AVTECH ELECTROSYSTEMS LTD.

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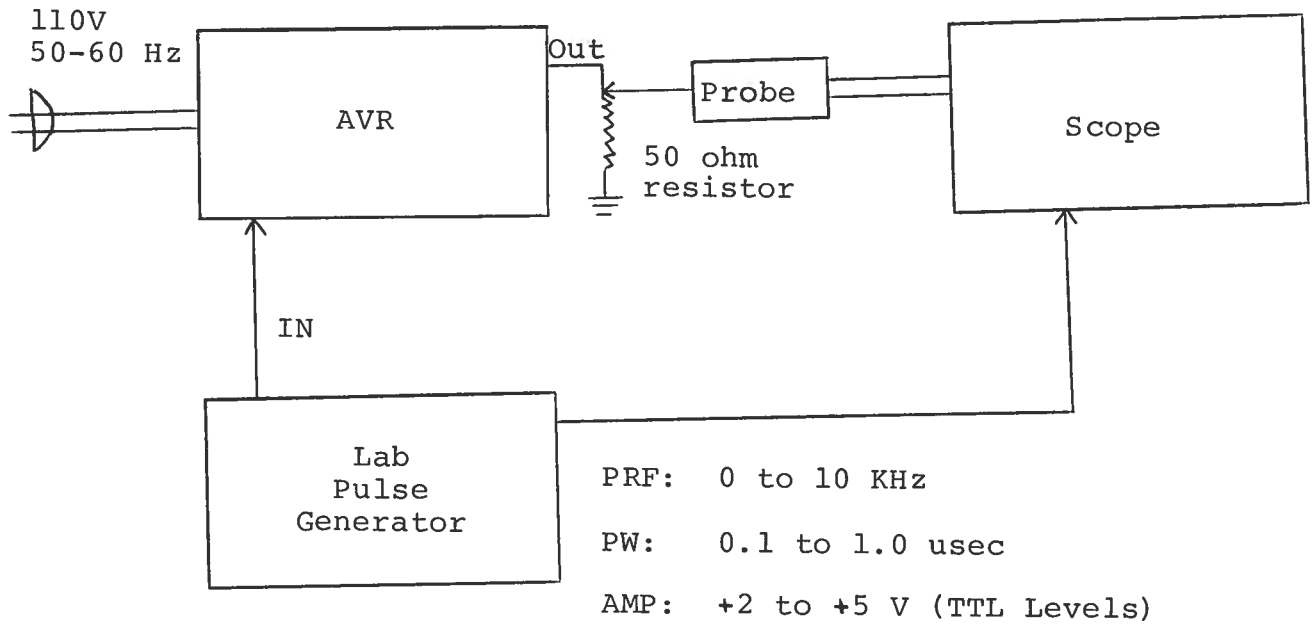TELEX 053·4591

INSTRUCTIONS

MODEL AVR-B3-PS-PN 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.

TEST ARRANGEMENT

110V
50-60 Hz

AVR

Out

50 ohm
resistor

Probe

Scope

IN

Lab
Pulse
Generator

PRF: 0 to 10 KHz

PW: 0.1 to 1.0 usec

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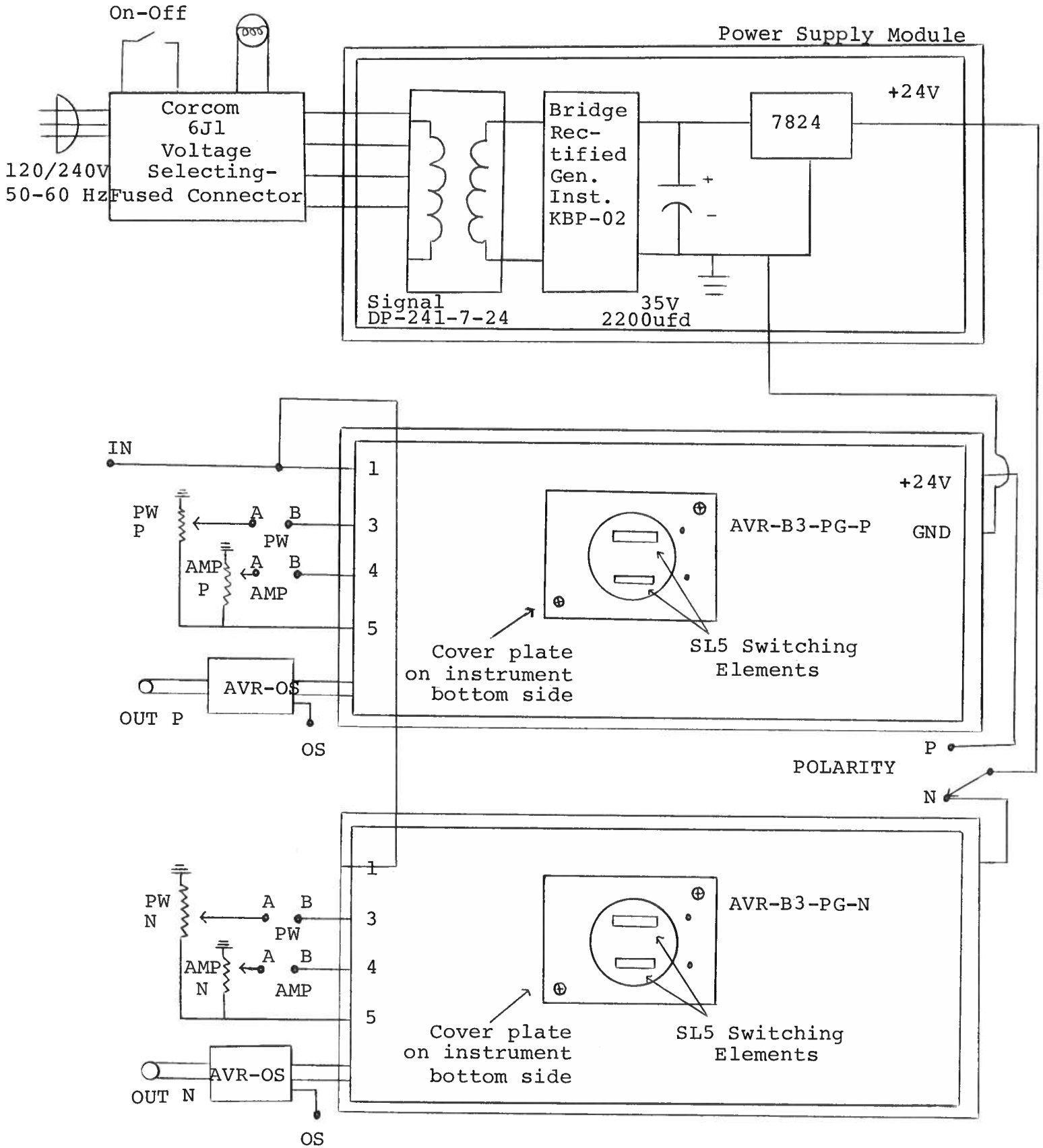
GENERAL OPERATING INSTRUCTIONS

