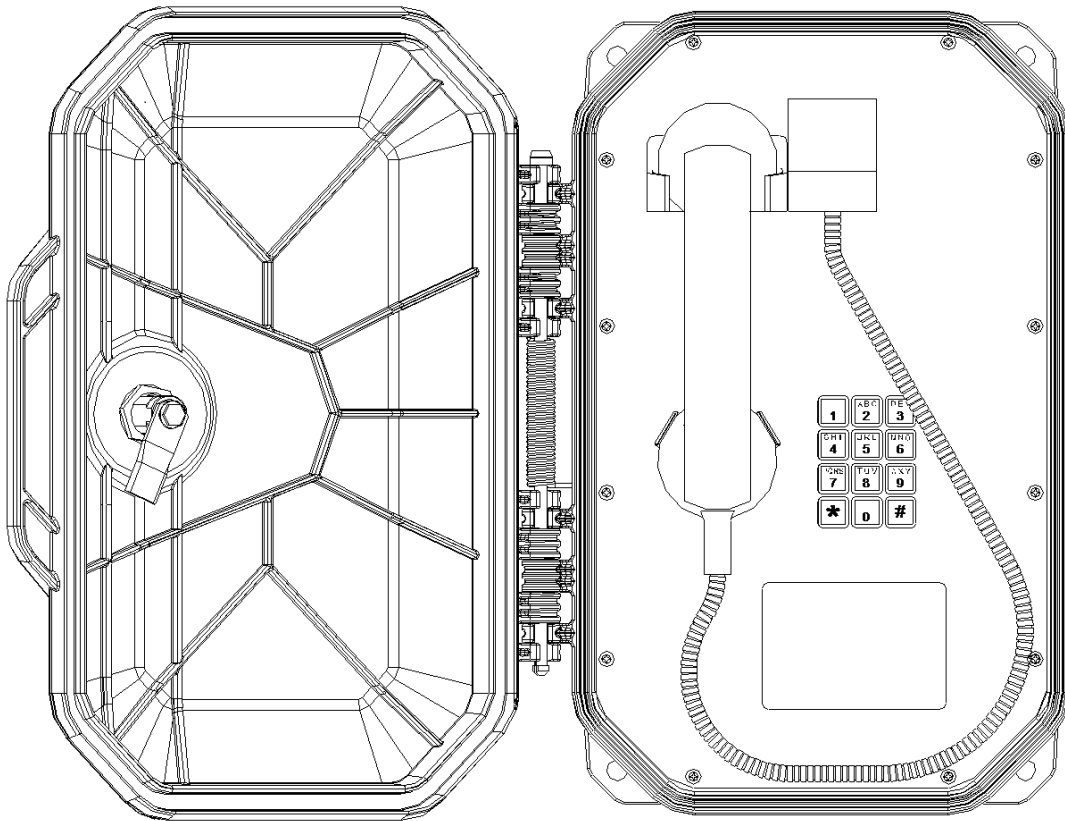




Watertight 4X, IP-66 Telephones

WTT Series

Installation and Operation



WTT-40

Table of Contents

Package Contents	2
Models	2
Options	2
Accessories	2
Overview.....	3
Features	3
Installation	6
Operation.....	6
Field Repairs	7
Specifications	8
Replacement Parts.....	9
Government Certification.....	10
Warranty	11
Disclaimer.....	11
Warning	11
Service Telephone Number.....	11
Feedback.....	11
Guardian Product Return	12
Cleaning Tips for Guardian Telephones	13
Storage	13

Table of Figures

Figure 1 - Features - typical	4
Figure 2 - Overall Dimensions.....	4
Figure 3 - Installation.....	5
Figure 4 - Setting Dialing Mode.....	5

Package Contents

- (1) WTT Telephone
- (2) Door Latch Keys (if locking door option ordered)
- (12) Faceplate Screws (vandal resistant with driver if option ordered)
- (1) Installation and Operation Manual

Models

- **P5301** WTT-30 Watertight 4X telephone with Coil cord.
- **P5302** WTT-40 Watertight 4X telephone with armored handset cord.

