AVTECH ELECTROSYSTEMS LTD.
NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

P.O. BOX 265
OGDENSBURG, NY
U.S.A. 13669-0265
TEL: (315) 472-5270
FAX: (613) 226-2802

TEL: 1-800-265-6681
FAX: 1-800-561-1970

e-mail: info@avtechpulse.com
http://www.avtechpulse.com

P.O. BOX 5120 STN. F
OTTAWA, ONTARIO
CANADA K2C 3H4
TEL: (613) 226-5772
FAX: (613) 226-2802

# INSTRUCTIONS

## MODEL AVL-2A-PS-CM1-OS-150 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 dissembled, 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
Fax: 613-226-2802 or 1-800-561-1970

E-mail: info@avtechpulse.com
World Wide Web: http://www.avtechpulse.com

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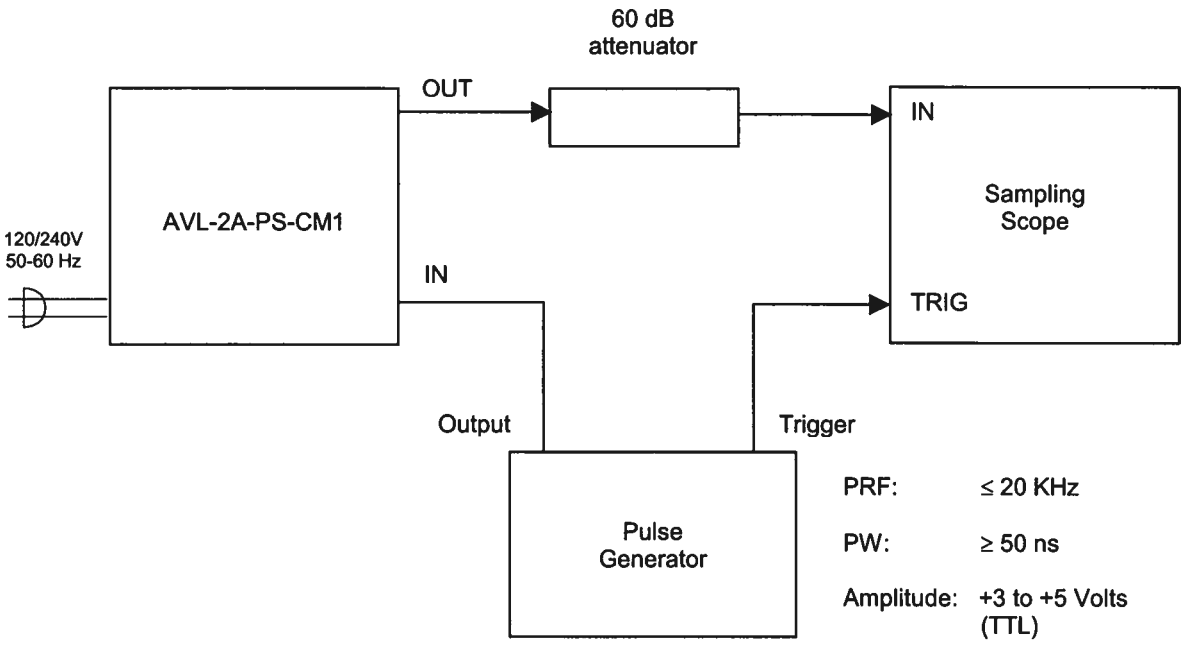
Manual Reference: Q:\office\instructword\Avl\AVL-2A-PS-CM1-OS-150editionb.doc, created July 23, 2002

# 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 one gigahertz.

2) The use of 60 db attenuator at the sampling scope vertical input channel will insure a peak input signal to the sampling scope of less than one volt.

3) The output pulse width is controlled by means of the one turn potentiometer (PW). The pot should initially be set mid-range and the pulse width adjusted using an oscilloscope. The output will degenerate to an impulse and eventually vanish as the pot is turned fully counter clockwise.

4) The output pulse amplitude is controlled by means of the one turn potentiometer (AMP) and the HIGH-LOW switch adjacent to the AMP control. With the switch in the HIGH position, the output amplitude is variable over the range of 75 to 170 volts while in the LOW position the output amplitude is variable over the range of about 0 to 150 volts.

5) The output amplitude may be controlled electronically by placing the rear panel EA switch in the ON position and applying 0 to +10 volts to the EA solder terminal. Note that the front panel manual amp control is still unctional when the EA switch is in the ON position (EA option).

