



Technical Bulletin

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GateGuard Model GGT-1/1F DTMF Decoder

505 West Carmel Drive, Carmel, IN 46032 USA
 P.O. Box 1998, Carmel, IN 46082-1998 USA
 PH: 317-846-1201 • FAX: 317-846-4978
 Web: www.ritron.com • Email: ritron@ritron.com

GateGuard™ Model GGT-1/1F DTMF DECODER

PROGRAMMING & CONNECTION INSTRUCTIONS

Internal Relay Contact Specifications: Normally Open, 125 VAC @ 10amps

Warning! Do not exceed maximum rating.

IMPORTANT!

1. If you purchased the RQX-454 Call Box (Basic or XT model) with the GGT-1 GateGuard DTMF Decoder, you must use the RITRON Model EXPO-12 External Power 12VDC Input/Battery Back-Up Kit. The RQX-454 does not have a connection available that would allow both the Decoder Board and the RQX radio board to be turned off and draw no current when used only with batteries. The RQX-150 and 450 do have the necessary connection available, and can be used with batteries only or with the EXPO-12.
2. When using an XT Model Callbox with the RITRON Model EXPO-12, the installation of the liquid tight strain relief in the EXPO-12 must be reversed due to space limitations in the XT case.
3. When using the GGT-1/1F with the 6-Series Callbox, the 6 D-cell battery holder must be removed and the unit powered by an external 12 VDC power supply.

Step 1. - CALLBOX DISASSEMBLY - Basic and XT Models RQX-150/156/450/456/454

1. For XT Model - Remove (4) metal screws with **Torx T-25** Tamper-proof screw bit. Remove front metal plate.
1. For Basic Model - Remove message placard from the front of the Callbox.
2. Loosen (4) large plastic screws located in the corners of the front enclosure.
3. Carefully pull front and rear enclosures apart.
4. Disconnect power cable between front and rear enclosures.

Note: If the GGT-1F is installed in the XT Model OutPost, an additional hole must be drilled in the fiberglass enclosure for the routing of wires connecting the **GateGuard** decoder/relay board to the contact closure connection on the device you wish to control. The size and location of that hole will vary with each application and is therefore left up to the installer/dealer. It is the installer/dealer responsibility to provide any conduit or strain relief hardware needed.

Step 2. - INSTALLING THE GateGuard DECODER/RELAY BOARD INTO AN OUTPOST CALLBOX

Kit Parts List: (Special Note: If the GateGuard has been factory installed, proceed to Step 3)

