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SINCE 1975

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INSTRUCTIONS

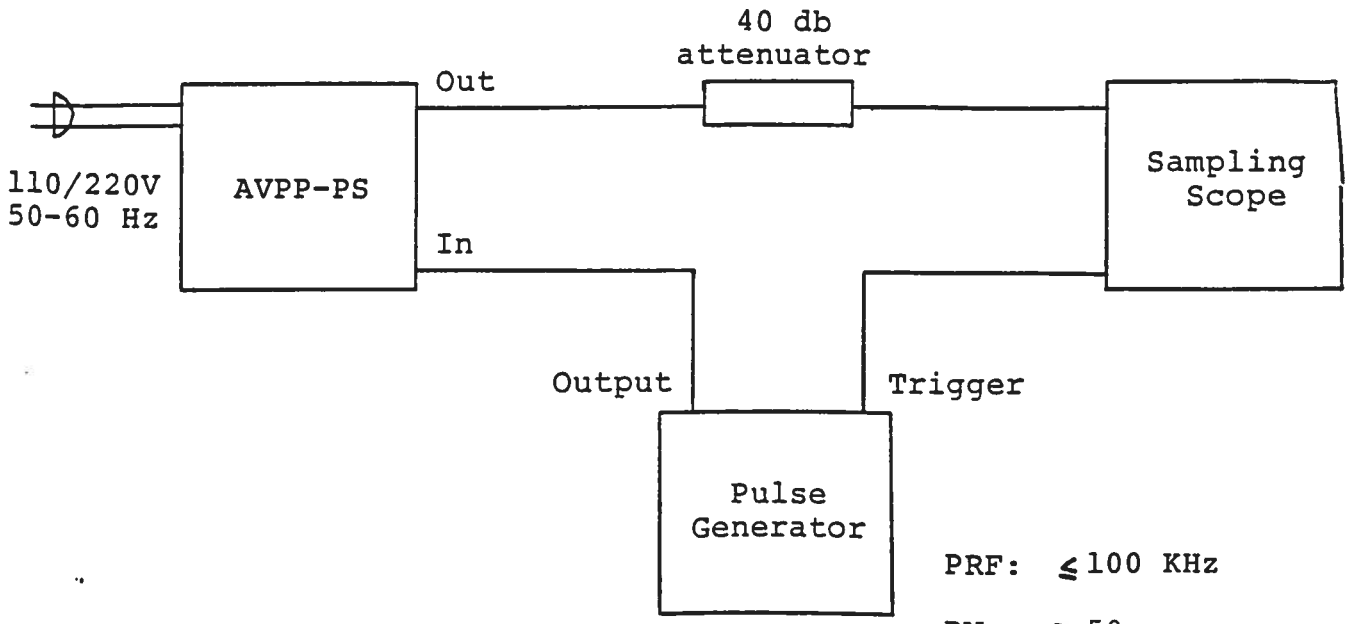
MODEL AVPP-2-PS PULSE GENERATOR

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 AVPP-PS PULSE GENERATOR TEST ARRANGEMENT



PRF: $\leq$ 100 KHz

PW: $\geq$ 50 ns

AMP: +3 to +5 volts

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 AVPP-PS contains two independent pulse generators which cover the output PW range of 0.4 to 8.0 ns (A) and 8.0 ns to 100 ns (B). A and B share common PW and AMP controls.

3) In general, the source pulse generator trigger delay control should be set in the 0.1 to 1.0 us range. Other settings should be as shown in the above diagram.

4) 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.

5) The output pulse amplitude is controlled by means of the front panel one turn AMP control. The pulse width may change by several nanoseconds as the output amplitude is reduced from maximum to minimum. Therefore it is convenient to first set the desired amplitude and then set the desired pulse width. Rotation of the PW pot causes the position of the falling edge of the pulse to change.

6) Some properties of the output pulse may change as a function of the amplitude pot setting. For some demanding applications, it may be desirable to use a combination of external attenuators and the amplitude pot to achieve the desired output amplitude.

