INSTRUCTIONS

# MODEL AVR-G2-PS-P-TIA 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.

A.   TEST ARRANGEMENT

PRF: 0 to 10 kHz

PW: 50 ns or larger

AMP: +2 to +5 volts
        (TTL)
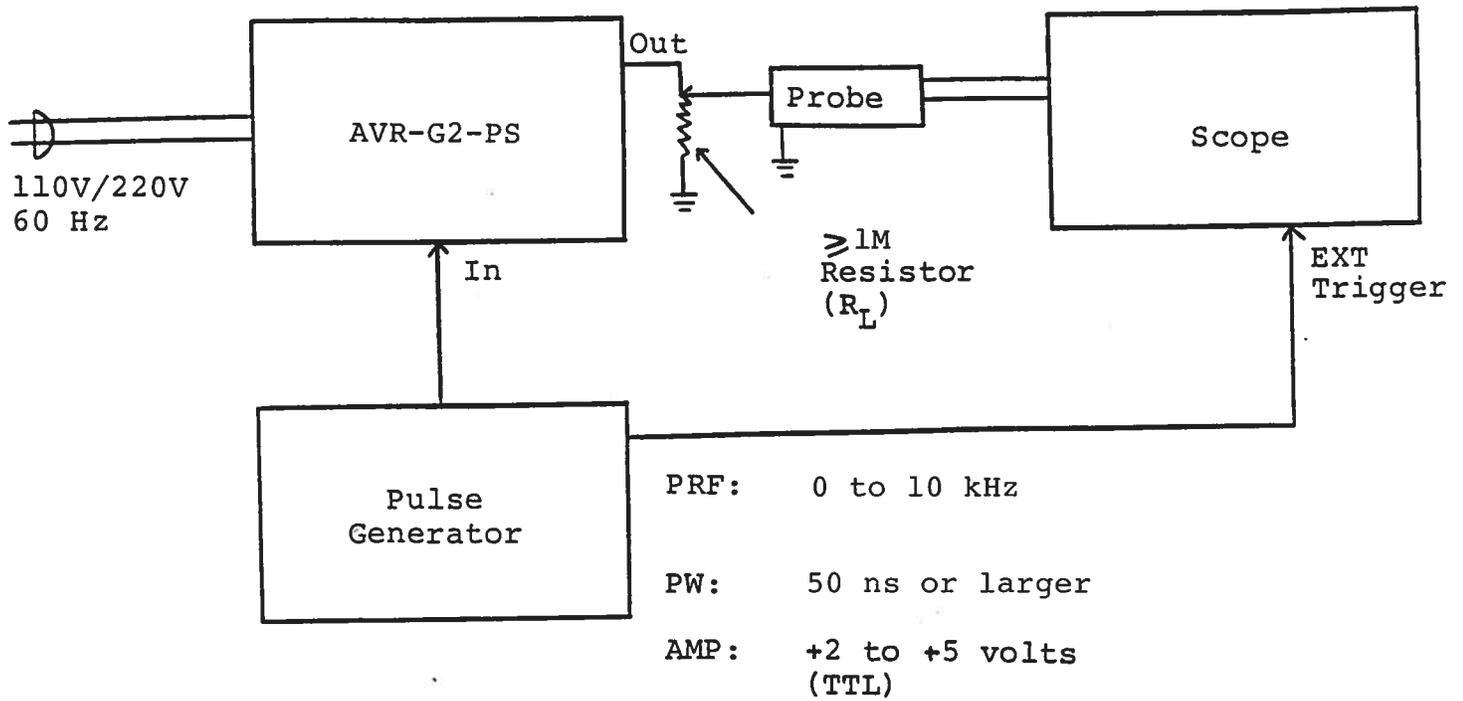
GENERAL OPERATING INSTRUCTIONS

1)   The equipment should be connected in the general fashion
     shown above.   Since the AVR unit provides an output
     pulse rise time as low as 50 ns a fast oscilloscope (at
     least 50 MHz and preferably 200 MHz) should be used to
     display the waveform.

2)   The output PRF is equal to the input trigger pulse PRF.

3)   When the MODE switch is in the A position, the output
     pulse width is controlled by the one turn PW control and
     the 4 position range switch as follows:

                              PW

              RANGE 1   0.1 us to 1.0 us
              RANGE 2   1.0 us to 10   us
              RANGE 3   10 us to 100 us
              RANGE 4   100 us to 1   ms

     When the MODE switch is in the B position, the output
     pulse width equals the input pulse width.

4)   The output amplitude is controlled by the one turn AMP
     control.

5)   CAUTION:
     a)   The AVR-G-PS unit is designed to operate into a high
          load impedance (≳1M). The output switching elements
          may be damaged if the unit is operated into 50 ohms
          (or a short circuited load).
     b)   The unit will fail if triggered at a PRF exceeding
          10 kHz.

6)   OVERLOAD INDICATOR.   AVR 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 AVR 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.

8)   For additional assistance:

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

SYSTEM DESCRIPTION AND REPAIR PROCEDURE

The AVR-G2-PS consists of the following basic modules:

1) AVR-G2-PG pulse generator module
2) AVR-G2-PW pulse width module
3) AVR-G2-PS power supply module
4) +24V power supply board

The modules are interconnected as shown in Fig. 4.

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 (IRFBG20) 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 top
cover. However, potentials as high as 825 Volts are employed
in the interior of the instrument and so it is recommended
that the unit be returned to AVTECH if fuse replacement fails
to correct the problem.

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