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SINCE 1975

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## INSTRUCTIONS

**MODEL AVP-AV-1S-PS-PN PULSE GENERATOR**

**S.N.:**

### WARRANTY

Avtech Electrosystems Ltd. warrants products of its manufacture to be free from defects in material and workmanship under conditions of normal use. If, within one year after delivery to the original owner, and after prepaid return by the original owner, this Avtech product is found to be defective, Avtech shall at its option repair or replace said defective item. This warranty does not apply to units which have been disassembled, modified or subjected to conditions exceeding the applicable specifications or ratings. This warranty is the extent of the obligation assumed by Avtech with respect to this product and no other warranty or guarantee is either expressed or implied.

### TECHNICAL SUPPORT

Phone: 613-226-5772 or 1-800-265-6681

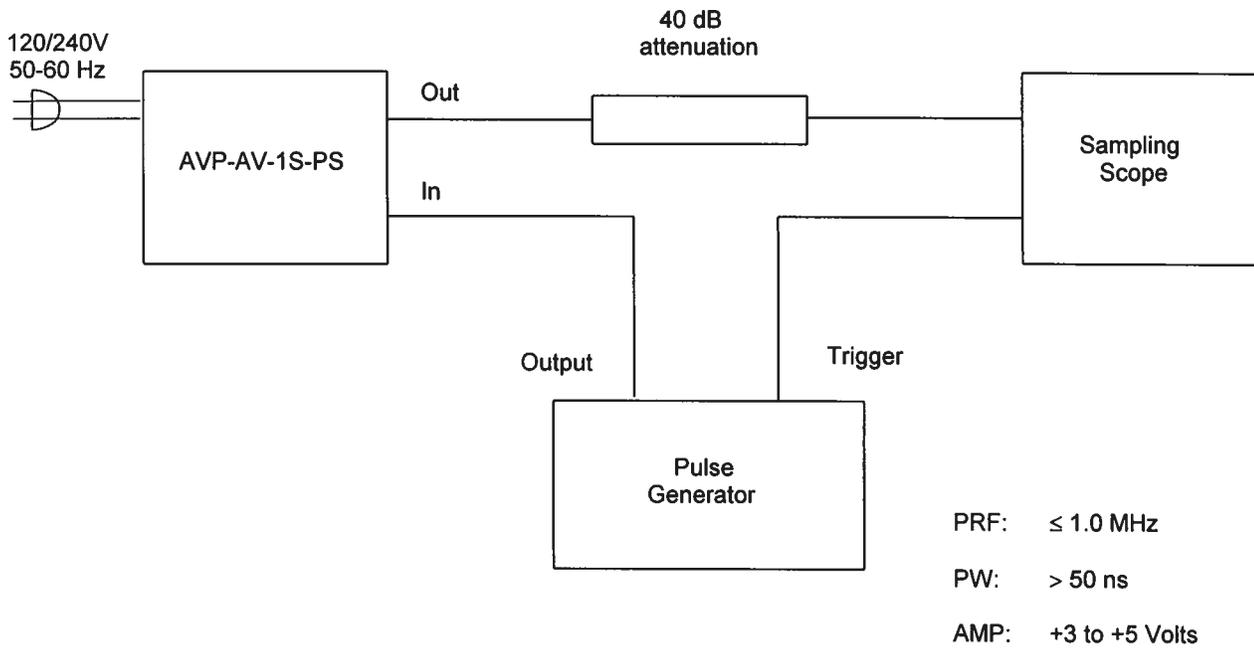
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## TABLE OF CONTENTS

WARRANTY .....	2
TABLE OF CONTENTS .....	3
FIG. 1: PULSE GENERATOR TEST ARRANGEMENT .....	4
GENERAL OPERATING INSTRUCTIONS .....	5
FIG. 2: BACK PANEL CONTROLS .....	7
BACK PANEL CONTROLS .....	8
POWER SUPPLY AND FUSE REPLACEMENT .....	9
PERFORMANCE CHECK SHEET .....	11

