XT-1

XTENDED RANGE SINGLE CHANNEL SUPERVISED STATIONARY TRANSMITTER

For Use With Linear’s XR Series Xtended Range Receivers

Installation Instructions

1. PRODUCT DESCRIPTION

Linear’s Xtended Range FM transmitters and receivers are designed for use in various wireless remote control applications. When triggered with an external switch, the Model XT-1 transmitter will send a 10 watt, 27.255 MHz, digital encoded, FSK modulated, signal to its companion receiver. The receiver will verify the digital code, activate its output, and trigger the remote device.

The XT-1 transmitter has full supervision capabilities. If the “status” option is selected, the XT-1 sends hourly status signals to its receiver. If these signals cease, the receiver will indicate trouble by activating its status output after four hours. Contact supervision allows the receiver’s output to follow the transmitter’s input, staying activated as long as the remote input is activated. Alternatively, an “auto-restore” option can be selected, causing a momentary receiver output each time the transmitter is activated. Either a N/O or N/C input ( jumper selectable) can trigger the transmitter.

Power for the XT-1 transmitter can come from an external regulated 12 VDC, 2-Amp power supply (Linear Model T-1224DC) or from a 12-volt battery. A 3-amp fuse protects the unit from reverse power polarity. The XT-1 draws about 15 μA standby, and about two amps during transmissions. If the power supply voltage drops below 10.5 volts, a low battery message will be included with any signal transmitted, causing the receiver’s low battery output to activate.

Two antennas (sold separately) are available for the XT-1. The Model ANT-1A is an 8-inch “rubber duck” antenna for short range applications (less than 1 mile). The ANT-1A requires a CON-180A (straight) connector to mate the antenna to the transmitter. For a right angle antenna, use the CON-180A plus the CON-90A. The Model ANT-2 is a 3-foot whip antenna for use in long range or difficult installations where more range from the XT-1 is required. A common 9-foot 1/4 wave CB whip antenna can also be used with the XT-1 for maximum range.

Two-position switches set the unit’s system code. This code must be matched in the XT-1’s receiver. There are 65,536 different system codes possible. The 6-position option switch (jumper selectable) can trigger the transmitter.

The transmitter is housed in a rugged weather-resistant metal enclosure with a sturdy SO-239 antenna connector and a water-tight wiring strain relief bushing. During transmissions, the red operation indicator (visible through a window on the case) lights. If the XT-1’s input voltage is low, the indicator will blink during transmissions.

2. OPEN TRANSMITTER

Remove four case screws and slide out circuit board.

Board fits in 3rd slot up.

End cap stays attached to the circuit board.

3. COMPONENT LOCATIONS

4. INSTALLATION TIPS

If using the ANT-1A antenna: For best range mount the XT/XR unit to a metal plate with a minimum size of 12” x 12”. The ANT-1A antenna should extend above the mounting plate and be free of obstructions. If the ANT-1A antenna cannot be mounted in the open, consider using an extension coaxial cable with PL-259 connectors to move the antenna’s location.

Two antennas or CB antenna accessories. Antennas, PL-259 extension cables and other adapters are available at Radio Shack® or other electronics stores.

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The XT/XR series of radios operate in the 27 MHz Citizens Band (CB) and may use any CB antenna or CB antenna accessories. Antennas, PL-259 extension cables and other adapters are available at Radio Shack® or other electronics stores.

5. MOUNT TRANSMITTER CASE

Mount unit with two bottom screws (don’t install top screws until wiring is complete).

Unit should be mounted in sheltered location with access to antenna co-ax and power/signal wires.
6. SET TRANSMITTER SWITCHES

<table>
<thead>
<tr>
<th>SWITCH 1</th>
<th>SWITCH 2</th>
<th>RECEIVER BANK</th>
<th>RECEIVER CHANNEL</th>
<th>STATUS REPORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>OFF</td>
<td>1</td>
<td>1</td>
<td>NO STATUS REPORTS</td>
</tr>
<tr>
<td>ON</td>
<td>OFF</td>
<td>2</td>
<td>2</td>
<td>AUTO RESTORE</td>
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<tr>
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<td>ON</td>
</tr>
<tr>
<td>ON</td>
<td>ON</td>
<td>4</td>
<td>4</td>
<td>ON</td>
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</tbody>
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OPTION SWITCH

- USE ANT-1A ANTENNA FOR SHORT RANGE (LESS THAN 1 MILE) APPLICATIONS
- CON-180A

7. CONNECT POWER AND TRIGGER INPUTS

- SET INPUT SELECT JUMPER TO MATCH INPUT TYPE
- RECEIVER CHANNEL
- RECEIVER BANK

8. MOUNT ANTENNA AND ROUTE CABLE

- AN 18-FOOT RG-58 CABLE IS SUPPLIED WITH THE AN 2 KIT. UP TO 50 FEET OF RG-58 CAN BE USED. USE RG-8 FOR UP TO 100-FOOT CABLE RUNS.

9. TEST SYSTEM

- SLIDE BOARD INTO CASE IN THE 3RD SLOT UP
- INSTALL AND SETUP THE COMPANION UNIT AS DESCRIBED IN ITS INSTALLATION INSTRUCTIONS
- SECURE END PLATE BY INSTALLING THE FOUR CASE SCREWS

10. COMPLETE INSTALLATION

- INSTALL THE TWO REMAINING MOUNTING SCREWS
- TIGHTEN WIRING STRAIN RELIEF BUSHING TO SECURE AND WEATHER PROOF WIRING
- TEST SYSTEM AGAIN AFTER COMPLETING INSTALLATION
- TO UNIT

LINEAR LIMITED WARRANTY

This Linear product is warranted against defects in material and workmanship for twelve (12) months. The Warranty Expiration Date is labeled on the product. This warranty extends only to wholesale customers who buy direct from Linear or through Linear’s normal distribution channels. Linear does not warrant this product to consumers. Consumers should inquire from their selling dealer as to the nature of the dealer’s warranty, if any. There are no obligations or liabilities on the part of Linear LLC for consequential damages arising out of or in connection with use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation, or reinstallation. All implied warranties, including implied warranties for merchantability and implied warranties for fitness, are valid only until Warranty Expiration Date as labeled on the product. This Linear LLC Warranty is in lieu of all other warranties express or implied. All products returned for warranty service require a Return Product Authorization Number (RPA#). Contact Linear Technical Services at 1-800-421-1587 for an RPA# and other important details.

IMPORTANT

Linear radio controls provide a reliable communications link and fill an important need in portable wireless signaling. However, there are some limitations which must be observed.

- WARNING: THIS PRODUCT IS NOT TO BE USED IN LIFE SAFETY APPLICATIONS. FCC Rules allow unlicensed high-power transmissions at or near the operating frequency of this product which may interfere with, or even disable, normal operation of the radio device. For U.S. installations only. The radios are required to comply with FCC Rules and Regulations for Part 95 Radio Control devices. As such, they have limited transmitter power and therefore limited range. A receiver cannot respond to more than one transmitted signal at a time and may be blocked by radio signals that occur on or near their operating frequencies, regardless of code settings.
- Changes or modifications to the device may void FCC compliance.
- Infrequently used radio links should be tested regularly to protect against undetected interference or fault.
- A general knowledge of radio and its vagaries should be gained prior to acting as a wholesale distributor or dealer, and these facts should be communicated to the ultimate users.

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