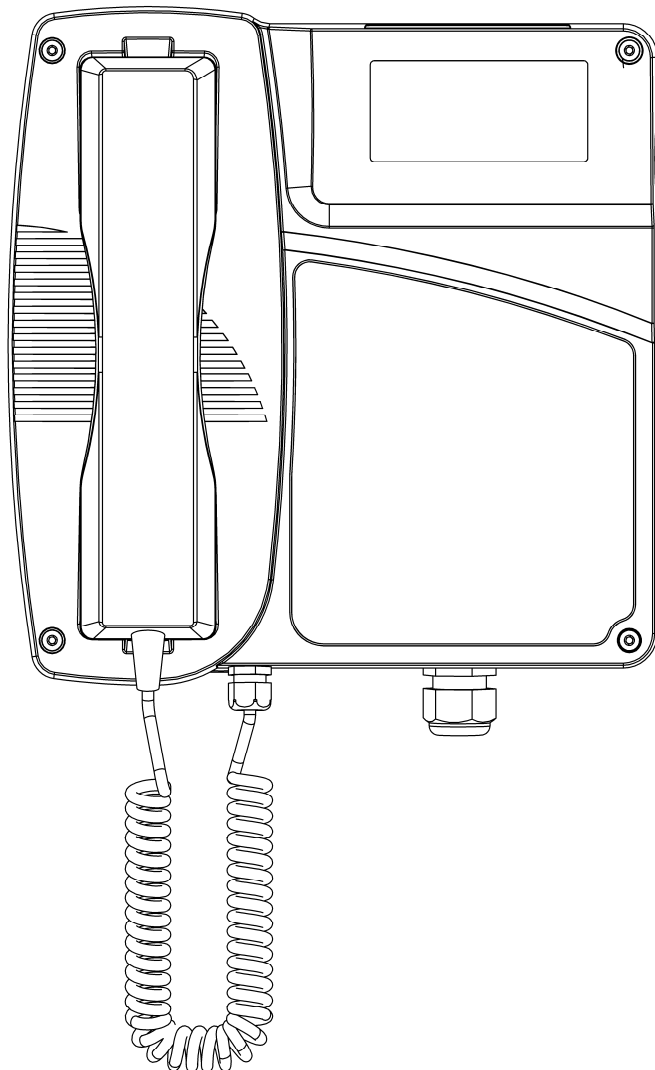


# DTR-51 & DTR-61 Ringdown Telephones

## Installation & Operation



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### Package Contents

- (1) DTR-51 or DTR-61 Ringdown Telephone
- (1) Installation & Operation Manual
- (1) Parts bag containing handset clips & screws, 3mm Allen key for faceplate screws & one Ring Detect Relay Enable jumper wire.

### Models

- P3029 DTR-51 – Ringdown with Volume Control Handset & Coil Cord
- P3030 DTR-61 – Ringdown with Volume Control Handset & Armored Cord

### Accessories

- P3024 Supplemental Receiver Kit

## Overview

### ***DTR Ringdown Telephones***

DTR ringdown telephones provide safe, reliable communications in areas that are prone to high humidity, chemical vapors, dust and physical abuse. A Supplemental receiver option is available that can be held against the ear opposite to the handset, in order to improve speech recognition in noisy environments.

## Features

### ***Housing and Handset***

- high impact thermoset – static dissipative

### ***Mounting***

- desk top or wall mounted

### ***Audio Modes***

- handset

### ***Resettable Fuse***

- prevents damage to the electronic circuits in the event of a high voltage spike on the telephone line

### ***Magnetic Reed Hook Switch***

- no moving parts

### ***Built In Ring Detect Relay***

- 250VAC 5 Ampere Ring Detect Relay, (no need for an external RDR)

### ***Handset Cord***

- 6' heavy duty curly cord on DTR-51
- armored cord on DTR-61

### ***Hearing-Aid Compatible (HAC) Receiver***

- compatible with inductively coupled hearing-aid devices

### ***Receiver Volume Control***

- Switch in handset provides 15dB of audio range

### ***Wide Temperature Range***

- -30° C to +60° C (-22° F to +140° F)