**FIG. 1: PULSE GENERATOR TEST ARRANGEMENT**

## GENERAL OPERATING INSTRUCTIONS

- 1) The bandwidth capability of components and instruments used to display the pulse generator output signal (attenuators, cables, connectors, etc.) should exceed ten gigahertz.
- 2) The use of 40 db attenuator will insure a peak input signal to the sampling scope of less than one Volt.
- 3) In general, the source pulse generator trigger delay control should be set in the 0.1 to 1.0 us range. Other settings should be as shown in the above diagram.
- 4) The Model AVP-AV pulse generator can withstand an infinite VSWR on the output port.
- 5) WARNING: Model AVP-AV may fail if triggered at a PRF greater than 1.0 MHz.
- 6) The desired output polarity is selected by means of the front panel POLARITY switch. With the POLARITY switch in the P position, the negative output pulse generator is rendered inactive. Likewise, with the POLARITY switch in the N position, the positive generator is rendered inactive.
- 7) The output pulse widths are controlled by means of the front panel one turn PW controls (POS and NEG).
- 8) The output pulse amplitudes are controlled by means of the front panel one turn AMP controls. Some properties of the output pulse may change as a function of the amplitude pot setting. For some demanding applications, it may be desirable to use a combination of external attenuators and the amplitude pot to achieve the desired output amplitude.
- 9) For units with the OT or EO options, the output DC offset is variable from +5 to -5 Volts by means of the front panel one turn OFFSET control. The offset control may be turned off by means of the front panel ON-OFF OFFSET switch.
- 10) The AVP unit can be converted from 120 to 240V 50-60 Hz operation by adjusting the voltage selector card in the rear panel fused voltage selector-cable connector assembly.

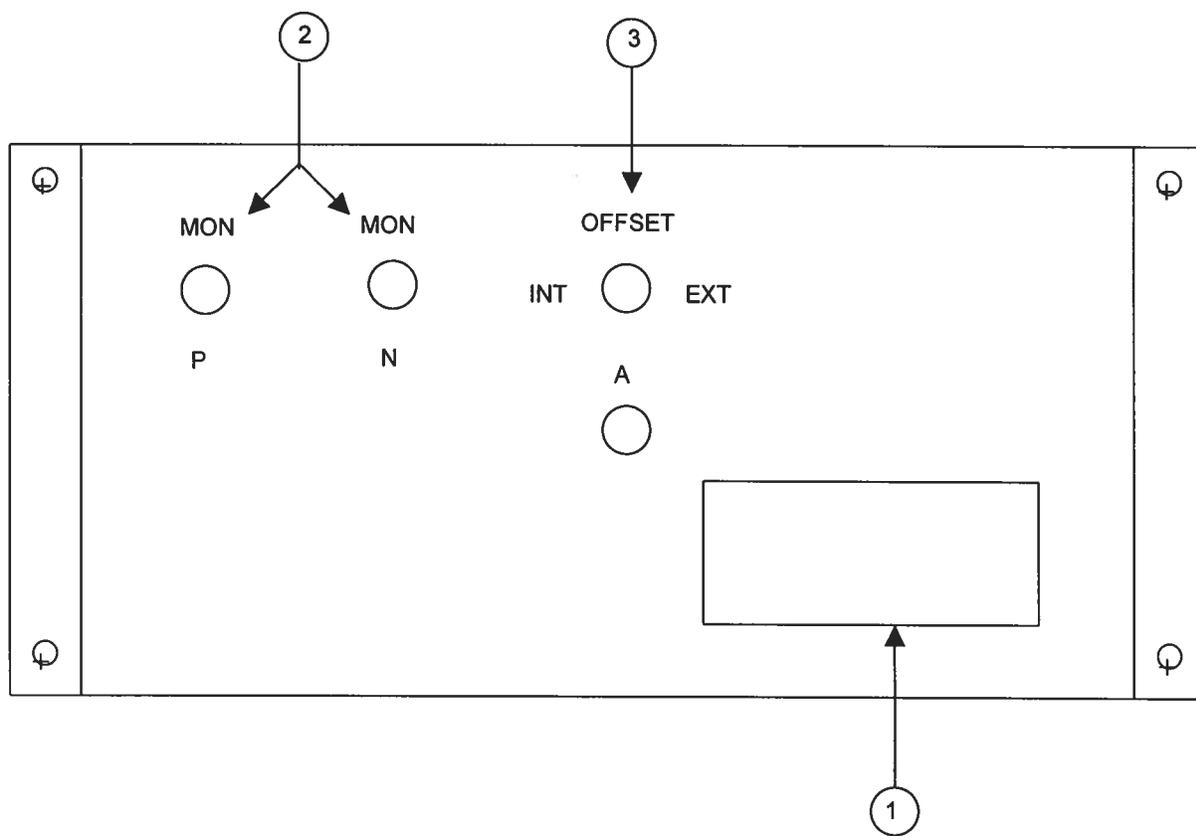
11) For additional information:

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FIG. 2: BACK PANEL CONTROLS



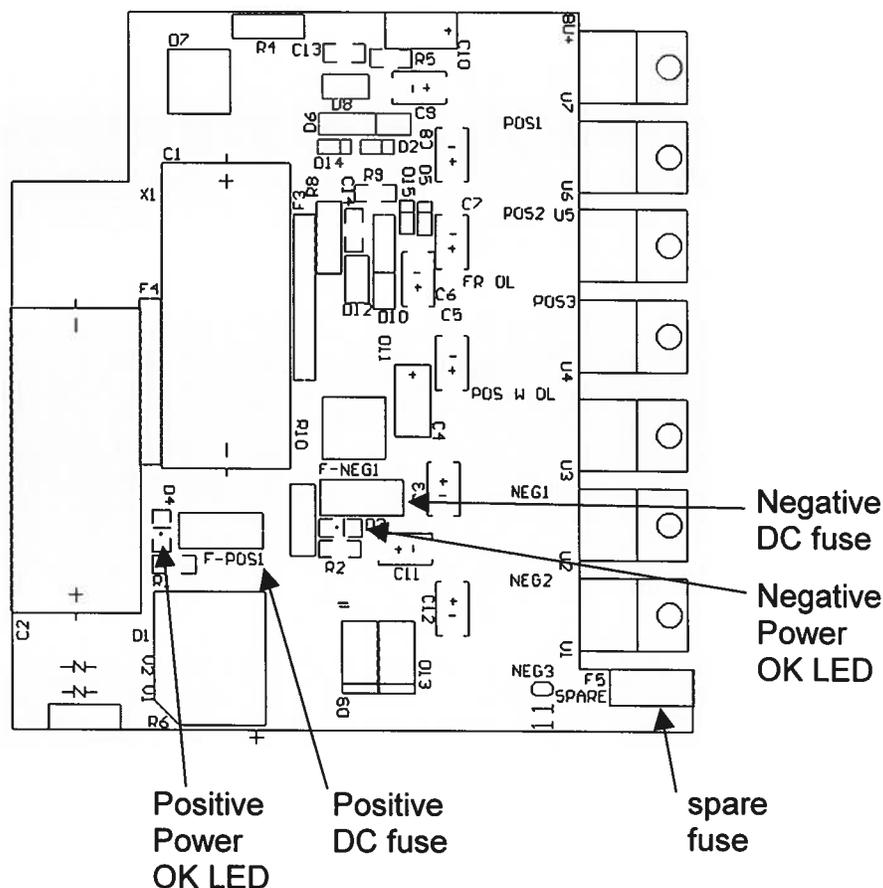
## BACK PANEL CONTROLS

- (1) FUSED CONNECTOR, VOLTAGE SELECTOR. The detachable power cord is connected at this point. In addition, the removable cord is adjusted to select the desired input operating voltage. The unit also contains the main power fuse (0.5A SB).
- (2) MONITOR OUT M. Provides an attenuated (x10) coincident replica of the main output pulse to 50 Ohms. Output pulse amplitude and pulse width may be determined from the monitor output (but the monitor will exhibit pronounced ringing and overshoot).
- (3) To voltage control the output DC offset, set the switch in the EXT position and apply 0 to +10 Volts to BNC connector "A". ( $R_{IN} \geq 10K$ ) With the switch in the INT position and with the front panel OFFSET ON-OFF switch in ON position, DC output offset potential appears at this terminal (and the DC offset potential is controlled by the front panel offset control).

## POWER SUPPLY AND FUSE REPLACEMENT

This instrument has three fuses (plus one spare). One, which protects the AC input, is located in the rear-panel power entry module, as described in the “Rear Panel Controls” section of this manual. If the power appears to have failed, check the AC fuse first.

The other two fuses (plus one spare) are located on the internal DC power supply, as shown below:



The spare fuse may be used to replace one of the other fuses, if required.

The three fuses on this circuit board are 0.5A slow-blow fuses, Littlefuse part number R452.500. (This fuse can be ordered from Digikey, [www.digikey.com](http://www.digikey.com). The Digikey part number is F1341CT-ND).

If you suspect that the DC fuses are blown, follow this procedure:

1. Remove the top cover, by removing the four Phillips screws on the top cover and then sliding the cover back and off.
2. Locate the two "Power OK" LEDs on the power supply circuit board, as illustrated above.
3. Turn on the instrument.
4. Observe the "Power OK" LEDs. If the fuses are not blown, the two LEDs will be lit (bright red). If one of the LEDs is not lit, the fuse next to it has blown.
5. Turn off the instrument.
6. If a fuse is blown, use needle-nose pliers to remove the blown fuse from its surface-mount holder.
7. Replace the fuse.

Feb 24/2000