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We've added this manual to the Agilent website in an effort to help you support your product. This manual is the best copy we could find; it may be incomplete or contain dated information. If we find a more recent copy in the future, we will add it to the Agilent website.

Support for Your Product

Agilent no longer sells or supports this product. Our service centers may be able to perform calibration if no repair parts are needed, but no other support from Agilent is available. You will find any other available product information on the Agilent Test & Measurement website, www.tm.agilent.com.

HP References in this Manual

This manual may contain references to HP or Hewlett-Packard. Please note that Hewlett-Packard's former test and measurement, semiconductor products and chemical analysis businesses are now part of Agilent Technologies. We have made no changes to this manual copy. In other documentation, to reduce potential confusion, the only change to product numbers and names has been in the company name prefix: where a product number/name was HP XXXX the current name/number is now Agilent XXXX. For example, model number HP8648A is now model number Agilent 8648A.

OPERATING NOTE/NOVEMBER 1978

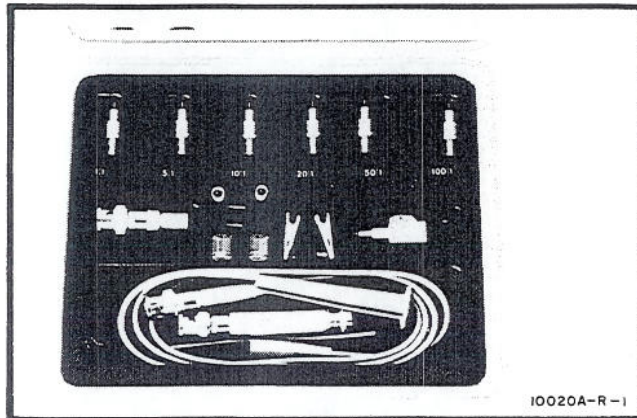


Figure 1. Model 10020A

1. DESCRIPTION.

2. The HP Model 10020A Resistive Divider Kit is a signal probing accessory (Figure 1). The HP Model 10020F is identical to the Model 10020A except that it is supplied in a plastic bag instead of a plastic case. The Model 10020A is designed for use with 50-ohm systems. It may be used with other than 50-ohm systems if a 50-ohm feedthrough termination, such as the Model 10100A, is used. Refer to Table 1 for complete specifications for the Model 10020A.

3. ACCESSORIES SUPPLIED.

4. Several accessories are supplied with the Model 10020A to provide greater usefulness and versatility. The Model 10218A BNC Adapter is used when one of the resistive dividers is connected directly to a BNC connector. The Model 10240B Blocking Capacitor is used to provide ac coupling at the divider output. A 6-32 Adapter is provided so that various probe tips may be used such as those in the 10036A and 10037A Probe Tip Kits. An extra probe handle is provided for easier probe handling.

5. OPERATIONS.

6. To use the Model 10020A Resistive Divider Kit with a 50-ohm system, connect the 4-foot cable to the 50-ohm input and screw the desired divider tip into the threaded end of the cable. For use with other

systems (not 50-ohm), use a 50-ohm feedthrough termination such as the Model 10100A.

Note

The division ratio is correct only when properly terminated with 50-ohms.

7. CIRCUITS.

8. A schematic of the Model 10020A is shown in Figure 2. The major components are R1, C1, and W1. Resistor R1 provides the division ratio desired. Capacitor C1 is drawn to show stray capacitance at the divider tip. Cable W1 is the 4-foot, 50-ohm cable which is supplied with the kit. Resistor R2 represents the 50-ohm termination required when the Model 10020A is used with a system which does not have a 50-ohm input impedance.

9. REPLACEABLE PARTS.

10. Replaceable parts for the Model 10020A are listed in Table 2. When ordering parts, be sure to include the model number and HP Part Number.

11. OPTIONS.

12. The Model 10020A Option 001 consists of a 10-foot stiff teflon cable. This cable can be used when probing computer systems where cable length and stiffness are desirable.

