SST Configure Software

OPERATION MANUAL

TRILITHIC
INNOVATIVE ENGINEERING

Trilithic Company Profile

Trilithic is a privately held manufacturer founded in 1986 as an engineering and assembly company that built and designed customer-directed products for telecommunications, military and industrial customers. From its modest beginnings as a two-man engineering team, Trilithic grew over the years and broadened its offerings of RF and microwave components by adding broadband solutions to its product line. This was accomplished with the acquisition of components manufacturer Cir-Q-Tel and instruments manufacturer Texscan.

Today, Trilithic is an industry leader providing telecommunications solutions for major broadband, RF and microwave markets around the world. As an ISO 9000:2001 certified company with over 40 years of collective expertise in engineering and custom assembly, Trilithic is dedicated to providing quality products, services and communications solutions that exceed customer expectations.

Trilithic is comprised of three major divisions:

- **Broadband Instruments & Systems**
  Offers test, analysis and quality management solutions for the major cable television systems worldwide.

- **RF Microwave Components**
  Provides components and custom subsystems for companies specializing in cellular, military and other wireless applications.

- **Emergency Alert Systems**
  Leading supplier of government-mandated emergency alert systems used by HFC service providers.

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Helpful Website

The following website contains general information which may be of interest to you:

http://www.trilithic.com

Trilithic's website contains product specifications and information, tips, release information, marketing information, Frequently Asked Questions (FAQs), bulletins and other technical information. You can also check this website for product updates.

Where to Get Technical Support

Trilithic technical support is available Monday through Friday from 8:00AM to 5:00PM EST. Callers in North America can dial 1-317-895-3600 or 1-800-344-2412 (toll free). International callers should dial 1-317-895-3600 or fax questions to 1-317-895-3613. You can also e-mail technical support at *techsupport@trilithic.com*.

For quicker support response when calling or sending e-mail, please provide the following information:

- Your name and your company name

- The technical point of contact (name, phone number, e-mail)

- The software version numbers

- A detailed description of the problem you are having, including any error or information messages

How this Manual is Organized

This manual is divided into the following chapters:

- Chapter 1, "General Information" provides Trilithic contact information and describes how this Operation Manual is structured.

- Chapter 2, "Introduction" introduces what the SST Configure Software is and what it does.

- Chapter 3, "Installation" describes the steps needed to install the SST Configure Software.

- Chapter 4, "Configuration" describes the steps needed to perform the configuration of the 9581 SST R4 and 9581 RSA.

Conventions Used in this Manual

This manual has several standard conventions for presenting information.

- Connections, Menus, menu options, and user entered text and commands appear in **bold**.

- Section names, Web and email addresses appear in *italics*.

Note: A note is information that will be of assistance to you related to the current step or procedure.

CAUTION: A caution alerts you to any condition that could cause a mechanical failure or potential loss of data.

WARNING: A warning alerts you to any condition that could cause personal injury.

What is the SST Configure Software?

SST Configure is the setup and administration software for the 9581 SST R4 Return Path Analyzer and the 9581 RSA Return SpeedSweep Analyzer. This software is easy to use and encompasses a range of functions that allow you to take full advantage of the features of these devices and also simplify their operation.

Some of the features that can be administered using SST Configure include:

- User account settings

- Device settings

- IP connectivity

- Alarm monitoring parameters

In addition, this software allows the uploading and storage of the settings from one device and then download them into other devices.

Overview of the SST Configure Software

The SST Configure software can perform the following tasks:

- **Configure the device's settings**
  Because the 9581 SST R4 and 9581 RSA are not configurable as a stand-alone units, the SST Configure software must be used to set forward telemetry carriers, reverse sweep carriers, etc. These settings can be stored locally on the PC, which is useful if the user organization has several devices and wants to create and maintain standard configurations for all of them.

- **Administer user accounts for devices**
  Use SST Configure to upload and download account information for the 32 users that can be stored in your instrument. Additions, modifications and deletions to maintain access security for these user accounts are done through SST Configure.

  > **Note:** Depending on user privileges, the user profile of interest may or may not be able to be modified.

- **Administer alarm criteria for devices**
  Alarm criteria determine the conditions, frequency of alarm and types of alarms issued. Alarm criteria can be uploaded and downloaded to your instrument with SST Configure.

- **Administer SNMP configuration (with purchased SNMP option)**
  A SNMP configuration can be uploaded and downloaded to the 9581 SST R4. This configuration affects how Traps are generated and to which destinations they will be sent as well as which version of the SNMP protocol will be used. Also, access rights to the MIB can be defined and placed in the 9581 SST R4 according to user security needs.

Remote Operation

This software is intended to be operated remotely. Remote operation will most likely only be useful to a system administrator or high-end user making system level decisions. Direct connection should only be necessary during initial installation of your instrument or during reconfiguration of any routers in the connectivity path.

The most efficient method of installation is:

1. IT personnel should modify any necessary router settings.

2. The system installer can then connect directly long enough to establish IT connectivity using the IP Config tab.

3. A more in depth setup can then be applied remotely to finish the installation.

For further assistance, contact Trilithic technical support. Technical support is available Monday through Friday from 8:00AM to 5:00PM EST. International callers should dial 1-317-895-3600 or fax questions to 1-317-895-3613. You can also e-mail technical support at _techsupport@trilithic.com_.

Upgrading Your 9581 RSA to a 9581 SST

A 9581 RSA can be upgraded to the functionality of the 9581 SST by pressing the **Update Device to an SST** button that appears when connected to a 9581 RSA. To upgrade your 9581 RSA, contact Trilithic Sales. Trilithic Sales is available Monday through Friday from 8:00AM to 5:00PM EST. International callers should dial 1-317-895-3600 or toll free in North America 1-888-895-7630. You can also e-mail sales at _instrumentsales@trilithic.com_.

Overview

This chapter covers the minimum software requirements of the PC that you wish to install the SST Configure software on as well as how to install the SST Configure software on your PC.

Minimum PC Hardware Requirements

To operate the SST Configure software, the PC that the software is to be installed on **MUST** meet the following minimum requirements:

- Pentium III class processor

- 64 MB RAM

- 100 MB free disk space

- Windows 2000® or XP

- Color monitor running at 256 colors or higher, 1024x768 screen resolution

- Windows compatible mouse

- DB-9 straight through serial data cable or Ethernet connection with access to the 9581 SST R4 or 9581 RSA

Installing the SST Configure Software

Once the PC meets the minimum requirements, the SST Configure software is ready to install.

> **Note:** Be sure to check the CD for release notes that may affect the installation and configuration process!

> **Note:** Depending on the operating system used, logging on as the local administrator to install SST Configure may be needed. If the current login account permissions are not known, check with the network or systems administrator.

1. Insert the SST Configure installation CD into the CD-ROM drive.

2. **If Autorun is enabled for the CD-ROM drive**, the SST Configure setup program will start automatically.

OR

2. **If Autorun is not enabled for the CD-ROM drive**, follow the instructions below to start the installation process.

- Select the **Start** button (which is found on the lower left-hand of your screen).

- Select **Run...** from menu.

- Type *D:\SST_Setup.exe* (substitute the appropriate drive path if D is not your CD-ROM drive).
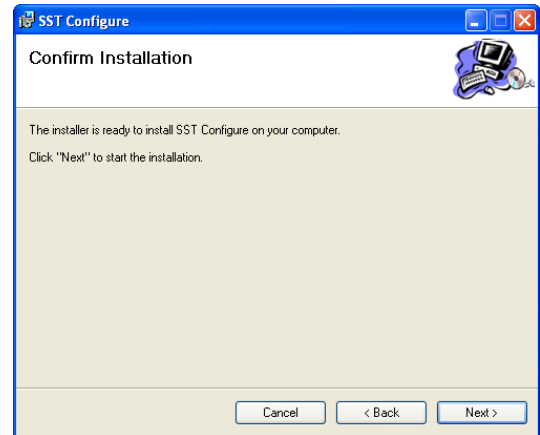
- Select the **OK** button.

