

## Errata

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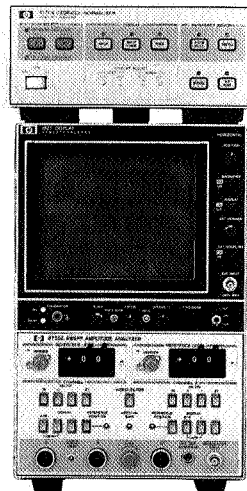
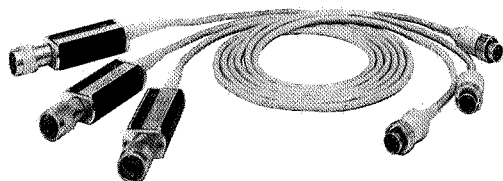
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# Using the HP 8340A Synthesized Sweeper with the HP 8755 Frequency Response Test Set



## 8755S FREQUENCY RESPONSE TEST SET

The 8755S consists of:

- 8755C Swept Amplitude Analyzer
- 182T Display
- 11664A Detectors (3 each)
- 8750A Storage-Normalizer

The 8755S is used for scalar transmission and reflection measurements requiring up to 60 dB of dynamic range and for absolute power measurement from  $-50$  dBm to  $+10$  dBm. The 11664A Detectors supplied with the standard 8755S permit operation from 10 MHz to 18 GHz; operation from 10 MHz to 26.5 GHz may be obtained by using the 8755S Option 005, which substitutes for the 11664A Detectors, three 11664B Detectors which have a frequency range of 10 MHz to 26.5 GHz.

The 8340A has the following features to permit maximum utility with the 8755S Frequency Response Test Set:

**RF Square-wave Modulation.** The 8755C utilizes an AC detection scheme wherein the RF is modulated by a 27.8 KHz square wave. This detection scheme provides excellent stability with time and temperature and allows rejection of unwanted signals that are not modulated. Although the RF can be modulated by an external modulator such as the HP 11665B, this is unnecessary when using the 8340A. All that is required is to connect the MODULATOR DRIVE from the 8755C to the PULSE MODULATION input on the 8340A, and then press PULSE.

**"Alternate" Function.** The ALT function of the 8340A allows two different front panel settings to be alternated. For example, the front panel setting and the setting stored in a memory register location  $n$  ( $n=1, \dots, 9$ ) can be selected for alternate



sweeps. The Alternate Function will not work properly with the 8755A or 8755B. See Figure 1 for a sweep display of the ALT function when used to view a bandpass response at different resolutions and offsets. Also see Figure 2 for an example of how an alternate sweep is set up.

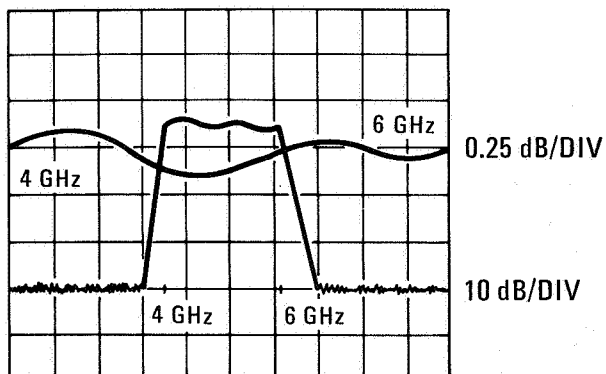


Figure 1. Alternate Sweep Function Display

**Marker  $\Delta$**  The MKR  $\Delta$  function is useful when using alternate sweep in overlapping different sweep widths. The overlapping portion of one of the sweeps can have an increased intensity. The 8750A Storage-Normalizer will need to be in BYPASS mode to view Z-axis modulation on the 182T Display.

**Power Sweep.** The RF output power may be ramped up by using the POWER SWEEP function. See Figure 3 for a gain compression display using power sweep.

**Save and Recall.** These functions allow the storage and recall of nine complete instrument settings.

Figure 2 outlines the general procedure used in making a scalar transmission and reflection measurement and also shows how to set up an alternate sweep display. The 11666A Reflectometer Bridge is used in this example, but of course other signal separation devices, such as the

