



- 50 MHz and 10 MHz models
- ± 10 Volt output (TTL and ECL outputs also)
- Variable pulse width (AV-1000-C, 10 ns to 1 sec)
- Variable rise & fall times (AV-1000-C, 5 ns to 1 ms)
- Variable delay, to 1.0 sec
- Variable DC offset to ± 10 Volts
- Exceptionally low jitter
- User-friendly front panel

The Avtech model AV-1000-C is a 50 MHz, general-purpose laboratory pulse generator providing amplitudes of 0 to ± 10 V. It also includes DC offset, variable rise and fall times, exceptionally low jitter, and operating convenience. ECL and TTL outputs (and their complements) are provided, making the AV-1000-C an ideal pulse source for both digital and analog applications, and for triggering those Avtech instruments which require an external trigger (i.e., modules and -PS units).

The front panel features simple self-explanatory controls. The output amplitude is controlled by a six-position range switch (± 1 , ± 5 and ± 10 Volt ranges) and a one-turn vernier control. 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 stages will safely withstand any combination of front panel control settings.

The main output rise and fall times are variable from 5 ns

up to 1 ms using a common five-position decade range switch and separate one-turn vernier controls. Similar arrangements control the output pulse width from 10 ns to 1.0 sec and the relative delay between the outputs and the SYNC output from ± 25 ns to ± 1.0 s. The delay jitter for this model is exceptionally low ($\leq \pm 25$ ps). The pulse repetition frequency is variable from 1 Hz to 50 MHz in eight ranges. An externally applied TTL-level pulse may also be used to 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 control of the internal triggering.

The lower-cost model AV-1002-C offers the same low jitter performance, but the maximum PRF is reduced to 10 MHz and the output rise and fall time for the main output is fixed at 5 ns. A variable rise and fall time option is available.

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

Model:	AV-1000-C	AV-1002-C
PRF:	1 Hz to 50 MHz	1 Hz to 10 MHz
Amplitude (to 50 Ohms):	Main output: 0 to ± 10 Volts (adjustable) TTL outputs (normal and inverted): low: 0 to +0.8V, high: +3 to +5V (fixed) ECL outputs (normal and inverted): low: -1.6V, high: -0.8V (fixed)	
Pulse width:	10 ns to 1.0 sec	15 ns to 1.0 sec
Rise time, fall time:	Main: 5 ns to 1 ms, TTL: 5 ns, ECL: 2 ns	Main: 5 ns ¹ , TTL: 5 ns, ECL: 2 ns
Jitter (Sync out to pulse out):	$\leq \pm 25$ ps $\pm 0.01\%$ of sync delay	
DC offset:	± 10 Volt range: 0 to ± 10 Volts. (Total output voltage can not exceed ± 10 V.) ± 1 , ± 5 Volt ranges: 0 to ± 5 Volts. (Total output voltage can not exceed ± 5 V.)	
Source impedance (main output):	50 Ohms (± 1 and ± 5 Volt ranges)	2 Ohms (± 10 Volt range)
Polarity (main output):	Positive or negative (switch-selectable)	
Duty cycle (max):	PRF ≤ 10 MHz: 80%, ≤ 40 MHz: 60%, 50 MHz: 40%	80%
Waveform aberrations:	Overshoot, undershoot, and ringing are $< \pm 5\%$ at amplitudes of > 300 mV, with outputs terminated in 50 Ohms.	
Trigger required (Ext trig mode):	TTL levels (low: 0 to +0.8V, high: +3 to +5V), 4 ns or wider. 1 k Ω input impedance.	
Trigger required (Gate in):	0 to +0.8 V (or grounded): No output	+3V to +5 V (or open): Normal output
Propagation delay:	< 75 ns (Ext trig in to main out, with sync delay set to minimum)	
Sync delay:	± 25 ns to ± 1.0 sec (Sync out to main out)	
Sync output:	+3 Volts, 10 ns, will drive 50 Ohm loads	
Single pulse mode:	manual push-button	
Signal connectors:	BNC	
Power requirement:	120/240 Volts (switchable), 50 - 60 Hz	
Dimensions (H x W x D):	100 mm x 430 mm x 375 mm (3.9" x 17" x 14.8")	
Weight & chassis material:	4.5 kg (10 lbs), anodized aluminum, with blue plastic trim	
Mounting & Temperature range:	Any, +5°C to +40°C	

1) For rise (and fall times) variable from 5 ns to 1 ms, add the suffix -TRF.



AV-1000-C