3. Once all other programs are closed, select the **Next>** button from the window that appears.
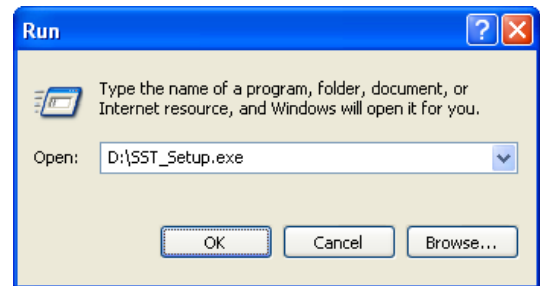
4. Select the Destination folder from the following window. Select the **Next>** button to use the default installation directory or select the **Browse** button to change the installation directory.

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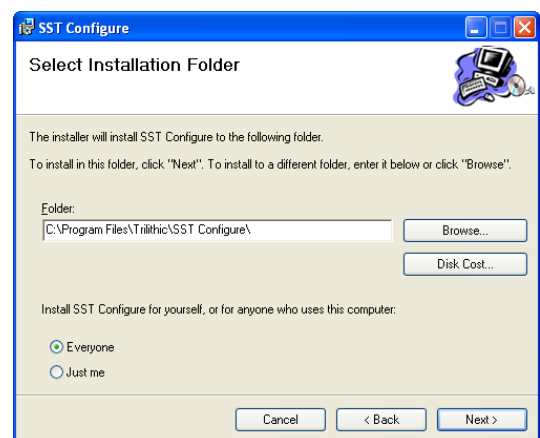
5. To proceed with the installation, select the **Next>** button from the window that appears or select the **<Back** button to go back to the previous installation screen.

6. During installation the following window will appear indicating status of the installation.
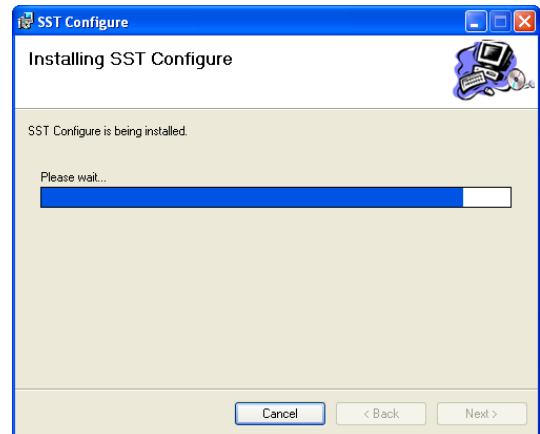
7. After installation is complete the following window will appear, select the **Close** button to exit the installation.
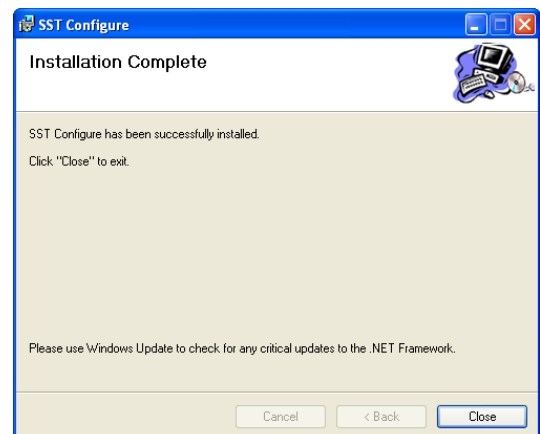
Configuration 4

Overview

In this chapter we will discuss how to perform initial and advanced configuration of your 9581 SST R4 and 9581 RSA.

The following information will be needed before your instrument can be configured:

- Static IP address for each SST or RSA

- Subnet Mask for each SST or RSA

- Gateway IP address for each SST or RSA

- Static IP address for Viewer II software

- Target IP address for each client to the SST

- How many users will need access and their user names and passwords

- Hub names

- Node names

Initial Configuration

Before setting parameters or sending information to/from your instrument, the instrument must be connected to the PC:

1. Connect the device's Port-1 or Port-2 to the PC's serial port using a straight through serial cable.

   Note: The first time configuration of your instrument must be completed using the serial port because the instrument does not initially know how to connect itself through an ethernet connection. This information will be manually entered as part of this initial configuration.

2. Start the SST Configure software.

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3. Make sure that the **Use Ethernet** check box is not selected.

4. Enter the PC's com port value in the **Com Port** box.

5. Select the **Connect to SST/Set Options** button.
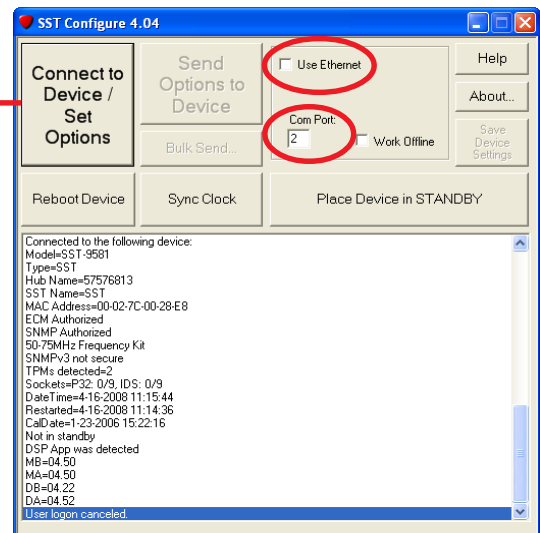
6. The **SST Login** window will appear, enter the appropriate **User Name** and **Password** as follows:

  • **New user,** by default the instrument has only one account where both User Name and Password are *admin*. Enter the default **User Name** and **Password**.

  • **Returning user,** type in the appropriate **User Name** and **Password**.

7. When finished, select the **OK** button. It may take up to 30 seconds for the next screen to appear.

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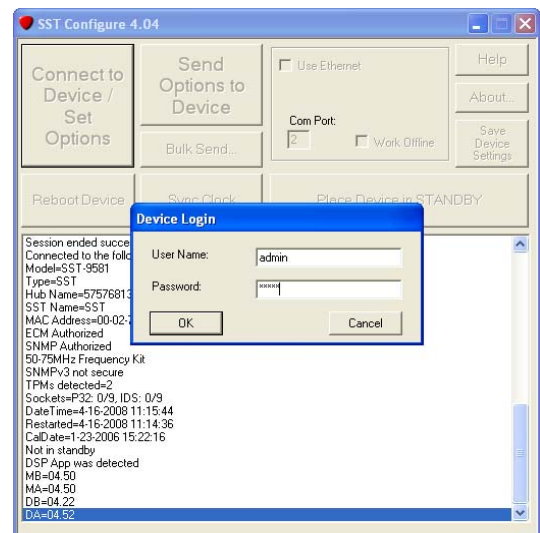
8. The **Options** window will appear with the **IP Config** tab selected.

    Per your network requirements, enter your instrument's:

    - IP Address
    - Subnet Mask
    - Gateway IP Address
    - Primary and secondary DNS Addresses

    If you don't know your DNS Addresses, defaults will be placed on the form by the instrument.

