



AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

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INSTRUCTIONS

MODEL AV-141 AMPLIFIER

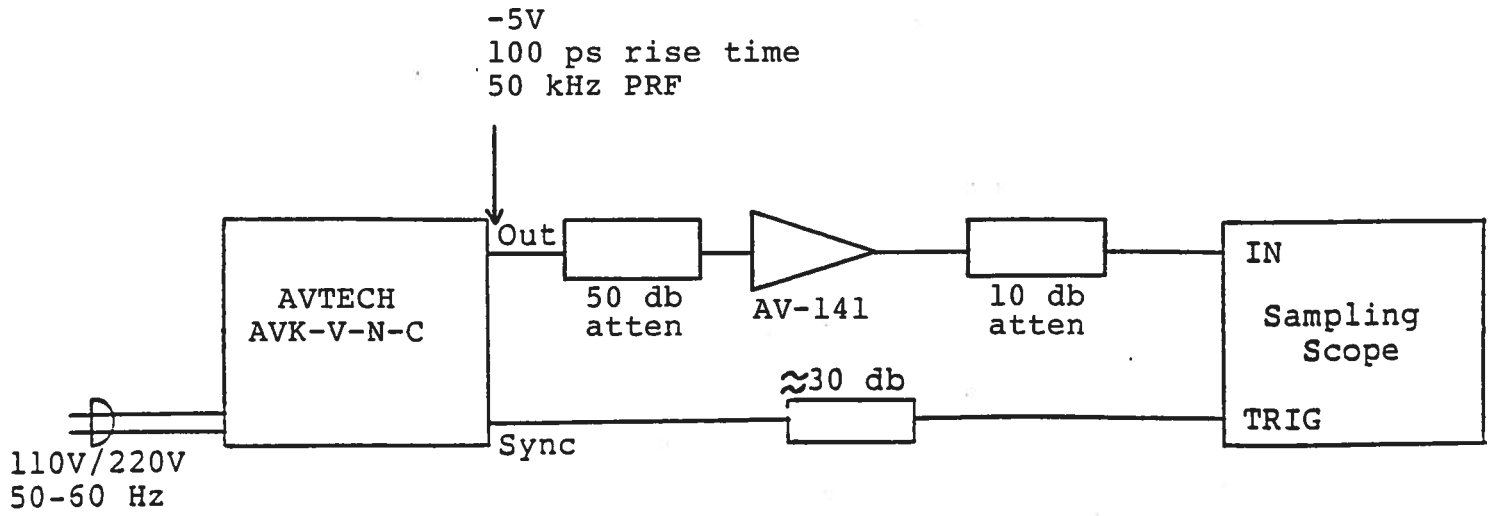
S.N.:

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 disassembled, 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

AMPLIFIER TEST ARRANGEMENT



Model AV-141
(for serial numbers greater than 6500)

General Instructions

The Model AV-141 amplifier is designed to amplify bipolar nanosecond rise time baseband pulses in the pulse width range of about 0.5 ns and higher and CW signals in the frequency range of DC to 2500 MHz. The basic specifications for the unit are as follows:

Gain:	> 20 db
Peak output voltage:	<u>±1.0</u> volt
Rise time:	< 0.2 ns
Impedance level:	50 Ohms nominal
Bandwidth:	DC to 2500 MHz
Input VSWR:	< 2.0:1
Output VSWR:	< 2.0:1
Max. noise figure:	6.0 db
Prime power:	+15 Volts, 225 mA
Connectors:	SMA
Size:	1.4 x 1.1 x 2.3 inches

Notes:

- 1) The module should be bolted to a heat sink to minimize the drift of DC offset with temperature.
- 2) The output DC offset is controlled by the 10 turn pot (OS) on the output end of the module. The DC offset may require several minutes to attain its final steady state value after DC prime power is first applied.
- 3) Units having SN higher than 6500 may exhibit significant lower frequency (< 100 kHz) noise or low-level baseband oscillations. This noise may be eliminated by placing a microwave quality DC blocking capacitor in series with the output (approx. 0.01 to 0.1 ufd).
- 4) Units having a SN higher than 6500 include a GAIN control terminal adjacent to the IN SMA connector. Varying an applied DC voltage from 0 Volts (or open circuit) to -4 Volts will vary the gain of the AV-141 from +20 db to -15 db.
- 5) Units having a SN higher than 6500 operate as inverting amplifiers.
- 6) SN's 6716 and 6717 have field replaceable SMA connectors which may be removed (by removing the four 2-56 Phillips screws) for replacement purposes or for the purpose of installing interference gasket material. Also, the top lids may be removed (by removing four 2-56 Phillips screws) for the purpose of installing interference gasket material.
- 7) For additional assistance:

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Notes:

- 1) The module should be bolted to a heat sink to minimize the drift of DC offset with temperature.
- 2) The output DC offset is controlled by the 10 turn pot (08) on the output end of the module. The DC offset may require several minutes to attain its final steady state value after DC prime power is first applied.
- 3) Units having SN higher than 6500 may exhibit significant lower frequency (< 100 kHz) noise or low-level passband oscillations. This noise may be eliminated by placing a microwave quality DC blocking capacitor in series with the output (approx. 0.01 to 0.1 nF).
- 4) Units having a SN higher than 6500 include a 6A1W control terminal adjacent to the 14 SMA connector. Varying an applied DC voltage from 0 Volts (or open circuit) to -4 Volts will vary the gain of the VA-141 from 100 dB to -15 dB.
- 5) Units having a SN higher than 6500 operate as inverting amplifiers.
- 6) SN's 6716 and 6717 have field replaceable SMA connectors which may be removed by removing the four 2-36 Phillips screws for replacement purposes or for the purpose of installing interference gasket material. Also, the top lid may be removed (by removing four 2-36 Phillips screws) for the purpose of installing interference gasket material.
- 7) For additional assistance:

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