MultiModem® iSMS
User Guide for Administrators
Models: SF 100, SF 400, SF 800
Document S000461B

Copyright © 2009
This publication may not be reproduced, in whole or in part, without prior expressed written permission from Multi-Tech Systems, Inc. All rights reserved.
Multi-Tech Systems, Inc. makes no representations or warranty with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. Furthermore, Multi-Tech Systems, Inc. reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of Multi-Tech Systems, Inc. to notify any person or organization of such revisions or changes.

Revision | Date    | Description
---------|---------|-------------
A        | 08/21/09| Initial release of SF 400 and 800.
B        | 11/02/09| Release of 1.41 version.

Trademarks
MultiModem is a trademark of Multi-Tech Systems, Inc. The Multi-Tech logo is a registered trademark of Multi-Tech Systems, Inc.

World Headquarters
Multi-Tech Systems, Inc.
2205 Woodale Drive
Mounds View, Minnesota 55112
Phone: 763-785-3500 or 800-328-9717
Fax: 763-785-9874
Internet Address: http://www.multitech.com

Contacting Multi-Tech Support
Online Support Portal
support.multitech.com
In order to better serve our customers, manage support requests and shorten resolution times, we have created the online web portal allowing you to submit questions regarding Multi-Tech products directly to our technical support team. Get answers to your most complex questions, ranging from implementation, troubleshooting, product configuration, firmware upgrades and much more.
To create an account and submit a Support Case on the Portal, visit support.multitech.com

Knowledge Base and Support Services
The Knowledge Base provides immediate answers to your questions and gives you access to support resolutions for all Multi-Tech products. Visit our support area on the website for other support services.

Technical Support
Country | By Email | By Phone
---------|----------|---------
Europe, Middle East, Africa:  support@multitech.co.uk  (44) 118 959 7774
U.S., Canada, all others:  support@multitech.com  (800) 972-2439 or (763) 717-5863

Warranty
Warranty and repair information for your product can be found at:
Contents

CHAPTER 1 – SAFETY INFORMATION AND PRODUCT DESCRIPTION ................................................................. 6

Safety Warnings .............................................................................................................................................. 6
Ethernet Port Caution ................................................................................................................................. 6
Handling Precautions ................................................................................................................................. 6
Ship Kit Contents ........................................................................................................................................ 6
MultiModem ISMS Documentation ............................................................................................................. 7
Front and Back Panels .................................................................................................................................. 7
SF 100 Front Panel .................................................................................................................................... 7
SF 100 Front Panel LEDs ............................................................................................................................ 7
SF 400/800 Front Panel ............................................................................................................................... 8
SF 400/800 Front Panel LEDs ..................................................................................................................... 8
SF 100 SIM Card Install .............................................................................................................................. 8
SF 400/800 SIM Card Installation ................................................................................................................ 9
Modem Numbering ...................................................................................................................................... 10
Signal Strength ............................................................................................................................................. 10
Back Panels .................................................................................................................................................. 11
Back Panel Connectors ................................................................................................................................ 11
Panel Mounting (SF 100) ............................................................................................................................ 11
Rack or Wall Mounting (SF 400/800) .......................................................................................................... 12
Technical Specifications .............................................................................................................................. 13

CHAPTER 2 – GETTING STARTED .................................................................................................................. 14

Cabling Your MultiModem ISMS .................................................................................................................. 14
SF 100 Cabling ............................................................................................................................................. 14
SF 400/800 Cabling ..................................................................................................................................... 15
Establishing TCP/IP Communication .......................................................................................................... 15
Obtaining and Activating a Wireless Account ............................................................................................. 18
Important Note About Service Provider Fees .......................................................................................... 18
Direct Communication to the Cellular Modem ............................................................................................ 18
Using AT Commands to Check Network Registration and Roaming Status ............................................ 18

CHAPTER 3 – ISMS BASICS AND THE SETUP WIZARD .................................................................................... 19

Starting the ISMS ......................................................................................................................................... 19
Open a Web Browser ................................................................................................................................... 19
Login ............................................................................................................................................................ 19
Web Interface Opens .................................................................................................................................. 19
Navigating the Screens .................................................................................................................................. 20
Save & Restart Button under Menu Bar ..................................................................................................... 20
Sub-Menus .................................................................................................................................................... 21
Table of Menus and Sub-Menus ................................................................................................................. 21
Using the MultiModem ISMS Wizard Setup ............................................................................................... 23
Use the Wizard Setup for Quick Configuration ........................................................................................ 23
Benefits of Using the Wizard Setup ........................................................................................................... 23
Open the Wizard Setup Screen .................................................................................................................... 23
Save & Restart ............................................................................................................................................. 24
# Table of Contents

**CHAPTER 6 – SMS EXAMPLES** ............................................................................................................................. 64
  - Ensure the SIM Card Is Installed Correctly & Activated .............................................................................. 64
  - Creating a Broadcast Message for Future Use ............................................................................................. 66

**CHAPTER 7 – TROUBLESHOOTING** .................................................................................................................. 67
  - MultiModem iSMS Troubleshooting .............................................................................................................. 67

**APPENDIX A – APPLICATION PROGRAMMING INTERFACE (API)** ................................................................. 69
  - Introduction .................................................................................................................................................... 69
  - Purpose ......................................................................................................................................................... 69
  - Scope ............................................................................................................................................................ 69
  - Acronyms and Definitions ........................................................................................................................... 69
  - Send SMS API ............................................................................................................................................... 70
    - HTTP Send API ......................................................................................................................................... 70
    - TCP Send API .......................................................................................................................................... 86
  - Receive SMS API .......................................................................................................................................... 89
    - Non Polling Mode Receive SMS API ....................................................................................................... 89
    - HTTP Receive API – Non-Polling Mode ................................................................................................. 90
    - TCP Receive API – Non-Polling Mode ................................................................................................... 92
    - Polling Mode Receive SMS API ............................................................................................................ 94
    - Receive API – Polling Mode .................................................................................................................... 95

**APPENDIX B – TABLE OF COMMONLY SUPPORTED SUBNET ADDRESSES** ................................................................. 100

**APPENDIX C – ANTENNA FOR THE MULTIMODEM iSMS** .................................................................................. 103
  - RF Specifications ........................................................................................................................................... 103
  - Antenna Specifications .................................................................................................................................. 103
    - GSM/EGSM Antenna Requirements/Specifications ............................................................................. 103
    - Antennas Available from Multi-Tech Systems, Inc. .............................................................................. 103
    - PTCRB Requirements Note ..................................................................................................................... 103
    - FCC Requirements Note ........................................................................................................................ 103

**APPENDIX D – WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT DIRECTIVE (WEEE)**......................................................... 104

**APPENDIX E – TIME ZONE ABBREVIATIONS** ..................................................................................................... 105

**APPENDIX F – END USER LICENSE AGREEMENT (EULA)** ..................................................................................... 106

**APPENDIX G – REGULATORY INFORMATION** .................................................................................................... 108

**INDEX** .............................................................................................................................................................. 111
Chapter 1 – Safety Information and Product Description

The Multi-Tech iSMS is an intelligent Short Message Services (SMS) server that empowers businesses with the ability to broadcast and receive SMS text messages with a click of a button. The ready-to-use solution simply plugs into the Ethernet network and connects to the wireless network via an integrated quad-band GSM modem. Now anyone on the network can broadcast messages allowing organizations to reach clients, subscribers, members and prospects in real-time via SMS.

Safety Warnings

Ethernet Port Caution

The Ethernet port is not designed to be connected to a Public Switched Telecommunication Network (PSTN).

Handling Precautions

All devices must be handled with certain precautions to avoid damage due to the accumulation of static charge. Although input protection circuitry has been incorporated into the devices to minimize the effect of this static build up, proper precautions should be taken to avoid exposure to electrostatic discharge during handling and mounting.

Before servicing any part of the MultiModem iSMS system, read the instructions and cautions in this section. This information explains how to work safely when servicing product. Observe the following safety precautions when setting up the equipment:

• Follow all cautions, warnings, and instructions.
• Ensure that the voltages and frequency rating of the power receptacle match the electrical rating label on the equipment.
• Never push or attach objects of any kind through openings inside the equipment. Object may touch dangerous voltage points or short components, resulting in fire or electric shock.

Caution: Maintain a separation distance of at least 20 cm (8 inches) between the transmitter’s antenna and the body of the user or nearby persons. The modem is not designed for, nor intended to be, used in applications within 20 cm (8 inches) of the body of the user.

Ship Kit Contents

The MultiModem iSMS ship kit contains the following items:

• One MultiModem iSMS
• Power Supply (SF 100) -or- Power Cord (SF 400/800)
• RJ-45 Ethernet Cable
• Cellular Antenna (not included with all models)
• One MultiModem iSMS CD which contains MultiModem iSMS documentation in PDF format

If any of the items is missing or damaged, please contact Multi-Tech Systems, Inc.
MultiModem iSMs Documentation

User Guides
All product documentation is available on your product CD and also the Multi-Tech website:
http://www.multitech.com/man.go

AT Commands
AT commands used to configure this product are published in a separate reference guide and included on the
MultiModem iSMs CD as well as being posted on the Multi-Tech web site. See the GPRS AT Commands
Reference Guide at either location.

Front and Back Panels

SF 100 Front Panel

SF 100 Front Panel LEDs

<table>
<thead>
<tr>
<th>LEDs</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>Lights when power is being supplied to the MultiModem iSMs.</td>
</tr>
<tr>
<td>Status</td>
<td>When functioning normally, the LED blinks. The LED is a solid light when the unit is booting up, saving the configuration, restarting, or updating the firmware.</td>
</tr>
<tr>
<td>LAN</td>
<td>Lights when a successful connection to the 100BaseT LAN is established. Off when connected at 10BaseT.</td>
</tr>
<tr>
<td>TD</td>
<td>TRANSMIT DATA. This LED blinks when the modem is transmitting data to your wireless carrier.</td>
</tr>
<tr>
<td>RD</td>
<td>RECEIVE DATA. This LED blinks when the modem is receiving data from your wireless carrier.</td>
</tr>
<tr>
<td>CD</td>
<td>CARRIER DETECT. This LED lights when the modem detects a valid carrier signal from a wireless carrier.</td>
</tr>
<tr>
<td>TR</td>
<td>(DATA) TERMINAL READY. This LED lights when the modem is trying to establish a wireless connection.</td>
</tr>
<tr>
<td>LS</td>
<td>LINK STATUS. This LED flashes when the network registration is OK. If the network registration is invalid, the LED will be On/Off.</td>
</tr>
<tr>
<td>SIM</td>
<td>Location of the SIM card.</td>
</tr>
</tbody>
</table>
SF 400/800 Front Panel

SF 400/800 Front Panel LEDs

<table>
<thead>
<tr>
<th>LEDs</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>Lights when power is being supplied to the MultiModem iSMS.</td>
</tr>
<tr>
<td>Status</td>
<td>When functioning normally, the LED blinks. The LED is a solid light when the MultiModem iSMS is booting up, saving the configuration, restarting, or updating the firmware.</td>
</tr>
<tr>
<td>Ethernet 100</td>
<td>Lights when a successful connection to the 100BaseT LAN is established. Off when connected at 10BaseT.</td>
</tr>
<tr>
<td>Ethernet LNK</td>
<td>Lights when the LAN port has a valid Ethernet connection. Blinks when it is receiving or transmitting data.</td>
</tr>
<tr>
<td>Modem n</td>
<td>TD TRANSMIT DATA. This LED blinks when the modem is transmitting data to your wireless carrier.</td>
</tr>
<tr>
<td></td>
<td>RD RECEIVE DATA. This LED blinks when the modem is receiving data from your wireless carrier.</td>
</tr>
<tr>
<td></td>
<td>CD CARRIER DETECT. This LED lights when the modem detects a valid carrier signal from a wireless carrier.</td>
</tr>
<tr>
<td></td>
<td>LS LINK STATUS. This LED flashes when the network registration is OK. If the network registration is invalid, the LED will be On/Off.</td>
</tr>
</tbody>
</table>

SF 100 SIM Card Installation

A SIM (Subscriber Identity Module) card is required in order for the MultiModem iSMS to operate on a GPRS network. To install the SIM card:

1. Remove power from the unit before proceeding.
2. Use a small screwdriver to remove the screw closest to the outside edge of the MultiModem iSMS. Then swing the SIM slot cover up and over to the left.
3. Insert the SIM card into the SIM card slot. The following graphic shows a partial front panel illustrating the correct SIM card orientation.
4. Swing the cover back to its original placement and replace the screw. Reattach the power supply.
SF 400/800 SIM Card Installation

SIM (Subscriber Identity Module) cards are required for the MultiModem iSMS to operate on a GPRS network. To install the SIM cards:

1. Power off the unit and unplug the power cord. Do not under any circumstances remove protective power supply cover. Harmful voltages may be exposed if cover is removed, and can lead to electrical shock and or death.

2. Electrostatic discharge (ESD) is the release of stored static electricity that can damage electrical circuitry or components. Static electricity is often stored in your body, and discharged when you come in contact with an object of a different potential. Perform the procedure below (removal of chassis cover) described in this section only at an ESD workstation using an antistatic wrist strap. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal ground screw (lug) next to power switch of MultiModem iSMS chassis.

3. Use a small screwdriver to remove the six (6) screws on the back of the MultiModem iSMS as shown by the red circles below. Then lift the top cover from the back of the unit and then slide towards the front to remove.

4. Insert the SIM cards into the SIM card slots on the internal wireless modems. Each modem has a graphic line depicting the correct SIM card orientation. These receptacles are highlighted by the two red boxes in the illustration below (SF 800 model shown).

5. To re-attach the cover, start with the cover tilted up and align the “teeth” with the gaps between those on the bottom of the chassis as shown by the red arrows in the illustration above.

6. Rotate the cover down and push towards the rear of the unit until it is flush.

7. Insert the six (6) screws back in to the unit and tighten.
Modem Numbering

When using the Web interface, the modem tabs correspond to the internal modems with the numbering scheme shown below. The row of LEDs shows where the front of the unit is. Unpopulated modems should be disabled as described in Network Setup.

![Modem Numbering Diagram]

Signal Strength

Signal Strength Command

To View Strength

For the SF 400/800 models without signal LEDs, signal strength can be viewed by using the following AT command: `AT+CSQ`. This command is the default setting on the Network Setup > Cellular Modem screen. This works for the SF 100 as well.

AT Command Response Example

`+CSQ: xx, 99` (For `xx`, see the values chart below)

Signal Strength Reference Table

The following table lists the meaning of the `xx` values in the signal strength response and explains how they correspond to the number of LEDs lit for signal strength.

<table>
<thead>
<tr>
<th>AT+CSQ xx Values</th>
<th>SF 100 Signal LED Bars</th>
<th>Signal Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 6</td>
<td>No light</td>
<td>Very weak signal</td>
</tr>
<tr>
<td>7 to 14</td>
<td>1 Bar LED is lit</td>
<td>Weak signal</td>
</tr>
<tr>
<td>15 to 23</td>
<td>1 Bar and 2 Bar LEDs are lit</td>
<td>Stronger signal</td>
</tr>
<tr>
<td>24 to 31</td>
<td>1 Bar, 2 Bar, 3 Bar LEDs are lit</td>
<td>Strongest signal</td>
</tr>
</tbody>
</table>

SF 100 Signal Strength LEDs

![Signal Strength LEDs Diagram]
Back Panels

**SF 100**

![SF 100 Back Panel Diagram]

**SF 400/800**

![SF 400/800 Back Panel Diagram]

**Back Panel Connectors**

<table>
<thead>
<tr>
<th>Connector</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSM Antenna Connector(s):</td>
<td>SMA (female) antenna connector for a cellular antenna.</td>
</tr>
<tr>
<td>1 for the SF 100; 1 – 4 for the SF 400; 1 – 8 for the SF 800</td>
<td>Note: One antenna must be attached for each internal modem in order for them to be operational.</td>
</tr>
<tr>
<td>Ethernet (LAN for the SF 100)</td>
<td>The LAN (SF 100) / Ethernet (SF 400/800) port connects the MultiModem iSMS to your Ethernet network-connected PC.</td>
</tr>
<tr>
<td>+9V to 32VDC</td>
<td>[SF 100 only] The SF 100 power source can range from 9 volts to 32VDC.</td>
</tr>
<tr>
<td>Power Receptacle</td>
<td>[SF 400/800 only] Connection for standard power cord (provided).</td>
</tr>
<tr>
<td>COMMAND</td>
<td>[SF 400/800 only] A DE9 port for direct command access to the SF 400/800.</td>
</tr>
<tr>
<td>Reset</td>
<td>The Reset button resets the unit to its factory defaults. Press and hold the Reset button until the Status LED turns off, and then release it. Do not press this button unless you want to restore all settings to the factory defaults.</td>
</tr>
</tbody>
</table>

**Panel Mounting (SF 100)**

The SF 100 model can be panel mounted with screws spaced according to the measurement shown.

![SF 100 Panel Mounting Diagram]

**Note:** Use either #6 or #8 pan head screws for all four mount locations.
Rack or Wall Mounting (SF 400/800)

The MultiModem SF 400/800 units can be rack (or wall) mounted with screws using the mounting brackets.

Rack Mounting

Ensure proper installation of the unit in a closed or multi-unit enclosure by following the recommended installation as defined by the enclosure manufacturer. Do not place the unit directly on top of other equipment or place other equipment directly on top of the unit. If installing the unit in a closed or multi-unit enclosure, ensure adequate airflow within the rack so that the maximum recommended ambient temperature (50° C) is not exceeded. Ensure that the unit is properly connected to earth ground by verifying that it is reliably grounded when mounted within a rack. If a power strip is used, ensure that the power strip provides adequate grounding of the attached apparatus.

When mounting the equipment in the rack, make sure mechanical loading is even to avoid a hazardous condition. The rack used should safely support the combined weight of all the equipment it supports. Ensure that the mains supply circuit is capable of handling the load of the equipment. See the power label on the equipment for load requirements.

This equipment should only be installed by properly qualified service personnel. Only connect like circuits - connect SELV (Secondary Extra Low Voltage) circuits to SELV circuits and TN (Telecommunications Network) circuits to TN circuits.

Note: The ambient temperature of the rack interior must not exceed 50° Celsius.

19-Inch Rack Enclosure Mounting Procedure

Attaching the MultiModem iSMS to the rail of an EIA 19-inch rack enclosure will likely require two persons. Essentially, the technicians must attach the brackets to the MultiModem iSMS chassis with the screws provided, as shown in the figure above, and then secure unit to rack rails by the brackets. Because equipment racks vary, screws for rack-rail mounting are not provided. Follow the instructions of the rack manufacturer and use screws that fit.

1. Position the right rack-mounting bracket on the MultiModem iSMS using the two vertical mounting screw holes.
2. Secure the bracket to the MultiModem iSMS using the two screws provided.
3. Position the left rack-mounting bracket on the MultiModem iSMS using the two vertical mounting screw holes.
4. Secure the bracket to the MultiModem iSMS using the two screws provided.
5. Remove feet (4) from the MultiModem iSMS unit.
6. Mount the MultiModem iSMS in the rack enclosure per the rack manufacture’s mounting procedure.
# Technical Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>SF 100</th>
<th>SF 400/800</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hardware Interface</strong></td>
<td><strong>Network:</strong> 10/100BaseT</td>
<td><strong>Network:</strong> 10/100BaseT</td>
</tr>
<tr>
<td></td>
<td><strong>Connector:</strong> RJ-45 Ethernet connection</td>
<td><strong>Connector:</strong> RJ-45 Ethernet connection</td>
</tr>
<tr>
<td><strong>Ports</strong></td>
<td><strong>ETHERNET:</strong> 1 Port</td>
<td><strong>ETHERNET:</strong> 1 Port</td>
</tr>
<tr>
<td><strong>Wireless Modem</strong></td>
<td><strong>Quad-band GSM</strong> 850/900/1800/1900 MHz</td>
<td><strong>Quad-band GSM</strong> 850/900/1800/1900 MHz</td>
</tr>
<tr>
<td><strong>Frequencies</strong></td>
<td><strong>Dimensions</strong> 6.4” w x 1.2” h x 6” d</td>
<td><strong>Dimensions</strong> 17.4” w x 1.75” h x 8.5” d</td>
</tr>
<tr>
<td></td>
<td>(16.3 cm x 3.0 cm x 15.2 cm)</td>
<td>(44.2 cm x 4.5 cm x 21.6 cm)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1.25 lbs. (.56 kg)</td>
<td><strong>SF 400:</strong> 7.75 lbs. (3.52 kg)</td>
</tr>
<tr>
<td></td>
<td><strong>SF 800:</strong> 8.00 lbs. (3.64 kg)</td>
<td><strong>SF 800:</strong> 8.00 lbs. (3.64 kg)</td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td><strong>+32° to +120° F (0° to +50° C)</strong></td>
<td><strong>+32° to +120° F (0° to +50° C)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> UL listed @ +40° C (limited by power supply)</td>
<td></td>
</tr>
<tr>
<td><strong>Humidity</strong></td>
<td>20–90% non-condensing</td>
<td>20–90% non-condensing</td>
</tr>
<tr>
<td><strong>Hardware Connectors</strong></td>
<td><strong>SIM connector:</strong> Standard 3V</td>
<td><strong>SIM connector:</strong> Standard 3V</td>
</tr>
<tr>
<td></td>
<td><strong>Antenna:</strong> RF antenna 50 ohm SMA (female)</td>
<td><strong>Antenna:</strong> RF antenna 50 ohm SMA (female)</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td><strong>External Power Supply</strong></td>
<td><strong>Power Supply – (Universal Input)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Input:</strong> 100-240Vac, 0.5A 50-60 Hz</td>
<td><strong>Input:</strong> 100-240Vac, 1.8 – 1.0 A 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td><strong>Output:</strong> 9VDC, 1.7A</td>
<td><strong>SF400 / SF800:</strong></td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
<td><strong>Maximum consumption is 0.95A at 9V</strong></td>
<td><strong>Input 120Vac</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Input 9v</strong></td>
<td><strong>Typical</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Current (A)</strong>            0.564                  0.712                  1.600</td>
<td><strong>Maximum</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Watts</strong>                  5.0                     6.2                     1.600</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Input 20v</strong></td>
<td><strong>Typical</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Current (A)</strong>            0.276                  0.330                  0.700</td>
<td><strong>Maximum</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Watts</strong>                  5.5                     6.6                     0.700</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Input 32v</strong></td>
<td><strong>Typical</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Current (A)</strong>            0.191                  0.225                  0.625</td>
<td><strong>Maximum</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Watts</strong>                  6.1                     7.2                     0.625</td>
<td></td>
</tr>
<tr>
<td><strong>Certifications and Approvals</strong></td>
<td><strong>CE Mark; R&amp;TTE</strong></td>
<td><strong>CE Mark; R&amp;TTE</strong></td>
</tr>
<tr>
<td></td>
<td><strong>EMC Compliance:</strong>        <strong>FCC Part 15 Class A; EN 55022 Class A;</strong></td>
<td><strong>FCC Part 15 Class A; EN 55022 Class A;</strong></td>
</tr>
<tr>
<td></td>
<td><strong>EN 55024; ACIF S042.1; ACIF S042.3</strong></td>
<td><strong>EN 55024; ACIF S042.1; ACIF S042.3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Radio Compliance:</strong>      <strong>FCC Part 22, 24</strong></td>
<td><strong>FCC Part 22, 24</strong></td>
</tr>
<tr>
<td></td>
<td><strong>EN 301 489-1; EN 301489-7;</strong></td>
<td><strong>EN 301 489-1; EN 301489-7;</strong></td>
</tr>
<tr>
<td></td>
<td><strong>EN 301 511</strong></td>
<td><strong>EN 301 511</strong></td>
</tr>
<tr>
<td></td>
<td><strong>RSS 132, 133, 102</strong></td>
<td><strong>RSS 132, 133, 102</strong></td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td><strong>cUL 60950-1; UL 60950-1; IEC 60950-1; AS/NZS 60950</strong></td>
<td><strong>Safety:</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PTCRB, GCF</strong></td>
<td><strong>PTCRB, GCF</strong></td>
</tr>
<tr>
<td><strong>Network Compliance</strong></td>
<td><strong>FCC Part 15 Class A; EN 55022 Class A;</strong></td>
<td><strong>Network Compliance:</strong></td>
</tr>
<tr>
<td></td>
<td><strong>EN 55024; ACIF S042.1; ACIF S042.3</strong></td>
<td><strong>PTCRB, GCF</strong></td>
</tr>
<tr>
<td><strong>Warranty</strong></td>
<td>2 years</td>
<td>2 years</td>
</tr>
</tbody>
</table>

* Multi-Tech Systems, Inc. recommends that the customer incorporate a 10% buffer into their power source when determining product load.
Chapter 2 – Getting Started

Cabling Your MultiModem iSMS

To use your MultiModem iSMS make the appropriate connections to PCs, a cable or xDSL modem, AC power, and the antenna.