7) To DC offset the output pulse connect a DC power supply set to required DC offset value to the back panel terminals marked O.S. The maximum attainable DC offset voltage is +50 volts (for non OT or EO option units only).

8) For units with the OT offset option, the output DC offset level is varied from -5 to +5V (to 50 ohm) by the front panel OFFSET one turn control. The DC offset may be turned off using the rear panel OS ON-OFF toggle switch. (OT option).

9) The monitor output (-M) provides a 20 db attenuated coincident replica of the main output. (option).

10) Dual Polarity Option (for units without the OT or EO options).

To invert the output of the AVPP unit, connect the AVX-2-T unit to the OUT port for PW in the A range (and the AVX-T-3 unit for PW in the B range). An inverted pulse with a rise time <200 ps is then obtained at the OUT port of the AVX-2-T unit (or AVX-T-3). To offset the inverted pulse, apply the required DC level to the DC terminal of the AVX-2-T (or AVX-T-3) unit.

11) Dual Polarity Option (for units with the OT or EO options).

To invert the output of the AVPP unit, connect the AVX-2-T unit to the OUT port for PW in the A range (and the AVX-T-3 unit for PW in the B range). An inverted pulse with a rise time <200 ps is then obtained at the OUT port of the AVX-2-T unit (or AVX-T-3). To offset the inverted pulse, connect a lead from the rear panel OS OUT banana plug to the DC terminal of the AVX-2-T unit (or AVX-T-3). The DC offset at the output of the AVX-2-T (or AVX-T-3) unit is then controlled by the front panel OFFSET control.

12) The AVPP-PS 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.

13) For additional assistance:

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

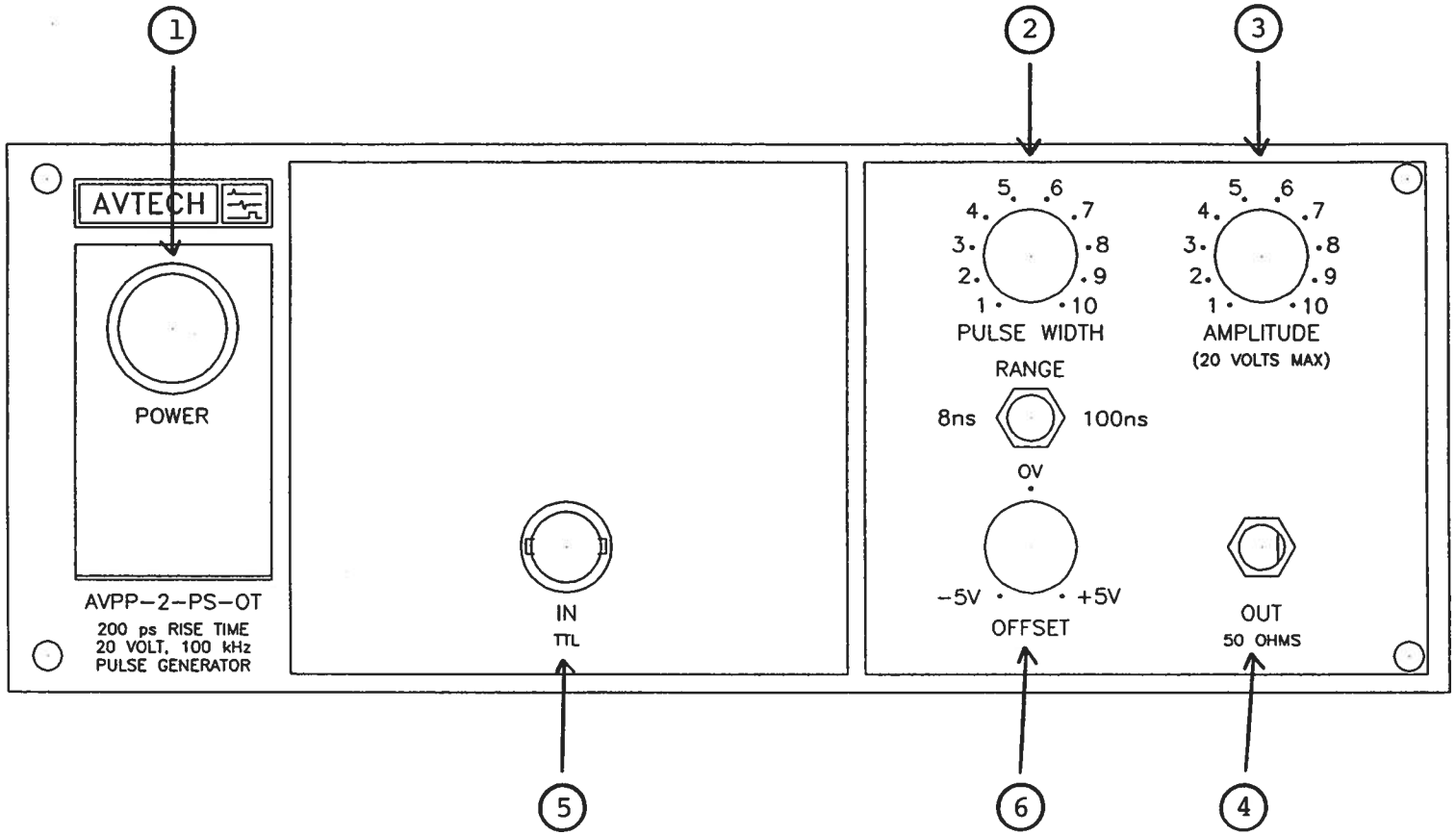


Fig. 2 FRONT PANEL CONTROLS

(1) ON-OFF Switch. Applies basic prime power to all stages.

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

(2A) PW RANGE. Two position switch selects PW range (A: 0.4 to 8.0 ns, B: 8.0 to 100 ns).

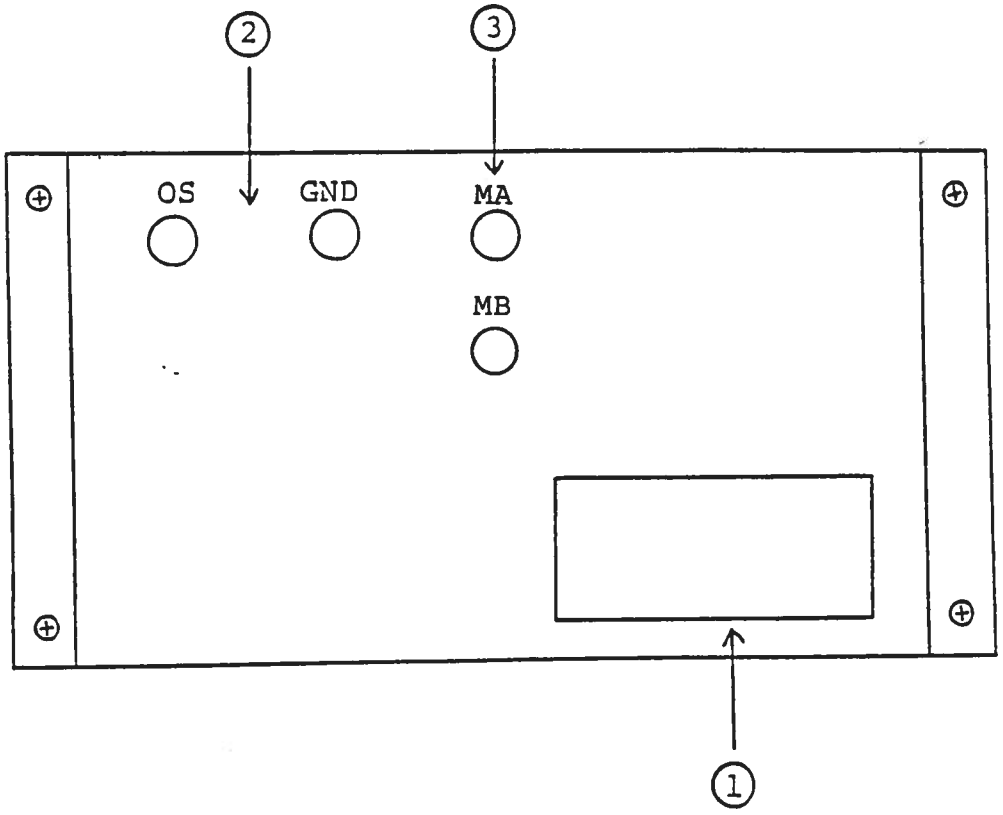
(3) AMP Control. A one turn control which varies the output pulse amplitude.

