Service Telephones
SPR-50 & SPS-50

Installation and Operation

SPR-50
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Package Contents

(1) One SP Telephone
(1) Installation & Operation Manual

Models

- P6048 SPR Recessed model
- P6049 SPS Surface Mounted model

Options

- LCK-INST Locking door

Accessories

- P7225 Weatherproof ring detect relay, (external to telephone)
- P7229 Weatherproof off-hook detect relay, (external to telephone)
- Loud Ringer
Overview

The SP model is a rugged, single line telephone intended for indoor service. The design uses the latest technology to ensure reliability.

Features

Enclosure
- corrosion protected powder coated steel
- locking door
- vandal resistant

Keypad
- standard 3 x 4 matrix

Magnetic Reed Hook Switch
- no moving parts

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

Mounting
- flush mount model installs into wall openings
- surface mount model installs on any sturdy vertical structure

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

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

Heavy Duty Handset Cord
- withstands severe use

Hearing-Aid Compatible
- compatible with inductively coupled hearing-aid devices
Figure 1 - SP Features Typical

Figure 2 - SPR-50 Dimensions
Note: This telephone does not meet FCC and IC requirements for receiver volume control and is not approved by these agencies. Do not connect directly to a Central Office line.

Figure 3 – SPR-50 Installation

Figure 4 – SPS-50 Dimensions
### Installing the SPR-50 Telephone

- Follow all appropriate electrical codes and use only approved electrical fittings for the installation.
- Disconnect Tip and Ring conductors at the demarcation block before attempting to install the SPR-50 telephone.
- Remove bezel/door assembly and access plate.
- Prepare an opening 11 ¾” high, 8 ¾” wide and 3 ¾” deep to receive the enclosure. Install blocking around the rough opening if required.
- Run Tip, Ring and Ground wiring into the opening to be pulled into the enclosure when it is installed.
- Install the housing ensuring that the front flanges of the housing are flush with the mounting surface...
- Connect the TIP/RING/GROUND conductors from the PABX or CO to the Orange and Blue wires on the surge arrestor. (Tip and Ring are not polarity sensitive.)
- SPR-50 telephones are set to tone dialing when shipped. If pulse dialing is required see the section on Setting Tone/Pulse Operation.
- Ensure all connections are tight, then replace the access plate and secure with the four #8 Philips drive screws.
- Install the bezel/door assembly.
- Connect the Tip and Ring conductors at the demarcation block.
- Test the unit by calling to and from another unit on the exchange.

### Installing the SPS-50 Telephone

- Follow all appropriate electrical codes and use only approved electrical fittings for the installation.
- Disconnect Tip and Ring conductors at the demarcation block before attempting to install the SPR-50 telephone.
- Choose a wall location that is free of obstructions and permits space for wiring.
- Ensure mounting can support 6.5 lbs (2.95 kg) plus any additional, foreseeable load.
- Secure the unit to the wall.
- Remove the access plate and bring cable into the enclosure through the conduit entrance. 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.
- SPS-50 telephones are set to tone dialing when shipped. If pulse dialing is required see the section on Setting Tone/Pulse Operation.
- Ensure all connections are tight, then replace the faceplate and secure with the four #8 Philips drive screws.
- Connect the Tip and Ring conductors at the demarcation block.
- Test the unit by calling to and from another unit on the exchange.
Note: These telephones do not meet FCC and IC requirements for receiver volume control and is not approved by these agencies. Do not connect directly to a Central Office line.

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 the telephone from Tip and Ring power supplied by the PABX or central office before attempting repairs.
- Loosen the five captive screws in the faceplate and swing the faceplate to the left. If the set is on a vertical surface the faceplate will stay open like a book in this position. Take care not to disturb the internal wiring.
- Perform the necessary repairs or adjustments.
- Carefully replace the front plate and install all five 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 pushing in the end cap of the fuse holder and turning counterclockwise to open. Insert a new 0.25 amp, 250 Volt, 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.