After your device is properly cabled, it must be configured. Basic cabling directions are included below. See Chapter 3 for basic configurations. See Chapter 4 for advanced configurations.

SF 100 Cabling

1. Turn the power off on the PCs and the MultiModem iSMS.
2. Plug one end of a RJ-45 cable into the LAN port on the MultiModem iSMS and the other end into the Ethernet port on a network connected PC.
3. Connect the provided power supply cable to the 9 volt power port on the back of the MultiModem iSMS, and plug the other end into an AC power outlet.
4. Attach the cellular antenna.

Antenna Notes:
- Be sure to locate this appliance where there is wireless coverage.
- The antenna must be attached in order for the MultiModem iSMS to be operational.
- Maintain a separation distance of at least 20 cm (8 inches) between the transmitter’s antennas and the body of the user or nearby persons. The product is not designed for, nor intended to be, used in applications within 20 cm (8 inches) of the body of the user.
SF 400/800 Cabling

1. Turn the power off on the PCs and the MultiModem iSMS.
2. Plug one end of a RJ-45 cable into the ETHERNET port on the MultiModem iSMS and the other end into the Ethernet port on a network-connected PC.
3. Connect the provided power supply cable to the power port on the back of the MultiModem iSMS, and plug the other end into an AC power outlet.
4. Attach the cellular antennas.
   - Be sure to locate this appliance where there is wireless coverage.
   - The antenna must be attached in order for the MultiModem iSMS to be operational.
   - Maintain a separation distance of at least 20 cm (8 inches) between the transmitter’s antennas and the body of the user or nearby persons. The product is not designed for, nor intended to be, used in applications within 20 cm (8 inches) of the body of the user.

Establishing TCP/IP Communication

The following directions establish a TCP/IP connection at the workstation so the PC can communicate with the MultiModem iSMS. The following directions were written using Windows 2000 and XP operating systems.

Setting a Fixed IP Address

1. Make the MultiModem iSMS connections as described on the previous two pages.
2. Click Start | Settings | Control Panel. Double-click the Network Connections icon.
3. The Network Connections screen displays.
   Right-click the Local Area Connection icon and choose Properties from the drop down list.

Setting a Fixed IP Address
4. The **Local Area Connection Properties** dialog box displays.

- Select **Internet Protocol [TCP/IP]**.
- Click the **Properties** button. The **Internet Protocol (TCP/IP) Properties** screen displays.
5. The Internet Protocol (TCP/IP) Properties screen.

![Internet Protocol (TCP/IP) Properties](image)

**Important Note:**
If this screen opens and displays your current IP configuration, we suggest you record this information for future reference (i.e., after the MultiModem iSMS is configured, you may wish to return this PC to its original settings).

- To set a Fixed IP Address for the workstation, select **Use the following IP address**.
  - Enter the workstation **IP Address**. Example: 192.168.2.x.  
    **Note:** The x in the address stands for numbers 101 and up.
  - Enter the workstation **Subnet Mask**. Example: 255.255.255.0
  - Enter the workstation **Default Gateway**. Example: 192.168.2.2  
    **Note:** The workstation settings must be in the same subnet range as the MultiModem iSMS.

  The factory default settings for the MultiModem iSMS are:
  - **IP Address:** 192.168.2.1
  - **Subnet Mask:** 255.255.255.0
  - **Default Gateway:** 192.168.2.2

- Select **Use the following DNS server addresses**.
  - Enter the IP Address for the **Preferred DNS Server**. Example: 205.171.3.65
  - Click **OK**.
- Close the **Local Area Properties** screen by clicking **OK**.
- Close the **Control Panel**.
- Repeat these steps for each PC on your network.
Obtaining and Activating a Wireless Account

Before you can use the cellular feature, you must obtain a GSM wireless account with an activated SIM card capable of sending SMS text messages through your service provider. Then activate the account by installing the SIM into the MultiModem iSMS. Please see the wireless account Activation Notice located on the MultiModem iSMS CD; follow the directions to complete the activation of your account.

Important Note About Service Provider Fees

Your service provider will charge you for your data usage. Please check with your provider to make sure you are aware of the charges.

Your MultiModem iSMS can be used to send a large number of SMS messages very quickly, and, as such, you should have a contract/plan that accounts for the numbers of messages you are likely to send. Multi-Tech is not responsible for any charges relating to your cellular bill.

Direct Communication to the Cellular Modem

You may want to communicate directly to the cellular modem to activate the modem, verify network registration, and/or troubleshooting your connection. To do this:

1. Open a PC's command window by clicking the Start button and selecting Run.
2. Type CMD to open the command window. Click OK.
3. When the command window opens, type IPCONFIG.
4. Type Telnet 192.168.2.1 5000 (Note: 5000 is the port number).

See the GPRS AT Commands Reference Guide.

Using AT Commands to Check Network Registration and Roaming Status

Use this command to verify that the cellular modem has been registered on a wireless network.

1. In the command window, type AT+CREG?
2. The modem will respond in one of the following ways:

<table>
<thead>
<tr>
<th>Value</th>
<th>Network Registration Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>+CREG: 0,0</td>
<td>The modem is not registered on any network</td>
</tr>
<tr>
<td>+CREG: 0,1</td>
<td>The modem is registered on the home network</td>
</tr>
<tr>
<td>+CREG: 0,5</td>
<td>The modem is registered on a network and it is roaming</td>
</tr>
</tbody>
</table>

Note: If the modem indicates that it is not registered, verify the signal strength to determine if the problem is the strength of the received signal.
Chapter 3 – iSMS Basics and the Setup Wizard

Starting the iSMS

Open a Web Browser

1. Be sure that the MultiModem iSMS is cabled and that the power is connected as shown in Chapter 2.
2. Then open a Web browser.
3. Type the default gateway address line: http://192.168.2.1
4. Press Enter.

Login

The Login screen for the MultiModem iSMS Web Interface displays.

- Type admin (admin is the default user name) in the user name box.
- Type admin in the password box.
- Click Login.

Note: The User Name and Password entries are case-sensitive (both must be typed in lower-case). The password can be up to 12 characters. Later, you will want to change the password from the default (admin) to something else. If Windows displays the AutoComplete screen, you may want to click No to tell the browser to not remember the password for security reasons.

Password Caution: Use a safe password! Your first name spelled backwards is not a sufficiently safe password; a password such as xFT35$4 is better. It is recommended that you change the default password. Create your own password.

Web Interface Opens

This is the Home screen from which you can access all setup functions.

Note: Only the top portion of the Home screen is shown here.
Navigating the Screens

Before using the Web Interface, you may find the following information about navigating through the screens and the structuring of the menus helpful.

<table>
<thead>
<tr>
<th>Menu Bar</th>
<th>Sub Menu</th>
<th>Other Options</th>
<th>Screen Name</th>
<th>Input Area</th>
</tr>
</thead>
</table>

Save & Restart Button under Menu Bar

Select the **Save and Restart** button located just under the menu bar. The **Save and Restart** screen displays.

**Save to Flash Memory**

If a connection is established, the settings have been entered correctly, and your basic configuration is complete; now, you must save your settings to the Flash Memory. Saving to the Flash Memory saves the current settings in the flash prom and prevents the settings from getting lost at the next power up.

**Note:** The system will save the **SMS settings** every 8 hours automatically; however, it will not save the **system settings** during this automatic save. The automatic saving of the SMS settings is helpful for those times when the administrator does not have direct access to the Ethernet port.

**Save**

Click the Save button to save your **system settings** to the flash memory.

**Restart**

This is optional. You do not have to restart the MultiModem iSMS after saving to the flash memory.
Sub-Menus
Each Menu selection has its own sub-menu, which displays on the left side of the screen.
When you click one of the Main Menu choices, the first screen listed in the sub-menu displays. Choose
other sub-menu options/screens by clicking on its name. The following is an example of the
Administration sub-menu.

Table of Menus and Sub-Menus

<table>
<thead>
<tr>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Setup – Set up the SMTP server for e-mail notifications, the names of individuals who will receive notifications, and the email ID for the notifications FROM line.</td>
</tr>
<tr>
<td>SNTP Client – Set up the synchronization of the MultiModem iSMS clock to real time.</td>
</tr>
<tr>
<td>Admin Access – Set up the administrator’s password and set an automatic inactivity disconnection interval.</td>
</tr>
<tr>
<td>Allowed Networks – Set the networks to be allowed access to the MultiModem iSMS WEB GUI, Telnet Dialout, and Telnet. The administrator can then add, edit and delete any network. By default, the LAN network is always allowed access to the MultiModem iSMS. The administrator can configure the IP Address and Subnet Mask as 0.0.0.0 to allow access to any network.</td>
</tr>
<tr>
<td>Remote Syslog – Configure the Remote Syslog status and server’s IP. The default is Disabled.</td>
</tr>
<tr>
<td>Tools – Reset the cellular modem.</td>
</tr>
<tr>
<td>Factory Defaults – Reset all parameters to the original factory defaults.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Network Setup</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Settings – Specify your LAN settings and your TCP connection.</td>
</tr>
<tr>
<td>Cellular Modem – Configure the cellular modem.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SMS Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address Book – Manually input names and phone numbers into the phone book.</td>
</tr>
<tr>
<td>Groups – Create groups of names with their phone numbers.</td>
</tr>
<tr>
<td>International Number – Enable or disable international numbers.</td>
</tr>
<tr>
<td>Users – Set up users and their passwords.</td>
</tr>
<tr>
<td>SMS Settings – Enable or disable extended ASCII character support.</td>
</tr>
<tr>
<td>Send SMS – Send SMS messages by manually entering the message or using a message from the Preconfigured SMS list.</td>
</tr>
<tr>
<td>SMS API – This page is divided into two sections: Send API and Receive API.</td>
</tr>
<tr>
<td>Load Balancing – Configure multiple units to share traffic load.</td>
</tr>
<tr>
<td>Inbox – View messages received.</td>
</tr>
<tr>
<td>Outbox – View messages sent.</td>
</tr>
</tbody>
</table>
## Table of Menus and Sub-Menus (continued)

<table>
<thead>
<tr>
<th>Triggers</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Authentic List</strong></td>
<td>From the address book set up a list of authentic users who are allowed to trigger broadcast messages and action triggers.</td>
</tr>
<tr>
<td><strong>Broadcast Triggers</strong></td>
<td>Configure trigger codes or words and broadcast messages. Set the destination group. Set authentication option if desired.</td>
</tr>
<tr>
<td><strong>Action Triggers</strong></td>
<td>Create the triggers (codes or words) that will cause certain actions.</td>
</tr>
<tr>
<td><strong>Pre-Configured SMS</strong></td>
<td>Write and save pre-configured messages.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Utilities</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Backup</strong></td>
<td>Save MultiModem iSMS settings to a backup file.</td>
</tr>
<tr>
<td><strong>Firmware Upgrade</strong></td>
<td>Get firmware upgrade from Multi-Tech Systems, Inc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Import &amp; Export Address Book</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Import Address Book</strong></td>
<td>Import an address book that you want to use to set up your MultiModem iSMS.</td>
</tr>
<tr>
<td><strong>Export Address Book</strong></td>
<td>Export an address book.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistics &amp; Logs</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System Information</strong></td>
<td>View product model number, firmware version, MAC Address, signal strength and live system details.</td>
</tr>
<tr>
<td><strong>SMS Statistics</strong></td>
<td>View <strong>SMS Statistics</strong>: Number of messages in the inbox, number of message in the outbox, and number of messages sent. View <strong>Triggers Statistics</strong>: Number of broadcast triggers received, number of action triggers received, and number of broadcast triggers configured. View <strong>Address Book Statistics</strong>: Number of entries in the Address Book.</td>
</tr>
<tr>
<td><strong>Load Balancing Statistics</strong></td>
<td>View statistics for the unit if load balancing is used.</td>
</tr>
<tr>
<td><strong>Log Traces</strong></td>
<td>View <strong>SMS Logs</strong>: SMS Sent Log, SMS Received Log, SMS Failure Log, SMS Live Log. View <strong>Sent API Logs</strong>: Send API Status Log, Send API Failure Log, Send HTTP API Live Log, Send TCP API Live Log. View <strong>Receive API Logs</strong>: Receive API Live Log and Receive API Failure Log. View <strong>Load Balance Logs</strong> View <strong>System Logs</strong>: System Log</td>
</tr>
</tbody>
</table>
Using the MultiModem iSMS Wizard Setup

Use the Wizard Setup for Quick Configuration

A quick way to configure the MultiModem iSMS is to use the *Wizard Setup*. The Wizard Setup can be opened by clicking the words *Wizard Setup* located under the menu bar. The information entered here will default to other screens that require this information.

Benefits of Using the Wizard Setup

- Saves time so that you are not entering the same information several times.
- Allows you to start using your device with a minimum configuration.
- Provides a short way to enter and save information needed to create a connection to the Internet.

*Note*: Additional features and functions can be set up using the complete Web Interface.

Open the Wizard Setup Screen

After you have logged in, open the Wizard Setup screen by clicking on the words "Wizard Setup" located under the Menu Bar.

Settings – Enter the following information for your Ethernet network.

**LAN IP Address** – 192.168.2.1 defaults into this field.

**Subnet Mask** – 255.255.255.0 defaults into this field.

**Default Gateway** – Enter your gateway IP Address: example: 192.168.2.2.

**Primary DNS** – Enter your primary DNS (Domain Server Name) IP Address.

**Secondary DNS** – Enter a secondary DNS IP Address (if any).

**Save** – Click the *Save* button.
Chapter 3 – iSMS Basics and Setup Wizard

Configuring the MultiModem iSMS Using the Wizard Setup

**Admin Password** – You should change the password immediately after initial installation and also change it regularly thereafter for security purposes.

- **Old Password** – Enter the existing password (factory default is `admin`).
- **New Password** – Enter new password of your choice.
- **Confirmation** – Confirm your new password by re-entering it into this field.

**Import Address Book** – Click the **Import** button. The *Import Address Book* screen displays.

Use this screen to set up senders and receivers of messages, as well as authentic users. **Note:** CSV stands for *comma separated values*, a term that applies to the format of an address book.

**Import Address Book**

- **Select the CSV Format**

Browse for the address file you want to use, and then click the **Upload** button once it is found.

**Save & Restart**

**IMPORTANT Note About Save & Restart**

When you have completed your MultiModem iSMS settings and you are not going to enter any more data, you must click the **Save & Restart** button located under the menu bar. The system will save the new settings to the Flash Memory and give you the option to restart your MultiModem iSMS. Saving to the Flash Memory saves the new settings in the flash prom and prevents the settings from getting lost at the next power up.

**Note:** The system will save the SMS settings every 8 hours automatically; however, it will not save the system setting during this automatic save. The automatic saving of the SMS settings is helpful for those times when the administrator does not have direct access to the Ethernet port.

**Save**

Click the **Save** button to save your *system settings* to the flash memory.

**Restart is Optional**

This is optional. You do not have to restart the MultiModem iSMS after saving to the flash memory.
Chapter 4 – Using the MultiModem iSMS Web Interface

Now that you have completed the Wizard Setup, you can use the Web-based configuration and management interface to set up other SMS features and parameters. This chapter takes you screen-by-screen through the Web Interface.

Note: The antenna must be attached in order for the MultiModem iSMS to be operational.

IMPORTANT Note About Save & Restart
When you have completed your MultiModem iSMS settings, you must click the Save & Restart button located at the top of the window under the menu bar. The system will save all the settings and give you the option to restart your MultiModem iSMS. Restarting is not required.

Administration

Administration > System Setup

On the System Setup screen, you can set up the e-mail address of the administrator to whom e-mails are sent for event notification. The e-mail address must be entered in proper "user@domain" format.

A Note About E-Mail Notification

E-Mail notification is delivered through the Ethernet network with an Internet connection, not through the wireless cellular connection.
**E-Mail Notification**

**SMTP Server**
Enter the IP address or the domain name of the mail server.

**Port**
Enter the port number on which the mail server listens. Example: 25. Click the **Save** button.

**SMTP Server Authentication**
Some mail servers accept connection only after a user name and password are authenticated. If your server requires this, check the **SMTP Server Authentication** box. Then enter the **User Name** and **Password** in the next fields.

**User Name**
If your mail server accepts connection only after a user name and password are authenticated, enter the user name.

**Password**
If your mail server accepts connection only after a user name and password are authenticated, enter the password. Click the **Save** button.

**E-Mail Address**
Enter the e-mail addresses of the individuals to whom notifications regarding the log file being full, an invalid Telnet login, or an invalid Web login should be sent. In addition, the administrator may want his office e-mail address, his home e-mail address, etc. Enter the addresses in proper user@domain format. Click the **Save** button after each entry. An address can be deleted or changed at any time.

Note that at least one e-mail address must be entered in this field.

**Configure E-Mail Notification**
Select the types of notifications that you want sent to individuals listed above. Click the **Add** button. Each entry will then move to the **Send E-Mail Notification For** box. A notification can be removed by clicking the **Delete** button. The entry will then move back to the **Don't Send E-Mail Notification For** box.

The following are defaulted for **Don't Send E-Mail Notification**:
1. Log File Full
2. Invalid Telnet Login
3. Invalid Web Login

**Administrator E-Mail ID**
Enter the administrator's e-mail identification. This is the name/address that will display in the FROM line of the notification emails. This will allow the recipients of the notifications to direct questions or comments to the administrator. Enter the email ID in proper user@domain format. Click the **Save** button. The address can be deleted or changed at any time.

---

**A Note About E-Mail Notification**

E-Mail notification is delivered through the Ethernet network with an Internet connection, not through the wireless cellular connection.
Administration > SNTP Client

Clicking the SNTP Client check box enables the firewall to act as a SNTP client. Also, SNTP (Simple Network Time Protocol) is an internet protocol used to set up the synchronization of the unit clock to real time.

### SNTP Configuration

#### General Configuration

**SNTP Client**
Enable or disable the SNTP Client to contact the configured server on the UDP port 123 and set the local time. Default is **Enabled**.

**Server**
Enter the SNTP server name or IP address to which the SNTP Client must contact in order to update the time. The default is **time.nist.gov**.

**Polling Time**
Enter the polling time at which the SNTP client requests the server to update the time. Default is 30 minutes. Time must be entered in minutes.

---

**A Note About the Outbox**

In order for messages in the outbox to have a valid date/time stamp, do one of the following options:

- SNTP Client must be enabled and the Ethernet connection must be live to the Internet.
- or-
- Enter the MultiModem iSMS phone number on the **Network Setup > Cellular Modem** screen.
Chapter 4 – Using the Web Interface

Administration > SNTP Client

Time Zone Configuration

Time Zone
Enter your time zone. Default = UTC (Universal Coordination). The greenwichmeantime.com Web site has Time Zone information in detail or you can find a portion of the Time Zone abbreviations in Appendix E of this manual.

Time Zone Offset
Enter +/- hh:mm. Default = +06:00. Offset is the amount of time varying from the standard time of a Time Zone.

Daylight Configuration

Daylight Saving
Enables/disables Daylight Saving mode. Default is Enable.

Daylight Saving Offset
Set the offset to use during Daylight Saving mode. Default is +60 minutes. Enter the time in + / - minutes. Offset is the amount of time varying from the standard time of a Time Zone.

Daylight Saving Start Time

Start Ordinal (Month, Day, Time)
Set the start ordinal to use during Daylight Saving mode. Options are first/second/third/fourth/last. Default is second.
Daylight Saving time usually starts at the same time on the same day of the week in the same month every year. Each day of the week occurs four or five times a month. Therefore, you will be selecting the week in which daylight saving time starts: the first, second, third, fourth or the last of the month.

Start Month
Set the start month to use during Daylight Saving mode. The default is March.

Start Day
Set the start weekday to use during Daylight Saving mode. The default is Sunday.

Start Time
Set the start time to use during Daylight Saving mode. The default is 02:00 (hh:mm).

Daylight Saving End Time

End Ordinal (Month, Day, Time)
Set the end ordinal to use during Daylight Saving mode. Select the week in which daylight saving time ends. Options are first/second/third/fourth/last. The default is first.

End Month
Set the end month to use during Daylight Saving mode. The default is November.

End Day
Set the end weekday to use during Daylight Saving mode. The default is Sunday.

End Time
Set the end time to use during Daylight Saving mode. The default is 02:00 (hh:mm).

Save Button
Click the Save button to save these settings.
Administration > Administrative Access

Use this screen to set up the password that will be used by the administrator and to set an automatic inactivity disconnection interval.

**Change Password**

**Old Password, New Password, Confirm Password**

To change the password, enter the existing password in the *Old Password* field, enter the new password into the *New Password* field, and confirm your new password by re-entering it into the *Confirm Password* entry field. Click the **Save** button.

**Note:** You should change the password immediately after initial installation and configuration, and also change it regularly thereafter.

**Web Interface Inactivity Time Out**

**Time Before Automatic Disconnect**

An automatic inactivity disconnection interval is part of this firmware for security purposes.

In the *Time Before Automatic Disconnect* entry field, enter the desired time span (in seconds) after which you will be automatically disconnected from the Web Interface if no operations take place.

