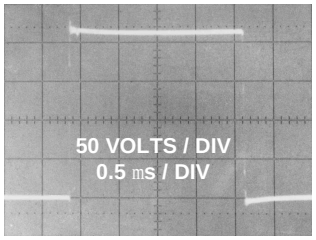
AVR SERIES

200 VOLT, 2 AND 10 ns RISE TIME PULSE GENERATORS PULSE WIDTHS 10 ns TO 5 µs



- Amplitudes to ±200 Volts
- 2 or 10 ns rise and fall times
- Pulse widths from 10 ns to 5 µs
- PRF to 100 kHz
- IEEE-488.2 GPIB control (-B units)



AVR-S1-C

The AVR series provides peak outputs to 200 Volts, with rise and fall times of 2 or 10 ns. Pulse widths as narrow as 10 ns, and as wide as 5 µs can be provided.

The AVR-A-1-PW-C family provides 0 to 200 Volt pulses with 10 ns rise and fall times. The pulse width may be varied from 50 ns to 500 ns. The maximum pulse repetition frequency (PRF) is 100 kHz, and the maximum duty cycle is 0.5%.

The AVR-S2 family is similar, except it offers faster rise and fall times of 2 ns. The maximum PRF is 10 kHz.

For wide pulse applications, the AVR-S1 family provides pulse widths variable from 50 ns to 5 µs, with 2 ns rise and fall times. The maximum PRF is 1 kHz.

For applications requiring narrow pulses or fast response times, the AVR-A-1-S2-C offers pulse widths of 10 to 200 ns, with a minimal 30 ns propagation delay (when externally triggered).

Instruments with the "-B" suffix include a complete computer control interface (see page 8 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 (www.avtechpulse.com).

The -C versions provide output pulse parameters similar to those of the -B models, but do not include the GPIB or RS-232 interfaces (i.e. no computer control or LCD display). The output parameters are controlled by front-panel range switches and one-turn controls. All models require 120/240V (switchable), 50-60 Hz prime power.

On all models, a delay control and sync output is provided for oscilloscope triggering purposes. The units can also be triggered externally using a TTL-level pulse. These models are protected from overload conditions (such as excessively high duty cycle or short circuited load) by an automatic control feature that limits the output power for as long as the overload condition persists. Either output polarity or an optional dual output polarity can be provided. Polarity inversion in dual polarity units is accomplished by means of a two-position switch. A DC offset or bias insertion option is available. Units with this option include a circuit similar to Model AVX-TC (see page 98) at the output.

All models can also be supplied with voltage-controlled output amplitude options (0 to +10V). Units with the analog electronic control option also include the standard front-panel controls.

Model:	AVR-A-1-PW-C[1] AVR-A-1-PW-B[2]	AVR-S2-C[1] AVR-S2-B[2]	AVR-S1-C[1] AVR-S1-B[2]	AVR-A-1-S2-C[1]
Amplitude[3,4]: (50 Ohm load)	0 to 200 Volts			
Pulse width[3,4]:	50 to 500 ns	50 to 500 ns	50 ns to 5 µs	10 ns to 200 ns
PRF:	0 to 100 kHz	0 to 10 kHz	0 to 1 kHz	0 to 10 kHz
Rise and fall time:	≤ 10 ns	≤ 2 ns		
Maximum Duty Cycle:	0.5%			0.2%
Polarity[5]:	Positive or negative or both (specify)			
Front-panel controls:	-B units: keypad and adjust knob, and GPIB / RS-232 control -C units: decade range switches & one-turn dials for PRF, pulse width & delay; one-turn dial for amplitude.			
GPIB and RS-232 control[2]:	Standard on -B units. Not available on -C.			
LabView drivers:	-B units only: check http://www.avtechpulse.com/labview for availability and downloads			
Propagation delay: (Ext trig in to pulse out)	≤ 100 ns			30 ns
Jitter:	± 100 ps ± 0.03% of sync delay, Ext trig in to pulse out			
DC offset or bias insertion:	Option available. Apply required DC offset or bias in the range of ± 50 Volts, (250 mA max) to back panel solder terminal. See note 6.			
Trigger required:	External trigger mode: +5 Volts, 50 ns to 5 µs (TTL)			
Variable sync delay: (Sync out to pulse out)	0 to ± 1 µs	0 to ± 500 ns	0 to ± 5 µs	0 to ± 200 ns
Sync output:	+3 Volts, 200 ns, will drive 50 Ohm loads			
Gate input: (-B units only)	Synchronous or asynchronous, active high or low, switchable. Suppresses triggering when active.			
Connectors:	Out, Trig, Sync, Gate (-B only): BNC			
Dimensions: -C units: (H x W x D) -B units:	100 mm x 215 mm x 375 mm (3.9" x 8.5" x 14.8") 100 mm x 430 mm x 375 mm (3.9" x 17" x 14.8")			
Power requirements:	120/240 Volts (switchable) 50 - 60 Hz			
Other:	For dimensions, chassis material, mounting and temperature range, see the AVPP Data sheet, page 26.			

1) -C suffix indicates stand-alone lab instrument with internal clock and line powering. (See page 112 for additional details of the four basic instrument formats).
2) -B suffix indicates IEEE-488.2 GPIB and RS-232 control of amplitude, pulse width, PRF and delay (See page 8).
3) For electronic control (0 to +10V) of amplitude, suffix model number with -EA. Electronic control units also include the standard front-panel controls.
4) For 10-turn dial control of pulse width (or amplitude) suffix model number with -PWT (or -AT). For -C units only.
5) Indicate desired polarity by suffixing model No. by -P or -N (i.e. positive or negative) or -PN for dual polarity option. Polarity reversal is achieved by means of a two-position switch on -C units and by keypad control on -B units.
6) For DC offset option suffix model number with -OS.