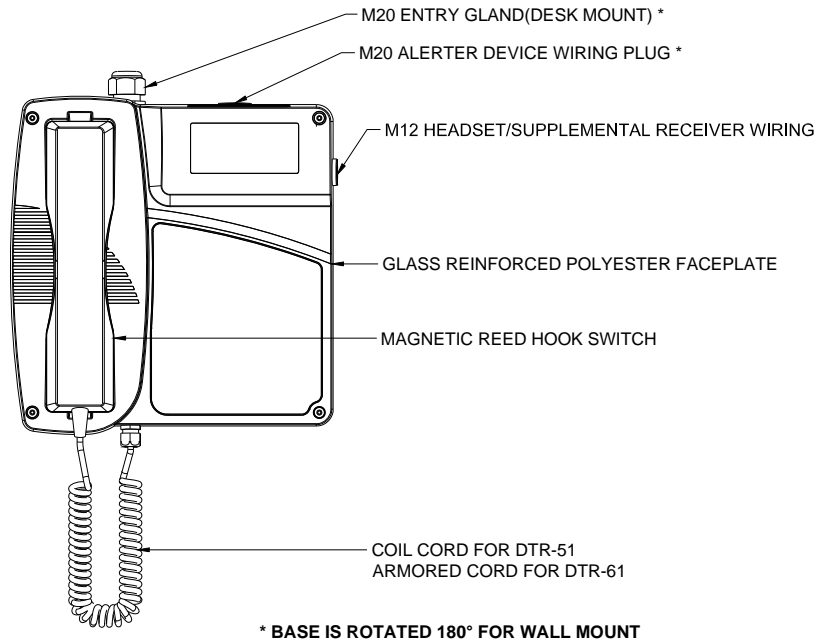


Figure 1 - Features

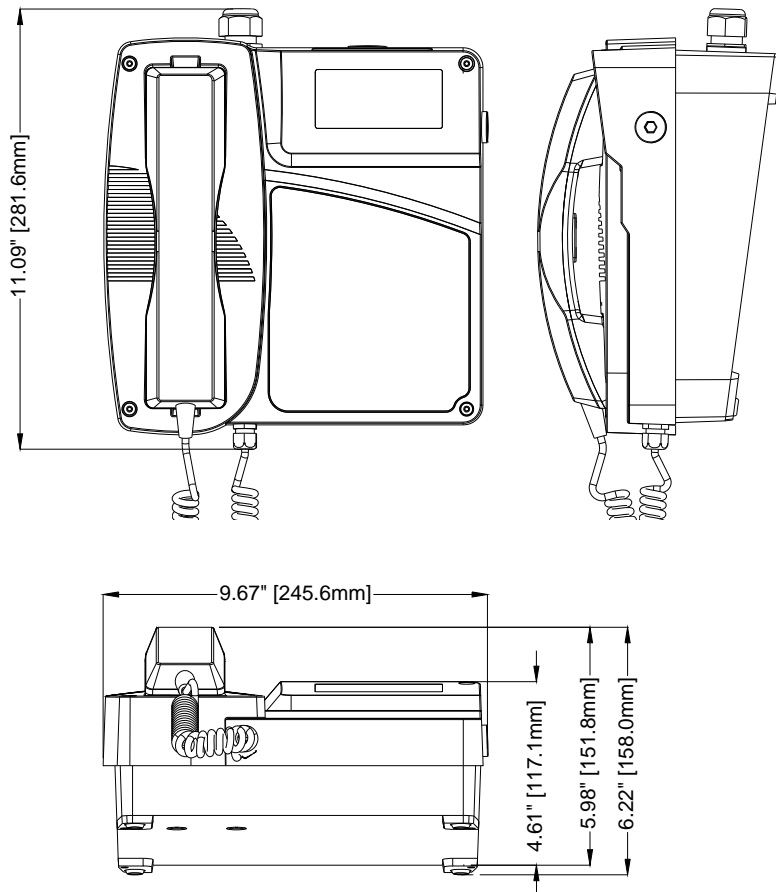


Figure 2 - Overall Dimensions

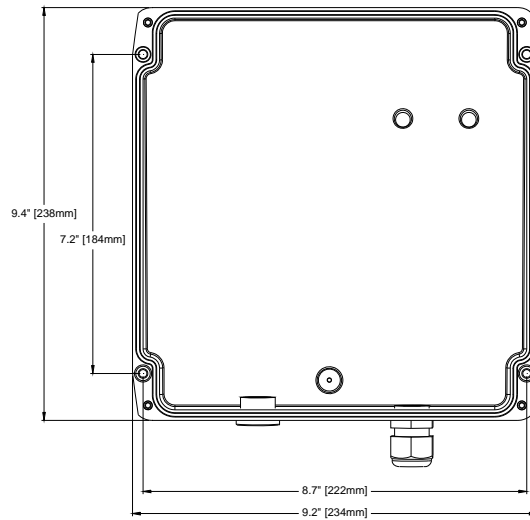


Figure 3 - Wall Installation of Base

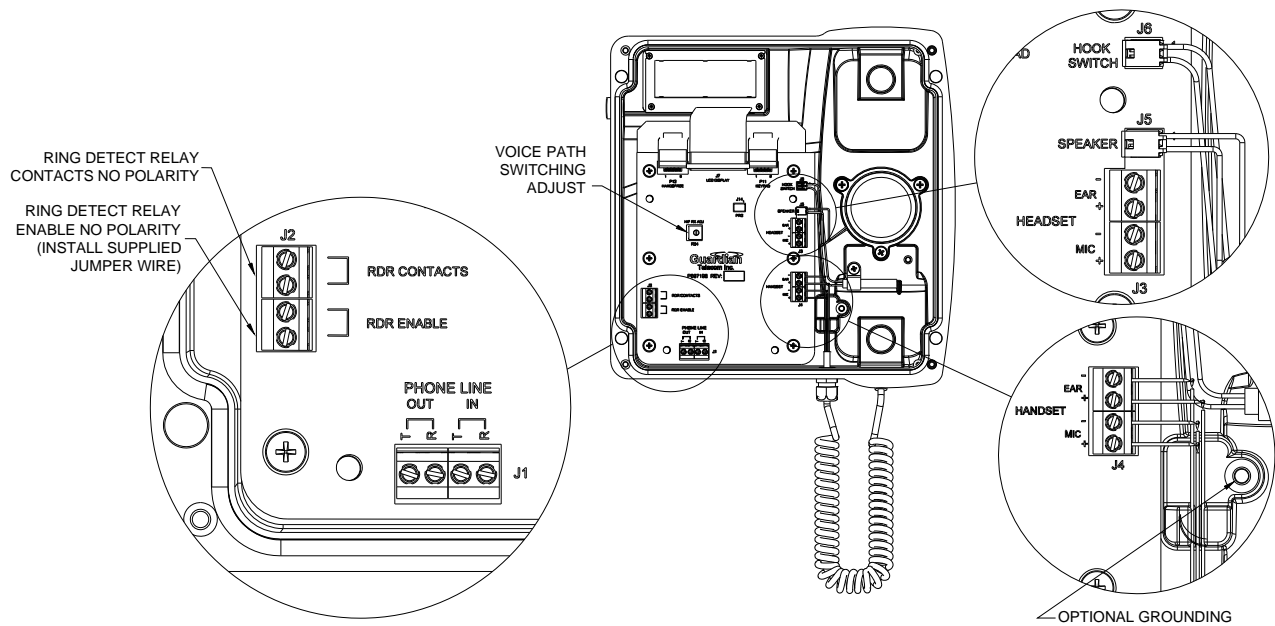


Figure 4 - Wiring

### Installation

- The DTR is a ringdown telephone that utilizes the features of the PABX to route calls to the desired location.
- Follow all appropriate electrical codes and use only approved electrical fittings for the installation.
- If required install primary surge protection external to the telephone.
- The telephone may be installed on a flat surface or wall mounted.
- Ensure that none of the electrical connection circuits are live by disconnecting the Tip and Ring conductors at the demarcation block or PABX.
- If the built in Ring Detect Relay is to be utilized to activate an external alarm ensure that the power conductors are not live.
- Using the 3mm Allen Key provided loosen the four faceplate captive screws to detach the faceplate from the base.

#### **Desk Top Configuration**

- If the telephone is to be desk top mounted set the base in the desired location.

