MANUAL CHANGES

MANUAL IDENTIFICATION

Model Number: 8444A
Date Printed: January 1975
Part Number: 08444-90012

This supplement contains important information for correcting manual errors and for adapting the manual to instruments containing improvements made after the printing of the manual.

To use this supplement:

Make all ERRATA corrections

Make all appropriate serial number related changes indicated in the tables below.

Serial Prefix or Number	Make Manual Changes
►1601A, 1630A	1

Serial Prefix or Number	Make Manual Changes

► NEW ITEM

ERRATA

Page 1-0, Figure 1-1:
Delete RACK MOUNTING KIT, 5060-8739.

Page 1-4, Table 1-2:
Delete all references to Rack Mounting Kit.

Page 1-5, Table 1-3:
Change Power Meter Frequency Range to "500 kHz – 1.6 GHz".
Change Suggested Model to HP 435A Power Meter with HP 8482A Power Sensor.
Change Frequency Counter Frequency Range to "500 kHz – 1.6 GHz."
Change Suggested Model to HP 5340A Frequency Counter.

Page 1-7, Table 1-4:
Add: 5060-8739 RACK MOUNTING KIT to install instrument in 19-inch rack.

Page 4-3, Paragraph 4-16:
Replace entire Output Level performance test with new Output Level and Flatness test supplied in this Manual Changes Supplement.

Page 4-9, Paragraph 4-18:
Replace entire System Flatness performance test with new System Flatness test supplied in this Manual Changes Supplement.

NOTE

Manual change supplements are revised as often as necessary to keep manuals as current and accurate as possible. Hewlett-Packard recommends that you periodically request the latest edition of this supplement. Free copies are available from all HP offices. When requesting copies quote the manual identification information from your supplement, or the model number and print date from the title page of the manual.

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8 Pages

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ERRATA (Cont'd)

Page 4-11, Paragraph 4-19:
Change Frequency Counter to HP 5340A under EQUIPMENT.
Delete Frequency Converter under EQUIPMENT.

Page 5-4, Paragraph 5-9:
Change second line under EQUIPMENT to read:

Frequency Counter . . . . . .HP 5340A

Page 6-8, Table 6-2:
Change MP18 to 08443-00021; 4; BRACKET, FRONT PANEL SUPPORT.

CHANGE 1

Page 6-6, Table 6-2:
Change A8 HP Part Number to 0960-0444.

Page 6-7, Table 6-2:
Change S1 HP Part Number to 3101-1957 (preferred replacement).

Page 8-19, Figure 8-17, Service Sheet 5:
Replace ON/OFF switch S1 and POWER LINE MODULE A8, wiring diagram and schematic, with Figure 1 of this Manual Changes Supplement.