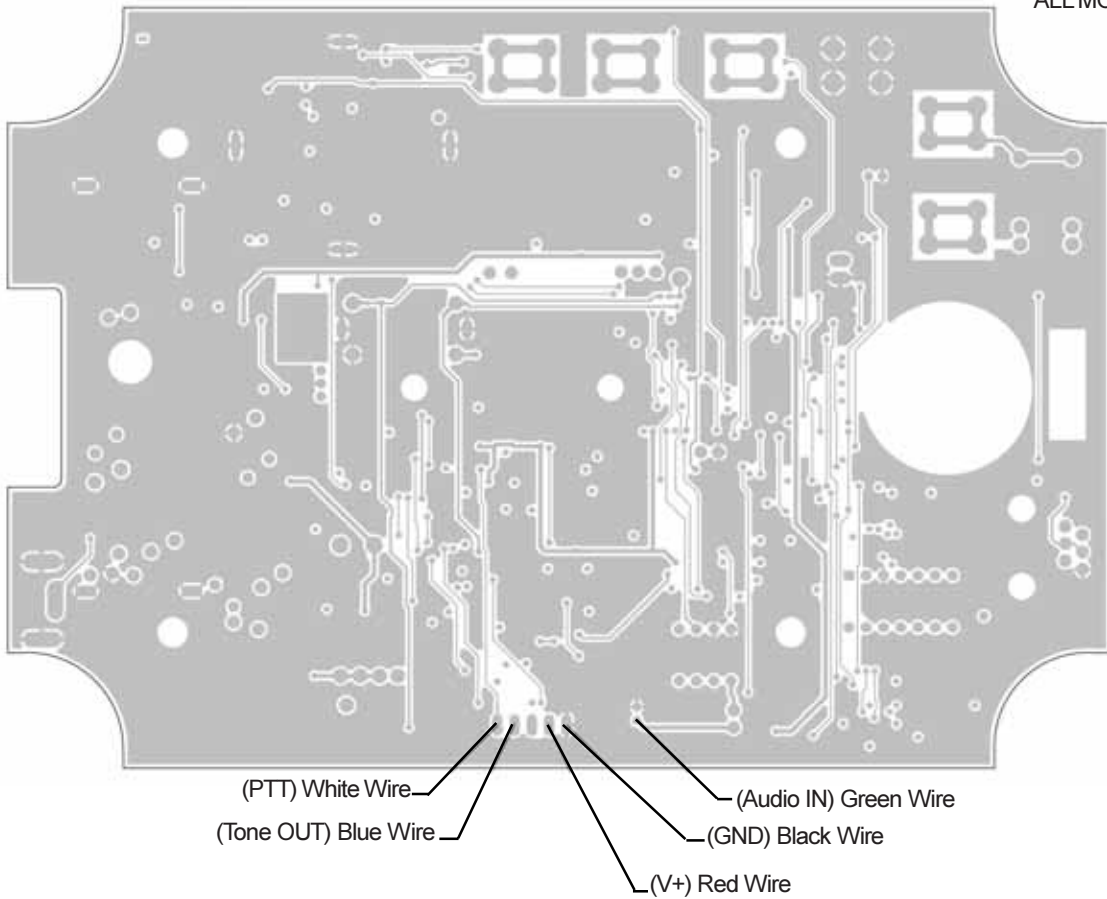
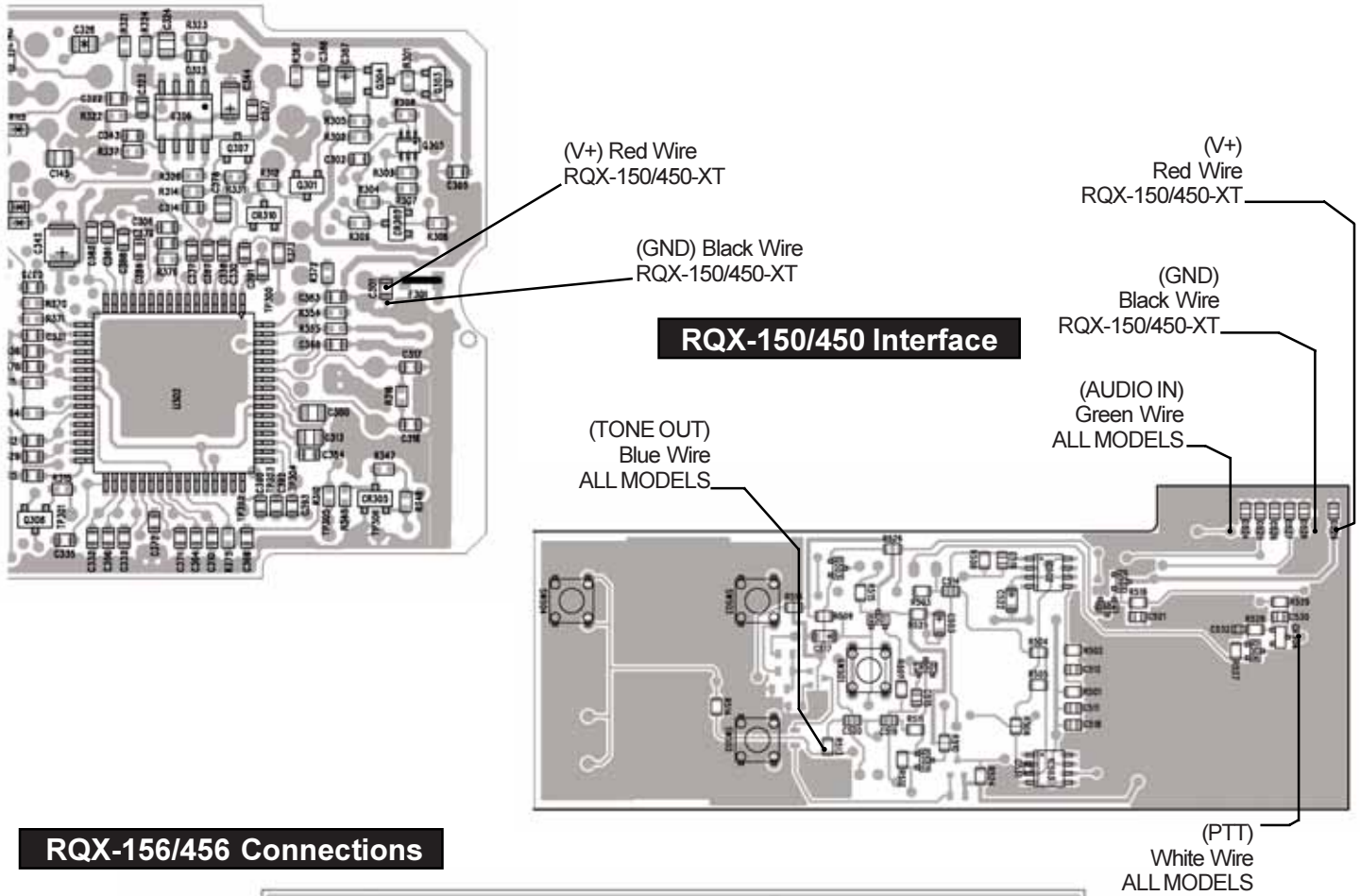
- RI-1 GateGuard DTMF Decoder/Relay Board w/ foam tape.
- Wire harness w/ connector.
- Liquid Tight Strain Relief.
- Instruction Sheet

