

A grayscale world map is centered in the background of the top banner. The word "ConfigR" is overlaid on the map in a bold, italicized, black sans-serif font.

ConfigR

***RSVP CONFIGURATION
SOFTWARE***

**OPERATION
MANUAL**



TRILITHIC
INNOVATIVE ENGINEERING



TRILITHIC

Trilithic, Inc. was founded in 1986 as an engineering and assembly company providing customized communications and routing systems for business and government applications. As business expanded, Trilithic broadened its offerings by acquiring components manufacturer Cir-Q-tel and instruments manufacturer Texscan, adding broadband solutions to the product line.

Today, Trilithic is comprised of three major divisions, Broadband/CATV Instruments & Systems, RF Microwave Components, and Emergency Alert Systems. The Instruments Division offers Test, analysis and quality management solutions for the major cable television systems worldwide. The Division specializes in the design and manufacturing of portable RF test equipment and integrated test systems performing in a wide range of HFC and LAN applications. The Wireless division provides components and custom solutions for companies specializing in cellular, military and other wireless applications. The EAS Division is a leading supplier of government-mandated Emergency Alert Systems used by HFC service providers.

An industry leader providing telecommunications solutions for major broadband and wireless markets around the world, Trilithic is dedicated to providing quality products, services and communications solutions meeting or exceeding our customers' expectations. Today, from our worldwide headquarters in Indianapolis Indiana, we provide over 1500 measurement products and communications components to thousands of customers around the world.



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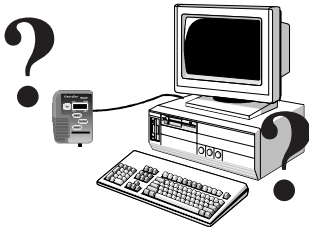
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GENERAL INFORMATION

1

Introduction

ConfigR for Windows is Trilithic's exciting software which enables you to configure your Guardian RSVP unit directly from your PC.

ConfigR simplifies configuring your RSVP by providing an easy to use graphic interface. This interface allows you to tailor your RSVP exactly to your system. You can even store your favorite configurations so that you can use them over and over without having to recreate them each time.

About Guardian RSVP

The Guardian RSVP is designed specifically to work with Trilithic's 9580 SST Sweep and Ingress Analyzer unit when it is mounted in the headend. With just a push of a button, the RSVP verifies automatically that the level needed to communicate with the headend is within the range of the set top terminal. Then it measures the carrier/ (ingress and noise) ratio of the entire return path; from the set top terminal to the headend. The RSVP scores the results as PASS or FAIL and displays the measurement data.

Up to twenty RSVPs and five 9580 SSR field units can operate through a single 9580 SST.

System Requirements

In order to run RSVP ConfigR, you need an IBM®-compatible computer with the following options:

- Intel 80486 or higher processor
- 4 MB of RAM or greater
- 1 COM Port for the 9580 Guardian RSVP

- 2 MB of Hard Drive space for installation
- VGA Color Monitor with a minimum resolution of 640 x 480 and 256 Colors.
- A Windows compatible mouse
- Windows 95, Windows 98, Windows NT, Windows 2000, or Windows XP operating system
- CD-ROM Drive for installation

INSTALLATION PROCEDURES

2

Installing RSVP ConfigR

Once you have made sure that your system meets the minimum requirements, you're ready to install the RSVP ConfigR software.

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

To install the RSVP ConfigR software, do the following:

