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SINCE 1975

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INSTRUCTIONS

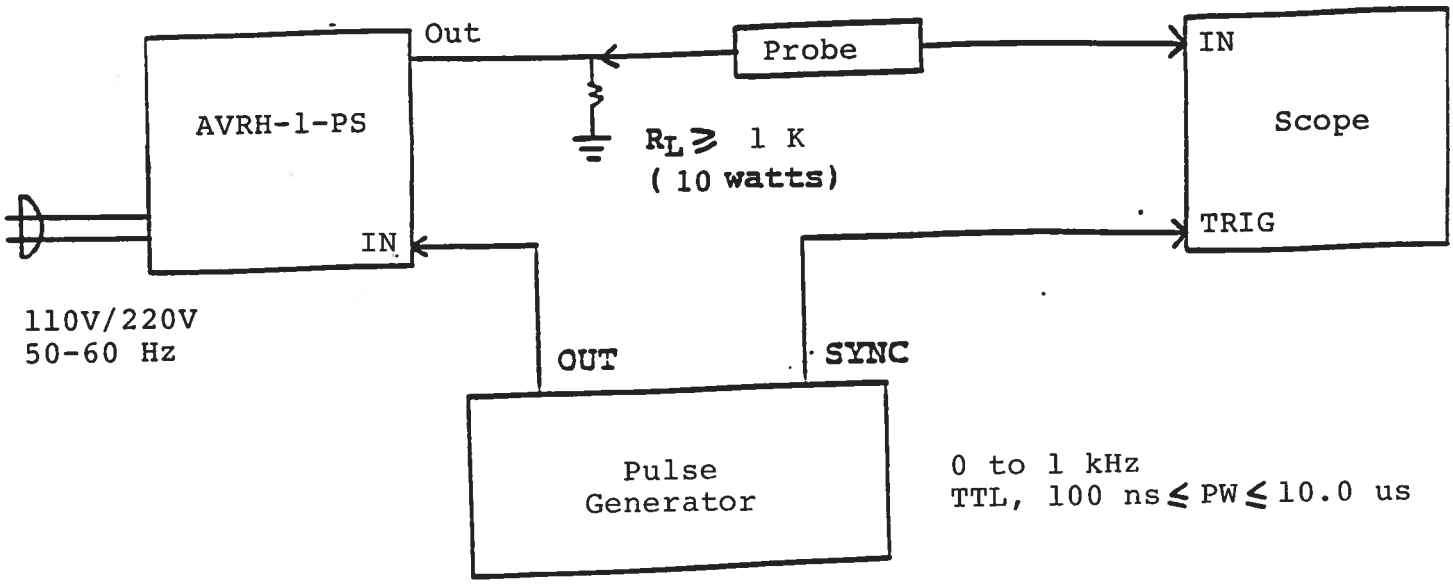
MODEL AVRH-1-PS-N-AS2 PULSE GENERATOR

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 or liability assumed by Avtech with respect to this product and no other warranty or guarantee is either expressed or implied.

Fig. 1 PULSE GENERATOR TEST ARRANGEMENT



Notes:

1) The bandwidth capability of components and instruments used to display the pulse generator output signal (attenuators, cables, connectors, etc.) should exceed 100 MHz.

2) The output pulse width is equal to the input trigger pulse width. CAUTION: The input pulse width must not exceed 10.0 us. Note that the PW RANGE switch must be set to correspond to the input pulse width as follows:

Range 1:	100 ns to 1.0 us
Range 2:	1.0 us to 10 us

3) The output pulse amplitude is controlled by means of the front panel ten turn AMP control. CAUTION: To avoid stressing of the output stage, it is recommended that the output amplitude be turned down to zero before applying prime power to the instrument.

4) The propagation delay time is controlled by the delay controls as follows:

200 ns to 800 ns
0.8 us to 8 us
8 us to 80 us
80 us to 800 us

5) CAUTION: The output stage is protected against overload condition by a 1.0 A slow blow fuse on the main frame back panel. However, the output switching elements may fail if the unit is triggered at a PRF exceeding 1.0 kHz or at duty cycles resulting in an average output power in excess of 10 Watts. Heating and subsequent likely failure of the output stage is reduced if the following action is taken where possible:

   a) PRF is kept to a minimum, i.e. operate in a low PRF range when possible rather than in a high PRF range.
   b) Keep the output PW to a minimum.

