

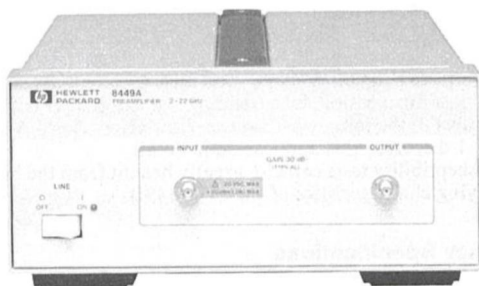
# AMPLIFIERS

## Microwave Preamplifier and Amplifier

Models 8449A, 11975A

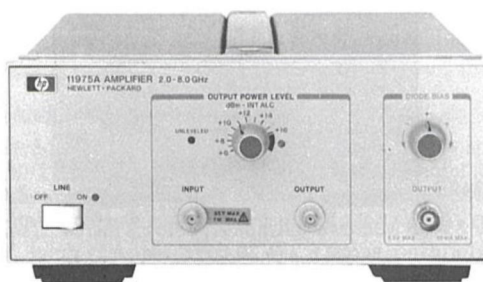
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- 2 to 22 GHz
- 28 dB gain
- 10 dB noise figure



HP 8449A

- 2 to 8 GHz wideband frequency coverage
- 40 milliwatt (+16 dBm) output power
- Adjustable, calibrated power level



HP 11975A

### Improve Sensitivity and Reduce Measurement Time

#### HP 8449A Preamplifier

This 2 to 22 GHz high gain, low noise preamplifier increases the sensitivity of any microwave spectrum analyzer. By improving sensitivity, you can detect and analyze very low level signals in dramatically reduced measurement time. Ordinarily, detecting low level signals requires the use of narrow bandwidths. As bandwidths are narrowed, however, sweep time becomes longer and measurement speed is reduced. The improved sensitivity added by the HP 8449A lets you widen bandwidths and measure low level signals using much shorter sweep times.

#### Frequency Specifications

**Range:** 2.0 to 22.0 GHz

**Flatness:**  $\pm 3.4$  dB, 2 to 22 GHz; typically 2.4 dB (0-55°C)

#### Input and Output Specifications

**Minimum Small Signal Gain:** 23 dB; 28 dB (25°C)

**Noise Figure:** <10 dB

#### Typical System Performance With Addition of HP 8449A (25°C):

Frequency	Displayed Average Noise Level (dBm)	
	8566B (10 Hz Res BW)	8562A (100 Hz Res BW)
4 GHz	-155	-145
8 GHz	-152	-139
16 GHz	-148	-135
22 GHz	-144	-130

**Output Power:** At 1 dB gain compression; +5 dBm (typical)

**Input:** SMA, 50  $\Omega$  characteristic

**Output:** SMA, 50  $\Omega$  characteristic

**Maximum Safe Power Input:** +20 dBm (100 mW)

**Maximum DC Input:** 20V

**VSWR:** (Typical) 2:1, 2 to 18 GHz, input & output

2.5:1, 18 to 22 GHz, input

2.2:1, 18 to 22 GHz, output

**Reverse Isolation:** >70 dB (typical)

**Spectral Purity:** TOI = +15 dBm at output (typical)

#### General Specifications

**Power Requirements:** 100, 120, 220, or 240 Volts (+10%), 47-440 Hz

**Temperature Range:** 0° to +55°C operation; -40° to +75°C storage

**Environmental:** MIL-T-28800C, Type III, Class 5, Style E

**EMI:** MIL-STD-461B CE03 and RE02 of; CISPR Publication 11 (1975); FTZ 1046

**Weight:** 2.9 kg (6.4 lbs.)

**Size:** 102Hx213Wx297mmD (4.0"x8.4"x11.7")

#### Ordering Information

##### HP 8449A Preamplifier

**Option 907** Front Handle Kit

**Option 908** Rack Mount Kit

**Option 910** Extra Manual

**Option W30** 2 Years Additional Hardware Service

#### Price

\$7,650.00

+ \$51.00

+ \$50.00

+ \$26.00

+ \$150.00

#### HP 11975A Microwave Amplifier

This general purpose, leveled microwave amplifier has a frequency range of 2 to 8 GHz and an adjustable output of +6 to +16 dBm. In addition, the amplifier has an adjustable bias current output port that supplies a maximum of  $\pm 11$  milliamps at  $\pm 3$  volts. This bias current is needed by some external harmonic mixers. The amplifier has automatic leveling control (ALC) that can be switched on and off. An "unleveled" light indicates that ALC is off.

Use the HP 11975A as an LO driver for the HP 11970/71/74 series harmonic mixers to achieve maximum performance.

#### Frequency Specifications

**Range:** 2 to 8 GHz

**Flatness:**  $\pm 1.0$  dB,  $\pm 0.5$  dB typical

#### Input and Output Specifications

**Minimum small-signal gain:**

Frequency	Gain
2.0 to 4.5 GHz	15 dB
4.5 to 6.1 GHz	11 dB
6.1 to 8.0 GHz	9 dB

**Noise Figure:** 13 dB typical

**Output power:** +6 to +16 dBm adjustable

**Input:** SMA connector (female)

**Output:** SMA connector (female)

**Maximum Input:** +30 dBm;  $\pm 35$  Vdc

**VSWR:** 1.7:1 (ALC on)

**Reverse isolation:** >40 dB

**Spectral purity:** TOI = +25 dBm typical

#### General specifications

**Power Requirements:** 100, 120, 220, or 240 Vac, 48 to 440 Hz, 36 VA

**Environmental:** MIL-T-28800C, Type III, Class 5, Style E

**EMI:** CE03 and RE02 of MIL STD 461A and CISPR Pub 11 (1975)

**Weight:** 3.904 kg (8.6 lb). Shipping 5.45kg (12.2 lb)

**Size:** 102Hx213Wx297mmD (4.0"x8.4"x11.7")

#### Ordering Information

##### HP 11975A Amplifier

**Option 001** Type N Connectors

**Option W30** 2 Years Additional Hardware Service

**HP P/N 5061-0072** Rack Mount Kit

#### Price

\$4,700.00

+ \$102.00

+ \$115.00

+ \$53.00