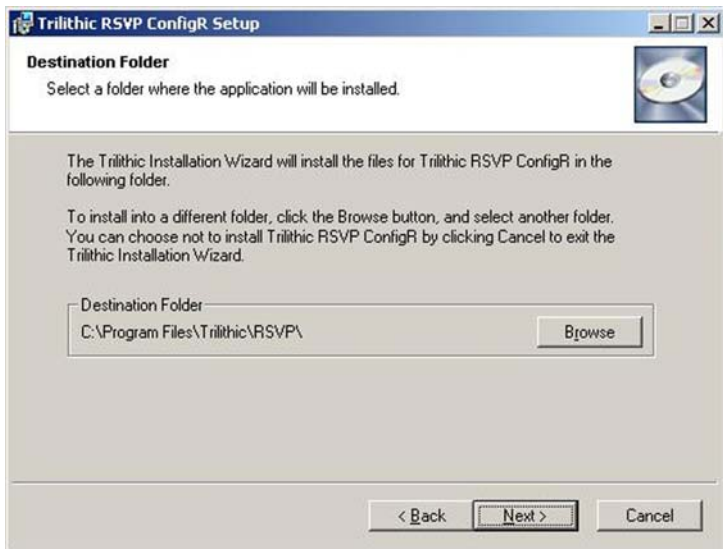
1. Depending on the operating system you are installing the RSVP ConfigR software on, you may need to log on as the local administrator. (Check with your network or systems administrator if you're not sure about your current login account permissions.)
2. Insert the ConfigR software CD in the appropriate drive.
3. If you have Autorun enabled for the CD-ROM drive, the RSVP ConfigR software setup program will start automatically. Otherwise, click Start, then click Run, and type `[drive]:\setup.exe`, then click OK. (Substitute the appropriate drive path in the command.) The Setup program starts.



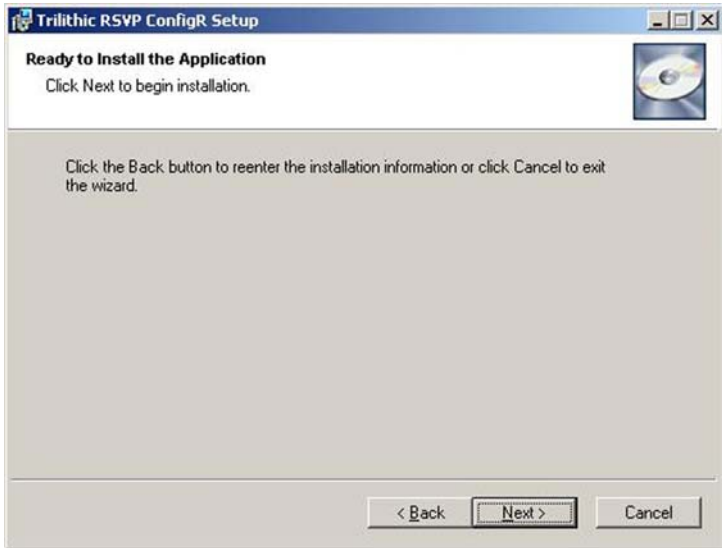
4. After a short time, the initial Trilithic RSVP ConfigR setup screen appears.



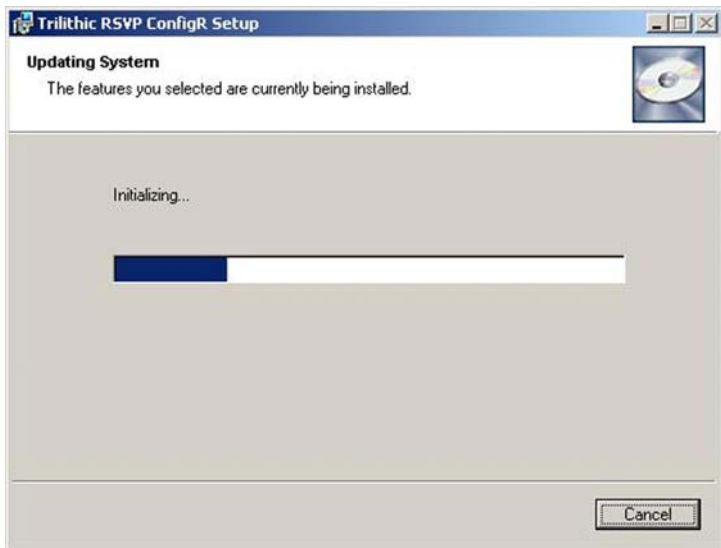
5. Click **Next**. The Destination Folder screen appears.