Options

- **VR-WTE** Vandal Resistant Screws
- **LCK-WTE** Locking door
- **P7224** Potted ring detect relay, (internal to telephone)
- **P7227** Potted off-hook detect relay, (internal to telephone)

Accessories

- **P7225** Weatherproof ring detect relay, (external to telephone)
- **P7232** Weatherproof off-hook detect relay, (external to telephone)
- Loud Ringers and Strobe Lights

Overview

WTT Series Watertight 4X Telephones

Guardian's WTT Series Telephones offer maximum efficiency under extreme environmental conditions. The sturdy thermoplastic resin enclosure protects the internal circuitry against windblown dust and rain, corrosion, splashing and high-pressure water. They have a CSA Type 4X rating, making them the ideal telephones for use in wet or corrosive atmospheres such as chemical plants or offshore platforms

The WTT-30 is a standard model with a Coil cord and the WTT-40 is a vandal resistant model with an armored handset cord.

Features

Enclosure

- thermoplastic resin body construction
- weatherproof and corrosion resistant
- spring loaded hinged door (locking optional)
- integrated mounting feet

Keypad

- Standard 3x4 matrix

Encapsulated Circuitry

- encapsulated circuit boards are resistant to corrosive agents (e.g. H₂S, SO₂ and NH₃) and environments with high humidity

Magnetic Reed Hook Switch

- no moving parts

Surge Arrestor and Field Replaceable Fuse

- protects the user and prevents damage to the electronic circuitry in the event of a high voltage spike on the telephone line

Wall Mount

- easily mounted on any sturdy vertical structure

Noise Reducing Microphone

- allows a high level of intelligibility in locations with high background noise

Receiver Volume Control

- switch in handset provides 13.5dB of range

Tone (DTMF) Operation

- factory set to tone (DTMF) dialing
- can be ordered set for pulse dialing or configured in the field

Armored Handset Cord (WTT-40 only)

- withstands severe use

Hearing-Aid Compatible

- compatible with inductively coupled hearing-aid devices



GENERAL ALERT
ALERTE GÉNÉRALE

Warning

Electrical Hazard: This product should be installed by a licensed electrician according to all electrical and building codes.

Avertissement

De danger électrique : Ce produit doit être installé par un électricien agréé selon tous les codes électriques et du bâtiment.