#### **Wall Mount Configuration**

- If the telephone is to be wall mounted choose a location that is free of obstructions and permits space for wiring. Mount the base with the deepest dimension on the bottom. Mount as follows:
  - The telephone weighs 3.95 kilograms (8.68 pounds), ensure that the mounting can support four times the weight of the unit; that is 15.8 kilograms (34.8 pounds). Wall anchors are not included; follow the manufacture's instructions when installing anchors.
  - Mounting to concrete or cinder block. Lead expansion anchors with M4 (#8) screws are recommended.
  - Mounting to drywall. Hollow wall anchors (Molly Bolts) with M4 (#8) screws are recommended.
  - Mounting to other surfaces. It is the responsibility of the installer to ensure that the base is attached in such a way as to support the weight specified above.
- Install the handset retainer clips on the faceplate using the hardware supplied.

**See:** *Figure 2 - Overall Dimensions.*

### Wiring

- **WARNING: Use properly sized cable to ensure a gas/dust tight seal at the cable gland to maintain an IP66 rating, (M12 – 2 to 5mm), (M20 – 8 to 13mm). Take care not to lose parts of the gland if the cap is removed.**
- If the telephone is wall mounted temporarily hang the faceplate on the right side of the base using two of the faceplate screws. Be careful not to lose the "O" ring screw retainers.
