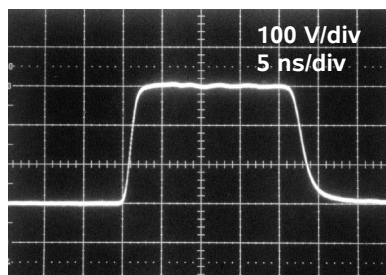
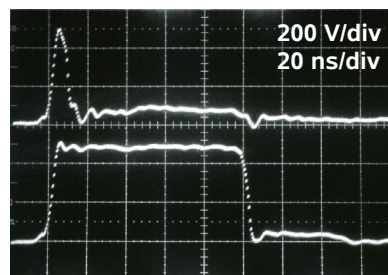


AVL-AV-1-B



AVL-2-B



AVL-5-B (Min and max pulse width)

- Amplitudes to 500 Volts
- Rise times of 1, 2, or 4 ns
- PRF to 2 or 5 kHz

- Pulse widths to 100 or 400 ns
- IEEE-488.2 GPIB and RS-232 control
- Ethernet / Telnet control optional

The AVL series provides high amplitude (to $\pm 500V$) pulse outputs with rise times as low as 1 ns and fall times of 2 ns, pulse repetition frequencies to 5 kHz and maximum pulse widths variable from 3 to 400 ns.

The AVL-AV-1-B provides peak amplitudes of 100 Volts with pulse widths variable from 3 to 100 ns (and to 400 ns with a wide pulse option). The rise time is 1 ns, and the fall time is 2 ns. The -W option offers operation at wider pulse widths (5-400 ns), with 2 ns rise and 5 ns fall times. The maximum repetition rate is 5 kHz.

The AVL-2A-B provides peak amplitudes of 160 Volts with pulse widths variable from 3 to 100 ns (and to 400 ns with a wide pulse option). Rise and fall times are 2 ns. The -W option offers wider pulses (5-400 ns), with 2 ns rise and 5 ns fall times. The maximum repetition rate is 5 kHz.

The AVL-2D-B operates to 240V, with pulse widths of 10 to 100 ns, rise times of 1 ns, and fall times of 2 ns. The maximum PRF is 5 kHz.

The AVL-2-B family provides output amplitudes variable from 0 to 320 Volts, with pulse widths variable from 5 to 100 ns, with 2 ns rise time and 4 ns fall times, and repetition rates to 5 kHz.

The AVL-5 family provides output amplitudes variable from 0 to 500 Volts, with pulse widths variable from 8 to 100 ns, with 4 ns rise time and 5 ns fall times, and repetition rates to 2 kHz.

For all models, either output polarity or an optional dual output polarity can be provided. The output polarity of dual-polarity units can be switched from the front panel or by computer command.

All 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. (See <http://www.avtechpulse.com/gpi> for details.) 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 online at <http://www.avtechpulse.com/labview>. An Ethernet port for Telnet or Web-based control is optional (-TNT option, see <http://www.avtechpulse.com/options/tnt> for details) on all units.

All models may be triggered externally using a TTL-level pulse. The propagation delay in the externally triggered mode is typically 350 ns. All models include a delay control and sync output for sampling oscilloscope triggering purposes.

A DC offset or bias insertion option is available. Units with this option include a circuit similar to the AVX-TB (see <http://www.avtechpulse.com/bias>) bias tee at the output. The required DC offset is applied directly to rear panel solder terminals. AVL units are also available with a monitor output option that provides an attenuated (20 dB or X10) coincident replica of the main output pulse. All models are also available with analog electronic control (0 to +10V) of output amplitude.

The AVL series may be combined with the AVX transformer series to obtain peak currents of up to 12.8 Amps (e.g. laser diode loads) or peak voltages as high as 640 Volts to a 200 Ohm load.

All models require 100-240V, 50-60 Hz AC power.



AVL-2-B



SPECIFICATIONS

AVL SERIES

Model:	AVL-AV-1-W-B ¹	AVL-AV-1-B ¹	AVL-2A-W-B ¹	AVL-2A-B ¹	AVL-2D-B ¹	AVL-2-B ¹	AVL-5-B ¹
Amplitude ^{2,3} : (50Ω load)	0 - 100 V	0 - 100 V	0 - 160 V	0 - 160 V	0 - 240 V	0 - 320 V	0 - 500 V
Rise time (20%-80%):	≤ 2 ns	≤ 1 ns	≤ 2 ns	≤ 2 ns	≤ 1 ns	≤ 2 ns	≤ 4 ns
Fall time (80%-20%):	≤ 5 ns	≤ 2 ns	≤ 5 ns	≤ 2 ns	≤ 2 ns	≤ 4 ns	≤ 5 ns
Pulse width (FWHM):	5 - 400 ns	3 - 100 ns	5 - 400 ns	3 - 100 ns	10 - 100 ns	5 - 100 ns	8 - 100 ns
PRF:	0 to 5 kHz						0 to 2 kHz
Polarity ⁴ :	Positive or negative or both (specify)						
Propagation delay:	≤ 350 ns (Ext trig in to pulse out)						
Jitter:	± 100 ps ± 0.03% of sync delay (Ext trig in to pulse out)						
GPIB and RS-232 control ¹ :	Standard on -B units.						
LabView drivers:	Check http://www.avtechpulse.com/labview for availability and downloads						
Internet control: (Telnet & Web)	Optional ⁵ . See http://www.avtechpulse.com/options/tnt for details.						
DC offset or bias insertion ⁶ :	Option available. Apply required DC offset or bias in the range of ± 50 Volts (250 mA max) to back panel solder terminal.						
Trigger required:	External trigger mode: + 5 Volts, 50 to 500 ns (TTL)						
Sync delay ⁷ :	Variable 0 to ±1 second, sync out to pulse out						
Sync output:	+ 3 Volt, 100 ns, will drive 50 Ohm loads						
Gate input:	Synchronous. Active high or low, switchable. Suppresses triggering when active.						
Monitor output option ⁸ :	Provides a 20 dB attenuated coincident replica of the main output						
Connectors:	BNC						
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")						
Chassis material:	Cast aluminum frame & handles, blue vinyl on aluminum cover plates						
Mounting:	Any						
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 analog electronic control (0 to +10V) of the amplitude, suffix model number with -EA. Electronic control units also include standard front-panel controls.
- 3) 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.

- 4) 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 via keypad or computer control.
- 5) Add the suffix -TNT to the model number to specify the Internet control (Telnet and Web) option.
- 6) For DC offset option suffix model number with -OS.
- 7) Delay must be less than the period (1 / PRF).
- 8) For monitor option add suffix -M.

See our Applications Information Section on pages 104 - 112, and visit the application note area of the Avtech web site: <http://www.avtechpulse.com/appnote>.

Use the "Pick the Perfect Pulser" parametric search engine at <http://www.avtechpulse.com/pick> to find the best pulser for your application!