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INSTRUCTIONS

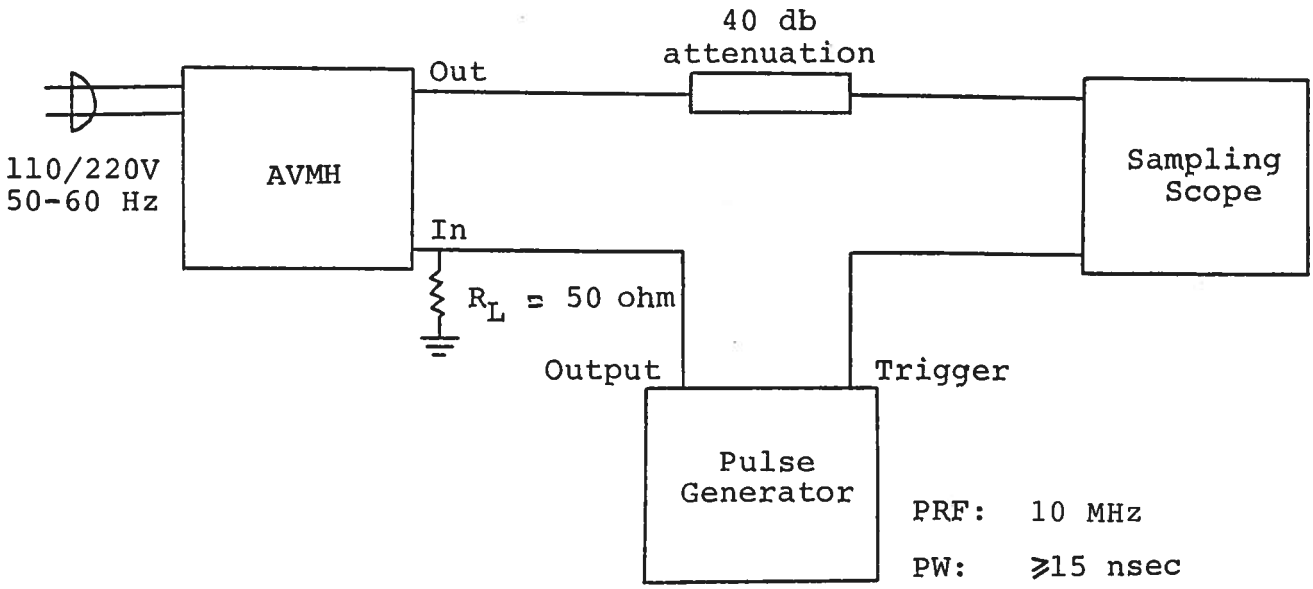
MODEL AVMH-1-PS-N-HTA PULSE GENERATOR

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.

MODEL AVM-PS PULSE GENERATOR TEST ARRANGEMENT



Notes:

1) The bandwidth capability of components and instruments used to display the pulse generator output signal (attenuators, cables, connectors, etc.) should exceed ten gigahertz.

2) The use of 40 db attenuator will insure a peak input signal to the sampling scope of less than one volt.

3) In general, the source pulse generator trigger delay control should be set in the 0.1 to 1.0 us range.

4) When testing using a general purpose 50 ohm laboratory pulse generator as the input trigger signal source, the input signal should be applied via a 50 ohm feed-through load or alternatively, the input to the AVM unit should be shunted with a 50 ohm resistor. This will prevent reflection (and degradation of the input pulse waveform) caused by the high impedance at the IN port. However, when triggering from a TTL source, no 50 ohm feed-through load or resistor is necessary but lead length should be as short as possible. High-speed TTL Schottky logic is recommended for the driving circuitry.

5) The input trigger pulse width should be greater than 15 nsec and less than one half of the pulse repetition frequency period. The unit triggers on the leading edge of the input trigger signal.

6) The output pulse width is controlled by means of the one turn T_R and T_F controls. The T_R control controls the position of the leading edge while the T_F control determines the position of the falling edge. Clockwise rotation of these controls causes the pulse edge to move to the right. Initially the two controls should be set fully clockwise. It is necessary to sequently adjust the T_R, T_F (and AMP) controls to obtain the desired output pulse width and amplitude.

7) The output pulse amplitude is controlled by means of the front panel one turn AMP control. The Amp control should be set at about 3 o'clock. If the control is set more clockwise then the spurious level following the impulse will increase. If the control is set less clockwise, the amplitude of the impulse will decrease.