6) OVERLOAD INDICATOR. AVRH units with a serial number higher than 5600 are protected by an automatic overload protective circuit which controls the front panel overload light. If the unit is overloaded (by operating at an exceedingly high duty cycle or by operating into a short circuit), the protective circuit will turn the output of the instrument OFF and turn the indicator light ON. The light will stay ON (i.e. output OFF) for about 5 seconds after which the instrument will attempt to turn ON (i.e. light OFF) for about 1 second. If the overload condition persists, the instrument will turn OFF again (i.e. light ON) for another 5 seconds. If the overload condition has been removed, the instrument will turn on and resume normal operation. Overload conditions may be removed by:

   1) Reducing PRF (i.e. switch to a lower range)
   2) Reducing pulse width (i.e. switch to a lower range)
   3) Removing output load short circuit (if any)

7) The 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.

8) For additional assistance:

   Tel: 613-226-5772
   Fax: 613-226-2802

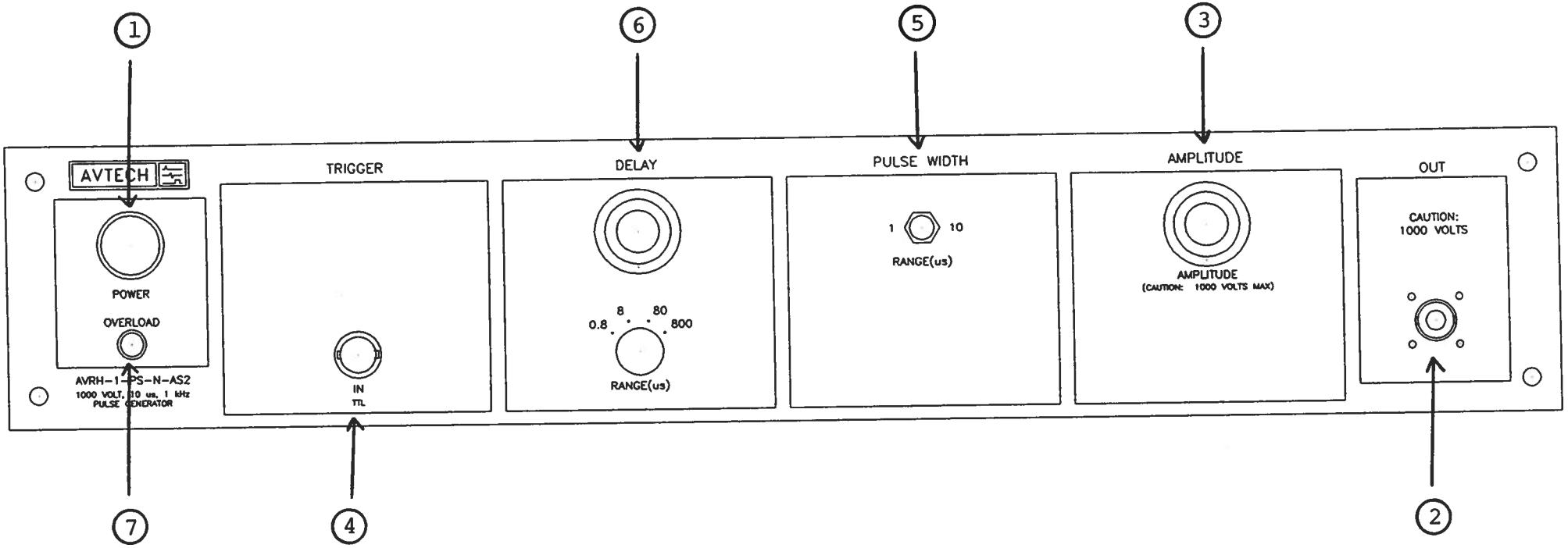


Fig. 2 FRONT PANEL CONTROLS

(1) ON-OFF Switch. Applies basic prime power to all stages.

(2) OUT Connector. SHV connector provides output to a high impedance load ($R_L \geq 1000$ Ohms).

(3) AMP Control. A ten turn control which varies the output pulse amplitude from 0 to 1000 V (to $R_L \geq 1000$ Ohms).

(4) TRIG Input. The external trigger signal is applied at this input. Note that the output pulse width equals the input pulse width.

