

Test Equipment Solutions Datasheet

Test Equipment Solutions Ltd specialise in the second user sale, rental and distribution of quality test & measurement (T&M) equipment. We stock all major equipment types such as spectrum analyzers, signal generators, oscilloscopes, power meters, logic analysers etc from all the major suppliers such as Agilent, Tektronix, Anritsu and Rohde & Schwarz.

We are focused at the professional end of the marketplace, primarily working with customers for whom high performance, quality and service are key, whilst realising the cost savings that second user equipment offers. As such, we fully test & refurbish equipment in our in-house, traceable Lab. Items are supplied with manuals, accessories and typically a full no-quibble 2 year warranty. Our staff have extensive backgrounds in T&M, totalling over 150 years of combined experience, which enables us to deliver industry-leading service and support. We endeavour to be customer focused in every way right down to the detail, such as offering free delivery on sales, covering the cost of warranty returns BOTH ways (plus supplying a loan unit, if available) and supplying a free business tool with every order.

As well as the headline benefit of cost saving, second user offers shorter lead times, higher reliability and multivendor solutions. Rental, of course, is ideal for shorter term needs and offers fast delivery, flexibility, try-before-you-buy, zero capital expenditure, lower risk and off balance sheet accounting. Both second user and rental improve the key business measure of Return On Capital Employed.

We are based near Heathrow Airport in the UK from where we supply test equipment worldwide. Our facility incorporates Sales, Support, Admin, Logistics and our own in-house Lab.

All products supplied by Test Equipment Solutions include:

- No-quibble parts & labour warranty (we provide transport for UK mainland addresses).
- Free loan equipment during warranty repair, if available.
- Full electrical, mechanical and safety refurbishment in our in-house Lab.
- Certificate of Conformance (calibration available on request).
- Manuals and accessories required for normal operation.
- Free insured delivery to your UK mainland address (sales).
- Support from our team of seasoned Test & Measurement engineers.
- ISO9001 quality assurance.

Test equipment Solutions Ltd
Unit 8 Elder Way
Waterside Drive
Langley
Berkshire
SL3 6EP

T: +44 (0)1753 596000
F: +44 (0)1753 596001

Email: info@TestEquipmentHQ.com
Web: www.TestEquipmentHQ.com



General Information

The HP 8447D, 8447E and 8447F are general purpose, wideband amplifiers. Each instrument consists of a power supply and one or two thin film, hybrid, integrated circuit amplifiers. The thin film amplifiers are hermetically sealed and feature low noise, low distortion, flat frequency response, and long term stability and reliability.

The HP 8447D Amplifier is a pre-amplifier that provides 25 dB of gain to signals from 100 kHz to 1.3 GHz. It can be used to increase the sensitivity of any lab, shop or field device operating within its frequency range.

The HP 8447E Amplifier is a power amplifier that provides 22 dB of gain to signals from 100 kHz to 1.3 GHz. It can be used to increase the output power of signal generators, swept sources and similar devices operating within its frequency range.

The HP 8447F Amplifier contains a preamplifier and a power amplifier. They are the same thin film amplifiers used in the HP 8447D and HP 8447E. The input and output ports of both amplifiers are available on the front panel. They can be used separately or cascaded to provide 47 dB of gain.

The HP 8447F Option H64 Amplifier is a general purpose wide band amplifier with Type-N connectors. It contains two preamplifiers. One provides 26 dB minimum gain to signals from 9 kHz to 50 MHz. The other provides 25 dB minimum gain to signals from 100 kHz to 1300 MHz.

Table 1 **HP 8447D and HP 8447E Specifications**

Specifications	HP 8447D Preamp	HP 8447E Power Amp
Frequency range	0.1 to 1300 MHz	0.1 to 1300 MHz
Typical 3 dB bandwidth (Std, Opt 001 and Opt 011)	.075 to 1700 MHz	.075 to 1400 MHz
Mean Gain (20° to 30°C)	25 dB minimum	22 dB $\pm$ 2.0dB
Gain flatness across frequency range	$\pm$ 1.5 dB	$\pm$ 1.5 dB
Noise Figure	<8.5 dB	<11 dB (typical)
Output power for 1 dB gain compression	>+7 dBm (typical)	$\geq$ +12.5 dBm (0.1 to 1000 MHz)

Table 1

HP 8447D and HP 8447E Specifications

Specifications	HP 8447D Preamp	HP 8447E Power Amp
Harmonic distortion	−30 dB for 0 dBm output (typical)	−30 dB for +8 dBm output
Typical output for <−60 dB harmonic distortion	−30 dBm	−20 dBm
VSWR, 1 to 1300 MHz	<2.0:1 Input <2.2:1 Output	—
VSWR, 1 to 1400 MHz	—	<2.2:1 Input <2.5:1 Output
Impedance	50 Ω	50 Ω
Reverse isolation	>40 dB	>40 dB
Maximum DC input voltage	± 10 V	± 10 V
Typical risetime	400 ps	420 ps
Typical group delay	1.1 ns ^a	1.5 ns ^b
Net weight	3 lbs 8 oz (1.59 kg)	3 lbs 8 oz (1.59 kg)
Option 001	3 lbs 14 oz (1.75 kg)	—
Option 010	3 lbs 1 oz (1.84 kg)	3 lbs 10 oz (1.64 kg)
Option 011	4 lbs 10 oz (1.64 kg)	—
Dimensions	8 1/2 in (216 mm) by 5-1/2 in (130 mm) by 3-3/8 in (85.8 mm)	
Power Requirements	115 or 230 Vac $\pm 10\%$, 48 to 440 Hz, 15 Watts, 27 VAm _{ax}	
Environmental	Operation: 0°C to +55°C Storage: −40°C to +75°C	

a. Variation over any 50 MHz band from 0.1-1300 MHz is typically <0.15 ns.

b. Variation over any 50 MHz band from 0.1-1300 MHz is typically <0.25 ns.