

Operating and Service Manual

Agilent Technologies
11850D
75 Ω Three-Way
Power Splitter



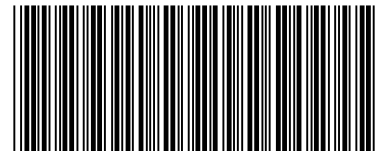
Agilent Technologies

Manufacturing Part Number: 11850-90021

Printed in USA

Print Date: March 1986

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11850-90021

Hewlett-Packard to Agilent Technologies Transition

This documentation supports a product that previously shipped under the Hewlett-Packard company brand name. The brand name has now been changed to Agilent Technologies. The two products are functionally identical, only our name has changed. The document still includes references to Hewlett-Packard products, some of which have been transitioned to Agilent Technologies.

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Documentation Warranty

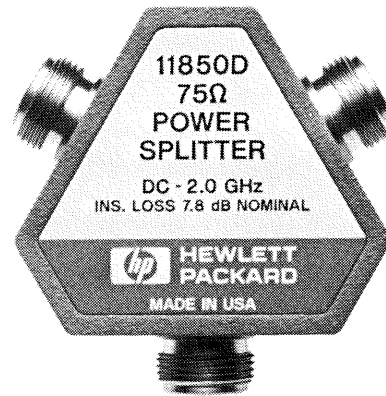
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OPERATING AND SERVICE MANUAL

HP 11850D 75Ω THREE-WAY POWER SPLITTER



Printed: MARCH 1986

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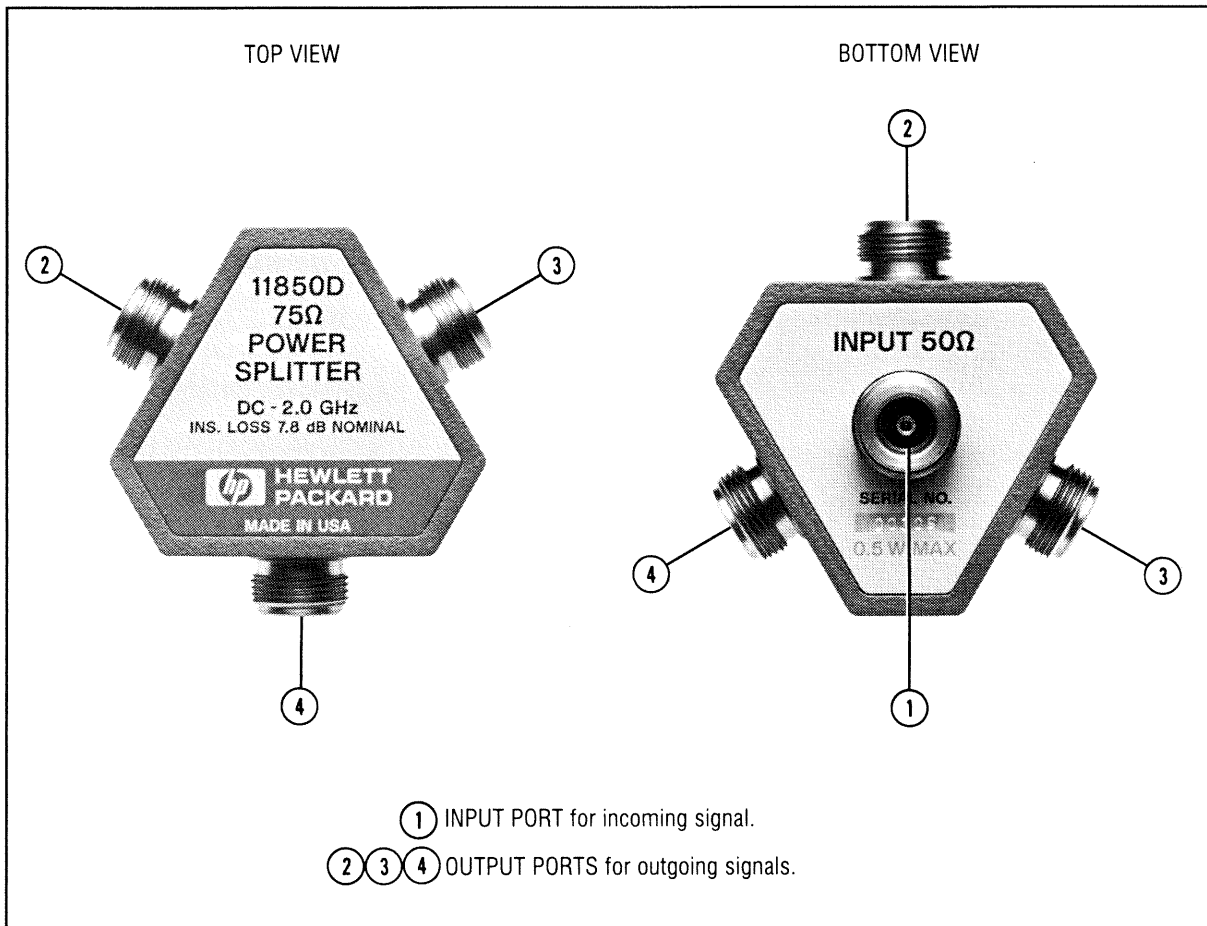
GENERAL INFORMATION

