



860 DSPi VITS

VITS (Vertical Interval Test Signals) are signals inserted (generally during the vertical synchronization interval of analog video) to measure in-channel response, chroma-delay, differential phase, and differential gain. Common test signals used are FCC composite, NTC 7 composite, multiburst, and the ghost cancelling reference (GCR). The 860 DSP and 860 DSPi have a VITS test option that allows a user to measure in-channel response, differential phase, differential gain, chroma-delay, as well as look at the test signal itself.

How Does My 860 DSPi Utilize VITS?

The 860 DSPi with a VITS option can perform differential gain, differential phase, chroma-delay, and in-channel response tests on NTSC analog video carriers.

Differential Gain

Differential gain is the change in amplitude of the chrominance signal as a function of the amplitude of the associated luminance signal.

FCC Specification

The differential gain for the color sub carrier of the television signal, which is measured as the difference in amplitude between the largest and smallest segments of the chrominance signal (divided by the largest and expressed in percent) shall not exceed +/- 20%.

Differential Phase

Differential phase is the change in phase of the chrominance signal as a function of the amplitude of the associated luminance signal.

FCC Specification

The differential phase for the color sub carrier of the television signal, which is measured as the largest phase difference in degrees between each segment of the chrominance signal and reference segment (the segment at the blanking level of 0 IRE) shall not exceed +/- 10 degrees.

For Additional Help Contact
Trilithic Applications Engineering
1-800-344-2412 or 317-895-3600
support@trilithic.com or www.trilithic.com

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Chroma-Delay

The chrominance-luminance delay, chroma-delay, is defined as the change in delay time of the chrominance component of the signal relative to the luminance component after passing through the system.

FCC Specification

The chroma-delay shall be within 170 nS.

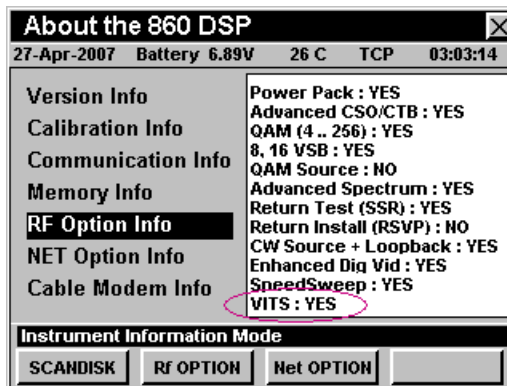
In-Channel Response

FCC Specification

The amplitude characteristic shall be within a range of +/- 2dB from 0.75 MHz to 5 MHz above the lower boundary frequency of the cable television channel, referenced to the average of the highest and lowest amplitudes within these frequency boundaries.

How Can I See if My 860 DSPi Supports VITS?

The easiest method to see if your 860 DSPi supports VITS is to go to the Information Menu on the Setup TAB. Examine the RF Option Information List and see if you have the option. If you do not, you can call the factory and purchase the option provided that your meter has the latest firmware installed. Note: Firmware must be V7.9.1.1 or higher.