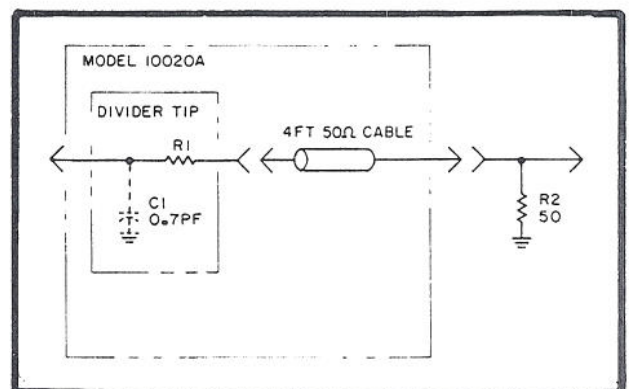


Figure 2. Schematic

Operating Note Part No. 10020-90907
Microfiche Part No. 10020-90807



Table 1. Specifications

| Division Ratio | Input R* (Ohms) | Resistor Accuracy | Maximum V** (rms) | Input C (pF) |
|----------------|--------------------|----------------------|----------------------|-----------------|
| 1:1 | 50 | | 6 | |
| 5:1 | 250 | ±3% | 9 | Less than 0.7 |
| 10:1 | 500 | ±3% | 12 | 0.7 |
| 20:1 | 1000 | ±3% | 15 | 0.7 |
| 50:1 | 2500 | ±3% | 25 | 0.7 |
| 100:1 | 5000 | ±3% | 35 | 0.7 |

* When terminated in 50 ohms.

** Limited by power dissipation of resistive element.

Effect on risetime of a 100-MHz system is negligible.

Accessories furnished:

- HP Model 10240B Blocking Capacitor.
- HP Model 10218A BNC Adapter Tip.
- 4-ft cable
- 6-32 Adapter Tip.
- 2 ground leads.
- 4 insulating sleeves.
- spanner ground tip.
- 2 color-coding sleeves.
- probe handle.

Table 2. Replaceable Parts

| Item | HP Part No. | Qty | Description |
|------|-------------|-----|---------------------------------|
| 1. | 5040-0477 | 2 | Sleeve, Color Coding |
| 2. | 5060-0449 | 1 | Adapter Tip 6-32 |
| 3. | 5061-1258 | 2 | Alligator Clip |
| 4. | 10004-45402 | 2 | Cap, Insulating |
| 5. | 10218-60001 | 1 | Adapter, BNC |
| 6. | 10020-45401 | 2 | Cap, Insulating |
| 7. | 10020-61605 | 1 | Cable Assy |
| 8. | 10020-61602 | 1 | Cable Assy 2 in. Ground |
| 9. | 10020-61603 | 1 | Cable Assy 6 in. Ground |
| 10. | 5060-0549 | 1 | Tip, Spanner Ground |
| 11. | 10020-67701 | 1 | Divider 1:1 |
| 12. | 10020-67702 | 1 | Divider 5:1 |
| 13. | 10020-67703 | 1 | Divider 10:1 |
| 14. | 10020-67704 | 1 | Divider 20:1 |
| 15. | 10020-67705 | 1 | Divider 50:1 |
| 16. | 10020-67706 | 1 | Divider 100:1 |
| 17. | 10240B | 1 | Blocking Capacitor |
| 18. | 5040-5968 | 1 | Probe Handle |
| 19. | 10020-61606 | 1 | Cable Assy, Teflon (Option 001) |

SAFETY

This product has been designed and tested according to International Safety Requirements. To ensure safe operation and to keep the product safe, the information, cautions, and warnings in this manual, must be heeded. Refer to Section I and the Safety Summary for general safety considerations applicable to this product.

CERTIFICATION

Hewlett-Packard Company certifies that this product met its published specifications at the time of shipment from the factory. Hewlett-Packard further certifies that its calibration measurements are traceable to the United States National Bureau of Standards, to the extent allowed by the Bureau's calibration facility, and to the calibration facilities of other International Standards Organization members.

WARRANTY

This Hewlett-Packard product is warranted against defects in material and workmanship for a period of one year from date of shipment. During the warranty period, Hewlett-Packard Company will, at its option, either repair or replace products which prove to be defective.

For warranty service or repair, this product must be returned to a service facility designated by HP. However, warranty service for products installed by HP and certain other products designated by HP will be performed at Buyer's facility at no charge within the HP service travel area. Outside HP service travel areas, warranty service will be performed at Buyer's facility only upon HP's prior agreement and Buyer shall pay HP's round trip travel expenses.

For products returned to HP for warranty service, Buyer shall prepay shipping charges to HP and HP shall pay shipping charges to return the product to Buyer. However, Buyer shall pay all shipping charges, duties, and taxes for products returned to HP from another country.

LIMITATION OF WARRANTY

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ASSISTANCE

Product maintenance agreements and other customer assistance agreements are available for Hewlett-Packard products.

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Reorder HP part number

10020-90907

