

# **860 DSP & 860 DSPi Multifunction Interactive Cable Analyzer**

## **Section VI: Appendix**

## Specifications

<b>Frequency Range:</b>	5 MHz to 1 GHz
<b>Level Measurement</b>	
<b>Range:</b>	-40 to +50 dBmV
<b>Resolution:</b>	0.1 dB
<b>Accuracy:</b>	$\pm 0.75$ dB @ 25° C $\pm 2.00$ dB (Analog), $\pm 2.50$ dB (Digital) @ -18° C to 50° C Over Temperature
<b>Carrier-to-Noise</b> <i>(In-service, non-scrambled standard channels only)</i>	
<b>Minimum Input Level for Full Range:</b>	+ 10 dBmV
<b>Dynamic Range:</b>	50 dB
<b>Resolution:</b>	< 0.5 dB
<b>Hum</b> <i>(In-service, non-scrambled standard channels only)</i>	
<b>Minimum Input Level:</b>	0 dBmV
<b>Range:</b>	0% to 5%
<b>Resolution:</b>	0.1%
<b>Accuracy:</b>	$\pm 0.5\%$
<b>Depth of Modulation</b> <i>(In-service, non-scrambled standard channels only)</i>	
<b>Range:</b>	50% to 100%
<b>Resolution:</b>	0.5%
<b>Audio Demodulation:</b>	FM Carriers

<b>Tilt</b>	
<b>Maximum Number of Carriers:</b>	10
<b>Hi / Lo Delta Resolution:</b>	0.1 dB
<b>Scan:</b>	Video, Audio, Pilot, and Digital Carriers; Includes Total Power Measurement
<b>Forward (Sweepless) Sweep Mode</b>	
<b>Frequency Range:</b>	54 MHz to 1 GHz
<b>Display Span:</b>	User-Definable
<b>Display Scale:</b>	1, 2, 5, or 10 dB/division
<b>Display Range:</b>	6 Vertical Divisions
<b>Sweep Rate (78 Channels):</b>	~ 500 ms
<b>Spectrum Mode</b>	
<b>Frequency Range:</b>	4 MHz to 1 GHz
<b>Resolution Bandwidth:</b>	10, 30, 100, and 300 kHz; 1, 3 MHz
<b>Spans:</b>	User-Selectable in 10 kHz Steps
<b>Display Scale:</b>	1, 2, 5, or 10 dB/division
<b>Range:</b>	8 Vertical Lines
<b>Detection and Dwell:</b>	Selectable Detector Modes (Narrow or Wide) and Dwell Time
<b>Spurious Free Dynamic Range:</b>	60 dB @ 25° C (+50 dBmV)
<b>Sensitivity:</b>	-40 dBmV

<b>Zero Span Mode</b>	
<b>Video Bandwidth:</b>	Digital Averaging
<b>Resolution Bandwidth:</b>	10, 30, 100, and 300 kHz; 1, 3 MHz
<b>Pulse Measurement Accuracy:</b>	Nominal Level in < 7 ms, ± 2.0 dB from Nominal in 4 ms (300 kHz RBW)
<b>Sweep Times:</b>	50 ms to 20 sec in 1, 2, 5 Settings
<b>Intermodulation Distortion (CSO/CTB)</b>	
<b>Range:</b>	Greater Than or Equal to 61.0 dB
<b>Resolution:</b>	0.1 dB
<b>QAM Measurements</b>	
<b>Modulation Types:</b>	ITU J.83 Annex A, B, C QPSK, 16, 32, 64, 128, & 256 QAM (at symbol rates from 2 MSPS to 6.9 MSPS)
<b>Measureable Input (Lock) Range:</b>	<b>64 QAM:</b> -20 to +50 dBmV (typical) <b>256 QAM:</b> -15 to +50 dBmV (typical)
<b>Frequency Tuning:</b>	5 MHz to 1 GHz
<b>BER (64 &amp; 256 QAM, Pre &amp; Post FEC):</b>	$1 \times 10^{-4}$ to $1 \times 10^{-9}$
<b>MER:</b>	<b>64 &amp; 256 QAM, 6 MHz Channel Bandwidth:</b> Range: 21 to 38 dB, Accuracy (typical): ± 1.5 dB <b>64 &amp; 256 QAM, 8 MHz Channel Bandwidth:</b> Range: 21 to 35 dB, Accuracy (typical): ± 2.5 dB
<b>EVM:</b> (Software QAM Only)	<b>64 QAM, 6 or 8 MHz Channel:</b> Range: 1.1% to 8.1% Accuracy: ± 0.5% (1.1% to 2.0%), ± 1.0% (2.1% to 4.2%), ± 1.6% (4.3% to 8.1%) <b>256 QAM, 6 or 8 MHz Channel:</b> Range: 1.1% to 5.3% Accuracy: ± 0.5% (1.1% to 2.0%), ± 0.8% (2.1% to 4.2%)

<b>QAM Level Measurement</b>	
<b>Signal Types:</b>	QPSK; QAM (16, 32, 64, 128, & 256)
<b>Range:</b>	-40 to +50 dBmV
<b>Accuracy:</b>	± 1.25 dB @ 25° C
<b>QAM Signal Generator</b>	
<b>Signal Types:</b>	QPSK; QAM (16, 32, & 64)
<b>Symbol Rates:</b>	160, 320, 640, 1280, 2560, & 5120 kSym/Sec
<b>Range:</b>	+20 to +58 dBmV
<b>MER:</b>	> 38 dB
<b>Frequency Range:</b>	5 MHz to 42 MHz
<b>VP-1 or SR-1 Option</b>	
<b>TX Frequency Range:</b>	5 MHz to 65 MHz
<b>RX Link Frequency Range:</b>	50 MHz to 92 MHz
<b>TX Level Range:</b>	20 dBmV to 55 dBmV
<b>TC Level Accuracy:</b>	± 0.35 dB @ 25° C
<b>RX Link Range:</b>	-20 dBmV to +20 dBmV
<b>Power Source</b>	
<b>Charging Time:</b>	4 Hours
<b>Operating Time:</b>	~ 4 Hours (860 DSP In Level Mode) ~ 6 Hours (860 DSPi in Level Mode)
<b>Physical</b>	
<b>Weight:</b>	4.75 lbs
<b>Operating Temperature Range:</b>	-18° C to +50° C (0° F to 122° F)

## Warranty Information

Trilithic, Inc. warrants that each part of this product will be free from defects in materials and workmanship, under normal use, operating conditions and service for a period of two (2) years from date of delivery. Trilithic, Inc.'s obligation under this Warranty shall be limited, at Trilithic, Inc.'s sole option, to replacing the product, or to replacing or repairing any defective part, F.O.B. Indianapolis, Indiana; provided that the Buyer shall give Trilithic, Inc. written notice.

Batteries are not included or covered by this Warranty.

The remedy set forth herein shall be the only remedy available to the Buyer under this Warranty and in no event shall Trilithic, Inc. be liable for incidental or consequential damages for any alleged breach of this Warranty. This Warranty shall not apply to any part of the product which, without fault of Trilithic, Inc., has been subject to alteration, failure caused by a part not supplied by Trilithic, Inc., accident, fire or other casualty, negligence or misuse, or to any cause whatsoever other than as a result of a defect.

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