AIR-EAGLE XLT

441-HH-9

900 MHz RF Transmitter

Document Date: 6/14/2023
Product Rev: 12

BWI Eagle, Inc.
105 Bonnie Dr.
Butler, PA 16002
724-283-4681
724-283-5939 (fax)
www.bwieagle.com
sales@bwieagle.com

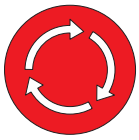
441-HH-9

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 the 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 or 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.

SIGNAL RANGE

Max range statements are estimates based on a clear line of sight with few interferences. Actual range will vary based on transmitting power, orientation of transmitter and receiver, height of transmitting and receiving antennas, weather conditions, electronic interference, terrain, and physical obstacles, including but not limited to; walls, building structures, trees (foliage), metal objects, and landscape (hills, mountains).



WIRELESS STOP, ASTOP, and E-STOP SYSTEMS

Wireless E-STOP systems should never be considered a primary life-saving device. At least one hard-wired switch must be available in the event the wireless system is not operational. Failure to comply may result in serious injury or death to personnel and damage to equipment.

Wireless STOP and ASTOP transmitters are not failsafe emergency stop controls. They are NOT to be used as a life-saving device. They are designed for wireless control of equipment or vehicle remote operation. Failure to use as intended may result in serious injury or death to personnel and damage to equipment.

441-HH-9


INTRODUCTION

The Air-Eagle XLT is an RF system designed for 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 to create a long range radio frequency system that operates hazardous or hard-to-reach equipment from safe, convenient locations.

Eight user selectable frequencies allow multiple systems to be used in the same area without interference.

This handheld transmitter is equipped to send up to sixteen unique digital commands to an Air-Eagle XLT receiver located up to 2500 feet away. It will automatically go into “sleep” mode when not in use to dramatically extend battery life. The Air-Eagle XLT transmitter utilizes spread-spectrum technology and provides the utmost in security and reliability.

SERIES FEATURE

The “441” Series features repeating capability. Transmitters can be set up to send “repeat signal packets”, and any transmitter or receiver within its range will repeat the signal packet to help propagate communication over widespread areas.

INITIAL OPERATION SET-UP

This transmitter comes ready to operate, with batteries installed, and factory programmed to Frequency 1 and standard transmit mode. No setup is necessary. To change frequency or transmit mode, see FREQUENCY PROGRAMMING and TRANSMITTING MODE SETUP sections.

CONTROLS & INDICATORS

TX LED	LED illuminates RED while button is pressed and unit is transmitting in standard mode. LED illuminates GREEN while button is pressed and unit is transmitting in repeater mode. When this LED blinks RED briefly following a transmission, the battery needs to be replaced. *
Buttons 1 - 8	Transmits individual commands 1 - 8 to the receiver.
Button P/Shift	The P/Shift button performs two functions: 1. If button is pressed momentarily followed by another button within 10 seconds, the higher code on that button is transmitted. This allows for transmission of codes 9-16. 2. If button is pressed and held for longer than 5 seconds the transmitter will enter programming mode. See PROGRAMMING sections.
Buttons 9 - 16	Transmits individual commands 9 - 16 to the receiver.
*Note: The low battery notification signals have been improved to provide more noticeable indications and to safely disable communications BEFORE a low battery condition can corrupt internal memory causing device failure. When a low battery is first detected, the TX LED will blink several times after all buttons are released. If it is possible to replace the batteries now, please do so. If not, the operator has approximately 15 more button activations. During this time, when a button is pressed and held, the TX LED will blink SLOWLY. The slow blinking will continue several more times after all buttons are released. Transmissions are still being sent to the receiver during this time. When a button is pressed and the TX LED is RAPIDLY blinking, the RF output is disabled, and no signal will reach the receiver. The batteries MUST NOW BE REPLACED to resume normal functions.	

GENERAL OPERATION

This transmitter sends up to 16 independent commands. Each button sends an RF Code for that channel. Button 1 transmits channel 1 commands, button 2 transmits channel 2 commands, etc. To send commands 9 - 16, the P/Shift button must be used. As noted under CONTROLS & INDICATORS, the P/Shift button serves two purposes. As the “P” button, it enters the unit into programming mode. As the “Shift” button, it allows the unit to send commands 9 - 16 to the receiver.

To use as the “P” button, press and hold the P/Shift button for approximately 5 seconds to enter programming mode. (See PROGRAMMING sections for more details).

To use as the “Shift” button, press the P/Shift button momentarily. The TX LED will begin to flash rapidly indicating the unit is in shift mode. While in shift mode pressing buttons 1 - 8 transmits the higher numbered code for that button. The transmitter will stay in the Shift mode while buttons are being pressed within 10 seconds of one another. During this time, the TX LED gives visual confirmation that the transmitter is in Shift mode by continuously flashing GREEN/RED rapidly. After 10 seconds of inactivity, the transmitter will return to standard mode and the TX LED will go out. To exit shift mode immediately without waiting for it to time out, press the P/Shift button momentarily to return to standard mode.