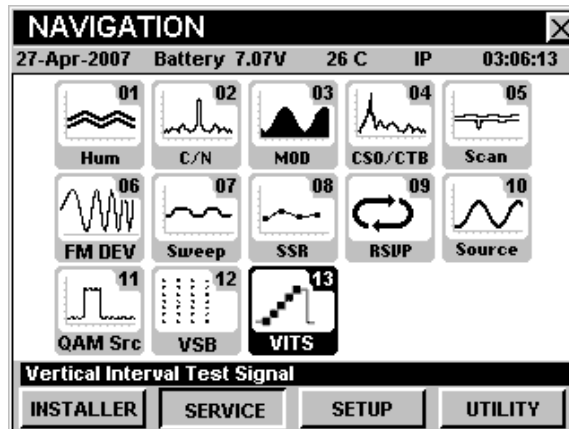


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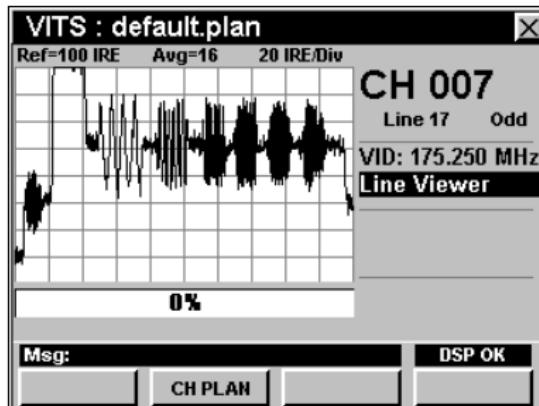
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How Do I Use the VITS Menu?

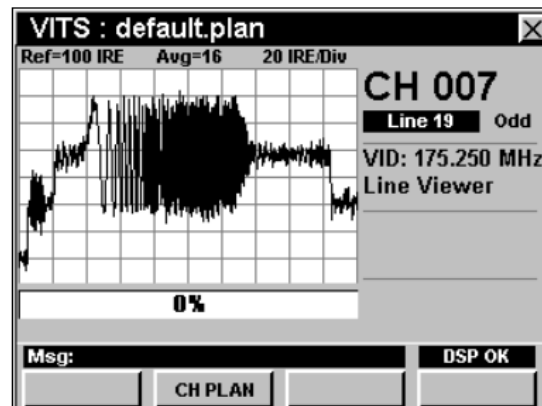
The VITS menu works very similar to any other menu on the 860. The user selects a test type, channel number, line number, Odd or Even field, and test signal type. The user has the option of using the FCC Composite, NTC 7 Composite, Multiburst, or Ghost Cancelling Reference test signal. Note, when performing a differential gain / phase test, the last step of the chrominance staircase is excluded (skipped) from testing. The reason for this exclusion is due to the effects of common clipping circuitry found in modulators.



Line Viewer Mode



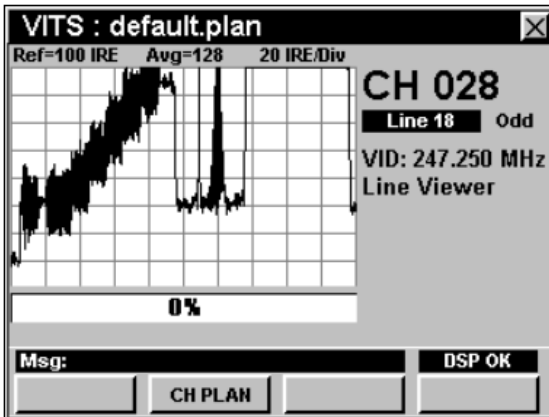
Multiburst



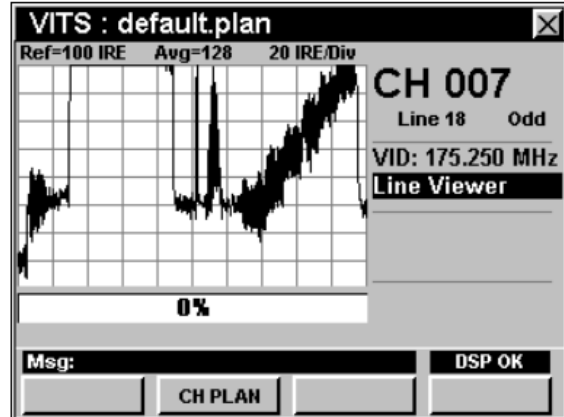
Ghost Cancelling Reference (GCR)

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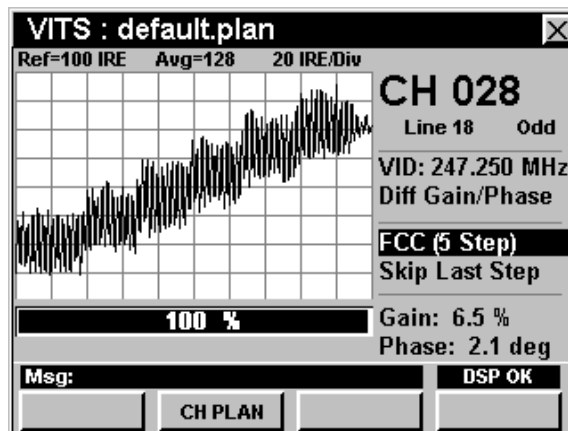


