

- Amplitudes to 350 volts
- Rise times variable from 1 to 10 nsec
- PRF to 5 KHz
- Pulse widths variable from 4.0 to 400 nsec
- Stand alone lab instruments or DC powered modules

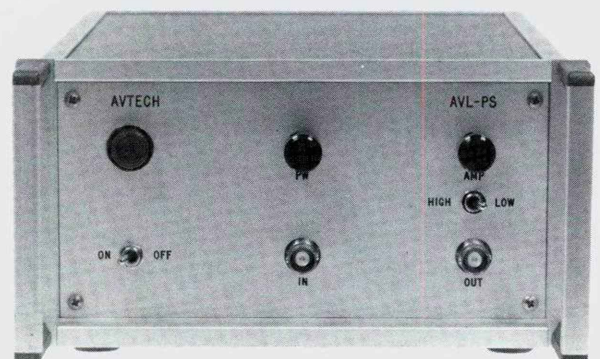
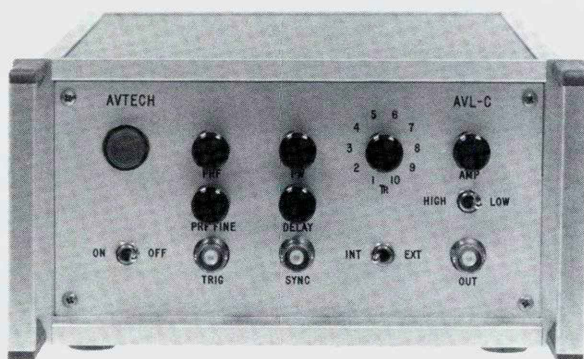
The AVL series provides high amplitude (as high as 350 volts) flat topped pulse outputs with rise times as low as 1 nsec and fall times of 2 nsec, pulse repetition frequencies to 5 KHz and maximum pulse widths variable from 3 to 100 nsec (and to 400 nsec) via one turn controls. Models AVL-2-C and AVL-AV-C provide output amplitudes variable from 0 to 350 volts and 0 to 250 volts respectively with pulse widths variable to 100 nsec. Models AVL-2A-C and AVL-AV-1 provide peak amplitudes of 170 volts and 100 volts with pulse widths variable up to 400 nsec.

The pulse repetition frequency is variable from 50 Hz to 5 KHz using the internal clock oscillator which is controlled by a front panel one turn control. A delay control and sync output is provided for sampling scope triggering purposes. The units can also be triggered externally using a TTL level pulse. The propagation delay in the externally triggered mode is typically 350 nsec. Either output polarity or an optional dual output polarity can be provided. Polarity inversion in dual polarity units is accomplished by means of a rear panel two position switch. An optional variable rise time

control (10 position switch) which varies the rise time (and fall time) from 1 to about 10 nsec is available. A DC offset or bias insertion option is available. Units with this option include a circuit similar to Model AVX-T (see page 64) at the output. The required DC offset or bias is applied directly to rear panel solder terminals. AVL units are also available with a monitor output option which provides an attenuated (20 db or X10) coincident replica of the main output pulse. Models with the -C suffix require 120/240V (switchable) 50-60 Hz prime power.

All AVL units are also available in a line powered chassis without the internal clock (-PS suffix) and in DC powered (+15V) module form. The modules and -PS units require a low level slow speed input TTL trigger signal and the output PRF equals the input trigger PRF.

The AVL series may be combined with the AVX transformer series to obtain peak currents of up to 14 Amps (eg. laser diode loads) or peak voltages as high as 700 volts to a 200 ohm load.



SPECIFICATIONS

AVL SERIES

| Model: | AVL-2-C ¹ AVL-2-PS AVL-2 | AVL-AV-C ¹ AVL-AV-PS AVL-AV | AVL-2A-C ¹ AVL-2A-PS AVL-2A | AVL-AV-1-C ¹ AVL-AV-1-PS AVL-AV-1 |
|--|--|--|--|--|
| Amplitude: (50 ohm load) | 0 to 350 volts | 0 to 250 volts | 0 to 170 volts | 0 to 100 volts |
| Rise time ² : | ≤ 1.5 nsec | ≤ 5 nsec | ≤ 1 nsec | ≤ 1 nsec |
| Fall time: | ≤ 2 nsec | ≤ 5 nsec | ≤ 2 nsec | ≤ 2 nsec |
| Pulse width: | 5 to 100 nsec | 8 to 100 nsec | 3 to 100 nsec or 3 to 400 nsec ³ | |
| PRF: | 0 to 5 KHz | | | |
| Polarity ⁴ : | Positive or negative or both (specify) | | | |
| Propagation delay: (EXT TRIG IN to Pulse OUT) | ≤ 350 nsec | | | |
| Jitter: (EXT TRIG IN to Pulse OUT) | ± 100 psec | | | |
| 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 5. | | | |
| Trigger required: (modules and -PS units) | +5 volt, 50 to 500 nsec (TTL) | | | |
| Trigger required: (-C EXT TRIG mode) | +5 volt, 50 to 500 nsec (TTL) | | | |
| Sync delay: (sync out to pulse out, -C units only) | Variable 0 to 200 nsec | | | |
| Sync output: (-C only) | +5 volts, 200 nsec, will drive 50 ohm loads | | | |
| Monitor output option ⁶ : | Provides a 20 db attenuated coincident replica of main output | | | |
| Connectors: -C: OUT TRIG SYNC MONITOR -PS: OUT IN MONITOR Modules: OUT IN MONITOR POWER | BNC BNC BNC BNC BNC BNC BNC BNC BNC BNC Solder terminals | | | |
| Power requirement: -C and -PS: Modules: | 120/240 volts (switchable) 50-60 Hz +15 volt, 500 mA | | | |
| Dimensions (IN): -C and -PS: Modules: | 4 x 8 x 12 4 x 8 x 12 | | | |
| Chassis material: | anodized aluminum, with blue plastic trim | | | |
| Mounting: | Any | | | |
| Temperature range: | 0° to +50°C | | | |

- 1) -C suffix indicates stand alone lab instrument with internal clock and line powering.
-PS suffix indicates line powered instrument requiring external trigger.
No suffix indicates module requiring DC power and external trigger.
(See page 4 for additional details of three basic instrument formats).
- 2) For rise time variable up to 10 nsec in nsec increments via a 10 position switch
suffix model No. by -T.
- 3) For wide pulse option suffix model No. by -W.
- 4) Indicate desired polarity by suffixing model No. by -P or -N (i.e. positive or negative)
or -PN for dual polarity option. Avtech Model AVX-1 inverting transformer may be
used to reverse polarity.
- 5) For DC offset option suffix model No. by -OS.
- 6) For monitor option add suffix -M.