Global Security Modem

Installation and Operations Manual
Instructions
This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Dangerous Voltage
This symbol is intended to alert the user to the presence of un-insulated dangerous voltage within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Protective Grounding Terminal
This symbol indicates a terminal that must be connected to earth ground prior to making any other connections to the equipment.

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# Table of Contents

**CHAPTER 1: INTRODUCTION**
- Quick Start Guide ................................................................. 2
- Technical Support ................................................................. 2
- Equipment Overview ........................................................... 2

**CHAPTER 2: INSTALLATION**
- Standard Accessories ....................................................... 3
- Safety Precautions .............................................................. 3
- Installing the Global Security Modem module .................... 3
- Connecting to the Global Security Modem ......................... 3

**CHAPTER 3: OPERATIONS**
- Logging In ........................................................................... 4
- Initial Configuration ............................................................ 4
- Commands ........................................................................... 5

**CHAPTER 4: APPENDICES**
- Appendix A: Technical Specifications .................................. 12
- Appendix B: Warranty, Product Registration and Support .......... 16
Chapter 1: Introduction

Quick Start Guide

The following instructions will help you quickly install and configure your Global Security Modem for use in your Sentry product. For detailed information on each step, go to the page number listed to the right.

1. Install the Global Security Modem ................................................................. 3
2. Configure the Global Security Modem ......................................................... 5
   • Configure the Country Code ....................................................................... 6
   • Change the default Setup password ......................................................... 5
   • Configure Callback Security .................................................................. 7
   • Configure Remote Configuration ......................................................... 11
3. Connect to the Global Security Modem .................................................... 3

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Experience Server Technology's FREE SMARTER Technical Support

Server Technology understands that there are often questions when installing and/or using a new product. Free Technical Support is provided from 8 a.m. to 5 p.m. PST, Monday through Friday. After-hours service is provided to ensure your requests are handled quickly no matter what time zone or country you are located in.

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Equipment Overview

Each connector on the Global Security Modem is clearly labeled for easy identification:

• RJ12 Telco connector for connection to the incoming Telco line.
• IDC10 connector for connection to the Sentry internal logic/power
• 2-pin locking header for connection to internal power

Figure 1.1 Global Security Modem
Chapter 2: Installation

Before installing your Global Security Modem (GSM), refer to the following lists to ensure that you have all the items shipped with the unit as well as all other items required for proper installation.

**Standard Accessories**
- Global Security Modem module
- RJ11 to RJ11 crossover cable

**Safety Precautions**
- Use this product only with approved Server Technology devices.
- To reduce the risk of fire, use only 26 AWG (.41mm) or larger telephone wiring.
- Never install telephone wiring during a lightning storm.
- Never install a telephone jack in a wet location unless the jack is specifically designed for wet locations.
- Never touch un-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using a telephone during an electrical storm; there is a risk of electrical shock from lightning.
- Do not use a telephone in the vicinity of a gas leak.

**Installing the Global Security Modem module**

These instructions apply only to Sentry models designed to be user-upgradeable. Sentry units without a user-removable Modem plate must be upgraded by the factory.

**NOTE:** Server Technology highly recommends the use of a grounding wrist strap while installing the Global Security Modem to avoid damaging any components due to static electricity (ESD).

1. Remove power from the Sentry device.
2. Loosen the Modem plate thumbscrews and gently pull plate away from enclosure exposing the attached IDC10 cable (2-pin power cable also present on some units).
3. Disconnect the cable(s), from the connectors on the Modem plate.
4. Remove Modem plate completely from the enclosure and set aside.
5. Remove the Global Security Modem module from the ESD protective packaging.
6. Attach the IDC10 cable from step 3 to the IDC connector marked J2 and, if present, attach the 2-pin cable from step 3 to the 2-pin locking header marked J3.
7. Gently insert the Global Security Modem module into the enclosure and tighten the thumbscrews.

**Connecting to the Global Security Modem**

The Global Security Modem is equipped with an RJ12 Telco port for direct connection to an incoming telephone line.
The Sentry Global Security Modem is a v.92 (56K) data modem and provides out-of-band access to the Sentry Remote Power Manager. The Sentry integrated Modem additionally supports Callback Security and Remote Configuration.

