MANUAL in Section I.

This manual applies directly to HP Model 8412B
SERIAL NUMBERS

DISPLAY

PHASE-MAGNITUDE

8412B
Table 1.1. Specifications

are listed in Table 1.2.

1.1. Supplied Parallel Performance Characteristics

1.1.2. Phase-Amp. Magnitude Display are given in Table 1.2. The display input signals are also provided in Table 1.2. The display input signals for the model 8412B or 8412C are specified for the model 8412B or 8412C. The display input signals are also provided in Table 1.2. The display input signals for the model 8412B or 8412C are specified for the model 8412B or 8412C.

1.3. The magnitude and phase display may show

1.4. Amplitude is displayed in degrees/division on the

referred to as the magnitude and phase display. The

1.5. The magnitude and phase display may show

The magnitude and phase display may show

1.2. The Model 8412C Phase-Amp. Magnitude Display

1.1. Introduction

GENERAL INFORMATION

SECTION 1

Model 8412B
Table 1-2. Supplementary Performance Characteristics

Model 8412B

General Information
2.1. Initial Mechanical Inspection

The Phase-Magnitude Display was carefully inspected both mechanically and electrically prior to shipment. If external damage to the shipping carton is evident, ask the carrier's agent to be present when the instrument is unpacked. Check the controls and connectors for damage or dust. If damage is evident, refer to Paragraph 2-29 for recommended claim procedure.

2.2. Initial Electrical Inspection

Check the electrical performance of the Phase-Magnitude Display as soon as possible after receipt by performing the Performance Test Procedure (Paragraph 4-3). The Performance Test procedure is designed to test the instrument for faults in the test equipment. If the Phase-Magnitude Display does not perform within the specifications, refer to Paragraph 2-29 for recommended claim procedure.

2.3. Preparation for Use

The 8412B Phase-Magnitude Display is mounted in a rack, section of the Model 8407A or 8408A Series Network Analyzer mainframe. To use the 8412B display, unlock the mainframe and if a different plug-in is installed, remove it. Slide the 8412B into position, then lock the insert arm at the bottom of the display.

2.4. Claims

If physical damage is evident, or if the equipment does not meet specifications when
through 3.6. Mission performances are shown in Figures 3.2-3.3. Typical test setups for both precession and tone-antenna configurations and imperfections can be calculated. Figure 3.7. A typical test setup for the VSPA, VSR, and SWR. From this information on the VSPA, VSR, and SWR, the test signal is then detected and decoded, and the result is displayed on the test display. The test display is then used to determine the performance of the VSPA, VSR, and SWR. In general, a wave of information is sent to the test display, which is then decoded and processed to determine the performance of the VSPA, VSR, and SWR.

3.10. OPERATING PROCEDURE

To ensure that the operator is fully aware of the operating procedure and the potential hazards, it is recommended that a practice session be conducted on the VSPA, VSR, and SWR. The operator should be familiar with the operating procedure and the potential hazards before conducting the practice session.

3.11. The 8412B Phase-Magnitude Display

3.12. The VSPA, VSR, and SWR can be used to diagnose the test signal and provide information on the performance of the VSPA, VSR, and SWR.

3.13. Panel Features

3.14. Front and rear panel controls, connectors, and indicators are described in Figures 3.2 and 3.3.

3.3. PANEL ADJUSTMENTS

In these figures, the components on the instrument panel and indicators are described. A detailed description of the components and indicators is provided in Figures 3.2 and 3.3.

3.4. Front panel controls, connectors, and indicators are described in Figures 3.2 and 3.3.

3.5. SCREWDRIVER ADJUSTMENTS

These figures describe the components on the instrument panel and indicators. A detailed description of the components and indicators is provided in Figures 3.2 and 3.3.

3.6. INTRODUCTION

The 8412B Phase-Magnitude Display
Figure 3-1. Model 8412B Front Panel Features

1. PHASE DEG/DIV switch. Selects the calibrated resolution of phase display.

2. PHASE DEG. The display reading gives the measured phase reading.

3. RF (CH2) switch. Selects bandwidth passed by the display.

4. RF (CH2) switch. When necessary to filter noise from the display.

5. RF (CH2) switch. When channel bandwidths change, the position of amplitude transfer function is altered. This allows decreasing reference and input channel bandwidths to improve accuracy and signal display.

6. AMP CAL (LOW LEVEL) control. Adjusts call amplifier to change length of displayed trace.

7. MODE switch. Selects AMP (amplitude), PHASE.

8. PHASE OFFSET switches. Set phase to zero.

9. AMP. DB/DIV switch. Selects the calibrated resolution of the test channel amplitude display.

10. PHASE OFFSET DEGREES switch. Selects degrees.

11. MODE switch. Selects DUAL (amplitude) and DUAL (phase) to display on both amplitude and phase displays.

12. FOCUS control. Controls the sharpness of the trace.

13. INTENSITY control. Controls brightness of the display.

14. RF (CH1) switch. Selects bandwidth passed by the display.
Figure 3-2, Model 8412B Rear Panel Features (1 of 2)

1. Remove necessary connections with 8704A storage oscilloscope.

2. Normalizer interconnect all 120 A. Share same normalizer.

3. Phase control connector 17. This input is used in automatic network analyzer systems. When a 180 degree phase offset, the system controller adds 0 or 180 degrees phase shift to the circuit of interest. When the circuit contains 180 degrees phase shift, the probe leading measurement may be different. The 180 degree phase lead is closer to ground by the other probe. When the phase measurement is made near the 0 or 180 degrees, this line is closer to ground by the other probe.

4. Z-VXIX connector 15. Marker input to Z-axis that aligns with 1942B to the NEC position.


6. Phase control point to the rear.

7. 20 Volt line. The 175 Volt.

Removing rear-panel fuse F2 only.

WARNING

Do not remove the fuse F1 located inside.

1. Remove necessary connections with 8407A or 8410 sets.

2. Fuse Holder. Fuse protection in 20 Volt line from model 8412B cathode and focus grid.

3. Control grid, cathode, and focus grid.

4. Model 8412B cathode and focus grid.
Figure 3-2: Model 8412B Rear Panel Features (2 of 2)

1. SWEEP. When "Return to Reference" is set for minimum sweep width, refer to Paragraph 3-5.

2. TRACE. When "Test/Ref." is set, refer to Paragraph 3.

3. "Return/Incident".

Operation

Model 8412B
Figure 3-2 Typical Reflection Test Setup Using 8407A/8412B System

CHANGING SWITCH POSITION OF AS3.
NEGATIVE GOING MARKER OR NEGATIVE BLANKING BY
2. X-AXIS ON 4.12B ACCEPTS EITHER POSITIVE BLANKING AND
NEGATING CABLES ARE PART OF ACCESSORY KIT HP 11652.

NOTE: 1. POWER SPITTER, DIRECTIONAL BRIDGE AND INTERCONN.

Figure 3-3 Typical Transmission Test Setup Using 8407A/8412B

CHANGING SWITCH POSITION OF AS3.
NEGATIVE GOING MARKER OR NEGATIVE BLANKING BY
2. X-AXIS ON 4.12B ACCEPTS EITHER POSITIVE BLANKING AND
PART OF ACCESSORY KIT HP 11651.

NOTE: 1. POWER SPITTER AND INTERCONNECTION CABLES ARE

Operation