- The default setting is 600 seconds (this should allow enough time to download the CSV file).
- The smallest possible setting is 30 seconds.
- The maximum setting is 3600 seconds.

Click the **Save** button.

**Administrative Access HTTP Port**

Specify the HTTP port for administrative access. Port 80 is the default used for HTTP sessions. If you choose to change the port number, it should be between 1 and 65535. Well known port numbers and port numbers used by the firewall are not allowed.

Click the **Save** button.
Administration > Admin Access > Allowed Networks

Use this screen to set the networks that will be allowed access to the MultiModem iSMS WEB GUI, Telnet Dialout, and Telnet. The administrator can then add, edit and delete any network. By default, the LAN network is always allowed access to the MultiModem iSMS. In addition, the administrator can configure the IP Address and Subnet Mask as 0.0.0.0 to allow access to any network.

### Allowed Networks

- **IP Address** – Enter the IP address of any network you want the MultiModem iSMS to be able to access.
- **Subnet Mask** – Enter the Subnet Mask of any network you want the MultiModem iSMS to be able to access.
- **Add** – Then click the **Add** button.

The allowed network displays at the bottom of the screen.

**Note:** The first entry corresponds to LAN Network.

<table>
<thead>
<tr>
<th>No.</th>
<th>IP Address</th>
<th>Subnet Mask</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>192.168.2.0</td>
<td>255.255.255.0</td>
<td>Static</td>
</tr>
</tbody>
</table>

### Administration > Remote Syslog

Use this screen to enable/disable Remote Syslog and to set the logging server’s IP Address. The default is **Disabled**.

**Remote Syslog Configuration**

- **Remote Syslog Status** – Check the Remote Syslog Status box to enable this remote syslog.
- **Remote Syslog Host IP Address** – Enter the remote syslog host IP Address.
- **Save** – Then click the **Save** button.
Administration > Tools

This screen is used to reset the cellular modem. You may want to use Reset if you have lost your connection or the modems are not functioning properly but you don’t want to recycle power through the MultiModem iSMS.

Reset Modem

After clicking on the modem tab for the modem you want reset, click the Reset button. The modem corresponding to the number selected (1 – 4 for the SF 400, 1 – 8 for the SF 800) will be reset.

Cancel Jobs

Cancel All Jobs
Clicking this Cancel button will stop and clear all jobs queued.

Cancel Low Priority Jobs
Clicking this Cancel button will stop and clear all jobs flagged as Low Priority that are queued.

Cancel Normal Priority Jobs
Clicking this Cancel button will stop and clear all jobs flagged as Normal Priority that are queued.

Cancel High Priority Jobs
Clicking this Cancel button will stop and clear all jobs flagged as High Priority that are queued.
Administration > Factory Defaults

Reset to Factory Defaults
Click the Factory Defaults button to load all configuration parameters to the original factory default settings.

All Administration and Network Settings will return to the factory defaults. Use this option only if it is necessary to wipe out your current Administration and Network Settings.

Note: SMS Settings (Address Book, Groups, Users, International Numbers, Triggers, Inbox, Outbox) will not be reset using this option.

Reset MultiModem iSMS Defaults
Clicking the MultiModem iSMS Defaults button will delete the following:

- All SMS configurations and
- All Administrative and Network Settings.

This option is to be used only if really necessary to wipe out all current settings and completely start over.

Save & Restart

IMPORTANT Note About Save & Restart
When you have completed your MultiModem iSMS settings and you are not going to enter any more data, you must click the Save & Restart option located under the menu bar. The system will save the new settings to the Flash Memory and give you the option to restart your MultiModem iSMS. Saving to the Flash Memory saves the new settings in the flash prom and prevents the settings from getting lost at the next power up.

Note: The system will save the SMS settings every 8 hours automatically; however, it will not save the system setting during this automatic save. The automatic saving of the SMS settings is helpful for those times when the administrator does not have direct access to the Ethernet port.

Save
Click the Save button to save your system settings to the flash memory.

Restart is Optional
This is optional. You do not have to restart the MultiModem iSMS after saving to the flash memory.
Network Setup

Network Setup > IP Settings

Use this screen to set up your network.

IP Settings – LAN

**IP Address**
Enter the IP Address of the LAN Interface. The factory default is 192.168.2.1.

**Subnet Mask**
Enter the Subnet Mask for the IP address configured. The factory default is 255.255.255.0.

**Default Gateway**
Enter the Default Gateway. The factory default is 192.168.2.2.

**Primary DNS and Secondary DNS**
Enter the address of the primary and secondary DNS (domain name system) IP Address. The order in which domain names are entered is the order in which they are consulted.

**IMPORTANT Note About Valid Gateway and DNS Addresses**
For e-mail notifications and SNTP Time/Date accuracy, you must have a live Ethernet connection, and this requires a valid gateway address and at least one DNS address.

**Save**
Click the **Save** button.
**Network Setup > Cellular Modem**

Use this screen to configure the cellular modems. Click the Modem# tab at the top to work with that specific modem. Each modem is configured individually.

The TCP Connection section is located in the IP Settings section for the SF 100 modes, and in the Cellular Modem section for the SF 400 and SF 800 models.

---

**Status**

**Modem Status (SF 400 and SF 800 models only)**

This box will be checked by default, meaning that this modem will be considered for use. If you do not have or want a SIM card for a particular modem, uncheck the box so that the modem is not used. Repeat this process for any modems that will not have SIM cards. A graphic to show which internal modem is assigned to each number is in the SIM card installation section of Chapter 2.

**Save**

Click the Save button each time before selecting the next modem from the modem tabs above.

**Modem Initialization Strings**

**Initialization Strings 1 – 3**

Initialization strings are composed of AT commands sent to the modem to initialize and prepare it for connection. These strings typically set options such as speed, error correction, compression, various timeout values, and various display parameters. See the GPRS AT Commands Reference Guide.

**Save**

Click the Save button each time before selecting the next modem from the modem tabs above.
**Signal Strength (SF 100 only)**

**Command**
The string entered here is sent to the cellular modem so that the signal strength LEDs can display the current signal strength. Use the following command: *AT+CSQ*

See the *Signal Strength LEDs Reference Table* below.

The following table lists the meaning of the `xx` values in the signal strength response and explains how they correspond to the number of LEDs lit for signal strength.

<table>
<thead>
<tr>
<th>AT+CSQ xx Values</th>
<th>SF 100 Signal LED Bars</th>
<th>Signal Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 6</td>
<td>No light</td>
<td>Very weak signal</td>
</tr>
<tr>
<td>7 to 14</td>
<td>1 Bar LED is lit</td>
<td>Weak signal</td>
</tr>
<tr>
<td>15 to 23</td>
<td>1 Bar and 2 Bar LEDs are lit</td>
<td>Stronger signal</td>
</tr>
<tr>
<td>24 to 31</td>
<td>1 Bar, 2 Bar, 3 Bar LEDs are lit</td>
<td>Strongest signal</td>
</tr>
</tbody>
</table>

**Save**
Click the *Save* button.

**SIM Number**

**SIM Number**
Specify the cellular phone number that the wireless provider assigned to your account. Do not enter dashes. **Example:** 6126361654.

**SIM Notes**
- The SIM card reads real time from the network and this provides the time stamp for SMS messages. If you are using SNTP for your time stamp, you do not need to enter a SIM number.
- If your SIM card is locked, you cannot send SMS messages.

**Save**
Click the *Save* button each time before selecting the next modem from the modem tabs above.

**TCP Connection**

**TCP Connection**
Enable or Disable the TCP Connection by clicking the appropriate radio button. Default: **Enable**

**TCP Connection Port**
Enter the Port number on which the TCP port will connect. Default is 5000.

**Save**
Click the *Save* button.

**Save & Restart**

**IMPORTANT Note About Save & Restart**
When you have completed your MultiModem iSMS settings and you are not going to enter any more data, you must click the *Save & Restart* button located under the menu bar. The system will save the new settings to the Flash Memory and give you the option to restart your MultiModem iSMS. Saving to the Flash Memory saves the new settings in the flash prom and prevents the settings from getting lost at the next power up.

**Note:** The system will save the SMS settings every 8 hours automatically; however, it will not save the system setting during this automatic save. The automatic saving of the SMS settings is helpful for those times when the administrator does not have direct access to the Ethernet port.

**Save**
Click the Save button to save your system settings to the flash memory.

**Restart is Optional**
This is optional. You do not have to restart the MultiModem iSMS after saving to the flash memory.
**SMS Services**

What is SMS? Short Messages through SMS (Short Message Service) can be sent to
- Mobile numbers
- Any person(s) from the address book
- Any group(s) of persons created from the address book or individual entries.

**SMS Services > Address Book**

Ways to Create Address Book Entries:

1. Enter names and phone numbers manually. Use the following screen to enter addresses in this way.
2. Import an Address Book. See the following screen information: **Import & Export Address Book > Import**.
3. Remotely enter a name and phone number. See the following screen information: **Triggers > Action Triggers**.

**Use This Screen to Manually Add Names and Phone Numbers to the Address Book:**

Use this screen to manually add the names and phone numbers of any person(s) you want to include in your address book. If you imported an address book, you can use this screen to add names not included in the imported Address Book. All address book names display on this screen, and each entry can be edited, deleted, and/or added to a group list.

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone Number</th>
<th>Description</th>
<th>Edit</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>bill</td>
<td>7964532111</td>
<td>View</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>don</td>
<td>7632214553</td>
<td>View</td>
<td>○</td>
<td></td>
</tr>
</tbody>
</table>

Starting with: [Search]
Address Book
Click the Add button to display the Add a Phone Number screen.

Add a Phone Number
Note that fields marked with an asterisk are required.

Name
Enter the name of the person you want to add to the SMS Phonebook. The maximum number of characters is 50 including spaces and punctuation.

Phone Number
Enter the mobile phone number of person you are adding. The maximum number of characters is 50 including spaces and punctuation.

Note: If you plan to use authentication on any entry in the address book, the phone numbers of these individuals should be preceded with the country code. For the U.S., enter "1". Example: 16124935555.

Description
Enter any additional information about this phonebook entry that will aid in your contacting or identifying this person. The maximum number of characters is 120 including spaces and punctuation.

Groups
If you want this person to be a member of a phonebook group, select the group name from this box.

Note: Group names must be entered on the SMS Services > Groups screen before they will display here.

Save or Cancel
Click the Save button to save the entries, or click Cancel if you want to start over on this screen or want to end the entries from the last Save.
SMS Services > Groups

Use this screen to create groups of customer/client names with their phone numbers. The MultiModem iSMS can hold up to 50 groups.

Groups allow you to send SMS messages to many individuals using only a group name. For example, groups can be established based on a common functionality, a location, or an activity such as an Administrators group, an Engineers group, a Building 201 group, a Basketball Team group, etc. Once created, group names display on this screen where they can be edited and deleted.

Groups
Click the Create button to display the Create a Group screen.

Create a Group
Note that fields marked with an asterisk are required.

Group Name
Enter a name for the group you would like to create. Maximum number of characters is 10. Group names can be edited.

Group Members
Click Address Book to bring in the names of all individuals in your Address Book. All names will display in this box.
Click Delete to remove the names of those you do not want in this group. If you want the entire Address Book of names included in this group, simply check the Create button.

Create or Cancel
Once you have the group completed, click the Create button. If you want to start over, click the Cancel button.
SMS Services > International Number

Use this screen to allow or disallow SMS messaging to international numbers. International numbers are identified according to the number of digits.

<table>
<thead>
<tr>
<th>SMS Services &gt; International Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disable International Number</td>
</tr>
<tr>
<td>Maximum Digits</td>
</tr>
</tbody>
</table>

**Disable International Number**

If **Disable International Number** is checked (this is the default), SMS messages can be sent to phone numbers limited by the maximum allowed digits (entered in the **Maximum Digits** field).

If **Disable International Number** is **NOT** checked, SMS messages can be sent to any phone number.

**Maximum Digits**

Enter the number of digits you want to be allowed when **Disable International Number** is checked. The default is 11 digits.

**Save**

Click the **Save** button.

SMS Services > Users

Use this screen to create a list of users who can have limited access to the MultiModem iSMS to send SMS messages and monitor the inbox and outbox. The screen shown here includes an example of an entry entitled "user". Once a user is entered, the **Delete** checkbox is available.

<table>
<thead>
<tr>
<th>SMS Services &gt; Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name</td>
</tr>
<tr>
<td>JoeSmith</td>
</tr>
</tbody>
</table>

When you click the Delete check box, you will be presented a pop-up window asking to confirm the deleting of this user – click OK to permanently remove the selected user.

![Are you sure you want to delete?](image)
User Name
Click the Add button to display the Add a New User screen. After a user name is added using the Add a New User screen, it will display on this screen. You can delete any user from this screen, if desired.

Add a New User
Note that fields marked with an asterisk are required.

<table>
<thead>
<tr>
<th>User Name</th>
<th>*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Password</td>
<td>*</td>
</tr>
</tbody>
</table>

User Name
Enter the user's name. No spaces are allowed in the User Name.

Password
Enter a password for this user. Each user should have a unique password. There is a minimum of 5 characters required for the password.

Create or Cancel
Once you have entered the users, click the Create button. If you want to start over, click the Cancel button.
SMS Services > SMS Settings

Use this screen to enable or disable extended ASCII character support.

Extended ASCII 8-bit Configuration

Extended ASCII 8-bit (ISO-8859-1)
Check the box to enable Extended ASCII characters in the SMS. When enabled, the Extended ASCII characters option will be linked to the following screens in order for you to select the characters: Send SMS, Triggers, Preconfigured SMS.

Set as Factory Default
Select this check box and click the Save button to set Extended ASCII 8-bit as the factory default.

Save
Click the Save button to set each changed setting before navigating away from this page.

Unicode Configuration

Unicode
Select this check box and click the Save button to allow Unicode text in the SMS messages.

Set as Factory Default
Select this check box and click the Save button to set Unicode as the factory default.

Save
Click the Save button to set each changed setting before navigating away from this page.

Date Configuration

Select the format that you want the date to be presented as. Options are: dd/mm/yyyy; mm/dd/yyyy; and yyyy-mm-dd (where dd represents the day as 2 digits, mm represents the month as 2 digits and yyyy represents the year as 4 digits).

Save
Click the Save button.
**SMS Services > Send SMS**

Messages can be sent to a contact phone number, any person(s) from the address book, or any group(s).

**Notes about User Limitations**

- This screen along with the Inbox and Outbox screens are the only screens available to non-administrative users when they login with their names and passwords.
- The **Save & Restart option under the Menu Bar** is not available to non-administrative users. However, the MultiModem iSMS automatically saves the SMS settings and configuration every 8 hours.

**To**

- **Enter Phone Numbers**
  Enter the mobile phone numbers to which a new message will be sent. Click the **Add** button after each entry. The phone number will display in the box. If you change your mind about a phone number, highlight the number and press the **Delete** button.

- **Select Names from the Address Book**
  Click **Address Book** to display all names. Select the names of the individuals to whom a new message will be sent. Click the **Add** button after each name. If you change your mind about a name, highlight the name and press the **Delete** button or check **Select the entire Address Book**, press the **Delete** button and all the names will be deleted.

- **Select Group**
  Click **Groups** to display all group names. Select the **Groups** to which a new message will be sent. Click the **Add** button after each selection. The group name will display in the box. If you change your mind about a group, highlight the group name and press the **Delete** button or check the **Select all the Groups**, and press the **Delete** button and all groups will be deleted.

Chapter 4 – Using the Web Interface

SMS Text
Enter the text of the message you want to send. The maximum message size without spanning is 140 characters.

-or-
You can choose a Pre-Configured Message that you set up on the Triggers > Pre-Configured SMS screen. Click the Pre-Configured Message text to access a list of pre-configured messages. Unicode options are also available, please see Unicode Use below.

The message entered will automatically be tracked by the Typed, Left and Spanned boxes below the entry field. Depending on the Encoding Type, the maximum characters allowed will change.

**Typed**
This field will track the actual number of characters entered into the SMS Text field.

**Left**
This will count down the number of characters left available in the SMS Text field.

**Spanned**
This will show the number of SMS messages that will be needed to send the text as currently entered. Messages that need to be spanned will be sent concurrently.

*Maximum Number of Characters Allowed with Spanning:*

<table>
<thead>
<tr>
<th>Encoding Type</th>
<th>Number of Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCII</td>
<td>462</td>
</tr>
<tr>
<td>Extended ASCII</td>
<td>402</td>
</tr>
<tr>
<td>Unicode</td>
<td>192</td>
</tr>
</tbody>
</table>

**Unicode Use**
When a language is selected, clicking on the link after the Pre-Configured Message link will bring up a virtual keyboard that will allow you to enter the specified text in the SMS Text message box.

**Encoding Type**
Select the encoding type that you want the SMS message to be sent as.

**Options:** ASCII (default), Extended ASCII, Unicode.

**Note:** When Unicode is selected, you need to choose from Hexadecimal, Decimal or Language for the Unicode type. If Language is selected, an additional drop-down box will appear with specific language selections.

**Modem**
Here you may select a specific modem from which to send the message, or you may leave it at the default of “Any”.

**Priority**
Here you can set the priority level for the message to be sent. When messages enter the queue to be sent, the priority levels will be compared and the messages flagged as High will be sent first, followed by Normal and Low.

**Options:** Low, Normal (default), High.

**Send button**
When you are ready, click the Send button to send your message – click OK when the pop-up “in process” message appears.
SMS Services > SMS API

Options for the Application Programming Interface are configured here.

Note: See the Appendix A for more information about the Application Programming Interface (API).

**HTTP API Configuration**

- **HTTP API Status**
  Check the box to enable the HTTP API service.

- **HTTP Port**
  Enter the port number on which Send API service is available. This port can be the same as the Web port. The default is 81.

- **Save**
  Click the Save button.

**TCP API Configuration**

- **TCP API Status**
  Check the box to enable TCP API service. This is necessary for slave units participating in load balancing.

- **TCP Port**
  Enter the port number on which TCP API service is available. The default is 2040. If you are using load balancing, make sure that the port entered here matches what is set in Load Balancing.

- **Save**
  Click the Save button.
Non Polling Receive API Configuration

**Note:** Beginning with version 1.40, API polling is enabled by default. Previous versions did not have the API polling by default.

**Non Polling Receive API Status**
Check this box to enable non-polling API status when receiving messages. This will change the SMS API section as shown below.

<table>
<thead>
<tr>
<th>Non Polling Receive API Status</th>
<th>Protocol</th>
<th></th>
<th>Save</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Protocol**
Select the protocol that you will use: HTTP or TCP.

**Server**
Enter the name of the server to be used.

**Port**
Enter the port number for accessing the server.

**Server Default Page**
Enter the default page for the server to use.

**Server Authentication**
Check this box if you want to authenticate to the server. Below you can enter the username and password that will allow access.

**Username**
Enter the username to be used for authentication.

**Password**
Enter the password associated with the above username.

**Post Interval**
Enter the number of seconds for the post interval.

**Save Buttons**
Click the **Save** button for each section after making changes. Navigating away from this page will not store any changes that have not been saved.
Chapter 4 – Using the Web Interface

SMS Services > Load Balancing

When multiple iSMS units are available on a network, they can be set up to work together to share the outgoing message load. This is utilized by setting one unit as the Master unit and subsequent units (up to 4) as Slaves.

As a general rule, load balancing will not be implemented until the Master unit has twenty or more maximum sized messages queued. Once initiated, the Master unit will work to balance the message load among the available units using a round-robin method until the queue becomes small enough that the Master unit can once again handle the volume on its own.

Load Balancing

Status
Check the Status box on every unit that is participating in Load Balancing and click Save.

Note: When using Load Balancing, each Slave unit must also have the TCP API Status enabled (see the previous section).

Slave Configuration

Slave# 
Clicking on the numbered slave buttons will select the individual slave units. Each slave controlled by the master will have their own unique IP address and username/password – it might be helpful to write this information down before entering it into the master unit.

Status
This box is checked only on the Master unit. This should be left unchecked for all Slave units.

Username
Enter the valid administrator username needed to access the Slave unit.

Password
Enter the valid administrator password needed to access the Slave unit.

IP Address
Enter the IP Address of the Slave unit.

TCP API Port
Enter the open port that will be used to access the Slave unit.
**SMS Services > Inbox**

This screen displays a list of all messages received by modem number and includes the sender’s number, the message received, and a timestamp. Click on the individual modem number tabs for a list of messages received by that modem.

<table>
<thead>
<tr>
<th>From</th>
<th>SMS</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Text sms</td>
<td>09/10/22</td>
<td>10:13:39</td>
</tr>
</tbody>
</table>

**Clear Inbox**

Click the **Clear** button to delete all the inbox entries.

**From**
The from box will show the phone number from which the SMS was received.

**SMS**
This will display the text sent in the message.

**Date**
This will show the day the message was sent.

**Time**
This will display at what time the message was sent.

**Note:** The inbox gets a time stamp from the cellular service provider.
SMS Services > Outbox

This screen lists the messages sent and includes Message ID, the receiver's number, the message sent, and the timestamp.

Clear Outbox
Click the Clear button to delete all the outbox entries.

Msg ID
The message ID (Msg ID) is non-zero if the message has been sent using SEND API.

Handled By
This will display the way the message was handled when sent.

User
This column will display the user name of the account that sent the message.

To
This column will show the number(s) or group(s) that this message was sent to.

SMS
This will display the text sent in the message.

Date
This will show the day the message was sent.

Time
This will display at what time the message was sent.

Note: In order for messages in the outbox to have a valid date/time stamp, be sure to set up one of the following options:
- SNTP Client must be enabled and the Ethernet connection must be live to the Internet.
- Enter the iSMS cellular phone number on the Network Setup > Cellular Modem screen.
Triggers

On the four Triggers screens, you can accomplish the following tasks:

- Establish a list of authentic users – those users who will be allowed to set the triggers (codes or words) that initiate broadcast messages from a user’s remote cell phone.
- Set up broadcast triggers (codes or words) that will send broadcast messages.
- Set up action triggers that will cause phone book edits.
- Compose and save pre-configured messages.

Important: If Unicode is used for the triggers, the trigger must be entered in the same format that is set for the trigger. You cannot mix hex to decimal to NCR hex formats – a trigger entered in hex must be triggered in hex, not in decimal or NCR hex. The same goes for each format type, the set trigger can only be triggered by using the exact same format.

Triggers > Authentic List

Use this screen to set up a list of authentic users. Authentic users will be allowed to set the trigger (codes or words) that initiates the broadcasting of selected messages.

Authentic List

Click the **Add** button to display the Address Book from which you can select those users who will be "authentic users" – users who can send triggers (codes or words) from their cell phones that will allow them to send a broadcast message.

Note: Without a populated Address Book, no users can be added to the Authentic List.

Triggers > Broadcast Triggers

Use this screen to set up trigger messages, broadcast messages, and authentication parameters.