**NOTES:** Sentry RPMs with integrated modems manufactured prior to June 30, 2003 may contain older OEM modem modules. Use the AT13 command to positively identify the type of integrated modem. The new security modem displays “MT9234SMI” in the response string. For assistance with configuring older modems, contact Technical Support.

**Logging In**

You may log directly into the Global Security Modem to configure the Country Code, enable Callback Security or other features. To log into the modem follow steps 1 through 3 from *To initially configure the modem* below.

**Initial Configuration**

The Global Security Modem requires no initial configuration, with the exception of the Country Code, to operate as a standard modem without the optional security mechanisms enabled; Callback Security is disabled by default.

Provided are instructions to configure the modem through a serial/Pass-Thru connection from the Sentry: prompt. The instructions below assume that the default Setup password has not been changed.

**To initially configure the modem:**

1. At the Sentry: prompt, type `connect modem` and press Enter.
2. After receiving the Connection Complete banner, type `ate1q0v1` and press Enter. This enables the modem’s command echo and enables verbose result code mode.
3. Type `at#sMTSMODEM` and press Enter to authenticate and enter configuration mode. If the password is incorrect, the modem will display Error.
4. Type `at%t19,0`, followed by the appropriate Country Code (see page 6) and press Enter.
5. Type `ati9` and press Enter to verify the configured Country Result Code.
6. Type `atz` and press Enter to reset the modem with the new settings.
7. Type `!*break` and press Enter to break the Sentry serial connection to the modem. The Sentry will display the Disconnecting... banner and return to the Sentry command prompt.

**NOTE:** Server Technology recommends use of the ATZ command after any configuration changes to insure that they are stored and that the modem is reinitialized with them. Re-authentication, step 3, is required after using the ATZ command for any additional configuration changes.
Commands

AT commands are used to control and configure the operation of the Global Security Modem. AT commands may be issued only from a serial Pass-Thru session from the Sentry or a remote configuration command mode session, if enabled. See Remote Configuration on page 11 for more information on remote configuration sessions.

AT commands may be issued in any combination of uppercase and lowercase. Multiple AT commands may be issued in one line, also known as a command string. Command strings begin with AT and end when Enter is pressed. The following table lists and briefly describes each command.

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#CBA</td>
<td>Sets the maximum Callback attempts</td>
</tr>
<tr>
<td>#CBD</td>
<td>Sets the Callback delay</td>
</tr>
<tr>
<td>#CBF</td>
<td>Displays the Callback failed attempts counter</td>
</tr>
<tr>
<td>#CBFR</td>
<td>Resets the Callback failed attempts counter</td>
</tr>
<tr>
<td>#CBN</td>
<td>Sets a Callback password</td>
</tr>
<tr>
<td>#CBR</td>
<td>Resets a Callback memory location</td>
</tr>
<tr>
<td>#CBS</td>
<td>Enables or disables Callback security</td>
</tr>
<tr>
<td>#S</td>
<td>Sets the Setup password</td>
</tr>
<tr>
<td>%T19,0,</td>
<td>Configures the country code</td>
</tr>
<tr>
<td>&amp;V</td>
<td>Displays all current settings</td>
</tr>
<tr>
<td>&amp;W</td>
<td>Stores the current configuration</td>
</tr>
<tr>
<td>&amp;Z</td>
<td>Sets a Callback dialing string</td>
</tr>
<tr>
<td>AT</td>
<td>Attention</td>
</tr>
<tr>
<td>I19</td>
<td>Displays current country code configuration</td>
</tr>
<tr>
<td>O</td>
<td>Restores the remote session to data mode</td>
</tr>
<tr>
<td>S9</td>
<td>Sets the remote configuration escape character value</td>
</tr>
<tr>
<td>S9=0</td>
<td>Disables remote configuration</td>
</tr>
<tr>
<td>Z</td>
<td>Resets the modem with the new configuration</td>
</tr>
</tbody>
</table>

Setting the Setup password

The AT#S= command is used to set the Setup password. The password may be 1 to 8 characters and is case sensitive.