    Note: It is very important that all information on the IP Config tab is correct. Once updates have been downloaded into the instrument and a reboot has been performed, if the IP information is wrong ethernet communication will not be able to be established with the instrument. If this happens, go back to the instrument, reconnect to it with a regular serial cable, update the information, perform another download and reboot.
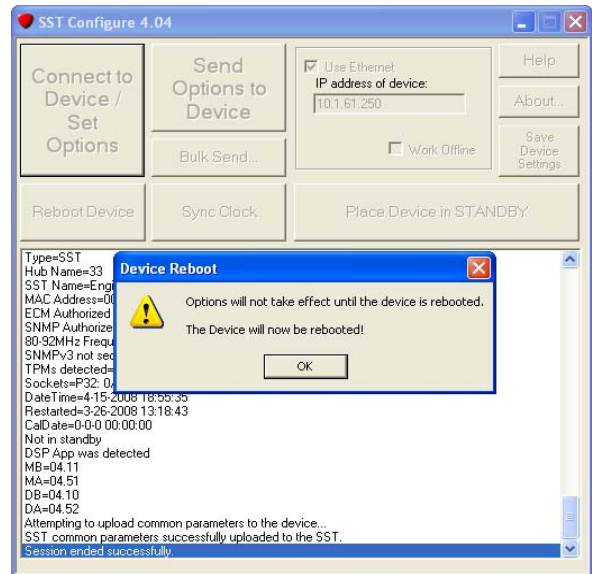

9. When finished, select the **OK** button.

10. Select the **Send Options to SST** button.

11. The **SST Login** window will appear, enter the appropriate **User Name** and **Password**. After entering the **User Name** and **Password,** select the **OK** button to continue.
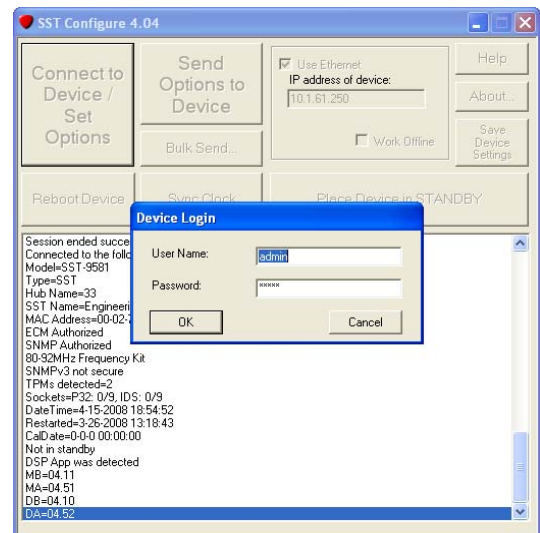
12. When prompted, select the **OK** button to put the new IP configurations into effect and automatically reboot at the same time.

Note: If you receive an error message, try rebooting again. If that doesn't work, contact your network administrator and make sure the IP settings you entered are correct. If your IP settings are correct, contact Trilithic technical support.

Advanced Configuration

This section covers the advanced configuration process for your instrument. If configuring only specific features of the device, go directly to those sections. See the Table of Contents for exact locations of each feature configuration.

Connecting to the Instrument via Ethernet

1. Complete the initial configuration of your instrument as shown in the previous section.

2. Disconnect the serial cable from your instrument and connect the instrument to a PC using an ethernet connection.

> **Note:** Trilithic recommends using an ethernet connection because both the upload and download speeds will increase dramatically. An ethernet connection is roughly ten times faster than a connection using a serial cable.

3. Make sure that the **Use Ethernet** check box is selected.

4. Enter the instrument's IP address in the **IP address of SST** box. (This value is equal to the IP address entered in the previous section.)
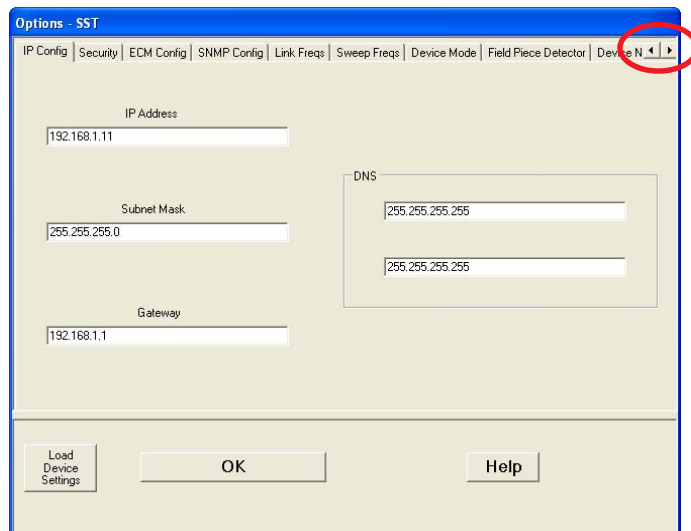
5. Select the **Connect to SST/Set Options** button.
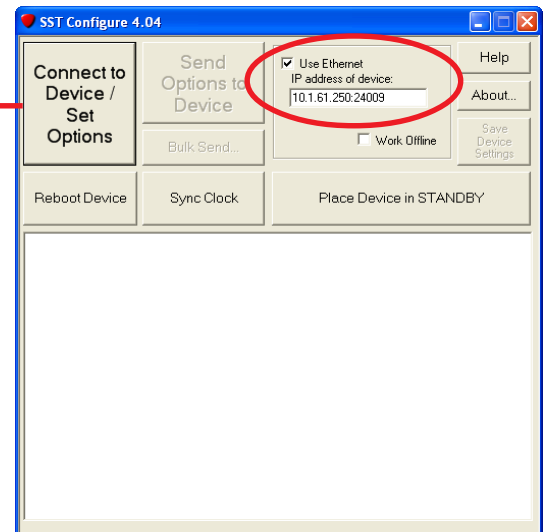
6. The **SST Login** window will appear, enter the appropriate **User Name** and **Password**. After entering the **User Name** and **Password,** select the **OK** button to continue.
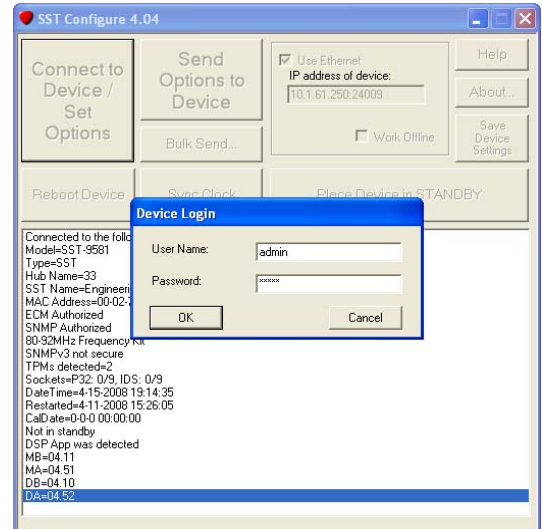
Note: Only select the **OK** button after completing setup of all advanced configuration options, otherwise Step 5 and Step 6 will need to be completed again in order to re-enter the Connect to SST/Set Options feature of the SST Configure software.
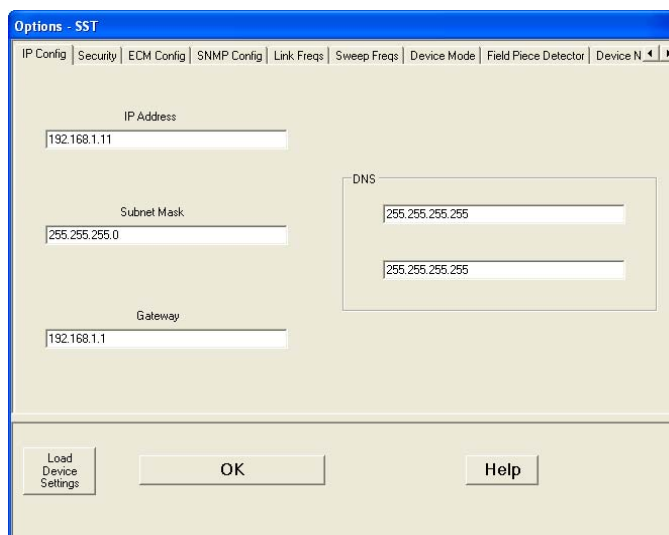
7. The **Options** window will open.

Note: Not all options tabs are displayed at one time. To display more options tabs, use the right and left arrow keys to scroll through the tabs.

IP Configuration

By default the IP Config tab will appear when entering the Connect to SST/Set Options feature of the SST Configure software. Refer to Step 8 of the Initial Configuration Section for more information on entering connection information for your instrument.

