

## RECOMMENDED TEST EQUIPMENT

Table 1-2 lists equipment and accessories required for operating, testing and repairing the HP 85044A/B. The table notes which items are required to verify the performance of the test set and which are required to operate it. Other equipment may be substituted if its specifications meet or exceed the specifications listed in the critical specifications column.

## SPECIFICATIONS

### Definitions

The specifications listed in Table 1-1 range from those guaranteed by Hewlett-Packard to those typical of most HP 85044A/B instruments but not guaranteed. Codes in the far right column reference a specification definition listed below. These definitions are intended to clarify the extent to which Hewlett-Packard supports the specified performance of the HP 85044A/B.

**S-1:** This performance parameter is field verifiable using performance tests documented in the service manual.

**T:** Typical but non-warranted performance characteristics intended to provide information useful in applying the instrument. Typical characteristics are representative of most instruments, though not necessarily tested in each unit. Not field tested.

Table 1-1. HP 85044A/B Specifications

| Parameter                                                                        | HP 85044A                                                                                           | HP 85044B                                                                                           | Code       |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------|
| Frequency Range                                                                  | 300 kHz to 3 GHz                                                                                    | 300 kHz to 2 GHz                                                                                    | S-1        |
| Directivity <sup>1</sup> :<br>TEST Port                                          | ≥35 dB to 1.3 GHz<br>≥30 dB to 3 GHz                                                                | ≥35 dB to 1.3 GHz<br>≥30 dB to 2 GHz                                                                | S-1<br>S-1 |
| Port Match <sup>1</sup> :<br>INCIDENT and<br>REFLECTED                           | ≥18 dB to 1.3 GHz<br>≥13 dB to 3 GHz                                                                | ≥18 dB to 1.3 GHz<br>≥13 dB to 2 GHz                                                                | S-1        |
| RF INPUT                                                                         | ≥17 dB to 1.3 GHz<br>≥12 dB to 3 GHz                                                                | ≥17 dB to 1.3 GHz<br>≥12 dB to 2 GHz                                                                |            |
| Effective Source<br>Match <sup>1</sup><br>TEST Port                              | ≥14 dB 300 kHz to 2 MHz<br>≥20 dB 2 MHz to 1.3 GHz<br>≥16 dB 1.3 GHz to 3 GHz                       | ≥14 dB 300 kHz to 2 MHz<br>≥17 dB 2 MHz to 1.3 GHz<br>≥16 dB 1.3 GHz to 2 GHz                       | S-1        |
| Typical Transmission<br>Tracking <sup>1</sup><br>Magnitude<br>Phase <sup>3</sup> | ±1.5 dB <sup>2</sup> 300 kHz to 3.0 GHz<br>±10 deg 300 kHz to 3.0 GHz                               | ±1.5 dB <sup>2</sup> 300 kHz to 2.0 GHz<br>±10 deg 300 kHz to 2.0 GHz                               | T          |
| Typical Reflection<br>Tracking <sup>1</sup><br>Magnitude<br>Phase <sup>3</sup>   | ±1.5 dB <sup>2</sup> 300 kHz to 3.0 GHz<br>±25 deg 300 kHz to 2.0 MHz<br>±10 deg 2.0 MHz to 3.0 GHz | ±1.5 dB <sup>2</sup> 300 kHz to 2.0 GHz<br>±25 deg 300 kHz to 2.0 MHz<br>±10 deg 2.0 MHz to 2.0 GHz | T          |

Table 1-1. HP 85044A/B Specifications

| Parameter                                                                                                                                                                                                    | HP 85044A                                                                                    | HP 85044B         | Code    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------|---------|
| Nominal Insertion Loss:                                                                                                                                                                                      |                                                                                              |                   |         |
| RF INPUT to TEST Port                                                                                                                                                                                        | 12.5 dB +.5 dB/GHz                                                                           | 18 dB +.5 dB/GHz  |         |
| RF INPUT to INCIDENT                                                                                                                                                                                         | 18 dB +1.5 dB/GHz                                                                            | 18 dB +1 dB/GHz   |         |
| RF INPUT to REFLECTION                                                                                                                                                                                       | 19 dB +1.5 dB/GHz                                                                            | 30 dB +1.5 dB/GHz |         |
| Impedance:                                                                                                                                                                                                   |                                                                                              |                   |         |
| TEST Port                                                                                                                                                                                                    | 50Ω                                                                                          | 75Ω               | nominal |
| RF INPUT, INCIDENT, REFLECTED                                                                                                                                                                                | 50Ω                                                                                          | 50Ω               | nominal |
| Connectors:                                                                                                                                                                                                  |                                                                                              |                   |         |
| TEST Port                                                                                                                                                                                                    | 7 mm                                                                                         | 75Ω type-N (f)    |         |
| RF INPUT, INCIDENT, REFLECTED                                                                                                                                                                                | 50Ω type-N (f)                                                                               | 50Ω type-N (f)    |         |
| DC bias inputs:                                                                                                                                                                                              | BNC (f)                                                                                      | BNC (f)           |         |
| DC bias input range:                                                                                                                                                                                         | +30 Vdc, +200 mA (fused at 750 mA)(some degradation of RF specifications, 300kHz to 100 MHz) |                   |         |
| Damage level:                                                                                                                                                                                                | 1 watt (+30 dBm) CW RF input                                                                 |                   |         |
| Dimensions:                                                                                                                                                                                                  | 19 cm x 15 cm x 5 cm (7.5 x 6.0 x 2.0 inches)                                                |                   |         |
| Weight:                                                                                                                                                                                                      | 1.7 kg (3.7 lb) net; 3.1 kg (7 lb) shipping                                                  |                   |         |
| <div><div><sup>1</sup> can be greatly improved with HP 8753A accuracy enhancement techniques</div><div><sup>2</sup> deviation from mean value</div><div><sup>3</sup> deviation from linear phase</div></div> |                                                                                              |                   |         |

Table 1-2. Recommended Test Equipment

| Instrument                                          | Critical Specifications                              | Recommended Model | Use*    |
|-----------------------------------------------------|------------------------------------------------------|-------------------|---------|
| Network analyzer                                    | no substitute                                        | HP 8753A          | O, P, T |
| Multimeter                                          | range: DC to 50V                                     | HP 3456A          | T       |
| Cable set                                           | 50Ω type-N, three 24 inch phase-matched, one 34 inch | HP 11851B         | P       |
| *O=operation; P=performance test; T=troubleshooting |                                                      |                   |         |