6) Model AVL-2A can withstand an infinite VSWR on the output port but is intended for operation with 50 ohm loads.

7) NOTE: The lifetime of the switching elements in the pulse generator module is proportional to the running time of the instrument. For this reason the prime power to the instrument should be turned off when the instrument is not in use. In the case of failure, the switching elements are easily replaced following the procedure described in the following section.

8) The desired DC offset is applied to the back panel OS terminals which are connected to the output centre conductor via a high quality RF inductor. Do not exceed ±150 volts, 0.1 Amp. (option).

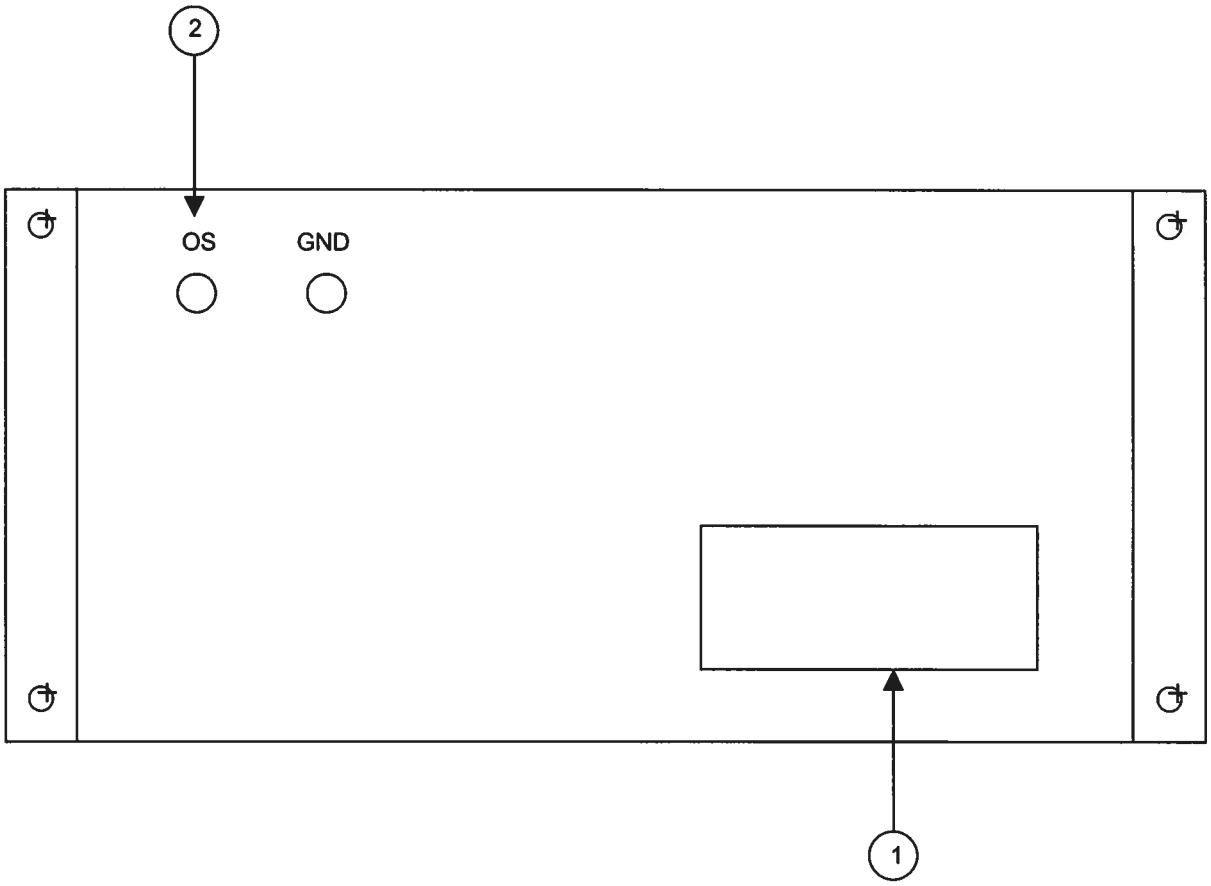
9) The back monitor output provides an attenuated replica (20 db down) of the output less DC offset. The monitor output is designed to operate into a 50 ohm load. (option).

10) The unit can be converted from 120 to 240V 50-60 Hz operation by adjusting voltage selector card in the rear panel fused voltage selector-cable connector assembly.

