

Model 12C Picoprobe® Operating Instructions

Model 12C is a high speed, high input impedance active probe for measuring the internal node voltages of integrated circuits. The input is approximately 1 megohm shunted by 0.1 pf and the probe risetime is approximately 0.8 ns.

Model 12C is extremely rugged and will withstand large input overvoltages. However, it will not withstand large overvoltages to the nickel plated probe tip case. Care should be taken to avoid touching the case to ground or any other fixed voltages whenever power is applied.

The most common failure is accidental breakage of the probe tip. If the fine wire becomes bent, it can be straightened by using the micropositioner to force the wire against a fixed projection. If the tip is broken, it can be replaced as shown on the following page.

Model 12C is designed to work into a 50 ohm input impedance oscilloscope. In this case the signal is attenuated 20X. If a high impedance termination is used the signal will be attenuated 10X. The slide switch in the terminating box must be placed in the "Hi Imp." position when using a high input impedance oscilloscope or to "50 Ohm" when using a 50 ohm input terminator. This switch inserts frequency compensation circuits to optimize the frequency and pulse response.

To operate the probe, plug the terminator box into the oscilloscope vertical amplifier and the four pronged plug into the power supply. Turn on the probe and adjust the probe output to read zero on the oscilloscope using the knobs on the front panel of the power supply. During a short warm-up period the zero will drift somewhat and requires re-zeroing.

Two screwdriver adjustments in the terminator box can be used to flatten the frequency response. With a perfect square pulse of one microsecond or longer as input, and with the oscilloscope time base set to 1 us/cm, the two adjustments are made to achieve an optimally square display on the oscilloscope. One adjustment controls mainly the leading edge and the other the shape behind the leading edge (See diagram). These adjustments are not independent so it may be necessary to "rock in" these two adjustments. GGB Industries, Inc. recommends making the above adjustments for frequency response whenever the tip is replaced.

Probe gain has been carefully adjusted during the final check out at our factory and should not require adjustment. In the event that the adjustment is necessary, the two screwdriver slots marked "Gain" can be used to separately set the gain for the high impedance and 50 ohm input settings.



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