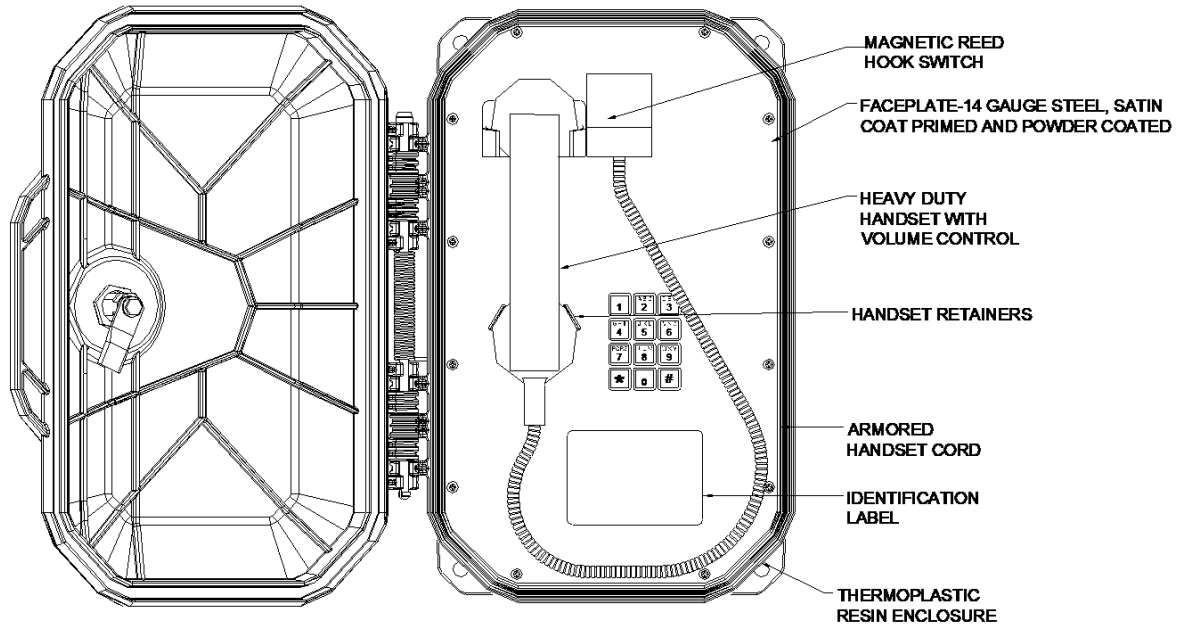


Figure 1 - Features - typical

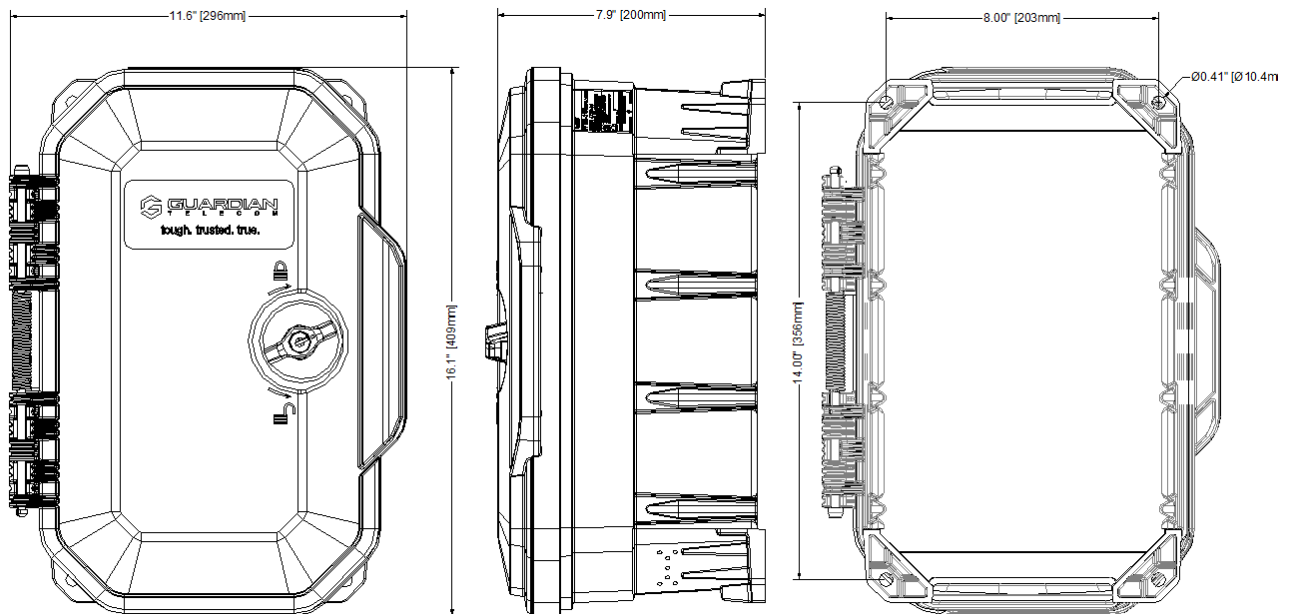


Figure 2 - Overall Dimensions

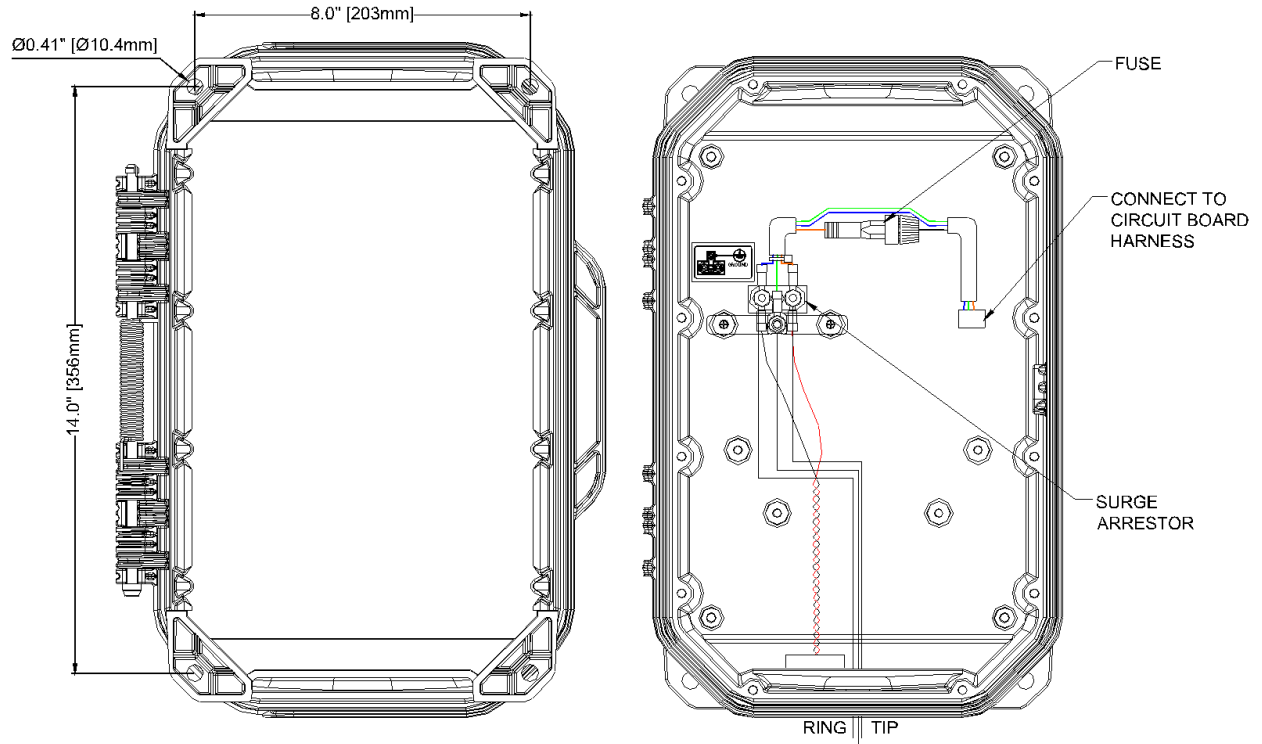


Figure 3 - Installation

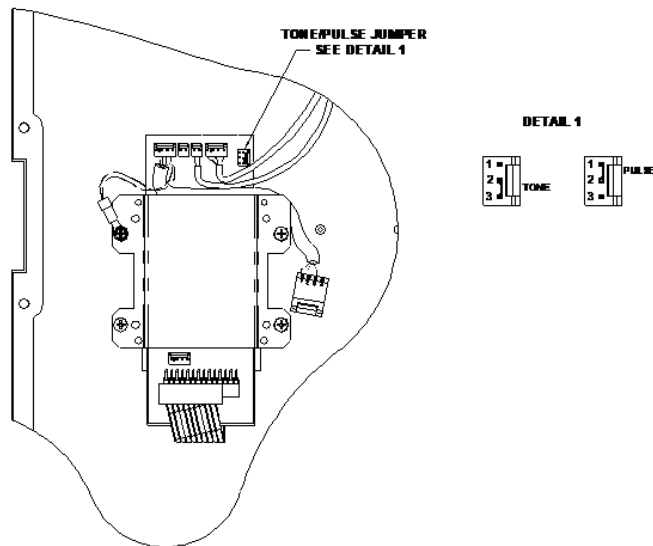


Figure 4 - Setting Dialing Mode

Installation

- Follow all appropriate electrical codes and use only approved electrical fittings for the installation.
- For waterproofing purposes, apply Teflon tape to all glands and conduits.
- Choose a wall location that is free of obstructions and permits space for ½" NPT conduit runs.
- Ensure mounting can support 18 lbs (8.2kg) and any additional foreseeable load.

