



- 1 MHz and 10 MHz models
- ± 5 Volt and ± 10 Volt outputs
- 200 ps and 1 ns rise time models
- Low jitter and variable delay
- IEEE-488.2 GPIB and RS-232 control, or manually controlled instruments

The AV-1030 and AV-1032 families of pulse generators offer very high performance in an easy-to-use general-purpose lab instrument format. Instruments with the -C suffix use front-panel range switches and vernier dials to control all settings. Instruments with the -B suffix have a front-panel keypad and liquid crystal display, and IEEE-488.2 GPIB and RS-232 computer-control ports. Settings can be changed using the front-panel menus, or by computer commands sent over the GPIB or RS-232 ports.

Models AV-1030-C and AV-1030-B are high-performance 200 ps rise time, 10 MHz pulse generators providing amplitudes of 0 to ± 5 Volts, pulse widths of 10 ns to 1 ms, low jitter, variable delay, and an all-metal chassis for low emissions.

The amplitude of the AV-1030-C is controlled by a six-position range switch (± 0.5 , ± 1.5 and ± 5 Volts) and a one-turn fine control. The output impedance in the lower ranges is 50 Ohms, providing transmission-line back-matching for low distortion. The output pulse width is variable using a five-position range switch and a one-turn fine control. The pulse repetition frequency is variable from 1 Hz to 10 MHz in seven decade ranges.

The AV-1030-B includes a complete computer control interface (see www.avtechpulse.com/gpib for details). This provides GPIB and RS-232 computer control, as well as front-panel keypad and adjust knob control of the output pulse parameters. A large backlit LCD displays the output amplitude, polarity, frequency, pulse width, and delay.

To allow easy integration into automated test systems, the programming command set is based on the SCPI standard, and LabView drivers are available for download at the Avtech web site, at www.avtechpulse.com/labview. An Ethernet port for Telnet-based or web-based control is optional (-TNT option, <http://www.avtechpulse.com/options/tnt>) on all -B units.

Model AV-1032-B is similar, but offer higher amplitudes (to ± 10 V), with 1 ns rise and fall times, and a maximum pulse repetition frequency of 1 MHz. The output impedance in the lower ranges is 50 Ohms, providing transmission-line back-matching for low distortion.

All models can be triggered by the internal oscillator, by an external TTL pulse, or by a front-panel pushbutton. -B units may also be triggered by computer command. All models include a gate input that can be used to inhibit triggering. A SYNC output is provided for oscilloscope triggering purposes. The delay between the main output and the SYNC output is variable. The SYNC output may be set to precede or to lag the main output.

The maximum output duty cycle for all models in the AV-1030-C series is 10%, and the outputs are AC-coupled. For higher duty cycle applications, consider the AV-1000-C and the AV-1020-C families (<http://www.avtechpulse.com/general>). To add a DC offset to the outputs, consider using the AVX-T series of bias tees (<http://www.avtechpulse.com/bias>).



AV-1030-B

Model:	AV-1030-C	AV-1030-B	AV-1032-B
GPIB and RS-232 control:	no	yes	yes
Amplitude (to 50 Ohms) ¹ :	0 to ± 5 Volts		0 to ± 10 Volts
Output impedance:	±0.5V and ±1.5V ranges: 50 Ω ±5V ranges: < 50 Ω		±1V and ±5V ranges: 50 Ω ±10V ranges: < 50 Ω
Rise time (20%-80%):	≤ 200 ps		≤ 1 ns
Fall time (80%-20%):	≤ 300 ps		≤ 1 ns
Pulse repetition frequency (PRF):	1 Hz to 10 MHz		1 Hz to 1 MHz
Pulse width (FWHM) ² :	10 ns to 1 ms		50 ns to 1 ms
Required load impedance:	50 Ohms		
Jitter:	≤ ± 25 ps ± 0.01 % of Sync delay. Measured between Sync Out and Main Out, or Trig In and Main Out.		
Polarity (main output):	Positive or negative (switch-selectable)		
Duty cycle (max):	10 %		
Waveform aberrations:	Overshoot, undershoot, and ringing are less than ±20% at amplitudes of 0.5V and higher ¹ with outputs terminating in 50 Ohms.		
Trigger required: (Ext trig mode)	+5 Volts, ≥ 4 ns TTL		
Trigger required (Gate in):	0 to 0.8 V (or grounded): No output +2.8 V to + 5.0 V (or open): Normal output		
Propagation delay: (Ext Trig to Out)	< 75 ns	< 100 ns	< 100 ns
Sync delay: (Sync Out to Main Out)	± 50 ns to ± 1 ms	0 to ± 1 ms	0 to ± 1 ms
Sync output:	+3 Volts, 50 ns, will drive 50 Ohm loads		
Single pulse mode:	Manual Push Button		
Signal connectors:	Main output: SMA Other: BNC		
LabView Drivers:	N/A	Check http://www.avtechpulse.com/labview for availability and downloads	
Internet control: (Telnet & Web)	N/A	Optional ³ . See http://www.avtechpulse.com/options/tnt for details.	
Power requirement:	115 / 230 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")		
Chassis material:	Anodized aluminum, with blue plastic trim		
Temperature range:	+5°C to +40°C		
Optional rack-mount kit:	Add the suffix "-R5" to the model number to include the 19" rack mount kit		
Optional accessory kit:	Add the suffix "-AK1" to the model number to include the recommended accessory kit. Consists of three SMA, 18 GHz, 2 Watt attenuators (10, 20 & 30 dB) for use on the output, and two 50 Ohm, 1 GHz, 1 Watt feed-through terminators (one SMA, one BNC) for use on external trigger inputs.		

1) For operation at amplitudes of less than 5% of maximum, best results will be obtained by setting the amplitude near maximum and using external attenuators on the output. Suitable attenuators are available in the optional accessory kit.

2) The pulse width may vary by ± 5 ns as the amplitude is varied.

3) Add the suffix -TNT to the model number to specify the Internet control (Telnet and Web) option.



AV-1030-C