The default Setup password is ‘MTSMODEM’.

**NOTE:** For security, Server Technology recommends changing the predefined password prior to connection to your network.

To set the Setup password:

After successfully logging into the modem with the Setup password, type at#S=, followed by the password and press Enter.

Type atz and press Enter to reset the modem with the new settings.

**Example**

The following set the Setup password to “OpenUp”:

```
at#s=OpenUp<Enter>
OK
atz<Enter>
OK
```
Configuring the Country Code

The Sentry integrated Modem is compliant for use per Telecom Certification for the countries listed in the following table. The AT%T19,0, command is used to set the country code. The default value is 34.

**NOTE:** For countries not listed, please contact Server Technology Technical Support.

### Country Codes

<table>
<thead>
<tr>
<th>Country</th>
<th>Code</th>
<th>Result Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>37</td>
<td>55</td>
</tr>
<tr>
<td>Australia</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Austria</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Belgium</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Brazil</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Canada</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Chile</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>China</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Cyprus</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Denmark</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Estonia</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Finland</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>France</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Germany</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Greece</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>30</td>
<td>48</td>
</tr>
<tr>
<td>Hungary</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Iceland</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>India</td>
<td>30</td>
<td>48</td>
</tr>
<tr>
<td>Indonesia</td>
<td>30</td>
<td>48</td>
</tr>
<tr>
<td>Ireland</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Israel</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Italy</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Japan</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>Latvia</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Lithuania</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Liechtenstein</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Malaysia</td>
<td>36</td>
<td>54</td>
</tr>
<tr>
<td>Malta</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Mexico</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Netherlands</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>New Zealand</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Norway</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Philippines</td>
<td>30</td>
<td>48</td>
</tr>
<tr>
<td>Poland</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Portugal</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Romania</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Russia</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Singapore</td>
<td>30</td>
<td>48</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Slovenia</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>South Africa*</td>
<td>35</td>
<td>53</td>
</tr>
<tr>
<td>South Korea</td>
<td>30</td>
<td>48</td>
</tr>
<tr>
<td>Spain</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Sweden</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Switzerland</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>Taiwan</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td>Thailand</td>
<td>30</td>
<td>48</td>
</tr>
<tr>
<td>Turkey</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>United States</td>
<td>34</td>
<td>52</td>
</tr>
</tbody>
</table>

*Compliance requires use of an approved surge protection device in conjunction with modem.

### To configure the country code:

After successfully logging into the modem, type `at%t19,0`, followed by the country code and press **Enter**.

Type `atz` and press **Enter** to reset the modem with the new settings.

**Example**

The following command sets the modem for compliance in Singapore:

```
  at%t19,0,30<Enter>
  OK
  atz<Enter>
  OK
```

### To verify the configured country code:

Type `ati9` and press **Enter**. The displayed Result Code should match the code listed in the previous table.
Enabling or disabling Callback Security

Callback Security provides a higher level of security against unauthorized access by requiring the connecting user to be at a predefined location when establishing a modem session to the Sentry.

When enabled, Callback Security requires submission of a valid callback password at initial connection. This password is compared to a predefined callback number/password table for a return call by the modem. The modem then terminates the initial connection and returns the call to the predefined number associated with the supplied password and upon reconnection the user is required to resubmit the callback password before proceeding with the Sentry username/password authentication.

The AT#CBS command is used to enabled or disabled Callback Security.

**NOTE:** To use Callback Security, Auto-answer must be enabled on the calling modem (S0=1).

**To enable Callback Security:**

After successfully logging into the modem with the Setup password, type `at#cbs2` and press **Enter** to enable Callback Security.

Type `at&w` and press **Enter** to store the settings in nonvolatile memory.

Type `atz` and press **Enter** to reset the modem with the new settings.

**Example**

The following commands enable Callback Security:

```
at#cbs2<Enter>
OK
at&w<Enter>
OK
atz<Enter>
OK
```

**To disable Callback Security:**

After successfully logging into the modem with the Setup password, type `at#cbs0` and press **Enter** to disable Callback Security.