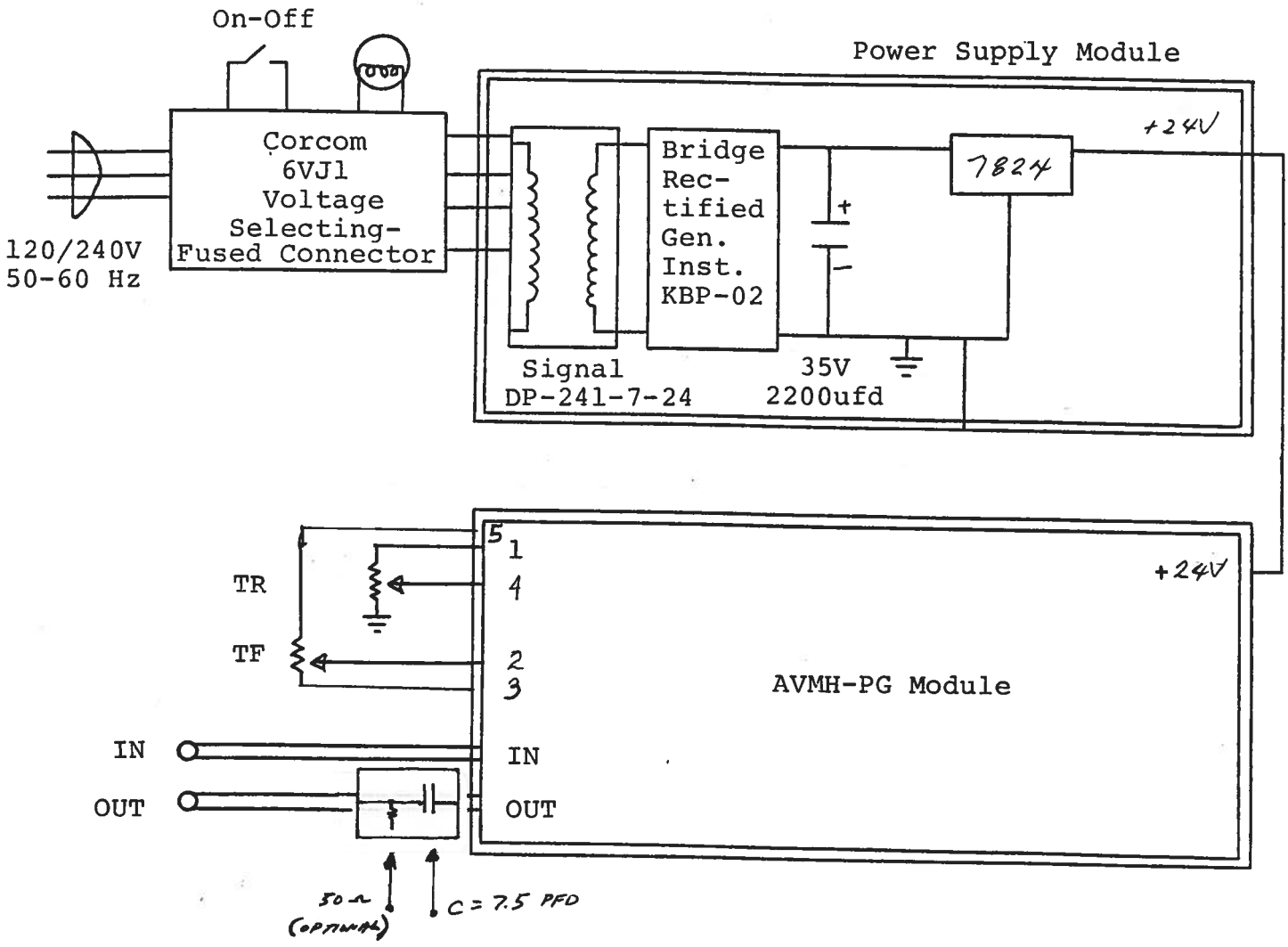
8) With major adjustments to the T_F control and minor adjustments to the Amp control it is possible to control the impulse amplitude, the impulse pulse width and the degree of undershoot.

9) The degree of undershoot is largely controlled by a 7.5 pfd capacitor which is mounted on a 1 x 1 cm microstrip PCB on the output of the -PG module (these are visible when the top cover of the unit is removed). The amount of undershoot may be decreased by increasing the value of this capacitor. Also a shunt resistor may be placed at the output of the capacitor to change the waveshapes ($50 \leqslant R \leqslant 200$).

10) The unit is specifically designed to operate at PRF of 10 MHz but may safely be used at PRF from 0 to 25 MHz.

11) 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.

SYSTEM BLOCK DIAGRAM AND REPAIR PROCEDURE



SYSTEM DESCRIPTION AND REPAIR PROCEDURE

The AVMH-2-PS consists of a pulse generator module (AVMH-2-PG) and a power supply board which supplies +24 volts (600 mA max) to the pulse generator module. In the event that the AVMH-PS unit malfunctions, remove the instrument cover by removing the four Phillips screws on the back 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 PG module should be replaced or repaired. The sealed PG module must be returned to Avtech for repair (or replacement).

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