Broadcast Triggers

Click the **Add** button to display the *Add a Broadcast Trigger* screen.
Add a Broadcast Trigger
Note that the fields marked with an asterisk are required. This is a setup screen; no messages are sent from this screen.

Trigger Message
Type in a code or word that you want to trigger a broadcast message.
- Some trigger words can be given to all users.
- Some trigger words can be created for authenticated users only.
- Some trigger words can be created for use by the administrator only.

Broadcast Message
Type in a message that will be broadcast when the trigger code or word is received, or click Pre-Configured Message if you want to use one of these messages as your broadcast message.

Encoding Type
Select the encoding type to be used from ASCII, Extended ASCII or Unicode. Default is ASCII.

To
Select the Groups who will receive this broadcast message. Click Groups to display your list of group choices. If you change your mind, you can highlight the name of a group and click Delete to remove a group from the list.

Authenticate
Check the Authenticate box if you want this trigger code or word and the broadcast message to be managed by the authentication function.

Authentic Users
Select the Authentic Users who are allowed to trigger and initiate a broadcast message on this screen.

Priority
Select a priority level from Low, Normal or High. Default is Normal.

Save or Cancel
Click the Save button, or if you change your mind and do not want the information saved, click Cancel.
Triggers > Action Triggers

Use this screen to set up trigger codes or words. Action Triggers are the codes or words sent from a remote cell phone and received by the MultiModem iSMS – the trigger will execute the action associated with it. This is a setup screen; no messages are sent from this screen.

The trigger codes or words along with the authentication function may be configured for each trigger action. If authentication is enabled, only the trigger code or word received from an authenticated user can trigger the action.

<table>
<thead>
<tr>
<th>Trigger Action</th>
<th>Trigger Message</th>
<th>Authenticate</th>
<th>View/Edit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add Number to Address Book</td>
<td>ADD</td>
<td>Disabled</td>
<td>Edit</td>
</tr>
<tr>
<td>Create new Group or Add Number to Group</td>
<td>ADDG</td>
<td>Disabled</td>
<td>Edit</td>
</tr>
<tr>
<td>Add New Preconfigured SMS</td>
<td>ADDSMS</td>
<td>Disabled</td>
<td>Edit</td>
</tr>
<tr>
<td>Delete Number from Address Book</td>
<td>DEL</td>
<td>Disabled</td>
<td>Edit</td>
</tr>
<tr>
<td>Delete a Group</td>
<td>DELG</td>
<td>Disabled</td>
<td>Edit</td>
</tr>
</tbody>
</table>

**Trigger Action** – The following actions are executed when an initiating trigger code or word is detected from an incoming SMS text message.

**Trigger Message (Codes or Words)** – The trigger codes or words shown on this screen are built in to the Web Interface. These built-in codes can be changed. See the table on the next page for an explanation of how the trigger codes and their associated trigger actions are created.

**Authenticate** – If the authenticate option is enabled, only the message received from the configured authenticated user can trigger the action. The authenticated users are set up on the **Triggers > Authentic List** screen.

**Enable Authentication**

To enable authentication click **Edit**. The **Authenticate** column then displays a check box, and the **View/Edit** column displays the words **Save** and **Cancel**.

Click the check box to enable Authentication for this action and then click **Save**. If you want to disable Authentication for this action, simply click **Cancel**.
## Table of Trigger Codes and Trigger Actions

<table>
<thead>
<tr>
<th>Trigger Code/Word</th>
<th>Objective</th>
<th>Configuring the Trigger Code and Its Associated Trigger Action</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADD</strong></td>
<td>To add an entry in the address book</td>
<td><strong>Configuration format:</strong>&lt;br&gt;&lt;act_tri_configured&gt;;name;number&lt;br&gt;&lt;br&gt;<strong>Example:</strong> ADD;joe smith;7635554174</td>
<td>Adds name with number to address book.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Configuration format:</strong>&lt;br&gt;&lt;act_tri_configured&gt;;name&lt;br&gt;&lt;br&gt;<strong>Example:</strong> ADD; joe smith</td>
<td>Adds name with sender’s number to address book.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Configuration format:</strong>&lt;br&gt;&lt;act_tri_configured&gt;&lt;br&gt;&lt;br&gt;<strong>Example:</strong> ADD</td>
<td>Adds name and number of sender to address book.</td>
</tr>
<tr>
<td><strong>ADDSMS</strong></td>
<td>To add a pre-configured SMS</td>
<td><strong>Configuration format:</strong>&lt;br&gt;&lt;act_tri_configured&gt;;SMS&lt;br&gt;&lt;br&gt;<strong>Example:</strong> ADDSMS;Building 201 is closed until further notice.</td>
<td>Adds SMS to preconfigured list.</td>
</tr>
<tr>
<td><strong>DEL</strong></td>
<td>To delete an entry from the address book</td>
<td><strong>Configuration format:</strong>&lt;br&gt;&lt;act_tri_configured&gt;;name;number&lt;br&gt;&lt;br&gt;<strong>Example:</strong> DEL;joe smith;7635554174</td>
<td>Deletes name with number from the address book.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Configuration format:</strong>&lt;br&gt;&lt;act_tri_configured&gt;;name&lt;br&gt;&lt;br&gt;<strong>Example:</strong> DEL;joe smith</td>
<td>Deletes all entries with this name from the address book.</td>
</tr>
<tr>
<td><strong>DELG</strong></td>
<td>To delete a group</td>
<td><strong>Configuration format:</strong>&lt;br&gt;&lt;act_tri_configured&gt;;grp_name&lt;br&gt;&lt;br&gt;<strong>Example:</strong> DELG;Building_201;joe smith</td>
<td>Deletes the group with the group name.</td>
</tr>
</tbody>
</table>

**Note:** The same action trigger message is used for creating a group name and adding an entry to a group. So, in the interface there will be one configuration for both.
Triggers > Pre-Configured SMS

Use this screen to compose and save pre-configured messages.

<table>
<thead>
<tr>
<th>Triggers &gt;&gt; Pre-Configured SMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Configured SMS</td>
</tr>
</tbody>
</table>

Pre-Configured SMS

Click the Add button to open the Add a Pre-Configured SMS screen.

Add a Pre-Configured SMS

Note that fields marked with an asterisk are required.

Pre-Configured SMS

Enter the text for your Pre-Configured SMS Message.

Encoding Type

Select the encoding type to be used from ASCII, Extended ASCII or Unicode. Default is ASCII.

Pre-Configured Group

Select the groups to receive this pre-configured message. Click Groups and select the desired groups. If you change your mind about a group, highlight the group and click Delete to remove it from the list.

Save or Cancel

Click the Save button, or if you change your mind and do not want the information saved, click Cancel.

Save & Restart

IMPORTANT Note About Save & Restart

When you have completed your MultiModem iSMS settings and you are not going to enter any more data, you must click the Save & Restart button located under the menu bar. The system will save the new settings to the Flash Memory and give you the option to restart your MultiModem iSMS. Saving to the Flash Memory saves the new settings in the flash prom and prevents the settings from getting lost at the next power up.

Note: The system will save the SMS settings every 8 hours automatically; however, it will not save the system setting during this automatic save. The automatic saving of the SMS settings is helpful for those times when the administrator does not have direct access to the Ethernet port.

Save

Click the Save button to save your system settings to the flash memory.

Restart is Optional

This is optional. You do not have to restart the MultiModem iSMS after saving to the flash memory.
Utilities

Utilities > Backup

The Backup function lets you save the MultiModem iSMS settings to a local hard disk or to be exported to a remote client. With a backup file, you can set a recently installed MultiModem iSMS to the identical configuration level as an existing MultiModem iSMS. This is useful in case there is a problem with your new settings. **Important Note:** A backup file should only be restored to MultiModem iSMSs that have the same firmware as the backup and are the same model.

![Backup Interface]

**Backup**

**Import Backup from Remote Client**
Use this section of the screen to import a saved configured. Click the **Browse** button to locate the file. Then click the **Import** button to restore the MultiModem iSMS configuration from this backup file. The configuration file is uploaded to the MultiModem iSMS and the saved configuration is restored.

**Export Backup**
Use this section of the screen to store the MultiModem iSMS configuration. Click the **Export** button to save the configuration file. This file will be a compressed .tar file.

Utilities > Firmware Upgrade

The firmware on the MultiModem iSMS can be upgraded to the latest version using this feature. All Multi-Tech firmware upgrades are posted on the Multi-Tech Web site from which they can be downloaded.

![Firmware Upgrade Interface]

**Firmware Upgrade**

**Select a File to Upgrade**
Click the browse button to locate the latest firmware version. Click the **Upgrade** button to start the download.

**Note:** The MultiModem iSMS will reboot automatically after the firmware upgrade.
Import & Export Address Book

Import & Export Address Book > Import

Use this screen to import an address book that you want to use to set up senders and receivers of messages, as well as authentic users. **Note:** CSV stands for *comma separated values*, a term that applies to the format of an address book.

**Import Address Book**

Select the CSV File

Browse for the address file you want to use, and then click the *Upload* button once it is found. A screen to select the columns that you want shown in your address book displays.

**Choose Your Address Book Column Headings**

<table>
<thead>
<tr>
<th>Address Book Field</th>
<th>Field in the CSV</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
<td>First Name</td>
</tr>
<tr>
<td>Last Name</td>
<td>Last Name</td>
</tr>
<tr>
<td>Phone Number</td>
<td>Phone</td>
</tr>
<tr>
<td>Description</td>
<td>Description</td>
</tr>
</tbody>
</table>

Fields marked with an asterisk (*) are mandatory fields.

**Address Book Field and Field in the CSV**

The options that default into *Field in the CSV* come from the address book file that you import; therefore, the number of drop boxes is determined by your address book file. You can have up to 10 columns in the .CSV file. From the drop down boxes, select the order in which the columns will be displayed in your address book. Then click the *Import* button.

In the example used below, the columns selected headings are First Name, Last Name, Phone, and Description in this order.
Example: Excerpt from a .CSV File

First Name,Last Name,phone,description
first1,last1,17633604174,Parent
first2,last2,17633604174,Parent
first3,last3,17633604174,Student
first4,last4,17633604174,Teacher
first5,last5,17633604174,Supplier
first6,last6,17633604174,Newspaper
first7,last7,17633604174,Photographer

Important Note: If you plan to use authentication on any entry in the address book, the phone numbers of these individuals should be preceded with the country code. For the U.S., enter "1". This allows authentication to work properly by allowing the MultiModem iSMS box to successfully match the cell phone number of a received trigger message with the phone number in the authentication list.

Example of an Imported Address Book

Exception: The first entry was entered remotely with a trigger message. Note that remotely sent numbers have a "+" in front of the number. This is how the MultiModem iSMS compares phone numbers of incoming messages to the authentication list.

Address Book

After the Address Book has been imported, you can Add a new entry, Edit an entry, Delete an entry, and Search for an entry.

Add
To add a new entry, click the Add button. The SMS Services > Add a Phone Number screen displays on which you can enter the new number.

Edit
To edit an entry, click the corresponding Edit button in line with the entry you want to edit. The screen turns to edit mode.

Delete
To delete an entry, place a check in the Delete box in line with the entry or entries you want to delete. Then click the Delete button. Note that you can select all entries to be deleted at one time instead of checking each entry; simply check Select All and then click Delete.

Search
To search for an entry, type in the beginning letters of a name. Then click the Search button. You can enter a new starting point at anytime, if your search does not yield the results you wanted.
Import & Export Address Book > Export

Use this screen to export an address book. You would use the export function to share the address list of this MultiModem iSMS by sending the list to a laptop, to a remote location, to another company, to your current e-mail program such as Outlook.

**Note:** Please ensure that the browser you are using to view the MultiModem iSMS has pop-ups enabled, or you will miss important information windows.

Export Address Book

Click the **Export** button to save the address book of this MultiModem iSMS to the workstation that is accessing the MultiModem iSMS. The address list is saved in the following format (a zipped-up file):

.tar.gz

The CSV file is saved with four columns labeled First Name, Last Name, Description, and Phone.

Save & Restart

**IMPORTANT Note About Save & Restart**

When you have completed your MultiModem iSMS settings and you are not going to enter any more data, you must click the **Save & Restart** button located under the menu bar. The system will save the new settings to the Flash Memory and give you the option to restart your MultiModem iSMS. Saving to the Flash Memory saves the new settings in the flash prom and prevents the settings from getting lost at the next power up.

**Note:** The system will save the SMS settings every 8 hours automatically; however, it will not save the system setting during this automatic save. The automatic saving of the SMS settings is helpful for those times when the administrator does not have direct access to the Ethernet port.

**Save**

Click the Save button to save your **system settings** to the flash memory.

**Restart is Optional**

This is optional. You do not have to restart the MultiModem iSMS after saving to the flash memory.
Statistics & Logs

Statistics & Logs > System Information

The System Information screen provides the following information:

**System Information**
- Product Model Number
- Firmware Version
- MAC Address
- Entries in the Address Book

**Live Details**
- Date and Time
- System Uptime
- Memory Utilization

<table>
<thead>
<tr>
<th>Statistics &amp; Logs &gt; System Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System Information</strong></td>
</tr>
<tr>
<td>Product Model Number</td>
</tr>
<tr>
<td>Firmware Version</td>
</tr>
<tr>
<td>MAC Address</td>
</tr>
<tr>
<td>Entries in the Address Book</td>
</tr>
<tr>
<td><strong>Live Details</strong></td>
</tr>
<tr>
<td>Date and Time</td>
</tr>
<tr>
<td>System Uptime</td>
</tr>
<tr>
<td>Memory Utilization</td>
</tr>
</tbody>
</table>
<pre><code>                    | MemFree: 208360 KB     |
</code></pre>
Statistics & Logs > SMS Statistics

The SMS Statistics screen provides the following information by individual modem:

**SMS Statistics (SF 400/800 can select modem number):**
- SIM Status
- Signal Strength
- Messages in Inbox
- Messages Sent

**Rate of Sent Messages:** This is the number of messages sent per minute. The average number of messages sent from the MultiModem iSMS is about 10 a minute. These rates are affected by the size of each message and the amount of network congestion.

**Rate of Received Messages:** This is the number of messages received per minute. The average number of messages received by the MultiModem iSMS is about 5 a minute. These rates are affected by the size of each message and the amount of network congestion.

**Trigger Statistics**
- Broadcast Triggers Configured
- Broadcast Triggers Received
- Action Triggers Received

**Job Statistics**
- Entries in Outbox
- Low Priority Jobs Queued
- Normal Priority Jobs Queued
- High Priority Jobs Queued
- Jobs Distributed
- Jobs Dispatched

<table>
<thead>
<tr>
<th>SMS Statistics</th>
<th>Modem1</th>
<th>Modem2</th>
<th>Modem3</th>
<th>Modem4</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIM Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signal Strength</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Messages in Inbox</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Messages Sent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of Sent Messages</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of Received Messages</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Triggers Statistics</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadcast Triggers Configured</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broadcast Triggers Received</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action Triggers Received</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job Statistics</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Entries in Outbox</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Priority Jobs Queued</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal Priority Jobs Queued</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Priority Jobs Queued</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jobs Distributed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jobs Dispatched</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Statistics & Logs > Load Balancing Statistics

When load balancing is set up with multiple units, this section will be populated with statistics corresponding to the workload shared.

<table>
<thead>
<tr>
<th>Slaves</th>
<th>Load</th>
<th>Jobs Distributed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slave1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Slave2</td>
<td>Disabled</td>
<td>0</td>
</tr>
<tr>
<td>Slave3</td>
<td>Disabled</td>
<td>0</td>
</tr>
<tr>
<td>Slave4</td>
<td>Disabled</td>
<td>0</td>
</tr>
</tbody>
</table>
Statistics & Logs > Log Traces

The Log Traces screen provides detailed information about SMS messages, API functions, and the SMS system per modem:

- **SMS Logs (Sent, Received, Failure, Live)**
- **Send API Logs (Status, Failure, HTTP API Live, TCP API Live)**
- **Receive API Logs (Live, Failure)**
- **Load Balance Logs**
- **System Logs**

The number of logged messages is dependent upon the amount of memory. Typically, the log can store information for about 500+ messages.

To View Logs

Click the **Show** button to view the desired Log for the modem number selected from the tabs above.
Chapter 5 – The Non-Administrative User Interface

Introduction
This chapter may be photocopied or printed separately and given to non-administrative users who have limited access to the MultiModem iSMS for sending SMS text messages and for monitoring SMS messages in the Inbox and Outbox.

Users send SMS text messages from a networked PC. They login using the name and password created by the administrator for each user and can send messages from the SMS Services > Send SMS screen.

This chapter covers the Web Interface available to non-administrative users

Note: Users are identified and setup by the Administrator on the SMS > Send SMS Users screen.

Web Interface Available to Non-Administrative Users
The only screens available to users are the following SMS Services screens:
- Send SMS
- Outbox

How Non-Administrative Users Login

Note: Be sure that the MultiModem iSMS is cabled and that the power is connected as shown in Chapter 2.

1. Open a Web browser on the PC.
2. Type the default gateway address line:
   http://192.168.2.1
3. The Login screen for the MultiModem iSMS displays.

   ![Login Screen]

   - Users must type their names the way the administrator entered them on the SMS Services > Send SMS Users screen.
   - Users must type the passwords created for them by the administrator on the SMS Services > Send SMS Users.
   - Click Login.
   - The SMS Services > Send SMS screen displays.
This is the screen from which general users will send SMS text messages (original text or pre-configured messages). The screen options here are the same options available to the administrator.

**SMS Services > Outbox**
This screen is also available to Users; it lists the SMS text messages sent. The list includes the receiver's number, the message sent, and a timestamp.

**Note**
Save & Restart are not available to users. However, the MultiModem iSMS automatically saves the SMS settings and configuration every 8 hours.
Chapter 6 – SMS Examples

Ensure the SIM Card Is Installed Correctly & Activated

This example will verify that the SIM is installed correctly and that it is activated.

1. Power up the MultiModem iSMS. Wait until the Status LED and the LS LED are blinking before continuing. Make sure all setup procedures and connections have been made. See Chapter 2.

2. Open the Web browser, enter the IP address, and login to the MultiModem iSMS. See Chapter 3.

3. Go to the Network Setup > Cellular Modem screen.

   - Enter the phone number of your SIM card. Example: 6126361654.
   - Click the Save button.
   - Click Save & Restart under the Menu Bar. Select Save. Note: You do not have to restart the MultiModem iSMS.

4. Send a text message to yourself. Do this on the SMS Services > Send SMS screen.

   - To Enter Phone Numbers – Enter the SIM phone and click Add. The phone number displays in the box to the right.
   - SMS Text – Enter an SMS Text message. The format add;SF 100 is a trigger message word that tells the MultiModem iSMS to add the phone number and name to the address book. Notice the use of the semicolon in this message.
   - Click Send. The following message displays: Your request is being processed.
   - Click OK.
5. Check the **Outbox** and you will see that the message was sent.

<table>
<thead>
<tr>
<th>To</th>
<th>SMS</th>
<th>Date/Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>+126351654</td>
<td>add;SF100</td>
<td>Tue Jan 1 00:02:14 2008</td>
</tr>
</tbody>
</table>

6. Check the **Inbox** and you will see that the message was received. This verifies that the cellular modem is functioning.

<table>
<thead>
<tr>
<th>From</th>
<th>SMS</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>+16126261654</td>
<td>add;SF100</td>
<td>02/01/21</td>
<td>10:26:45:24</td>
</tr>
</tbody>
</table>

**Note:** Sometimes you may have to refresh this screen and wait several minutes for the cellular provider to deliver the message.

7. Go to the **SMS Services > Address Book**. You will see the trigger SMS text message was processed and the name and phone number were added to the address book.

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone Number</th>
<th>Description</th>
<th>Edit</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF100</td>
<td>+16126261654</td>
<td>Value</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Note:** The phone number is entered with a "+1" in front of it. This indicates the address phone number was entered into the address book using a trigger message.
Creating a Broadcast Message for Future Use

In this example a school wants to be prepared to send a message that school is closed for the day. The Administrator creates a Trigger Message word Snow and the following Broadcast Message: School is closed today. This example assumes that a Group called Parents has been created and that SF 100 stands for the Administrator’s cell phone number.

1. Go to the Triggers > Add a Broadcast Trigger screen.

   - Enter Snow in the Trigger Message word box. Trigger message words or codes are not case-sensitive.
   - Enter the Broadcast Message. In this case the message is School is closed today.
   - Select the Group that will receive this message. In this case the group is Parents.
   - Check the Authenticate box to indicate that this message can be sent by an authenticated user only.
   - The Authentic User selected to trigger this message is SF 100, the Administrator’s cell phone. Note: All phone numbers for Authenticated Users must be preceded by the country code (“1” for U.S.) in the address book so the MultiModem iSMS can match the phone number of the received SMS trigger message with the phone number in the Authenticated User list.
   - Select a Priority level (in this case, High was selected).
   - Click Save. The following screen displays the Broadcast Message saved for future use.

2. To trigger the broadcasting of this message to the Parent group, the administrator sends the SMS text message word Snow from his cell phone to the MultiModem iSMS. When the MultiModem iSMS receives this message, it compares the Administrator’s cell phone number with the Authentication List and if they match, it broadcasts the message to everyone in the Parent group.
Chapter 7 – Troubleshooting

This chapter provides a list of common problems encountered while installing, configuring, or administering the MultiModem iSMS.

**MultiModem iSMS Troubleshooting**

**Other computers can connect to the network device, but my computer can’t.**
- Whenever I click on Internet Explorer or Netscape, I see the Windows Dial-up utility popping up on my screen asking my phone number and password to dial-up my ISP. To correct this, remove the TCP/IP dial-up adapter from all computers that will be using your MultiModem iSMS. TCP/IP dial-up adapter is not needed to access the MultiModem iSMS.
  1. To remove the Dial-up Adapter, click **Start | Settings | Control Panel**.
  2. Double-click the **Network** icon.
  3. Click the **Dial-up Adapter** and click **Remove**. Restart the computer and try again.
- Ensure your PC has a correct IP address. From a DOS window in Windows 95/98, type **WINPCFG** or from newer Windows operating systems, type **IPCONFIG**. If the address field is listed as 0.0.0.0, the computer does not have an IP address. Enter a statically assigned IP address.
- Ensure that the Web browser is properly configured to connect to the MultiModem iSMS via the LAN.

**The MultiModem iSMS is connected, but my workstation has problems accessing the MultiModem iSMS.**
- Ensure the workstation has TCP/IP properly configured.
- Attempt to ping the IP address of the MultiModem iSMS.
- Use WINPCFG (Windows 95/98) or IPCONFIG (Windows NT/ 2000) to check to see if the computer’s IP settings are correct.
- Ensure the DNS settings are correct.
- Ensure the Gateway IP address is the device’s LAN Ethernet IP address (Server IP address).
- Ensure the IP address netmask is correct.

**It appears that the MultiModem iSMS cannot communicate with the cellular modem.**
- Check your initialization string.
- The Status LED and LS LED should be blinking.
- Review the wireless modem account activation instructions to make sure they were properly executed.