Installation:

1. Solder the wire harness as shown in FIG.-1.
2. Remove the protective covering from the tape on the Decoder Board.
3. **RQX-150/450/454-XT:** Place the Decoder Board on the inside left wall of the front cover as shown in FIG.-2. **RQX-156/456-XT:** The battery holder must be removed and the Decoder Board placed on the inside of the back cover.
4. Connect the wire harness to the mating connector on the Decoder Board. A panel mounted liquid tight strain relief is included in the Kit. The liquid tight strain relief provides sealing as well as strain relief for the wires connecting the **GateGuard** relay contacts to the contact closure inputs on the device you wish to control. To install the liquid tight strain relief, you must drill a **0.484" hole** in the center of the bottom wall of the enclosure that holds the radio (see FIG.-2. for details). **IMPORTANT** – Take care to study FIG.-2. For the correct location of this hole **BEFORE** you drill the hole. Insert the liquid tight strain relief and tighten the inside and outside nuts to secure it to the enclosure. **IMPORTANT** – After routing the wires through the strain relief connector, firmly tighten the sealing nut. This will insure proper strain relief for the wires and proper sealing of the enclosure.
5. **BEFORE** you re-assemble the OutPost callbox – **TEST** your **GateGuard** system for proper operation.

Note: If the GGT-1F is installed in the XT Model OutPost, a hole must be drilled into the fiberglass enclosure for the routing of the relay contact wires. The size and location of that hole will vary with each application and is therefore left up to the installer/dealer. It is the installer/dealer responsibility to supply any conduit or strain relief hardware.

FIG-1: GGT-1/1F WIRE HARNESS CONNECTION



Step 3. - PROGRAMMING THE GateGuard ACCESS COMMAND CODE – MODEL Nos. GGT-1/GGT-1F

The factory default **GateGuard** Access Command Code: **1-2-3**.

You can have (but are not required to use) up to 15 characters including the * and # signs to create your **GateGuard** access command code. Determine the characters you wish to include in your access command code sequence and record them in the space provided. Keep this information in a safe location. You may pick one of the following two methods for programming your **GateGuard** access command code.