Note: To load selected device settings from a saved definition file, select the **Load Device Settings** button, see the *Load Device Settings* section in this chapter for more information.

Note: To continue with the configuration of other advanced configuration options, proceed to the appropriate section.

Note: To complete the configuration, select **OK**, then select the **Send Options to SST** (select **OK** at login screen) button on the main screen, then select the **OK** button to reboot your instrument.

ECM Configuration

Note: The ECM option is not available for the 9581 RSA. So, the **ECM Config** tab will not appear when SST Configure is connected to a 9581 RSA.

Note: If the ECM option **IS NOT** activated, this section does not apply to your 9581 SST R4.

Note: Contact the Trilithic sales department to obtain an activation code. Phone: 1-800-344-2412 (toll free in North America) or 1-317-895-3600 E-mail: *instrumentsales@trilithic.com*

1. If the ECM option has been purchased and activated, choose the **ECM Config** tab and enable the ECM option by selecting the **ECM Enabled** checkbox.

2. As part of the ECM configuration up to 8 user profiles can be created for which there will be threshold curves. To setup a user profile;

- To create a new profile, select the **Profile Name:** box and type in a unique profile name and press the **ENTER** key.

- To rename an existing profile, select the down arrow next to the **Profile Name:** dropdown box to pick an existing profile, then change the profile name and then select the **Change Name** button.

- Choose the correct **SNMP Trap Version** from the **TRAP Settings** heading. If sending traps to Viewer II, select 1. For more information on how to setup Traps, see the *Traps Setup* Section of this chapter.

- Choose the correct **Alarm/TRAP Mode** selection. For more information on how to setup Alarms, see the *Alarm Setup* Section of this chapter.

- Select the **Compressions active on this profile** checkbox if this particular user profile is to be used to store long-term compressed ingress data.

> **Note:** To load selected device settings from a saved definition file, select the **Load Device Settings** button, see the *Load Device Settings* section in this chapter for more information.

> **Note:** To continue with the configuration of other advanced configuration options, proceed to the appropriate section.

> **Note:** To complete the configuration, select **OK**, then select the **Send Options to SST** (select **OK** at login screen) button on the main screen, then select the **OK** button to reboot your instrument.

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Alarm Setup

To create alarm curves for this profile, select the **Set Up Alarms** button. The alarm criteria will be used to generate ingress threshold violation alarms.
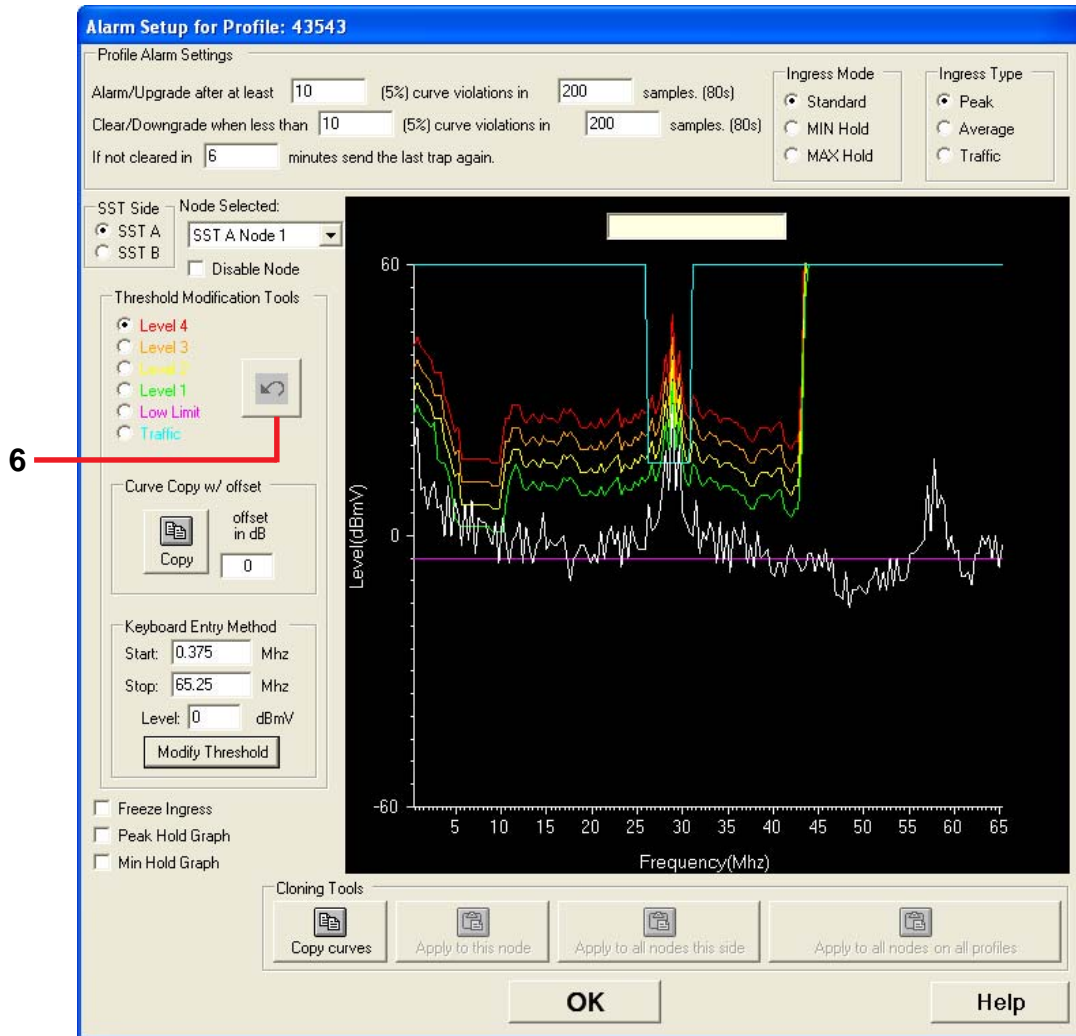
1. The **Profile Alarm Settings** heading will automatically be filled in by the instrument. Modify the values if needed.

    - For Ingress Mode, Viewer II users **MUST** select the **Standard** checkbox from the **Ingress Mode** heading.

    - Ingress ManagR users can select the **MIN Hold** or **MAX Hold** checkbox from the **Ingress Mode** heading in combination with ping mode scan strategies.

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2. Select the **SST A** or **SST B** checkbox from the **SST Side** heading. The 16 inputs to the instrument are grouped as 8 inputs for SST A and 8 inputs for SST B.

3. Select the appropriate node from the **Node Selected:** drop-down list. The current trace and alarm threshold curve levels will appear in the large black display window.

4. Modify an alarm threshold curve level by selecting the appropriate level from the **Threshold Modification Tools** heading. To set the desired start/stop frequencies of an alarm threshold curve;

    • Select the alarm threshold curve with the mouse and physically move it

    OR

    • Enter the values manually in the **Start:**, **Stop:**, and **Level:** boxes from the **Keyboard Entry Method** heading.

    OR

    • Model an alarm threshold curve after an existing curve by entering a value in the **offset in dB** box from the **Curve Copy w/ offset** heading.

5. Select the **Modify Threshold** button. The alarm threshold curve will change the next time the screen updates.

6. To undo the last changes made to a threshold curve, select the **Undo** button.

7. To disable a node's alarms, select the node of interest as shown in Step 3 and then select the **Disable Node** checkbox.

8. To copy the alarm threshold curves of one node to additional nodes of the same instrument perform the following steps;

    • Select the **Copy Curves** button from the Cloning Tools heading.

    • Select a new node as shown in Step 3.

    • Select the **Apply to this Node** button.

9. To copy the alarm threshold curves of one node to an entire side of the same instrument perform the following steps;

    • Select the **Copy Curves** button from the Cloning Tools heading.

    • Select a new node as shown in Step 3.