See: Figure 2 - Overall Dimensions.

To Avoid The Danger Of An Accidental Shock

- Disconnect the telephone wiring at the demarcation block or PABX.
- If the telephone was provided with a Ring Detect Relay to be utilized to activate an external alarm, ensure that the power conductors are not live.
- If the telephone was provided with an Off-Hook Detect Relay to prevent acoustic feedback from nearby paging speakers ensure that the amplifier conductors are disconnected or that the amplifier is turned off.
- Separate the faceplate from the housing by removing the two temporary, factory installed screws and unplugging the wiring harness from the faceplate.
- To change the Tone/Pulse setting to pulse, if required:
 - Move the jumper from pins 2 & 3 of the Tone/Pulse connector to pins 1 & 2.
 - To change the setting back to tone move the jumper back to pins 2 & 3.
- Drill or punch cable entrances as required at the three drill dimples.
- Use the template provided to locate and drill holes for mounting screws.
- Secure the unit to the wall.
- Bring the telephone cable into the enclosure through the conduit entrance and attach individual wires from the exchange (Tip/Ring/Ground) to the surge arrestor, (Tip & Ring are not polarity sensitive.). If a conduit hub is used, ensure it is grounded to the ground stud.
- If a Ring Detect Relay and/or an Off-Hook detect relay is utilized connect the wiring following the instructions in the component manual.
- Plug the wiring harness back into the faceplate and secure the faceplate with the 14 screws provided.
- Connect the telephone lines at the local exchange or demarcation block.
- If utilized connect power to the Ring Detect Relay and signal source to the Off-Hook Detect Relay.
- Test the unit by making calls to and from another station and by activating the Off-Hook Detect Relay if utilized.

NOTE the handset and all electronics are attached to the front plate

Tip: The WTT is factory preset for DTMF tone.

See: Figure 4 - Setting Dialing Mode

Tip: Use ¼" or M8 screws to secure the unit to the wall.

See: Figure 3 - Installation

Operation

- Once your Model WTT Telephone has been properly installed and energized, operation is identical to most other single line telephones.

Field Repairs

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 the telephone from Tip and Ring power supplied by the PABX or central office.
- If the telephone is equipped with a Ring Detect Relay, disconnect the power supply.
- If the telephone is equipped with an Off-Hook Detect Relay, ensure that the amplifier conductors are disconnected or that the amplifier is turned off.
- Carefully remove the front cover assembly and separate from the housing by disconnecting the harness plugs. NOTE that the handset and all electronics are attached to the front plate.
- Perform the necessary repairs or adjustments.
- Carefully replace the front plate and install all fourteen screws. Do not over tighten the cover screws. There is a flexible gasket between the cover and the body; excessive tightening of the screws deforms the gasket and reduces the weather resistance of the set.

Fuse Replacement

- Remove the old fuse by pulling on the ends of the fuse holder to open. Insert a new 0.25 amp, 250Volt, 3AG fast blow fuse and close the fuse holder.

WARNING!

- Replace only with a 0.25 amp 250V 3AG fast blow fuse. Failure to do so will void the warranty.
- If, on reconnecting power, the fuse fails, 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 120 volts AC.

Changing the Tone/Pulse Setting

- Set the Tone/Pulse jumper for the desired operation. For pulse, set the jumper between pins 1 & 2, for tone set it between pins 2 & 3.

