RSVP²
Reverse Path Tester

Operation Manual

think ahead.

TRILITHIC

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 five major divisions:

- **Broadband Instruments and 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 broadcast TV, cable TV, IPTV, DBS, and radio stations.
- **XFTP**
  Offers a specialty line of field technical products for cable operators and technicians, as well as a line of products for installing electronics in the home of the future.
- **Network Services**
  Provides network data management and support services to safeguard and protect your network and data by employing certified, experienced, and dedicated network engineers.

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Table of Contents

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Chapter 1

General Information

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 serial number of the RSVP²
- 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” discusses the features and typical usage of the RSVP².
- Chapter 3, “Walkthrough” describes the buttons and display on the RSVP².
- Chapter 4, “Operation” describes the steps needed to set up the RSVP² and to perform tests in the field.
- Chapter 5, “Troubleshooting the Drop” describes how to use the RSVP² to troubleshoot cable systems at the subscriber’s location.
- Chapter 6, “Specifications” lists the technical specifications of the RSVP².

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 e-mail addresses appear in *italics*.

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

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

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

Precautions

The battery MUST be charged with the AC to DC power adapter and battery charger provided with the RSVP². Using any other adapter/charger may damage the battery.

The maximum input voltage to the meter is 100V (AC or DC). A larger voltage will damage the meter.

The accuracy of the meter may be affected when in a strong electromagnetic field.

Do not use the RSVP² in any manner not recommended by the manufacturer.

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Chapter 2

Introduction

What is the RSVP²?

Trilithic's Guardian RSVP² is designed to provide you with optimal reverse path testing features at an affordable cost. This return path testing instrument is designed specifically for the needs of the cable television installer.

Many return path problems begin in the subscriber's home. Errors in installation, defective cabling, improper installation, or loose hardware can disrupt the return path communications or allow ingress to enter the system. The best way to avoid such problems is to test the quality of the path during every installation.

The RSVP² works with Trilithic's 9581 SST (or 9580 SST) Sweep and Ingress Analyzer, mounted in the headend of the cable system. At the push of a button, the RSVP² will:

- Verify that the output level from the set top converter can be set at the proper level to reach the headend at the desired nominal level.
- Verify that the carrier to (ingress + noise) ratio of return signals is within limits that can be set.
- Makes it easy to select the correct value of pad if the installer is using reverse step attenuators (RSAs) to balance forward and reverse attenuation levels.
- Has the capability to generate a return path signal that can be used to verify the shielding integrity of a drop. This feature can be used in conjunction with a ferrite loop antenna and reverse leakage receiver to insure that a house will be ingress free after the installation.
- Allows troubleshooting of an installation using the RSVP² in SOURCE mode in combination with a signal level meter.

The RSVP² presents the results as PASS or FAIL. The actual measurement data can be recalled in order to troubleshoot the installation.

The RSVP² allows you to determine, at the time of installation, if the subscriber is able to access any of the cable system's premium services which rely on the return path.

As many as 100 Guardian RSVP² and five 860 DSPs (or 9580 SSRs) field sweep units can operate together with a single 9581 SST (or 9580 SST).

Features: RSVP² Versus RSVP

The RSVP² differs from the earlier RSVP in several ways:

- The RSVP² is equipped with a LOCK OUT mode which prevents an operator from changing the level or frequency settings in SOURCE mode. This removes the possibility of accidentally setting the RSVP²'s output to an occupied frequency, or to a level large enough to compress the upstream laser at the node.
- The range over which the RSVP² can test return levels has been expanded by 10 dB. This allows the Installer to test the return "launch level" through a wider range of tap and splitter values without using an external pad. The RSVP² has sufficient range to be connected directly to taps as low as 7 dB; even in systems operating at reduced return levels or to services with as much as 35 dB isolation, operating at normal levels.

The RSVP² can be used interchangeably anywhere that the extra operating range is not required.

