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INSTRUCTIONS
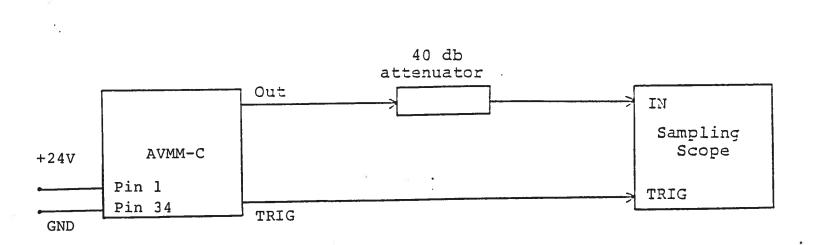
MODEL AVMM-C-NIM PULSE GENERATOR

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.

Fig. 1   PULSE GENERATOR TEST ARRANGEMENT
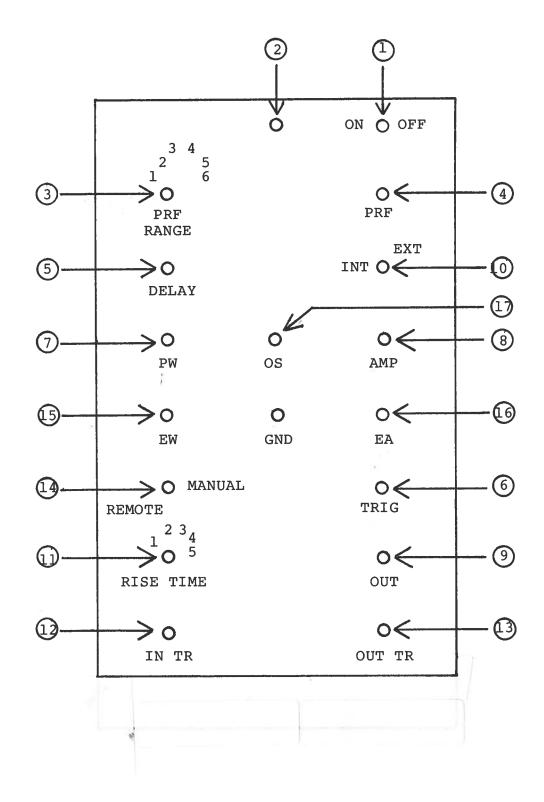
40 db
attenuator

Out

AVMM-C

+24V

Pin 1
Pin 34

GND

TRIG

IN

Sampling
Scope

TRIG

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 at the sampling scope
     vertical input channel will insure a peak input signal
     to the sampling scope of less than one volt.

3)   The TRIG output channel provides a 0.2 volt 10 nsec
     pulse.

4)   To obtain a stable output display the PRF control on the
     front panel should be set mid-range while the PRF range
     switch may be in either range. The front panel TRIG
     toggle switch should be in the INT position. The front
     panel DELAY control and the scope triggering controls
     are then adjusted to obtain a stable output. It is
     recommended that the DELAY control first be set max
     counter clockwise and then turned clockwise until a
     stable display is obtained. The scope may then be used
     to set the desired PRF by rotating the PRF control and
     by means of the PRF range switch. The stability of the
     display on some sampling scopes is very sensitive to the
     trigger delay setting, particularly at high PRF (eg. 10
     to 25 MHz). If necessary, consult your sample scope
     instructions manual for the proper triggering method.

5)   The output pulse width is controlled by means of the
     front panel one turn PW control. The control should
     initially be set maximum clockwise and the pulse width
     adjusted using an oscilloscope. Rotation of the PW pot
     causes the position of the falling edge of the pulse to
     change. For the PRF range of 0 to 25 MHz, the output
     pulse width is variable over the range of 0 to 5 nsec.

6)   To voltage control the output pulse width, set the front
     panel two position switch in the REMOTE position and
     apply 0 to +10V to the EW solder terminal. ($R_{IN} \geqslant$ 10K).
     (EW option).

7)   The output pulse amplitude is controlled by means of the
     front panel one turn AMP control.

8)   To voltage control the output amplitude, set the front
     panel two position switch in the REMOTE position and
     apply 0 to +10V to the EA solder terminal. ($R_{IN} \geqslant$ 10K).
     (EA option).