6. Enter information on this screen as follows:
Destination Folder: By default, the installation procedure installs RSVP ConfigR in the C:\Program Files\Trilithic\RSVP\ folder. You can select a different location by clicking Browse.
7. After you have selected the destination folder for RSVP ConfigR, click **Next**. The Ready to Install screen should appear.



8. Click **Next** to start the installation process. The Trilithic installation procedure installs the files. While the software is being installed, a screen appears that shows the progress of the installation. (The entire installation process should only take a minute or two at most.)



9. When the RSVP ConfigR software has been installed on your system, a dialog box appears. After clicking **Finish**, the Installation will be complete.



10. You should now find the software located on your Start menu, under Programs, Trilithic, RSVP ConfigR.



CONNECTING PC AND RSVP



Introduction

Now that you have installed the ConfigR software, you need to connect your Guardian RSVP to a PC via a data cable.

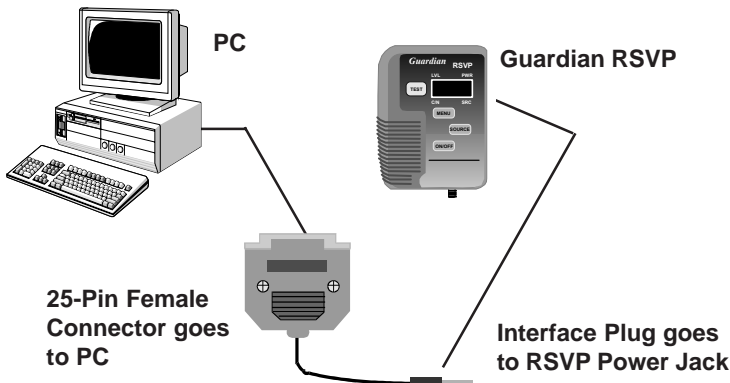
Cable Type

It is a good idea to use the RSVP Data Cable (P/N 2071082000) developed by Trilithic which came with the software. This cable contains a circuit board which is designed specifically to link an RSVP to a PC. Similar cables from other sources will not work correctly.

NOTE: If you connect the RSVP Data Cable to a switch box or another cable, make sure that the PC's DTR (data terminal ready) line is available. This DTR line actually powers the RSVP Data Cable.

Make Connections

You may connect the RSVP Data Cable to the PC first or to the Guardian RSVP unit first. Refer to the figure below.



To connect the Data Cable to the PC, attach the 25-pin female connector on the RSVP Data Cable to an available COM Port on your PC.

CAUTION: Do not use the COM Port of your mouse as you need it connected to the PC in order to run the software. If you have an external modem, you may disconnect it and use that port for the Data Cable. Do not use a parallel port since it will not function correctly.

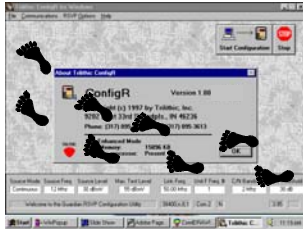
To connect the Data Cable to the RSVP, insert the interface plug on the Data Cable into the power jack on the side of the RSVP unit.

NOTE: The power jack on your RSVP doubles as a charge jack and programming port. In order to program your RSVP, you must operate the unit from it's internal battery.

Troubleshooting

If you have difficulty operating ConfigR, you should use the following procedure:

1. Check and make sure that the RSVP Data Cable (P/N 2071082000) is connected to your PC's COM Port.
2. If ConfigR will not let you assign the COM Port that you desire, you need to check several possibilities. Make sure that you are not trying to assign the COM Port belonging to your mouse. You should also check to see if you have an internal modem or a DOS driver already assigned to that COM Port. Finally, make sure that the desired COM Port actually exists.
3. If you are still having problems, call Trilithic at (800) 344-2412.



CONFIGR WALKTHROUGH

Introduction

Before we proceed with configuring your RSVP, you might want to take a minute or two to familiarize yourself with the software and how it works.