Type `at&w` and press **Enter** to store the settings in nonvolatile memory.

Type `atz` and press **Enter** to reset the modem with the new settings.

**Example**

The following commands disable Callback Security:

```
at#cbs0<Enter>
OK
at&w<Enter>
OK
atz<Enter>
OK
```

**Setting Callback passwords**

The AT#CBN command is used to set a password for each of the Callback dial string previously defined. Passwords must be unique and 6 to 10 characters in length.

**NOTE:** Passwords are case-sensitive and may **not** include the + or – characters and must be unique.

**To set a Callback password:**

After successfully logging into the modem with the Setup password, type `at#cbn`, followed by the memory location (0-29), = and the password. Press **Enter**.

Type `atz` and press **Enter** to reset the modem with the new settings.

**Example**

The following command sets the password for memory location 29 to ‘WhOduNnIt’:

```
at#cbn29=WhOduNnIt<Enter>
OK
atz<Enter>
OK
```
To verify the configured password:
After re-authenticating with the Setup password, type \texttt{at\&v} and press 	exttt{Enter}.

Setting Callback dial strings
The Sentry integrated Modem supports definition of up to 30 callback dial strings.
The AT\&Z command is used to set a dial string. Dial strings may be up to 34 characters and may include other AT commands.

To set a Callback dial string:
After successfully logging into the modem with the Setup password, type \texttt{at\&z}, followed by the memory location (0-29), =\texttt{at, dt} (tone-dial) or \texttt{dp} (pulse-dial) and the number/dial string. Press \texttt{Enter}.

Examples
The following command sets the dial string for memory location 0 to tone-dial, 1-775-284-2000:
\texttt{at\&z0=atdt17752842000<Enter>}
The following command sets the dial string for memory location 29 to pulse-dial, 1-775-555-1212:
\texttt{at\&z29=atdp17755551212<Enter>}

To verify and reset the modem with the configured dial strings:
Type \texttt{at\&v} and press \texttt{Enter}.

NOTE: Callback Security dial strings may also be configured to allow a user to bypass the stored number with a dynamic entry or make a direct connection without a callback. Server Technology does not recommend the use of these options as they have a negative effect on security for the modem connection.
To enable these options additional characters are required when setting a dial string:
\texttt{+} enables optional dynamic callback dial string entry
\texttt{-} enables optional direct connection without a callback
\texttt{,???,} Used with ‘+’ enables optional use of dynamic extension entry

Examples
The following command enables dynamic callback string and extension entry where the extension length is 5 characters:
\texttt{at\&z0=+atdt17752842000,????,<Enter>}
The following command enables direct connection without a callback:
\texttt{at\&z0=-atdp17755551212,<Enter>}

Resetting a Callback memory location
The AT#C#BR command is used to reset the dial string and password for any given memory location.

To reset a Callback memory location:
After successfully logging into the modem with the Setup password, type \texttt{at\#c#br}, followed by the memory location (0-29), and press \texttt{Enter}.
Type \texttt{atz} and press \texttt{Enter} to reset the modem with the new settings.

Example
The following commands reset memory location 0:
\texttt{at\#c#br0<Enter>}
OK
\texttt{atz<Enter>}
OK
**Setting the maximum Callback attempts**

The AT#CBA command is used to set the maximum number of callback attempts the modem will make. The valid range for Callback attempts is 1 to 255. The default value is 4.

**To set the maximum Call back attempts:**

After successfully logging into the modem with the Setup password, type `at#cba`, followed by the maximum number of attempts and press `Enter`.

Type `atz` and press `Enter` to reset the modem with the new settings.

**Example**

The following command sets the maximum Callback attempts to 1:

```
  at#cba1<Enter>
  OK
  atz<Enter>
  OK
```

**Setting the Callback delay**

The AT#CBD command is used to set the length in time the modem waits before attempting a callback. The valid range for the delay is 1 to 255 in seconds. The default value is 15.

**To set the Callback delay:**

After successfully logging into the modem with the Setup password, type `at#cbd`, followed by the delay (in seconds) and press `Enter`.