11) For additional assistance:

Tel: (613) 226-5772
Fax: (613) 226-2802
Email: info@avtechpulse.com

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.

For AC line voltages of 110-120V, the power selector card should be installed so that the "120" marking is visible from the rear of the instrument.

For AC line voltages of 220-240V, the power selector card should be installed so that the "240" marking is visible from the rear of the instrument.

If it is not set for the proper voltage, remove the fuse and then grasp the card with a pair of pliers and remove it. Rotate horizontally through 180 degrees. Reinstall the card and the correct fuse.

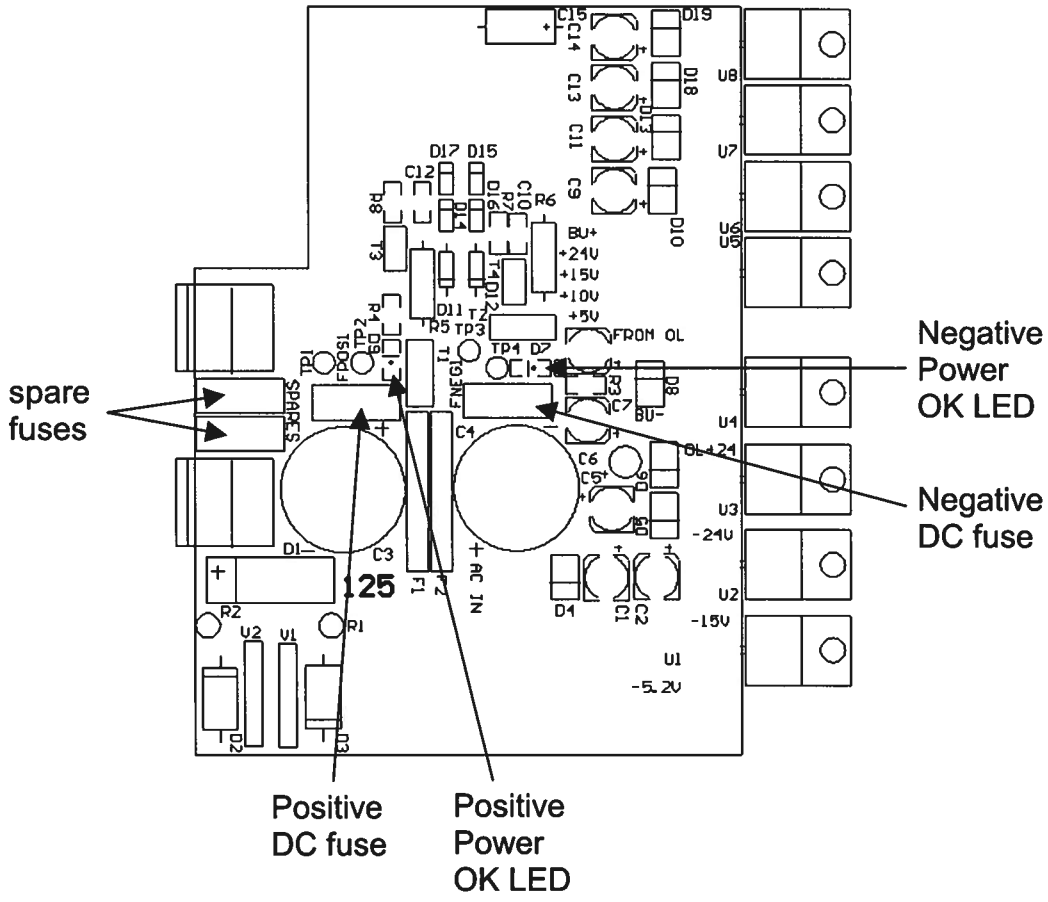
In the 120V setting, a 0.5 A slow blow fuse is required. In the 240V setting, a 0.25 A slow blow fuse is required.

(2) OS. The desired DC offset is applied to the back panel OS terminals, which are connected to the output center conductor via a high quality RF inductor. Do not exceed ± 150V, 0.1 Amp. (option).

## POWER SUPPLY AND FUSE REPLACEMENT

This instrument has three main fuses, plus two spares. 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 two spares) are located on the internal DC power supply, as shown below:




The four 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. 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. (Two spare 0.5 Amp fuses are provided on the circuit board. They may be transferred to the active fuse locations using needle-nose pliers.)