

DUT CONNECTION

— WITH 16094A

The 16094A Probe Test Fixture provides probing capability for measuring circuit impedances and components mounted on circuit assemblies. The 16094A permits easy access to test point locations when it is attached to an appropriate test cable (connected to the 4191A test port). This probe fixture unit can be combined with a coaxial test cable or flexible air line which has an APC-7 connector. The probe needles (consisting of sense and ground terminals) permit setting to appropriate distances from 1mm (min.) to 15 mm (max.) for fitting dimensions of device/material to be measured. The 16094A is suitable for measurements at frequencies below 125 MHz.

Note: Use of a probe cable requires that the electrical length compensator of the instrument be adjusted to optimize measurement accuracy at that particular measurement configuration. Replace the normal electrical length compensator cable with a longer cable appropriate to the probe cable used. For the electrical length compensation adjustment method, refer to paragraph 3-44.

Installation and measurement setup procedure:

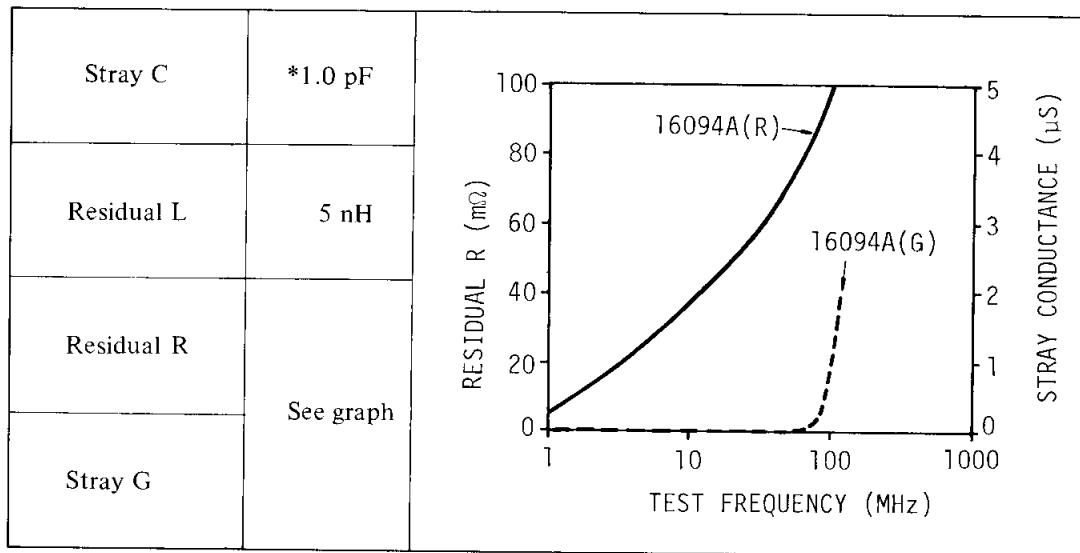
- 1) Build the electrical length compensator cable appropriate to the probe cable (or air line) used and install it in place of the normal compensator cable.
- 2) Rotate the UNKNOWN connector coupling nut clockwise until the coupling sleeve screw fully protrudes.
- 3) Couple the probe cable connector coupling nut to the 4191A UNKNOWN connector and rotate the coupling nut clockwise until it is snug
- 4) Connect reference termination at the tip of the probe cable and perform auto-calibration for each of the 0Ω , $0S$ and 50Ω termination impedances.
- 5) Disconnect reference termination and connect 16094A (at the tip of test cable).

Notes:

1. Set electrical length input data to 2.32 cm.
2. A bent coaxial probe cable causes a slight change in its physical and electrical length from that in its straight form. This has a low order effect on the measured reflection coefficient phase angle and this effect increases at high frequencies. To maximize measurement accuracy, the auto-calibration should be performed with the cable shape (form) near that used in the actual measurement.

Figure 3-6. DUT Connection (Sheet 6 of 7).

Model 16094A Residual Parameters



* Typical value when needles are set at a distance of 15 mm.

Note: The 16094A Probe Fixture causes, as do other general hand held probes, unavoidable change in contact resistance and stray admittance depending on the contact pressure applied and the tilt of the probe at the measurement object. Accordingly, consideration of exact residual parameter values is not practicable.

Associated accessory:

Coaxial cable with APC-7 connector (62 cm long): P/N 8120-2291
 Model 11605A Flexible Arm (maximum extendability 64.8 cm).

Figure 3-6. DUT Connection (Sheet 7 of 7).