



105 Bonnie Drive  
Butler, PA 16002  
724-283-4681  
724-283-5939 (fax)  
www.bwieagle.com

# PRODUCT INFORMATION BULLETIN

## AIR-EAGLE® XLT 900MHz RF Transceiver MODEL 461-40400-DC

### DESCRIPTION

The AIR-EAGLE XLT PLUS RF TRANSCEIVER provides two-way wireless control of electronic equipment and apparatus at distances up to 1 mile away (longer ranges can be achieved with external antennas). This model comes equipped with four dry contact inputs and four relay outputs. This allows the user to not only transmit information out but receive a confirming signal back that the operation was performed. A terminal strip has been provided for interfacing with external dry contact inputs as well as dry contact relay outputs. The Air-Eagle XLT TRX is user-programmable for up seven network frequencies to allow multiple systems to operate simultaneously in the same area.

### INSTALLATION

DISCONNECT Power from all equipment before installation.

1. Mount the AIR-EAGLE XLT PLUS TRANSCEIVER in a convenient location.
2. Install input & output wiring to the terminal strip (Note – terminal strip header lifts off base for easy wiring)
3. Install antenna to TNC connector on the right side of the enclosure.
4. Connect supplied power input cable to your external power source.

### TERMINAL STRIP WIRING

| INPUTS      |                | OUTPUTS           |              |    |              |
|-------------|----------------|-------------------|--------------|----|--------------|
| 1           | Common Input 1 | 9                 | N/O Relay #1 | 15 | N/O Relay #3 |
| 2           | Input 1        | 10                | C Relay #1   | 16 | C Relay #3   |
| 3           | Common Input 2 | 11                | N/C Relay #1 | 17 | N/C Relay #3 |
| 4           | Input 2        | 12                | N/O Relay #2 | 18 | N/O Relay #4 |
| 5           | Common Input 3 | 13                | C Relay #2   | 19 | C Relay #4   |
| 6           | Input 3        | 14                | N/C Relay #2 | 20 | N/C Relay #4 |
| 7           | Common Input 4 |                   |              |    |              |
| 8           | Input 4        |                   |              |    |              |
| DC INPUT    |                |                   |              |    |              |
| Terminal #1 |                | (-) 9-36VDC Input |              |    |              |
| Terminal #2 |                | (+) 9-36VDC Input |              |    |              |



### GENERAL OPERATION

Contact closures on inputs 1 thru 4 in the control transceiver transmit to activate relay #1 thru #4 in the remote transceiver. Inputs from the remote equipment provide closures to remote transceiver that transmit to energize relays #1 thru #4 in the control transceiver.

| INPUT ACTIVATED     | ACTION                                     |
|---------------------|--|
| "1"                 | Transmits channel 1 command to remote unit |
| "2"                 | Transmits channel 2 command to remote unit |
| "3"                 | Transmits channel 3 command to remote unit |
| "4"                 | Transmits channel 4 command to remote unit |
| INPUT CODE RECEIVED | ACTION                                     |
| "1"                 | Relay #1 energizes, maintained momentary   |
| "2"                 | Relay #2 energizes, maintained momentary   |
| "3"                 | Relay #3 energizes, maintained momentary   |
| "4"                 | Relay #4 energizes, maintained momentary   |

# AIR-EAGLE® XLT

900MHz RF Transceiver

**MODEL 461-40400-DC**

## RELAY & FREQUENCY SET-UP

This unit is shipped from the factory with SEL1 switches #1 thru #7 in the open positions. All four relays will operate in a maintained momentary manner, and unit is receiving commands on frequency one. If you wish to change these default settings, follow the instructions on the table below.

- 1) Remove power from unit
- 2) Remove top cover.
- 3) Select desired relay operation and/or network frequency using table below.
- 4) Reattach cover and apply power.
- 5) Programming is now complete.

### RELAY CONFIGURATION

| SEL1 SWITCH NUMBER | OPEN   | CLOSED                         |
|--------------------|--|--------------------------------|
| SW1                | Relays #1 thru #4 maintained momentary (default) | Relays #1 thru #4 toggle/latch |

**Maintained Momentary** – Relay mimics button or input – when depressed or closed, relay will be energized; when released, relay de-energizes

**Toggle Latch** – Relay changes (and holds) its state each time the corresponding button or input is depressed or closed momentarily

SW2-4 Not used on this model

### FREQUENCY SET-UP

| SEL1    | Network Frequency | SW5    | SW6    | SW7    |
|---------|-------------------|--------|--------|--------|
| (SW5-7) | 1 (default)       | OPEN   | OPEN   | OPEN   |
|         | 2                 | CLOSED | OPEN   | OPEN   |
|         | 3                 | OPEN   | CLOSED | OPEN   |
|         | 4                 | CLOSED | CLOSED | OPEN   |
|         | 5                 | OPEN   | OPEN   | CLOSED |
|         | 6                 | CLOSED | OPEN   | CLOSED |
|         | 7                 | OPEN   | CLOSED | CLOSED |
|         | 8                 | CLOSED | CLOSED | CLOSED |