- Insert the Tip and Ring cable through the M20 gland and connect the conductors to the Phone-Line-In terminal block.
- If an extension telephone is installed the phone line out terminals may be utilized. A four conductor cable can be used, or an additional cable can be run through the spare 20mm opening; if it is not occupied for other purposes.
- Install the Supplemental receiver if provided.
- If an external alerter device is utilized remove the M20 plug, install an appropriate cable gland and connect the wiring to the Ring Detect Relay terminal block. Enable the Ring Detect Relay by inserting the jumper wire provided across the Ring Detect Relay Enable terminals.
- Tighten the cable glands securely.
- Mount the face plate and secure the captive screws to the base.
- Connect the Tip and Ring conductors at the demarcation block.
- If the built in Ring Detect Relay is utilized apply power to the conductors.

### Programming

- Program the PABX if necessary.

### Testing

- Test the unit by calling to and from another unit on the exchange.

*Tip: If cable diameter is not in the range of the M12 or M20 glands provided an approved reducer and smaller gland can be fitted.*

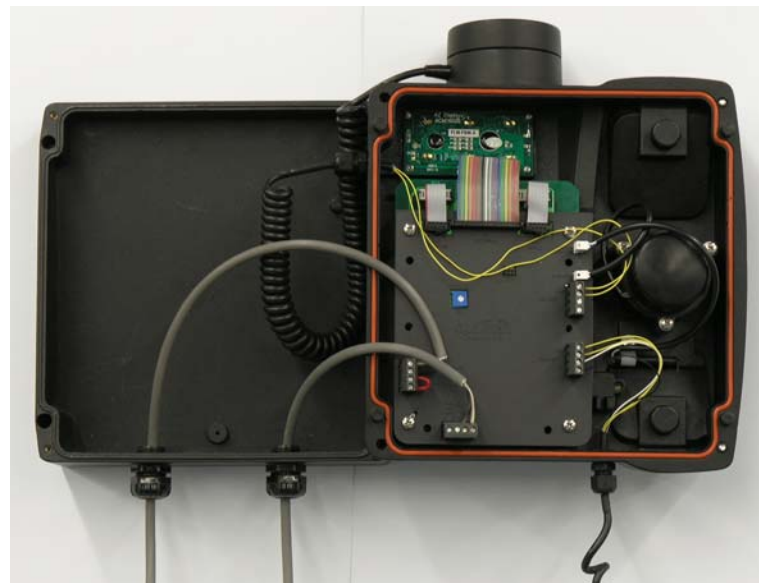
*See: Figure 5 - Temporary Mounting for Wiring*