METHOD #1 – Using a Touch-Tone Telephone

If the phone has a switch for TONE or PULSE dialing, make sure the switch is in the TONE position.

1. Install batteries into RQX Battery Holder as described in the OUTPOST User Manual. If using the RITRON Model EXPO-12 or using an external 12 VDC, connect external 12 VDC to the screw terminals as described in the User Manual.
2. Connect the power connector of the RQX Battery Holder or EXPO-12 to the power connector on the radio board assembly.
3. Secure antenna to the antenna connector.
4. Plug the Touch-Tone Telephone into the RJ-11 jack on the Decoder Board.
5. Place the Decoder Board Program Jumper in Position 2 (refer to FIG.- 2).
6. Press and hold the Callbox PTT button until the “Beep” is heard, then release the PTT button.
7. **RQX-150/450 ONLY:** Press the Red Enable Button on the radio assembly (refer to the diagram on the inside of the Callbox enclosure). A triple-tone “beep” will sound. This will keep the radio from timing out while entering the Security Code. **RQX-156/456:** Press and hold the PTT Programming button until the beeping stops. This will keep the radio from timing out while entering the Security Code.
8. Press the Program Button on the **GateGuard** Decoder Board (refer to FIG.- 2). The Red LED will turn off.
9. Enter your security code (up to 15 characters) by pressing the buttons on the keypad of the telephone.
10. Press the Program Button on the Decoder Board (refer to FIG.- 2). The Red LED will turn on.
11. Place the Program Jumper back to Position 1 (refer to FIG.- 2).
12. **RQX-150/450 ONLY:** Press the Red Off Button on the radio assembly (refer to the diagram on the inside of the Callbox enclosure). A double-tone “beep” will sound.
RQX-156/456/454: Disconnect and the reconnect the power connectors.
13. Proceed to the “Re-assemble Callbox Section.”

METHOD #2 – Using a Portable Radio Equipped with DTMF Keypad for Over-The-Air Programming

IMPORTANT: When entering the Access Command Code with the portable, do not stand too close to the Callbox. You should be 5 to 10 feet away otherwise audio feedback may result and the Access Command Code may not program correctly.

1. Install batteries into RQX Battery Holder as described in the OUTPOST User Manual. If using the RITRON Model EXPO-12 or using external power, connect external 12 VDC to the screw terminals.
2. Connect the power connector of the RQX Battery Holder or EXPO-12 to the power connector on the radio board assembly.
3. Secure antenna to the antenna connector.
4. Press and hold the Callbox PTT button until the “Beep” is heard, then release the PTT button.
5. Press the Program Button on the **GateGuard** Decoder Board (refer to FIG.- 2). The Red LED will go out.
6. Enter your Access Command Code (up to 15 characters) by transmitting with the handheld and pressing the buttons on the DTMF Keypad. You should hear the tones in the Callbox speaker as you press the buttons on the keypad.

Note: You will have 10 seconds to complete step 5, 6 and 7 before the Callbox automatically shuts off. If you hear a double tone “Beep” before you begin to enter your security code, begin at Step 4.

7. Press the Program Button on the Decoder Board (refer to FIG.-2). The Red LED will turn on.
8. Allow the Callbox to automatically turn off. If programmed to remain on all the time, disconnect then reconnect the power connectors.

Step 4. - CONNECTING THE GateGuard DECODER/RELAY BOARD TO YOUR DEVICE

1. Consult the manufacturer of the device you are attempting to control for the recommended wire gauge.
2. Confirm that your application will **not** exceed the maximum rating of the internal relay 125 VAC @ 10 amps.
3. Make sure all equipment power is **turned off or disconnected**.
4. Route all wires through the provided strain relief at the bottom of the Callbox enclosure and any additional strain relief or conduit. If the XT Model is being used, also route the wires through the drilled or punched hole and any additional strain relief or conduit.
5. Connect the wire pair between the **GateGuard** normally open relay contact outputs (refer to FIG.2) and the contact closure inputs on the device you wish to control.
6. Tighten all strain reliefs and any conduit junctions to ensure moisture/vandal resistance.