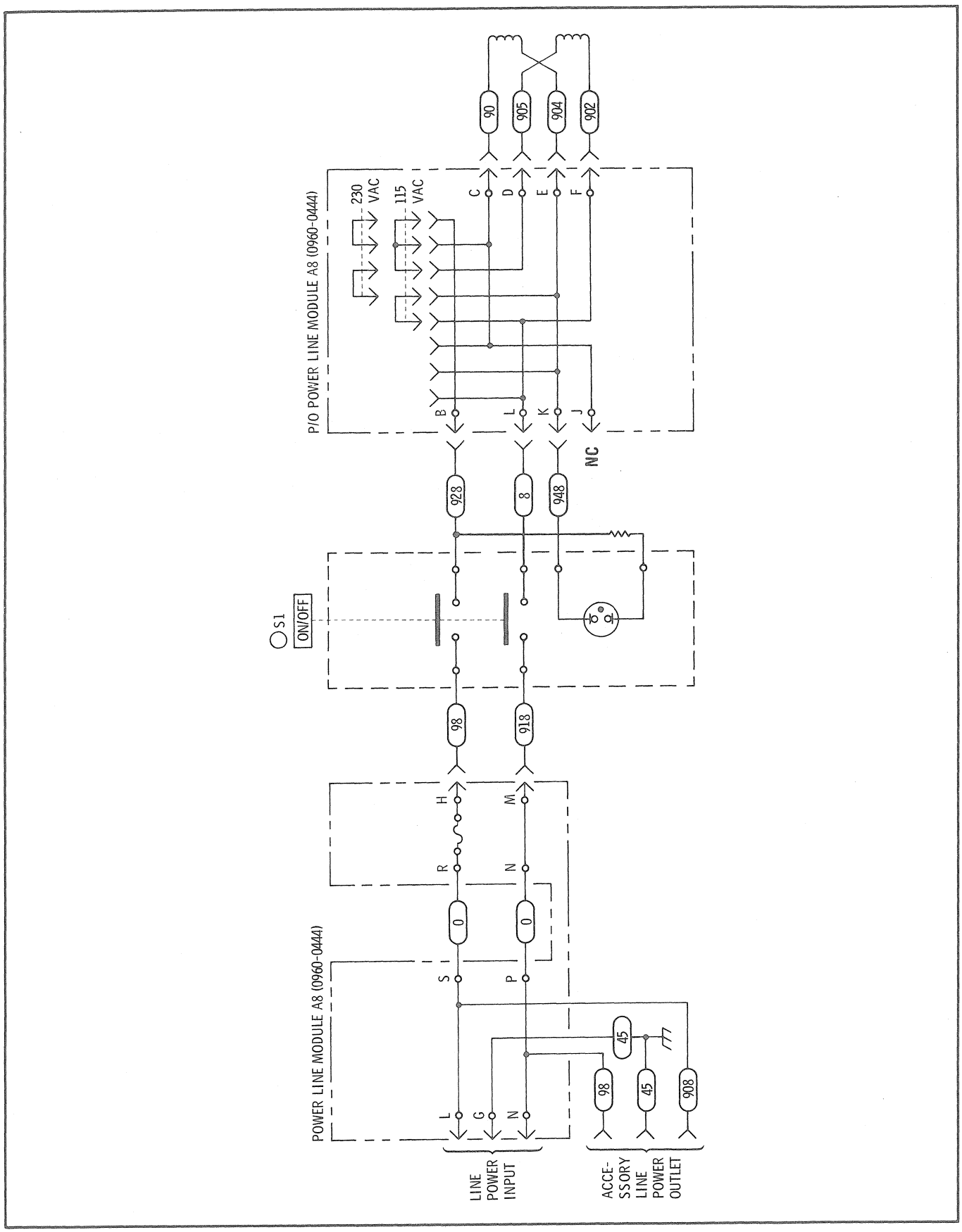

Figure 1. P/O Figure 8-17, Power Supply and Input Circuit, Schematic Diagram

4-16. OUTPUT LEVEL AND FLATNESS

SPECIFICATION:

Tracking Generator (Drive Level to Test Device): 0 to −10 dBm continuously variable. 0 dBm calibrated to ±0.5 dB at 30 MHz. Flatness: ±0.5 dB.

DESCRIPTION:

With the Tracking Generator connected to the Spectrum Analyzer, the Tracking Generator output level is first checked at 30 MHz (Spectrum Analyzer amplitude calibration point) with a power meter. With Tracking Generator LEVEL control set at 0 dBm, the power meter indication should be 0 dBm ±0.5 dB. With LEVEL control set fully counterclockwise, the power meter indication should be −10 dBm to −12 dBm. The flatness of the Tracking Generator output is checked using a power meter from 10 MHz to 1.3 GHz if used with the 8555A, and 500 kHz to 1.25 GHz if used with the 8554B. The overall maximum power variation in each case must not exceed 1 dB (±0.5 dB).

