AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
ENGINEERING – MANUFACTURING

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INSTRUCTIONS

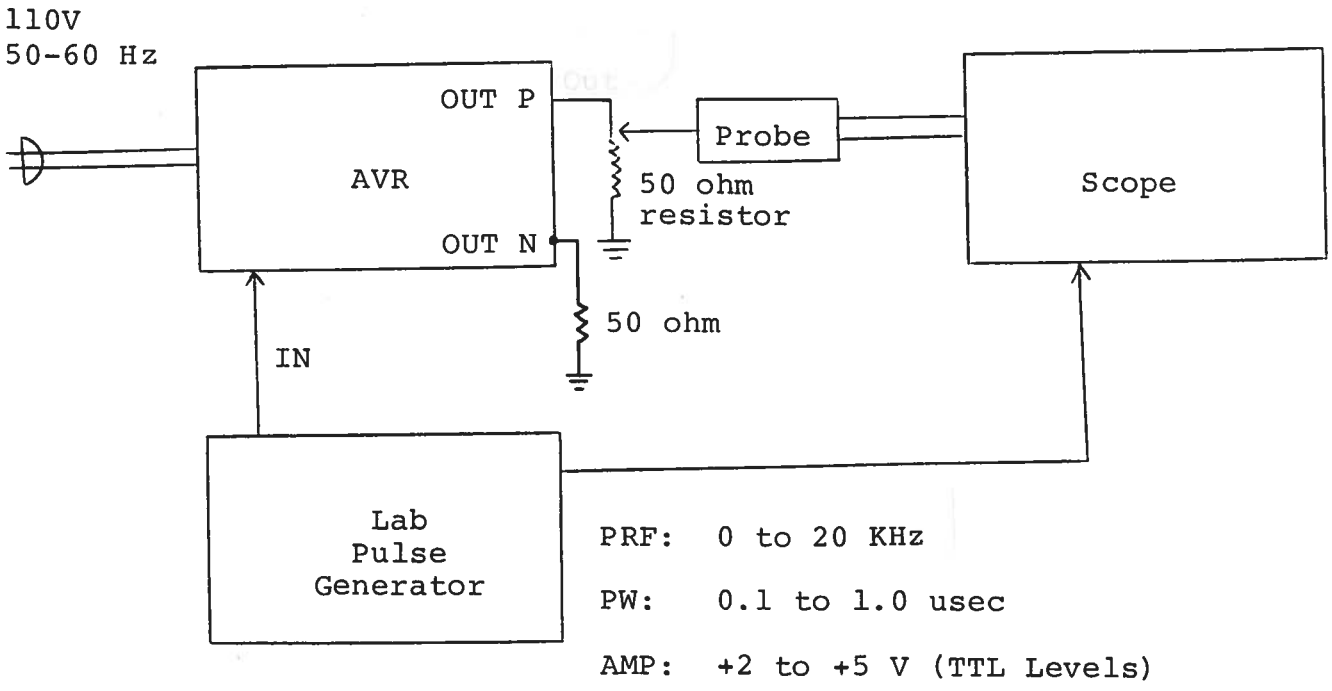
MODEL AVR-B2-PS-W-ND1 PULSE GENERATOR

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.

TEST ARRANGEMENT



GENERAL OPERATING INSTRUCTIONS

1) The equipment should be connected in the general fashion shown above. A scope with a bandwidth of at least 200 MHz should be used to view output.

2) The output amplitude is controlled by means of the one turn potentiometer (AMP).