    • Select the **Apply to all nodes this side** button.

10. To copy the alarm threshold curves of one node to all nodes on all profiles perform the following steps;

- Select the **Copy Curves** button from the Cloning Tools heading.

- Select the **Apply to all nodes on all profiles** button.

- When prompted, select the **YES** button to apply to all nodes on all profiles, select the **NO** button to cancel.

11. To select different views of the ingress signal select either the **Freeze Ingress**, **Peak Hold Graph**, or **Min Hold Graph** checkbox.

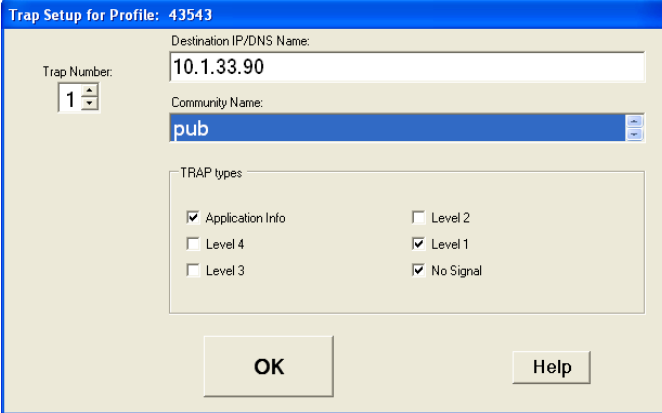12. When finished making changes to the alarm setup, select the **OK** button.

Note: The traffic threshold curve cannot be copied to other nodes or profiles because it is SST side specific and **NOT** node specific.

CAUTION: Adjusting any one node's Traffic threshold changes all nodes on that side.

Trap Setup

If the SNMP option has been purchased and activated, select the correct profile from the **ECM Config** tab and select the **Set Up TRAP's** button. If this option has not been activated, the **Set Up TRAP's** button does not appear and this section does not apply to your 9581 SST R4.

1. Choose the trap number by selecting the up or down arrow next to the **Trap Number** box.

2. Enter an address in the **Destination IP/DNS Name:** box.

3. Choose the community name by selecting the up or down arrow next to the **Community Name:** box.

4. Select the applicable checkboxes from the **TRAP types** heading.

5. When finished making changes to the TRAP setup, select the **OK** button.

SNMP Configuration

> **Note:** The SNMP option is not available for the 9581 RSA. So, the **SNMP Config** tab will not appear when SST Configure is connected to a 9581 RSA.

> **Note:** If the ECM or SNMP option **IS NOT** activated, this section does not apply to your 9581 SST R4.

> **Note:** Contact the Trilithic sales department to obtain an activation code. Phone: 1-800-344-2412 (toll free in North America) or 1-317-895-3600 E-mail: *instrumentsales@trilithic.com*

1. If the SNMP option has been purchased and activated, choose the **SNMP Config** tab and enable the SNMP option by selecting the **SNMP Enabled** checkbox. The **SNMP Enabled** checkbox does not appear and the option cannot be enabled without first enabling the ECM option.

2. Under the **Device Type** heading, select whether this device will act as a SNMP master unit or SNMP slave unit relative to the SNMP gets and sets from the MIB.

- **For 9581 SST R4s that will have their own IP on the corporate LAN rather than being behind a router for IP conservation,** select the **Master** checkbox and do not enter any slaves in the **Device IP List**.

- **For 9581 SST R4s that are hidden behind a router in an IP conservation scheme using individual TCP ports for addressing,** select the **Master** checkbox for one of the 9581 SST R4s to select it as SNMP master and select the **Slave** checkbox for all other 9581 SST R4s on that single IP address.

- **For 9581 SST R4s configured as the SNMP master with slaves** can have up to 15 slaves on their slave list.

3. To enter an IP address in the **Device IP List**, type in the IP address of the 9581 SST R4 and select the **Add IP** button.

4. To delete an IP address from the **Device IP List**, select the down arrow next to the dropdown list, select the appropriate IP address, and select the **Delete IP** button.

5. Under the **System Information** heading, enter the system information for this specific 9581 SST R4.

- In the **System Contact** box, type in the name of the person serving as a system contact when a trap comes in.

- In the **System Name** box, type in the device name of the 9581 SST R4. This name can be the same as the **Device Name** on the **Device Names** tab, but does not have to be.

- In the **System Location** box, type in the device name of the 9581 SST R4. This name can be the same as the **Hub Name** on the **Device Names** tab, but does not have to be.

6. Under the **SNMP Access Settings** heading, setup the communications access settings as follows;

- Under the **V1/2C Access Settings** heading, setup at least one community name in the **Community Names:** box. If you do not setup a community name, there will not be any SNMP destinations available.

a. To create a new community name in the **Community Names** dropdown list, type in a unique community name and select the **Add** button.

b. To delete an existing community name from the **Community Names** dropdown list, select the down arrow next to the dropdown list, select the appropriate community name, and select the **Delete** button.

c. To set access for a specific community, select the down arrow next to the dropdown list, select the appropriate community name, and select the checkbox next to **Set Access**.

- Under the **V3 Access Settings** heading, setup the access, authentication, and encryption for a specific user by selecting the down arrow next to the dropdown list, selecting the appropriate user name, and then perform the following actions;

    a. To set access, select the checkbox next to **Set Access**.

    b. To set the type of authentication, select the appropriate radio button under the **V3 Authentication** heading.

    c. To set the type of encryption, select the appropriate radio button under the **V3 Privacy** heading.

- Contact the local IT department for help with completing the items in the **SNMP Access Settings** box.

Note: To continue with the configuration of other advanced configuration options, proceed to the appropriate section.

Note: To complete the configuration, select **OK**, then select the **Send Options to SST** (select **OK** at login screen) button on the main screen, then select the **OK** button to reboot your instrument.

Note: To load selected device settings from a saved definition file, select the **Load Device Settings** button, see the _Load Device Settings_ section in this chapter for more information.

Security

> **Note:** In order to modify settings in the **Security** tab, the user must be logged in to the instrument as an administrator.

1. Select the **Security** tab.

2. Up to 31 user names and passwords can be entered. To setup a new user account; select the **UserName:** box and type in a unique user name, select the **Password:** box and type in a unique password, select the appropriate checkbox from the **User Profile Modification Rights**, and then select the **Add User** button.

3. To delete a user name:, select the appropriate user name by selecting the down arrow next to the **UserName:** dropdown box to pick an existing user name and select the **Delete User** button.

4. The user name and password of the administrator account can be edited by entering a unique user name and password in the **UserName:** and **Password:** boxes from the **Admin Settings** heading.

Note: To load selected device settings from a saved definition file, select the **Load Device Settings** button, see the *Load Device Settings* section in this chapter for more information.

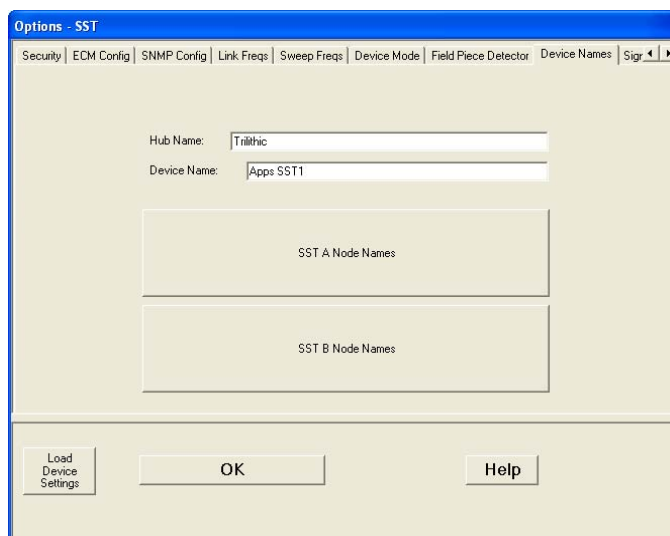**Note:** To continue with the configuration of other advanced configuration options, proceed to the appropriate section.