(4) OUT. SMA connector provides output to 50 ohm load.

(5) TRIG Input. The external trigger signal is applied at this input (TTL, 50 ns or wider).

(6) For units with the OT or EO offset option, the output DC offset level is varied from -5 to +5V (to 50 ohm) by the front panel OFFSET one turn control. The DC offset may be turned off using the rear panel OS ON-OFF toggle switch.

Fig. 3 BACK PANEL CONTROLS (for units without the OT or EO options)

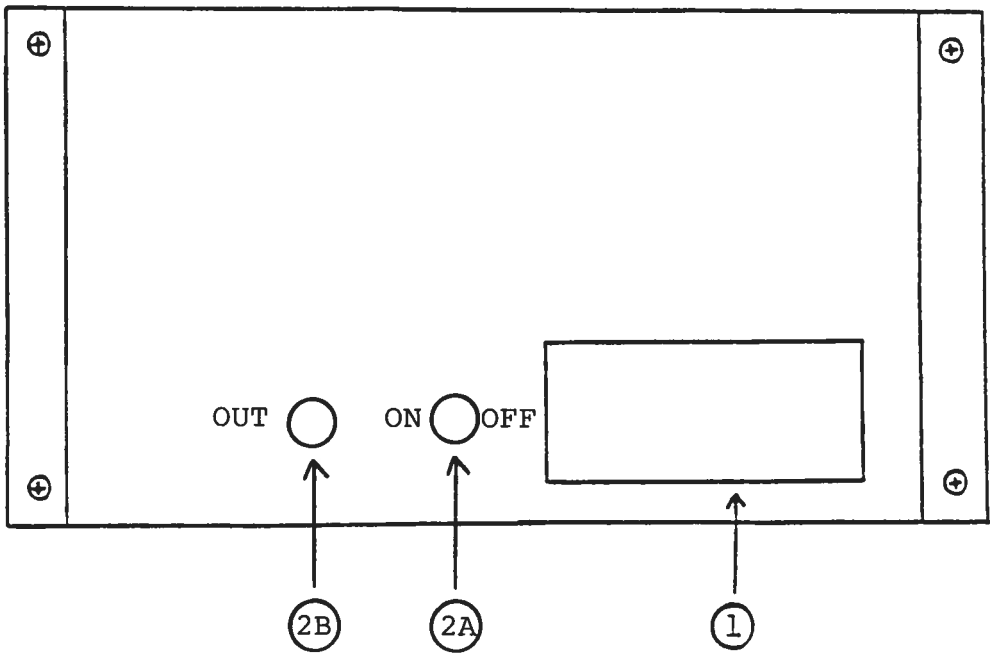


(1) FUSED CONNECTOR, VOLTAGE SELECTOR. The detachable power cord is connected at this point. In addition, the removable cord is adjusted to select the desired input operating voltage. The unit also contains the main power fuse (0.5A SB).

(2) DC OFFSET Input. To DC offset the output pulse, connect a DC power supply set to the desired offset value to these terminals. The maximum allowable DC offset voltage is +50 volts (± 100 mA).

(3) MONITOR OUT M. Provides an attenuated (x10) coincident replica of the main positive output pulse to fifty ohms. (option).

