



**AVTECH ELECTROSYSTEMS LTD.**

NANOSECOND WAVEFORM ELECTRONICS  
SINCE 1975

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INSTRUCTIONS

MODEL AVR-7B1 PULSE GENERATOR

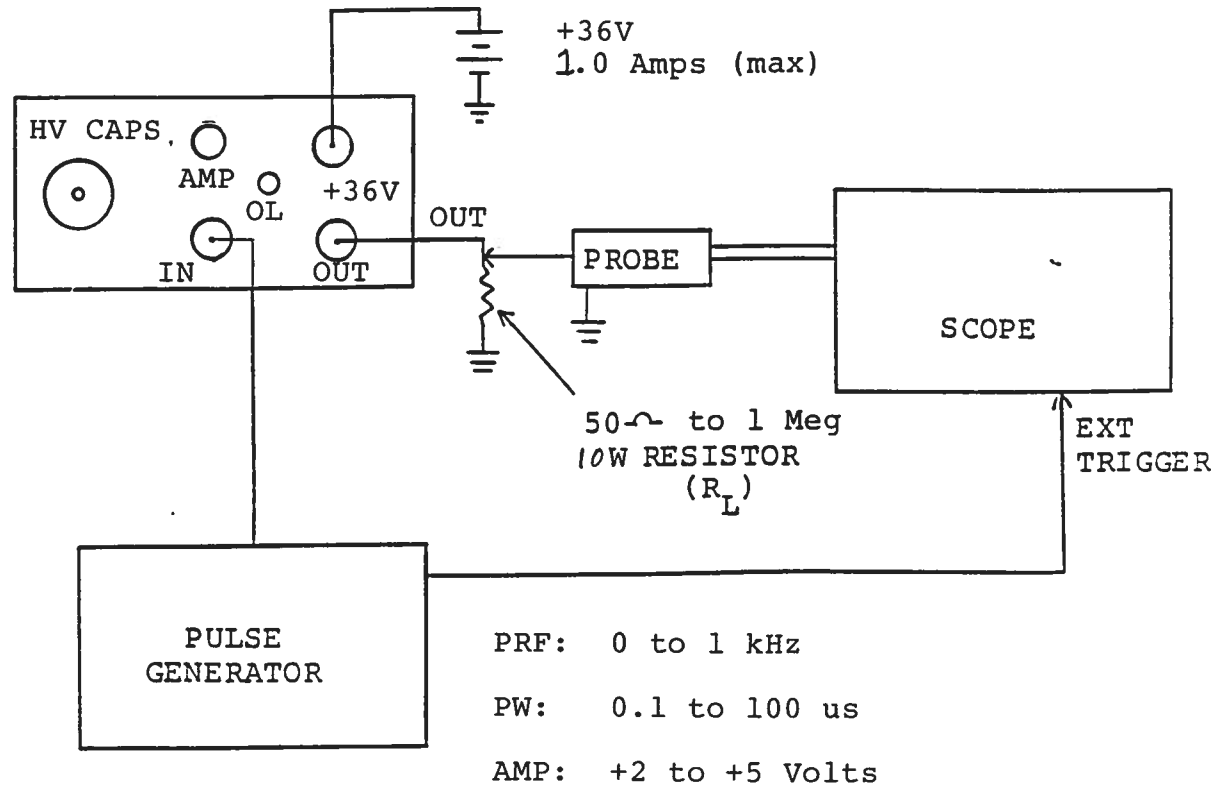
S.N. :

### 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 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.

A.

TEST ARRANGEMENT



## GENERAL OPERATING INSTRUCTIONS

- 1) The equipment should be connected in the general fashion shown above. Since the unit provides an output pulse rise time as low as 50 ns a fast oscilloscope (at least 50 MHz) should be used to display the waveform. Also, if a load of other than 50 Ohm is employed, the length of coaxial cable between the unit and the load should not exceed about 5 feet or the output waveform may be degraded by the resulting reflections.
- 2) If the load impedance is low (eg. 50 Ohms) and the output pulse width exceeds 10 us, a 200 ufd (or larger) 750 Volt capacitor should be connected between the center conductor and ground of the HV caps type N connector (the center conductor is at a positive potential). If the load impedance is high (eg. 1 K to 1 M) no capacitance need be added. In addition, if the load impedance is high, the current rating of the +36 VDC supply need not exceed 500 mA.
- 3) The magnitude of the output pulse is variable from 0 to 700 Volts using the front panel one turn control. Note that if the load impedance is much greater than 50 Ohms, the output pulse amplitude will decay very slowly when an attempt is made to reduce the amplitude by CCW rotation of the AMP pot. This long time constant is due to the energy storage capacitors in the output stage.
- 4) The output pulse width is equal to the input trigger pulse width.
- 5) Under simultaneous conditions of high PRF, high PW and high load current, the bias voltage applied to the output power stage decreases and as a result the attainable output peak voltage decreases to less than 700 Volts, and in severe cases, the output stage of the unit may be damaged. THEREFORE, DO NOT EXCEED THAT RATED MAX PRF OF 1000 Hz (the max supply current should never exceed 0.8 Amperes).

- 6) 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)
- 7) It is recommended that the module be secured to a heat sink.
- 8) For additional assistance:

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July 16/97

edition B

Disk: AVR-7

Name: AVR7B1#B.INS