FREQUENCY PROGRAMMING

Read instructions completely before beginning programming procedure.

Transmitters are shipped from the factory set to frequency 1 by default. The frequency can be changed at any time by following the procedure below. Once changed, it is recommended to label the transmitter with the selected frequency number.

*Note: Current frequency setting is maintained in flash memory during battery replacement. No reprogramming of frequency setting is necessary after battery change.

To Select Frequency:

1. Press and hold the P/Shift button until the TX LED illuminates RED (approximately 5 seconds).

2. Release the P/Shift button. While the TX LED is still illuminated RED, press button 1 to select frequency 1, or button 2 to select frequency 2, etc

3. After frequency is set, the TX LED will confirm the selection by blinking the corresponding code of the frequency that was set. For example, if frequency 1 was selected, the TX LED will blink RED once, if frequency 6 was selected, the TX LED will blink GREEN twice, etc. If the confirmation shows the incorrect frequency, simply restart the programming from step 1.

Frequency Selected:	TX LED Blinks:
Frequency 1	1 **RED** flash
Frequency 2	2 **RED** flashes
Frequency 3	3 **RED** flashes
Frequency 4	4 **RED** flashes
Frequency 5	1 **GREEN** flash
Frequency 6	2 **GREEN** flashes
Frequency 7	3 **GREEN** flashes
Frequency 8	4 **GREEN** flashes

*Note: If no frequency is selected during the programming procedure the transmitter will blink the frequency currently set in the transmitter as shown in the chart above. This can be used to view the transmitter's frequency without changing it.

Programming is now complete. Repeat the above procedure to change the frequency at any time.

TRANSMITTING MODE SET-UP

Read instructions completely before beginning programming procedure.

The transmitter can operate in the standard transmitting mode or in a repeater mode. When in repeater mode, all receivers will repeat the transmission to help propagate communication over widespread areas.

To Select Transmitting mode:

1. Remove one battery from the transmitter.
2. Press and hold the P/Shift Button while inserting the battery.
3. Continue holding the P/Shift Button for 10 seconds until the TX LED flashes GREEN/RED rapidly.
4. Press Button 1 for standard mode or Button 2 for repeating mode.
5. After transmitting mode is set, the TX LED will confirm the selection by blinking RED for standard mode or GREEN for repeater mode.
6. If no button is pressed for 10 seconds, the TX LED will Illuminate to the current transmitting mode.

After the transmitting mode is set, the TX LED will illuminate RED (standard) or GREEN (repeater) during future transmissions depending on mode selected.

Notes On Transmitting Mode:

The standard transmitting mode is preferred when quick button response is needed. This type of transmission is typically used when the machinery being controlled is in view of the operator where signal repeating is not necessary.

Repeating mode has a short delay added to the button commands to allow the signal to repeat between multiple receivers without collision. This type of transmission is typically used when multiple receiving units are spread over a large area and are being controlled simultaneously. Immediate response time is not a priority.

Both types of transmissions can be used simultaneously in a system with multiple transmitters, although repeating transmissions could cause some lag in the standard transmissions.

APPROVALS

United States (FCC)	MCQ-XB900HP
Canada (IC)	1846A-XB900HP
Australia	RCM
Brazil	ANATEL 3727-12-1209

441-HH-9

SPECIFICATIONS

Keypad	Durable Sealed Membrane Keypad – Eliminates Dust, Dirt and Moisture Failures	
Enclosure	ABS UL94 HB	Enclosure with ring is rated IP54 (Not Waterproof)
Protective Ring	SEBS (TPE)	
Power Requirements	3.0 VDC	
Battery Type	(2) 1.5V lithium each, size AA, to equal 3.0VDC nominal. For best performance use only Energizer Brand Lithium Batteries. *	
Battery Life (Active Usage)	Up to 6 months	
Battery Life (Sleep Mode)	Up to 1 Year	
Transmit Frequency	900MHz Spread Spectrum	
RF Networks	Eight Independent Network Frequencies	
RF Output Power	250 mW	
Max Transmit Range	Up to 2500 Feet	
Operating Temperature	-40° F to +185° F	
*Note: Current frequency setting is maintained in flash memory during battery replacement. No reprogramming of frequency setting is necessary.		
**Note: Max range statements are estimates based on a clear line of sight with few interferences. Actual range will vary based on transmitting power, orientation of transmitter and receiver, height of transmitting and receiving antennas, weather conditions, electronic interference, terrain, and physical obstacles, including but not limited to; walls, building structures, trees (foliage), metal objects, and landscape (hills, mountains).		

DIMENSIONS