Chapter 3
Walkthrough

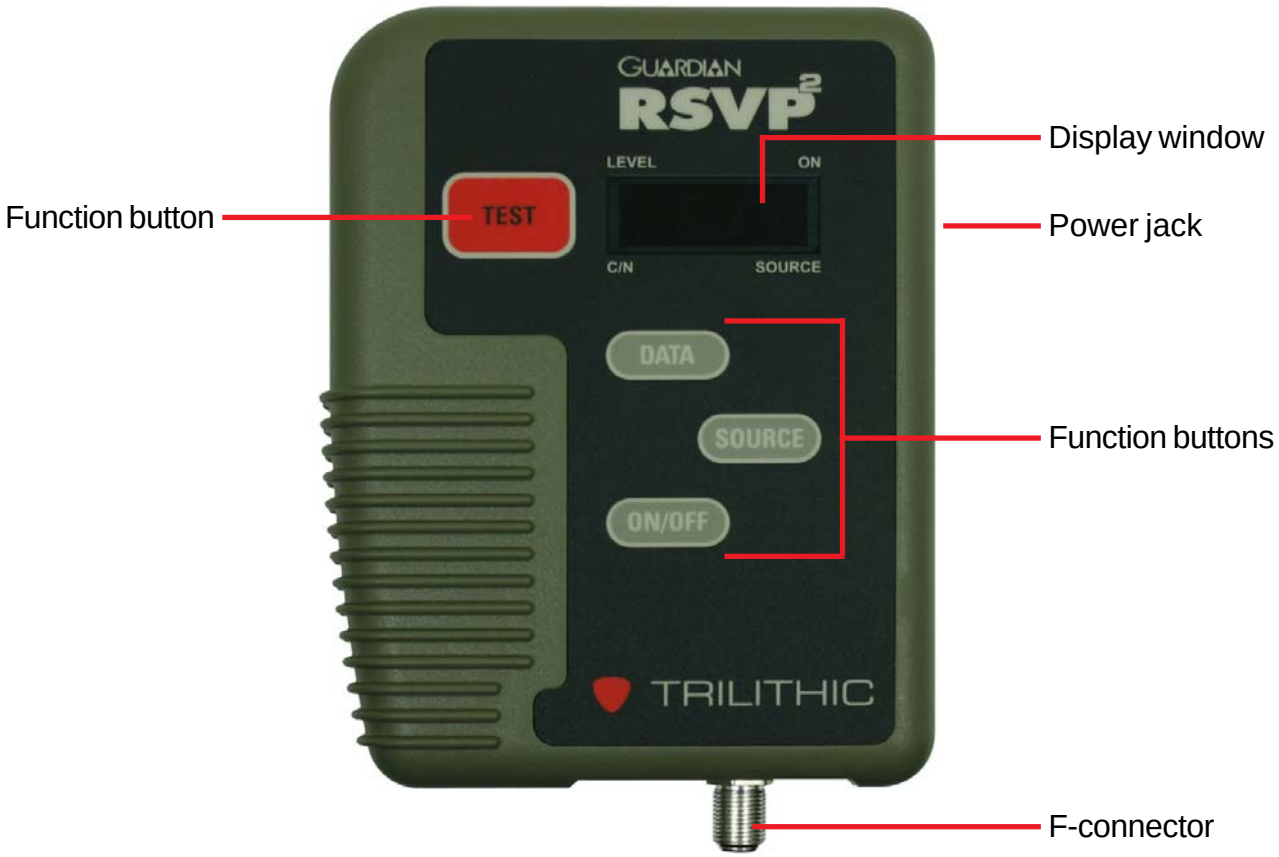
Now that you have the RSVP² out of its box, take a few moments to look it over and become familiar with its controls.

NOTE

The RSVP²'s battery may require charging prior to use. Refer to Chatper 4: Operation, Battery Charging for instructions in charging the RSVP²'s battery.

Identify Components

The Guardian RSVP²'s function buttons and display window are located on the front panel. An F-connector is located on the bottom and a power and communication jack is on the side of the RSVP².