(5) PW Range. This range switch must be set to correspond to the input pulse width as follows:

Range 1:	100 ns to 1.0 us
Range 2:	1.0 us to 10 us

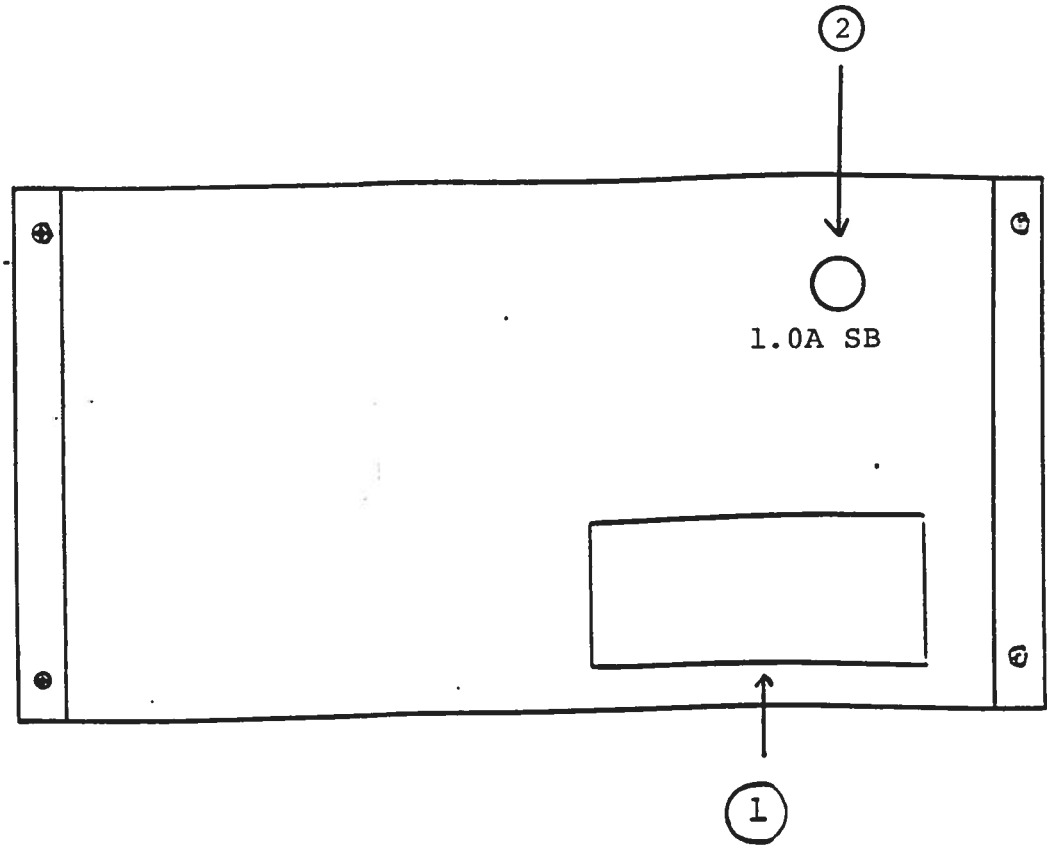
(6) DELAY. The propagation delay is controlled by the ten turn control and the four-position range switch as follows:

200 ns to 800 ns
0.8 us to 8.0 us
8.0 us to 80 us
80 us to 800 us

(7) OVERLOAD INDICATOR. AVRH units with a serial number higher than 5600 are protected by an automatic overload protective circuit which controls the front panel overload light. If the unit is overloaded (by operating at an exceedingly high duty cycle or by operating into a short circuit), the protective circuit will turn the output of the instrument OFF and turn the indicator light ON. The light will stay ON (i.e. output OFF) for about 5 seconds after which the instrument will attempt to turn ON (i.e. light OFF) for about 1 second. If the overload condition persists, the instrument will turn OFF again (i.e. light ON) for another 5 seconds. If the overload condition has been removd, the instrument will turn on and resume normal operation. Overload conditions may be removed by:

1) Reducing PRF (i.e. switch to a lower range)
2) Reducing pulse width (i.e. switch to a lower range)
3) Removing output load short circuit (if any)

