



## 860 DSPr Modes and Options

This Application Note will describe the available models and various modes both standard and optional that are available for the 860 DSPr Remote Signal Analyzer.





### 860 DSPr Base Models

Trilithic offers the following base 860 DSPr configurations;

- 860 DSPr (P/N 2011378001)
- 860 DSPr with Euro Power Supply (P/N 2011378101)

### Standard Operation Modes









Each mode of the 860 DSPr can be accessed by selecting the corresponding icon as shown in the following table.

Mode	Description
 Level	Displays the amplitude of the carriers included in a single channel, or the amplitude of a signal at a selected frequency.
 QAM	Performs all of the QAM Lite features plus it will also display constellation, equalizer tap diagram, and BER graph as well as extended measurements of errored seconds and code word errors.
 Advanced Spectrum Analyzer	Displays the amplitude of all carrier, beats, and other RF sources in the user-selectable spectrum from 4.0 MHz to 1.0 GHz with a user-selectable resolution bandwidth from 10.0 KHz to 3.0 MHz with a Zero Span Function.
 Tilt	Measures the amplitudes of a pre-selected group of carriers, and also computes the difference in amplitude between two selectable channels in the group.

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[support@trilithic.com](mailto:support@trilithic.com) or  
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Mode	Description
 PING	Provides the ability to PING the network connection to check network connectivity between network devices.
 Trace Rt	This is a network utility which plots a route from source to destination displaying all routers along the way in addition to the round trip time from the source to the router. It also attempts to do a reverse Domain Name look up to display the registered name of each router.
 VoIP	Used to test the various measurable parameters that impact call quality, and provides measurement results to test proximity to potential failure.
 Throughput	Tests the effective data rate of both the upstream and downstream channels of a cable modem connection.
 Digital BER	Used to test the ratio of corrupted bits versus total bits of data for a selected channel and provides deep interleave support for BER Mode.
 Web Browser	Used to access information from the internet.
 Automatic Test	Performs a sequence of operations specified by a user-defined "macro".
 Automatic Test Shortcut	Used as a shortcut to a user-defined "macro" that is saved on the 860 DSPr using the WorkBench Software, and displays an icon title that is the name of the user-defined "macro" that is referenced.

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Mode	Description
 Automatic Test Results	Used to recall stored results of an AutoTest.
 Hum	Displays the amplitude of the 50/60 Hz, 100/120 Hz and low frequency interference present on the video carrier of a single selected channel.
 Carrier-to-Noise Ratio	Displays the ratio of the amplitudes of the visual carrier and the noise within a single, selected channel.
 Depth of Modulation	Displays the percentage of video modulation for the visual carrier of a single, selected channel.
 CSO / CTB	Measures the amplitude of two common intermodulation products, Composite Second Order and Composite Triple Beat present within a selected analog video channel. This feature also allows a user to measure CSO/CTB on an Analog (NTSC) Cable TV Channel without removing the carrier and disrupting service.
 Channel Plan Scan	Displays the amplitudes of all visual and aural carriers in the selected channel plan as two simultaneous line graphs or as a bar graph; also displays total power measurement.
 FM Deviation	Displays the current and maximum FM deviation on the audio carrier of a single, selected channel.

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Mode	Description
 QAM EVS	Allows the operator to tune the meter to a downstream QAM channel and display its Error Vector Spectrum (EVS), to reveal noise and ingress that may be present under the QAM channel.
 Instrument Setup	Allows you set the general preferences for data display and data functionality.
 Explore Files	Allows you to perform file maintenance functions such as previewing and deleting files.
 Instrument Information	Provides information about the 860 DSPr system's operation capabilities.
 Calendar	Displays the month and day of the current year.
 Notepad	Enables the user to reference technical notes or text documents that have been created on a PC using the WorkBench Software or a text editor application, and loaded from a PC using the WorkBench Software.
 Calculator	Provides basic math functions.
 Line Viewer	Allows the user to look at any line on an Analog (NTSC) Cable TV Channel. This is useful for checking your line blanker or test signal line inserter device for proper operation.