See: Replacement Parts

See: Figure 3 - Installation

See: Figure 3 - Installation

See: Figure 4 - Setting Dialing Mode

Specifications	
<i>Electrical Performance</i>	
AUDIBLE RANGE FREQUENCY RESPONSE	300 - 3400 Hz
DIALING METHOD	DTMF or 40/60 PULSE AT 10 PPS
TRANSMIT OBJECTIVE LOUDNESS RATING (TOLR)	-38 +/- 3 dB
RECEIVER VOLUME ADJUSTMENT	+8.1 / -5.1 dB IN STEPS OF 2.7 dB
RECEIVE OBJECTIVE LOUDNESS RATING (ROLR)	
-AT NOMINAL VOLUME LEVEL	50 +/- 3 dB
-AT MAXIMUM VOLUME LEVEL	42 +/- 3 dB
-AT MINIMUM VOLUME LEVEL	55.4 +/- 3 dB
SIDE TONE OBJECTIVE LOUDNESS RATING	
-AT NOMINAL VOLUME LEVEL	11 +/- 4 dB
-AT MAXIMUM VOLUME LEVEL	7 +/- 4 dB
-AT MINIMUM VOLUME LEVEL	14 +/- 4 dB
RINGER OUTPUT	85 dB @ 1m
FCC RINGER EQUIVALENCE NUMBER (REN)	0.8B
SET IMPEDANCE	600 OHMS NOMINAL
MAXIMUM LOOP	15,000 FT (4,600 M) of 22 AWG COPPER
<i>Electrical Requirements</i>	
RINGER SENSITIVITY	40 - 100 V, 16 - 25 Hz
LINE VOLTAGE	24 - 56 VDC
LOOP CURRENT	20 - 120 mA
CONNECTION METHOD	SURGE ARRESTOR
FUSE	¼ AMP 3AG FAST BLOW
<i>Environmental</i>	
WEATHER AND CORROSION RESISTANT	Enclosure 4X, IP-66
TEMPERATURE	-40° TO +140° F (-40° TO +60° C)
HUMIDITY	0 TO 100% RH
DUST RESISTANT	IP-66 DUST TIGHT

Mechanical	
HOOK SWITCH (CRADLE SWITCH) LIFE	>1 000 000 OPERATIONS
BODY CONSTRUCTION	THERMOPLASTIC RESIN
FACEPLATE	STEEL, CORROSION PROTECTED & POWDER COATED
DIMENSIONS (H X W X D)	16 x 11.7 x 8.5 INCHES (409 x 296 x 200 MM)
NET WEIGHT	11.8 LBS (5.4 KG)
SHIPPING DIMENSIONS	20 x 15 x 12 INCHES (508 x 381 x 305 MM)
SHIPPING WEIGHT	14 LBS (6.3 KG)
HANDSET MATERIAL	HIGH IMPACT ABS
MICROPHONE	NOISE REDUCING ELECTRET
RECEIVER	HEARING AID COMPATIBLE
STANDARD MOUNTING	VERTICAL WALL
WIRING ACCESS	THREE DIMPLED DRILL GUIDES FOR 1" GLANDS
HARDWARE MATERIAL	STAINLESS STEEL
Compliance	
INDUSTRY CANADA	1012 6721 A
FCC	HQHCAN-22517-TE-E
WATERTIGHT ENCLOSURE	TYPE 4X, IP-66

Replacement Parts		
Part No.	Description	Field Replaceable
P006513	Faceplate	Yes
P006499	Faceplate Gasket	Yes
P005391	Handset assembly C/W 4' Coil cord for WTT-30	Yes
P005699	Handset assembly C/W 22" armored cord for WTT-40	Yes
P002786	Handset Cradle	Yes
P005917	Reed switch	Yes
P004371	Handset retainer	Yes
P000028	Noise reducing microphone	No
P002080	Receiver cartridge	No
P004538	Noise canceling microphone	No
P005582	Telephone circuit board	Yes
P006265	Metal keypad	Yes
P006295	Metal keypad C/W circuit board & ribbon cable	Yes
P006646	Ringer – Floyd Bell	Yes
P002992	Surge arrestor	Yes
P002991	Fuse- glass 0.25 Amp 250V	Yes
P006442	Housing	Yes
P006441	Door	Yes
P006439	Door Spring	Yes
P006440	Hinge Pin	Yes

Government Certification

Attached to the telephone are labels for *Industry Canada* and the *United States Federal Communications Commission*. These identify equipment certifications indicating the 60 and 70 series telephones meet certain telecommunications network protective, operational and safety requirements. These agencies do not guarantee the equipment will operate to the user's satisfaction.

Before installing this telephone equipment, users should ensure it is permissible to connect the equipment to facilities of the local telecommunications company.

