

# Logic & Pulser Probes

## DIGITAL TERMS

**CLOCK**—A pulse waveform used to synchronize the timing of digital or switching circuits.

**COMPARATIVE TESTING**—Evaluation of a component by comparing its performance to that of a properly functioning component.

**DIGITAL SIGNAL**—A discrete signal that assumes one of two states: high or low.

**TTL**—Transistor logic defines a type of digital circuit. It is characterized by a high digital signal state above 2.4 VDC, and low digital states below 0.8 VDC. Operating voltage is typically 5 VDC.

**CMOS**—Complementary Metal Oxide Semiconductor defines another type of digital circuit. It is characterized by a variable operating voltage of 3 to 18 V, and logic levels proportional to that operating voltage (typically 1.5 V low and 3.5 V high @ 5 V supply).

CMOS circuits are characterized by high noise immunity.

**IN-CIRCUIT TESTING**—Evaluating the functioning of a component without removing the component from the circuit in which it is being used.

Specifications		model
	DP-31A	
Pulse Repetition Rate	0.5 pps/400 pps	
Pulse width at 100 mA load	10ms	
Output Current	Pulser mode-100mA sink/source square wave mode-5 mA sink/source	
Operating Supply Voltage Range	5-15 V	
Sync Input Impedance	1 MΩ	
Sync Input Protection	+120 V/30 sec.	
Power Supply Protection	+25 V/15 sec.	
Output Protection	+35 V/15 sec.	
Operating Temperature	32° to 122°F (0-50°C) < 80% R.H./	
Storage Temperature	-4° to 149°F (-20° to +65°C), < 80% RH	
Dimensions	0.7 x 0.7 x 8.2" (18 x 18 x 210mm)	
Weight	1.4 oz. (40g)	

**One Year Warranty**

Specifications		models	
	DP-21	DP-52	
<b>INPUT CHARACTERISTICS</b>			
Frequency response	DC to 20MHz	DC to 50MHz	
Minimum detectable pulse width	30nS	10nS	
<b>LOGIC THRESHOLD</b>			
TTL Logic 1 threshold (Red LED)	2.3V +0.2V	3.0V +0.25V	
TTL Logic 0 threshold (Green LED)	0.8V +0.2V	0.75V +0.25V	
TTL CMOS 1 threshold (Red LED)	70% Vcc +10%	40% Vcc +5%	
TTL CMOS 0 threshold (Green LED)	30% Vcc +10%	15% Vcc +5%	
<b>PULSING</b>	Yellow LED	Both Red and Green	
<b>INPUT OVERLOAD PROTECTION</b>	+220Vac/DC (15 sec.)	+70Vac/DC (15 sec.)	
<b>INPUT IMPEDANCE</b>	1MΩ	120kΩ	
<b>GENERAL</b>			
Power supply protection	+20V		
Operating supply voltage	4 to 18V		
Storage temperature	-4° to 149°F (-20° to 65°C) <80% RH		
Operating temperature	32° to 122°F (0-50°C) <80% RH		
Dimensions (HxWxD)	0.7 x 0.7 x 8.2" (18 x 18 x 20mm)		
Weight	1.6oz. (45g)		

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### Model DP-21 20 MHz Logic Probe

- Tests TTL, and CMOS
- Displays pulse presence and logic states
- Memory mode "freezes" pulse display
- Catches pulses to 30ns or pulse trains to 20MHz
- 1 MΩ input impedance



DP-21

### Model DP-52 50 MHz Logic Probe

- Tests TTL and CMOS
- Displays DC to 50 MHz
- Detects 10ns pulse width
- Overload protected



DP-52

### Model DP-31A Pulser Probe

- For TTL, and CMOS
- Produces 10ms pulse signal at 100mA
- External square wave terminal
- Sync input point



DP-31A