Fig. 4 BACK PANEL CONTROLS (for units with the OT or EO options)



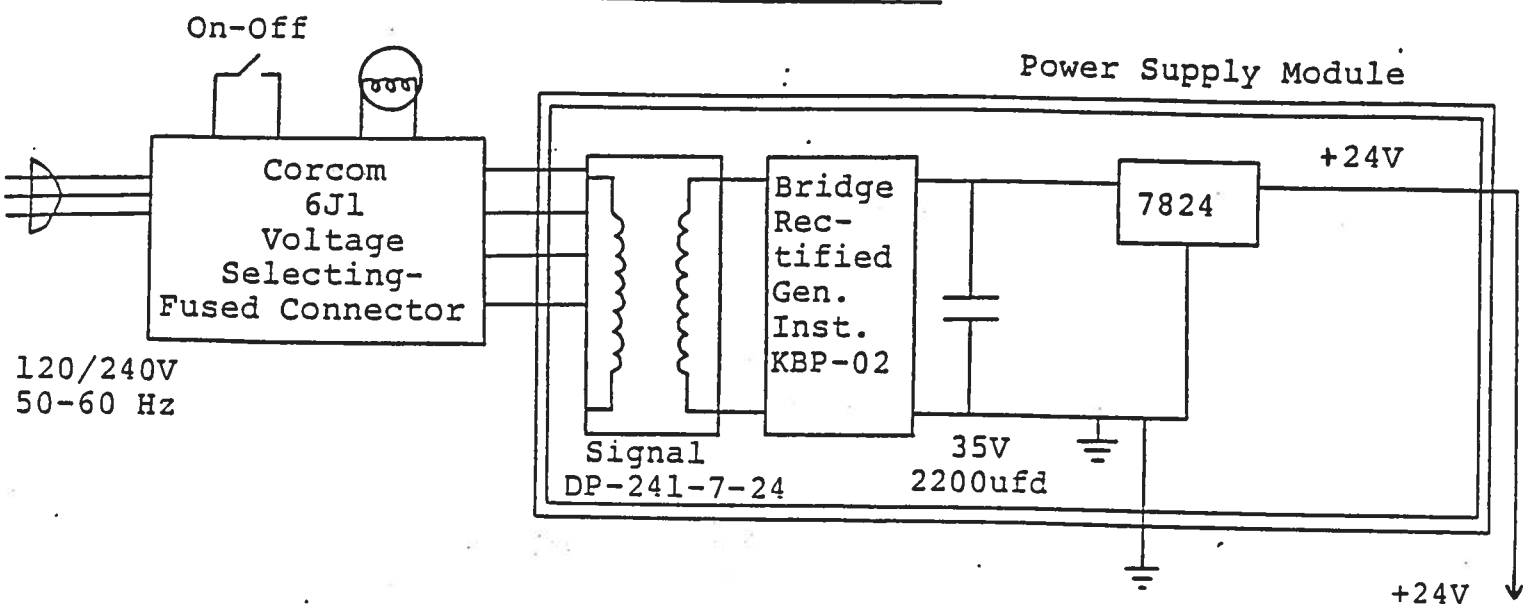
(1) FUSED CONNECTOR, VOLTAGE SELECTOR. The detachable power cord is connected at this point. In addition, the removable cord is adjusted to select the desired input operating voltage. The unit also contains the main power fuse (0.5A SB).