Menu Selection

The easiest way to get around in ConfigR is to use your mouse to *click* on the desired menus just as you do in other Windows Applications.

If you prefer, you may also use the keyboard to highlight the menus. PRESS the **ALT** key plus the letter for the desired menu. For example, to enter the FILE Menu, PRESS **ALT** and **F** at the same time.

Once you are in a menu, you can use the arrow keys (←, ↑, →, ↓) to move within the menu. You can use the **TAB** key to scroll through choices in the various commands.

On-Line Help

ConfigR is equipped with an on-line help function to assist you in using the application. The basic help feature can be accessed by selecting the HELP Menu. You can select **SEARCH F1** to search for a specific ConfigR topic.

In addition to using the HELP Menu, ConfigR provides context sensitive help while it is running. This is designed to give you instant help information rather than having to search for a given topic.

For example, when you are in a particular window of ConfigR and you need information regarding procedures, simply press **F1** and the ON-LINE HELP for that topic appears.

Once you are inside the Help Menu System (Standard Windows Help), you can bring up other HELP screens by searching for key words, referring to the HELP Menu's Table of Contents, or by bringing up previously viewed Help Topics.

A Quick Tour

When you first open ConfigR, the MAIN screen appears. This consists of the MAIN MENU BAR at the top of the screen, the STATUS BAR at the bottom of the screen, the window area in the center where the various operations open, and the START CONFIGURATION and STOP buttons.

MAIN MENU BAR

The MAIN MENU Bar contains the menus used to operate ConfigR and to open its various operations.



The bar includes the FILE, COMMUNICATIONS, RSVP OPTIONS, and HELP Menus.

The FILE Menu contains the commands you use to manage files. These include NEW, OPEN, SAVE AS and EXIT PROGRAM.

The COMMUNICATIONS command enables you to assign a new COM Port if you need to update your initial or previous selection.

The RSVP OPTIONS Menu serves as the central link or data manipulation point for ConfigR. All configuration parameters of your Guardian RSVP are manipulated in these menus.

The HELP Menu enables you to access the on-line help feature of your software.

STATUS BAR

The STATUS BAR at the bottom of the main window displays various messages, communication parameters and error codes which are generated during operation.

Source Mode	Source Freq.	Source Level	Max. Test Level	Link Freq.	Unit F Freq. #	C/N Bandwidth	C/N Threshold
Continuous	12 Mhz	30 dBmV	55 dBmV	50.00 Mhz	1	2 Mhz	30 dB
Welcome to the Guardian RSVP Configuration Utility				38400,n,8,1	Com 2	N	3.95

The first row of fields indicates the configuration parameters for the RSVP unit.

The second row of fields indicates the following:

- Operator Message Field - Displays assorted messages and error codes for several seconds. If there is a warning, the message is displayed and the PC emits a *beep*.
- Communications Field - Contains the Baud Rate, Parity, Data Bits and Stop Bits. This field should always display the following: 38400,n,8,1.
- COM Port Field - Contains the selected COM Port. This can be COM Port 1, 2, 3, or 4.

REMINDER: Do not use the COM Port which is assigned to your mouse. If the mouse is set at COM Port 1, set ConfigR to a different COM Port (2, 3, or 4).

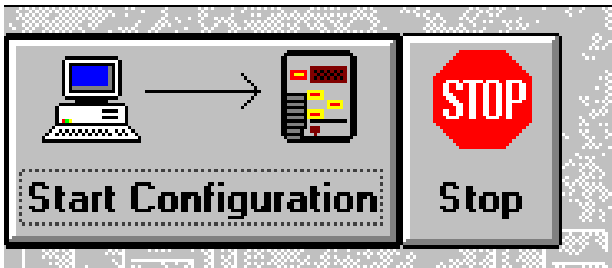
- Handshaking Field - Contains the designation for the communications handshake. This needs to be "N" (none).
- Version Field - Contains the version number for your current copy of Windows.
- Sixth Field - This field is for factory use only.