Note: To complete the configuration, select **OK**, then select the **Send Options to SST** (select **OK** at login screen) button on the main screen, then select the **OK** button to reboot your instrument.

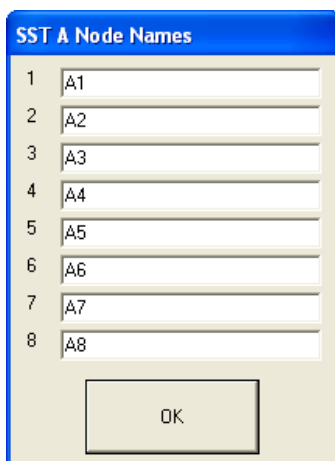## Device Names

1. Select the **Device Names** tab.

2. Select the **Hub Name:** box and enter the hub name of that the 9581 SST R4 is physically connected to and then press the **ENTER** key.

3. Select the Device Name: box and enter a unique device name for the 9581 SST R4.

> **Note:** The device name must be unique because it will serve as an identifier when an alarm trap is sent out.

4. To enter custom node names, select either the **SST A Node Names** or **SST B Node Names** button. The **SST A Node Names** window is shown in the following figure.

5. Enter a unique node name for each node and then select the **OK** button.

> **Note:** Each node name must be unique because it will serve as an identifier when an alarm trap is sent out.

> **Note:** The Hub Name, Device Name, and Node Names entered will be the same names seen by the Viewer II software that is part of the Guardian II System and will be sent as part of the SNMP trap content if that option has been enabled.

> **Note:** To continue with the configuration of other advanced configuration options, proceed to the appropriate section.

> **Note:** To complete the configuration, select **OK**, then select the **Send Options to SST** (select **OK** at login screen) button on the main screen, then select the **OK** button to reboot your instrument.

Device Mode

> **Note:** The **Device Mode** tab will not appear when SST Configure is connected to a 9581 RSA, since the 9581 RSA can only operate in the **40 Hz Ingress Monitoring (375KHz) with field piece sweep ENABLED** ingress monitoring mode.

1. Select the **Device Mode** tab.
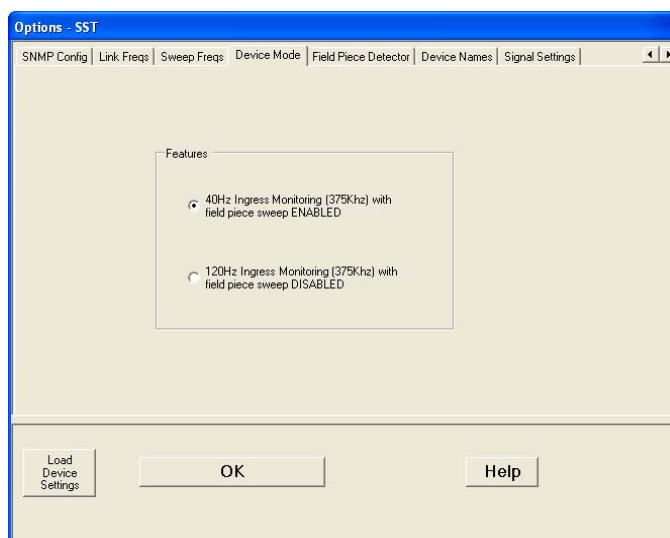
2. On this tab the ingress monitoring mode of the instrument will be selected. The following choices are available:

   - Select the **40 Hz Ingress Monitoring (375KHz) with field piece sweep ENABLED** radio button to enable the reverse sweep and RSVP support.

   - Select the **120 Hz Ingress Monitoring (375KHz) with field piece sweep DISABLED** radio button to disable the reverse sweep and RSVP support.

> **Note:** Either mode will supply 375 KHz RBW ingress monitoring at one of the two rates and still supports ingress feedback to the field pieces.

> **Note:** To load selected device settings from a saved definition file, select the **Load Device Settings** button, see the _Load Device Settings_ section in this chapter for more information.

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Note: To continue with the configuration of other advanced configuration options, proceed to the appropriate section.

Note: To complete the configuration, select **OK**, then select the **Send Options to SST** (select **OK** at login screen) button on the main screen, then select the **OK** button to reboot your instrument.

Field Piece Detector

> **Note:** The **Field Piece Detector** tab will not appear when SST Configure is connected to a 9581 RSA, since the 9581 RSA can only operate in the Average Ingress mode.

1. Select the **Field Piece Detector** tab.
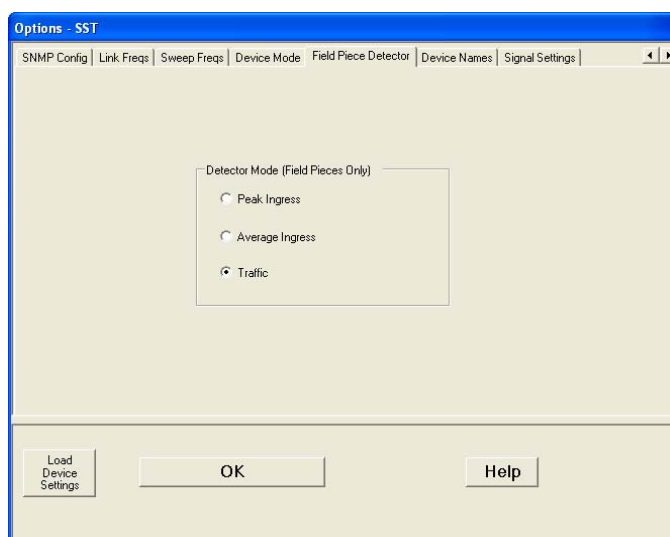
2. On this tab the ingress detector mode that is sent to the field pieces will be determined. The following choices are available:

   - Select the **Peak Ingress** radio button to send the peak of all ingress to the field pieces. This may be the preferred mode for users attempting to troubleshooting the source of system ingress.

   - Select the **Average Ingress** radio button to send the average of all ingress to the field pieces. This may be the preferred mode for users supporting RSVPs in the field where the best estimate of C/N ratio is required.

   - Select the **Traffic** radio button to send the peak of all ingress below the traffic curves that are defined to the field pieces. This may be the preferred mode for users attempting to troubleshoot system ingress in the presence of active channels or known system traffic.

Note: To load selected device settings from a saved definition file, select the **Load Device Settings** button, see the *Load Device Settings* section in this chapter for more information.
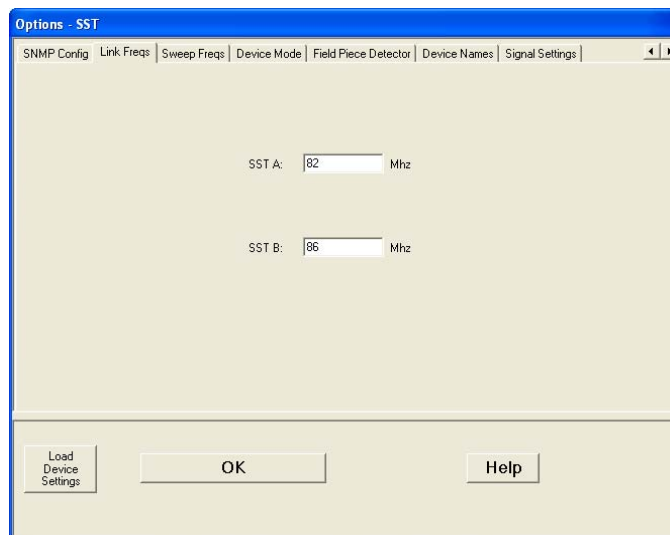
Note: To continue with the configuration of other advanced configuration options, proceed to the appropriate section.

Note: To complete the configuration, select **OK**, then select the **Send Options to SST** (select **OK** at login screen) button on the main screen, then select the **OK** button to reboot your instrument.