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## Optional Operation Modes

Some modes may be inaccessible based on the options that have been installed on the instrument. Optional modes for the 860 DSPr are indicated by an option code that is described in detail in the following section.



Mode	Description	860 DSPr Option
 VSB	Analyzes and displays the signal qualities of Vestigial Sideband Modulation (VSB) signals displayed using constellation, equalizer tap diagram, and BER graph. This feature also displays the signal level and numeric values for MER and pre/post FEC BER.	VSB
 VITS	Analyzes the signal qualities of Vertical Interval Test Signals (VITS) to measure in-channel response, differential phase, differential gain, and chroma delay. This feature also displays the test signal itself.	VITS
 TraffiControl	Provides a way to troubleshoot upstream ingress and noise problems within active channel bands by seeing the ingress that is present “underneath” an upstream cable modem channel, or any bursty signal.	TC-1



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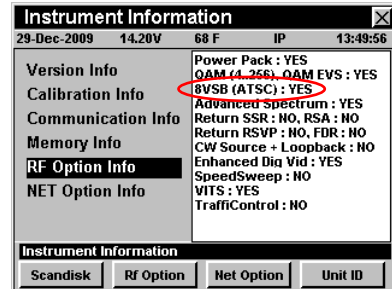
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## How Do I Determine Which Options I Have

To determine the options that you have installed on your device you must;

1. Access the **SETUP** Menu from any **NAVIGATION** Menu by pressing the  softkey.
2. Select the  Icon from the **SETUP** Menu.
3. Once in the **INSTRUMENT INFORMATION** Mode, follow the instructions shown below for each option.

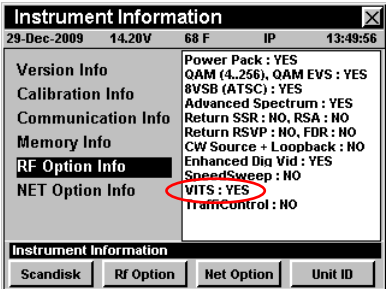
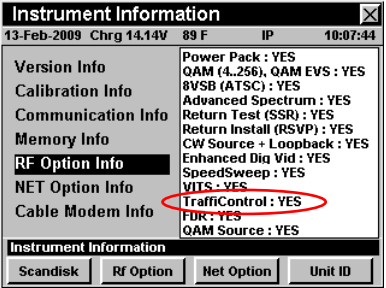
Software Options for the 860 DSPr		
Option Code	Name	Description
VSB	Vestigial Sideband Modulation (VSB) Option (P/N 0930081012)	<p>When installed in an 860 DSPr, this option measures and displays the signal qualities of Vestigial Sideband Modulation (VSB) signals displayed using constellation, equalizer tap diagram, and BER graph. This feature also displays the signal level and numeric values for MER and pre/post FEC BER.</p> <p>Use the   buttons to highlight the <b>RF Option Info</b> Field. If you have this option installed it will be indicated by the text <b>8VSB (ATSC): YES</b>.</p>



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Software Options for the 860 DSPr		
Option Code	Name	Description
VITS	Vertical Interval Test Signal Option (P/N 0930081013)	<p>When installed in an 860 DSPr, this option analyzes the signal qualities of Vertical Interval Test Signals (VITS) to measure in-channel response, differential phase, differential gain, chroma-delay. This feature also displays the test signal itself.</p> <p>Use the ◀ ▶ buttons to highlight the <b>RF Option Info</b> Field. If you have this option installed it will be indicated by the text <i>VITS: YES</i>.</p> 
TC-1	TrafficControl Option (P/N 0930081014)	<p>When installed in an 860 DSPr, this option provides a way to troubleshoot upstream ingress and noise problems within active channel bands by seeing the ingress that is present “underneath” an upstream cable modem channel, or any bursty signal.</p> <p>Use the ◀ ▶ buttons to highlight the <b>RF Option Info</b> Field. If you have this option installed it will be indicated by the text <i>Traffic Control: YES</i>.</p> 

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