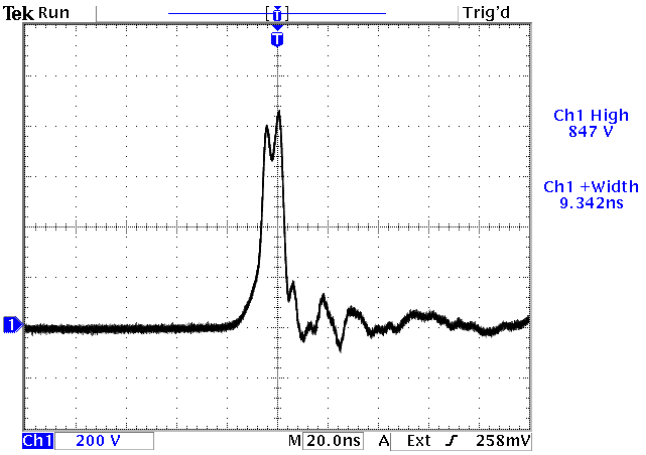
AVRK SERIES

2 - 4 ns RISE AND FALL TIME
330 - 800 VOLT PULSE GENERATORS
PULSE WIDTHS OF 5 ns TO 100 ns



AVRK-4-B-P, 800V amplitude, 10 ns pulse width

- 330, 450, 600, and 800 Volt models
- Rise times as fast as 2 ns
- PRF to 10 kHz
- IEEE-488.2 GPIB /RS-232 control

The AVRK series offers high-voltage outputs (to 800 Volts) with fast rise times, and pulse widths of up to 100 ns. All models operate at pulse repetition frequencies (PRF) of up to 10 kHz.

The AVRK-1-B model provides amplitudes of up to 330V, with a rise time of 2 ns or less, and a fall time of 3.5 ns or less. The pulse width is adjustable from 5 to 100 ns.

The AVRK-2-B is similar, except that the maximum amplitude is increased to 450V, and the pulse width range is reduced to 7 to 65 ns.

The AVRK-3-B model provides amplitudes of up to 600V, with 5 ns rise times. The pulse width is adjustable from 6 to 35 ns.

The AVRK-4-B model provides amplitudes of up to 800V, with 6 ns rise times. The pulse width is adjustable from 6 to 20 ns.

All models with the "-B" suffix include a complete computer control interface (see http://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 back-lit LCD displays the output amplitude, polarity, frequency, pulse width or duty cycle as appropriate, 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 (http://www.avtechpulse.com/labview).

An Ethernet port for Telnet or web-based control is optional on all models. See http://www.avtechpulse.com/options/tnt for details.

All 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 exists.

A manual push button is provided for one-shot operation. A delay control and a sync output are provided for scope triggering purposes.

Either output polarity can be provided. (A dual polarity option is also available).

A DC offset or bias insertion option is available with most units. Units with this option include a circuit similar to Model AVX-T at the output. The required DC offset or bias is applied directly to rear-panel solder terminals. A high-voltage DC offset option (to 1.5 kV) is also available for micro-channel plate applications.

All models require 100-240 Volts, 50-60 Hz.

Contact Avtech (info@avtechpulse.com) with your special requirement! Many units can be customized for particular applications.

AVRK-1-B

SPECIFICATIONS

AVRK SERIES

Model:	AVRK-1-B[1]	AVRK-2-B[1]	AVRK-3-B[1]	AVRK-4-B[1]
Amplitude[2,3]: (50Ω load)	0 to 330 Volts	0 to 450 Volts	0 to 600 Volts	0 to 800 Volts
Rise time (20%-80%):	≤ 2 ns		≤ 5 ns	≤ 6 ns
Fall time (80%-20%):	≤ 3.5 ns		≤ 5 ns at PW = 7 ns ≤ 8 ns at PW = 35 ns	≤ 3 ns at PW = 6 ns ≤ 5 ns at PW = 10 ns ≤ 12 ns at PW = 20 ns
Pulse width (FWHM):	5 – 100 ns	7 – 65 ns	6 – 35 ns	6 – 20 ns
PRF:	0 to 10 kHz			
Required load impedance:	50 Ohms[10]			
Output impedance[4]:	Low (much less than 50 Ohms)			
Polarity[5]:	Positive or negative or both (specify[4])			
Propagation delay:	≤ 150 ns (Ext trig in to pulse out)			
Jitter:	± 100 ps ± 0.03% of sync delay (Ext trig in to pulse out)			
DC offset:	-OS option[7]: Apply required DC offset (± 50 Volts, 250 mA DC max) to rear-panel solder terminals -OSHV option[9]: Apply required DC offset (± 1500 Volts, 1.5 mA DC max) to rear-panel Type N connector.			
Trigger required: (external trigger mode)	+ 5 Volts, 50 ns or wider (TTL)			
Sync delay:	Variable, 0 to ± 1 seconds			
Sync output:	+3 Volts, 100 ns, will drive 50 Ohm loads			
Gate input:	Synchronous or asynchronous, active high or low, switchable. Suppresses triggering when active.			
Monitor output:	Optional[8,9]: Provides a 20 dB attenuated coincident replica of main output			
Connectors:	BNC[9]			
GPIB and RS-232 control[1]:	Standard on -B units.			
Telnet / Ethernet control[4]:	Optional. See http://www.avtechpulse.com/options/tnt for details.			
Power requirements:	100 - 240 Volts, 50 - 60 Hz			
Dimensions: (H x W x D)	100 mm x 430 mm x 375 mm (3.9" x 17" x 14.8")			
Rack-mount kit:	Optional. Add -R5 to the model number.			
Temperature range:	+5°C to +40°C			

1) -B suffix indicates IEEE-488.2 GPIB and RS-232 control of amplitude, pulse width, PRF and delay. (See http://www.avtechpulse.com/gpib).
2) For operation at amplitudes of less than 20% of full-scale, best results will be obtained by setting the amplitude near full-scale and using external attenuators on the output.
3) For analog electronic control (0 to +10V) of amplitude, suffix model number with -EA. Electronic control units also include the standard front-panel controls.
4) Indicate desired polarity by suffixing model number with -P or -N (i.e. positive or negative) or -PN for dual polarity (switch controlled).
5) This is the input in series with the output, internally. Since the output impedance is not 50 Ohms, the load impedance must be 50 Ohms, or transmission line reflections will occur.
6) Add the suffix -TNT to the model number to specify the Telnet / Ethernet control option.
7) For DC offset option suffix model number with -OS.
8) For monitor option add suffix -M.
9) Units with the -OSHV option will have a Type N output connector, instead of SMA. The DC load impedance must be greater than 1 Megohm. (Note that the high-frequency load impedance must be 50 Ohms. For high impedance loads, such as microchannel plates, this can be achieved by shunting the input to the load with a series combination of a 50 Ohm resistor and a high-voltage capacitor.) The monitor output (-M option) would not include the DC component; it would include only the pulse component.
10) A 50 Ohm load is required. Other loads may damage the instrument. Consult Avtech (info@avtechpulse.com) if you need to drive other load impedances.