Step 5. - CALLBOX RE-ASSEMBLE – Basic and XT Models RQX-150/156/450/456/454

Standard Model: RQX-150/156/450/456/454

1. Make sure power connectors between front and rear enclosures are connected.
2. Place front and rear enclosures together.
3. Tighten (4) large plastic screws. NOTE: **DO NOT** over-tighten, damage to screws may result.
4. *Basic* model - Attach message placard to front enclosure by lining up the push-button in the hole in the placard and matching up the (4) Velcro pads on the back of the placard.
4. *XT* model – Place metal plate on outer enclosure.
5. *XT* model – Tighten (4) metal screws with **Torx T-25** Tamper-proof screw bit.

Basic Operation - Model GGT-1/1F DTMF DECODER

The RITRON OUTPOST Radio Callbox with **GateGuard** installed will operate as such;

After a call has been initiated by the OutPost radio callbox, a two-way conversation can be established between the callbox and a portable two-way radio. Likewise, personnel with a radio (portable, mobile or base station) equipped with a DTMF keypad can transmit the access command code back to the OutPost callbox equipped with a **GateGuard** decoder. By transmitting the correct **GateGuard** access command code via the radio's keypad, the user can now achieve long range, wireless remote control to activate motors, gates, locks, lights and/or pumps. When the **GateGuard** decodes the correct access command code, the relay contacts will close momentarily (a 1/2-second) to control what has been connected to the relay contacts. The OutPost radio callbox will then automatically transmit a short (1 second) "acknowledgement" tone back to the portable radio. This tone acknowledgement in-turn alerts radio-equipped personnel that the OutPost callbox received and successfully decoded the **GateGuard** access command code.

Note: Acknowledgement Tone and Trunking Operation - If **GateGuard** is used with a RITRON Model RQX-454-XT programmed for trunking mode through a repeater, the 1 second tone may be partially or entirely missed due to Home Channel availability.