1) The equipment should be connected in the general fashion
    shown above. A scope with a bandwidth of at least 200
    MHz should be used to view output.

2) The desired output polarity is selected by means of the
    POLARITY switch.   With the POLARITY switch in the P
    position, the negative output pulse generator is
    rendered inactive. Likewise, with the POLARITY switch
    in the N position, the positive pulse generator is
    rendered inactive.

3) The output amplitude is controlled by means of the one
    turn potentiometer (AMP). To voltage control the output
    amplitude, remove the jumper wire between banana plugs A
    and B on the back panel and apply 0 to +10V to connector
    B ($R_{IN} \geqslant$ 10K). (EA option).

4) The output pulse width is controlled by means of the one
    turn potentiometer (PW). To voltage control the output
    pulse width, remove the jumper wire between banana plugs
    A and B on the back panel and apply 0 to +10V to
    connector B ($R_{IN} \geqslant$ 10K). (EW option).

5) The AVR is designed to operate into a load impedance of
    50 ohm. The output switching elements may fail if the
    unit is inadvertently operated into a low impedance
    load. The switching elements are easily replaced in the
    field following the procedure outlined in the REPAIR
    Section.

6) WARNING: Model AVR may fail if triggered at a PRF
    greater than 10 KHz.

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 $\pm$50 volts (OS option).

SYSTEM DESCRIPTION AND REPAIR PROCEDURE

The AVR consists of two pulse generator modules (POS and NEG) and a power supply board which supplies +24 volts (600 mA max) to the pulse generator module. In the event that the unit malfunctions, remove the instrument cover by removing the four Phillips screws on the back side 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 SL5 switching elements in the AVR-PG module have probably failed. The SL5 switching elements are easily replaced by removing the cover plate on the instrument bottom side and extracting the SL5 switching elements from their sockets using a pair of needle nose pliers. Before attempting this first insure that the prime power is off and also briefly ground the metal tabs on the SL5 elements to the chassis as the bypass capacitors may be charged to 125 volts. Replacement SL5 units must be ordered directly from Avtech. When reinstalling the SL5 units in their sockets, insure that the shortest of the three terminals is adjacent to the black dot on the AVR-PG chassis.

Fig. 2   SYSTEM BLOCK DIAGRAM

On-Off

Power Supply Module

                                                        +24V

Corcom
6J1
Voltage   Bridge   7824
Selecting-   Rec-
120/240V Fused Connector tified
50-60 Hz   Gen.
                           Inst.   +
                           KBP-02
                                           -

Signal   35V
DP-241-7-24   2200ufd

IN
                           1   +24V

PW   A   B
P   3   AVR-B3-PG-P   GND
        AMP   A   B   PW
        P   4
                  AMP
                           5
                              SL5 Switching
                              Elements
        AVR-OS
                              Cover plate
OUT P   on instrument
                              bottom side
      OS
                                                          P
                                                    POLARITY
                                                          N
                           1

PW   A   B
N   3   AVR-B3-PG-N
        AMP   A   B   PW
        N   4
                  AMP
                           5
                              SL5 Switching
                              Elements
        AVR-OS
                              Cover plate
OUT N   on instrument
                              bottom side
      OS

Schroff   05.04.84

    ̄EA

    ‒ EW

   ‒OS