Equipment must be installed using acceptable connection methods. In some cases, the telephone users inside wiring, associated with a single line service, may be extended by a certified connector assembly (telephone extension cord). The customer should be aware that in some situations compliance with the above conditions may not prevent degradation of service.

Repairs to certified equipment should be made by a supplier designated authorized maintenance facility.

For their own protection users should ensure the electrical ground connections of the power utility, telephone lines and internal metallic water pipe systems, if present, are connected. This precaution may be particularly important in rural areas.

CAUTION: Users should not attempt to make ground connections, but should contact the appropriate electrical inspection authority or electrician.

Load Number (LN)

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop used by the device. Termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100.

Notification to Telephone Company

Upon request, the customer must notify the telephone company of the particular line to which the connection will be made and provide the Industry Canada or FCC registration number. The local telephone company may request disconnection of the telephone where alterations or malfunctions affect the telephone's performance.

United States Federal Communications Commission

This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing device pursuant to Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

Interference

There is no guarantee that interference will not occur in a particular installation. If interference to radio or television reception from this equipment is suspected, proceed as follows:

1. Unplug the set, check for the interference.
2. Re-orient the receiving antenna.
3. Relocate the set with respect to the receiver.
4. Move the set away from the receiver.

If necessary, consult the supplier or an experienced radio/television technician for additional suggestions.

FCC Rules and Ringer Equivalence Number

This equipment complies with Part 68 of the FCC Rules. On the side of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five. To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

Service changes and Limitations

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

This equipment cannot be used on public coin telephone service as provided by your telephone company. Connection to party line service is subject to state tariffs (contact the state public utility commission, public service commission or corporate commission for information.)

Warranty

Guardian Telecom, a division of Circa Enterprises Inc. warrants that its products are free from defective workmanship and materials. Guardian Telecom will, within three years from the date of final sale to the customer, replace or repair any such products provided they are returned to our facilities for examination. Freight costs (including brokerage if applicable), both to and from Guardian, are the sole responsibility of the customer. This warranty does not extend to any items that are deemed to have been misused, modified, neglected, improperly specified, improperly installed, or used in violation of instructions or specifications approved by Guardian Telecom. Guardian Telecom, a division of Circa Enterprises Inc. shall not be liable for incidental or consequential damage of any kind caused by any defect in our product. The total liability shall not, under any circumstances, exceed the purchase price of the products furnished by Guardian Telecom, a division of Circa Enterprises Inc.

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.

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 that 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.

Guardian Telecom, a division of Circa Enterprises Inc.

Toll-free 1-800-363-8010

Ph. (403) 258-3100

Fax. (403) 255-2595

www.guardiantelecom.com

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.

Guardian Product Return
<p>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.</p>
<p><i>Step I - On-Site Correction</i></p>
<ul style="list-style-type: none"> • 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. • 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. • Connecting a telephone to a standard power source, rather than tip & ring, will blow the telephone's internal, user-replaceable fuse. In the event of fuse burnout, disconnect the telephone from the power source, replace the fuse, and reconnect following the wiring diagrams provided with the product.
<p><i>Step II - Return Materials Authorization (RMA)</i></p>
<ul style="list-style-type: none"> • 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 an RMA form online at https://www.guardiantelecom.com/support/rma/, or by calling the service telephone number given in this manual. • 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. • 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. • (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.")
<p><i>Step III - Factory Authorized Service</i></p>
<ul style="list-style-type: none"> • 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. • 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.

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.

Storage

General Storage (All situations):

- Note any stacking limits or warnings on packaging (if any).
- Do not store in temperatures over +80C.
- Store in original packaging if possible until needed.

Long Term Storage (> 6 Months):

- If area is air conditioned and not subject to high changes in humidity, continue to store in original packaging.
- If wide humidity shifts are expected, then use these steps:
 - Remove product from packaging (including plastic bags) and store on shelf in open air.
 - If area is subject to a high degree of dust, to help maintain cosmetic appearance you can cover with cloth (Do not cover with plastic or materials that will trap moisture) or clean periodically.
 - Do not store out of packaging long term where they are exposed to sunlight. Long term exposure to UV may cause fading on plastic parts.

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