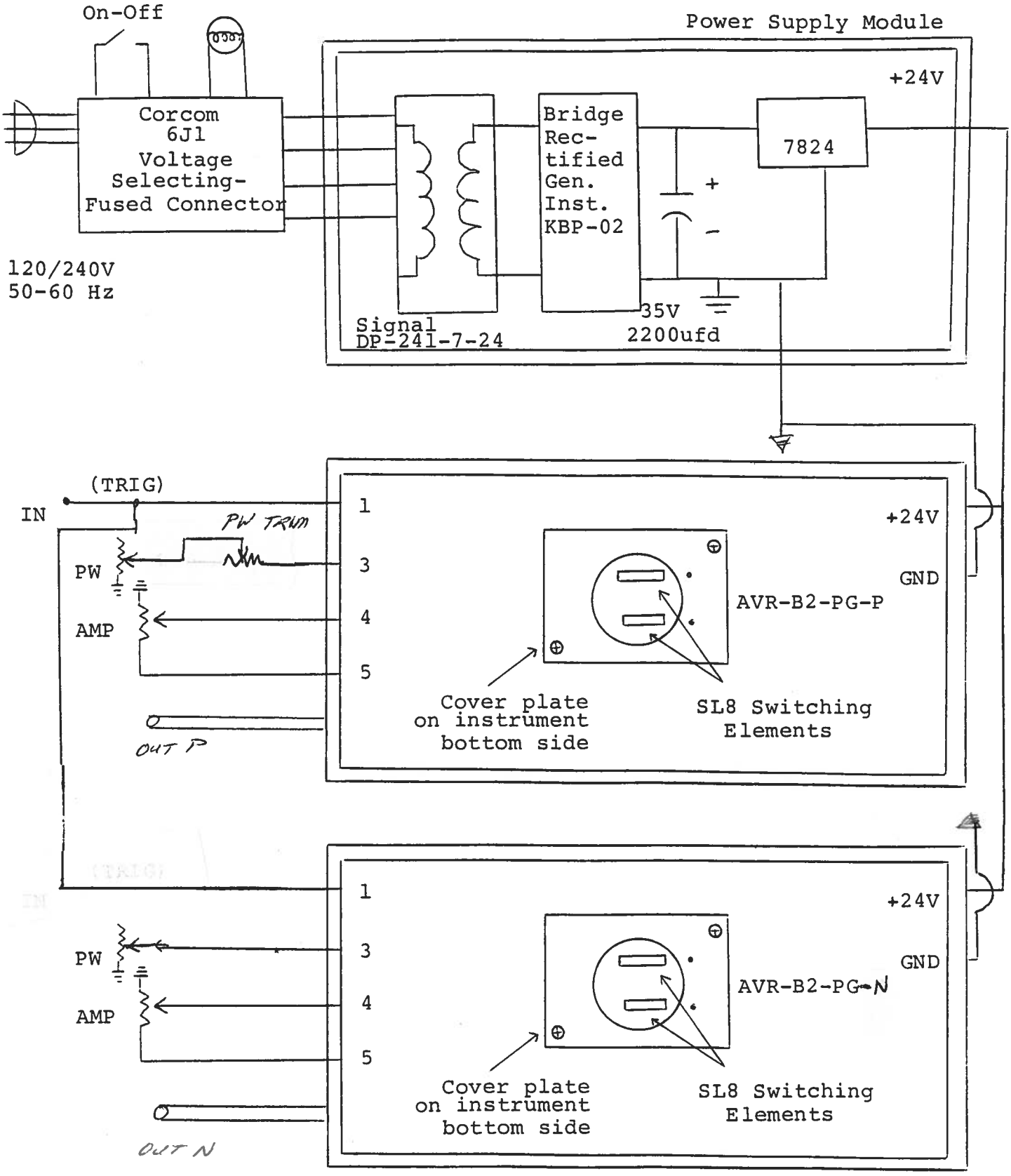
3) The output pulse width is controlled by means of the one turn potentiometer (PW). A one turn pulse width trim pot is provided on the instrument back panel. This trim pot is a fine PW control for the positive output channel and may be used to exactly match the pulse widths of the two outputs.

4) The AVR is designed to operate into a load impedance of 50 ohm. The output switching elements may fail if the unit is inadvertently operated into a low impedance load. The switching elements are easily replaced in the field following the procedure outlined in the REPAIR Section.

5) WARNING: Model AVR may fail if triggered at a PRF greater than 20 KHz.

Fig. 2

SYSTEM BLOCK DIAGRAM



SYSTEM DESCRIPTION AND REPAIR PROCEDURE

The AVR-B2-W-PN consists of the following basic modules:

1) AVR-B2-W-PG pulse generator modules (-P and -N)
2) +24V power supply board

The modules are interconnected as shown in Fig. 2. The PG pulse generator modules generate the output pulse. In the event of an instrument malfunction, it is most likely that the rear panel 1.0A SB fuse or some of the output switching elements (SL8) may have failed due to an output short circuit condition or to a high duty cycle condition. The switching elements may be accessed by removing the cover plates on the bottom side of the instrument. NOTE: First turn off the prime power. The elements may be removed from their sockets by means of a needle nosed pliers. The SL8 is a selected VMOS power transistor in a TO 220 packages and may be checked on a curve tracer. If defective, replacement units should be ordered directly from Avtech. When replacing the SL8 switching elements, take care to insure that the short lead (of the three leads) is adjacent to the black dot on the chassis. If the switching elements are not defective, then the four Phillips screws on the back panel should be removed. The top cover may then be slid off and operation of the power supply modules should be checked. The power supply board generates +24V DC to power the other modules. If the voltage is less than +24V, turn off the prime power and unsolder the lead from the 7824 regulator chip on the power supply board. Solder a 100 ohm 5 watt resistor to the 7824 output to ground and turn on the prime power. A voltage of +24 volts should be read. If the voltage is less then the power supply board is defective and should be repaired or replaced.

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-PN