Function Buttons and Connectors

1. **ON/OFF** - Powers the RSVP² on and off
2. **TEST** - Begins the headend level test
3. **DATA** - Displays numeric results of headend level test
4. **SOURCE** - Activates source mode
5. **Display window** - Four-digit LED readout and four-function annunciator LED dots in the corners
6. **Power jack** - Serves the dual function of input for charging the unit and programming connector
7. **F-connector** - Connects the RSVP² to cable inside the subscriber's house or to the ground block outside the residence

Chapter 4
Operation

Introduction

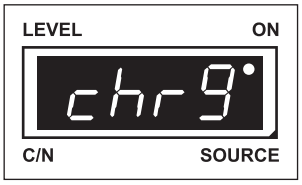
The Guardian RSVP² has been designed with intuitive, straightforward operation in mind. A simple push of the **ON/OFF** button turns the RSVP² on. Before taking the RSVP² into the field, the RSVP² should be set up to perform field testing. In the field, all that is needed is to connect the RSVP² to the subscriber's cable via the F-connector on the bottom of the RSVP². Press the **TEST** button and the unit will display a reading of either PASS or FAIL.

Battery Charging

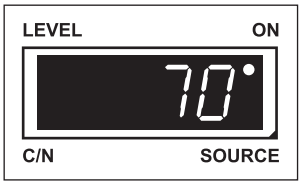
When the RSVP² is first unpacked from its shipping box, the RSVP² should be charged overnight or for 14 hours prior to use. Plug the connector of the charger into the power jack on the side of the RSVP² (see ***Chapter 3: Walkthrough, Identify Components***) and plug the charger into an AC outlet.

> WARNING
>
> ***The battery MUST be charged with the AC to DC power adapter and battery charger provided with the RSVP². Using any other adapter/charger may damage the battery.***

While charging, the display on the front panel of the RSVP² will display "chrG" and the power indicator will be on.



To check the progress of the charging, disconnect the charger from the RSVP². Press the **ON/OFF** button to turn the RSVP² on. Press the **DATA** button once and the RSVP² will display the percentage of charge in the battery. As an example, in the display to the right, the battery is charged to 70%.



To exit the Battery Check mode, press the **DATA** button.

The RSVP² has a five-minute automatic shutdown feature to conserve battery life. After five minutes of inactivity (except in Source mode), the RSVP² will automatically power off. When the battery reserve is depleted, the ON LED will begin to flash.

Setup

The RSVP² can be set up using the function buttons on the front of the RSVP², or by using Trilithic's ConfigR software, designed specifically for the RSVP². To continue setup of the RSVP² with the ConfigR program, refer to the program's operation manual.

To enter the Setup mode from the RSVP², press the **ON/OFF** button to turn the RSVP² on. Press the **DATA** button, at which point the battery life percentage is displayed, then press the **SOURCE** button.

The first display shows the RSVP²'s battery Voltage. The RSVP²'s power is supplied by two NiCad cells and will range from 2.0 to 2.7 Volts.

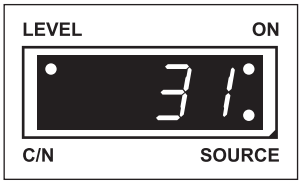
Press the **DATA** button again to enter the Setup mode to set the RSVP²'s parameters. Use the **TEST** button to incrementally increase values and the **SOURCE** button to incrementally decrease values.

The settings in the Setup mode appear in the following order:

- Source Level
- Source Frequency
- Source Mode
- Test Carrier Select
- Maximum Test Output
- Link Frequency
- C/N Bandwidth
- C/N Threshold

Source Level

When the Setup mode is initialized, the Source and Level indicators will illuminate. The RSVP² will display the calibrated output level (in dBmV) that it will generate when it is in Source mode. This mode is useful for troubleshooting the wiring in the subscriber's home or, more importantly, checking the home wiring for leakage. For most leakage applications, a setting between +35 dBmV and +40 dBmV is sufficient.



Adjust the level in 1 dB steps by pressing either the **TEST** button (incrementally increasing the level) or the **SOURCE** button (incrementally decreasing the level).

