



AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

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INSTRUCTIONS

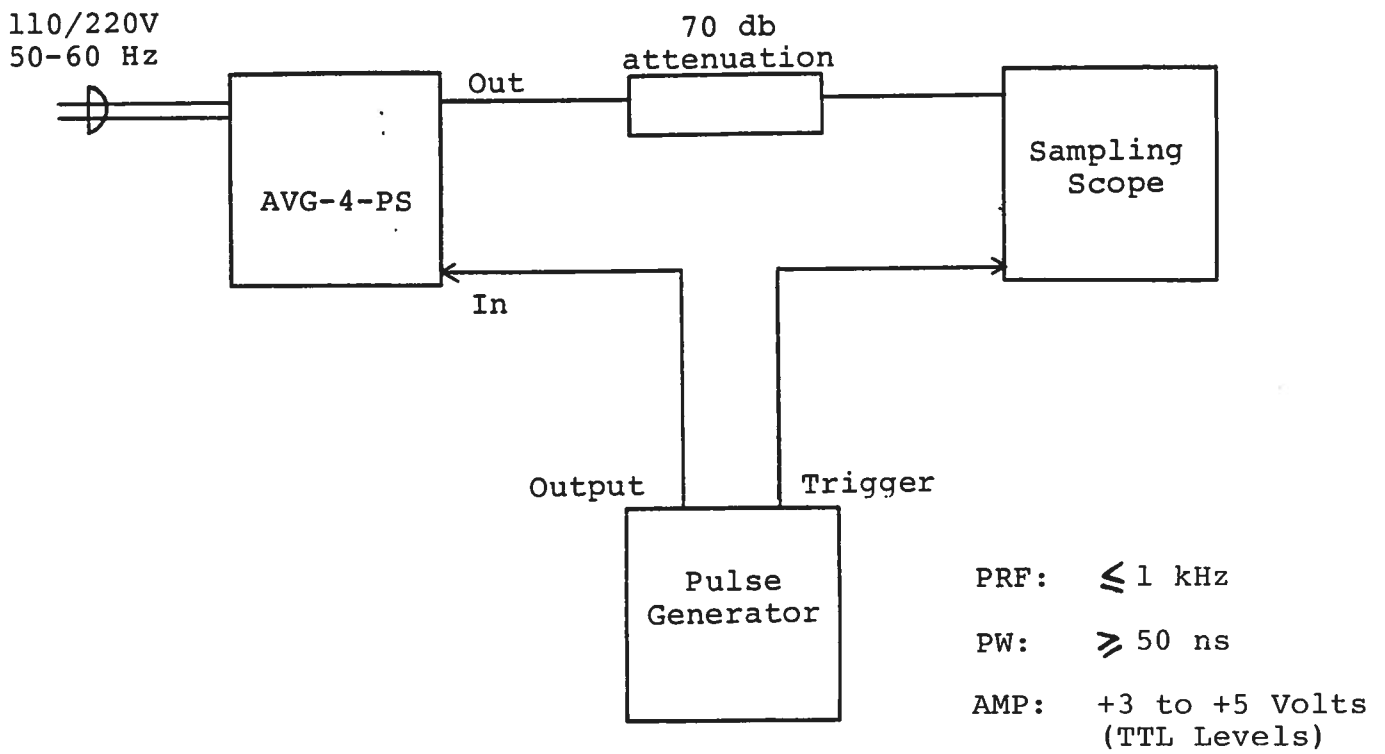
MODEL AVG-4B-PS-AS1 IMPULSE GENERATOR

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

IMPULSE GENERATOR TEST ARRANGEMENT



Notes:

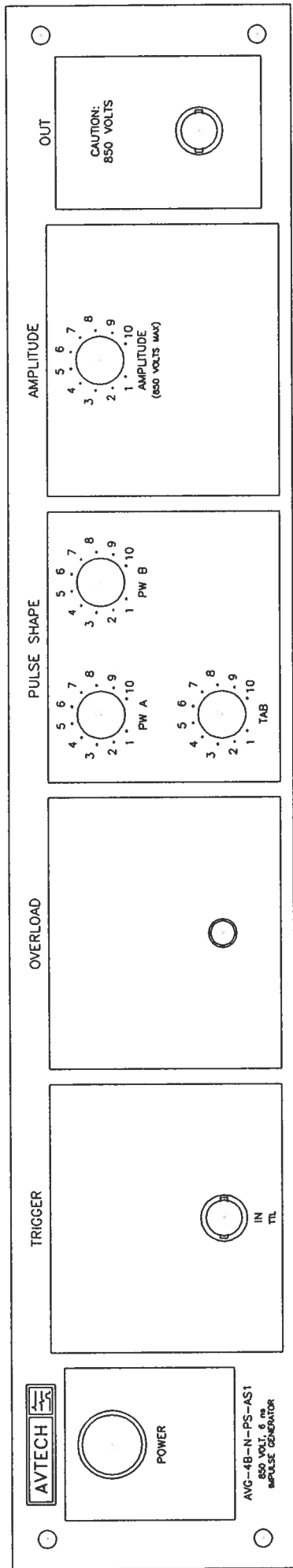
- 1) The bandwidth capability of components and instruments used to display the impulse generator output signal (attenuators, cables, connectors, etc.) should exceed 1.0 gigahertz.
- 2) The use of 70 dB attenuation will insure a peak input signal to the sampling scope of less than one Volt.
- 3) In general, the pulse generator trigger delay control should be set in the 100 ns range. Other settings should be as shown in the above diagram. The impulse generator output is delayed with respect to the trigger input signal by 100 ns.
- 4) The impulse generator can withstand an infinite VSWR on the output port.
- 5) The output pulse shape is controlled by the PWA, PWB and TAB one turn controls. PWA and PWB both control the shape of the falling edge and are adjusted to produce the desired pulse width (and falling edge). TAB is then adjusted to peak the output amplitude. All three controls are relatively insensitive.
- 6) The AMP one turn control varies the output amplitude from 850 Volts to about 250 Volts. At reduced amplitudes, this adjustment yields some spurious following the main pulse. For that reason, it may be necessary to employ attenuator pads to reduce the amplitude.
- 7) OVERLOAD INDICATOR. AVG 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) Removing output load short circuit (if any)

8) 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.

9) For additional assistance:

