

Application Note

MS2660 Series Spectrum Analyzers

Multi-Screen Displays

Overview

Anritsu's MS2660 Series spectrum analyzers provide unique capabilities for superimposing Trace-A and Trace-B waveforms on the same screen. This feature lets users to arrange the screen to show two independent displays of frequency or time domain information.



Using this multi-screen display allows two spectra with different frequencies to be displayed simultaneously. For example, this enables convenient viewing of the center frequency of interest as well as a wider or different frequency sweep at the same time.

Additionally, by taking advantage of the available options for High Speed Time Domain and Trigger/Gate Circuit, you can display both the frequency spectrum and time domain information for the same signal simultaneously.

The multi-screen display feature permits efficient signal level adjustment and harmonic distortion measurement. Furthermore, in addition to being able to display amplitude in the time domain, it is also possible to display the FM demodulation waveform.

Frequency/Frequency Displays

Configuring a MS2660 Series spectrum analyzer for a multi-screen frequency/frequency display is easy and straightforward:

- In the front panel Display area select the **A,B** key.
- Select Trace A from the screen menu and set up the desired frequency display parameters.
- Select Display **A,B** again and perform the same kind of setup for the Trace B parameters.

Now the trace information is configured and you can go to the multi-screen display:

- Select **Shift** and then select Display **A,B** again to access “A/B, A/BG”.
- The screen menu choices now allow you to select the Trace A size to be less than or greater than the size of Trace B. Note that the markers are active on the larger waveform.

Figure 1 illustrates a multi-screen frequency/frequency display that shows a center frequency and its associated first harmonic.

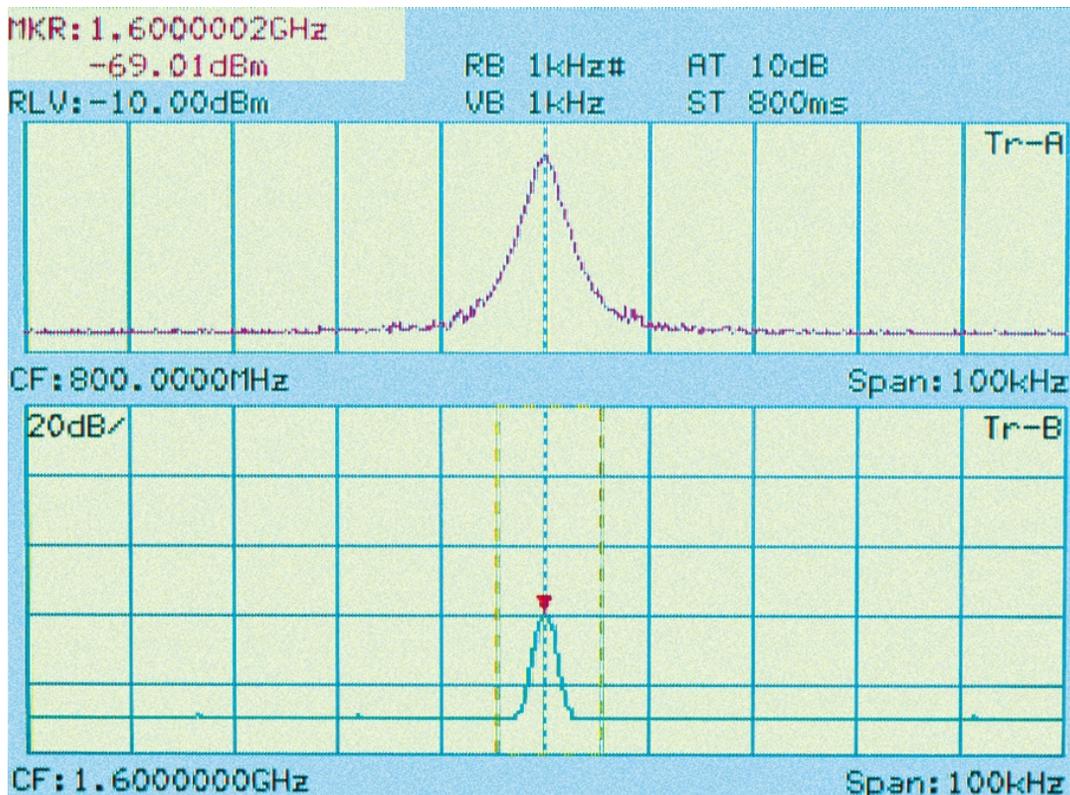


Figure 1. Multi-screen frequency/frequency display.

