AVMR-2D-B Output (+20 V, 5 ns, 1 MHz)

◆ Rise times as fast as 150 ps
◆ PRF to 3 or 10 MHz
◆ Pulse widths variable from 0.5 to 200 ns
◆ 10, 20, and 50V models
◆ IEEE-488.2 GPIB and RS-232 interfaces
◆ Ethernet port for VXI-11.3 support

The AVMR series offers medium-voltage operation at relatively high pulse repetition frequencies.

Model AVMR-1A-B provides pulses with amplitudes variable to 10 Volts, and pulse widths variable from 6 ns to 200 ns. The maximum pulse repetition frequency is 10 MHz. The rise times are less than 150 ps (see the sample waveform above).

The higher-voltage AVMR-2A-B provides pulses with amplitudes variable up to 20 Volts, and pulse widths variable from 6 ns up to 200 ns. The maximum pulse repetition frequency (PRF) is 10 MHz. The rise times are 200 ps or less.

Model AVMR-2D-B offers an extended pulse width range of 0.5 ns to 200 ns.

Model AVMR-2J-B is similar to the AVMR-2A-B, but with slower rise and fall times. (This slower variant is generally not subject to the same governmental export controls that may apply to those models with ≤ 500 ps rise/fall times (US ECCN 3A230).

Model AVMR-3-B offers amplitude to 50V, with pulse widths variable from 10 to 100 ns, and pulse repetition frequencies to 3 MHz. The rise and fall times are 2.5 ns.

All models 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 backlit LCD displays the output amplitude, frequency, pulse width, and delay. To allow easy integration into automated test systems, the programming command set is based on the SCPI standard. LabView drivers are available for download at: http://www.avtechpulse.com/labview.

The -VXI option adds a rear-panel Ethernet connector, allowing an instrument to be remotely controlled using the VXI-11.3, ssh, telnet, and web protocols. In particular, the VXI-11.3 features allows software like LabView to control an instrument using standard VISA communications drivers and network cabling, instead of using older-style GPIB cabling and GPIB controller cards. For details, please see http://www.avtechpulse.com/options/vxi.

A delay control and a sync output are provided on all models for sampling scope triggering purposes. All models can also be triggered externally using a TTL-level pulse. 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.

Either output polarity can be provided. A dual-polarity option is available as well. The polarity is controlled by a front-panel menu or by a computer command.

A DC offset function is available on all models (similar to model AVX-T, see http://www.avtechpulse.com/bias/avx-t). The required DC offset or bias is applied directly to rear panel solder terminals. An available option (-OT) provides an internally generated DC offset (0 to ±5V) which is controlled by front-panel settings or computer commands.

AVMR units are available with a monitor option that provides an attenuated (20 dB or X10) coincident replica of the main output pulse.

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

AVMR-1A-B

Model[1]:	AVMR-1A-B	AVMR-2A-B	AVMR-2D-B	AVMR-2J-B	AVMR-3-B
Amplitude[2,7]: (50 Ohm load)	< 2 to 10 Volts	< 4 to 20 Volts			< 10 to 50 Volts
Pulse width (FWHM):	6 to 200 ns	6 to 200 ns	0.5 to 200 ns	6 to 200 ns	10 to 100 ns
PRF:	0 to 10 MHz				0 to 3 MHz
Duty cycle:	10% maximum				30% maximum
Rise time (20%-80%):	≤ 150 ps	≤ 200 ps		≤ 1.2 ns (but > 0.6 ns)	≤ 2.5 ns
Fall time (80%-20%):	≤ 300 ps for pulse widths ≥ 10 ns ≤ 450 ps for pulse widths < 10 ns				
Polarity[3]:	Positive or negative or both (specify)				
Required load impedance:	50 Ohms[6]				
Propagation delay:	< 150 ns. Ext trig in to pulse out.				
Jitter:	± 35 ps ± 0.015% of sync delay.				
DC offset or bias insertion:	Optional[4]. Apply required externally-generated DC offset to back panel solder terminals (± 50 Volts, 250 mA max)				
Trigger modes:	Internal trigger, external trigger (TTL level pulse, > 10 ns, 1 kΩ input impedance), front-panel "Single Pulse" pushbutton, or single pulse trigger via computer command.				
Variable delay:	Sync to main out: 0 to 1.0 seconds, for all trigger modes (including external trigger).				
Sync output:	> +3 Volts, > 40 ns, will drive 50 Ohm loads				
Monitor output option[5]:	Provides a 20 dB attenuated coincident replica of main output.				
GPIB and RS-232 control[1]:	Standard on -B units				
LabView drivers:	Available for download at http://www.avtechpulse.com/labview.				
Ethernet port, for remote control using VXI-11.3, ssh, telnet, & web:	Included. Recommended as a modern alternative to GPIB / RS-232. See http://www.avtechpulse.com/options/vxi for details.				
Settings resolution:	The resolution of the timing parameters (pulse width, delay, period) varies, but is always better than 0.15% of (|set value| + 20 ns). The amplitude resolution is < 0.1% of the maximum amplitude.				
Settings accuracy:	Amplitude: Typically ± (3% of setting) ± (2% of maximum). Delay, Period: Typically ± (3% of setting) ± (5 ns) Pulse width: Typically ± (3% of setting) ± (2 ns), at maximum amplitude. As the amplitude is reduced, the pulse width may shift ± 5 ns. For high-accuracy applications requiring traceable calibration, verify the output with a calibrated oscilloscope[8].				
Connectors:	Out, Monitor: SMA. Trig, Sync, Gate: BNC				
Optional accessory kit: (attenuators and terminators)	For -1A, -2A, -2D, -2J models: Add the suffix "-AK1" to the model number to include the recommended accessory kit. Consists of three SMA, 18 GHz, 2 Watt attenuators (10, 20 & 30 dB) for use on the output, and two 50 Ohm, 1 GHz, 1 Watt feed-through terminators (one SMA, one BNC) for use on external trigger inputs.				
	For -3 models: Add the suffix "-AK2" to the model number to include the recommended accessory kit. Consists of one SMA 12 GHz 20 Watt attenuator (20 dB) and two SMA 18 GHz 2 Watt attenuators (10 & 20 dB) for use on the output, and two 50 Ohm, 1 GHz, 1 Watt feed-through terminators (one SMA, one BNC) for use on external trigger inputs.				
Optional accessory kit: (coaxial cables and adapters)	Add the suffix "-AK8" to the model number to include the recommended accessory kit. Consists of one 12-inch SMA-M/SMA-M PE-SR405FL coaxial cable, one 12-inch SMA-M/SMA-MRG-316 coaxial cable, one 36-inch SMA-M/SMA-M RG-316 coaxial cable, one 24-inch SMA-M/BNC-M RG-316 coaxial cable, one 36-inch BNC-M/BNC-M RG58C/U coaxial cable, one SMA-F to BNC-M adapter, one SMA-M to BNC-F adapter, one SMA-F to SMA-F adapter, and one SMA-F to solder cup adapter				
Power, Temperature:	100 - 240 V, 50 - 60 Hz. +5°C to +40°C.				
Dimensions (H x W x D):	100 x 430 x 375 mm (3.9" x 17" x 14.8")				

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