**Authenticated triggers are not being executed.**
- Is the SMS trigger text message sent to the MultiModem iSMS worded as configured?
- The phone number of the device sending the SMS trigger message (word or code) must be included in the list of authenticated users and the phone number must be preceded with the country code. For the U.S., enter "1". This allows authentication to work properly by allowing the MultiModem iSMS box to successfully match the cell phone number of a received trigger message with the phone number in the authentication list.
The *Please set the Device IP* screen displays while configuring the MultiModem iSMS.

- Windows detects that the MultiModem iSMS LAN Ethernet IP address is not in the same subnet as the PC’s. Ensure your PC has a correct IP address. From a DOS window in Windows 95/98, type `WINIPCFG` or from other Windows operating systems, type `IPCONFIG`. If the address field is listed as 0.0.0.0, the computer does not have an IP address. Enter a statically assigned IP address.

A message appears indicating the input IP address is either not valid on your network or is in conflict with another IP address.

- The system has detected the IP address of the MultiModem iSMS you are configuring is in conflict with another device. Power off the conflicting device and configure the MultiModem iSMS with a different Ethernet LAN IP address.

A line appears in the Inbox that says `TIMESETTINGS_LOOP_BACK_MSG`. What does this mean?

- This is simply a time setting verification. You can ignore this line.

E-mail alerts sent to the Administrator are not being received.

- Is the SMTP Server configured properly for e-mail notification? See the Administration > System Setup screen.
- The MultiModem iSMS Ethernet port must be connected to a live network. SMTP e-mail alerts are sent through the Ethernet connection.

The SNTP Time/Date stamp are not correct in the outbox.

- Is the SNTP Client configured properly? See the Administration > SNTP screen.
- The SNTP Time/Date function works through the MultiModem iSMS Ethernet connection. The Ethernet port needs to be connected to a live network.
Appendix A – Application Programming Interface (API)

Introduction

Purpose
To provide descriptions and examples for customers who require an Application Programming Interface (API) to integrate the MultiModem iSMS Send and Receive SMS capability into their own custom application.

This document defines the API interface provided for sending SMS via the MultiModem iSMS and for receiving SMS via the MultiModem iSMS.

Scope
APIs are defined to send and receive SMS using HTTP or TCP protocols. The packet formats and handshakes are provided in the next section “Send SMS API”.

Acronyms and Definitions

<table>
<thead>
<tr>
<th>Acronyms</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>API</td>
<td>Application Program Interface</td>
</tr>
<tr>
<td>HTTP</td>
<td>Hypertext Transfer Protocol</td>
</tr>
<tr>
<td>SMS</td>
<td>Short Message Service</td>
</tr>
<tr>
<td>TCP</td>
<td>Transport Control Protocol</td>
</tr>
</tbody>
</table>
Send SMS API

HTTP Send API

Configuration of the "HTTP Send API" Using the MultiModem iSMS Web Admin Interface

HTTP Send API Status:
Enable “HTTP Send API Status” to send SMS / query status using HTTP API.
By default, HTTP Send API is disabled.

HTTP Port:
Configure the port to service the HTTP Send API.
Default is 81
HTTP Send API Format

Each "HTTP Send API Request" consists of four parts:

- The first part is the destination; i.e., the MultiModem iSMS IP and HTTP port number.
- The second part is the API call which is the query; therefore, it has a '?' post-fixed to the call.
- The third part is for authentication, which is in the form of a username and password.
- The fourth part is the message parameters.

<table>
<thead>
<tr>
<th>SMSFinder IP Parameters</th>
<th>Call</th>
<th>Authentication</th>
<th>SMS</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://192.168.2.1%5B:portnumber%5D/sendmsg?user=user1&amp;passwd=puser1&amp;cat=1&amp;to=%227634567765%22&amp;text=message">http://192.168.2.1[:portnumber]/sendmsg?user=user1&amp;passwd=puser1&amp;cat=1&amp;to=&quot;7634567765&quot;&amp;text=message</a></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where: portnumber is optional.
- modem is optional
- user1, puser1, 7634567765 and message are variables/configured parameters.

Note: The MultiModem iSMS can be accessed ONLY from the preconfigured allowed networks.

Example: To access the MultiModem iSMS 204.26.122.125 from 125.63.78.44, you MUST add the network 125.63.78.0 to the following MultiModem iSMS screen: Admin Access >> Allowed Networks

When HTTP Send API is enabled, it is also possible to send SMS from a non-browser with a TCP connection to the configured HTTP Port by following the steps below:

- Initiate a raw TCP connection to the MultiModem iSMS IP address over the "HTTP Send API" port
  Example: telnet 192.168.2.1 81
- Issue GET command to send SMS.
- Issue GET command to query the status of send SMS.

Send API Format

GET
/sendmsg?user=admin&passwd=admin&cat=1[&enc=0][&priority=1][&modem=2]&to=5645676543&ton=Graham&group=Engineering&text=This%20is%20a%20test%20message.^M^J

Or

GET
/sendmsg?user=admin&passwd=admin&cat=1[&enc=1][&priority=2][&modem=0]&to=%225678976543%22&ton=%22Bob%22&group=%22Engineering%22&text=This%20is %20a%20test%20message.^M^J

Query API Format

GET /querymsg?user=admin&passwd=admin&apimsgid=message id.^M^J

Note: All special characters must be given in URL encoded format with hex value; e.g., space should be given as %20; double quotes should be given as %22.

Example: If a name is Graham Bell, it should be given as Graham%20Bell
Appendix A – Application Programming Interface (API)

Authentication

The system needs to authenticate any API request. We achieve this by having the authentication credentials as part of the "Send SMS URL" or “Send SMS TCP” command.

- **user** - The username of the account, which has a maximum of 50 bytes.
- **passwd** - The password of the account, which has a maximum of 50 bytes.

This user should be **Admin** or the configured **Send Users**.

Every "Send SMS URL" should have the username and password, and every request is authenticated by the MultiModem iSMS.

Sending to a Number

HTTP API format is:

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=puser1&cat=1[&enc=0][&priority=1][&modem=1]&to="7657867765"&text=message
```

The parameters are:

- **cat** Category
  1 - Send SMS
  2 - Broadcast Trigger
  3 - Action Trigger

- **enc** Encoding type to send SMS(Optional field)

  **Range:** 0 to 3
  0 - SMS text should be in ASCII form
  1 - SMS text should be in Extended ASCII form
  2 - SMS text should be in hexadecimal form (i.e. each hexadecimal value length should be maximum 4 and each hexadecimal value should be separated by a semi-colon. *Example:* 0645;41;646)
  3 - SMS text should be in decimal form (i.e. each decimal Value length should be maximum 5 and each decimal value should be separated by a semi-colon. *Example:* 1605;65;65300) *Note:* Maximum decimal value allowed is 65535

  If **enc** is not specified in the send API request, default enc will be the configured settings in SMS settings page.

  *i.e. enc=2,* if *Unicode* is enabled.

  **enc=1,** if *Extended ASCII* is enabled.

  **enc=0,** if both *Extended ASCII* and *Unicode* are disabled.

- **priority** Priority to send SMS (Optional field)

  **Range:** 1 to 3
  1 - Low Priority
  2 - Normal Priority
  3 - High Priority

  If priority is not specified in the request, default priority is *normal.*
• **modem** Modem index to send SMS (this is only for the SF 400/800 models)
  - **Range:** 1 to 4 for SF 400
    - 1 to 8 for SF 800
  - 0 for any modem (Send API job will be distributed via all the available modems)

  If modem is not specified in the request, send API job will be distributed via all the available modems.

• **to** The mobile number where the SMS is to be delivered.
  This number has to be given within double quotes. The maximum size of each recipient’s number is 50 bytes.

• **text** The message text to be sent.

  Enable Extended ASCII in the MultiModem iSMS to send both ASCII and extended ASCII characters. By default, Extended ASCII is disabled and the message could have only ASCII characters.

**Notes:** If Extended ASCII and Unicode are disabled and spanned SMS value is 1, a maximum of 160 characters can be sent.

If Extended ASCII is enabled and spanned SMS value is 1, a maximum of 140 characters can be sent.

If Unicode is enabled and spanned SMS value is 1, a maximum of 70 characters can be sent.

If the spanned SMS value is more than 1, the maximum number of characters allowed for each encoding scheme is defined as follows (where $n$ represents the span value):

  - ASCII – $n \times 154$ characters
  - Extended ASCII – $n \times 134$ characters
  - Unicode – $n \times 64$ characters

  Any characters entered beyond the allowed limit will be chopped off.

In the HTTP API format example above: *user1, puser1, 7657867765* and *message* are variables / configured parameters.
Sending to an Address Book Name

The API can be used to send the message to a name in the MultiModem iSMS address book. If the name does not exist in the address book, the message is dropped.

HTTP API format is:
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1
[&enc=0][priority=3][&modem=2]&ton="bob"&text=message

-or-
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1
[&enc=2][priority=3][&modem=2]&ton="bob"&text=41;42;645;0645(hexadecimal form)

-or-
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1
[&enc=3][priority=3][&modem=2]&ton="bob"&text=65;66;67(decimal form)

The parameters are:

- **cat** 1
- **enc** Encoding type to send SMS(Optional field)
  
  Range: 0 to 3
  
  - 0 - SMS text should be in ASCII form
  - 1 - SMS text should be in Extended ASCII form
  - 2 - SMS text should be in hexadecimal form (i.e. each hexadecimal value length should be maximum 4, and each hexadecimal value should be separated by a semi-colon. Example: 0645;41;646)
  - 3 - SMS text should be entered in decimal form (i.e. each decimal Value length should be maximum 5, and each decimal value should be separated by a semi-colon. Example: 1605;65;65300)

  **Note:** Maximum decimal value allowed is 65535.

  If enc is not specified in the send API request, default enc will be the configured settings in SMS settings page.

  *i.e.* enc=2, if Unicode is enabled.

  enc=1, if Extended ASCII is enabled.

  enc=0, if both Extended ASCII and Unicode are disabled.

- **Priority** Priority to send SMS(Optional field)
  
  Range: 1 to 3
  
  - 1 - Low Priority
  - 2 - Normal Priority
  - 3 - High Priority

  If priority is not specified in the request, the default priority is normal.
• **modem**  Modem index to send SMS (this is only for the SF 400/800 models)
  
  **Range:**
  
  1 to 4 for SF 400
  
  1 to 8 for SF 800
  
  0 for any modem (Send API job will be distributed via all the available modems)

  If modem is not specified in the request, send API job will be distributed via all the available modems

• **ton**  The name in the address book where the SMS is to be delivered must be given within double quotes. The maximum size of each recipient's name is 50 bytes.

• **text**  The message text to be sent.

  Enable Extended ASCII in the MultiModem iSMS to send both ASCII and extended ASCII characters. By default, Extended ASCII is disabled and the message can have only ASCII characters.

  If Unicode is enabled (if enc is not specified in request), SMS text should be only in Hexadecimal form.

  If Extended ASCII and Unicode are disabled and spanned SMS value is 1, a maximum of 160 characters can be sent.

  If Extended ASCII is enabled and spanned SMS value is 1, a maximum of 140 characters can be sent.

  If Unicode is enabled and spanned SMS value is 1, a maximum of 70 characters can be sent.

  If the spanned SMS value is more than 1, the maximum number of characters allowed for each encoding scheme is defined as follows (where $n$ represents the span value):

  - **ASCII** – $n \times 154$ characters
  - **Extended ASCII** – $n \times 134$ characters
  - **Unicode** – $n \times 64$ characters

  Any characters entered beyond the allowed limit will be chopped off.
Sending to a Group

The API can be used to send SMS to a pre-defined group. The group should exist in the MultiModem iSMS. If the group does not exist, the message is dropped.

HTTP API format is:

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1 [enc=1][priority=1][&modem=4]&group="admin"&text=message

-or-

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1 [enc=2][priority=1][&modem=4]&group="admin"&text=41;42;645;0645 (hexadecimal form)

-or-

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1 [enc=3][priority=1][&modem=4]&group="admin"&text=65;66;678 (decimal form)

The parameters are:

- **cat** 1
  - **enc** Encoding type to send SMS(Optional field)
    - **Range**: 0 to 3
      - 0 - SMS text should be in ASCII form
      - 1 - SMS text should be in Extended ASCII form
      - 2 - SMS text should be in hexadecimal form (i.e. each hexadecimal value length should be maximum 4, and each hexadecimal value should be separated by a semi-colon. Example: 0645;41;646)
      - 3 - SMS text should be in decimal form (i.e. each decimal Value length should be maximum 5, and each decimal value should be separated by a semi-colon. Example: 1605;65;65300)

    **Note**: Maximum decimal value allowed is 65535.
    - If `enc` is not specified in the send API request, default `enc` will be the configured settings from the SMS settings page.
      - *i.e. enc=2, if Unicode is enabled.*
      - `enc=1`, if *Extended ASCII* is enabled.
      - `enc=0`, if both *Extended ASCII* and *Unicode* are disabled.

- **priority** Priority to send SMS(Optional field)
  - **Range**: 1 to 3
    - 1 - Low Priority
    - 2 - Normal Priority
    - 3 - High Priority

    If priority is not specified in the request, the default priority is normal.
• **modem**  Modem index to send SMS (this is only for the SF 400/800 models)
  
  **Range**: 1 to 4 for SF 400  
  1 to 8 for SF 800  
  0 for any modem (Send API job will be distributed via all the available modems)

  If modem is not specified in the request, send API job will be distributed via all the available modems.

• **group**  The pre-defined group name(s) must be given within double quotes.  
  The maximum size of group name is 50 bytes.

• **text**  The message text to be sent.
  
  Enable *Extended ASCII* in the MultiModem iSMS to send both ASCII and extended ASCII characters. By default, *Extended ASCII* is disabled, and the message can have only ASCII characters.

  If *Unicode* is enabled (and if **enc** is not specified in request), SMS text should only be in Hexadecimal form.

  If *Extended ASCII* and Unicode are disabled and spanned SMS value is 1, a maximum of 160 characters can be sent.

  If *Extended ASCII* is enabled and spanned SMS value is 1, a maximum of 140 characters can be sent.

  If *Unicode* is enabled and spanned SMS value is 1, a maximum of 70 characters can be sent.

  If the spanned SMS value is more than 1, the maximum number of characters allowed for each encoding scheme is defined as follows (where **n** represents the span value):

  - ASCII – \( n \times 154 \) characters
  - Extended ASCII – \( n \times 134 \) characters
  - Unicode – \( n \times 64 \) characters

  Any characters entered beyond the allowed limit will be chopped off.
Sending a Broadcast Trigger Message

We can use the API to send a broadcast trigger message to the MultiModem iSMS. HTTP API format is:

http://192.168.2.1[:portnumber]/sendmsg?user=user2&passwd=user2&cat=2
-&or-

http://192.168.2.1[:portnumber]/sendmsg?user=user2&passwd=user2&cat=2
[&enc=0][&modem=5]&text=message

-or-

http://192.168.2.1[:portnumber]/sendmsg?user=user2&passwd=user2&cat=2
[&enc=2][&modem=5]&text=message should be hexadecimal form

-or-

http://192.168.2.1[:portnumber]/sendmsg?user=user2&passwd=user2&cat=2
[&enc=3][&modem=5]&text=message should be decimal form

The parameters are:

- **cat** 2
- **enc** Encoding type to send SMS(Optional field)
  - **Range:** 0 to 3
    - 0 - SMS text should be in ASCII form
    - 1 - SMS text should be in Extended ASCII form
    - 2 - SMS text should be in hexadecimal form (*i.e.* each hexadecimal value length should be maximum 4, and each hexadecimal value should be separated by a semi-colon. Example: 0645;41;646)
    - 3 - SMS text should be in decimal form (*i.e.* each decimal Value length should be maximum 5, and each decimal value should be separated by a semi-colon. Example: 1605;65;65300)

  **Note:** Maximum decimal value allowed is 65535.

  If **enc** is not specified in the send API request, default **enc** will be configured to the settings of the SMS settings page.

  *i.e.* **enc**=2, if *Unicode* is enabled.

  **enc**=1, if *Extended ASCII* is enabled.

  **enc**=0, if both *Extended ASCII* and *Unicode* are disabled.

- **modem** Modem index to send broadcast message
  - **Range:** 1 to 4 for SF400
    - 1 to 8 for SF800
    - 0 for any modem (Broadcast API job will be distributed via all the available modems)

  If modem is not specified in the request, broadcast API job will be distributed via all the available modems

  If modem is specified, broadcast job will be sent via the specified modem.
• **text** The trigger message text to be sent.

Enable *Extended ASCII* in the MultiModem iSMS to send both ASCII and extended ASCII characters.

By default, *Extended ASCII* is disabled, and the message can have only ASCII characters.

If *Unicode* is enabled (and if `enc` is not specified in request), SMS text should be only in Hexadecimal form.

If *Extended ASCII* is disabled, a maximum of 160 characters can be sent.
If *Extended ASCII* is enabled, a maximum of 140 characters can be sent.
If *Unicode* is enabled, a maximum of 70 characters can be sent.

Irrespective of the spanned SMS value set, the maximum number of characters allowed in the text field is:

- 160 for ASCII
- 140 for Extended ASCII
- 70 for Unicode

Any characters entered beyond the allowed limit will be chopped off.

The API can be used to send a trigger message to the MultiModem iSMS. If the MultiModem iSMS has a configured broadcast trigger, it will send the broadcast trigger message to the configured recipients.
Sending an Action Trigger Message

We could use this API to perform a predefined action.

HTTP API format is:

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3
[&enc=0]&text=message

-or-

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3
[&enc=2]&text=message should be hexadecimal form

Example: Configured action trigger for adding preconfigured SMS as 41;42;43 (with enc=2).

Preconfigured SMS to add is 645;646;647;648 (in hexadecimal form).

In an API request, the text field should be in the format:

*Configured action trigger;Preconfigured SMS*

text=41;42;43;;645;646;647;648 (not correct)
text=41;42;43;3a;645;646;647;648 (correct format)

Here 3a is equivalent hexadecimal value for a semi-colon. We should use equivalent hexadecimal value for either semi-colon or colon.

-or-

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=3]&text=message should be decimal form.

Example: Configured action trigger for adding preconfigured SMS as 41;42;43(with enc=3).

Preconfigured SMS to add is 645;646;647;648 (in decimal form).

In an API request, the text field should be in the format:

*Configured action trigger;Preconfigured SMS*

text=41;42;43;;645;646;647;648 (not correct)
text=41;42;43;58;645;646;647;648 (correct format)

Here 58 is decimal equivalent value for a semi-colon. We should use equivalent decimal value for either semi-colon or colon.

Irrespective of the spanned SMS value set, the maximum number of characters allowed in the text field is:

- 160 for ASCII
- 140 for Extended ASCII
- 70 for Unicode

Any characters entered beyond the allowed limit will be chopped off.
Examples for action trigger with \texttt{enc=2}:

**To Add an entry in the Address book:**

Configured trigger: 41;42;43 (with \texttt{enc=2})

Name: 61;62;63;64 (abcd)

Phone number: 39;38;38;36;30;39;38;36;30 (9886098860)

\texttt{http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=41;42;43;3a;61;62;63;64;3a;39;38;38;36;30;39;38;36;30}

Here \texttt{3a} is the equivalent hexadecimal for semi-colon. Instead of \texttt{3a}, we can use \texttt{3b} (equivalent hexadecimal value for colon) also.

**To Add a group name:**

Configured trigger: 44;45;46 (with \texttt{enc=2})

Group name: 65;66;67;68 (efgh)

\texttt{http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=44;45;46;3b;65;66;67;68}

**To Add a group name with a member and phone number:**

Configured trigger: 44;45;46 (with \texttt{enc=2})

Group name: 65;66;67;68 (efgh)

Name: 61;62;63;64 (abcd)

Phone number: 39;38;38;36;30;39;38;36;30 (9886098860)

\texttt{http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=44;45;46;3b;65;66;67;68;3b;61;62;63;64;3b;39;38;36;30;39;38;38;36;30}

**To Add a group name with a member (should exist in Address book):**

Configured trigger: 44;45;46 (with \texttt{enc=2})

Group name: 65;66;67;68 (efgh)

Name: 61;62;63;64 (abcd)

\texttt{http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=44;45;46;3b;65;66;67;68;3b;61;62;63;64}
To delete an entry in the Address Book:

Configured trigger: 47;48;49 (with enc=2)
Name: 61;62;63;64 (abcd)
Phone number: 39;38;36;30;39;38;36;30;9886098860

With Name and Number:

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=47;48;49;3a;61;62;63;64;3a;39;38;36;30;39;38;36;30

With Name only:

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=47;48;49;3a;61;62;63;64

With Number only:

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=47;48;49;3a;3a;39;38;36;30;39;38;36;30

To Delete a Group:

Configured trigger: 4a;4b;4c (with enc=2)
Group name: 65;66;67;68 (efgh)

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=4a;4b;4c;3a;65;66;67;68

The parameters are:

- **cat** 3
- **enc** Encoding type to send SMS (Optional field)

**Range:** 0 to 3

0 - SMS text should be in ASCII form
1 - SMS text should be in Extended ASCII form
2 - SMS text should be in hexadecimal form (i.e. each hexadecimal value length should be maximum 4, and each hexadecimal value should be separated by a semi-colon. Example: 0645;41;646)
3 - SMS text should be in decimal form (i.e. each decimal Value length should be maximum 5, and each decimal value should be separated by a semi-colon. Example: 1605;65;65300). **Note:** Maximum decimal value allowed is 65535.

If **enc** is not specified in the send API request, default **enc** will be the configured settings in SMS settings page.

i.e. **enc=2**, if Unicode is enabled.
**enc=1**, if Extended ASCII is enabled.
**enc=0**, if both Extended ASCII and Unicode are disabled.
• **Modem** Modem index to send SMS
  
  **Range**: 1 to 4 for SF400  
  1 to 8 for SF800  
  0 for any modem  

  Specifying modem for a **cat=3** job is not applicable. Action trigger is executed even if modem is specified.

• **text** The trigger message text to be sent.

  Enable **Extended ASCII** in the MultiModem iSMS to send both ASCII and extended ASCII chars.

  By default, **Extended ASCII** is disabled, and the message can have only ASCII characters.

  If Unicode is enabled (if **enc** is not specified in request), SMS text should be only in Hexadecimal form.

  If **Extended ASCII** is disabled, a maximum of 160 characters can be sent.

  If **Extended ASCII** is enabled, a maximum of 140 characters can be sent.

  If Unicode is enabled, a maximum of 70 characters can be sent.

  The API can be used to send an action trigger to the MultiModem iSMS. If the MultiModem iSMS has a configured action trigger, it will perform the configured action.

### Sending to Multiple Numbers, Address Book Recipients or Groups

An SMS can be sent to multiple numbers, address book names and groups using a single API.

HTTP API format is:

```plaintext
http://192.168.2.1[:portnumber]/sendmsg?user=xxx&passwd=xxx&cat=1[&enc=0][&priority=1][&modem=8]&to="xxx1","xxx2","xxx3"&ton="name1","name2"&group="admin","rd","market"&text=message
```

* xxx1, xxx2 and xxx3 are mobile numbers.
* name1 and name2 are names in the Address Book.

**admin**, **rd** and **market** are groups present in the MultiModem iSMS.

**Note**: The **to**, **ton** and **group** parameters should be enclosed in quotes.

### Response from the MultiModem iSMS after Submitting the Send SMS API

The MultiModem iSMS returns a unique identifier; *i.e.* an API message ID for each "Send API request".

This ID can be used to track and monitor any given message.

- **ID**: apimsgid
- **-or-**
  - **Err**: error code  
  - e.g.,  
  - **ID**: 1  
  - **Err**: 601
HTTP Query API Format

Processing the "Send API" and sending the message takes some time. So, only an \texttt{apimsgid} is returned as a response to the "Send SMS API". Query API can be used to query the status of a Send. It returns the status of a message submitted earlier.

HTTP API format is:
\texttt{http://192.168.2.1[:portnumber]/querymsg?user=xxx&passwd=xxx&apimsgid=id}

Response values:
\begin{itemize}
\item ID: \texttt{apimsgid} Status: status code
\item OR
\item ID: \texttt{apimsgid} Err: error code
\item OR
\item Err: error code
e.g.,
\begin{itemize}
\item ID: 1 Status: Done
\item ID: 1 Err: 604
\item Err: 602
\end{itemize}
\end{itemize}

Note: The maximum supported size of the URL is 2048 bytes.

Status Codes

<table>
<thead>
<tr>
<th>Status Code</th>
<th>Status Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Done</td>
<td>The MultiModem iSMS has completed servicing the &quot;Send&quot; job, and a message is sent to all the recipients.</td>
</tr>
<tr>
<td>1</td>
<td>Done with error</td>
<td>The MultiModem iSMS has completed servicing the &quot;Send&quot; job, but the message is not sent to all the recipients</td>
</tr>
<tr>
<td>2</td>
<td>In progress</td>
<td>The MultiModem iSMS is processing the &quot;Send&quot; API.</td>
</tr>
<tr>
<td>3</td>
<td>Request Received</td>
<td>The MultiModem iSMS has received the &quot;Send&quot; request.</td>
</tr>
<tr>
<td>4</td>
<td>Error</td>
<td>Error occurred while sending the SMS from the MultiModem iSMS.</td>
</tr>
<tr>
<td>5</td>
<td>Message ID Not Found</td>
<td>An API Message ID does not exist.</td>
</tr>
<tr>
<td>6</td>
<td>Distributed to Slave1 [10.10.10.101]</td>
<td>The Master MultiModem iSMS has distributed the Job to a given slave.</td>
</tr>
<tr>
<td>7</td>
<td>Distribution resulted in error</td>
<td>Master tried to send the job to the slaves and could not send the job to any of the slaves as the slaves are not available (loaded full or network unreachable)</td>
</tr>
<tr>
<td>8</td>
<td>Distributed among many Slaves</td>
<td>The Master MultiModem iSMS has distributed the Job Request among many Slaves.</td>
</tr>
<tr>
<td>9</td>
<td>API is canceled</td>
<td>Reflects that API job is dropped if the Send API job is canceled from the WEB GUI</td>
</tr>
</tbody>
</table>
### Error Codes

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Error Description</th>
<th>Response to</th>
</tr>
</thead>
<tbody>
<tr>
<td>601</td>
<td>Authentication Failed</td>
<td>Send API, Query API</td>
</tr>
<tr>
<td>602</td>
<td>Parse Error</td>
<td>Send API, Query API</td>
</tr>
<tr>
<td>603</td>
<td>Invalid Category</td>
<td>Send API</td>
</tr>
<tr>
<td>604</td>
<td>SMS message size is greater than 160 chars</td>
<td>Send API</td>
</tr>
<tr>
<td>605</td>
<td>Recipient Overflow</td>
<td>Send API</td>
</tr>
<tr>
<td>606</td>
<td>Invalid Recipient</td>
<td>Query API</td>
</tr>
<tr>
<td>607</td>
<td>No Recipient</td>
<td>Send API</td>
</tr>
<tr>
<td>608</td>
<td>MultiModem iSMS is busy, can’t accept this request</td>
<td>Send API, Query API</td>
</tr>
<tr>
<td>609</td>
<td>Timeout waiting for a TCP API request</td>
<td>Send API</td>
</tr>
<tr>
<td>610</td>
<td>Unknown Action Trigger</td>
<td>Send API</td>
</tr>
<tr>
<td>611</td>
<td>Error in broadcast trigger</td>
<td>Send API</td>
</tr>
<tr>
<td>612</td>
<td>System Error – Memory Allocation Failure</td>
<td>Send API, Query API</td>
</tr>
<tr>
<td>613</td>
<td>Invalid Modem Index In SF 400, if modem index given is not within 0 to 4</td>
<td>Send API</td>
</tr>
<tr>
<td></td>
<td>In SF 800, if modem index given is not within 0 to 8</td>
<td></td>
</tr>
<tr>
<td>614</td>
<td>Invalid device model number (model number is not detected properly to validate</td>
<td>Send API</td>
</tr>
<tr>
<td></td>
<td>the modem index)</td>
<td></td>
</tr>
<tr>
<td>615</td>
<td>Invalid Encoding type</td>
<td>Send API</td>
</tr>
<tr>
<td>616</td>
<td>Invalid Time/Date Input</td>
<td>Receive API</td>
</tr>
<tr>
<td>617</td>
<td>Invalid Count Input</td>
<td>Receive API</td>
</tr>
<tr>
<td>618</td>
<td>Service Not Available (Non-Polling Receive API is enabled so Polling Receive API</td>
<td>Receive API</td>
</tr>
<tr>
<td></td>
<td>service is not available)</td>
<td></td>
</tr>
<tr>
<td>619</td>
<td>Invalid Addressee</td>
<td>Receive API</td>
</tr>
<tr>
<td>620</td>
<td>Invalid Priority value</td>
<td>Send API</td>
</tr>
<tr>
<td>621</td>
<td>Invalid SMS text This error code is given if the following is not true:</td>
<td>Send API</td>
</tr>
<tr>
<td></td>
<td>If $\text{enc} = 2$, SMS text should be in hexadecimal form (each hexadecimal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>value length is a maximum of 4 digits and semi-colon is used as a delimiter</td>
<td></td>
</tr>
<tr>
<td></td>
<td>between two hexadecimal values).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If $\text{enc} = 3$, SMS text should be in decimal form (each decimal value</td>
<td></td>
</tr>
<tr>
<td></td>
<td>length is maximum 5 digits and semi-colon is used as delimiter between two</td>
<td></td>
</tr>
<tr>
<td></td>
<td>decimal values).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Note: Decimal values allowed up to 65535 only.</td>
<td></td>
</tr>
</tbody>
</table>
TCP Send API

Configuration of the "TCP Send API" Using the MultiModem iSMS Web Admin Interface

TCP Send API Status:
Enable "TCP Send API Status" to send SMS / query status using TCP API. By default, TCP Send API is disabled.

TCP Port:
Configure the port to service the TCP Send API. Default is 2040.

Note: MultiModem iSMS can be accessed ONLY from the preconfigured allowed networks.

Example: To access the MultiModem iSMS 204.26.122.125 from 125.63.78.44, you must add the network 125.63.78.0 to the following MultiModem iSMS screen: Admin Access >> Allowed Networks

- Initiate a raw TCP connection to the MultiModem iSMS IP address over the "TCP Send API" port.
- Issue send command to send SMS.
- Issue query command to query the status of send SMS.
TCP Send API Format
sendMessage?user=admin&passwd=admin&cat=1&enc=0&priority=1&modem=1&to="+919844895691"&ton="Bob"&group="eng"&text=Here is the test message

Notes:
“enc” and “priority” parameters are optional.
enc Encoding type to send SMS(Optional field)
  Range: 0 to 3
  0 - SMS text should be in ASCII form
  1 - SMS text should be in Extended ASCII form
  2 - SMS text should be in hexadecimal form (i.e. each hexadecimal value length should be maximum 4, and each hexadecimal value should be separated by a semi-colon. Example: 0645;41;646)
  3 - SMS text should be in decimal form (i.e. each decimal Value length should be maximum 5, and each decimal value should be separated by a semi-colon. Example: 1605;65;65300).
  Note: Maximum decimal value allowed is 65535.
If enc is not specified in the send API request, default enc will be the configured settings in SMS settings page.
i.e. enc=2, if Unicode is enabled.
  enc=1, if Extended ASCII is enabled.
  enc=0, if both Extended ASCII and Unicode are disabled.
priority Priority to send SMS(Optional field)
  Range: 1 to 3
  1 - Low Priority
  2 - Normal Priority
  3 - High Priority
If priority is not specified in the request, default priority is set to normal.

“modem” parameter is optional.
modem Modem index to send SMS
  Range: 1 to 4 for SF400
  1 to 8 for SF800
  0 for any modem (Send API job will be distributed via all the available modems)
If modem is not specified in the request, send API job will be distributed via all the available modems

TCP Query API Format
/querymsg?user=admin&passwd=admin&apimsgid=id

Notes:
• The TCP buffer should contain only this data in the given format to be parsed properly by the TCP Server in the MultiModem iSMS to send SMS / query status.
• SMS could be sent to different multiple recipients like name, number, group using the same format. Enumeration and examples given in HTTP Send API section hold good.
• Response to TCP Send API, response to TCP Query API, Status Codes and Error Codes are the same as given for HTTP Send API.
Sending a Job to a Slave MultiModem iSMS From Master MultiModem iSMS

TCP API is also used to distribute the Job Load from Master MultiModem iSMS unit to a Slave unit when load balancing is enabled in the master and with the slaves properly configured.

TCP API format is:
```
/sendmsg?user=admin&passwd=admin&cat=4&enc=0&priority=2&to="+919844895691","+16675674532"&text=Here is the test message
```

The parameters are:

- **cat**  4
- **enc**  Encoding type of the SMS (Range 0 to 3)
  - 0 - SMS text is in ASCII form
  - 1 - SMS text is in Extended ASCII form
  - 2 - SMS text is in hexadecimal form (i.e. each hexadecimal value is of 4 digits and each hexadecimal value is separated by a semi-colon. Example: 0645;0041;0646).
  - 3 - SMS text is in hexadecimal form. However, enc type is given as 3 to indicate to the slave to display in decimal form as in the input send SMS job.
- **priority**  Priority of the SMS Job (Range 1 to 3)
  - 1 - Low Priority
  - 2 - Normal Priority
  - 3 - High Priority
  It indicates to the slave the priority of the job and to be handled accordingly.
- **to**  The mobile numbers where the SMS is to be delivered.
  This number has to be given within double quotes. The maximum size of each recipient’s number is 50 bytes.
- **text**  The message text to be sent.
  If enc is 0, SMS text is in ASCII.
  If enc is 1, SMS text is in Extended ASCII.
  If enc is 2 / 3 / 4, SMS text is in hexadecimal form.
  (i.e. each hexadecimal value is of 4 digits and each hexadecimal value is separated by a semi-colon. Example: 0645;0041;0646)

  Spanned SMS would be sent as in the input Send SMS job.

  **Note:** An API request from master to slave will contain only recipient’s numbers. Recipient names and groups are not supported to make it independent of the Address Book in the slave.

Response from the Slave MultiModem iSMS After Receiving the Send SMS API from Master MultiModem iSMS

The Slave MultiModem iSMS returns a unique identifier i.e., an API message ID for each “Send API request” and Load Indicator, which tells the Job load on the Slave.

This Load indicator is used to decide the least loaded Slave while distributing to many Slaves.

ID: apimsgid Load indicator
```
-or-
Err: error code Load indicator
e.g.,
ID: 1 1
Err 608 1000
```
Receive SMS API

The Receive API feature is implemented in two modes:

1. Non-Polling Mode
2. Polling Mode

**Note:** By Default, Polling mode will be configured.

**Non Polling Mode Receive SMS API**

![Diagram of the Receive SMS API process]

**Process:**

- Upon receipt of an SMS message and based on the configuration, the MultiModem iSMS uploads the SMS to the HTTP or TCP server configured.
- If the post interval is more than zero seconds, the MultiModem iSMS uploads the message immediately upon receipt of it. If the post interval is non-zero, it waits for the configured post interval, queues up the messages, and then uploads the messages accumulated for the configured post interval.
- The MultiModem iSMS will wait for an OK response from the server after sending the SMS to the application via HTTP or TCP. The response timeout at the MultiModem iSMS is 30 seconds.
HTTP Receive API – Non-Polling Mode

Configuration of the "Non-Polling Mode HTTP Receive API" Using the MultiModem iSMS Web Admin Interface

When the protocol is HTTP, the "Receive API request" is an HTTP POST packet.

POST Packet Format with Authentication

POST /cgi-bin/postquery.cgi HTTP/1.1
HOST: 192.168.2.2:80
User-Agent: MultiModem iSMS/1.40
Accept: text/xml, application/xml, application/xhtml+xml, text/html; q=0.9, text/plain, q=0.8, application/msword, application/vnd.ms-powerpoint, image/png, */*
Accept-Language: en-us; en; q=0.50
Accept-Encoding: gzip, deflate
Accept-Charset: ISO-8859-1, utf-8; q=0.7, *; q=0.7
Keep-Alive: 300
Connection: keep-alive
Content-Type: application/x-www-form-urlencoded
Content-Length: 395

username=SMSFINDER&password=SMSFINDER&XMLDATA=%3C%3Fxml%20version%3D%221.0%22%20encoding%3D%22ISO-8859-1%22%3F%3E%0D%0A%3CMessageNotification%3E%0D%0A%3CModemNumber%3E%2B2%3A1952594092%3C%2FModemNumber%3E%0D%0A%3CSenderNumber%3E%2B919844895692%3C%2FSenderNumber%3E%0D%0A%3CDate%3E08%2F03%2F14%3C%2FDate%3E%0D%0A%3CTime%3E12%3A53%3A09%3C%2FTime%3E%0D%0A%3CMessage%3ETest%0D%0A%0D%0A%3C%2FMessage%3E%0D%0A%3C%2FMessageNotification%3E%0D%0A
POST Packet Format without Authentication

POST /cgi-bin/postquery.cgi HTTP/1.1
HOST: 192.168.2.2:80
User-Agent: MultiModem iSMS/1.40
Accept: text/xml, application/xml, application/xhtml+xml, text/html; q=0.9, text/plain; q=0.8, application/msword, application/vnd.ms-powerpoint, image/png, */*
Accept-Language: en-us; en;q=0.50
Accept-Encoding: gzip, deflate
Accept-Charset: ISO-8859-1, utf-8; q=0.7, *; q=0.7
Keep-Alive: 300
Connection: keep-alive
Content-Type: application/x-www-form-urlencoded
Content-Length: 346

XMLDATA=%3C%3Fxml%20version%3D%221.0%22%20encoding%3D%22ISO-8859-1%22%3F%3E%0D%0A%3CMessageNotification%3E%0D%0A%3CModemNumber%3E%2B2%3A19525945092%3C%2FModemNumber%3E%0D%0A%3CSenderNumber%3E%2B919844895692%3C%2FSenderNumber%3E%0D%0A%3CDate%3E08%2F03%2F14%3C%2FDate%3E%0D%0A%3CTime%3E12%3A55%3C%2FTime%3E%0D%0A%3CMessage%3ETest%0D%0A%3C%2FMessage%3E%0D%0A%3C%2FMessageNotification%3E%0D%0A

Note:
If authentication is disabled, POST DATA contains XMLDATA=[urlencoded(XML)]
If authentication is enabled, POST DATA contains username=user&passwd=user&XMLDATA=[urlencoded(XML)]

The server authenticates the message from MultiModem iSMS using the username/password XML data:

<?xml version="1.0" encoding="ISO-8859-1"?>
<MessageNotification>
<ModemNumber>2:19525945092</ModemNumber>
<SenderNumber>6754535645</SenderNumber>
<Date>08/03/10</Date>
<Time>09:05:30</Time>
<Message>Here is a test message</Message>
</MessageNotification>

-or-

<?xml version="1.0" encoding="ISO-8859-1"?>
<MessageNotification>
<ModemNumber>2:19525945092</ModemNumber>
<SenderNumber>8767654534</SenderNumber>
<Date>08/03/07</Date>
<Time>08:07:20</Time>
<Message>Test message 1</Message>
</MessageNotification>

<?xml version="1.0" encoding="ISO-8859-1"?>
<MessageNotification>
<ModemNumber>3:</ModemNumber>
<SenderNumber>9876754534</SenderNumber>
<Date>08/03/13</Date>
<Time>10:10:36</Time>
<Message>Test message 2</Message>
</MessageNotification>
Notes:

- The MultiModem iSMS accommodates two messages at the maximum in one POST message.
- The MultiModem iSMS waits for an OK response from the HTTP server; it will timeout in 30 seconds.
- If receiving modem’s SIM number is configured then <ModemNumber> field has modem index:SIM number. If receiving modem’s SIM number is not configured then <ModemNumber> field has modem index:

TCP Receive API – Non-Polling Mode

Configuration of the "Non Polling mode TCP Receive API" Using the MultiModem iSMS Web Admin Interface

TCP Receive API Request without Authentication

From: MultiModem iSMS/1.40
Authentication: OFF
Data-Length: 123

1:19525945092
+17635280856
08/10/15
07:29:32
TCP Receive API Request with Authentication
From: MultiModem iSMS/1.40
Authentication: OFF
Data-Length: 123

smsuser1
smsuser1
1:19525945092
+17635280856
08/10/15
07:29:32
26632


Notes:
Payload comprises of:
• Username, Password if authentication is enabled and configured.
• Receiving modem number details: If receiving modem’s SIM number is configured then
  <ModemNumber> field has modem index:SIM number. If receiving modem’s SIM number is not
  configured then <ModemNumber> field has modem index:
• Sender’s number
• Date
• Time
• SMS Message

The MultiModem iSMS waits for an OK response from the TCP application; it will timeout in 30 seconds.
Polling Mode Receive SMS API

Process:

- Upon the receipt of request from TCP/HTTP Client, the MultiModem iSMS will post the SMS received based on the filter condition in the request and availability.
- Configuring the API ports enables the Receive API in Polling Mode.
- Enabling the Non-Polling Mode Receive API disables the Receive API in Polling Mode.
- Disabling the Non-Polling Mode Receive API enables the Receive API in Polling Mode provided the API Ports are configured.
- HTTP and TCP Clients can use the configured HTTP and TCP API ports respectively for Receive API Polling mode request.
Receive API – Polling Mode

HTTP Query Request using browser:
http://192.168.2.1:81/querycount?user=admin&passwd=admin&from=8394839434&fdate=09/08/22&tdate=09/08/24&ftime=12:00:34&ttime=17:45:00&text=Multimodem iSMS
easy way to send bulk SMS Go through www.multitech.com for more details
TCP Query Request:
/querycount?user=admin&passwd=admin&from=8394839434&fdate=09/08/22&tdate=09/08
/24&ftime=12:00:34&ttime=17:45:00&text=Multimodem iSMS easy way to send bulk SMS Go through www.multitech.com for more details

Successful Response for the above two queries will be in the following format:

Count: Value
Value – Gives the number of unread messages.

Error response for the above two queries will be in the following format:
Err: error code

Error Codes

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Error Description</th>
<th>Response to</th>
</tr>
</thead>
<tbody>
<tr>
<td>601</td>
<td>Authentication Failed</td>
<td>Send API, Query API, Receive API</td>
</tr>
<tr>
<td>602</td>
<td>Parse Error</td>
<td>Send API, Query API, Receive API</td>
</tr>
<tr>
<td>604</td>
<td>Filtering with SMS Text whose message size is greater than 280 chars (70 * 4 for Unicode is the maximum possible size of the SMS received by the MultiModem iSMS wireless modem)</td>
<td>Receive API</td>
</tr>
<tr>
<td>605</td>
<td>Recipient Overflow</td>
<td>Send API, Receive API</td>
</tr>
<tr>
<td>608</td>
<td>Server Busy</td>
<td>Send API, Receive API</td>
</tr>
<tr>
<td>616</td>
<td>Invalid Time/Date Input</td>
<td>Receive API</td>
</tr>
<tr>
<td>617</td>
<td>Invalid Count Input</td>
<td>Receive API</td>
</tr>
<tr>
<td>618</td>
<td>Service Not Available</td>
<td>Receive API</td>
</tr>
<tr>
<td>619</td>
<td>Invalid Addressee</td>
<td>Receive API</td>
</tr>
</tbody>
</table>

Receive API Polling Mode Read Request Format
GET
/recevmsg?user=admin&passwd=admin&count=[&from=][&fdate=][&tdate=][&ftime=][&ttime=][&text=]

- All options given within [] indicate that they are optional.
- If count and filter are not given, it returns ALL unread messages.
- If count is given without any filter, it returns so many requested unread messages.
- If count is given with filter, it returns so many messages matching the filter.
- If requested number of messages is not found, the available unread messages will be provided.
- If the time range is not specified, default range of 24 hrs from 00:00:00 to 23:59:00 will be considered.
- If the date is not specified, all unread messages will be retrieved, using the time filter.

HTTP request using the browser to read 10 unread messages:
http://192.168.2.1:81/recevmsg?user=admin&passwd=admin&count=10&from=8394839434 &fdate=09/08/22&tdate=09/08/24&ftime=12:00:34&ttime=17:45:00&text=Multimodem iSMS easy way to send bulk SMS Go through www.multitech.com for more details
Appendix A – Application Programming Interface (API)

TCP request to read 10 unread messages:
/recvmsg?user=admin&passwd=admin&count=10&from=8394839434&fdate=09/08/22&tdate=09/08/24&ftime=12:00:34&ttime=17:45:00&text=Multimodem iSMS easy way to send bulk SMS Go through www.multitech.com for more details

Response for the read queries will be in the following format:
Packet_end_flag
Unread_available
Msg_Count
Msg_index_1
Number
Date
Time
Encode type
Message

Msg_index_2
Number
Date
Time
Encode type
Message

Msg_index_N
Number

Notes:
- Packet_end_flag: 0 – More packets to continue; 1 – End of the packets.
- Unread_available: 1 – Unread Messages available; 0 – No Unread Messages available for the request.
- Msg_Count – Total number of messages sent in a packet.
- N – Maximum number of messages per packet.
- If the time is not specified in the query, default range of 24 hrs from 00:00:00 to 23:59:00 will be considered.
- If the date is not specified in the query, all unread messages will be retrieved, using the time filter.
- Encode type can be ASCII or Extended ASCII or Unicode
- If requested number of messages is not found, the available unread messages will be provided.

Error response for the read queries will be in the following format:
Err: error code [See Error Codes table above]
HTTP Receive API Response format in Polling Mode

<?xml version="1.0" encoding="ISO-8859-1" ?>
<Response>
  <Response_End>1</Response_End>