Tel: 613-226-5772

Fax: 613-226-2802

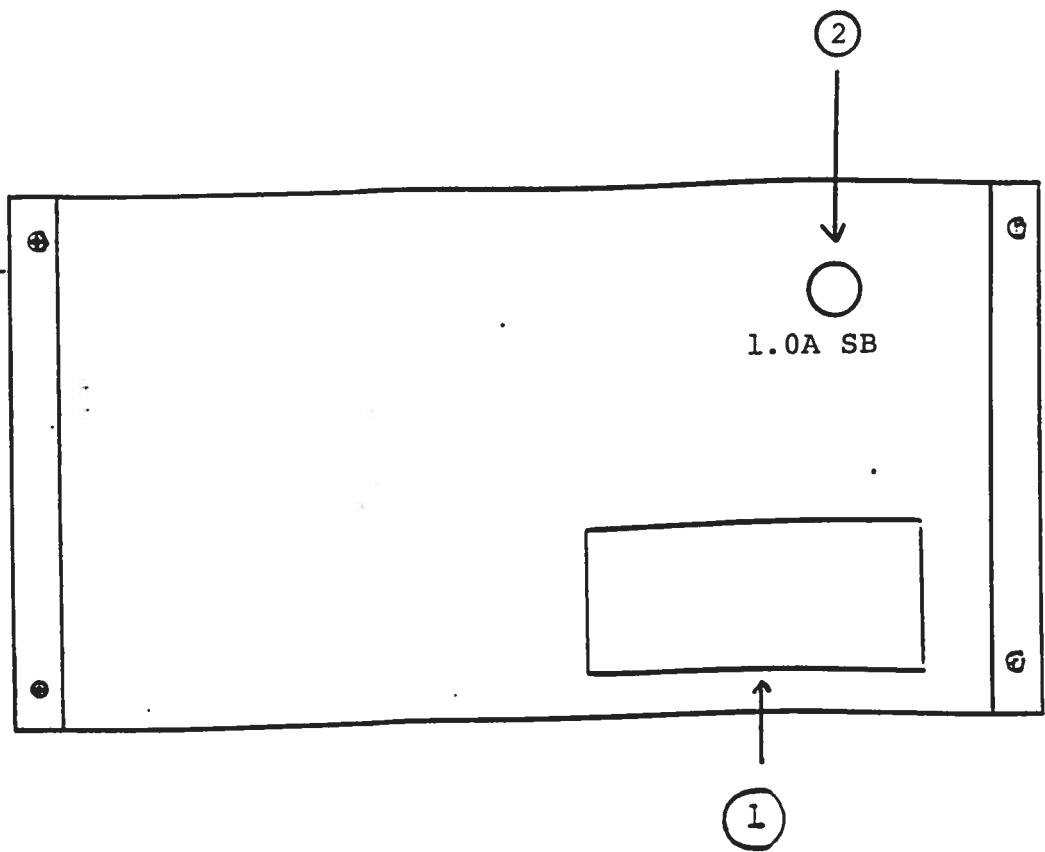


FRONT PANEL CONTROLS

Fig. 2

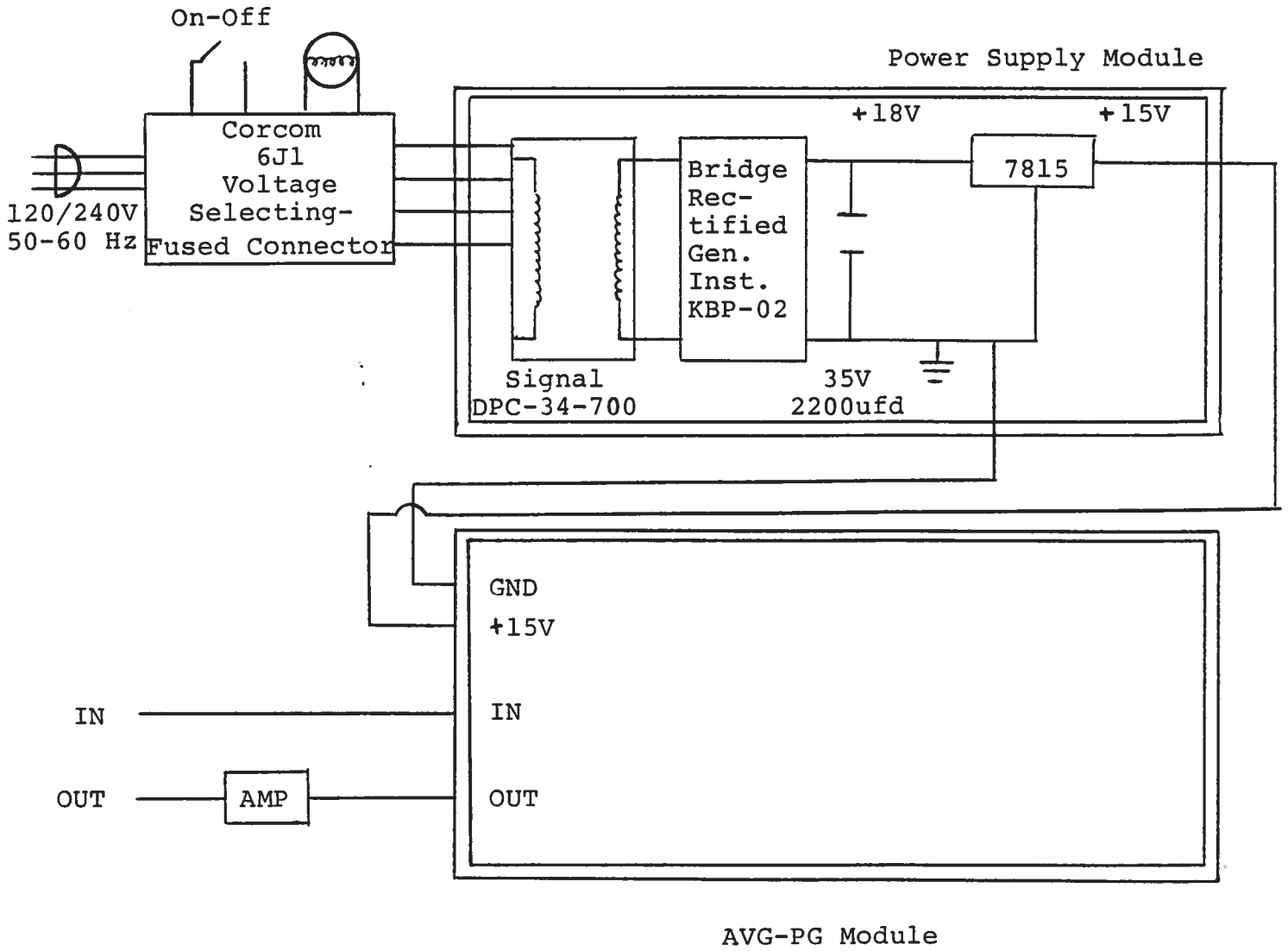
Fig. 3

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.

SYSTEM BLOCK DIAGRAM AND REPAIR PROCEDURE



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

The AVG-PS consists of a pulse generator module (AVG-PG) and a power supply board which supplies +15 Volts (600 mA max) to the pulse generator module. In the event that the AVG-PS unit malfunctions, remove the instrument cover by removing the four Phillips screws on the back panel. The top cover may then be slid off. Measure the voltage at the +15 V pin of the PG module. If this voltage is substantially less than +15 Volts, unsolder the line connecting the PS and PG modules and connect 50 Ohm 10 W load to the PS output. The voltage across this load should be about 15 V DC. If this voltage is substantially less than 15 Volts the PS module is defective and should be repaired or replaced. If the voltage across the resistor is near 15 Volts, then the PG module should be replaced or repaired. The sealed PG module must be returned to Avtech for repair (or replacement).

Dec. 20/96

-R5

Disk: AVG

Name: 4BPSAS1.INS