FCC Composite



NTC 7 Composite

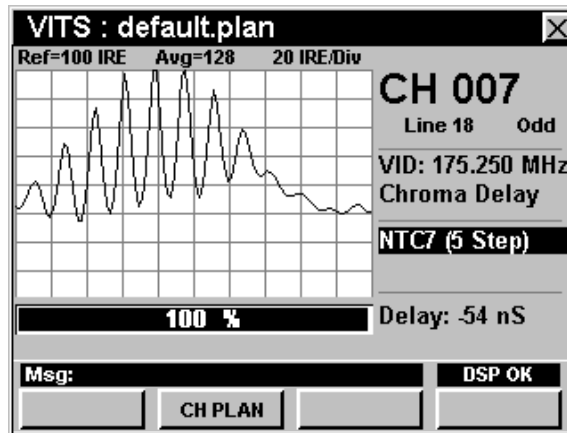
Diff Gain/Phase Mode



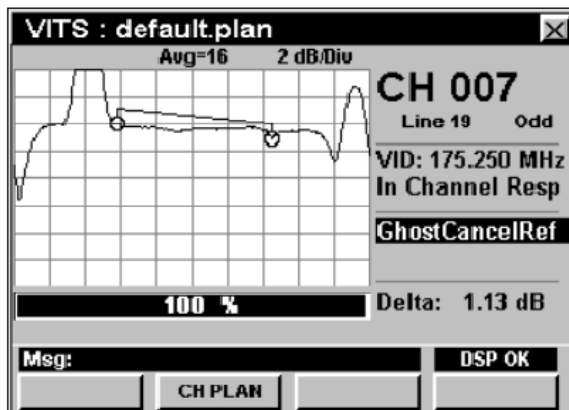
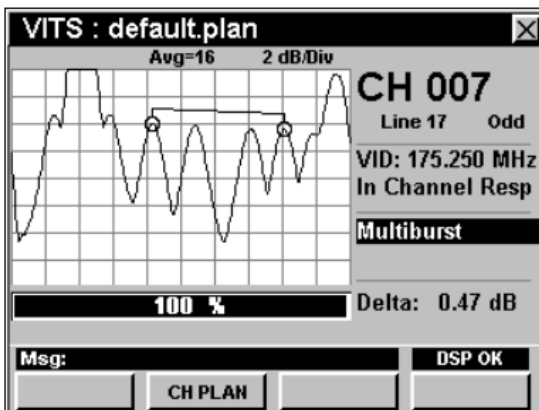
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Chroma-Delay Mode

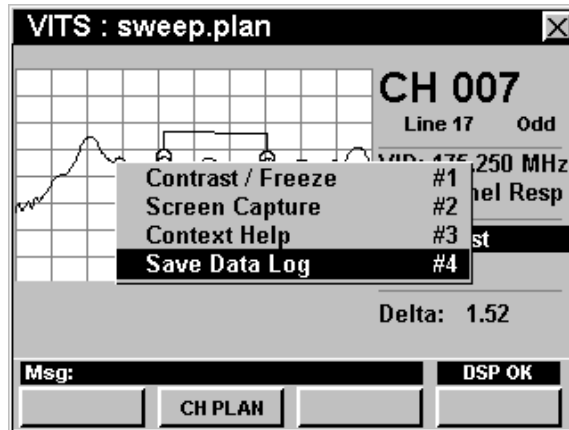


In-Channel Response Mode



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Data Logs

A Data Log can be saved with any of the above tests using a file name in the format of (*.vits). Workbench will be updated to accommodate this data log type in a future release along with Icon support.

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