  <Unread_Available>1</Unread_Available>
  <Msg_Count>03</Msg_Count>
  <MessageNotification>
    <Message_Index>1</Message_Index>
    <SenderNumber>+919742204905</SenderNumber>
    <Date>09/07/24</Date>
    <Time>11:24:34</Time>
    <EncodingFlag>Unicode</EncodingFlag>
    <Message>
      Multimodem iSMS Easy way to send bulk SMS Go through Multitech site for more details
    </Message>
  </MessageNotification>
  <MessageNotification>
    <Message_Index>2</Message_Index>
    <SenderNumber>+919742204905</SenderNumber>
    <Date>09/07/24</Date>
    <Time>11:38:08</Time>
    <EncodingFlag>ASCII</EncodingFlag>
    <Message>
      Multimodem iSMS supports Unicode ASCII and Extended ASCII Go through Multitech site for more details
    </Message>
  </MessageNotification>
  <MessageNotification>
    <Message_Index>3</Message_Index>
    <SenderNumber>+919742204905</SenderNumber>
    <Date>09/07/24</Date>
    <Time>11:38:35</Time>
    <EncodingFlag>Extended ASCII</EncodingFlag>
    <Message>
      Multimodem iSMS supports Unicode ASCII and Extended ASCII Go through Multitech site for more details
    </Message>
  </MessageNotification>
</Response>
TCP Receive API Response format in Polling Mode

From: MultiModem iSMS/1.40
1
1
3
Msg_index_1
+919742204905
09/07/24
11:56:52
Unicode
0B880B870B890B900B920B930B930B930B940B930B940B880B8CA0B8B0B90B9E0B
9E0BA30BAF0BAE0BAA0BA90BA40BAF0BB20BB50BB70BB80BB80BB90BB9
Msg_index_2
+919742204905
09/07/24
11:40:48
ASCII
Multimodem iSMS easy way to send bulk SMS. Go through www.multitech.com for more
details
Msg_index_3
+919742204905
09/07/24
11:57:29
Extended ASCII
MultiModem iSMS supports Unicode ASCII and Extended ASCII Go through
ww.multitech.com for more details
## Appendix B – Table of Commonly Supported Subnet Addresses

This table lists commonly supported Subnets organized by Address.

<table>
<thead>
<tr>
<th>Network Number</th>
<th>Hosts Available</th>
<th>Broadcast Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>255.255.255.128 /25</td>
<td>N.N.N.0 to N.N.N.126</td>
<td>N.N.N.127</td>
</tr>
<tr>
<td></td>
<td>N.N.N.128 to N.N.N.254</td>
<td>N.N.N.255</td>
</tr>
<tr>
<td>255.255.255.192 /26</td>
<td>N.N.N.64 to N.N.N.126</td>
<td>N.N.N.127</td>
</tr>
<tr>
<td></td>
<td>N.N.N.128 to N.N.N.190</td>
<td>N.N.N.191</td>
</tr>
<tr>
<td></td>
<td>N.N.N.192 to N.N.N.254</td>
<td>N.N.N.255</td>
</tr>
<tr>
<td>255.255.255.224 /27</td>
<td>N.N.N.0 to N.N.N.30</td>
<td>N.N.N.31</td>
</tr>
<tr>
<td></td>
<td>N.N.N.32 to N.N.N.62</td>
<td>N.N.N.63</td>
</tr>
<tr>
<td></td>
<td>N.N.N.64 to N.N.N.94</td>
<td>N.N.N.95</td>
</tr>
<tr>
<td></td>
<td>N.N.N.96 to N.N.N.126</td>
<td>N.N.N.127</td>
</tr>
<tr>
<td></td>
<td>N.N.N.128 to N.N.N.190</td>
<td>N.N.N.191</td>
</tr>
<tr>
<td></td>
<td>N.N.N.192 to N.N.N.222</td>
<td>N.N.N.223</td>
</tr>
<tr>
<td></td>
<td>N.N.N.224 to N.N.N.254</td>
<td>N.N.N.255</td>
</tr>
<tr>
<td>255.255.255.240 /28</td>
<td>N.N.N.0 to N.N.N.14</td>
<td>N.N.N.15</td>
</tr>
<tr>
<td></td>
<td>N.N.N.16 to N.N.N.30</td>
<td>N.N.N.31</td>
</tr>
<tr>
<td></td>
<td>N.N.N.32 to N.N.N.46</td>
<td>N.N.N.47</td>
</tr>
<tr>
<td></td>
<td>N.N.N.48 to N.N.N.62</td>
<td>N.N.N.63</td>
</tr>
<tr>
<td></td>
<td>N.N.N.64 to N.N.N.78</td>
<td>N.N.N.79</td>
</tr>
<tr>
<td></td>
<td>N.N.N.80 to N.N.N.94</td>
<td>N.N.N.95</td>
</tr>
<tr>
<td></td>
<td>N.N.N.96 to N.N.N.110</td>
<td>N.N.N.111</td>
</tr>
<tr>
<td></td>
<td>N.N.N.112 to N.N.N.126</td>
<td>N.N.N.127</td>
</tr>
<tr>
<td></td>
<td>N.N.N.128 to N.N.N.142</td>
<td>N.N.N.143</td>
</tr>
<tr>
<td></td>
<td>N.N.N.144 to N.N.N.158</td>
<td>N.N.N.159</td>
</tr>
<tr>
<td></td>
<td>N.N.N.160 to N.N.N.174</td>
<td>N.N.N.175</td>
</tr>
<tr>
<td></td>
<td>N.N.N.176 to N.N.N.190</td>
<td>N.N.N.191</td>
</tr>
<tr>
<td></td>
<td>N.N.N.192 to N.N.N.206</td>
<td>N.N.N.207</td>
</tr>
<tr>
<td></td>
<td>N.N.N.208 to N.N.N.222</td>
<td>N.N.N.223</td>
</tr>
<tr>
<td></td>
<td>N.N.N.224 to N.N.N.238</td>
<td>N.N.N.239</td>
</tr>
<tr>
<td></td>
<td>N.N.N.240 to N.N.N.254</td>
<td>N.N.N.255</td>
</tr>
<tr>
<td>255.255.255.248 /29</td>
<td>N.N.N.0 to N.N.N.6</td>
<td>N.N.N.7</td>
</tr>
<tr>
<td></td>
<td>N.N.N.8 to N.N.N.14</td>
<td>N.N.N.15</td>
</tr>
<tr>
<td></td>
<td>N.N.N.16 to N.N.N.22</td>
<td>N.N.N.23</td>
</tr>
<tr>
<td></td>
<td>N.N.N.24 to N.N.N.30</td>
<td>N.N.N.31</td>
</tr>
<tr>
<td></td>
<td>N.N.N.32 to N.N.N.38</td>
<td>N.N.N.39</td>
</tr>
<tr>
<td></td>
<td>N.N.N.40 to N.N.N.46</td>
<td>N.N.N.47</td>
</tr>
<tr>
<td></td>
<td>N.N.N.48 to N.N.N.54</td>
<td>N.N.N.55</td>
</tr>
<tr>
<td></td>
<td>N.N.N.56 to N.N.N.62</td>
<td>N.N.N.63</td>
</tr>
<tr>
<td></td>
<td>N.N.N.64 to N.N.N.70</td>
<td>N.N.N.71</td>
</tr>
<tr>
<td></td>
<td>N.N.N.72 to N.N.N.78</td>
<td>N.N.N.79</td>
</tr>
<tr>
<td></td>
<td>N.N.N.80 to N.N.N.86</td>
<td>N.N.N.87</td>
</tr>
<tr>
<td></td>
<td>N.N.N.88 to N.N.N.94</td>
<td>N.N.N.95</td>
</tr>
<tr>
<td></td>
<td>N.N.N.96 to N.N.N.102</td>
<td>N.N.N.103</td>
</tr>
<tr>
<td></td>
<td>N.N.N.98 to N.N.N.110</td>
<td>N.N.N.111</td>
</tr>
<tr>
<td></td>
<td>N.N.N.112 to N.N.N.118</td>
<td>N.N.N.119</td>
</tr>
<tr>
<td></td>
<td>N.N.N.120 to N.N.N.126</td>
<td>N.N.N.127</td>
</tr>
<tr>
<td></td>
<td>N.N.N.128 to N.N.N.134</td>
<td>N.N.N.135</td>
</tr>
<tr>
<td></td>
<td>N.N.N.136 to N.N.N.142</td>
<td>N.N.N.143</td>
</tr>
<tr>
<td></td>
<td>N.N.N.144 to N.N.N.150</td>
<td>N.N.N.151</td>
</tr>
<tr>
<td></td>
<td>N.N.N.152 to N.N.N.158</td>
<td>N.N.N.159</td>
</tr>
<tr>
<td>Network Number</td>
<td>Hosts Available</td>
<td>Broadcast Address</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>255.255.255.252/30</td>
<td>N.N.N.0-2</td>
<td>N.N.N.3</td>
</tr>
<tr>
<td></td>
<td>N.N.N.5-6</td>
<td>N.N.N.7</td>
</tr>
<tr>
<td></td>
<td>N.N.N.9-10</td>
<td>N.N.N.11</td>
</tr>
<tr>
<td></td>
<td>N.N.N.13-14</td>
<td>N.N.N.15</td>
</tr>
<tr>
<td></td>
<td>N.N.N.17-18</td>
<td>N.N.N.19</td>
</tr>
<tr>
<td></td>
<td>N.N.N.21-22</td>
<td>N.N.N.23</td>
</tr>
<tr>
<td></td>
<td>N.N.N.25-26</td>
<td>N.N.N.27</td>
</tr>
<tr>
<td></td>
<td>N.N.N.29-30</td>
<td>N.N.N.31</td>
</tr>
<tr>
<td></td>
<td>N.N.N.33-34</td>
<td>N.N.N.35</td>
</tr>
<tr>
<td></td>
<td>N.N.N.37-38</td>
<td>N.N.N.39</td>
</tr>
<tr>
<td></td>
<td>N.N.N.41-42</td>
<td>N.N.N.43</td>
</tr>
<tr>
<td></td>
<td>N.N.N.45-46</td>
<td>N.N.N.47</td>
</tr>
<tr>
<td></td>
<td>N.N.N.49-50</td>
<td>N.N.N.51</td>
</tr>
<tr>
<td></td>
<td>N.N.N.53-54</td>
<td>N.N.N.55</td>
</tr>
<tr>
<td></td>
<td>N.N.N.57-58</td>
<td>N.N.N.59</td>
</tr>
<tr>
<td></td>
<td>N.N.N.61-62</td>
<td>N.N.N.63</td>
</tr>
<tr>
<td></td>
<td>N.N.N.65-66</td>
<td>N.N.N.67</td>
</tr>
<tr>
<td></td>
<td>N.N.N.69-70</td>
<td>N.N.N.71</td>
</tr>
<tr>
<td></td>
<td>N.N.N.73-74</td>
<td>N.N.N.75</td>
</tr>
<tr>
<td></td>
<td>N.N.N.77-78</td>
<td>N.N.N.79</td>
</tr>
<tr>
<td></td>
<td>N.N.N.81-82</td>
<td>N.N.N.83</td>
</tr>
<tr>
<td></td>
<td>N.N.N.85-86</td>
<td>N.N.N.87</td>
</tr>
<tr>
<td></td>
<td>N.N.N.89-90</td>
<td>N.N.N.91</td>
</tr>
<tr>
<td></td>
<td>N.N.N.93-94</td>
<td>N.N.N.95</td>
</tr>
<tr>
<td></td>
<td>N.N.N.97-98</td>
<td>N.N.N.99</td>
</tr>
<tr>
<td></td>
<td>N.N.N.101-102</td>
<td>N.N.N.103</td>
</tr>
<tr>
<td></td>
<td>N.N.N.105-106</td>
<td>N.N.N.107</td>
</tr>
<tr>
<td></td>
<td>N.N.N.109-110</td>
<td>N.N.N.111</td>
</tr>
<tr>
<td></td>
<td>N.N.N.113-114</td>
<td>N.N.N.115</td>
</tr>
<tr>
<td></td>
<td>N.N.N.117-118</td>
<td>N.N.N.119</td>
</tr>
<tr>
<td></td>
<td>N.N.N.121-122</td>
<td>N.N.N.123</td>
</tr>
<tr>
<td></td>
<td>N.N.N.125-126</td>
<td>N.N.N.127</td>
</tr>
<tr>
<td></td>
<td>N.N.N.129-130</td>
<td>N.N.N.131</td>
</tr>
<tr>
<td></td>
<td>N.N.N.133-134</td>
<td>N.N.N.135</td>
</tr>
<tr>
<td></td>
<td>N.N.N.137-138</td>
<td>N.N.N.139</td>
</tr>
<tr>
<td></td>
<td>N.N.N.141-142</td>
<td>N.N.N.143</td>
</tr>
<tr>
<td></td>
<td>N.N.N.145-146</td>
<td>N.N.N.147</td>
</tr>
<tr>
<td></td>
<td>N.N.N.149-150</td>
<td>N.N.N.151</td>
</tr>
<tr>
<td></td>
<td>N.N.N.153-154</td>
<td>N.N.N.155</td>
</tr>
<tr>
<td></td>
<td>N.N.N.157-158</td>
<td>N.N.N.159</td>
</tr>
<tr>
<td></td>
<td>N.N.N.161-162</td>
<td>N.N.N.163</td>
</tr>
<tr>
<td></td>
<td>N.N.N.165-166</td>
<td>N.N.N.167</td>
</tr>
<tr>
<td></td>
<td>N.N.N.169-170</td>
<td>N.N.N.171</td>
</tr>
<tr>
<td></td>
<td>N.N.N.173-174</td>
<td>N.N.N.175</td>
</tr>
<tr>
<td></td>
<td>N.N.N.177-178</td>
<td>N.N.N.179</td>
</tr>
<tr>
<td></td>
<td>N.N.N.181-182</td>
<td>N.N.N.183</td>
</tr>
<tr>
<td></td>
<td>N.N.N.185-186</td>
<td>N.N.N.187</td>
</tr>
<tr>
<td></td>
<td>N.N.N.189-190</td>
<td>N.N.N.191</td>
</tr>
<tr>
<td></td>
<td>N.N.N.193-194</td>
<td>N.N.N.195</td>
</tr>
<tr>
<td></td>
<td>N.N.N.197-198</td>
<td>N.N.N.199</td>
</tr>
<tr>
<td></td>
<td>N.N.N.201-202</td>
<td>N.N.N.203</td>
</tr>
<tr>
<td></td>
<td>N.N.N.205-206</td>
<td>N.N.N.207</td>
</tr>
<tr>
<td></td>
<td>N.N.N.209-210</td>
<td>N.N.N.211</td>
</tr>
<tr>
<td></td>
<td>N.N.N.213-214</td>
<td>N.N.N.215</td>
</tr>
<tr>
<td></td>
<td>N.N.N.217-218</td>
<td>N.N.N.219</td>
</tr>
<tr>
<td></td>
<td>N.N.N.221-222</td>
<td>N.N.N.223</td>
</tr>
<tr>
<td></td>
<td>N.N.N.225-226</td>
<td>N.N.N.227</td>
</tr>
</tbody>
</table>
### Appendix B – Table of Commonly Supported Subnet Addresses

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N.N.228</td>
<td>N.N.229-230</td>
<td>N.N.231</td>
</tr>
<tr>
<td>N.N.232</td>
<td>N.N.233-234</td>
<td>N.N.235</td>
</tr>
<tr>
<td>N.N.236</td>
<td>N.N.237-238</td>
<td>N.N.239</td>
</tr>
<tr>
<td>N.N.240</td>
<td>N.N.241-242</td>
<td>N.N.243</td>
</tr>
<tr>
<td>N.N.244</td>
<td>N.N.245-246</td>
<td>N.N.247</td>
</tr>
<tr>
<td>N.N.248</td>
<td>N.N.249-250</td>
<td>N.N.251</td>
</tr>
<tr>
<td>N.N.252</td>
<td>N.N.253-254</td>
<td>N.N.255</td>
</tr>
</tbody>
</table>
Appendix C – Antenna for the MultiModem iSMS

RF Specifications

<table>
<thead>
<tr>
<th></th>
<th>GSM 850</th>
<th>EGSM 900</th>
<th>GSM 1800</th>
<th>GSM 1900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency RX</td>
<td>869 to 894 MHz</td>
<td>925 to 960 MHz</td>
<td>1805 to 1800 MHz</td>
<td>1930 to 1990 MHz</td>
</tr>
<tr>
<td>Frequency TX</td>
<td>824 to 849 MHz</td>
<td>880 to 915 MHz</td>
<td>1710 to 1785 MHz</td>
<td>1850 to 1910 MHz</td>
</tr>
<tr>
<td>RF Power Stand</td>
<td>2W at 12.5% duty cycle</td>
<td>2W at 12.5% duty cycle</td>
<td>1W at 12.5% duty cycle</td>
<td>1W at 12.5% duty cycle</td>
</tr>
</tbody>
</table>

Antenna Specifications

GSM/EGSM Antenna Requirements/Specifications

- Frequency Range: 824 – 960 MHz / 1710 – 1990 MHz
- Impedance: 50 Ohms
- VSWR: <2.0:1
- Typical Radiated Gain: 3 dBi on azimuth plane
- Radiation: Omni
- Polarization: Vertical
- Wave: Half Wave Dipole

Antennas Available from Multi-Tech Systems, Inc.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>900/1800 MHz 1/2 Wave Antenna Mag Mount, 12.5&quot;, 1 Pack</td>
<td>ANF1-1MMHW</td>
</tr>
<tr>
<td>850/1900 MHz 1/2 Wave Antenna Mag Mount, 12.5&quot;, 1 Pack</td>
<td>ANF2-1MMHW</td>
</tr>
</tbody>
</table>

PTCRB Requirements Note

There cannot be any alteration to the authorized antenna system. The antenna system must be the same type with similar in-band and out-of-band radiation patterns and maintain the same specifications.

FCC Requirements Note

The antenna gain, including cable loss, must not exceed 3.0 dBi at 1900 MHz / 1.4 dBi at 850 MHz for mobile operating configurations and 7.0 dBi at 1900 MHz / 1.4 dBi at 850 MHz for fixed mounted operations, as defined in 2.1091 and 1.1307 of the rules for satisfying RF exposure compliance.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.
Appendix D – Waste Electrical and Electronic Equipment Directive (WEEE)

Waste Electrical and Electronic Equipment (WEEE) Directive
The WEEE directive places an obligation on manufacturers, distributors and retailers to take-back electronic products at the end of their useful life. A sister Directive, ROHS (Restriction of Hazardous Substances), complements the WEEE Directive by banning the presence of specific hazardous substances in the products at the design phase. The WEEE Directive covers all Multi-Tech products being sold into the EU as of August 13, 2005. Manufacturers, distributors and retailers are obliged to finance the costs of recovery from municipal collection points, reuse, and recycling of specified percentages per the WEEE requirements.

Instructions for Disposal of WEEE by Users in the European Union
The symbol shown below is on the product or on its packaging which indicates that this product must not be disposed of with other waste. Instead, it is the user’s responsibility to dispose of the user’s waste equipment by handing it over to a designated collection point for the recycling of electrical and electronic waste equipment. The separate collection and recycling of waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the seller from whom you purchased the product.

06/27/2005
# Appendix E – Time Zone Abbreviations

This list represents a portion of the abbreviations used for different Time Zones. All of those listed here are valid entries for the MultiModem iSMS products.

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Region</th>
<th>UTC Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACDT</td>
<td>Australian Central Daylight Time</td>
<td>Australia</td>
<td>+ 10:30 hours</td>
</tr>
<tr>
<td>ACST</td>
<td>Australian Central Standard Time</td>
<td>Australia</td>
<td>+ 9:30 hours</td>
</tr>
<tr>
<td>AEDT</td>
<td>Australian Eastern Daylight Time or Australian Eastern Summer Time</td>
<td>Australia</td>
<td>+ 11 hours</td>
</tr>
<tr>
<td>AEST</td>
<td>Australian Eastern Standard Time</td>
<td>Australia</td>
<td>+ 10 hours</td>
</tr>
<tr>
<td>AWDT</td>
<td>Australian Western Daylight Time</td>
<td>Australia</td>
<td>+ 9 hours</td>
</tr>
<tr>
<td>AWST</td>
<td>Australian Western Standard Time</td>
<td>Australia</td>
<td>+ 8 hours</td>
</tr>
<tr>
<td>CXT</td>
<td>Christmas Island Time</td>
<td>Australia</td>
<td>+ 7 hours</td>
</tr>
<tr>
<td>EDT</td>
<td>Eastern Daylight Time</td>
<td>Australia</td>
<td>+ 11 hours</td>
</tr>
<tr>
<td>NFT</td>
<td>Norfolk (Island) Time</td>
<td>Australia</td>
<td>+ 11:30 hours</td>
</tr>
<tr>
<td>WDT</td>
<td>Western Daylight Time</td>
<td>Australia</td>
<td>+ 9 hours</td>
</tr>
<tr>
<td>BST</td>
<td>British Summer Time</td>
<td>Europe</td>
<td>+ 1 hour</td>
</tr>
<tr>
<td>CEDT</td>
<td>Central European Daylight Time</td>
<td>Europe</td>
<td>+ 2 hours</td>
</tr>
<tr>
<td>CEST</td>
<td>Central European Summer Time</td>
<td>Europe</td>
<td>+ 2 hours</td>
</tr>
<tr>
<td>CET</td>
<td>Central European Time</td>
<td>Europe</td>
<td>+ 1 hour</td>
</tr>
<tr>
<td>EEDT</td>
<td>Eastern European Daylight Time</td>
<td>Europe</td>
<td>+ 3 hours</td>
</tr>
<tr>
<td>EEST</td>
<td>Eastern European Summer Time</td>
<td>Europe</td>
<td>+ 3 hours</td>
</tr>
<tr>
<td>EET</td>
<td>Eastern European Time</td>
<td>Europe</td>
<td>+ 2 hours</td>
</tr>
<tr>
<td>GMT</td>
<td>Greenwich Mean Time</td>
<td>Europe</td>
<td></td>
</tr>
<tr>
<td>IST</td>
<td>Irish Summer Time</td>
<td>Europe</td>
<td>+ 1 hour</td>
</tr>
<tr>
<td>MESZ</td>
<td>Mitteleuropäische Sommerzeit</td>
<td>Europe</td>
<td>+ 2 hours</td>
</tr>
<tr>
<td>MEZ</td>
<td>Mitteleuropäische Zeit</td>
<td>Europe</td>
<td>+ 1 hour</td>
</tr>
<tr>
<td>MSDT</td>
<td>Moscow Standard Time</td>
<td>Europe</td>
<td>+ 3 hours</td>
</tr>
<tr>
<td>MSK</td>
<td>Moscow Daylight Time</td>
<td>Europe</td>
<td>+ 3 hours</td>
</tr>
<tr>
<td>WEDT</td>
<td>Western European Daylight Time</td>
<td>Europe</td>
<td>+ 1 hour</td>
</tr>
<tr>
<td>WEST</td>
<td>Western European Summer Time</td>
<td>Europe</td>
<td>+ 1 hour</td>
</tr>
<tr>
<td>ADT</td>
<td>Atlantic Daylight Time</td>
<td>North America</td>
<td>- 3 hours</td>
</tr>
<tr>
<td>AKDT</td>
<td>Alaska Daylight Time</td>
<td>North America</td>
<td>- 8 hours</td>
</tr>
<tr>
<td>AKST</td>
<td>Alaska Standard Time</td>
<td>North America</td>
<td>- 9 hours</td>
</tr>
<tr>
<td>AST</td>
<td>Atlantic Standard Time</td>
<td>North America</td>
<td>- 4 hours</td>
</tr>
<tr>
<td>CDT</td>
<td>Central Daylight Time</td>
<td>North America</td>
<td>- 5 hours</td>
</tr>
<tr>
<td>CST</td>
<td>Central Standard Time</td>
<td>North America</td>
<td>- 6 hours</td>
</tr>
<tr>
<td>EDT</td>
<td>Eastern Daylight Time</td>
<td>North America</td>
<td>- 4 hours</td>
</tr>
<tr>
<td>EST</td>
<td>Eastern Standard Time</td>
<td>North America</td>
<td>- 5 hours</td>
</tr>
<tr>
<td>HAA</td>
<td>Heure Avancée de l'Atlantique</td>
<td>North America</td>
<td>- 3 hours</td>
</tr>
<tr>
<td>HAC</td>
<td>Heure Avancée du Centre</td>
<td>North America</td>
<td>- 5 hours</td>
</tr>
<tr>
<td>HADT</td>
<td>Hawaii-Aleutian Daylight Time</td>
<td>North America</td>
<td>- 9 hours</td>
</tr>
<tr>
<td>HAE</td>
<td>Heure Avancée de l’Est</td>
<td>North America</td>
<td>- 4 hours</td>
</tr>
<tr>
<td>HAP</td>
<td>Heure Avancée du Pacifique</td>
<td>North America</td>
<td>- 7 hours</td>
</tr>
<tr>
<td>HAR</td>
<td>Heure Avancée des Rocheuses</td>
<td>North America</td>
<td>- 6 hours</td>
</tr>
<tr>
<td>HAST</td>
<td>Hawaii-Aleutian Standard Time</td>
<td>North America</td>
<td>- 10 hours</td>
</tr>
<tr>
<td>HAT</td>
<td>Heure Avancée de Terre-Neuve</td>
<td>North America</td>
<td>- 2:30 hours</td>
</tr>
<tr>
<td>HAY</td>
<td>Heure Avancée du Yukon</td>
<td>North America</td>
<td>- 8 hours</td>
</tr>
<tr>
<td>HNA</td>
<td>Heure Normale de l’Atlantique</td>
<td>North America</td>
<td>- 4 hours</td>
</tr>
<tr>
<td>HNC</td>
<td>Heure Normale du Centre</td>
<td>North America</td>
<td>- 6 hours</td>
</tr>
<tr>
<td>HNE</td>
<td>Heure Normale de l’Est</td>
<td>North America</td>
<td>- 5 hours</td>
</tr>
<tr>
<td>HNP</td>
<td>Heure Normale du Pacifique</td>
<td>North America</td>
<td>- 8 hours</td>
</tr>
<tr>
<td>HNR</td>
<td>Heure Normale des Rocheuses</td>
<td>North America</td>
<td>- 7 hours</td>
</tr>
<tr>
<td>HNT</td>
<td>Heure Normale de Terre-Neuve</td>
<td>North America</td>
<td>- 3:30 hours</td>
</tr>
<tr>
<td>HNY</td>
<td>Heure Normale du Yukon</td>
<td>North America</td>
<td>- 9 hours</td>
</tr>
<tr>
<td>MDT</td>
<td>Mountain Daylight Time</td>
<td>North America</td>
<td>- 6 hours</td>
</tr>
<tr>
<td>MST</td>
<td>Mountain Standard Time</td>
<td>North America</td>
<td>- 7 hours</td>
</tr>
<tr>
<td>NDT</td>
<td>Newfoundland Daylight Time</td>
<td>North America</td>
<td>- 2:30 hours</td>
</tr>
<tr>
<td>NST</td>
<td>Newfoundland Standard Time</td>
<td>North America</td>
<td>- 3:30 hours</td>
</tr>
<tr>
<td>PDT</td>
<td>Pacific Daylight Time</td>
<td>North America</td>
<td>- 7 hours</td>
</tr>
<tr>
<td>PST</td>
<td>Pacific Standard Time</td>
<td>North America</td>
<td>- 8 hours</td>
</tr>
</tbody>
</table>
Appendix F – End User License Agreement (EULA)

Multi-Tech Systems, Inc.
Multi-User Software License Agreement

IMPORTANT - READ BEFORE OPENING OR ACCESSING SOFTWARE

This is a basic software license granted by Multi-Tech Systems, Inc., a Minnesota corporation, with its mailing address at 2205 Woodale Drive, Mounds View, MN 55112.

This is a legal agreement between you (either an individual or a single entity) and Multi-Tech Systems, Inc. for the Multi-Tech software product enclosed, which includes computer software and may include associated media, printed materials, and "online" or electronic documentation ("SOFTWARE PRODUCT"). The SOFTWARE PRODUCT also includes any updates and supplements to the original SOFTWARE PRODUCT provided to you by Multi-Tech.

Any software provided along with the SOFTWARE PRODUCT that is associated with a separate end-user license agreement is licensed to you under the terms of that license agreement. By installing, copying, downloading, accessing, or otherwise using the SOFTWARE PRODUCT, you agree to be bound by the terms of that separate end-user license agreement.

This copy of Multi-Tech Systems software is provided only on the condition that you, Customer, agree to the following license agreement. READ THIS LICENSE CAREFULLY. If you do not agree to the terms contained in this license, return the packaged program UNOPENED to the place you obtained it. If you agree to the terms contained in this license, fill out the enclosed Software Registration Card, and return the card by mail. Registration may also be done on Multi-Tech Systems web site at www.multitech.com/register. Opening the packaged program constitutes agreement to be bound by the terms and conditions of this Software License Agreement. Your right to use the software terminates automatically if you violate any part of this software license agreement.

Multi-Tech Software License Agreement Multi-Tech Systems, Inc. (MTS) agrees to grant and Customer agrees to accept on the following terms and conditions, a non-transferable and non-exclusive license to use the software program(s) delivered with this Agreement.

GRANT OF LICENSE. MTS grants Customer the right to use one copy of the software on a single product (the Licensed System). You may not network the software or otherwise use it on more than one product at the same time.

COPYRIGHT. The software is owned by MTS and is protected by United States copyright laws and international treaty provisions. Therefore, Customer must treat the software like any copyrighted material. Customer may install the software to a single hard disk and keep the original for backup or archival purposes. Customer shall NOT copy, or translate into any language, in whole or in part, any documentation which is provided by MTS in printed form under this Agreement.

