



Model AV-1020-C is a full-featured, 10 MHz high-performance general-purpose lab pulse generator providing 0 to ± 10 Volts, 10 ns rise time, single and double-pulse modes, variable DC offset, variable delay, ECL and TTL outputs (and their complements!), self-explanatory front panel controls and a heavy-duty metal chassis for low emissions and decades of trouble-free service. This is a versatile, cost-effective pulse source for many digital and analog applications in industrial and academic fields.

The output amplitude is controlled by a 3 position range switch (1, 5 and 10 Volts) and a one turn control while the output polarity is controlled by a two-position switch. 50 Ohm back-matching is provided for the 1 and 5 Volt ranges. A one-turn control allows the variation of the base line or DC offset from 0 to ± 10 Volts. The output pulse width (and delay) is variable from 50 ns to 0.5 sec via a seven-position range switch and a one-turn control. The pulse width may also be set to the "DC" mode, allowing the AV-1020-C to be used as a variable ± 10 Volt, 200 mA DC power supply. The pulse repetition frequency is variable from 1 Hz to 10 MHz in seven ranges. An externally applied TTL level pulse may also be used to

- ± 10 Volt output (TTL and ECL also) into 50 Ω
- Variable DC offset to ± 10 Volts
- 10 ns rise and fall times
- Low jitter and variable delay
- User-friendly front panel
- Low-cost ± 5 Volt model available (Model AV-1022-C)

control the output PRF and in addition the unit includes a "SINGLE PULSE" push button. A double pulse mode is available and a GATE input is provided for synchronous control of the internal triggering. The logic and logic-complement outputs provide either TTL or ECL signals, depending on the TTL/ECL switch position.

See Model AV-1023-C (see page 11) for a dual channel version of Model AV-1020-C and Model AV-1021-B (see page 9) for a GPIB-equipped version.

Model AV-1022-C is a budget-priced 10 MHz pulse generator providing a variable pulse output of ± 5 Volts into 50 Ohms but without a variable DC offset, TTL/ECL outputs, single pulse mode, or a double-pulse mode. The pulse width and delay are both variable from 50 ns to 0.5 sec. A DC output mode is also available, allowing its use as a ± 5 Volt, 100 mA DC power supply.

All models require 120/240 V (switchable), 50-60 Hz.

For applications requiring GPIB control, see model AV-1021-B (page 9).

Model:	AV-1020-C	AV-1022-C
No. of channels out:	One (plus logic and logic-complement outputs)	One
PRF:	1 Hz to 10 MHz	
Amplitude (to 50 Ohms):	Main out: 0 to ± 10 Volts; TTL: +5V; ECL: -0.8V and -1.6V	0 to ± 5 Volts
Pulse width:	50 ns to 0.5 sec, or DC	
Rise time, fall time:	Main: ≤ 10 ns, TTL: 5 ns, ECL: 2 ns	≤ 10 ns
DC offset:	10 Volt range: 0 to ± 10 V; 1, 5 Volt range: 0 to ± 5 V	N/A
GPIB control:	N/A	N/A
Source impedance (main output):	50 Ohms (1, 5 V ranges), 1 Ohm (10 V range)	50 Ohms
Polarity (main output):	Positive or negative (two-position selector switch)	
Duty cycle (max):	80% (100% in PW DC mode)	
Waveform aberrations:	Overshoot, undershoot, ringing and slope aberration are less than $\pm 3\%$ at amplitudes of 300 mV and higher with outputs terminating in 50 Ω .	
Propagation delay:	70 ns to 0.5 sec (Ext trig in to pulse out)	130 ns to 0.5 sec
Trigger required (Ext trig mode):	+ 5 Volts, ≥ 4 ns (TTL). Trig input impedance: 50 Ω	+ 5 Volts ≥ 25 ns (TTL). Trig input impedance: 50 Ω
Trigger required (Gate in):	0 to 0.8 V: No output; +2.8 to +5 V (or open): normal out	N/A
Sync delay, jitter:	35 ns to 0.5 sec, $\leq \pm 50$ ps or $\pm 0.05\%$ (sync out to pulse out)	
Sync output:	+2 Volts, 50 ns, will drive 50 Ohm loads	
Single pulse mode:	manual push button	N/A
Signal connectors:	BNC	
Power requirement:	120/240 Volts (switchable) 50 - 60 Hz (30 Watts)	
Dimensions (H x W x D):	100 mm x 215 mm x 375 mm (3.9" x 8.5" x 14.8")	
Weight & chassis material:	4.5 kg (10 lbs), anodized aluminum, with blue-grey plastic trim	
Mounting & Temperature range:	Any, $+10^\circ$ C to $+40^\circ$ C	



AV-1020-C