OPTION WORK AREA

The central portion of ConfigR's window or OPTION WORK AREA, serves as the central link or data manipulation point for the software. All of the configuration parameters for your RSVP unit are set up in the menus which appear in this area.

START CONFIGURATION AND STOP BUTTONS

Use the two command buttons in the top right of the main window to start or stop the communications dialogue between ConfigR and the RSVP unit.



CONFIGR OPERATION

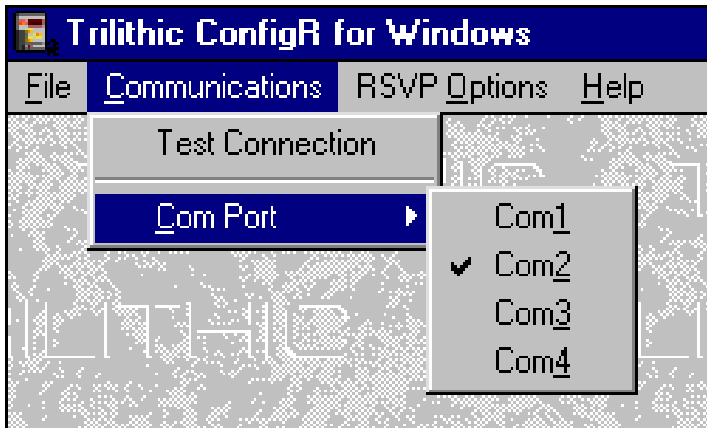


Introduction

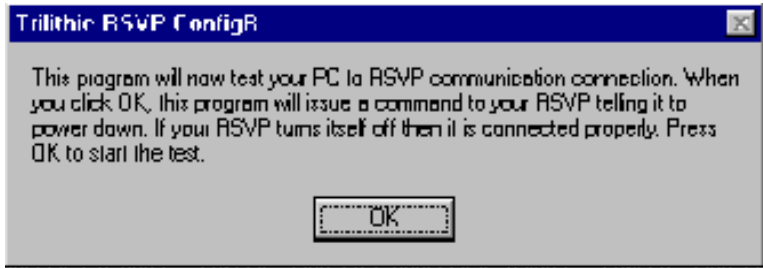
Now that you are more familiar with ConfigR's various components, you are ready to jump right in and start using it.

Set/Test Connection

When you first enter ConfigR, you are asked to designate the COM Port to which the RSVP is connected. If you wish to verify or change the COM Port setting, *click* on **COMMUNICATIONS** on the MAIN MENU BAR and then *click* on **Com Port**. The popup COM Port menu appears with a “check mark” indicating the currently selected COM Port. If you wish to change the selection, *click* on a different COM Port and the check mark will change to indicate your new choice.



When the desired COM Port is check marked and the RSVP is connected to the PC via its data cable, you can test the connection by *clicking* on the **Test Connection** command.



The TEST CONNECTION popup window appears. When you *click* on the **OK** button, ConfigR will tell your RSVP unit to power down. If the connection is viable, your RSVP will turn itself OFF.

Select Parameters

Once you have verified that ConfigR and your RSVP unit are communicating, you can proceed with the configuration process. You will need to either set up new parameters or select previously saved parameters to send to your RSVP.



SELECT SAVED PARAMETERS

If you wish to set the RSVP to existing parameters, you can use the OPEN command to transfer an existing file from the PC to the RSVP unit. When you *click* on OPEN, the OPEN directory appears so that you may select the desired file.

NOTE: If this is the first time you have used ConfigR, you will not have any files that were saved previously. We have provided five sample files (sample *.set) to help you get started and become familiar with the software.

You can select the desired file by *double-clicking* on it or by *clicking* on the file once and then on **OK**.

SELECT NEW PARAMETERS

To select new parameters for your RSVP, you may first use the **NEW** command to erase the current configuration set in ConfigR.