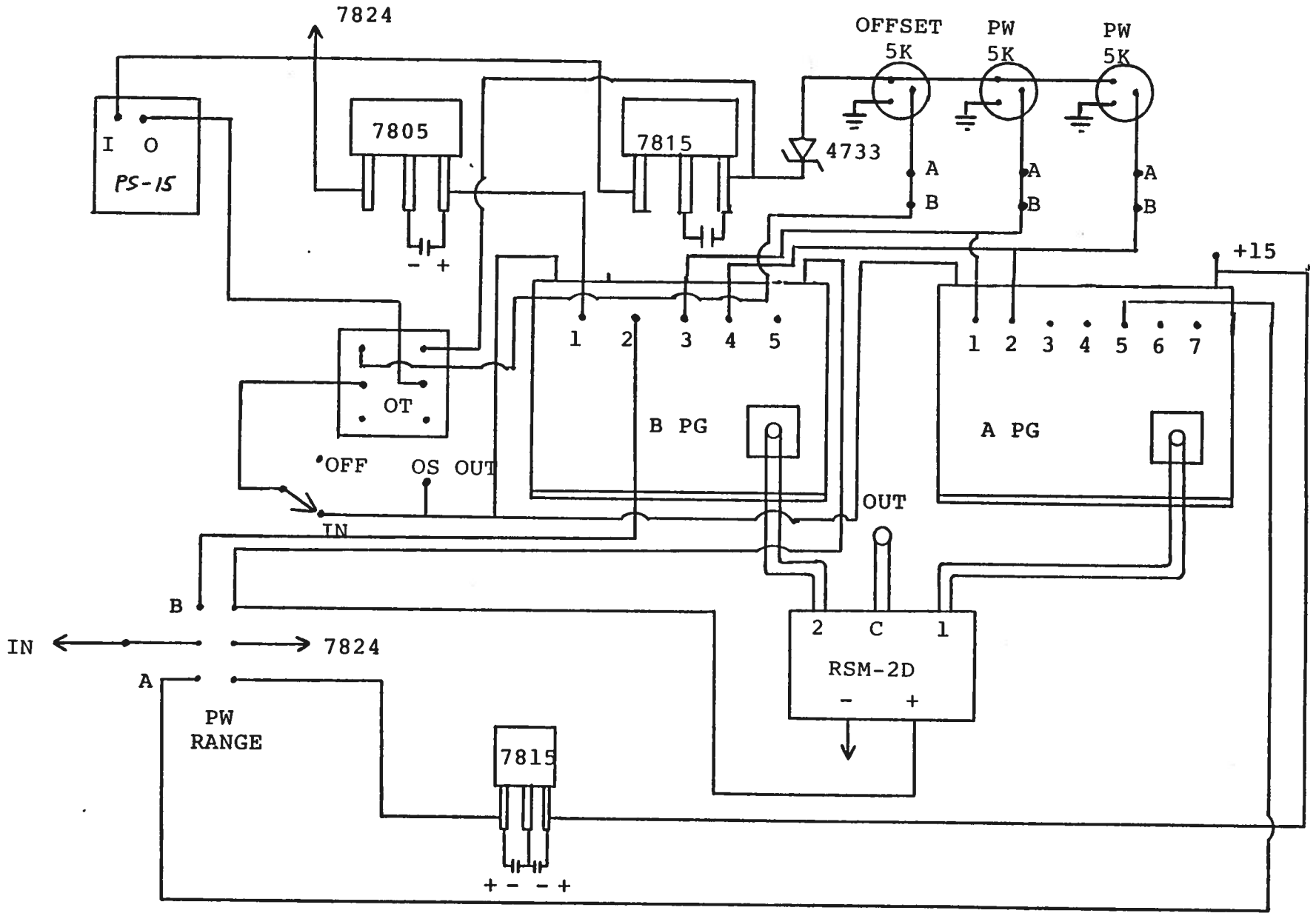
(2A) Two position switch which turns output DC offset ON or OFF. (EO or OT options).

(2B) With OFFSET ON-OFF switch in ON position, DC output offset potential appears at this terminal. To offset inverted pulse on AVPP units with dual polarity option (-PN) connect this terminal to the DC terminal of the AVX-2-T module. (EO or OT options).