9)   To DC offset the output pulse connect a DC power supply
     set to required DC offset value to the front panel
     terminals marked O.S. The maximum attainable DC offset
     voltage is $\pm$50 volts.

10) The unit provides a 300 psec rise time at the OUT port. The rise and fall time can be set at approximately 0.3, 0.4, 0.7, 1.2 and 2.0 nsec using the five position front panel TR switch. To use the switch connect the OUT port to the TR_{IN} port. The variable rise time output is then available at the TR_{OUT} port.

11) An external clock may be used to control the output PRF of the unit by setting the front panel TRIG toggle switch in the EXT position and applying a 10 nsec (or wider) TTL level pulse to the TRIG BNC connector input. The AVMM unit triggers on the rising edge of the input trigger pulse. For operation in this mode, the scope time base must also be triggered by the external clock rather than from the TRIG output.

12) WARNING: Model AVMM-C may fail if triggered at a PRF greater than 25.0 MHz.

13) The Model AVMM-C pulse generator can withstand an infinite VSWR on the output port.

14) Dual Polarity Option. To invert the output of the AVMM unit, connect the AVX-2-T unit to the OUT port. An inverted pulse is then obtained at the OUT port of the AVX-2-T unit. To offset the inverted pulse, connect a DC supply to the DC terminal of the AVX-T-2 unit.
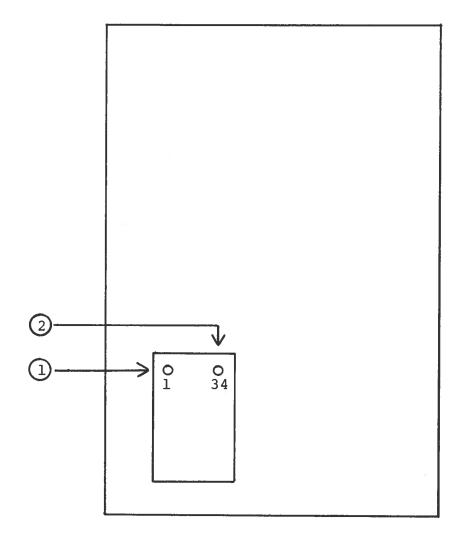
Fig. 2   FRONT PANEL CONTROLS

(1)   ON-OFF Switch.   Applies basic prime power (+24V) to all
(2)   stages and causes LED (2) to shine.

(3)   PRF Control.   PRF RANGE and PRF controls determine
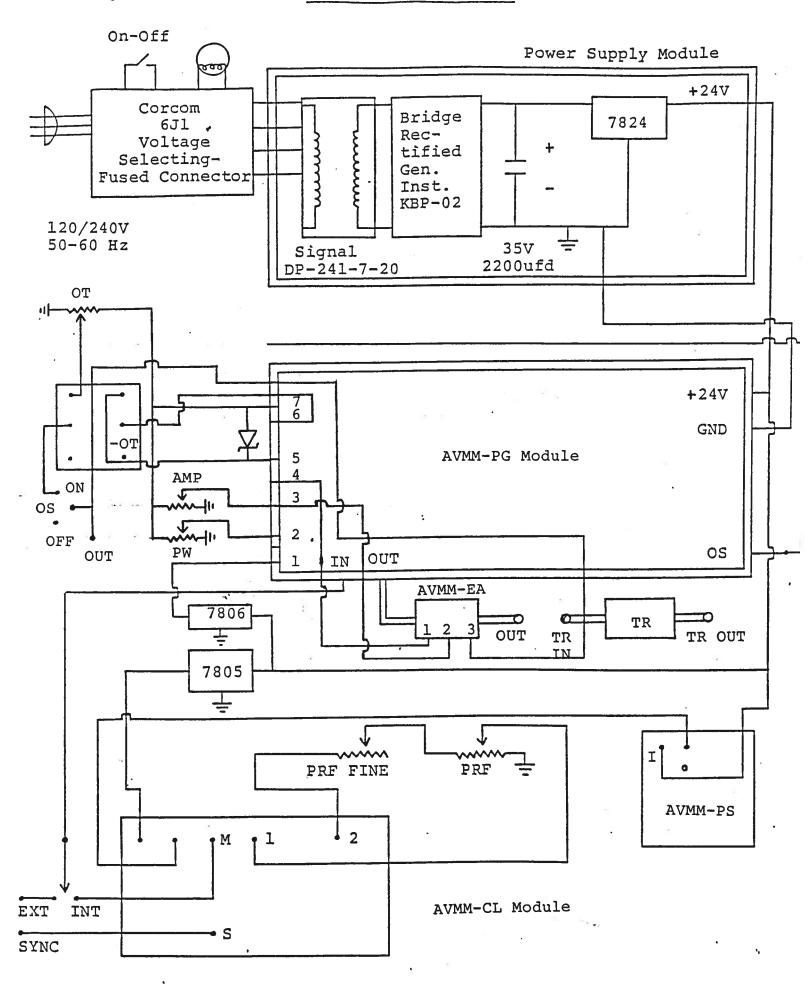(4)   output PRF as follows:

	PRF MIN	PRF MAX
Range 1	10 KHz	50 KHz
Range 2	50 KHz	250 KHz
Range 3	185 KHz	650 KHz
Range 4	650 KHz	3.3 MHz
Range 5	3.3 MHz	13.3 MHz
Range 6	13 MHz	25 MHz

(5)   DELAY Control.   Controls the relative delay between the
      reference output pulse provided at the TRIG output (6)
      and the main output (9). This delay is variable over
      the range of 0 to at least 100 nsec.

(6)   TRIG Output/Input.   This output precedes the main output
      (9) and is used to trigger the sampling scope time base.
      The output is a 200 mV 10 nsec (approx) pulse capable of
      driving a fifty ohm load. The external trigger signal
      is applied at this input when the EXT-INT toggle switch
      is in the EXT position.

(7)   PW Control.   A one turn control which varies the output
      pulse width.

(8)   AMP Control.   A one turn control which varies the output
      pulse amplitude from 0 to max output to a fifty ohm
      load.

(9)   OUT Connector.   SMA connector provides 300 psec rise
      time output to a fifty ohm load.

(10) EXT-INT Control.   With this toggle switch in the INT
      position, the PRF of the AVMM unit is controlled via an
      internal clock which in turn is controlled by the PRF
      controls. With the toggle switch in the EXT position,
      the AVMM unit requires a 10 nsec (or wider) TTL level
      pulse applied at the TRIG input in order to trigger the
      output stages.   In addition, in this mode, the scope
      time base must be triggered by the external trigger
      source.

(11) RISETIME TR (Option).   A five position switch which
      provides output rise and fall times of about 0.3, 0.4,
      0.7, 1.2 and 2.0 nsec.

(12) TR IN.   To use variable rise time option connect OUT
      port to TR IN port.

(13)   TR OUT. With OUT port connected to TR IN port, provides
         output to 50 ohm load.

(14)   REMOTE-MANUAL SWITCH.   To control   pulse   width   or
         amplitude using front panel one turn controls, this
         switch   should be   in the   MANUAL position.   To control
         pulse width   and amplitude using   0 to +10   volt control
         voltages, this switch should be in the REMOTE position.

(15)   EW Terminal.   To voltage control the output pulse width,
         set   switch 14 in the REMOTE position and apply 0 to +10
         volts to the EW terminal.

(16)   EA Terminal.   To voltage control the output amplitude,
         set switch 14 in the REMOTE position and apply 0 to +10
         volts to the EA terminal.

(17)   OS Terminal.   To DC offset the output pulse, connect a
         DC power supply set to the required value to the OS
         terminal (0 to ±50 volts, 200 mA max).

Fig. 4 BACK PANEL CONTROLS

(1)   PIN 1.   Apply +24 volts 800 mA max.

(2)   PIN 34.   Ground.

Fig. 6

SYSTEM BLOCK DIAGRAM

On-Off

Power Supply Module

+24V

Corcom
6J1
Voltage
Selecting-
Fused Connector

Bridge
Rec-
tified
Gen.
Inst.
KBP-02

7824

+

-

120/240V
50-60 Hz

Signal
DP-241-7-20

35V
2200ufd

OT

+24V

7
6

5
4

3

2

1   IN   OUT

-OT

AVMM-PG Module

GND

ON

OS

AMP

OFF

OUT

PW

OS

AVMM-EA

7806

1 2 3   OUT

TR
IN

TR

TR OUT

7805

PRF FINE

PRF

I

AVMM-PS

M   1

2

EXT   INT

AVMM-CL Module

SYNC

S

Schroff   06.20.88

- EW
- EA
- OS
- PN
- TR