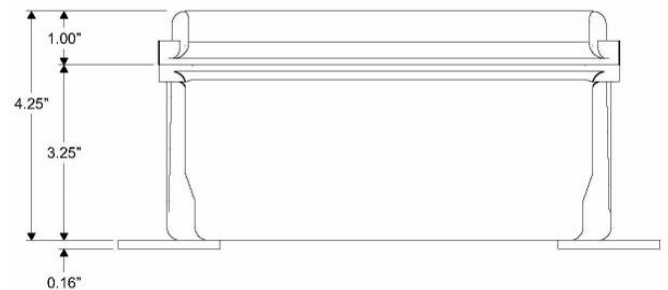
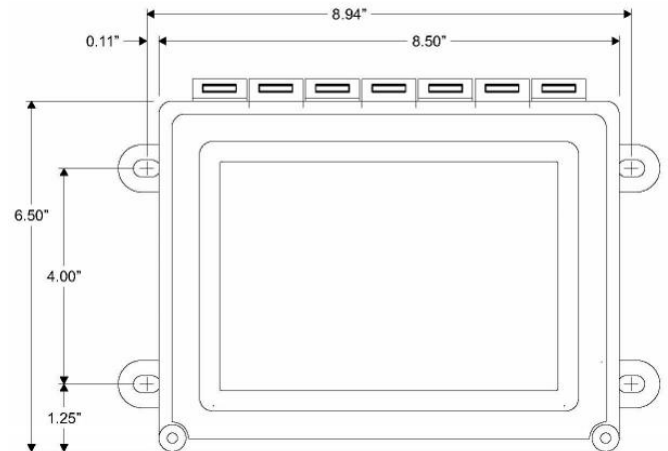
## APPROVALS

|                     |             |
|---------------------|-------------|
| United States (FCC) | MCQ-XBPSX   |
| Canada (IC)         | 1846A-XBPSX |

## SPECIFICATIONS

|   |  |
|---|--|
| DC Input  | 9 - 36 VDC @ 10 Watts  |
| Fuse Protected  | 1 amp  |
| Frequency   | 900MHz Spread Spectrum   |
| Relay Contacts  | SPDT 5 amp @ 120VAC or 30VDC per channel                                     |
| Transmitter Data  | Four Dry Contact Inputs  |
| RF Output Power   | 1 Watt   |
| Transceiver Range   | Up to 1 Mile with Rubber Duck Antenna / Up to 10 Miles with External Antenna |
| <small>Note: Max range figures are estimates, based on free-air terrain with limited sources of interference. Actual range will vary based on transmitting power, orientation of transmitter and receiver, height of transmitting antenna, height of receiving antenna, weather conditions, interference sources in the area, and terrain between receiver and transmitter, including, but not limited to, indoor and outdoor structures such as walls, metal objects, trees, buildings, hills, and mountains</small> |  |
| RF Networks   | Eight Independent Network Frequencies  |
| Enclosure   | Hinged fiberglass with window / NEMA 3, 3R, 4, 12, 13                        |
| Operating Temp  | -40° F to +185° F  |

## DIMENSIONS



# AIR-EAGLE® XLT

900MHz RF Transceiver

**MODEL 461-40400-DC**

## ACCESSORIES

| Standard Antenna (Included):   |                                  |
|--|----------------------------------|
| 900MHz TNC "Rubber Duck" Antenna   | 49-1103                          |
| Mobile/Base Antennas –<br>Used to help achieve max range in both non line of sight and line of sight applications. - Contact BWI Eagle for recommendations |                                  |
| 900MHz Thru-Hole Mount Mobile Antenna  | 49-2101                          |
| 900MHz Magnet Mount Mobile Antenna   | 49-2102                          |
| 900MHz Omni Directional Base Antenna   | 49-3101                          |
| 900MHz Yagi Directional Base Antenna   | 49-3102                          |
| High Quality Coax Cables –<br>Used to connect external high gain antennas to control unit  |                                  |
| Flex Coax Cable w/Connectors – Available in 5', 15', 25', 30', 40', 60', 80', 100' Lengths   | 49-4000-XX<br>(XX = # of Feet)   |
| Bulkhead Extensions –<br>Used to provide an external antenna connection when mounting control unit inside another enclosure                                |                                  |
| TNC Male to TNC Bulkhead Cable Assembly<br>- Available in 2', 4', 7' Lengths   | 49-5004-X-ISO<br>(X = # of Feet) |

DOCUMENT DATE: 07/22/2021 / PRODUCT REV. 1



105 Bonnie Drive  
Butler, PA 16002  
(724) 283-4681  
Fax (724) 283-5939  
[www.bwieagle.com](http://www.bwieagle.com)