

HAND HELD HIGH VOLTAGE HIGH FREQUENCY VOLTAGE PROBE

MODEL 2440 - 6 GHz

DESCRIPTION

The Model 2440 Hand Held, High voltage, High Frequency voltage probe, is intended for passive probing of high speed, high voltage pulse circuits. The probe kit contains one 450 ohm resistive probe for a 10:1 voltage ratio (20dB), one 950 ohm resistive probe for a 20:1 voltage ratio (26dB), and one each 450 and 950 ohm replacement resistors.

The probe is designed to have the output terminated into a 50 ohm system. It is intended for output into an attenuator or 50 ohm scope input. The probe's specified response is for the probe connected with the included low loss coaxial cable.

SPECIFICATIONS

Maximum Input:	10:1 probe	3kv, 500ns 1/e Exponential decay pulse
	20:1 probe	5kv, 500ns 1/e Exponential decay pulse
Risetime:		< 60ps Typical
Bandwidth:		DC to 6GHz Typical Risetime and bandwidth can be limited by the physical structure surrounding the measurement point.
Input Resistance:	10:1 probe	500 ohm - when probe is terminated
	20:1 probe	1k ohm - into nominal 50 ohm load
Voltage Coefficient:		< 1 % at rated voltage
Connectors:		SMA female on probe bodies SMA male on both ends of 36" long low loss cable for connection of probe to measurement system.

The probe ratings are for use with the supplied 36" long low loss cable. Use of longer or higher loss cable will degrade the risetime of the measured pulse.

WARNING / SAFETY

The Model 2440 Voltage Probe is designed for the measurement of short high voltage pulses on open transmission structures in a laboratory environment. General laboratory safety procedures for working on active High Voltage systems should be followed. Only personnel experienced in the safe operation of high voltage research and development laboratory type equipment should use this probe.

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OPERATION NOTE

Appropriate precautions must be taken to discharge the probe and connecting cable when the probe is being connected to sensitive sampling scope inputs, because they are very susceptible to electrostatic damage. Any Teflon dielectric coaxial cable can easily become statically charged and can hold a charge for a long period of time. Failure to discharge a piece of coax before connecting it to the sensitive scope inputs can easily damage the expensive front end electronics of these sensitive instruments.

The coax cable included with the probe can easily be discharged from either end by connecting a short or providing a resistive connection from the center conductor to the ground conductor.

Touching your finger between the center conductor and outer (ground) conductor on the SMA cable connector is a simple effective method to remove any charge on the probe cable.

The output of the probe must be connected with the included low loss coaxial cable to a 50 ohm system, for instance to an attenuator or directly to a 50 ohm scope input. The correct method for holding the probe when making measurements, is to hold the probe body by the SMA connector in your hand between your thumb and fingers in the same manner that you would hold a pencil (see Figure 1.). Placing your hand or fingers closer to the probe tip will add capacitance to the probe and will degrade the risetime of the probe output. The probe risetime specification includes the use of the supplied low loss 36" long cable. Use of longer or higher loss cable will degrade the probe's response.

AVERAGE POWER RATING WARNING

The peak, or average power rating, only applies to a well terminated load. Any reflection greater than 10% will significantly add to the power the DC-20Ghz bandwidth resistor will have to absorb.

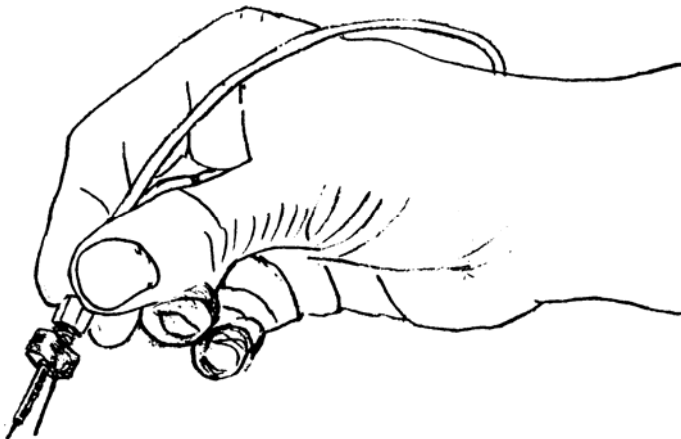


Figure 1.