OTHER RESTRICTIONS. The software may not be assigned, sublicensed, translated or otherwise transferred by Customer without prior written consent from MTS. Customer may not reverse engineer, decompile, or disassemble the software. Any updates shall be used only on the Licensed System, and shall remain subject to all other terms of this Agreement. Customer agrees not to provide or otherwise make available the software including, but not limited to documentation, programs listings, object code, or source code, in any form, to any person other than Customer and his employees and /or agents, without prior written consent from MTS. Customer acknowledges that the techniques, algorithms, and processes contained in the software are proprietary to MTS and Customer agrees not to use or disclose such information except as necessary to use the software.

Customer shall take reasonable steps consistent with steps taken to protect its own proprietary information to prevent the unauthorized copying or use by third parties of the software or any of the other materials provided under this Agreement. Any previous version of the software must be destroyed or returned to Multi-Tech Systems, Inc. within 90 days of receipt of the software upgrade or update.

LIMITED WARRANTY. MTS warrants that the software will perform substantially in accordance to the product specifications in effect at the time of receipt by Customer. If the MTS software fails to perform accordingly, MTS will optionally repair any defect, or replace it. This warranty is void if the failure has resulted from accident, abuse, or misapplication. A Software Registration Card must be on file at MTS for this warranty to be in effect. In all other respects, the MTS software is provided AS IS. Likewise, any other software provided with MTS software is provided AS IS.

THE FOREGOING WARRANTY IS IN LIEU ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL MTS BE LIABLE FOR CONSEQUENTIAL DAMAGES RESULTING FROM USE OF THE LICENSED PROGRAM, WHETHER AS A RESULT OF MTS NEGLIGENCE OR NOT, EVEN IF MTS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. MTS ALSO DISCLAIMS ANY LIABILITY IN CONTRACT OR OTHERWISE FOR THE DEFECT OR NON-PERFORMANCE OF ANY SEPARATE END-USER LICENSED SOFTWARE PRODUCT INCLUDED WITH MTS' SOFTWARE.

INDEMNIFICATION. MTS will indemnify and defend Customer from any claim that the software infringes on any copyright, trademark, or patent. Customer will indemnify and defend MTS against all other proceedings arising out of Customers use of the software.

GENERAL. If any of the provisions, or portions thereof, of this Agreement are invalid under any applicable statute or rule of law, they are to that extent deemed to be omitted. This is the complete and exclusive statement of the Agreement between the parties, which supersedes all proposals, oral, written and all other communications between the parties relating to the subject matter of this Agreement. This Agreement may only be amended or modified in writing, signed by authorized representatives of both parties.

This Agreement shall be governed by the laws of the State of Minnesota. The waiver of one breach or default hereunder shall not constitute the waiver of any subsequent breach or default. Licensee also agrees to the following:
Appendix F – End User License Agreement (EULA)

I am not a citizen, national, or resident of, and am not under the control of the government of: Afghanistan, Cuba, Iran, Iraq, Libya, Montenegro, North Korea, Pakistan, Serbia, Sudan, Syria, nor any other country to which the United States has prohibited export.
I will not download or by any other means export or re-export the Programs, either directly or indirectly, to the above countries, nor to citizens, nationals or residents of the above countries.
I am not listed on the United States Department of Treasury lists of Specially Designated Nationals, Specially Designated Terrorists, and/or Specially Designated Narcotics Traffickers, nor am I listed on the United States Department of Commerce Table of Denial Orders.
I will not download or otherwise export or re-export the Programs, directly or indirectly, to persons on the above mentioned lists.
I will not use the Programs for, and will not allow the Programs to be used for, any purposes prohibited by United States law, including, without limitation, for the development, design, manufacture or production of nuclear, chemical, or biological weapons of mass destruction.
Licensee agrees that by purchase and/or use of the Software, s/he hereby accepts and agrees to the terms of this License Agreement.

Multi-User Limited Warranty and License Agreement
The software contained in this package is licensed by Multi-Tech Systems, Inc., to the original end-user purchaser, hereafter referred to as Licensee, of this product for site use. A site is defined as a single business, government, or academic location, such as a building, a floor of a building, a campus, etc., and covers no more than 250 users at that location. A licensee may be a Local Area Network administrator, MIS director, purchasing agent, or other representative who acts on behalf of the users at that single site. This license provides for use of the distribution diskette, other accompanying programs, where applicable, and one copy of the documentation.
The software programs and installation utilities, hereafter referred to as Software, consist of the computer program files included on the original distribution diskette(s) or CD-ROM(s).
Licensee agrees that by purchase and/or use of the Software, s/he hereby accepts and agrees to the terms of this License Agreement. In consideration of mutual covenants contained herein, and other good and valuable considerations, the receipt and sufficiency of which is acknowledged, Multi-Tech Systems, Inc., does hereby grant to the Licensee a non-transferrable and non-exclusive license to use the Software and accompanying documentation under the following terms and conditions:
The software is furnished to the Licensee as the single site representative for execution and use on as many workstations as that single site contains, for up to 250 users inclusively. Software and manuals may be copied, with the inclusion of the Multi-Tech Systems, Inc., copyright notice, for use within that single site. Additional manuals may be ordered from Multi-Tech Systems, Inc., for a nominal charge.
This license covers only the stipulated single site. The Licensee hereby agrees not to provide, or otherwise make available, any portion of this software in any form to any third party without the prior express written approval of Multi-Tech Systems, Inc.
Licensee is hereby informed that this Software contains confidential, proprietary, and valuable trade secrets developed by or licensed to Multi-Tech Systems, Inc., and agrees that sole ownership shall remain with Multi-Tech Systems, Inc.
The Software and documentation are copyrighted. Except as provided herein, the Software and documentation supplied under this agreement may not be copied, reproduced, published, licensed, sub-licensed, distributed, transferred, or made available in any form, in whole or in part, to others without expressed written permission of Multi-Tech Systems, Inc. Copies of the Software may be made to replace worn or deteriorated copies, for archival, or back-up purposes. Licensee agrees to implement sufficient security measures to protect Multi-Tech Systems, Inc.’s proprietary interests, and not to allow the use, copying, or transfer by any means, other than in accordance with this agreement.
Licensee agrees that any breach of this agreement will be damaging to Multi-Tech Systems, Inc. Licensee agrees that all warranties, implied or otherwise, with regard to this Software, including all warranties of merchantability and fitness for any particular purpose are expressly waived, and no liability shall extend to any damages, including consequential damages, whether known to Multi-Tech Systems, Inc. It is hereby expressly agreed that Licensee’s remedy is limited to replacement or refund of the license fee, at the option of Multi-Tech Systems, Inc., for defective distribution media. There is no warranty for misused materials.
If this package contains multiple media formats (e.g., both 3.5” disk(s) and CD-ROM), they are provided only to facilitate use at a single site. Neither this Software, nor its accompanying documentation may be modified or translated without the written permission of Multi-Tech Systems, Inc.
This agreement shall be governed by the laws of the State of Minnesota. The terms and conditions of this agreement shall prevail regardless of the terms of any other submitted by the Licensee. This agreement supersedes any proposal or prior agreement. Licensee further agrees that this License Agreement is the complete and exclusive Statement of Agreement, and supersedes oral, written, or any other communications between Multi-Tech Systems, Inc., and Licensee relating to the subject matter of this agreement. This agreement is not assignable without written permission of an authorized agent of Multi-Tech Systems, Inc.

Copyright 2001 Multi-Tech Systems, Inc.
P/N 87000915 10/01
Appendix G – Regulatory Information

Restriction of the Use of Hazardous Substances (RoHS)

Multi-Tech Systems, Inc. Certificate of Compliance

2002/95/EC

Multi-Tech Systems, Inc. confirms that this product now complies with the chemical concentration limitations set forth in the directive 2002/95/EC of the European Parliament (Restriction Of the use of certain Hazardous Substances in electrical and electronic equipment - RoHS)

These Multi-Tech Systems, Inc. products do not contain the following banned chemicals:

Lead, [Pb] < 1000 PPM
Mercury, [Hg] < 1000 PPM
Hexavalent Chromium, [Cr+6] < 1000 PPM
Cadmium, [Cd] < 100 PPM
Polybrominated Biphenyl, [PBB] < 1000 PPM
Polybrominated Diphenyl Ether, [PBDE] < 1000 PPM

Note:

1. Lead usage in some components is exempted by the following RoHS annex; therefore, higher lead concentration could be found.
   a. Lead in high melting temperature type solders (i.e., tin-lead solder alloys containing more than 85% lead).
   b. Lead in electronic ceramic parts (e.g., piezoelectronic devices).
Information on HS/TS Substances According to Chinese Standards

依照中国标准的有毒有害物质信息

根据中华人民共和国信息产业部 (MII) 制定的电子信息产品 (EIP)
标准——中华人民共和国《电子信息产品污染控制管理办法》（第 39 号），也称作中国 RoHS，下表列出了 Multi-Tech Systems Inc. 产品中可能含有的有毒物质 (TS) 或有害物质 (HS)
的名称及含量水平方面的信息。

<table>
<thead>
<tr>
<th>成分名称</th>
<th>有害/有毒物 / 元素</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>铅 (Pb)</td>
</tr>
<tr>
<td>印刷 * 路板</td>
<td>O</td>
</tr>
<tr>
<td>电容器</td>
<td>X</td>
</tr>
<tr>
<td>* 水体磁 *</td>
<td>O</td>
</tr>
<tr>
<td>* * 器/光学部件</td>
<td>O</td>
</tr>
<tr>
<td>IC</td>
<td>O</td>
</tr>
<tr>
<td>二极管/晶体管</td>
<td>O</td>
</tr>
<tr>
<td>振 * 器和品振</td>
<td>X</td>
</tr>
<tr>
<td>* * 器</td>
<td>O</td>
</tr>
<tr>
<td>* * * 感器</td>
<td>O</td>
</tr>
<tr>
<td>* * 器</td>
<td>O</td>
</tr>
<tr>
<td>* 声器</td>
<td>O</td>
</tr>
<tr>
<td>* 接器</td>
<td>O</td>
</tr>
<tr>
<td>LED</td>
<td>O</td>
</tr>
<tr>
<td>螺 * 、螺母以及其它五金件</td>
<td>X</td>
</tr>
<tr>
<td>交流*直流 * 源</td>
<td>O</td>
</tr>
<tr>
<td>* 件/文档 CD</td>
<td>O</td>
</tr>
<tr>
<td>手册和纸页</td>
<td>O</td>
</tr>
<tr>
<td>底 *</td>
<td>O</td>
</tr>
</tbody>
</table>

X 表示所有使用类似材料的设备中有害/有毒物质的含量水平高于 SJ/Txx-2006
限量要求。
O 表示不含该物质或者该物质的含量水平在上述限量要求之内。
47 CFR Part 15 Regulation

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to 47 CFR Part 15 regulations. The stated limits in this regulation are designed to provide reasonable protection against harmful interference in a commercial 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 Part 15 of the CFR 47 rules. Operation of this device is subject to the following conditions: (1) This device may not cause harmful interference, and (2) 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.
Index

A
Action Triggers ................................................................. 51, 52
Address Book in SMS Services ........................................ 36
Address List Format .......................................................... 57
Admin Access ................................................................. 29
Administration > Admin Access ........................................ 29
Administration > Admin Access Allowed Networks ............ 30
Administration > Factory Defaults ..................................... 32
Administration > Remote Syslog ........................................ 30
Administration > SNTP Client .......................................... 27
Administration > System Setup ......................................... 25
Antenna Connector ........................................................... 11
Antenna Requirements ...................................................... 13
API .................................................................................. 44
Approvals .......................................................................... 13
AT Commands ................................................................. 7
Authentic List ...................................................................... 49
Authentic Users .................................................................. 50
Authenticate ....................................................................... 50
Automatic Save of SMS settings ........................................ 20, 24, 32

B
Back Panel .......................................................................... 11
Backup ................................................................................ 54
Broadcast Triggers ............................................................ 49

C
Cabling ............................................................................ 14
Cellular Modem .................................................................. 34
Creating Address Book Entries ......................................... 36
CSV Format ........................................................................ 55

D
Daylight Saving Time configuration ................................... 28
Dimensions ........................................................................ 13

E
Email notification .............................................................. 25
Email Notification .............................................................. 26
Ethernet 100 ..................................................................... 8
Ethernet LNK ..................................................................... 8
Ethernet ports caution ...................................................... 6
Export an address book ..................................................... 57

F
Factory Defaults ............................................................... 32
Firmware Upgrade ........................................................... 54
Fixed IP Address ............................................................... 17
Flash Memory ................................................................. 20, 24, 32
Front Panel ........................................................................ 7, 8

G
Groups in SMS Services .................................................. 38

H
Handling Precautions ...................................................... 6
Humidity ............................................................................ 13

I
Import ................................................................................ 24
Import & Export Address Book > Import ............................... 24
Import an address book ..................................................... 55
Inactivity Time Out ........................................................... 29
Initialization strings .......................................................... 34
International Number in SMS Services ............................... 39
IP Settings ........................................................................ 33

L
LAN 10/100 .................................................................... 7
LAN LNK/ACT ................................................................. 7, 8
Load Balancing .................................................................. 46
Load Balancing Statistics .................................................. 60
Locked SIM ........................................................................ 55
Log Traces ........................................................................ 61
Login ................................................................................ 19, 62

M
Menu Table ....................................................................... 21
Modem LEDs .................................................................... 7, 8
Multi-User Software License Agreement .............................. 106

N
Navigating the screens ..................................................... 20
Network Registration ....................................................... 18
Network Setup > Cellular Modem ....................................... 34
Network Setup > IP Settings .............................................. 33
Non-administrative users ................................................... 62

O
Obtain a Wireless Account ................................................ 18
Open a Web browser ......................................................... 62
Outbox ............................................................................. 48

P
Panel Mounting .................................................................. 11
Password Changing .......................................................... 24
Polling time ....................................................................... 27
Power Requirements ......................................................... 13
Pre-Configured SMS ........................................................ 53
Index

R
Rack Mounting .................................................. 12
Remote Syslog .................................................. 30
Reset ............................................................... 11
Roaming Status ................................................... 18

S
Safe password ..................................................... 19
Save & Restart .................................................. 25
Send SMS ......................................................... 42
Service Provider Fees ........................................ 18
Signal strength ................................................... 10
Signal Strength Command ................................... 35
Signal strength LEDs .......................................... 10
SIM card ............................................................ 7
SMS Services > Address Book ....................... 36
SMS Services > Groups .................................... 38
SMS Services > International Number ........ 39
SMS Services > Outbox .................................... 48
SMS Services > Send SMS ............................ 42
SMS Services > Send SMS Users ................ 39
SMS Services > SMS API > SMS API ........... 44
SMS Services > SMS Settings ......................... 41
SMS Settings .................................................... 41
SMS Statistics ................................................... 59
SNTP Client ....................................................... 27
Statistics & Logs > Log Traces ....................... 61
Statistics & Logs > SMS Statistics ................. 59
Statistics & Logs > System Information ........ 58
Sub-Menus ......................................................... 21
Subnet Addresses ............................................ 100

Supported Subnet Addresses ................................. 100
System Information Log ....................................... 58
System Setup ................................................... 25

T
TCP Connection ................................................ 35
TCP/IP Communication .................................... 15
Telnet ............................................................... 18
Temperature ..................................................... 13
Time Before Automatic Disconnect ................ 29
Time Stamp ..................................................... 27, 35, 47
Time zone configuration ................................... 28
Tools ............................................................... 31
Triggers > Action Triggers .............................. 51, 52
Triggers > Authentic List .................................. 49
Triggers > Broadcast Triggers ......................... 49
Triggers > Pre-Configured SMS .................... 53

U
Users in SMS Services .................................. 39
Utilities > Backup .......................................... 54
Utilities > Firmware Upgrade ......................... 54

W
Warranty .......................................................... 13
Waste Electrical and Electronic Equipment (WEEE) Directive ............................................. 104
Weight ............................................................. 13
Wizard Setup ................................................... 23