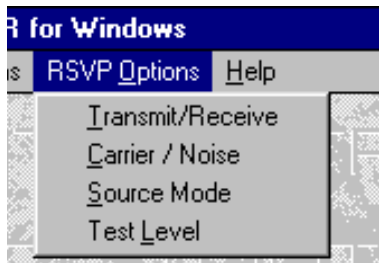


This command resets all of the parameters to their default values.

- Source Mode - Continuous
- Source Frequency - 12.0 MHz
- Source Level - 30 dBmV
- Max. Test Level - 55 dBmV
- Link Frequency - 50.00 MHz
- Unit F Frequency Number - 1
- Carrier to Noise Bandwidth - 2.0 MHz
- Carrier to Noise Threshold - 30 dB

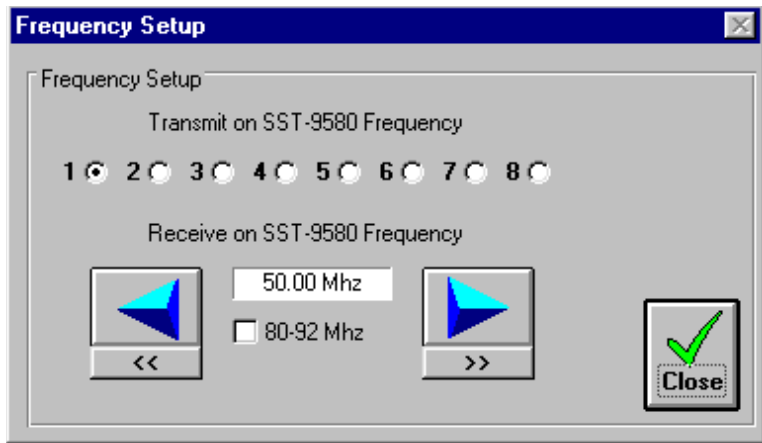
If you do not wish to use the default settings for one or more of the parameters, go to the **RSVP OPTIONS** menu and select the parameter(s) you wish to change.

NOTE: It is not necessary to use the **NEW** command to reset ConfigR before selecting the parameter values. You can change any of the parameters at any time by going to the **RSVP OPTIONS** Menu.



Transmit and Receive Frequency Setup

You can use the TRANSMIT/RECEIVE command to set up the test frequency of your RSVP. You can also use this command to set the telemetry link frequency.



You can set the test frequency for 1 to 8 which correspond with the SST-9580's Unit F's frequencies.

For example: If your SST has frequencies 5, 10, 15, 20, 25, 30, 35, 40 MHz setup and you select 4 as your test frequency, your RSVP unit will transmit on 20.5 MHz.

$$4\text{th Frequency} + (\text{Unit F} \times \text{Unit Frequency Spacing}) \\ 20 + (5 \times .1) = 20.5$$

NOTE: For more information on how test frequencies are determined, see your SST/SSR 9580's operation manual.

The link frequency should be set to your SST 9580's link frequency.

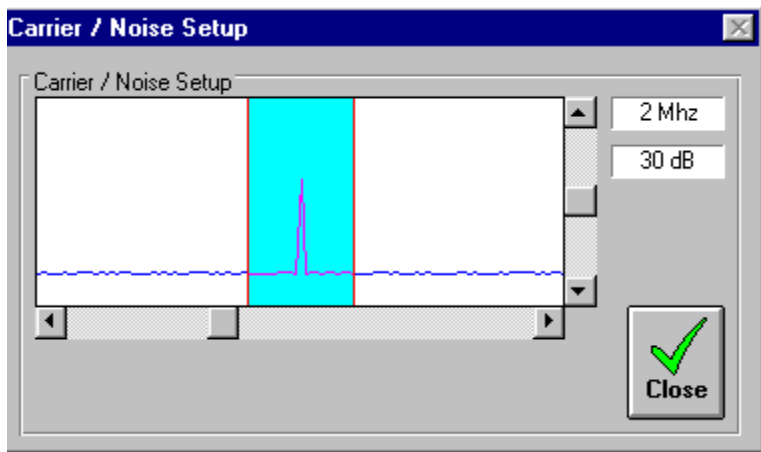
NOTE: You cannot change your RSVP from 50 – 75.75 MHz to 80 – 92 MHz with this program. A hardware modification is also required. ConfigR is compatible with all RSVP units.

