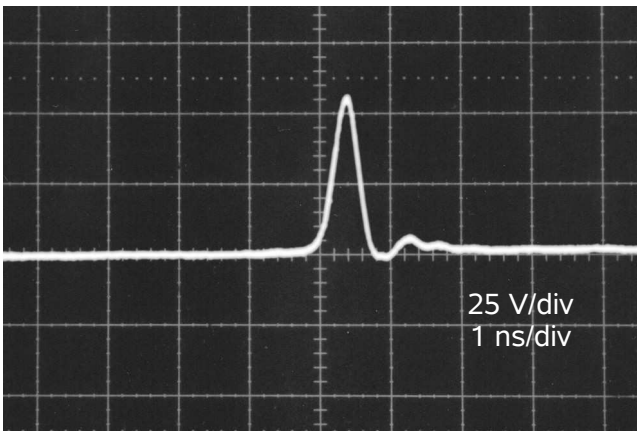


- Pulse widths as low as 130 ps
- Amplitudes to 100 Volts
- PRF to 20 MHz
- Low jitter

The AVMH family of low jitter, high amplitude impulse generators includes units providing pulse widths in the range of 200 ps to 1 ns, amplitudes from 10 Volts to 100 Volts, and pulse repetition frequencies as high as 20 MHz.

Model AVMH-1A-C generates impulses of up to 10V in amplitude. The pulse width (FWHM) is adjustable from less than 130 to more than 250 ps, for pulse repetition frequencies (PRFs) of up to 20 MHz.

Model AVMH-1-C is similar, with wider pulse widths (measured at the 20% rise point) of < 0.2 to > 1 ns.

Models AVMH-2-C provides 30 Volt impulses. The pulse width is adjustable over a narrow range around 400 ps. The maximum PRF is 20 MHz. The similar AVMH-3-C provides 600 ps, 50 Volt impulses, and the AVMH-6-C provides 0.5 to 1 ns, 65 Volt impulses.

Model AVMH-4-C provides a 100 Volt, 1 ns output at pulse repetition frequencies as high as 10 MHz. Model AVMH-5-C is similar, but offers wider pulse widths, adjustable from 2 to 4 ns, at PRFs to 1 MHz.

All units include a one-turn amplitude control and two pulse width controls (TR and TF) that are used to shape the output impulse after the operating pulse repetition frequency and the output amplitude are set.

The pulse repetition frequency is variable from 3 kHz to 20 MHz (10 MHz for Model AVMH-4-C, and 1 MHz for the AVMH-5-C) using the internal clock oscillator, which is controlled by a one-turn fine control and a decade range switch.

A delay control and a sync output are provided for sampling oscilloscope triggering purposes. The units can also be triggered externally using a TTL-level pulse.

Either output polarity or an optional dual output polarity can be provided. Polarity inversion in dual polarity units is accomplished by means of an inverting transformer module which mates to the pulse generator output port.

A DC offset or bias insertion option is also available with most units. Units with this option include a circuit similar to the Model AVX-T bias tee (for details, see http://www.avtechpulse.com/bias/avx-t) at the output, and the required DC offset is applied to rear-panel solder terminals.

AVMH units are also available with a monitor option that provides an attenuated (÷11, or -21 dB) coincident replica of the main output impulse.

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

In some cases, the above specifications can be adapted to satisfy a particular requirement. For lower PRF applications, see the AVH series and for higher amplitudes, see the AVG series. Both are described in detail at http://www.avtechpulse.com/impulse/.


AVMH-5-C

| Model[1]: | AVMH-1A-C | AVMH-1-C | AVMH-2-C | AVMH-3-C | AVMH-6-C | AVMH-4-C | AVMH-5-C |
|---|---|---|---|---|---|---|---|
| Max.[5] amplitude: (50Ω load[4]) | 10 V | 10 V | 30 V | 50 V[6] | 65 V[6] | 100 V | 100 V |
| Pulse width: | 130 - 250 ps | 0.2 - 1 ns | 400 ps | 600 ps | 0.5 to 1 ns | 1 ns | 2 to 4 ns |
| Pulse width measured at: | 50% (FWHM) | 20% rise | | | | | |
| PRF, internal trigger: external trigger: | 1 kHz - 20 MHz 0 - 20 MHz | | | | | 1 kHz - 10 MHz 0 - 10 MHz | 100 Hz - 1 MHz 0 - 1 MHz |
| Polarity[2]: | Positive or negative or both (specify) | | | | | | |
| Propagation delay: | ≤ 50 ns (Ext trig in to pulse out) | | | | | | |
| Jitter: | ± 15 ps (Ext trig in to pulse out) | | | | | | |
| DC offset: | Optional[3]: Apply the required externally-generated DC offset to back-panel solder terminals (±50 Volts, ±250 mA max) | | | | | | |
| Trigger required: (ext trig mode) | TTL-level (Low: 0V, High: +3V to +5V), ≥ 10 ns, $R_{IN}$ = 50Ω[7]. | | | | | | TTL[4], ≥ 50 ns, $R_{IN}$ = 1kΩ. |
| Sync output: | +3 Volts, width varies with PRF (always > 10 ns), drives ≥ 50Ω | | | | | | +3V, 200 ns, drives ≥ 50Ω |
| Sync delay: | Variable 0 to 80 ns, Sync out to pulse out | | | | | | |
| Monitor output: | Optional[8]. Provides a ÷11 (-21 dB) attenuated coincident replica of the main output, into 50 Ohms. | | | | | | |
| Accuracy / calibration: | Not calibrated. Controls may interact. For high-accuracy applications requiring traceable calibration, verify the output with a calibrated oscilloscope. | | | | | | |
| Connectors: | Out, Monitor: SMA, Trig: BNC | | | | | | |
| Power requirement: | 100 - 240 Volts, 50 - 60 Hz | | | | | | |
| Dimensions: (H×W×D) | 100 x 430 x 375 mm (3.9” x 17” x 14.8”) | | | | | | |
| Chassis material: | Anodized aluminum, with gray plastic trim. | | | | | | |
| Temperature range: | +5°C to +40°C | | | | | | |

1) -C suffix indicates stand-alone lab instrument with internal clock and line powering. (See http://www.avtechpulse.com/formats for additional details of the basic instrument formats).
2) Indicate desired polarity by suffixing model number with -P or -N (i.e. positive or negative) or -P-PN or -N-PN for dual polarity option where the suffix preceding -PN indicates the polarity at the mainframe output port.
3) For DC offset option add suffix -OS.
4) 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.
5) 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.
6) Maximum amplitude falls by 10% for PRF above 20 MHz.
7) An input impedance of ≥1 kΩ can also be provided (-Z1K option).
8) For monitor option add the suffix -M to the model number.

Singapore Main Office
Telephone: +65 6996 0391
Email: info@simtrum.com

China Main Office
Telephone: +86 15000853620
Email: sales@simtrum.cn

SIMTRUM
www.simtrum.com