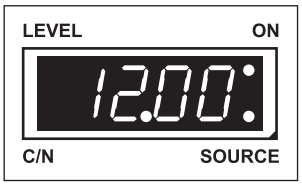
NOTE

If Source Level changes are locked out, values in Source Level can not be changed. To change Source Level settings, the ConfigR software must be used to unlock Source Level so that changes can be programmed.

Once the Source Level is set, press the **DATA** button. The RSVP² will advance to the Source Frequency selection.

Source Frequency

When the Source Frequency Setup mode is initialized, the Source indicator will illuminate and the RSVP² will display the frequency (in MHz) of the signal which will be generated when in Source mode. If the RSVP² will be used to test for leakage, this frequency must match the reverse leakage receiver's frequency.



Adjust the Source Frequency in 100 kHz steps by pressing the **TEST** button (incrementally increasing the level) or the **SOURCE** button (incrementally decreasing the level).

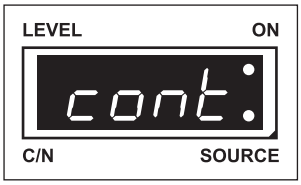
NOTE

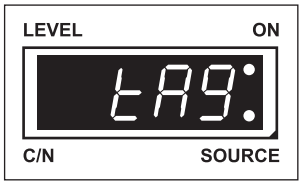
If Source Frequency changes are locked out, values in Source Frequency can not be changed. To change Source Frequency settings, the ConfigR software must be used to unlock Source Frequency so that changes can be programmed.

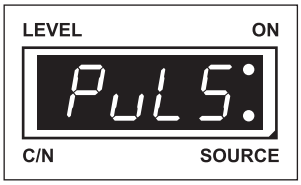
Once the Source Frequency is set, press the **DATA** button. The RSVP² will advance to the Source Mode selection.

Source Mode

Use the Source Mode setup mode to determine whether the Source Mode output signal will be *continuous wave (CW), tagged,* or *pulsed*. When set to CW, the output signal is un-modulated. In Pulsed mode, the output signal is ON/OFF-modulated. In Tagged mode, the output signal is amplitude-modulated at 20 Hz for detection by a Trilithic Super Plus leakage detector (see ***Chapter 3: Walkthrough, Identify Components*** for additional information on Source Mode). Press the **SOURCE** or **TEST** buttons to cycle through the three choices.







NOTE

If Source Mode changes are locked out, values in Source Mode can not be changed. To change Source Mode settings, the ConfigR software must be used to unlock Source Mode so that changes can be programmed.

Once the desired Source Mode is set, press the **DATA** button. The RSVP² will advance to the Test Carrier selection.

Test Carrier Select

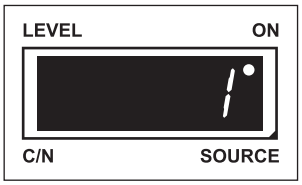
When communicating with 9580 SST (or 9580 SST) return path analyzer, the RSVP² uses the ID allocated to the “F” 860 DSP (or 9580 SSR) field tester. The Test Carrier Select mode allows you to select of which of the eight “F” test frequencies will be used for the reverse level test.

The 9581 SST (or 9580 SST) supports multiple 860 DSP (or 9580 SSR) return path analyzers by their assigned ID. Each 9581 SST (or 9580 SST) transmits sweep carriers which are approximately 90 kHz apart. The “A” frequencies are set at the 860 DSP (or 9580 SSR). Each field unit determines where it should transmit by offsetting from “A” frequencies. For example, with frequency 1 set to 5.0 MHz at the 9581 SST (or 9580 SST), the “A” 860 DSP (or 9580 SSR) transmits at 5.00 MHz; the “B” 860 DSP (or 9580 SSR) at 5.09 MHz; and the “F” 860 DSP (or 9580 SSR) at 5.47 MHz. Since the RSVP² emulates an “F” 860 DSP (or 9580

CAUTION

When an 860 DSP (or 9580 SSR) field tester is designated "F", it will continuously tie up the 9581 SST (or 9580 SST) so that the RSVP² will not be able to communicate with the headend and will display "buSY". Ensure that no 860 DSPs (or 9580 SSRs) with the unit "F" designation are being used at the same time the RSVP² is in use.