*See: Figure 4 - Wiring*

*Tip: Refer to the documentation provided with this accessory.*

*See: Figure 1 - Features & Figure 4 - Wiring*

*Tip: Torque screws to 1.65 ft/lbs (1.36Nm)*



**Figure 5 - Temporary Mounting for Wiring**

**Retrofitting Supplemental Receiver, Strobe Light/ Ringer**

- Disconnect wiring at the demarcation block and power breaker to avoid shock hazard.
- Loosen the four captive screws in the faceplate and detach the face plate from the base.
- If the telephone is wall mounted temporarily hang the faceplate to the right side of the base using two of the faceplate screws. Be careful not to lose the "O" ring retainers.
- Install the options following the instructions below.
- Tighten cable glands securely.
- Carefully replace the front plate and install all four screws.
- Reconnect telephone and ring detect relay wiring.
- Test the unit by calling to and from another unit on the exchange.

**Supplemental Receiver**

- If wall mounted install the Supplemental Receiver hanger to the wall 4" to 6" to the right of the telephone.
- Remove the plug on the side of the face plate and install the M12 accessory cord gland.
- Slide the cord through the gland into the face plate.
- Connect the wiring to the headset earpiece terminal block.

**Strobe Light /Loud Ringer**

- Remove the M20 alerter device wiring plug from the base and install an M20 cable gland.
- Connect the Strobe Light or Loud Ringer wiring to the Ring Detect Relay terminal block.
- Enable the Ring Detect Relay by inserting the provided jumper wire across the Ring Detect Relay Enable terminals.

*See: Figure 5 - Temporary Mounting for Wiring*

*Tip: Torque screws to 1.65 ft/lbs (1.36Nm).*

*Note: Supplemental Receiver part no. P3024 required.*

*See: Figure 1 - Features*

*See: Figure 4 - Wiring*

*See: Figure 1 - Features*

### Field Repairs & Adjustments

Field repairs may only be carried out by qualified technicians using OEM parts. Substitution of parts voids warranty and may pose a hazard to users of the equipment.

- Disconnect telephone wiring at the demarcation block and ring detect relay power at the breaker to avoid shock hazard.
- Loosen the four captive screws in the faceplate and detach the faceplate from the base.
- If the telephone is wall mounted temporarily hang the faceplate to the right side of the base using two of the faceplate screws. Be careful not to lose the "O" ring screw retainers.
- Perform the necessary repairs or adjustments.
- Carefully replace the front plate and install all four screws.
- Reconnect telephone and ring detect relay wiring.

#### Handset Replacement

- Disconnect the handset wiring from the terminal block.
- If the phone is equipped with an armored cord handset, remove the anchor screw from the armored cord lanyard.
- Loosen the handset cable gland and pull out the cord.
- Install the new replacement handset and tighten the gland.
- Rewire the handset cord to the terminal block.

#### Supplemental Receiver Replacement

- Disconnect the supplemental receiver wiring from the terminal block.
- Loosen the cable gland and pull out the cord.
- Install the new replacement and tighten the gland.
- Rewire the replacement cord to the terminal block.

#### Ringer Speaker Replacement

- Unplug the speaker connector from the main board.
- Remove the screws that hold the speaker cap to get access to the speaker.
- Install the new speaker and gasket.
- Reconnect the speaker connector to the main board.

