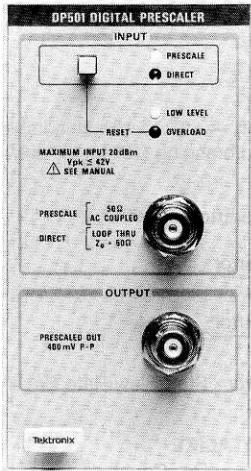


DP 501



Digital Prescaler

DP 501

Extends Frequency Measurement  
Capability to 1.3 GHz

Compatible with Most TM 500  
and TM 5000 Counters

AGC

Low Level Indicator

The DP 501 Digital Prescaler adds 1.3 GHz frequency counting capability to the Tektronix DC 503A, DC 509, DC 5009, DC 510, and DC 5010 Universal Counter/Timers.

The DP 501 is placed in the signal line between the signal source and the counter's input connector such that the signal to be measured passes through the DP 501. Two operating modes are available, Prescale and Direct. In the Prescale mode, the DP 501 divides the input signal by 16 and causes the associated counter's display to be multiplied by 16, so that the counter will display the correct frequency. In the Direct mode, the signal is simply looped through the DP 501 and applied directly to the counter's input; the counter's display is not affected. This loop-through capability eliminates the need for external switching when input signal frequencies occur in both the Prescale and Direct frequency ranges.

The prescaling function can be activated in either of two ways: manually, with a front-panel push button; or, when used with the GPIB programmable DC 5009 or DC 5010, by a Prescale command to the counter. Thus, the DP 501 adds programmable frequency measurements to 1.3 GHz to the Tektronix TM 5000 Family of GPIB programmable instruments.

Input sensitivity in the Prescale mode is 20 mV RMS to 1 GHz and 30 mV RMS to 1.3 GHz. A Low-Level indicator alerts the user if the input signal amplitude is too low for error-free counting. An automatic gain control circuit provides optimum immunity to signal noise in the Prescale mode.

The DP 501 and DC 509 or DC 510 can be used with the Tektronix 7L14 Spectrum Analyzer and TR 502 Tracking Generator to provide counter accuracy measurements of swept-frequency signals from 100 kHz to 1.3 GHz.

CHARACTERISTICS

**Prescale Mode** — Input: Frequency range is  $\leq 100$  MHz to  $\geq 1.3$  GHz. Sensitivity: 100 MHz to 1 GHz is  $\leq 20$  mV RMS ( $-21$  dBm). 1 GHz to 1.3 GHz is  $\leq 30$  mV RMS ( $-17$  dBm). Impedance: 50  $\Omega$ , ac coupled; vswr  $\leq 2.2:1$ . Output: Amplitude into 50  $\Omega$  is  $\geq 200$  mV, p-p. Underterminated is 2X terminated value.

**Direct Mode** — Input: Connected directly to output. Frequency Range: 0 MHz to  $>350$  MHz. Impedance: Loop through characteristic impedance is 50  $\Omega$ ; nonterminated capacitance  $\approx 20$  pF (no connection to output). Output: Connected directly to input.  $<1$  dB insertion loss up to 350 MHz. Powers up in direct mode.

**Overload Protection** — Prescale: Input disconnects when input signal exceeds  $+20$  dBm  $\pm 5$  dBm for a period of  $\approx 0.5$  s or more.

**Damage Level** — Prescale: Input may be damaged if signal level exceeds  $+25$  dBm. Direct: 42 V peak maximum. Maximum current is 250 mA.

**Input Attenuation** — Automatic: Up to 40 dB range.

**Low Level Indicator** — Lights when input signal is below that required for error-free counting.

**Tracking Generator Compatibility** — Outputs will drive two standard TTL loads. Inputs represent two standard TTL loads. Requires arming input to associated counter.

ORDERING INFORMATION

DP 501 Digital Prescaler **\$575**  
Includes: Instruction manual. (070-4332-00).

P6125 Counter Probe



The P6125 is a low-capacitance, 5X attenuation passive probe specially designed for use with counter/timers. It makes possible more accurate time interval measurements of high speed logic signals. Five-times attenuation provides an optimum match between the counter input characteristics and the voltage levels of all common logic families. The low input capacitance permits acquisition of high frequency signals with minimum loading of the circuits under test.

CHARACTERISTICS

**Attenuation** — 5X.

**Input Resistance** — 5 M $\Omega$  input.

**Capacitance** —  $\approx 20$  pF.

**Bandwidth** — Dc to 200 MHz.

**Voltage Rating** — 250 V (dc + peak ac) derated to 35 V at 100 MHz.

**Cable Length** — 1.5 meters.

ORDERING INFORMATION

P6125 Counter Probe, 5X, 1.5 m. Order 010-6125-01 **\$70**

Includes: 8 cm ground lead (175-0263-01); accessory pouch (016-0521-00); two miniature alligator clips (344-0046-00); IC tip tester\*1, two 13 cm ground lead probe\*2 tips (175-0124-01); retractable hook tip (013-0107-03); probe holder (352-0351-00); insulating sleeve (166-0404-01); instruction sheet (070-3617-00).

\*1 Available in packages of 10 (015-0201-04) or 100 (015-0201-05).

\*2 Available in packages of 10 only (206-0191-03).

To order, call your local Tektronix Sales Office, or call Tek's National Marketing Center, toll free: 1-800-426-2200, Ext 99. In Oregon call collect: (503) 627-9000, Ext. 99