Use the blue arrow keys and the double arrow keys to change the numerical values of the test frequency. The blue arrow keys decrease and increase the numbers to the RIGHT of the decimal while the double arrow keys decrease and increase the numbers to the LEFT of the decimal.

Once you have selected the desired test and link frequencies, *click* on **CLOSE**. The changes will appear in the STATUS BAR at the bottom of the window.

Carrier to Noise Setup (C/N)

The CARRIER TO NOISE ratio command enables you to set the carrier to noise bandwidth and thresholds.



The noise bandwidth and threshold numbers combine and influence the PASS or FAIL conditions. Your unit may FAIL because there is not enough signal level to reach the headend or from having too much noise at your specific test frequency.

You can set the Carrier to Noise Ratio Threshold from 10 dB to 50 dB. The LOWER the number, the easier it is to PASS because you are tolerating more noise at the test frequency. You can set the noise bandwidth from 100 kHz to 6 MHz in 100 kHz steps.

The settings for C/N threshold and bandwidth which you should choose will depend on the type of data you will be sending on the reverse path.

High speed data (i.e. Internet access) will need a wider bandwidth. Typically, 1 to 2 MHz will be used by cable modem return channels.

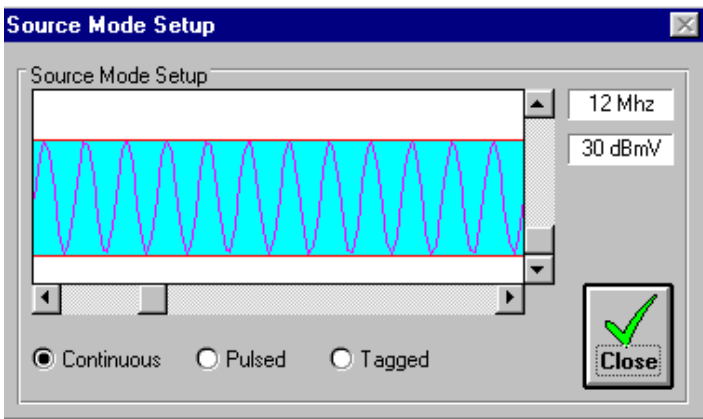
If only low speed (i.e. set top store and forward polling) data is to be used, a lower bandwidth should be selected.

Consult the manuals of your reverse transmitting equipment to determine the required bandwidth. Similarly, the C/N threshold tolerated by your equipment should be specified in the manuals. Generally, QPSK is used by high speed links. The C/N threshold should be set no lower than 20 dB for QPSK.

Once you have selected the desired bandwidth and threshold, *click* on **CLOSE**. The changes will appear in the STATUS BAR at the bottom of the window.

Source Mode

You can use the SOURCE MODE command to set up all of the RSVP's source mode parameters.



You can set up the frequency in 100 kHz increments and the level in 1 dBmV increments. The mode may be set to continuous (default), pulsed or tagged mode.

CONTINUOUS MODE – a simple continuous wave output at a specific frequency and level.

