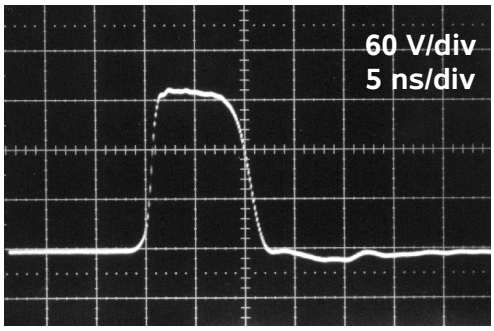
AVIR SERIES

200 VOLT, 20 AND 50 kHz
PULSE GENERATORS
PULSE WIDTHS 2 TO 200 ns



- 200 Volt series
- Pulse width ranges of 2 to 5 ns, 2 to 10 ns, and 10 to 200 ns
- Rise time as low as 0.8 ns
- PRF to 50 kHz
- IEEE-488.2 GPIB & RS-232 control is standard on -B units
- Ethernet / Telnet control optional

The AVIR series is designed for 200 Volt applications requiring pulse widths from 2 to 200 ns, at repetition rates up to 50 kHz.

The AVIR-1 family provides output amplitudes continuously variable from 0 to 200 Volts (into 50 Ohms), pulse widths variable from 2 to 5 ns, and 0.8 ns rise times. The maximum pulse repetition frequency is 50 kHz.

The AVIR-2 family is similar, but features pulse widths from 2 to 10 ns, with 1 ns rise times, and operation to 20 kHz.

For wider pulse width applications, the AVIR-3 family offers 10 to 200 ns pulse widths with 2 ns rise and fall times. The AVIR-3A-B is similar, but offers faster rise and fall times of 1 ns.

The AVIR-4 family essentially combines the AVIR-2 and AVIR-3 technologies to offer pulse widths from 2 to 200 ns, in two ranges (2 to 10 ns, and 10 to 200 ns). The AVIR-4A-B offers faster rise and fall times of 1 ns in the wide pulse range.

All models include an internal oscillator variable up to 50 kHz (AVIR-1 family) or 20 kHz (all other families) using the front-panel controls. A delay control and a sync output are provided for scope triggering. All models can also be triggered externally with a TTL-level pulse.

Positive, negative, and dual polarity models can be provided. The polarity in dual-polarity units is controlled by a front-panel switch. All AVIR units are available with a monitor output option that provides an attenuated coincident replica of the main output pulse.

Instruments with the -B suffix include a complete computer control interface. 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 voltage amplitude, polarity, pulse repetition frequency, pulse width, and delay. (Visit http://www.avtechpulse.com/gpib for additional details). 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 from the Avtech web site, at http://www.avtechpulse.com/labview. An Ethernet port for Telnet-based control is optional (see http://www.avtechpulse.com/options/tnt) on all -B units. A burst mode option is also available (see http://www.avtechpulse.com/options/br).

The -C versions provide 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 switches and one-turn controls. All models require 100 - 240V, 50 - 60 Hz prime power.

Contact Avtech for your special requirements, such as different output connector or pulse widths.

For assistance in selecting the ideal model for your application, visit our online parametric search engine at http://www.avtechpulse.com/pick.

AVIR-3-B

SPECIFICATIONS

AVIR SERIES

Model:	AVIR-1-C[1] AVIR-1-B[2]	AVIR-2-C[1] AVIR-2-B[2]	AVIR-3-C[1] AVIR-3-B[2]	AVIR-3A-B[2]	AVIR-4-C[1] AVIR-4-B[2]	AVIR-4A-B[2]
Amplitude[3,4,5]:	0 to 200 Volts (50Ω load required)					
Pulse width (FWHM)[4]:	2 - 5 ns	2 - 10 ns	10 - 200 ns		2 - 200 ns	
Max. rise time: (20%-80%)	0.8 ns	1 ns	2 ns	1 ns	1 ns (PW<10ns) 2 ns (PW≥10ns)	1 ns
Max. fall time: (80%-20%)	1.0 ns	1 ns (at min PW) 2 ns (at max PW)	2 ns	1 ns	2 ns	2 ns (PW<10ns) 1 ns (PW≥10ns)
PRF:	0 to 50 kHz	0 to 20 kHz				
Polarity[6]:	Positive or negative or both (specify)					
GPIB and RS-232 control[2]:	Standard on -B units. Not available on -C units.					
LabView Drivers:	-B units only: check http://www.avtechpulse.com/labview for availability and downloads					
Internet control: (Telnet & Web)	Optional[7]. See http://www.avtechpulse.com/options/tnt for details.					
Burst mode:	Optional[8] on -B units. Not available on -C units. Generates 1-500 pulses per trigger. See http://www.avtechpulse.com/options/br.					
Propagation delay:	≤ 100 ns (Ext trig in to pulse out)					
Jitter:	± 35ps ± 0.015% of sync delay (Ext trig in to pulse out)					
DC offset or bias insertion:	Optional[9]. Apply required DC offset or bias in the range of ± 50 Volts (250 mA max) to back panel solder terminal..					
Trigger required:	Ext trig mode: + 5 Volts, 50 ns or wider (TTL)					
Sync delay:	Sync out to pulse out, variable 0 to ± 500 ns					
Sync output	+3 Volts, 200 ns, will drive 50 Ohm loads					
Connectors:	Out: SMA Trig/Sync: BNC Gate (-B only): BNC					
Power requirement:	100 - 240 Volts, 50 - 60 Hz					
Dimensions: (H x W x D)	-B units: 100 × 430 × 375 mm (3.9 × 17 × 14.8"), -C units: 100 × 215 × 375 mm (3.9 × 8.5 × 14.8")					
Chassis material:	cast aluminum frame & handles, blue vinyl on aluminum cover plates					
Temperature range:	+5°C to +40°C					

1) -C suffix indicates stand-alone lab instrument with internal clock and line powering.
2) -B suffix indicates IEEE-488.2 GPIB and RS-232 control of amplitude, pulse width, PRF and delay (see http://www.avtechpulse.com/gpib for details).
3) For electronic control (0 to +10V) of amplitude, suffix the model number with -EA. Includes standard front-panel controls. Not available on AVIR-4 models.
4) For 10-turn dial control of pulse width (or amplitude) suffix model number with -PWT (or -AT). Not applicable for -B units.
5) For operation at amplitudes of less than 10% of full-scale, best results will be obtained by setting the amplitude near full-scale and using external attenuators on the output.
6) Indicate desired polarity by suffixing model number with -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.
7) Add the suffix -TNT to the model number to specify the Internet control (Telnet and Web) option.
8) Add the suffix -BR to the model number to specify the burst mode option. See http://www.avtechpulse.com/options/br for details about this option.
9) For DC offset option suffix model number with -OS.

AVIR-2-C