SSR), its frequencies will be offset from those entered at the 9581 SST (or 9580 SST) by 470 kHz.



When setting up the RX frequencies on the 9581 SST (or 9580 SST), select one or more of the eight test frequencies to be close to the active return frequencies which will be used by the cable system. In this case, set the RSVP² to the frequency (1 - 8) which is closest to the active frequency. Refer to the 9581 SST (or 9580 SST) operation manual for more information regarding exact placement of these frequencies.

NOTE

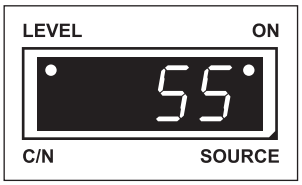
If a large number of RSVP²s are being used on a single 860 DSP (or SST), set some of the RSVP²s above and some below the active frequency.

Press the **SOURCE** or **TEST** buttons to cycle through test selections 1 through 8.

Once the desired test carrier has been selected, press the **DATA** button. The RSVP² will advance to the Maximum Output selection.

Maximum Test Output

The Maximum Test Output setup mode will display the maximum level (in dBmV) that the RSVP² will output in Test mode.



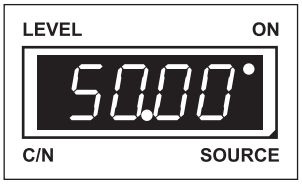
NOTE

The maximum limit is +55 dBmV.

The maximum test output level is usually set a few dB below the maximum output available from the set top converter.

Once the desired test level has been selected, press the **DATA** button. The RSVP² will advance to the Link Frequency selection.

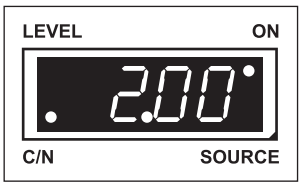
Link Frequency



When the Link Frequency setup mode is initialized, the RSVP² will display the data carrier frequency in MHz. This frequency must match the output frequency at the 860 DSP (or SST) with which the RSVP² will communicate.

Use the **SOURCE** and **TEST** buttons to adjust the Link Frequency in 50 kHz steps. Once the desired Link Frequency is set, press the **DATA** button. The RSVP² will advance to the C/N Bandwidth selection.

C/N Bandwidth



When the C/N Bandwidth setup mode is initialized, the RSVP² will display the carrier-to-noise bandwidth in MHz. The carrier-to-noise bandwidth should be set to match the bandwidth of the carrier output from the cable modem or set top converter.

Use the **SOURCE** or **TEST** buttons to adjust the C/N Bandwidth from 0.1 MHz to 6.0 MHz in 100 kHz steps.

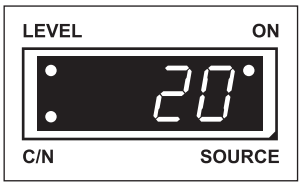
NOTE

The measurement bandwidth for the noise calculation is 375 kHz. Noise calculations for other bandwidths are made using the following formula:

$$10_{log}\left(\frac{BW_{user}}{BW_{RSVP}}\right)$$

Once the desired C/N Bandwidth is set, press the **DATA** button. The RSVP² will advance to the C/N Threshold selection.

C/N Threshold



When the C/N Threshold setup mode is initialized, the RSVP² will display the carrier-to-noise threshold in dB. The carrier-to-noise threshold should be set to the recommended minimum carrier-to-noise ratio given by the modem's manufacturer (it is suggested to add a few dB of margin to the manufacturer's recommended minimum level).

Once the carrier-to-noise threshold has been set, press the **DATA** button. The RSVP² will return to the Rest state (the mode it was in when the RSVP² was first powered on).

NOTE

If the RSVP² is powered off during any of the setup procedures, any changes made to the current setup parameter will be aborted.

Test Mode

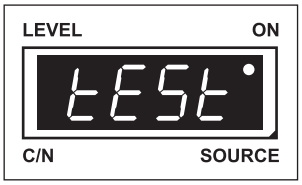
When the RSVP² is in the Test mode, the Source and Setup functions are disabled. Before running a test, disconnect the cable from the subscriber's set top converter and connect it to the F-connector on the bottom of the RSVP².