Type `atz` and press `Enter` to reset the modem with the new settings.

**Example**

The following command sets the Callback delay to 30 seconds:

```
  at#cbd30<Enter>
  OK
  atz<Enter>
  OK
```

**Displaying Callback failed attempts counter**

The Sentry integrated Modem counts the number of failed Callback passwords attempts since a reset or power-up. The AT#CBF command is used to display this count.

**NOTE:** The &W command may be used with the AT#CBF command to store this number in nonvolatile memory.

**To display the failed attempts counter:**

Type `at#cbf` and press `Enter`.

Type `atz` and press `Enter` to reset the modem with the new settings.

**Resetting the Callback failed attempts counter**

The AT#CBFR command is used to reset the Callback failed attempts counter.

**To reset the failed attempts counter:**

Type `at#cbfr` and press `Enter`.

Type `atz` and press `Enter` to reset the modem with the new settings.
**Callback Security Calling Procedures**

**Standard - Predefined Location Only**
Use the following steps when calling from a fixed location predefined in the Callback Security tables.

1. Using a communications program such as Hyper Terminal, dial the number of the integrated modem in the Sentry unit.
2. At the Password> prompt, enter the password for the number being connected from and press Enter.
   
   When a valid password is provided, OK Disconnecting is displayed and the Sentry integrated modem disconnects.
3. After the specified Callback delay has elapsed, the Sentry integrated modem attempts to connect with the Callback dial string associated with the supplied password.
   
   **NOTE:** If unable to establish a connection, the modem will retry until the maximum Callback Attempts has been reached.
4. After the modem reconnects, at the Password> prompt, re-enter the predefined password for the number being connected from and press Enter.
   
   When a valid password is provided, OK Connecting is displayed and access to the Sentry is granted.

   You are given three attempts to enter a valid password. If all three attempts fail, the modem will automatically disconnect.

**Dynamic Callback Number Entry**
Mobile users may need to use this procedure when connecting from a number different than the one stored with the password. The + option must have been used in the original configuration of the Callback dial string. See Setting Callback dial strings on page 7 for more information.

1. Use the standard procedure with the following deviation.
2. At the Password> prompt, enter the password for a number entry enabled number, followed by +, and the new dial string (ex: atdt7752842065). Press Enter.
   
   When a valid password is provided, OK Disconnecting is displayed and the Sentry integrated modem disconnects.

   The procedure continues as noted in #3 and 4 above.

**Dynamic Callback Extension Entry**
Users may need to use this procedure when an extension number must be provided for the dial string being called. The + and ,??, options must have been used in the original configuration of the Callback dial string. See Setting Callback passwords on page 7 for more information.

1. Use the standard procedure with the following deviation.
2. At the Password> prompt, enter the password for an extension entry enabled number, followed by +, and the required extension number. Press Enter.
   
   When a valid password is provided, OK Disconnecting is displayed and the Sentry integrated modem disconnects.

   The procedure continues as noted in #3 and 4 above.

**Direct Connection without Callback**
Use this procedure to make a direct connection to the Global Security Modem without a callback. The - option must have been used in the original configuration of the Callback dial string. See Setting Callback dial strings on page 7 for more information.

1. Use the standard procedure with the following deviation.
2. At the Password> prompt, enter the predefined password for the number being connected from, followed by -, and press Enter.
   
   When a valid password is provided, OK Connecting is displayed and access to the Sentry is granted.

   You are given three attempts to enter a valid password. If all three attempts fail, the modem will automatically disconnect.
**Remote Configuration**

Remote configuration is a useful management tool that allows a system administrator to configure the modem from one or more remote locations eliminating the need to access the modem locally when changes to the modem configuration is needed. Remote configuration is accessed through the use of an escape character sequence and the Setup password, and will allow issuance of AT commands for maintenance or troubleshooting.

**NOTE:** Please note that the master Setup password may not be changed remotely.

**Opening a Remote Configuration Session**

The instructions below assume that the default Setup password and escape character have not been changed.