Frequency/Time Displays

For pulse and burst measurement applications, you can view both the frequency content and time information of a signal using a similar setup procedure:

- In the front panel Display area select the **A,B** key.
- Select Trace A from the screen menu and define the desired frequency range.
- In the Display area select the **Time** key and configure the desired time display.
- Select **Shift** and then select Display **Time** again to obtain the “Trace A/Time” multi-screen display.

Figure 2 illustrates a frequency/time display of a pulsed RF signal frequency with its associated time domain response.

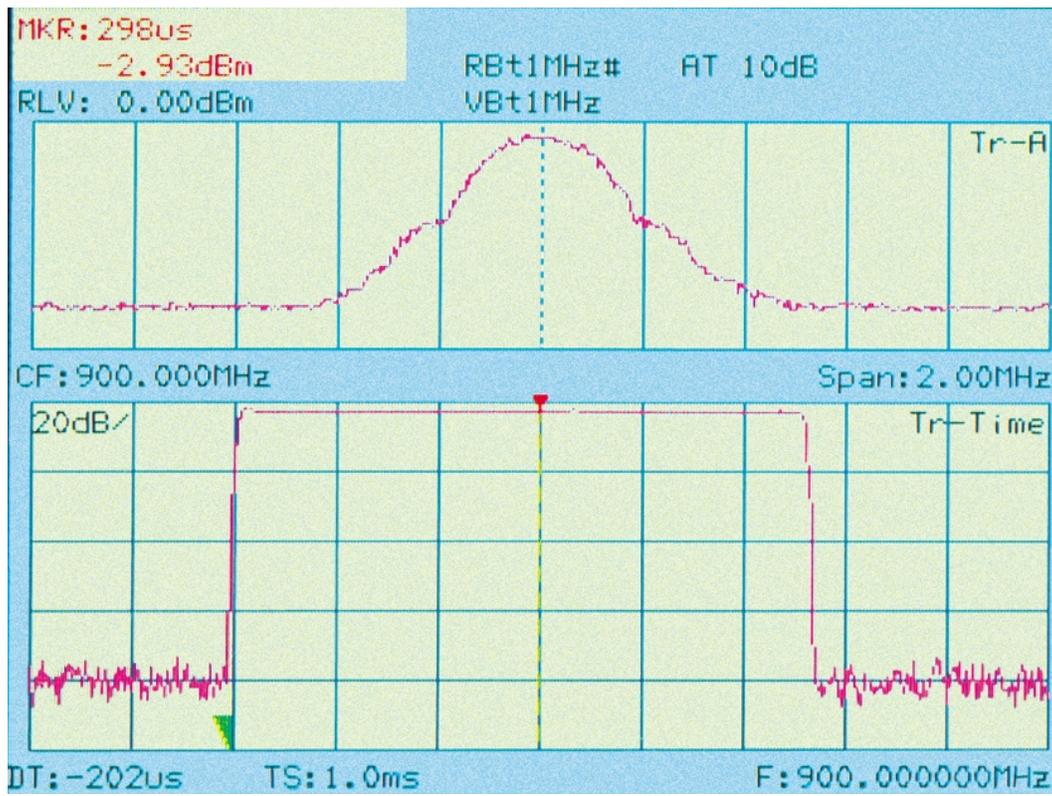


Figure 2. Multi-screen frequency/time display.

The parameters originally set for Trace B in a frequency/frequency display such as Figure 1 are maintained until modified by the user. Therefore, you can easily switch from this frequency/time display to the previous frequency/frequency display as follows:

- Select and then select Display to access "A/B, A/BG".

Summary

The unique capabilities in MS2660 Series spectrum analyzers for displaying two waveforms on the same screen provide a powerful tool for development and test, yet are easy to use. There are important applications in both the frequency and time domains.

The related MS2660 Series Spectrum Analyzers application note "Time Domain Displays for Pulse Measurements" has helpful information explaining why time domain displays are important, and illustrating several important applications for them.

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The Anritsu logo consists of the word "Anritsu" in a bold, sans-serif font. The letter "A" is stylized with a diagonal slash through it.