To enter Test mode, press the **TEST** button when the RSVP² is powered on.

NOTE

When the ON/OFF button is pressed, the RSVP² powers on, in the Ready state. The ON LED is lit, indicating that the RSVP² is powered on and in the Ready state.

When the **TEST** button is pressed, "tESt" appears briefly on the display.

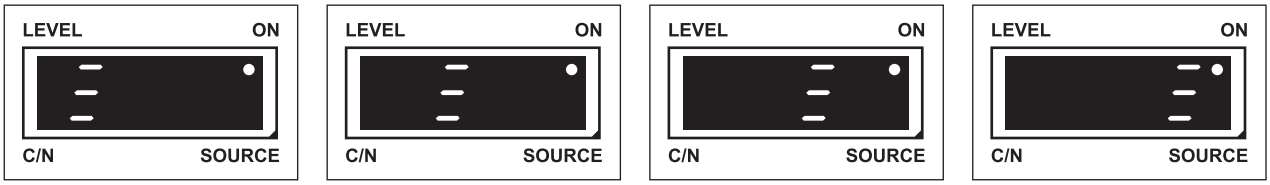


The Test mode enables the RSVP² to observe sweep information generated by the 9581 SST (or 9580 SST) headend unit.

The RSVP² first tunes to the link frequency which was programmed in the Setup mode, then receives data transmitted by the 9581 SST (or 9580 SST; refer to ***Chapter 4: Operation, Setup, Link Frequency*** for additional information).

If reliable data is being received, the RSVP² observes the data for the test frequency that was assigned in the Setup menu. If the data indicates that no other test signals are present, the RSVP² begins testing.

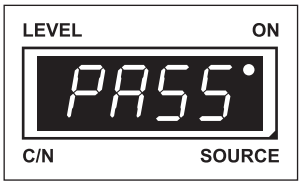
The RSVP² displays a moving bar which indicates that the test is progressing.



During the test, the RSVP² will transmit its test carrier in synchronization with the 9581 SST (or 9580 SST) in the headend. It will start with a low level (20 dBmV) and then increment upward in steps of up to 8 dBmV, until one of the following occurs:

- It is received at precisely the proper level by the 9581 SST (or 9580 SST), or
- The RSVP² has reached the maximum test output entered in the Setup menu

If the level is correct, the RSVP² will compute the carrier-to-noise ratio and compare it to the carrier-to-noise threshold. If the carrier-to-noise ratio is greater than the threshold, the RSVP² will display “PASS”.

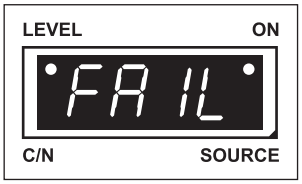


To see the actual test data, press the **DATA** button to advance the display to show the display level (in dBmV) required to reach nominal at the headend. Press the **DATA** button again to display the carrier-to-noise ratio at the headend using the noise bandwidth which was entered in the Setup mode. Press the **DATA** button a third time to return the RSVP² to the ready state.

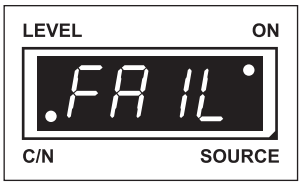
NOTE

To return to the ON/Ready state and terminate the reverse path test at any time, from the Test menu, press the TEST button.

If the output level required to reach the headend at nominal level is greater than the maximum limit programmed into the RSVP² or less than +20 dBmV, the RSVP² will display “FAIL” and will illuminate the Level indicator (refer to refer to ***Chapter 4: Operation***, ***Setup***, ***Maximum Test Output*** for additional information).



If the output level is acceptable, the RSVP² will check the carrier-to-noise threshold. If the carrier-to-noise threshold is not met, the RSVP² will display "FAIL" and will illuminate the carrier-to-noise indicator.