1. Establish a dial-up terminal data connection with a remote Global Security Modem.
2. During the session, send three remote configuration escape characters, followed by AT and the Setup password, and press Enter:
   ```
   %%%atMTSMODEM<Enter>
   ```
   You have four tries to enter the correct password before being disconnected.
3. AT commands may now be sent to configure the modem.
4. Type AT&W0 and press Enter to save the new configuration.
5. Type ATO and press Enter to exit the remote configuration mode and return to the on-line data connection.

**Setting the Escape Character**

The ATS9 command is used to set the remote configuration escape character value. Changing this value from the default ‘%’ (ASCII – 37) further improves the security of the Global Security Modem. The escape character may be set to ASCII 1-127.

**NOTE:** The characters ‘+’ (ACSII – 43) and ‘@’ (ASCII-64) are reserved system characters and should not be used for the Remote Configuration escape character.

To set the escape character:

Type `ats9=`, the ASCII number for the desired character and press Enter.

**Example**

The following command set the escape character to ‘?’ (ASCII – 63):

```
ats9=63<Enter>
```

**Disabling Remote Configuration**

The ATS9=0 command is used to disable the ability to remotely configure the Global Security Modem.

**NOTE:** If disabled during a remote configuration session, a local session will be required to re-enable remote configuration.
Chapter 4: Appendices

Appendix A: Technical Specifications

Data Connections

RS-232 port

Sentry Cabinet Distribution Units are equipped standard with an RJ45 DTE RS-232c serial port. This connector may be used for direct local access or from other serial devices such as a terminal server. An RJ45 crossover cable is provided for connection to an RJ45 DCE serial port.

<table>
<thead>
<tr>
<th>Pin</th>
<th>DTE Signal Name</th>
<th>Input/Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Request to Send</td>
<td>RTS</td>
</tr>
<tr>
<td>2</td>
<td>Data Terminal Ready</td>
<td>DTR</td>
</tr>
<tr>
<td>3</td>
<td>Transmit Data</td>
<td>TD</td>
</tr>
<tr>
<td>4</td>
<td>Signal Ground</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Signal Ground</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Receive Data</td>
<td>RD</td>
</tr>
<tr>
<td>7</td>
<td>Data Set Ready</td>
<td>DSR</td>
</tr>
<tr>
<td>8</td>
<td>Clear to Send</td>
<td>CTS</td>
</tr>
</tbody>
</table>

RJ45 to DB9F serial port adapter

Additionally, an RJ45 to DB9F serial port adapter is provided for use in conjunction with the RJ45 crossover cable to connect to a PC DB9M DCE serial port. The adapter pinouts below reflect use of the adapter with the provided RJ45 crossover cable.

<table>
<thead>
<tr>
<th>Pin</th>
<th>DCE Signal Name</th>
<th>Input/Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Receive Data</td>
<td>RD</td>
</tr>
<tr>
<td>2</td>
<td>Transmit Data</td>
<td>TD</td>
</tr>
<tr>
<td>3</td>
<td>Data Terminal Ready</td>
<td>DTR</td>
</tr>
<tr>
<td>4</td>
<td>Signal Ground</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Data Set Ready</td>
<td>DSR</td>
</tr>
<tr>
<td>6</td>
<td>Request to Send</td>
<td>RTS</td>
</tr>
<tr>
<td>7</td>
<td>Clear to Send</td>
<td>CTS</td>
</tr>
</tbody>
</table>

Regulatory Compliance Statements

EMC, Safety, and R&TTE Directive Compliance


WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

International Modem Restrictions

Some dialing and answering defaults and restrictions may vary for international modems. Changing settings may cause a modem to become non-compliant with national telecom requirements in specific countries. Also note that some software packages may have features or lack restrictions that may cause the modem to become noncompliant.
EMC Requirements for the United States

47 CFR – FCC Part 15 Regulation

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 47 CFR – FCC Part 15 regulations. The stated limits in this regulation are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Plug the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with 47 CFR – FCC Part 15 rules. Operation of this device is subject to the following conditions:

- This device may not cause harmful interference, and
- This device must accept any interference that may cause undesired operation.