Operation

- Once your Model SP Telephone has been properly installed and energized, operation is identical to most other single line telephones.
Setting Tone/Pulse Operation

- Ensure that none of the electrical connection circuits are live.
- Loosen the five screws and remove the faceplate. Take care not to disturb the internal wiring.
- Set the Tone/Pulse jumper for the desired operation. For pulse, set the jumper between the center pin and the “P”, for tone set it between the center pin and “T”.
- Replace the faceplate.
- Check the set visually for loose screws and trapped wires. Check that the handset hangs freely in the cradle and that the handset cord is not trapped by the door.
- Check that the faceplate is snug to its gasket, paying particular attention to the area around the cradle. Check that the door closes flush to the housing.
- Apply power to the system.
- Test the unit by calling to and from another unit on the exchange.

Figure 5 - Setting Tone/Pulse Operation
## Product Specifications

### Electrical Performance

<table>
<thead>
<tr>
<th><strong>Audible Range Frequency Response</strong></th>
<th>300 - 3400 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dialing Method</strong></td>
<td>DTMF or 40/60 Pulse at 10 PPS</td>
</tr>
<tr>
<td><strong>Transmit Objective Loudness Rating (TOLR)</strong></td>
<td>-38 +/- 3 dB</td>
</tr>
<tr>
<td><strong>Receive Objective Loudness Rating (ROLR)</strong></td>
<td></td>
</tr>
<tr>
<td>- <strong>At Nominal Volume Level</strong></td>
<td>50 +/- 3 dB</td>
</tr>
<tr>
<td>- <strong>At Maximum Volume Level</strong></td>
<td>42 +/- 3 dB</td>
</tr>
<tr>
<td>- <strong>At Minimum Volume Level</strong></td>
<td>55.5 +/- 3 dB</td>
</tr>
<tr>
<td><strong>Side Tone Objective Loudness Rating (SOLR)</strong></td>
<td></td>
</tr>
<tr>
<td>- <strong>At Nominal Volume Level</strong></td>
<td>11 +/- 4 dB</td>
</tr>
<tr>
<td>- <strong>At Maximum Volume Level</strong></td>
<td>7 +/- 4 dB</td>
</tr>
<tr>
<td>- <strong>At Minimum Volume Level</strong></td>
<td>14 +/- 4 dB</td>
</tr>
<tr>
<td><strong>Ringer Output</strong></td>
<td>75 dB Maximum</td>
</tr>
<tr>
<td><strong>FCC Ringer Equivalence Number (REN)</strong></td>
<td>0.8 B</td>
</tr>
<tr>
<td><strong>Set Impedance</strong></td>
<td>600 Ohms Nominal</td>
</tr>
<tr>
<td><strong>Maximum Loop</strong></td>
<td>15 Kft (4.6 KM) of 22 AWG Copper</td>
</tr>
</tbody>
</table>

### Electrical Requirements

<table>
<thead>
<tr>
<th><strong>Ringer Sensitivity</strong></th>
<th>40 - 100 V, 16 - 25 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Line Voltage</strong></td>
<td>24 - 56 VDC</td>
</tr>
<tr>
<td><strong>Loop Current</strong></td>
<td>20 - 120 mA</td>
</tr>
<tr>
<td><strong>Connection Method</strong></td>
<td>Surge Arrester</td>
</tr>
<tr>
<td><strong>Fuse</strong></td>
<td>¼ Amp 250 Volt 3AG Fast Blow</td>
</tr>
</tbody>
</table>

### Environmental

<table>
<thead>
<tr>
<th><strong>Weather and Corrosion Resistant</strong></th>
<th>Enclosure 3R</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temperature</strong></td>
<td>-40° to +60° C (-40° to +140° F)</td>
</tr>
<tr>
<td><strong>Humidity</strong></td>
<td>0 to 95% RH Non-Condensing</td>
</tr>
</tbody>
</table>