#### Main Circuit Board Replacement

- Label any wiring attached to the circuit board. Disconnect wiring and ribbon cable.
- Remove the six screws holding the circuit board in place. Carefully remove the board.
- Install the new board and replace the six screws and wiring.

*See: Replacement Parts*

*See: Figure 5 - Temporary Mounting for Wiring*

*Tip: Torque screws to 1.65 ft/lbs (1.36Nm)*

*See: Figure 4 - Wiring*

*Tip: Torque screws to 2.5 in/lbs (0.28 Nm).*

**Fuses**

- ***There are no replaceable fuses in the DTR.***
- The phone line fuse on the circuit board of all models is of the resettable type and is not replaceable. If the fuse trips due to an external event it will reset in a short period of time. The duration will depend on ambient temperature and other factors. If the fuse trips repeatedly check the telephone system wiring. The fuse protects the Tip and Ring line from the telephone system. It is usually powered at 48 volts DC and must not be connected to 120VAC or 230VAC.
- The Ring Detect Relay fuse is a 5 Ampere, fast blow fuse. It is potted to prevent an exposed spark. If the fuse blows the circuit board must be replaced.

**Operating the DTR**

Lift the handset and the telephone will dial automatically. Adjust the handset volume to a comfortable level with the volume control switches on the handset.

When the call is completed replace the handset in the cradle.

**Cleaning Tips for Guardian Telephones**

Guardian Telephones may occasionally need to be cleaned to maintain appearance. Generally, wiping the surface with a clean, water dampened cloth will remove most films or residues. If the soiling is too stubborn for plain water, a mild detergent solution may be used. Be sure to wipe away any detergent residue with a plain water dampened cloth. The Telephone may be cleaned with any general-purpose household glass and surface type cleaner. Do not spray the telephone directly! Spray the cleaner on a soft cloth then wipe the surface. Pre-treated cloths, like those used for eyeglasses or cameras, may be used to clean the Telephone. Premoistened towelettes may also be used, however, avoid those containing lanolin or aloe as they will leave a slippery residue. The handset and surface of the telephone may be cleaned with disinfectants used for general cleaning in a medical environment. Isopropyl alcohol may be used applied with a cloth. Avoid using alcohol on silicon based keypads, since doing so may significantly degrade legibility.

- Do not use furniture polishes, waxes or plasticizer-based cleaner (Armor All etc.)
- Do not use lanolin, aloe, glycerin or other skin care type products.
- Do not apply any solvent such as acetone, mineral spirits etc.
- Do not directly spray or immerse the handset.

