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SINCE 1975

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INSTRUCTIONS

MODEL AVR-E3-W-PS PULSE GENERATOR

S.N.:

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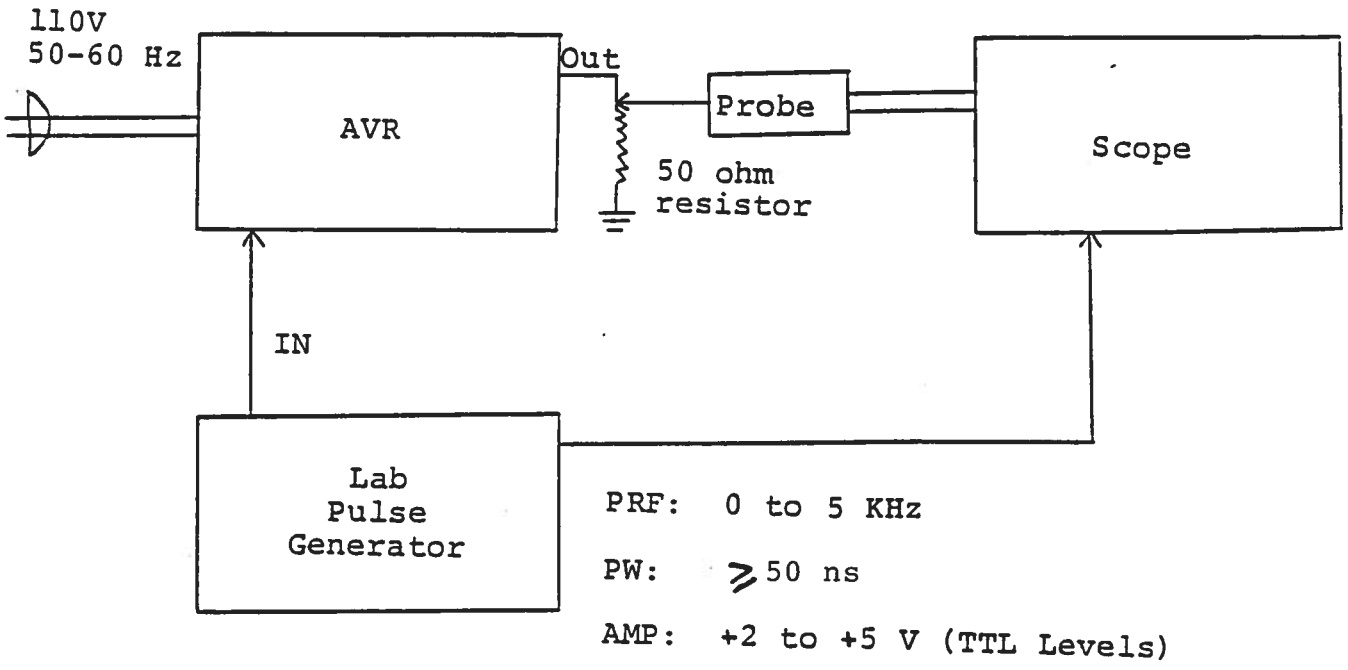
FIG. 1: TEST ARRANGEMENT



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. The AVR is designed to operate into a load impedance of 50 Ohms.

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) and a two-position range switch as follows:

50 ns - 500 ns
0.5 us - 5.0 us

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

5) AVR-E 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)

6) Note that the overload light may illuminate when the prime power is applied. The light will extinguish after a few seconds and the unit will then function normally.

7) Units with a serial number higher than 7400 are protected against short-circuited load conditions by an automatic circuit which senses the load current and inhibits triggering of the output stage if the peak load current exceeds 2.5 Amperes.

