

Errata

**Title & Document Type: Using the 8340A Synthesized Sweeper with X-Y Recorders
Getting Started & Quick Reference Guide**

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HP References in this Manual

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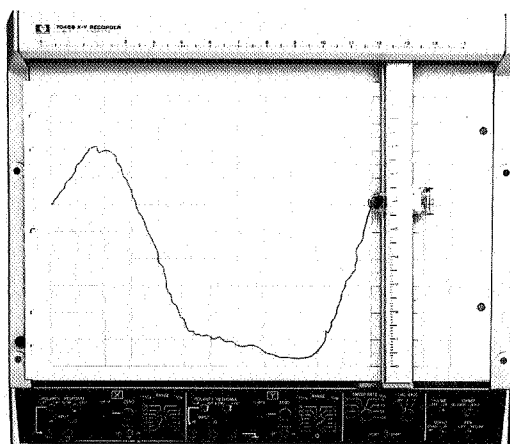
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Using the HP 8340A Synthesized Sweeper with X-Y Recorders



X-Y RECORDERS

The HP 8340A is equipped with outputs to control currently existing HP X-Y analog recorders, which are listed below in Table 1. The 8340A must be placed in the **SINGLE SWEEP** mode when used with an X-Y recorder. Various control lines must also be interconnected; these are described below and a typical setup is also shown in Figure 1.

X-Input: The X-input to the recorder is generally the **SWEEP OUTPUT** of the 8340A, which is supplied by a BNC connector on both the front and rear panel of the 8340A.

Y-Input: The source of the Y-axis voltage to the recorder depends on the equipment being used in the measurement setup. If the 8755S Frequency Response Test Set is being used, the Y-input would be **AUX A** for channel 1 and **AUX B** for channel 2. For 8410B/C systems, the 8412A/B display provides amplitude and phase outputs to the

recorder Y-input via the **AMPTD** and **PHASE** BNC connectors, respectively. If the HP 436A Power Meter is used, its **RECORDER OUTPUT** BNC connector should be used.

Care should be taken to allow the recorder enough time to respond to fine-grain variations in the Y-axis voltage. Recommended 8340A sweep times for each X-Y recorder are given in Table 1.

Pen Lift: The **PEN LIFT** control line is assigned to a pin on the remote control connector of the recorder, as shown in Table 1. (For a complete listing of all pin assignments on the remote control connector, refer to the Operating and Service Manual of the recorder being used.) The **PEN LIFT** control line is connected to the **PEN LIFT OUTPUT** BNC connector on the rear panel of the 8340A. **PEN LIFT OUTPUT** is operable only if the 8340A sweep time has been set to a value greater than 5 sec.



Table 1. HP X-Y Recorders

XY Recorder	Mute Function	Mute Function Pin Number	PEN LIFT Pin Number	Ground Pin Number	Recommended Sweep Times
7010B	Std.	A2J2 pin 4 A3J2 pin 4	3	A2J2 pin 6 A3J2 pin 6	≥20 sec.
	Option 002	A4J5 pin L A4J5 pin R		A4J5 pin K A4J5 pin P	
7015B	Std.	A4J5 pin L A4J5 pin R	3	A4J5 pin K A4J5 pin P	≥20 sec.
7035B	N/A	N/A	18	6	≥20 sec.
7004B	N/A	N/A	18	6	≥10 sec.
7034A	N/A	N/A	18	6	≥10 sec.
7040A	Std.	Refer to Section III of the Recorder's Operating and Service Manual.			≥10 sec.
7041A	Option 040	X=pin 5 Y=pin 6	1	3	
7044B	Std.	4	1	20	>10 sec.
7045B	Std.	4	1	20	>10 sec.
7046B	Std.	4	34	19	>10 sec.
7047A	Std.	4	1	20	>10 sec.

Recorder (Servo) Mute: When the 8340A is swept over multiple bands, the RF is momentarily turned off at the band switchpoints. To prevent this from causing negative spikes on the X-Y recorder trace, the recorder's servo motor can be muted during the band crossing. The MUTE OUTPUT BNC connector on the rear panel of the 8340A performs this function, and must be connected to both the recorder's X and Y MUTE inputs, the locations of which are shown in Table 1.