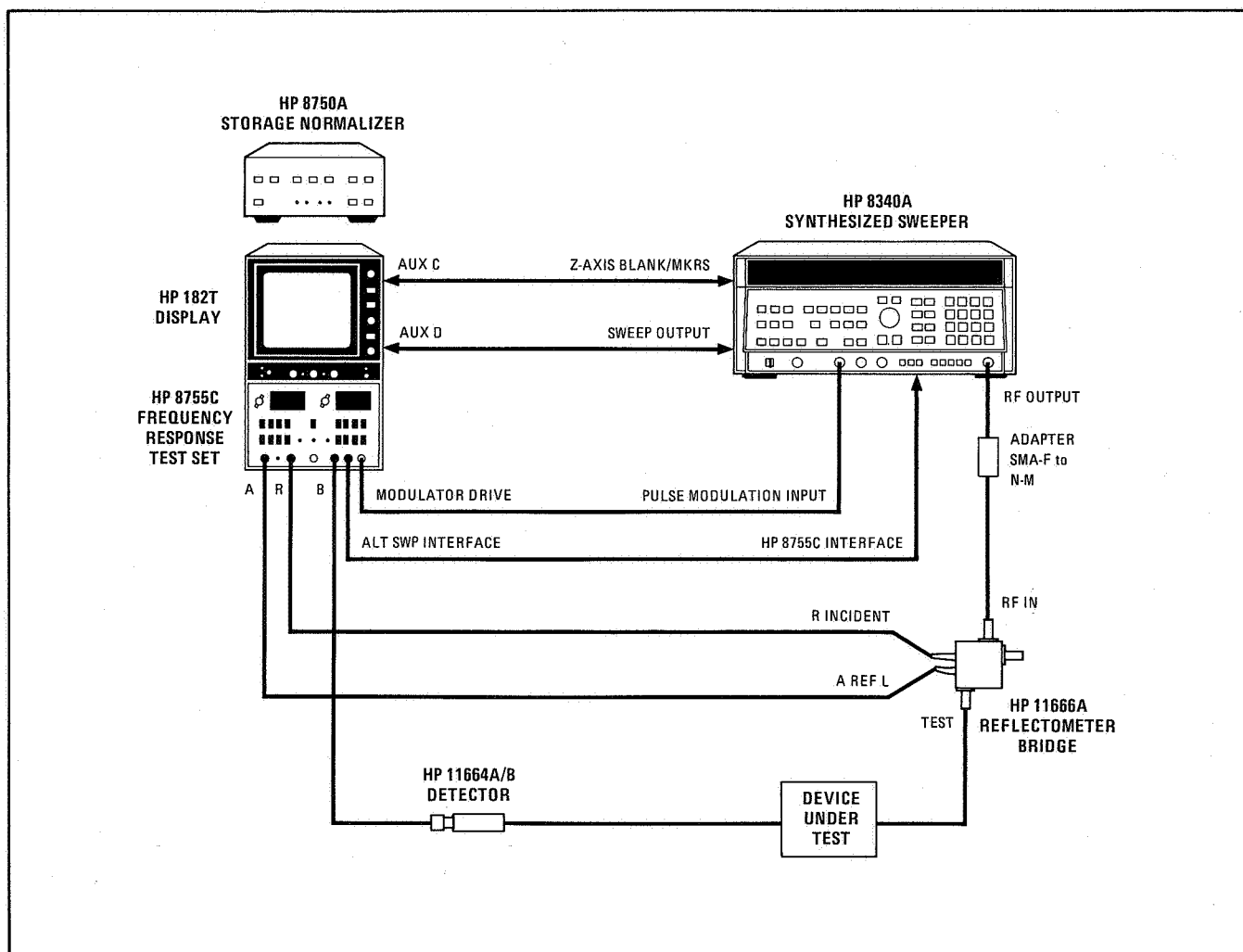


Figure 2. Scalar Transmission and Reflection Measurement

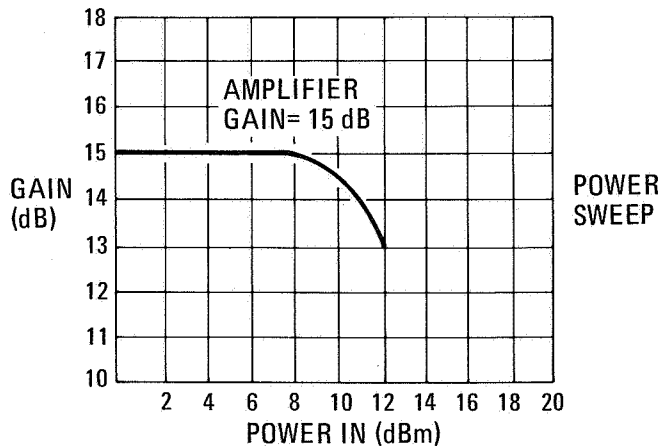


Figure 3. Gain Compression Display

11692D Dual-Directional Coupler, may be substituted. To keep the following procedure brief the 8750A will not be used (switched to BYPASS) in the procedure. When using the 8750A with the 8340A Synthesized Sweeper:

- Intensity markers are changed to amplitude markers. In MKRΔ mode they appear as a level shift over the MKRΔ range.
- If an 8755 channel is switched off the trace goes to the reference line (bottom of CRT).

Example:

1. Connect the equipment as shown. Initially, the 8340A should be set by pressing INSTR PRESET to set the front panel instrument state and PULSE to enable the square wave modulation. Notes on connections:

- Either the front or rear panel SWEEP OUTPUT may be used.
  - When in ALT mode both channels 1 and 2 (on 8755C) must be on and receiving inputs.
2. Turn off channel 1 on the 8755C by simultaneously releasing all of the channel 1 display pushbuttons. Set the 8340A controls as desired. On channel 2 of the 8755C set the function, dB/DIV and Offset desired for viewing the current sweep setting.
  3. Set the 8340A controls as desired then store the current 8340A sweep setting in any available memory location. Then turn off channel 2 by releasing its display pushbuttons.
  4. Turn on channel 1 of the 8755C and set the function, dB/DIV and Offset as desired. Set 8340A controls as desired.
  5. Turn on channel 2. Press ALT and the 8340A will alternate between the two settings on successive sweeps.

Channel 1 now displays the response due to the current front panel setting while channel 2 displays the response to the setting stored in memory location n. (If it is desired to alternate with a memory location other than the one just stored, press the number of that location on the 8340A numeric keypad.) The front panel controls of the 8340A are enabled and the current sweep setting may be altered if desired.



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