### Engineering Specifications

| <b>PERFORMANCE</b>                         |  |
|--|--|
| AUDIBLE RANGE FREQUENCY RESPONSE           | 300 – 3400 Hz  |
| RECEIVER VOLUME ADJUSTMENT                 | 8 STEPS, 2 dB/STEP   |
| CONFORMS TO                                | RESIDENTIAL AND INDUSTRIAL AREAS<br>ETSI TBR 38: MAY 1998 (ACOUSTICS)<br>ETSI TBR 21: JANUARY 1998 (TELEPHONE NETWORK) |
| RINGER OUTPUT                              | >85 dB @ 1M  |
| RINGER IMPEDANCE WITHOUT RING DETECT RELAY | >7K OHMS @25 Hz, 30-90 VAC<br>>4K OHMS @ 50Hz, 30-90 VAC   |
| RINGER IMPEDANCE WITH RING DETECT RELAY    | >4K OHMS @25 Hz, 30-90 VAC<br>(RDR NOT RECOMMENDED @ 50Hz)   |
| SET IMPEDANCE                              | 600 OHMS NOMINAL   |
| MAXIMUM LOOP                               | 15,000 FT (4,600 M) OF 22 AWG COPPER   |
| <b>ELECTRICAL</b>                          |  |
| RINGER SENSITIVITY                         | 40 – 100 V, 16 – 25 Hz   |
| LINE VOLTAGE                               | 24 – 56 VDC  |
| LOOP CURRENT                               | 22 - 100 mA  |
| CONNECTION METHOD                          | TERMINAL BLOCKS  |
| FUSE - MAIN TELEPHONE CCT                  | 250 mA – AUTO RESET  |
| FUSE – RING DETECT RELAY                   | 5 AMP 250 VOLT FAST BLOW   |
| <b>ENVIRONMENTAL</b>                       |  |
| INGRESS PROTECTION RATING                  | IP66   |
| OPERATING TEMPERATURE                      | -30° TO +60° C (-22° TO +140° F)   |
| STORAGE TEMPERATURE                        | -50° TO +80° C (-58° TO +176° F)   |
| HUMIDITY                                   | 0 TO 95% RH  |
| DUSTPROOF                                  | FULLY GASKETTED ENCLOSURE  |
| <b>MECHANICAL</b>                          |  |
| HOOK SWITCH (CRADLE SWITCH) LIFE           | >1 000 000 OPERATIONS  |
| HOUSING MATERIAL                           | GLASS FILLED POLYESTER (CARBON LOADED)   |
| HANDSET MATERIAL                           | GLASS FILLED POLYESTER (CARBON LOADED)   |
| DIMENSIONS (H x W x D) WALL MOUNTED        | 281 x 246 x 158 MM (11.1 x 9.7 x 6.2 INCHES)   |
| NET WEIGHT                                 | 3.95 KG (8.68 LBS)   |
| MOUNTING WALL STRENGTH REQUIREMENT         | 15.8 KG (34.8)LBS  |
| MICROPHONE                                 | NOISE CANCELING  |
| RECEIVER                                   | HEARING AID COMPATIBLE (HAC)   |
| MOUNTING                                   | DESK OR WALL   |
| WIRING ACCESS                              | 2 x M20 CABLE GLAND ENTRY POINTS   |

|                   |             |
|-------------------|-------------|
| <b>Compliance</b> |             |
|                   | <b>CE</b>   |
| NOTIFIED BODY     | TRAC GLOBAL |
| ENVIRONMENTAL     | IP-66       |
| TEMPERATURE CODE  | T5          |

| <b>Replacement Parts</b> |  |
|--------------------------|--|
| <b>Part No.</b>          | <b>Description</b>                               |
| P006608                  | Handset, coil cord                               |
| P006921                  | Handset, armored cord                            |
| P007198                  | PCBA, DTT/DTR Main circuit board                 |
| P006690                  | M20 Gland, ATEX compliant                        |
| P006668                  | M20 Plug, ATEX compliant                         |
| P006679                  | M12 Gland, ATEX compliant                        |
| P006862                  | M12 Plug, ATEX compliant                         |
| P006692                  | M4 Faceplate screws (4 required)                 |
| P006696                  | O-Ring gaskets for faceplate screws (4 required) |
| P006675                  | Faceplate gasket                                 |
| P002254                  | Magnetic reed hook switch                        |
| P004123                  | Nylon fastener for hook switch                   |
| P007197                  | Telephone housing base                           |
| P008107                  | Telephone faceplate                              |
| P006656                  | Receiver cartridge                               |
| P007013                  | Microphone cartridge                             |
| P006819                  | Ringer Speaker                                   |
| P006614                  | Handset retainer                                 |
| P006617                  | Allen key for faceplate screws                   |

### **Warranty**

Guardian Telecom warrants your product to be free of defects in material and workmanship for a period of one year. Guardian Telecom will repair or replace any defective unit that is under warranty free of charge.

This warranty is null and void if any non-authorized modifications have been made to this product, or if it has been subjected to misuse, neglect, or accident. This warranty covers bench repairs only; such repairs must be made at Guardian Telecom or an authorized service depot. Guardian Telecom is not responsible for costs incurred for on-site service calls, freight, or brokerage.