To obtain optimum performance from this power splitter, observe these simple precautions:

- Make connections carefully to avoid misalignment and connector damage or inaccurate measurements.
- Keep the connectors free of dirt and metallic particles.
- If you must clean the connectors, try clean compressed air first. Do not use abrasives. With a plastic swab, apply **only** liquid Freon (trichlorotrifluoroethane) as a solvent.
- For more information, refer to the Microwave Connector Care manual (HP part number 08510-90064) or application note 326, Principles of Microwave Connector Care (literature number 5954-1566).
- Type-N(f) center conductor protrusion: 0.204 to 0.207 inch.

DESCRIPTION

The HP 11850D is a 75 Ω three-way power splitter for use in network measurements where one arm of the power splitter is used to supply a reference signal for leveling or ratio measurements. Three HP 11852B 50 Ω /75 Ω minimum loss pads are supplied with the power splitter.



OPERATING CHARACTERISTICS

Impedance (nominal):	75Ω
Frequency range:	DC to 2 GHz
Tracking (between any two output ports):	±0.2 dB, ±2.5 degrees
Equivalent source match (ratio or leveling):	26 dB, DC to 1.3 GHz; 20 dB, 1.3 to 2 GHz
Input port match:	20 dB, DC to 1.3 GHz; 10 dB, 1.3 to 2 GHz
Insertion loss (nominal):	7.8 dB, DC to 2 GHz
Maximum operating level:	+20 dB
Damage level:	+30 dB

PHYSICAL CHARACTERISTICS

Input connector:	50Ω type-N (f)
Output connectors:	75Ω type-N (f)
Dimensions:	67 mm by 46 mm by 67 mm (2.6 in by 1.9 in by 2.6 in)
Weight, net:	2.2 kg (5 lb) Shipping: 3.6 kg (8 lb)



Mating a 50Ω(m) connector with a 75Ω(f) connector will DESTROY the 75Ω female.

INSPECTION

To confirm the proper operation of this device, first visually inspect its connectors for signs of wear or damage. Then check its electrical operation by observing how closely the three output ports track each other. For example, connect the RF output of an HP 8753A network analyzer to the power splitter's input port. Connect one output port of the power splitter to input R of the HP 8753A and terminate the other two output ports with 75Ω loads. Center the trace on the CRT and set the scale to 0.2 dB/division. Store the trace in memory. Connect the cable from input R to a different power splitter output port and terminate the other two. Compare the two traces in the "Display: Data and Memory" mode. The two traces should not vary by more than 0.2 dB at any frequency between 300 kHz and 2 GHz.



For more information, call your local HP sales office listed in the telephone directory white pages. Ask for the Electronic Instruments Department. Or write to Hewlett-Packard: **U.S.A.** - P. O. Box 10301, Palo Alto, CA 94303-0690. **Europe** - P.O. Box 999, 1180 AZ Amstelveen, The Netherlands. **Canada** - 6877 Goreway Drive, Mississauga L4V 1M8, Ontario. **Japan** - Yokogawa-Hewlett-Packard Ltd., 3-29-21, Takaido-Higashi, Suginami-ku, Tokyo 168. **Elsewhere** in the world, write to Hewlett-Packard Intercontinental, 3495 Deer Creek Road, Palo Alto, CA 94304.

MANUAL PART NO. 11850-90021
Microfiche Part No. 11850-90022

Printed in U.S.A.