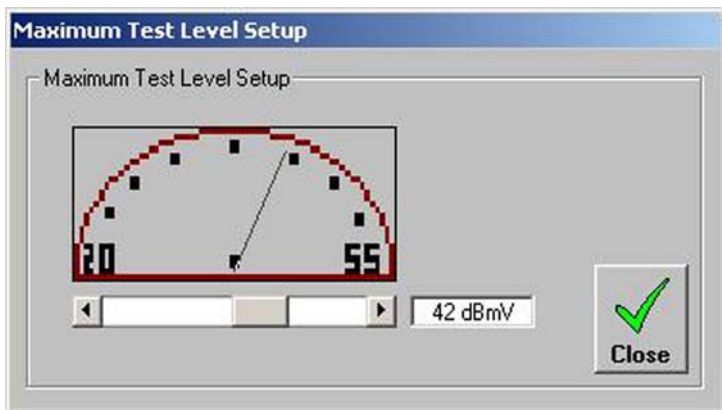
PULSED MODE – a fast, AM type ON/OFF pulse at a specific frequency and level. The pulsed mode makes a distinctive sound which is helpful when combined with a Trilithic TRICORDER (or other signal level meter) in determining whether the signal you are seeing is from your RSVP or another source.

TAGGED MODE – produces a signal which is compatible with Trilithic’s channel tag feature. This is very useful when combined with a Trilithic ISOMETER (or **Reverse Super Plus**) to eliminate false triggering on ambient noise.

Once you have selected the desired source mode, *click* on **CLOSE**. The changes will appear in the STATUS BAR at the bottom of the window.

Test Level

The TEST LEVEL command enables you to set the maximum test level.



This is very useful when your set top converter can transmit only at a specific level which is less than the RSVP’s maximum output level of 55 dBmV.

For example: Your set top converter can only transmit at 40 dBmV. Since your RSVP has a maximum test level of 55 dBmV, your test may PASS at 50 dBmV but the set top converter could never get through. To solve this problem, use the scroll bar arrows to set the maximum test level to 40 dBmV and then run the RSVP test. It should display a FAIL; thus alerting you to potential problems.

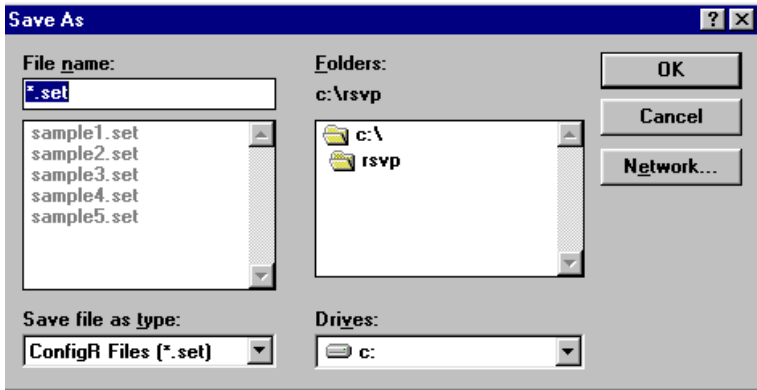
REMINDER: If you are using an older RSVP unit instead of the RSVP², the unit will not acknowledge a range LOWER than +30dB. If ConfigR is set to less than +30dB, the older RSVP unit will reset to +30dB when it is turned on.

Once you have selected the desired test level, *click* on **CLOSE**. The changes will appear in the STATUS BAR at the bottom of the window.

SAVE PARAMETERS

At any time, you may save the entire contents of your configuration to disk.

Click on the SAVE AS command in the FILE Menu to bring up the file directory.

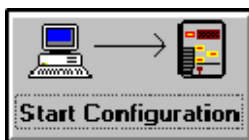


Type in the desired title in the FILE NAME window (i.e. *.set is replaced with test.set). When you have named your file, *click* on **OK** and the configuration file will be saved to disk so that you can use it at a later time.

Download Parameters

Once you have selected the parameters from the saved files or created new ones via the **OPTIONS** Menu, you can download the information to your RSVP unit.

Simply *click* on the **START CONFIGURATION** button.



ConfigR displays the download from the PC to the RSVP unit. The download should be completed within 1 minute.

To stop the download at any time, *click* on the **STOP** button.



When you have finished configuring your RSVP, *click* on the **EXIT** command in the **FILE** Menu to leave ConfigR.

NOTE: Your RSVP will *blink* during download and auto shut down **AFTER** the download. It will also shut down if the unit has been left on for 5 minutes without any functions being accessed.



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