***A return authorization must be obtained prior to warranty claims or repairs.***

### **Disclaimer**

The products covered by this manual are designed for use in Industrial Environments and/or Hazardous Locations. Due to the range of possible applications for these instruments the manufacturer will not be responsible for damages or losses of any kind suffered as a result of the use of this product, including consequential damages.

### **Warning**

This device may be opened and reassembled by qualified personnel only, for the purposes of installing the product, making adjustments and replacing components, following the instructions in the product manual. Before opening this telephone disconnect the wiring at the demarcation block.

**High voltages may be present in this product when connected to telephone wiring.**

### **Service Telephone Number**

#### **1-800-363-8010**

Guardian Telecom provides a customer service telephone number which is toll-free within North America. If you need assistance when installing or operating this product, please call the toll-free telephone number between regular business hours (8:00AM-5:00PM), Mountain Standard Time. If you are calling outside of regular business hours, please leave a detailed message, and a member of Guardian Telecom's Service Department will return your call as soon as possible. If your product requires service, Guardian personnel will supply you with an RMA (return materials authorization) number over the telephone or through our web site product return page. This number must be included with your return address and the name of the person to contact.

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### **Feedback**

Guardian Telecom continually strives to make reliable, durable, and easy to use products. If you, as an installer or user of our equipment, have any suggestions for improvements to this or any of our products or documents, including this manual, we would appreciate hearing from you.

| <b>Guardian Product Return</b>  |
|---|
| Guardian products have been quality tested and are in full working order when shipped from the factory, given the rugged nature of these products shipping is not expected to damage a unit. In the unlikely event of a malfunction, Guardian follows the three step procedure below.   |
| <b><i>Step I - On-Site Correction</i></b>   |
| <ul style="list-style-type: none"> <li>• The most common source of difficulties with a new product is improper installation in one of two ways: incorrect wiring connections or connection to an incorrect power source.</li> </ul>   |
| <ul style="list-style-type: none"> <li>• Product wiring needs to be properly connected to the on-site wiring. Correct wiring instructions are shown in the user manual included with the product.</li> </ul>  |
| <ul style="list-style-type: none"> <li>• Connecting a telephone to a standard power source, rather than tip &amp; ring, will trip the telephone's internal resettable fuse. In the event that the fuse trips, disconnect the telephone from the power source and reconnect following the wiring diagrams provided with the product.</li> </ul>  |
| <b><i>Step II - Return Materials Authorization (RMA)</i></b>  |
| <ul style="list-style-type: none"> <li>• When a product has been installed following user manual instructions, and the unit fails to operate, the user must contact Guardian Telecom to obtain authorization to return the product. This can be done by completing a RMA form online at <a href="http://www.guardiantelecom.com">www.guardiantelecom.com</a>, or by calling the service telephone number given in this manual.</li> </ul> |
| <ul style="list-style-type: none"> <li>• After providing information on the product, the owner and the nature of the problem, Guardian will issue a RMA number, to be shown on documentation returned with the product.</li> </ul>  |
| <ul style="list-style-type: none"> <li>• In addition to the RMA number, shipping documents should include name, address and telephone number of the owner along with contact information for the person responsible for the repair and/or the user who identified the malfunction.</li> </ul>   |
| <ul style="list-style-type: none"> <li>• (Where a product is being returned for repair from outside of Canada, customs documentation must show the product's serial number, date of export [date of purchase], and a notation that the equipment is: "Canadian goods returning.")</li> </ul>  |
| <b><i>Step III - Factory Authorized Service</i></b>   |
| <ul style="list-style-type: none"> <li>• Once received, each product is carefully inspected and tested. If the product is under warranty, repairs are completed and the product returned to the owner, generally within five working days of receipt by the factory.</li> </ul>   |
| <ul style="list-style-type: none"> <li>• A product that has been subjected to misuse, neglect or accident or is beyond the warranty period will be evaluated. The service department will provide the owner's representative with a repair cost estimate. Once approved, repairs are completed and the product returned, generally within five working days.</li> </ul>   |





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