directly interfaced with the customer's equipment or P.L.C. Seven user selectable frequencies allow multiple systems to be used in the same area. Capable of receiving remote signals transmitted from up to 2500 feet away (with the handheld transmitter) or up to 2 miles away (with the contact input transmitter), the Air-Eagle XLT utilizes spread-spectrum technology and provides the utmost security and reliability even in the noisiest RF environments.

MODEL INFORMATION
In this model the “-X” denotes that the user can select which transmitter input channel or button activates the relay – see CHANNEL CODE & FREQUENCY SET-UP on page 2.

APPROVALS

<table>
<thead>
<tr>
<th>United States (FCC)</th>
<th>MCQ-XB900HP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada (IC)</td>
<td>1846A-XB900HP</td>
</tr>
</tbody>
</table>

INSTALLATION
DISCONNECT AC Power from all equipment before installation.

1. Mount the AIR-EAGLE XLT RECEIVER in a convenient location.
2. If desired, change the default channel code and/or operating frequency.
3. Install wiring to terminal strip
4. Install antenna. The unit has an antenna connector located on the top of the enclosure. Attach the supplied portable antenna to this connector.
5. Plug supplied AC adapter into 120VAC wall outlet.

TERMINAL STRIP WIRING

<table>
<thead>
<tr>
<th>TER 3 INPUT</th>
<th>TER 2 RELAY OUTPUT</th>
<th>TER 1 AC/DC POWER INPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 N/A</td>
<td>1 N/O</td>
<td>(+) 9-36VDC *</td>
</tr>
<tr>
<td>2 N/A</td>
<td>2 C (common)</td>
<td>(+) 9-36VDC*</td>
</tr>
<tr>
<td>3 N/C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*From supplied 120VAC wall adapter

Power – LED1 Illuminates green when unit is powered
TX – LED2 N/A
Relay – LED3 Illuminates green when relay is energized
RF1 RF module that receives data from the remote transmitter
REL1 SPDT output control relay
SEL1 Seven dip switches for selecting relay options and operating frequency
CHANNEL CODE & FREQUENCY SET-UP

The unit is shipped from the factory with all SEL1 switches in the open positions. By default, it is receiving Channel #1 code and operating on Frequency #1. If you wish to receive a different channel code or frequency using table below.

1) Remove power from unit
2) Remove top cover.
3) Select desired channel code using table below.
4) Reattach cover and apply power.
5) Programming is now complete.

CHANNEL SELECTION SET-UP

<table>
<thead>
<tr>
<th>Channel Code To Be Received</th>
<th>SW1</th>
<th>SW2</th>
<th>SW3</th>
<th>SW4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (default)</td>
<td>OPEN</td>
<td>OPEN</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>2</td>
<td>CLOSED</td>
<td>OPEN</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>3</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>4</td>
<td>CLOSED</td>
<td>CLOSED</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>5</td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>OPEN</td>
</tr>
<tr>
<td>6</td>
<td>CLOSED</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>OPEN</td>
</tr>
<tr>
<td>7</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>CLOSED</td>
<td>OPEN</td>
</tr>
<tr>
<td>8</td>
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</tr>
<tr>
<td>9</td>
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</tr>
<tr>
<td>10</td>
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<tr>
<td>14</td>
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<td>CLOSED</td>
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<tr>
<td>15</td>
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<td>CLOSED</td>
<td>CLOSED</td>
</tr>
<tr>
<td>16</td>
<td>CLOSED</td>
<td>CLOSED</td>
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</tbody>
</table>

FREQUENCY SET-UP

<table>
<thead>
<tr>
<th>SEL1 (SW5-7)</th>
<th>Network Frequency</th>
<th>SW5</th>
<th>SW6</th>
<th>SW7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (default)</td>
<td>OPEN</td>
<td>OPEN</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>2</td>
<td>CLOSED</td>
<td>OPEN</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>3</td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>OPEN</td>
</tr>
<tr>
<td>4</td>
<td>CLOSED</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>OPEN</td>
</tr>
<tr>
<td>5</td>
<td>OPEN</td>
<td>OPEN</td>
<td>OPEN</td>
<td>CLOSED</td>
</tr>
<tr>
<td>6</td>
<td>CLOSED</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>OPEN</td>
</tr>
<tr>
<td>7</td>
<td>OPEN</td>
<td>CLOSED</td>
<td>CLOSED</td>
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</tr>
</tbody>
</table>

