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AV-143 AND AV-144 SERIES

DC-COUPLED LINEAR AMPLIFIERS,
BOOSTER AMPLIFIERS
AND NON-LINEAR PULSE AMPLIFIERS

AV-143 SERIES

DC-COUPLED LINEAR AMPLIFIERS AND BOOSTER AMPLIFIERS

- 5, 10, 20 and 30 Volt models
- For pulse and CW applications
- Voltage gains of 2.5, 5 and 10 and bandwidths to 50 MHz

Model:	AV-143B	AV-143CP	AV-143CN
Output amplitude: (max) (R_L = 50 Ω)	±20V	+30V	- 30V
Voltage gain:	+5.0	+7.5	-7.5
Rise, fall time: (20%-80%)[3]	≤ 50 ns	≤ 60 ns	≤ 60 ns
Input impedance[1]:	1 kΩ		
Output impedance:	< 2Ω		
Bandwidth:	DC - 10 MHz		
Maximum average output power:	8 Watts	18 Watts	18 Watts
Overshoot:	≤ 6%	≤ 10%	≤ 10%
Prime power[2]:	±24V, 0.6A	+36V / 0.8A, -15V / 0.2A	-36V / 0.8A, +15V / 0.2A
Connectors:	BNC		
Dimensions[2]:	Avtech Style A, 43 x 66 x 109 mm (1.7" x 2.6" x 4.3")		

1) Other input impedances are available. Call Avtech for details.
2) For a line-powered unit (120/240 Volts, 50 - 60 Hz) mounted in a 100 x 215 x 375 mm (3.9" x 8.5" x 14.8") chassis, add the suffix -PS to the model number.
3) For an output pulse swinging from zero Volts to the maximum positive output voltage (negative for the AV-143CN).

The amplifiers in the AV-143 family were designed to serve as booster amplifiers for arbitrary function generators and TTL-level pulse generators.

Model AV-143B is a linear non-inverting DC-coupled bipolar amplifier providing a peak output ±20 Volts, with rise times of 50 ns and voltage gain of +5.

Model AV-143CP provides an output of 0 to +30 Volts with a gain of +7.5 (non-inverting), while Model AV-143CN provides an output of 0 to -30 Volts with a gain of -7.5 (inverting). Both have an output impedance of < 2Ω.
See the AV-144 series below for applications requiring amplification of a TTL input. Call Avtech for your special amplifier applications.

These models can also be supplied in a AC line-powered (100 - 240V, 50 - 60 Hz) bench-top format by adding the suffix "-PS" to the model number. Models with the "-PS" suffix do not require DC power supplies.

AV-144 SERIES

TTL-IN NON-LINEAR PULSE AMPLIFIERS-DRIVERS

- TTL in. High voltage out.
- 2 or 10 ns rise and fall times
- Simple to use

Model:	AV-144C3-PS	AV-144E1-PS
Input amplitude:	TTL logic levels (LOW = 0 V, HIGH = +3 to +5 Volts)	
Output :	+30V, fixed	+10 to +100V, adjustable[1]
Required load:	≥ 50Ω	
Rise, fall time (20%-80%):	≤ 10ns	
Maximum duty cycle:	100%	10%
Minimum pulse width:	< 20 ns	< 20 ns
Maximum pulse width:	No limit	1 ms
Maximum PRF:	1 MHz	
Propagation delay:	< 100 ns	
Input impedance:	Standard: ≥ 1 kΩ. With -Z50 option: 50Ω	
Output impedance:	< 2 Ω	
Overshoot:	< ± 10% ± 1V	< 8V (typically < 3V @ 100V)
Prime power:	100 - 240V, 50 - 60 Hz	
Connectors:	SMA	BNC
Dimensions:	100 x 215 x 375 mm (3.9" x 8.5" x 14.8")	

1) Adjustable using a front-panel ten-turn mechanical dial. For analog electronic control (0 to +10V) of the amplitude, suffix the model number with -EA. These units also include the standard front-panel dial.

AV-144 models accept a TTL-level input, and boost the signal to a higher voltage, capable of driving 50Ω.

Models are available with fixed output amplitudes of +30V, or with an adjustable amplitude of +10V to +100V. Other output levels are available on request.

The 30V model may operate at any duty cycle, at pulse repetition rates of up to 1 MHz (10 MHz for the 10V model), with 10 ns rise times.

The adjustable-amplitude 10-100V AV-144E1-PS model operates with duty cycles as high as 10%, and pulse widths up to 1 ms. The This model is essentially a "stripped-down" version of the AV-1010-B pulse generator. The AV-1010-B should be considered in applications requiring computer automation. See also:

https://www.avtechpulse.com/general/av-1010/

The outputs are DC-coupled, and will drive loads of 50 Ohms and higher. These models are supplied in an AC-powered (100-240 V, 50-60 Hz) bench-top format.

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