

1. INTRODUCTION

2. The HP Model 8447B Amplifier is a general purpose, wide band preamplifier that provides at least 20 dB of gain to signals from 0.4 to 1.3 GHz. It can be used to improve the sensitivity of a frequency counter, spectrum analyzer, network analyzer, telemetry receiver or any similar device within its frequency range.

3. OPTIONS

4. The HP Model 8447B is a single preamplifier with BNC connectors. However, to provide flexibility, three options are offered:

- a. Option 001 — Dual preamplifier, BNC connectors.
- b. Option 010 — Single preamplifier, Type N connectors.
- c. Option 011 — Dual preamplifier, Type N connectors.

5. INSTRUMENTS COVERED BY MANUAL

6. Each Model 8447B carries a two-section serial number. The first section of the number is a prefix. The contents of this manual apply directly to preamplifiers which have the same serial number prefix as listed after "Serials Prefixed" on the inside title page.

7. Revisions required to adapt this Manual to other serial number prefixes are contained in a yellow "Manual Changes" insert supplied with the manual. For information about serial number prefixes not listed on the title page, or in the insert, contact the nearest Hewlett-Packard office.

8. INITIAL INSPECTION

9. Mechanical Check

10. If damage to the shipping carton is evident, ask the carrier's agent to be present when the instrument is unpacked. Inspect the instrument for mechanical damage. Also check the cushioning material for signs of severe stress.

11. Performance Check

12. The electrical performance of the Model 8447B, or any of its options, should be verified upon receipt. Performance checks suitable for incoming inspection are given in paragraphs 48 through 53.

Table 1. Specifications

Frequency Range:	0.4 — 1.3 GHz
Gain:	20 dB minimum, 22 dB typical
Gain Flatness:	±1.5 dB, 0.4 to 1.3 GHz
Noise Figure:	<5 dB 0.4 to 1.0 GHz <6 dB 1.0 to 1.3 GHz
Output Level:	>-3 dBm at 1 dB compression point
Distortion:	Harmonics at least 30 dB down at output levels up to -15 dBm.
Impedance:	50 ohms both ports (VSWR <2.0 input, <2.2 output).
Reverse Isolation:	>40 dB
Power Requirements:	115 or 230 Vac ±10%, 48 to 440 Hz, 15 Watts, 27 VA max.
Net Weight:	3 lbs, 8 oz. (1.59 kg.)
Option 001:	3 lbs, 14 oz. (1.75 kg.)
Option 010:	3 lbs, 10 oz. (1.64 kg.)
Option 011:	4 lbs, 1 oz. (1.84 kg.)
Dimensions:	8-1/2 inches (216 mm) by 5-1/8 inches (130 mm) by 3-3/8 inches (85.8 mm)

13. Claims for Damage

14. If the instrument is mechanically damaged in transit, notify the carrier and the nearest Hewlett-Packard field office immediately. A list of field offices is contained in the back of this Manual. Retain the shipping carton and padding material for the carrier's inspection. The field office will arrange for replacement or repair of your instrument without delay for claim settlements against the carrier. Before shipment, this instrument was inspected and found free of mechanical and electrical defects. If there is any deficiency, or if electrical performance is not within specifications, notify your nearest Hewlett-Packard sales and service office.

15. PREPARATION FOR USE

16. Power Requirements

17. The Model 8447B and its options operate from 115 or 230 volts ac line voltage at any line frequency between 48 and 440 Hz. A slide switch on the rear panel is set to the correct position for the line voltage available. A 0.5 ampere line fuse is required for either 115 or 230 volt operation.

18. Power Cable

19. To protect operating personnel, the National Electrical Manufacturer's Association (NEMA) recommends that the instrument panel and cabinet be grounded. All Hewlett-Packard instruments are equipped with a three-conductor power cable which, when plugged into the appropriate receptacle, grounds the instrument. The offset pin on the power cable's three-prong connector is the ground wire.