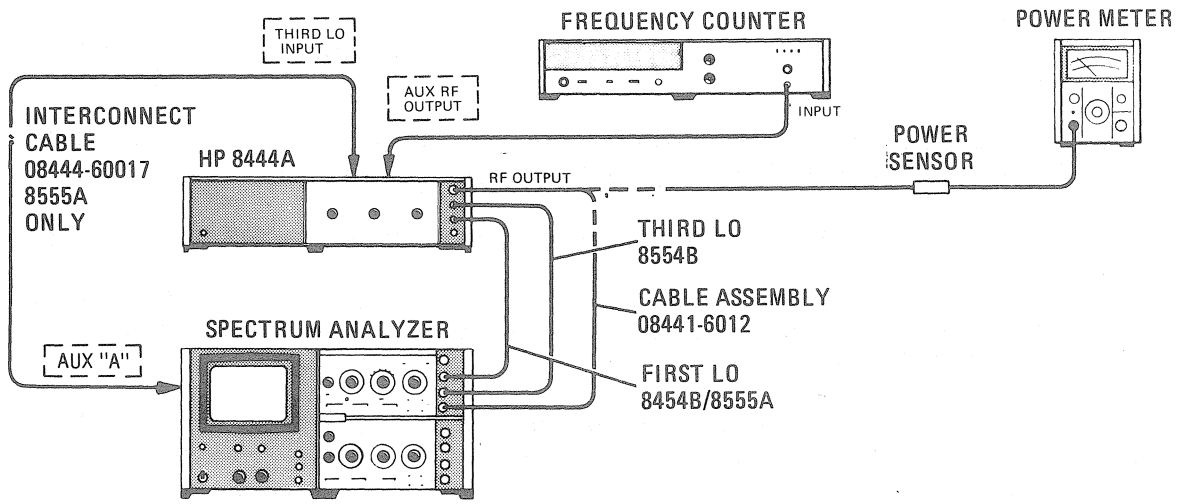

Figure 4-1. Output Level and Flatness Test Setup

EQUIPMENT:

Spectrum Analyzer	HP 8554B or 8555A/8552B/141T
Power Meter	HP 435A
Power Sensor	HP 8482A
Frequency Counter	HP 5340A
Adapter, Type N Male to BNC Female	HP 1250-0780
Interconnect Cable (8555A THIRD LO)	HP 08444-60017
Interconnect Cable (two required)	HP 08444-60018
Cable Assembly (RF)	HP 08441-6012

4-16. OUTPUT LEVEL AND FLATNESS (Cont'd)

PROCEDURE:

1. Perform preset adjustment procedures, paragraph 4-7 for 8554B/8552B/141T Spectrum Analyzer System or paragraph 4-9 for 8555A/8552B/141T Spectrum Analyzer System.

2. Connect test setup as shown in Figure 4-1 and set controls as follows:

   Power Meter
   - RANGE . . . . . 0 dBm
   - LINE . . . . . ON
   - CAL FACTOR . . . . . See Power Sensor

   Frequency Counter
   - RANGE . . . . . 10 Hz – 18 GHz
   - LINE . . . . . ON
   - RESOLUTION Hz 100

   Tracking Generator
   - MANUAL SCAN . . . . . Fully Counterclockwise
   - LEVEL . . . . . 0 dBm

3. Set Spectrum Analyzer TUNING STABILIZER to OFF and set SCAN WIDTH to ZERO. Adjust FREQUENCY for indication of 30 MHz ±100 kHz on Frequency Counter.

4. Tune Tracking Generator TRACK ADJ for maximum signal amplitude on Spectrum Analyzer.

5. Connect Power Sensor to 435A POWER REF OUTPUT and ZERO Power Meter. Set rear-panel POWER REF switch to ON (up). Set CAL ADJ for proper 435A indication. Remove Power Sensor and return POWER REF switch to OFF.

6. Disconnect cable at Tracking Generator RF OUTPUT and connect Power Sensor to RF OUTPUT connector. Disconnect FIRST LO cable and ZERO Power Meter. Reconnect FIRST LO cable. Measure and record power level.

MAX.	ACTUAL	MIN.
+0.5 dBm	____dBm	–0.5 dBm

7. Set Tracking Generator LEVEL control fully counterclockwise. Measure and record power level.

MAX.	ACTUAL	MIN.
–10 dBm	____dBm	–12 dBm

8. Adjust Tracking Generator LEVEL control to set a –1 dBm reference level on power meter.

9. With Spectrum Analyzer FREQUENCY control, slowly tune the Spectrum Analyzer and Tracking Generator between 10 MHz and 1.3 GHz if using 8555A RF Section, or between 500 kHz and 1.25 GHz if using 8554B RF Section.