To view the level and the carrier-to-noise ratio, press the **DATA** button after a failed test; the RSVP² will display the same information as it does after a passed test. This information can be used for troubleshooting. For example, you might try a different technique to find a problem if the reverse path was 2 dB low, as opposed to 20 dB low (for detailed information regarding troubleshooting techniques, refer to ***Chapter 5: Troubleshooting the Drop***).

NOTE

The carrier-to-noise ratio is not computed if the test fails due to level since this data is irrelevant without having a known carrier level reference.

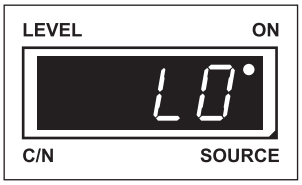
Once the testing process is complete, press the **TEST** button to return the RSVP² to the on state, or press the **ON/OFF** button to power the RSVP² off.

Problem Indicators

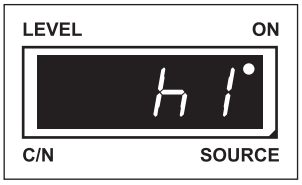
Some external factors may affect the operation of the RSVP² when in Test mode. This section describes some of the more common occurrences.

Data Carrier Levels Out-of-Bounds

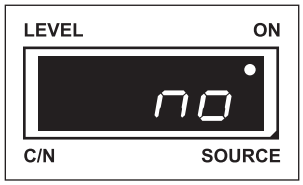
If the RSVP² finds that the data carrier level is too low for reliable data reception (below -15 dBmV) while it is tuned to the link frequency, it will display "Lo".

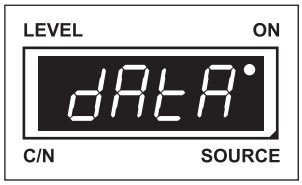


If the carrier level is too high for reliable data reception (above +20 dBmV), it will display "hI".



If the data is corrupted (e.g. by interference), the RSVP² will display “no” and “dAtA” blinking in sequence.



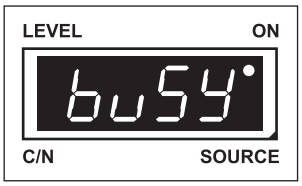


In this event, troubleshooting problems in the forward carrier will be necessary before the reverse path test can be continued.

Busy Signal

If an active 860 DSP (or 9580 SSR) with the unit “F” designation is communicating with the 9581 SST (or 9580 SST), it will continuously occupy the frequency needed by the RSVP².

In this case, the RSVP² will not be able to sense a “clear” channel and will display “bUSy” until the channel becomes available, or until the **TEST** button is pressed to exit Test mode.

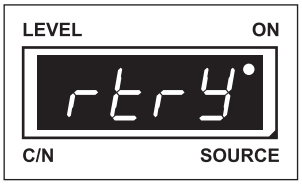


Ensure that no 860 DSPs (or 9580 SSRs) with the unit “F” designation are being used while testing with the RSVP².

Retry Command

RSVP²s are normally kept from interfering with each other by the “listen for clear channel before transmitting” feature. Since the typical test duration is only three to four seconds, it is unusual for there to be a conflict between one or more RSVP²s. However, if two tests are initiated within the same 0.75 second interval, this feature may not be effective. In this case, a collision detection algorithm determines that multiple RSVP²s collided.

The RSVP² will display a “rtry” message, indicating that the test should be repeated.



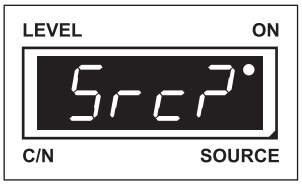
Source Mode

The RSVP² enables leak detection in an installation by using Source mode in conjunction with a signal level meter.

When the RSVP² is in Source mode, it will generate a special reverse frequency test signal which can be injected into the subscriber's in-home cabling. By using Trilithic's IsoMeter with the RSVP², points in the cabling where the test signal is radiating from the subscriber's drop can be located. Refer to the IsoMeter's operation manual for additional information on locating leaks.

Before using Source mode, the desired source frequency, output level, and mode must be programmed via Setup mode (refer to ***Chapter 4: Operation, Setup, Source Mode*** for additional information).

To enter Source mode, power on the RSVP². Press the **SOURCE** button.