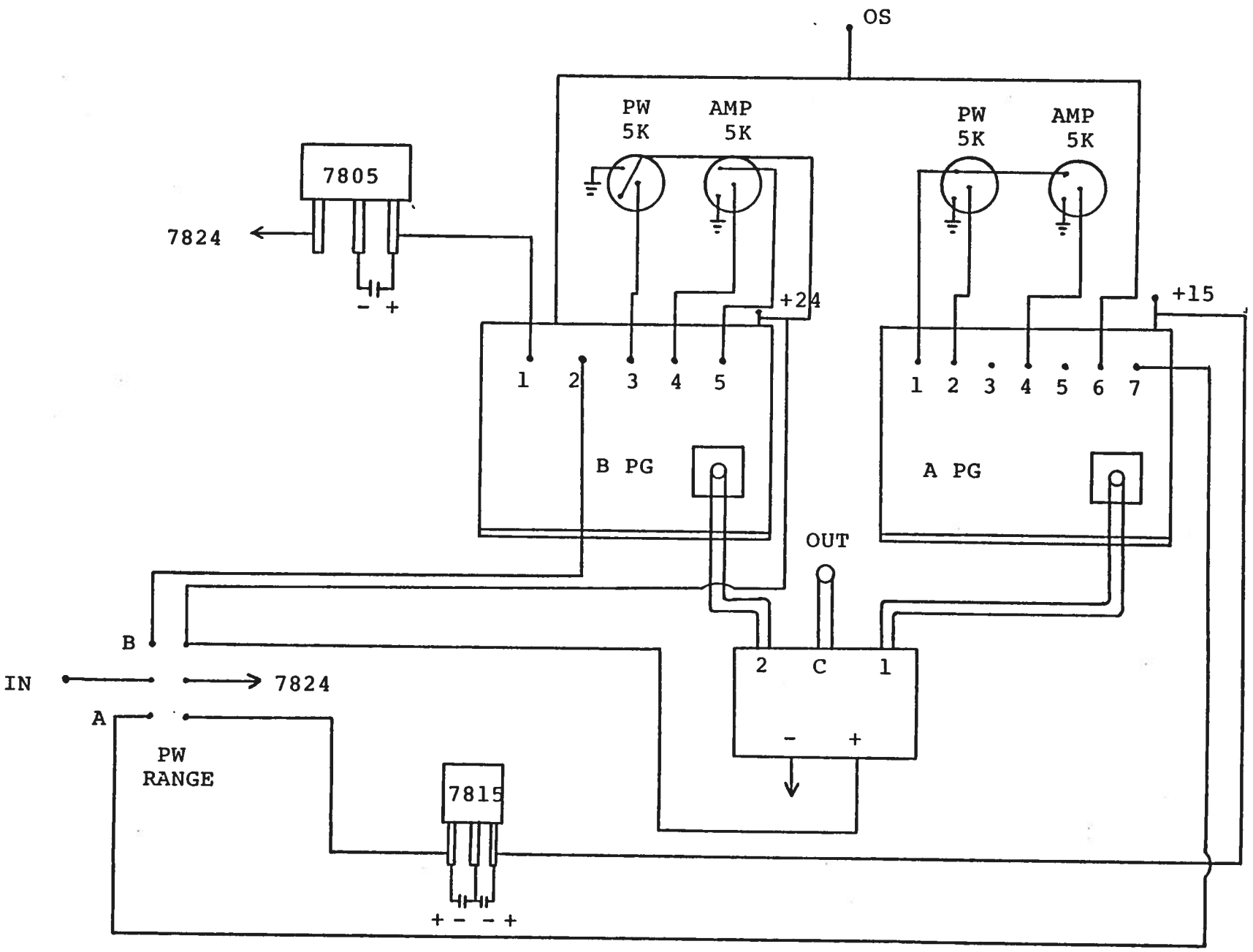
Fig. 4

SYSTEM BLOCK DIAGRAM





AVPP-1-PS-P-PN-M-EA-EO-EW



AVPP-1-PS (UNITS WITHOUT THE OT OPTION)

August 7/97 Edition B

Disk: AVPP
File: AVPP2PSB.INS