10. Note and record the maximum overall power deviation.

MAX.	ACTUAL
1 dB (±0.5 dB)	_____dB

4-18. SYSTEM FLATNESS

SPECIFICATION:

Amplitude Accuracy: System Frequency Response: ±1.50 dB.

DESCRIPTION:

The Tracking Generator output is checked with the Spectrum Analyzer using either an 8555A or an 8554B RF Section. A convenient reference level is set in the 2 dB LOG mode. The overall power deviation is measured from 10 MHz to 1.3 GHz if 8555A RF Section is used, or 500 kHz to 1.25 GHz if 8554B RF Section is used.

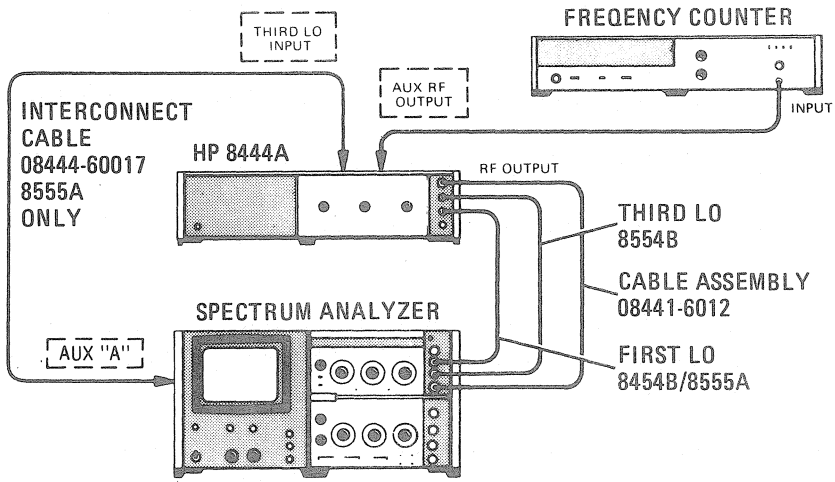

Figure 4-4. System Flatness Test Setup

EQUIPMENT:

Spectrum Analyzer	HP 8554B or 8555A/8552B/141T
Frequency Counter	HP 5340A
Adapter, Type N Male to BNC Female	HP 1250-0780
Interconnect Cable (8555A THIRD LO)	HP 08444-60017
Interconnect Cable (two required)	HP 08444-60018
Cable Assembly	HP 08441-6012

4-18. SYSTEM FLATNESS (Cont'd)

PROCEDURE:

1. Perform preset adjustment procedures, paragraph 4-7 for 8554B/8552B/141T Spectrum Analyzer System or paragraph 4-9 for 8555A/8552B/141T Spectrum Analyzer System.

2. Connect test setup as shown in Figure 4-4 and set controls as follows:

   Frequency Counter
   - RANGE . . . . . 10 Hz – 18 GHz
   - LINE . . . . . ON
   - RESOLUTION Hz 100

   Tracking Generator
   - MANUAL SCAN . . . . . Fully Counterclockwise
   - LEVEL . . . . . 0 dBm

3. Set Spectrum Analyzer SCAN WIDTH to ZERO and adjust FREQUENCY for indication of 30 MHz ±100 kHz on frequency counter.

4. Set Spectrum Analyzer LOG REF LEVEL to (+) 10 dBm and LOG/LINEAR to 2 dB LOG.

5. Adjust Tracking Generator TRACK ADJ for maximum signal indication on CRT display.

6. Adjust Spectrum Analyzer LOG REF LEVEL vernier control to position trace on –20 LOG REF graticule line.

7. With Spectrum Analyzer FREQUENCY control, slowly tune the Spectrum Analyzer and Tracking Generator between 10 MHz and 1.3 GHz if using 8555A RF Section, or between 500 kHz and 1.25 GHz if using 8554B RF Section.

8. Note and record the maximum overall power deviation (one minor division on center vertical graticule line equals 0.4 dB).

MAX.	ACTUAL
3 dB (±1.5 dB)	_____dB