The RSVP² will display "Src?". Press the **SOURCE** button a second time and the RSVP² will initialize Source mode, as indicated by the illumination of hte Source indicator.

NOTE

If a different button is pressed, the RSVP² will initialize the function which corresponds to the pressed button. For example, you press the SOURCE button, then instead of pressing the SOURCE button a second time, you press the TEST button. The RSVP² will initialize Test mode.

NOTE

The ConfigR software can be used to restrict the ability to manually change the parameters of Source mode.

Source mode is stored in the RSVP²'s memory during setup. It has three available configurations:

- CW (continuous wave)
- Pulsed
- Tagged

When Source mode is configured to CW, the output signal is un-modulated. When configured to Pulsed, the output signal is on/off modulated, alternating between 250 and 500 Hz every 0.75 seconds. This produces a recognizable audio pattern when detected with a signal level meter. Additionally, the on/off modulation provides a power savings of about 20% as compared to CW or Tagged configurations.

Source mode can be configured to CW or Pulsed to help locate faults in a cable.

When Source mode is configured to Tagged, the output signal is amplitude modulated at 20 Hz for detection by a Trilithic Super Plus leakage detector.

Once the subscriber's cabling has been checked for reverse frequency leaks, exit the Source mode by pressing the **SOURCE** button again. The RSVP² will return to the on state.

Chapter 5

Basic Operation

Overview

The RSVP² accommodates several techniques for troubleshooting the cable system at the subscriber's location, via the Test and Source modes. Both troubleshooting methods allow each section of cable to be checked in order to pinpoint the problem.

Troubleshooting in Test Mode

In the event that the RSVP² indicates "FAIL" when it is in Test mode, the RSVP² can be kept in the Test mode the source of the problem can be found by testing at the splitter, the ground block, and the tap to see if the RSVP² can communicate with the headend.

Connect the RSVP² to the tap and initialize the Test mode. If the level and carrier-to-noise ratio are acceptable, the RSVP² and the headend are communicating clearly, so the problem is likely within the subscriber's cabling. If the level and carrier-to-noise ratio are not acceptable, the problem is likely somewhere else in the system, and not within the installation.

Connect the RSVP² at the ground block and initialize the TEST mode again. If the level and carrier-to-noise ratio are not acceptable, the problem is likely within the cable drop. The integrity of the drop can be verified by replacing it then initializing the Test mode again; if the carrier-to-noise level is acceptable at the ground block, the problem is likely within the cabling in the subscriber's house.

Each section of cable in the home must be isolated and checked for integrity. Working from the splitter, work along each section until the problem has been isolated.

Troubleshooting in Source Mode

If the RSVP² communicates with the headend from the tap – which indicates that the trouble is somewhere in the subscriber's cabling – the problem may be located by checking the continuity of the system.

By using the RSVP² (in Source mode) in conjunction with a signal level meter, the continuity of system within the house can be checked. As was done with the RSVP² in Test mode, analyzing each section of the cable within the home will allow isolation of the problem.

To use the RSVP² with a signal level meter to check the installation, initialize the Source mode (configure the Source mode as CW or Pulse). Set the RSVP² to a known level (such as +40) and connect it to the ground block. At each cable outlet, use the signal level meter to measure the level. If the signal loss is greater than the anticipated cable and splitter loss, the discontinuity has been located. If the signal loss is not greater than anticipated, continue the process along each section of cable and connections.

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Chapter 6
Specifications

RF Output Frequency:	5 MHz to 42 MHz
RF Output Level:	+20 to +55 dBmV (in 1 dB increments)
RF Output Level Accuracy:	± 1.5 dB @ -18° to +55° C (0° to 131° F)
Spectral Purity:	All unwanted 5 MHz to 42 MHz: -40 dBc All unwanted 54 MHz to 750 MHz: -45 dBc
Receive Frequencies:	50 MHz to 53.75 MHz 73.75 MHz to 75.75 MHz 80.5 MHz to 92 MHz (with hardware modulator)
Receive Sensitivity:	-15 to +20 dBmV
Display:	4-digit LED with 4 dot annunciators

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