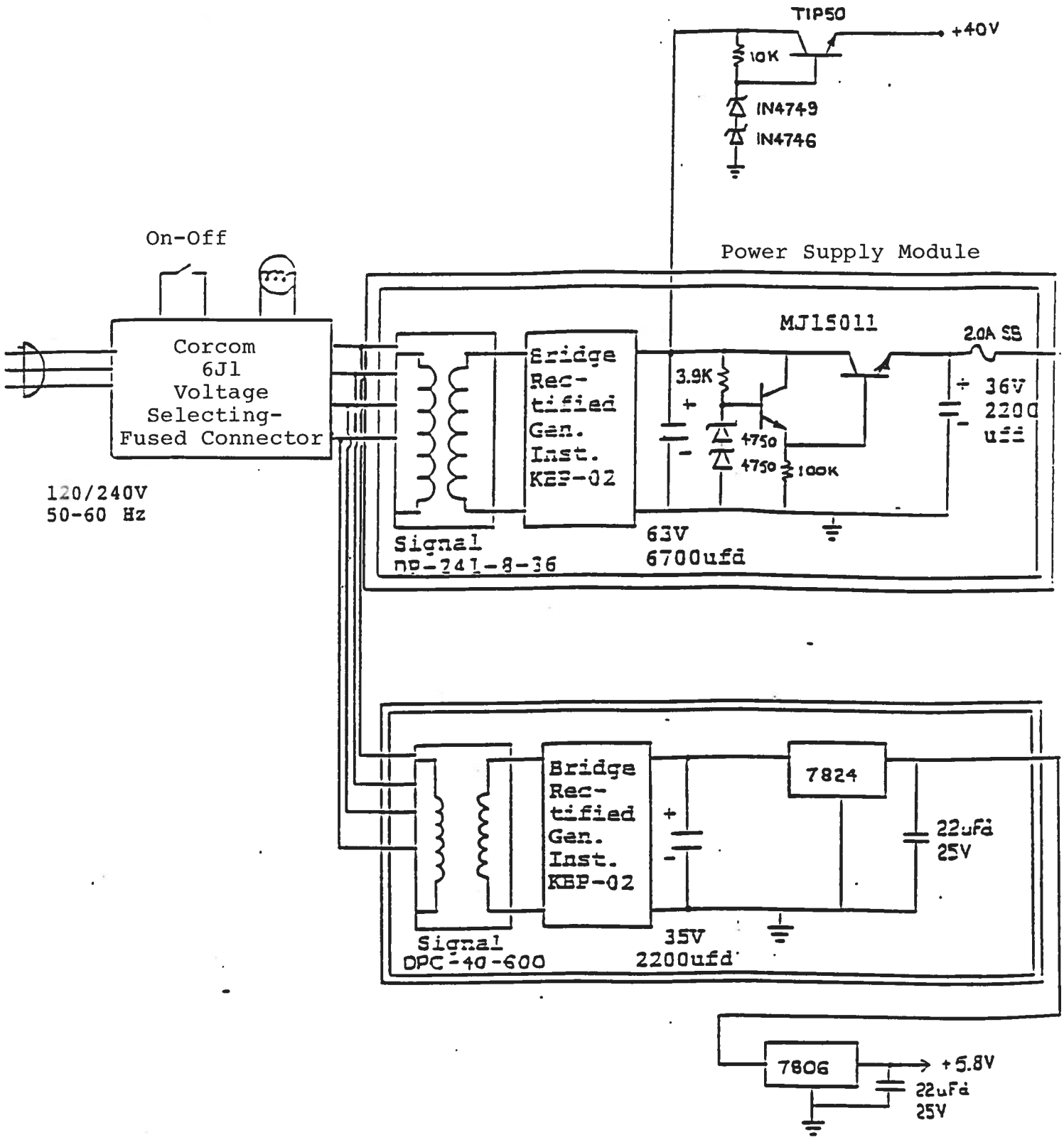
Fig. 3 BACK PANEL CONTROLS



(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 (0.5 A SB).

(2) 1.0 A SB. Protects output stage against overload condition.

POWER SUPPLY



TOP COVER REMOVAL AND RACK MOUNTING

1) The interior of the instrument may be accessed by removing the four Phillips screws on the top panel. With the four screws removed, the top cover may be slid back (and off).

2) The -R5 rack mount kit may be installed after first removing the one Phillips screw on the side panel adjacent to the front handle.

SYSTEM DESCRIPTION AND REPAIR PROCEDURE

DC potentials as high as 1000 Volts are employed in the generation of the 1000 Volt pulse so extreme caution must be employed when repairing this instrument. It is therefore highly recommended that the unit be returned to Avtech for all repairs beyond the replacement of the 0.5 Amp line fuse or the 1.0 Amp SB rear panel fuse.

Dec. 20/96

-R5

Disk: AVRH

Name: 1PSNAS2.INS