### Mechanical

<table>
<thead>
<tr>
<th><strong>Hook Switch (Cradle Switch) Life</strong></th>
<th>&gt;1 000 000 Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction</strong></td>
<td>Steel - Zinc Dichromate Plated and Powder Coated</td>
</tr>
<tr>
<td><strong>Dimensions SPS-50 (H x W x D)</strong></td>
<td>11.75 x 8.75 x 3.8 inches</td>
</tr>
<tr>
<td><strong>Net Weight</strong></td>
<td>5.5 LBS 2.5 KG</td>
</tr>
<tr>
<td><strong>Handset Material</strong></td>
<td>High Impact ABS</td>
</tr>
<tr>
<td><strong>Handset Options</strong></td>
<td>Volume Adjustment</td>
</tr>
<tr>
<td><strong>Microphone</strong></td>
<td>Noise Reducing Electret</td>
</tr>
<tr>
<td><strong>Optional Microphone</strong></td>
<td>Noise Canceling Dynamic</td>
</tr>
<tr>
<td><strong>Receiver</strong></td>
<td>Hearing Aid Compatible</td>
</tr>
<tr>
<td><strong>Mounting</strong></td>
<td>SPR-50 Recessed</td>
</tr>
<tr>
<td></td>
<td>SPS-50 Vertical Wall</td>
</tr>
</tbody>
</table>
### Replacement Parts

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P005765</td>
<td>Faceplate</td>
</tr>
<tr>
<td>P006336</td>
<td>Faceplate Assembly C/W Circuit Board</td>
</tr>
<tr>
<td>P005961</td>
<td>Handset Cradle C/W Reed Switch</td>
</tr>
<tr>
<td>P002657</td>
<td>Handset Assembly – C/W Noise Reducing Microphone and 6’ Curly Cord</td>
</tr>
<tr>
<td>P000028</td>
<td>Microphone Cartridge – Noise Reducing</td>
</tr>
<tr>
<td>P004538</td>
<td>Microphone Cartridge – Noise Canceling</td>
</tr>
<tr>
<td>P002080</td>
<td>Receiver Cartridge</td>
</tr>
<tr>
<td>P005917</td>
<td>Reed Switch Assembly</td>
</tr>
<tr>
<td>P005582</td>
<td>Circuit Board</td>
</tr>
<tr>
<td>P005786</td>
<td>Plastic Keypad</td>
</tr>
<tr>
<td>P002992</td>
<td>Surge Arrestor – TII 126L1</td>
</tr>
<tr>
<td>P002991</td>
<td>Fuse – Glass 0.25 Amp 250V</td>
</tr>
<tr>
<td>P006340</td>
<td>SPR Enclosure – C/W Best Way Lock</td>
</tr>
<tr>
<td>P006338</td>
<td>SPR Enclosure – C/W Bezel Door</td>
</tr>
<tr>
<td>P006339</td>
<td>SPS Enclosure – C/W Door</td>
</tr>
<tr>
<td>P006461</td>
<td>Locking Latch</td>
</tr>
<tr>
<td>P006460</td>
<td>Non-locking Latch</td>
</tr>
</tbody>
</table>

### 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.
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. 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.

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.

Guardian Telecom Inc.
Toll-free 1-800-363-8010
Ph. (403) 258-3100
Fax. (403) 253-4967
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

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.

**Step I - On-Site Correction**

- 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 burn-out, disconnect the telephone from the power source, replace the fuse, and reconnect following the wiring diagrams provided with the product.

**Step II - Return Materials Authorization (RMA)**

- 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 www.guardiantelecom.com, 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.”)

**Step III - Factory Authorized Service**

- 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.
<table>
<thead>
<tr>
<th>Notes:</th>
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<tbody>
<tr>
<td>Model No.</td>
</tr>
<tr>
<td>Part No.</td>
</tr>
<tr>
<td>Serial No.</td>
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<tr>
<td>Date of Purchase</td>
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