As Table 1 also shows, some HP X-Y recorders do not have a MUTE function. When using one of these recorders, the negative spikes at band switchpoints can still be prevented by pressing SHIFT LINE on the 8340A front panel. This activates a function which generates a pen lift signal at each band crossing, thus avoiding the spikes. This function is operable only if the 8340A sweep time has been set to a value greater than 5 sec. Once activated, the function is turned off by pressing SHIFT LINE again. No change in the pen

lift connections is required to implement this function.

The SHIFT LINE function may also be remotely programmed via HP-IB. The programming codes are as follows:

- SHT21 Enable PEN LIFT during band crossing
- SHT20 Disable PEN LIFT during band crossing

As Figure 1 shows, the SHIFT LINE function may be used as a substitute for the MUTE function even on those X-Y recorders that do have MUTE capability.

Figure 2 shows a plot of internally leveled output power from the 8340A vs. frequency. The plot was generated on an HP 7045B X-Y recorder. The output power from the 8340A was monitored with an HP 8485A Power Sensor and HP 436A Power Meter, whose RECORDER OUTPUT provided the Y-axis input to the 7045B.

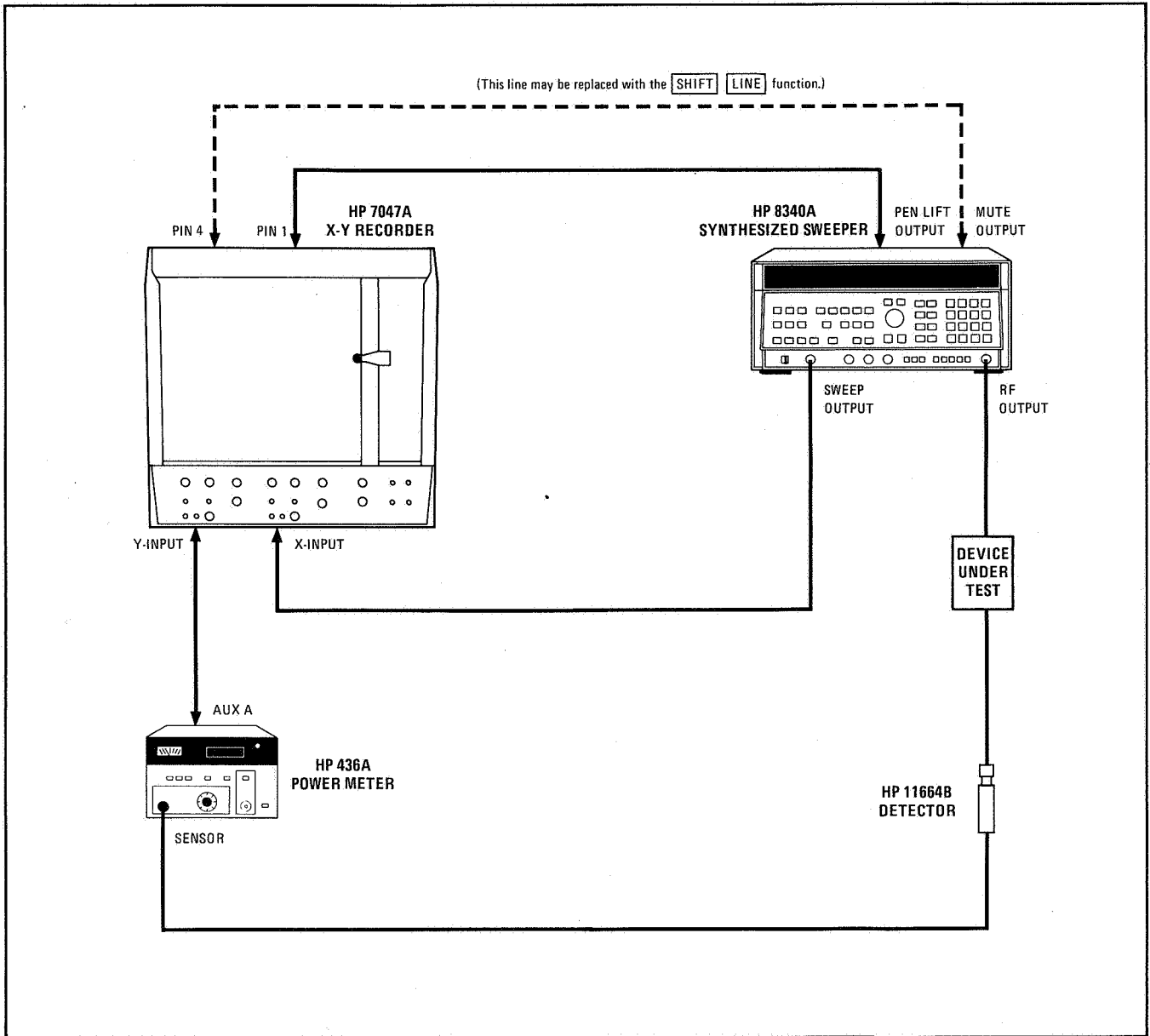


Figure 1. Typical X-Y Recorder Equipment Setup

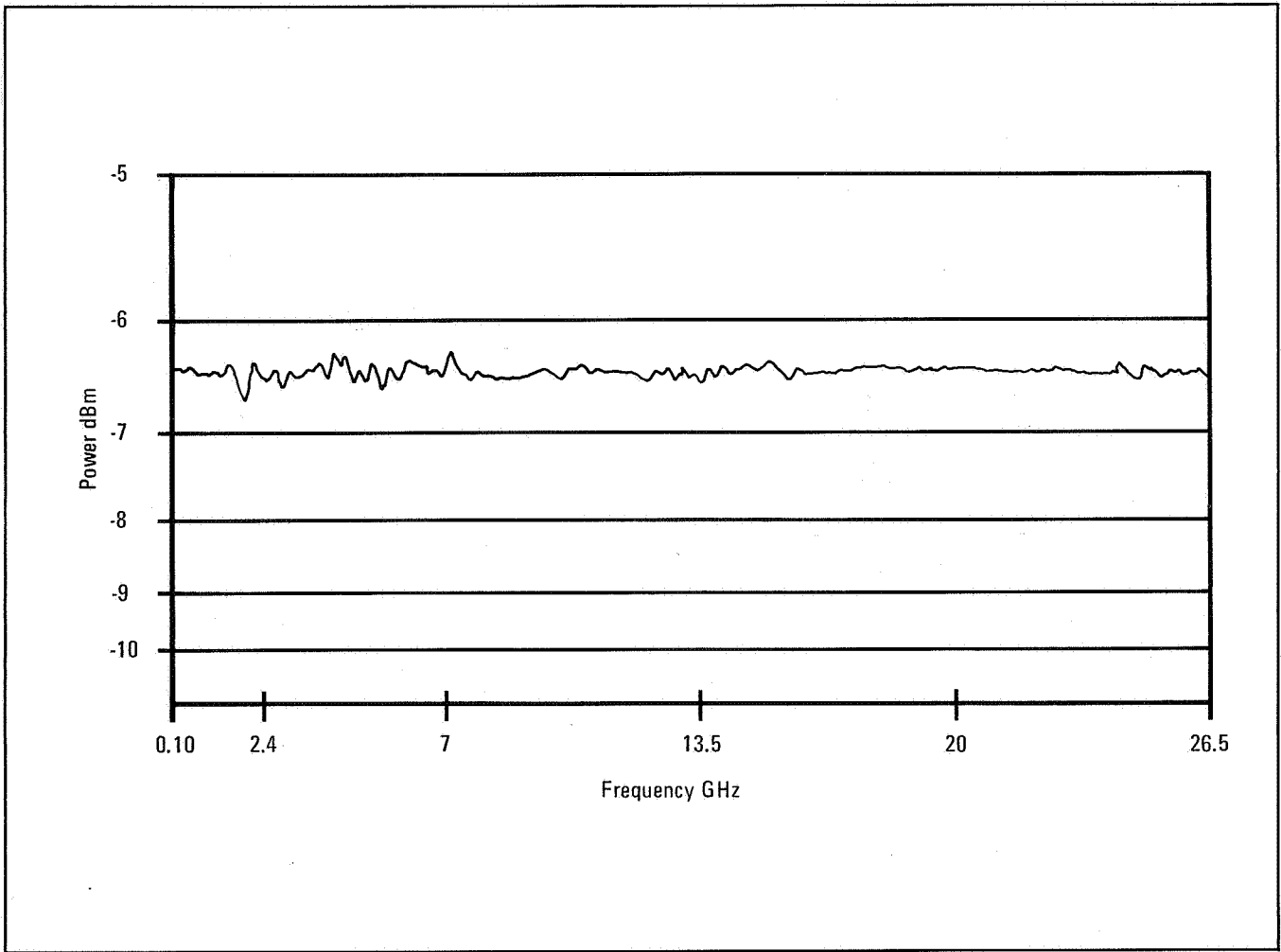


Figure 2. Typical Power Leveling Plot



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