8) The unit can be converted from 110 to 220V 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
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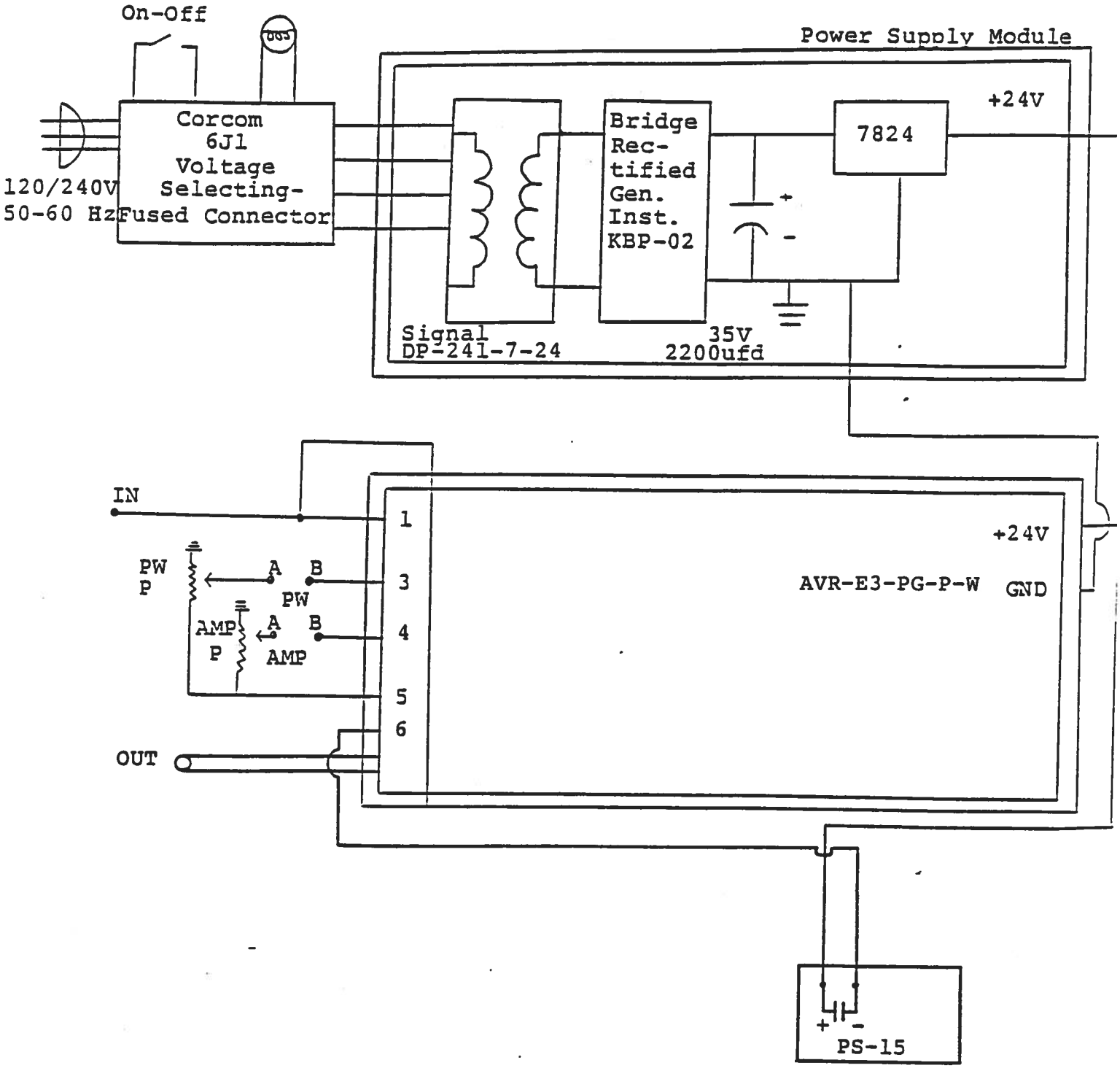
TOP COVER REMOVAL

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

ELECTROMAGNETIC INTERFERENCE

To prevent electromagnetic interference with other equipment, all used outputs should be connected to shielded 50 Ohm loads using shielded 50 Ohm coaxial cables. Unused outputs should be terminated with shielded 50 Ohm BNC terminators or with shielded BNC dust caps, to prevent unintentional electromagnetic radiation. All cords and cables should be less than 3m in length.

FIG. 2: SYSTEM BLOCK DIAGRAM



SYSTEM DESCRIPTION AND REPAIR PROCEDURE

The AVR consists of a pulse generator module and a power supply board which supplies +24 Volts (600 mA max) to the pulse generator module. In the event that the unit malfunctions, remove the instrument cover by removing the four Phillips screws on the back side of the unit. The top lid may then be slid off. Measure the voltage at the +24V pin of the PG module. If this voltage is substantially less than +24 Volts, unsolder the line connecting the power supply and PG modules and connect 50 Ohm 10 W load to the PS output. The voltage across this load should be about +24 V DC. If this voltage is substantially less than 24 Volts the PS module is defective and should be repaired or replaced. If the voltage across the resistor is near 24 Volts, then the switching elements in the AVR-PG module have probably failed and the unit must be returned to AVTECH for a factory repair.

PERFORMANCE CHECK SHEET

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