Link Frequencies

1. Select the **Link Freqs** tab.

2. On this tab the link frequencies to be used in sending telemetry to the field pieces will be entered.

   - These frequencies can be the same if narrowcasting (only one telemetry carrier per forward feed) the telemetry signal.

   - Where there are multiple telemetry signals carried on a common forward feed, the link frequencies should be separated by 500 KHz.

> **Note:** To load selected device settings from a saved definition file, select the **Load Device Settings** button, see the _Load Device Settings_ section in this chapter for more information.

> **Note:** To continue with the configuration of other advanced configuration options, proceed to the appropriate section.

> **Note:** To complete the configuration, select **OK**, then select the **Send Options to SST** (select **OK** at login screen) button on the main screen, then select the **OK** button to reboot your instrument.

Sweep Frequencies

1. Select the **Sweep Freqs** tab.

2. On this tab the sweep frequencies used in conjunction with the telemetry to the field pieces will be entered.

    - Select the appropriate checkbox below the **1st/Lst** heading.

    - Next to the corresponding checkbox, select the beginning and ending frequencies for use in computing the gain and tilt measurements performed by the 9581 SST R4.

> **Note:** To load selected device settings from a saved definition file, select the **Load Device Settings** button, see the _Load Device Settings_ section in this chapter for more information.
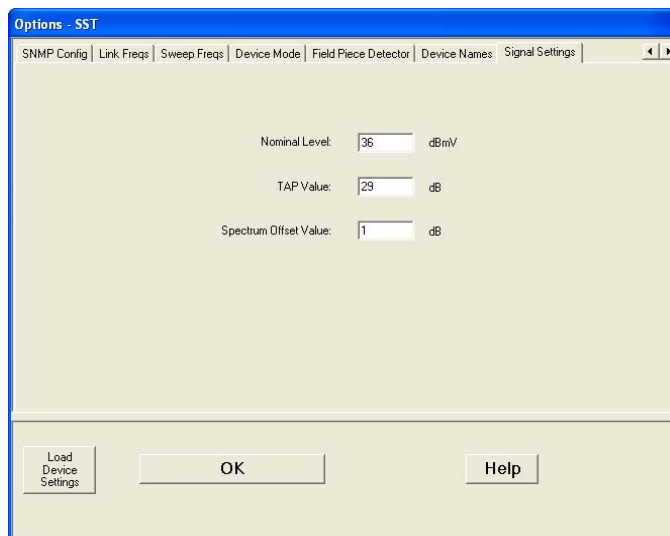
> **Note:** To continue with the configuration of other advanced configuration options, proceed to the appropriate section.

> **Note:** To complete the configuration, select **OK**, then select the **Send Options to SST** (select **OK** at login screen) button on the main screen, then select the **OK** button to reboot your instrument.

Signal Settings

1. Select the **Signal Settings** tab.

2. Enter the nominal return level of the system in the **Nominal Level:** box.

3. Enter the TAP value of the nominal return level to the instrument in the **TAP Value:** box.

4. Enter the value that will reduce the noise floor of the unit at the expense of the signal overhead in the **Spectrum Offset Value:** box. Valid values to enter are from 0 to 7.

   - SSRs will not function correctly if a value other than 0 is entered in the **Spectrum Offset Value:** box.

   - 860 DSPs with current firmware can work with a spectrum offset value of 0 to 7.

   - Before entering a value in the **Spectrum Offset Value:** box, the firmware of the SST must be at version 4.22 or higher.

   - The 9581 RSA does not allow changing the **Spectrum Offset Value** from its default value of zero (0).

Note: To load selected device settings from a saved definition file, select the **Load Device Settings** button, see the _Load Device Settings_ section in this chapter for more information.

Note: To continue with the configuration of other advanced configuration options, proceed to the appropriate section.
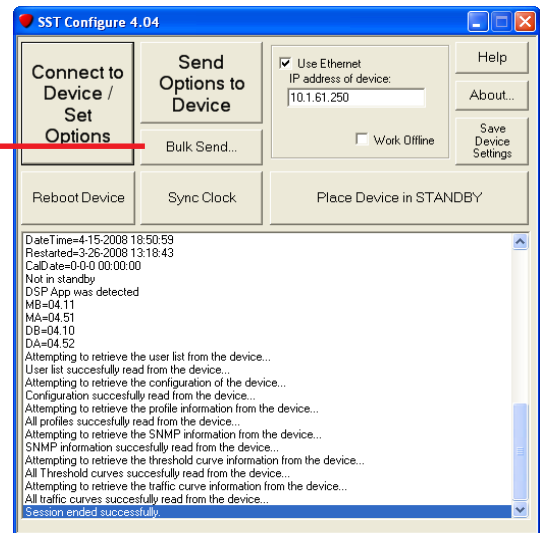
Note: To complete the configuration, select **OK**, then select the **Send Options to SST** (select **OK** at login screen) button on the main screen, then select the **OK** button to reboot your instrument.
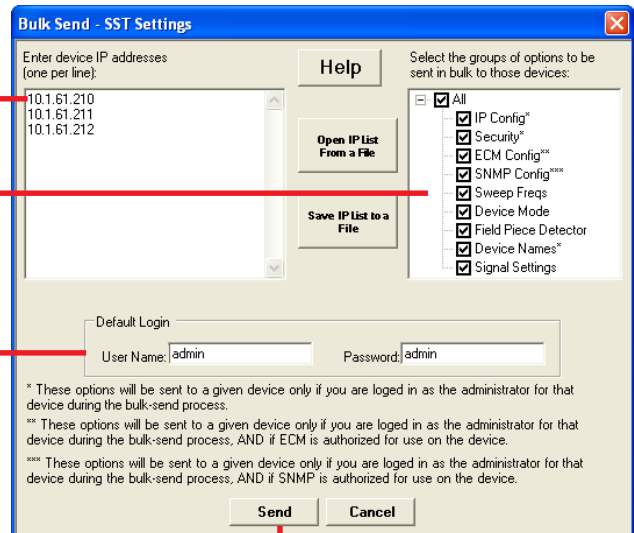
Bulk Send

Use the bulk send option to send a group of options to multiple instruments.

1. Select the **Bulk Send...** button.

2. Enter the IP addresses of the appropriate instruments or select the **Open IP List From a File** button to open a previously saved list file.

3. Select the checkbox next to the appropriate options to send to the instruments or select the checkbox next to **All** to send all options to the instruments.

4. Enter the default login **User Name** and **Password**.

5. Select the **Send** button.

> **Note:** To save your IP list for future use, select the **Save IP List to a File** button, select the correct path name, enter the IP list file name, and then select the **Save** button.

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6. The **Bulk Send - SST Settings** area will appear at the bottom of the main screen. This will show the progress of the bulk update on an instrument by instrument basis.

   - The **Skip This Device** button is used to skip the device shown in the **Sending To Device at IP** field.

   - The **Stop After This Device** button is used to stop the bulk update process after the current instrument is updated.

7. As the bulk updates are completed or not completed for each IP address, the IP address will be shown in the **Devices Complete** or **Devices NOT Completed** fields.

   - To save a list of IP addresses that have either had the bulk update completed or not completed, select the corresponding **Save to File** button.

   - Select the correct path name, enter the desired definition file name, and then select the **Save** button.

8. After the bulk update has been complete, the **Bulk Send - SST Settings** area will display **(Done)**, select the OK button to close this area of the main screen.

