

AMPLIFIERS

RF Amplifiers

Models 8447A/D/E/F

- Wide band (multi-decade)
- Low noise
- Flat response



HP 8447D

The HP 8447 series of general-purpose amplifiers offers high reliability and the convenience of a small, lightweight package.

High Performance

These low noise, high gain amplifiers provide the flat frequency response and low distortion required for a wide range of uses. They can be used to improve the sensitivity of counters, spectrum analyzers,

RF voltmeters, EMI meters, power meters, and other devices; or to increase the maximum power available from a signal generator or sweeper.

Broadband Frequency Coverage

The HP 8447 series offers an amplifier for nearly every application in the 100 kHz to 1.3 GHz frequency range. The amplifiers' wide bandwidths are compatible with other wideband instruments used for making measurements involving broadband spectra.

Options

Standard connectors are BNC (f) on all amplifiers.
 Option 010 N (f) connectors on single channel amplifier.
 Option 001 Dual channel amplifier, BNC (f) connectors.
 Option 011 Dual channel amplifier, N (f) connectors.
Note: dual-channel amplifiers are ideal for dual-channel systems such as oscilloscopes or network analyzers. Channels may also be cascaded for increased small-signal gain.

General

Weight: net, 1.56 kg (3.4 lb). Shipping, 2.30 kg (5.1 lb).
Size: 85.8 H x 130 W x 216 mm D (3.4" x 5.1" x 8.5").
Power requirements: 110 or 230 V ac \pm 10%, 48-440 Hz, 15 watts.

Ordering Information

| | Price |
|---|--------------|
| HP 8447A Preamp | \$1075 |
| Opt 910: Extra Operating and Service Manual (HP 8447A) | \$2 |
| HP 8447D Preamp | \$1100 |
| HP 8447E Power Amp | \$1225 |
| HP 8447F Preamp-Power Amp | \$1875 |
| Opt 910: Extra Operating and Service Manual (HP 8447D/E/F) | \$4 |

Specifications

| | HP 8447A Preamp | HP 8447D Preamp | HP 8447E Power Amp | HP 8447F Preamp-Power Amp |
|--|------------------------------|-----------------------------------|-----------------------------------|---|
| Frequency Range | 0.1-400 MHz | 100 kHz-1.3 GHz | 100 kHz-1.3 GHz | 100 kHz-1.3 GHz |
| Typical 3 dB Bandwidth | 50 kHz-700 MHz | 75 kHz-1.7 GHz | 75 kHz-2.0 GHz | 50 kHz-1.4 GHz |
| Gain (Mean, per channel) | 20 dB \pm 1.0 dB at 10 MHz | >26 dB (20°C-30°C) | 22 dB \pm 1.5 dB (20°C-30°C) | |
| Gain Flatness Across Full Frequency Range | \pm 0.7 dB | \pm 1.5 dB | \pm 1.5 dB | + HP 8447D AND 8447E COMBINED IN A SINGLE PACKAGE + |
| Noise Figure | <6 dB | <8.5 dB | <11 dB typical | |
| Output Power for 1 dB Gain Compression | >+6 dBm | >+7 dBm typical | >+13.5 dBm <1 GH | |
| Harmonic Distortion | -32 dB for 0 dBm output | -30 dB for 0 dBm output (typical) | -30 dB for +8 dBm output | |
| Typical Output for <-60 dB Harmonic Distortion | -25 dBm | -30 dBm | -20 dBm | |
| VSWR | <1.7 | <2.0 input <2.5 output 1-1300 MHz | <2.2 input <2.5 output 1-1300 MHz | |
| Impedance | 50 Ω | 50 Ω | 50 Ω | |
| Reverse Isolation | >30 dB | >40 dB | >40 dB | |
| Maximum DC Voltage Input | \pm 10 V | \pm 10 V | \pm 10 V | |
| Options Available | 001 | 001, 010, 011 | 010 | |
| Option Prices | add \$600 | add \$650, \$100, \$1000 | add \$100 | add \$385 |