**WARNING:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

EMC Requirements for Industry Canada

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Reglement Canadien sur le materiel brouilleur.

New Zealand Telecom Warning Notice

1. The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom’s network services. This equipment is not capable under all operating conditions of correct operating conditions of correct operation at the higher speed which it is designated. 33.6 kbps and 56 kbps connections are likely to be restricted to lower bit rates when connected to some PSTN implementations. Telecom will accept no responsibility should difficulties arise in such circumstances.

2. Immediately disconnect this equipment should it become physically damaged, and arrange for its disposal or repair.

3. This modem shall not be used in any manner which could constitute a nuisance to other Telecom customers.

4. This device is equipped with pulse dialing, while the Telecom standard is DTMF tone dialing. There is no guarantee that Telecom lines will always continue to support pulse dialing. Use of pulse dialing, when this equipment is connected to the same line as other equipment, may give rise to “bell tinkle” or noise and may also cause a false answer condition. Should such problems occur, the user should NOT contact the Telecom Faults Service. The preferred method of dialing is to use DTMF tones, as this is faster than pulse (decadic) dialing and is readily available on almost all New Zealand telephone exchanges.

5. Warning Notice: No “111” or other calls can be made from this device during a mains power failure.

6. This equipment may not provide for the effective hand-over of a call to another device connected to the same line.
7. Some parameters required for compliance with Telecom’s Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecom’s Specifications:

For repeat calls to the same number:
- There shall be no more than 10 call attempts to the same number within any 30 minute period for any single manual call initiation, and
- The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next attempt.

For automatic calls to different numbers:
- The equipment shall be set to ensure that automatic calls to different numbers are spaced such that there is no less than 5 seconds between the end of one call attempt and the beginning of another.

8. For correct operation, total of the RN’s of all devices connected to a single line at any time should not exceed 5.

**South African Statement**
This modem must be used in conjunction with an approved surge protection device.

**Thailand Approval**
This telecom device conforms to NTC* requirements. *NTC is the National Telecommunications Commission, Thailand’s telecommunications regulator.

“เครื่องโทรศัพท์และอุปกรณ์นี้มีความสอดคล้องตามข้อกำหนดของ กทช.”

**Brazil Approval**
This product has been homologated by ANATEL. This product meets the applied technical requirements in accordance with the procedures regulated by ANATEL. Reference of homologation of this product can be viewed in ANATEL web page: [http://www.anatel.gov.br](http://www.anatel.gov.br)

**Brazil Certification (MT9234SMI Model Only)**
A special phone cable is required for regulatory compliance.

Um cabo especial para telefone é requerido para a conformidade regulatória.

**Other**
The above country-specific examples do not cover all countries with specific regulations; they are included to show you how each country may differ. If you have trouble determining your own country’s requirements, check with Multi-Tech’s Technical Support for assistance.
Recycling

Server Technology Inc. encourages the recycling of its products. Disposal facilities, environmental conditions and regulations vary across local, state and country jurisdictions, so Server Technology encourages consultation with qualified professional and applicable regulations and authorities within your region to ensure proper disposal.

Waste Electrical and Electronic Equipment (WEEE)

In the European Union, this label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.
Appendix B: Warranty, Product Registration and Support

Warranty
For Server Technology Warranty information, please see our website at www.servetech.com

Product Registration
Registration is your key to special offers and services reserved for Registered Users.

- Excellent Technical Support Services
- Special Update and Upgrade Programs
- Warranty Protection
- Extended Warranty Service
- New Product Information

Register today at www.servetech.com

Technical Support

Experience Server Technology’s FREE SMARTER Technical Support

Server Technology understands that there are often questions when installing and/or using a new product. Free Technical Support is provided from 8 a.m. to 5 p.m. PST, Monday through Friday. After-hours service is provided to ensure your requests are handled quickly no matter what time zone or country you are located in.

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Reno, Nevada 89521 USA  Fax: 775.284.2065  Email: support@servetech.com

Return Merchandise Authorization
If you have a unit that is not functioning properly and is in need of technical assistance or repair, please review Server Technology’s Return Merchandise Authorization process at: www.servetech.com