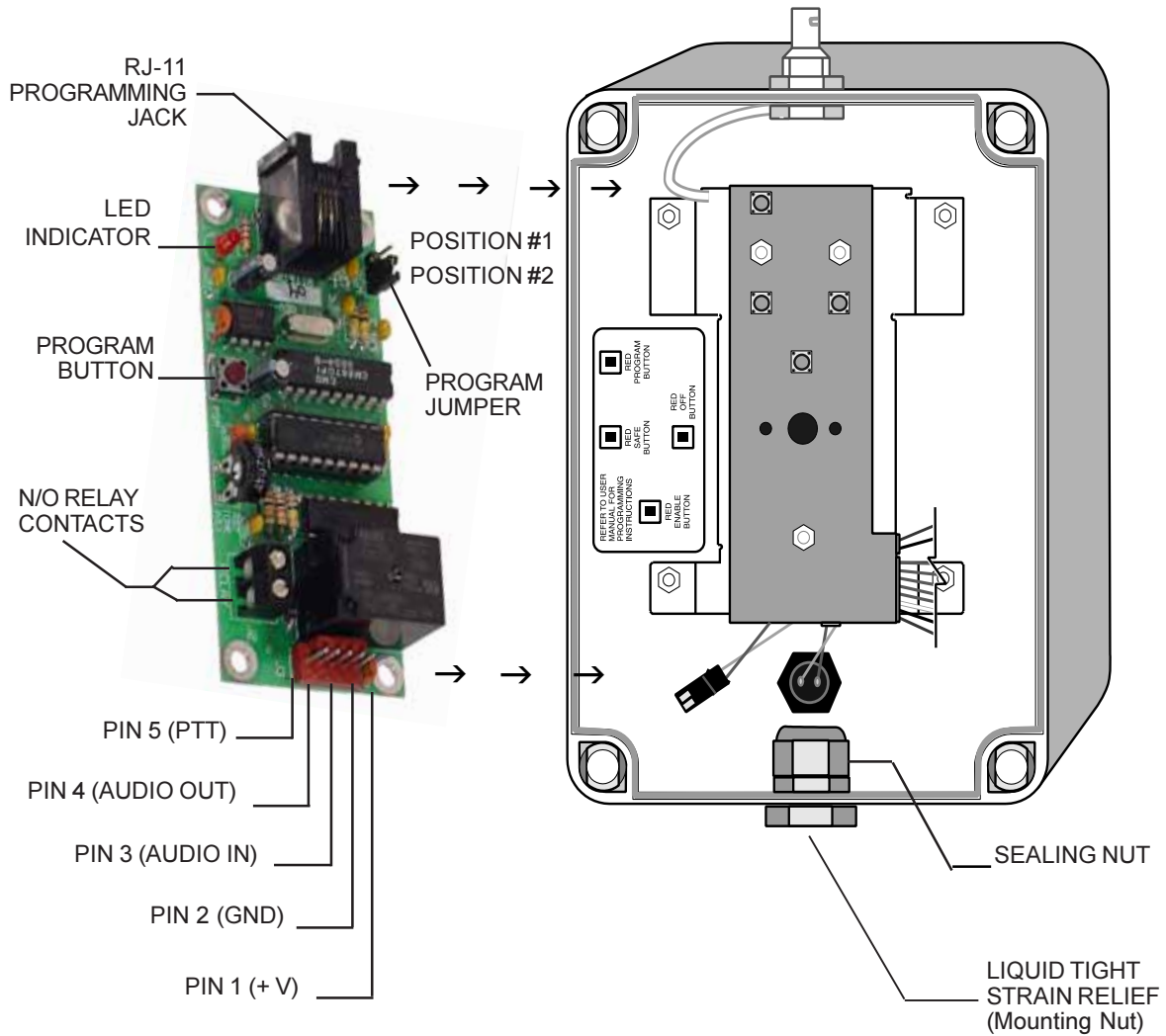
Ritron Quick Talk Wireless Voice Alarm Reporter Offers Wireless Remote Monitoring

If you would like to know that the desired "command" was **actually performed** e.g. "is the gate really moving?", then Ritron has the perfect wireless solution for you. We recommend the Quick Talk Wireless Voice Alarm Reporter. The Quick Talk RQT-150/450/454 can be programmed to the radio system frequency and connected to any switch i.e. a flex switch, magnetic reed switch, pressure plate etc.. in-turn this switch will be activated by the actual opening/closing of the gate. A corresponding voice message is then transmitted via radio to all radio-equipped personnel, providing confirmation on the status of the gate. This useful wireless device can be used in conjunction with existing two-way radios – conventional, repeaters and UHF trunking system and a wide variety of available switches or sensors.

The 1-second "acknowledgement" tone generated by the GGT-1 equipped Outpost indicates that a correct access command code has been received and properly decoded. It does not confirm that the gate is actually opening or closing; i.e., a damaged gate motor may not be operational. Even though a **GateGuard** equipped OutPost callbox receives and decodes the signal, and the relay output closes, the attached device (e.g., a gate opener) may not be operational. A Quick Talk Voice Alarm Reporter along with a flex switch mounted in the path of the gate will confirm via radio that the gate is actually moving. This added monitoring capability will also alert radio-equipped personnel of "unauthorized" movement of the gate. Visit the Ritron web site at www.ritron.com or call your dealer or Ritron at **800-USA-1-USA (800-872-1-872)** for more information on the Quick Talk Voice Alarm Reporter.