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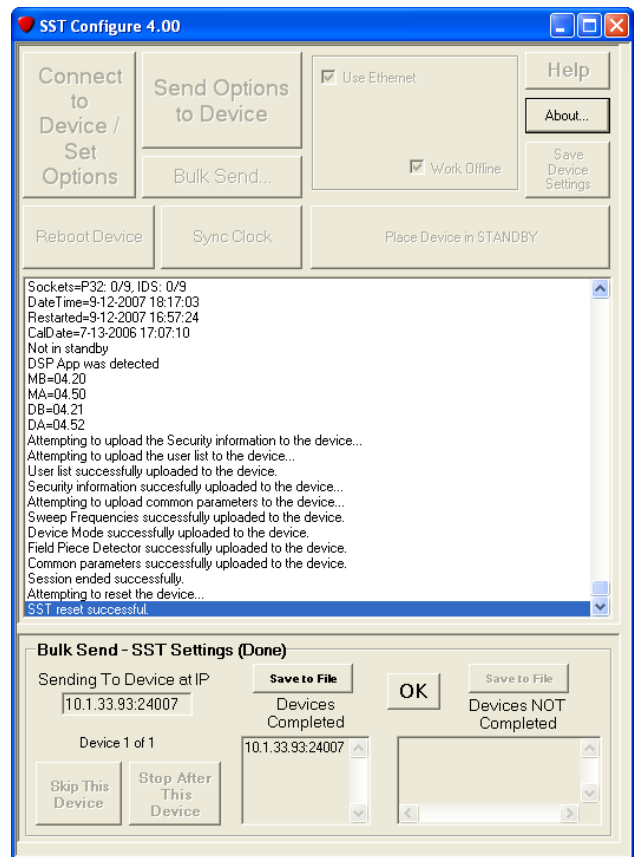
Sync Clock

Select the **Sync Clock** button to synchronize your instrument's clock to the clock on your PC, enter your user name and password, and then select the **OK** button.
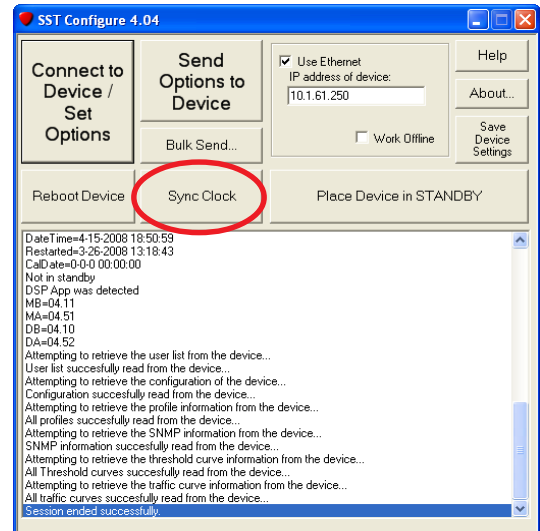

Device Standby Mode

Select the **Place Device in STANDBY** button to put your instrument into standby mode, enter your user name and password, and then select the **OK** button.

To bring the instrument back from standby mode, select the Reboot Device button, enter your user name and password, and then select the **OK** button to reboot your instrument.
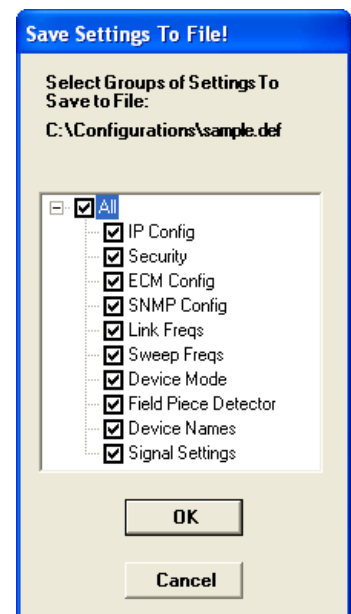
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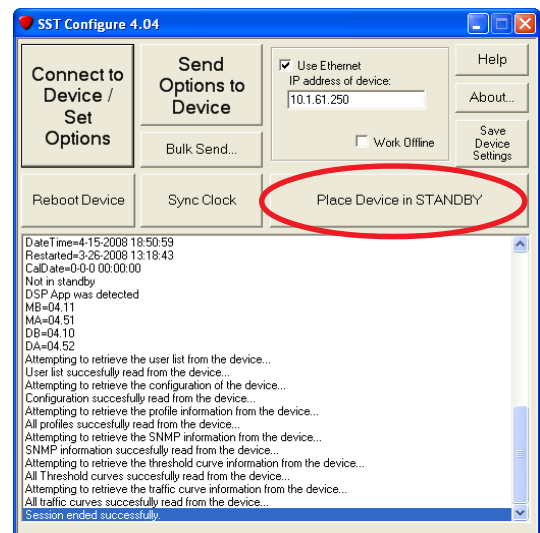
Save Device Settings

Select the **Save Device Settings** button to save selected device settings to a definition file on your PC, select the correct path name, enter the desired definition file name, and then select the **Save** button.
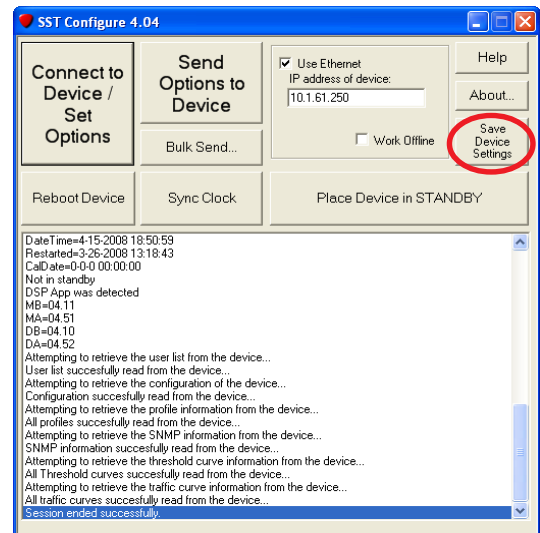
The **Save Settings to File!** window will appear. Select the desired device settings to save by selecting the corresponding check-box, and then select the **OK** button or select the **Cancel** button to exit without saving.
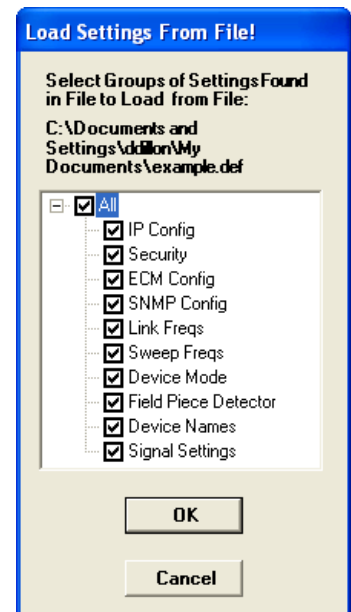
Load Device Settings

Select the **Load Device Settings** button to load selected device settings from a definition file on your PC, select the correct path name, enter the desired definition file name, and then select the **Open** button.


The **Load Settings from File!** window will appear. Select the desired device settings to load by selecting the corresponding check-box, and then select the **OK** button or select the **Cancel** button to exit without loading.

Work Offline

Select the **Work Offline** check-box to edit and save device settings without connecting to an instrument. Once you have selected this check-box, you can access the **Options** window by selecting the **Connect to Device / Set Options** button.
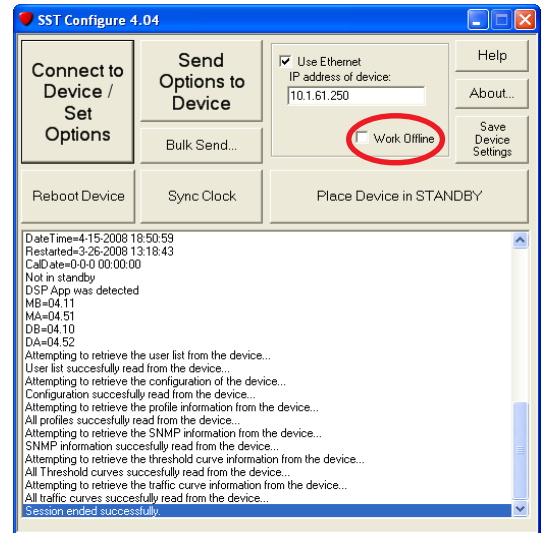
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