SPECIFICATIONS

- **AC Input**: 100-240VAC, 16 W, 50/60 Hz from supplied wall adapter
- **Relay Contact**: SPDT 5 amp @ 120VAC or 30VDC
- **Fuse Protected**: 1 amp
- **Receiver Frequency**: 900 MHz Spread Spectrum
- **Receiver Range**: Up to 2 Miles
- **Receiver Channels**: Seven independent network frequencies
- **Operating Temperature**: -40°F to +185°F
- **Enclosure**: Polycarbonate NEMA 4, 12, 13 – IP66
- **Weight**: Approx. 2 lbs.

REPLACEMENT PARTS & ACCESSORIES

- **PC Board (Main)**: 44-20102-X
- **Standard Antenna (Included)**: 49-1103
- **Optional Antennas and Accessories**:
  - 900MHz Portable Antenna (For distances up to 2500 feet*): 49-3101
  - 900MHz Omni Directional Antenna (For distances up to 2 miles*): 49-3102
  - 900MHz 13dB Yagi Antenna: 49-4000-XX (XX = # of Feet)
  - Flex Coax Cable w/Connectors: 49-5002
  - Inline Lightening Arrester: 49-5004-2
  - 2 Ft. Bulkhead Assembly (Used when mounting receiver inside another enclosure): 49-5004-2

LIMITED WARRANTY STATEMENT

BWI Eagle Inc. warrants the Air-Eagle Remote Control System, if properly used and installed, will be free from defects in material and workmanship for a period of 1 year after date of purchase. Said warranty to include the repair or replacement of defective equipment. This warranty does not cover damage due to external causes, including accident, problems with electrical power, usage not in accordance with product instructions, misuse, neglect, alteration, repair, improper installation, or improper testing. This limited warranty, and any implied warranties that may exist under state law, apply only to the original purchaser of this equipment, and last only for as long as such purchaser continues to own the equipment. This warranty replaces all other warranties, express or implied including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. BWI Eagle makes no express warranties beyond those stated here. BWI disclaims without limitation, implied warranties of merchantability and fitness for a particular purpose. Some jurisdictions do not allow the exclusion of implied warranties so this limitation may not apply to you. To obtain warranty service, contact BWI Eagle for a return material authorization. When returning equipment to BWI Eagle, the customer assumes the risk of damage or loss during shipping and is responsible for the shipping costs incurred.
**Dry Contact Input Wiring - Standard**

**Standard wiring of a dry contact input transmitter**
Shorting together the contacts of the respective channel will cause it to transmit. This can be done with any type of manual or automatic switch.

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**Relay Output Wiring**

Receiver outputs are dry relay contacts, like an SPDT switch. When the relay is in a de-energized state, the N/C (normally closed) contact is connected to C (common). When the relay is energized the N/O (normally open) contact is connected to C (common).

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**Relay Output Wiring - Normally Open Application with Externally Supplied Voltage**

**Internal Relay - Loads Less Than 5 Amps**
Loads up to 5 Amps may be wired directly to the internal relays. Wiring to the N/O contact will cause the load to turn on when the relay is energized (the load is on when the relay is on). Wiring to the N/C contact will cause the load to turn on when the relay is de-energized (the load is on when the relay is off). AC or DC voltages can be switched through the relay.

**External Relay - Loads Over 5 Amps**
Loads over 5 Amps must use an external high current relay. Diagram shows how to turn on the relay using the lower current internal relay of the receiver. AC or DC voltages can be switched through the relay. Note: A protection diode for DC coils or an MOV for AC coils is recommended to reduce inductive EMI noise.

Wiring configurations shown here are examples. The wiring for your application may differ.
Call BWI Eagle for assistance or consult an electrician.

Updated: 4/29/2019