FIG.-2: GGT-1/1F INSTALLATION

**RI-1 RITRON
DECODER BOARD**
(Mounted Inside Left)

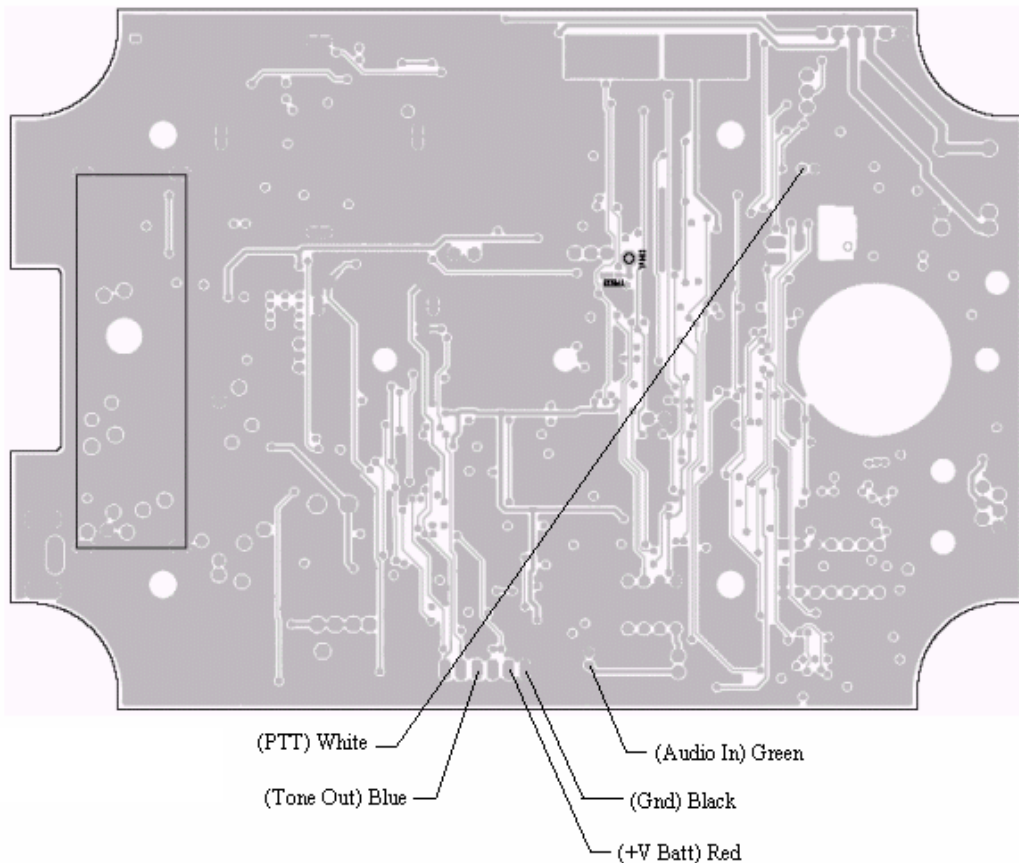


NOTE

Field installation of the RI-1 Decoder Board requires a 0.484" hole to be drilled into the bottom of the RQX OutPost Callbox. Connector must be installed as shown -- *sealing nut must be positioned inside the enclosure.*

Installing the GGT-1F on an RQX XT-Series Callbox with Serial Number 13250 or Higher

1. Remove the four security screws from the front of the XT case.
2. Lift off the faceplate and set it on the right side, upside down.
3. Loosen the plastic case screws on the internal RQX case and lift off the case lid.
4. Disconnect from the PCB:
 - the phono plug for the antenna
 - the battery plug
 - the speaker cable
 - the 6-conductor XT cable
5. Remove the PCB from the case front.
6. Solder the GGT-WH wire harness to the PCB using the drawing below.
7. Re-install the PCB into the case.
8. Remove backing from tape on back of GGT board, and press GGT to lower left side of battery plate.
9. Remove the blue and green wires from the XT cable connector and strip the lead 3/8 inch.
10. Insert and secure the blue and green wires into the relay contact terminals on the GGT-1F board.
11. Plug GGT-WH wire harness into GGT-1F board.
12. Reconnect to the PCB:
 - the phono plug for the antenna
 - the battery plug
 - the speaker cable
 - the 6-conductor XT cable
13. Close the unit, making sure not to pinch any wires while closing the case.
14. Tighten the plastic case screws on the RQX case.
15. Re-install the metal faceplate.



Note: Drawing above for connection location only, the actually PCB may vary slightly from this drawing.