

OPERATING NOTE/JUNE 1972

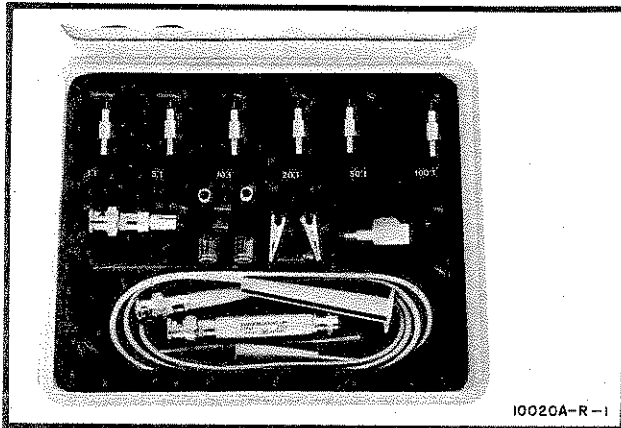


Figure 1. Model 10020A

1. DESCRIPTION.

2. The HP Model 10020A Resistive Divider Kit is a signal probing accessory (Figure 1). 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 nine foot stiff teflon cable. This cable can be used when probing computer systems where cable length and stiffness are desirable.

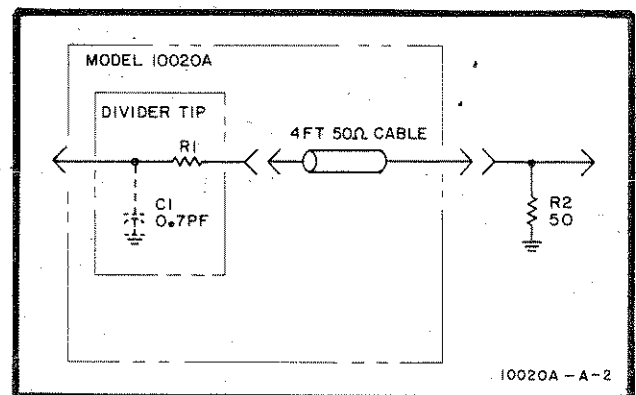


Figure 2. Schematic

10020-90904

Table 1. Specifications

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

* 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.	5060-0468	2	Alligator Clip 6-32
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.	10020-61604	1	Cable Assy, Teflon (Option 001)