



AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

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INSTRUCTIONS

**MODEL AVH-MPT-EGG1E IMPULSE GENERATOR
(with Low-Drift MOD 1 and 57 KHz Suppression MOD)**

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 assumed by Avtech with respect to this product and no other warranty or guarantee is either expressed or implied.

TECHNICAL SUPPORT

Phone: 613-226-5772 or 1-800-265-6681

Fax: 613-226-2802 or 1-800-561-1970

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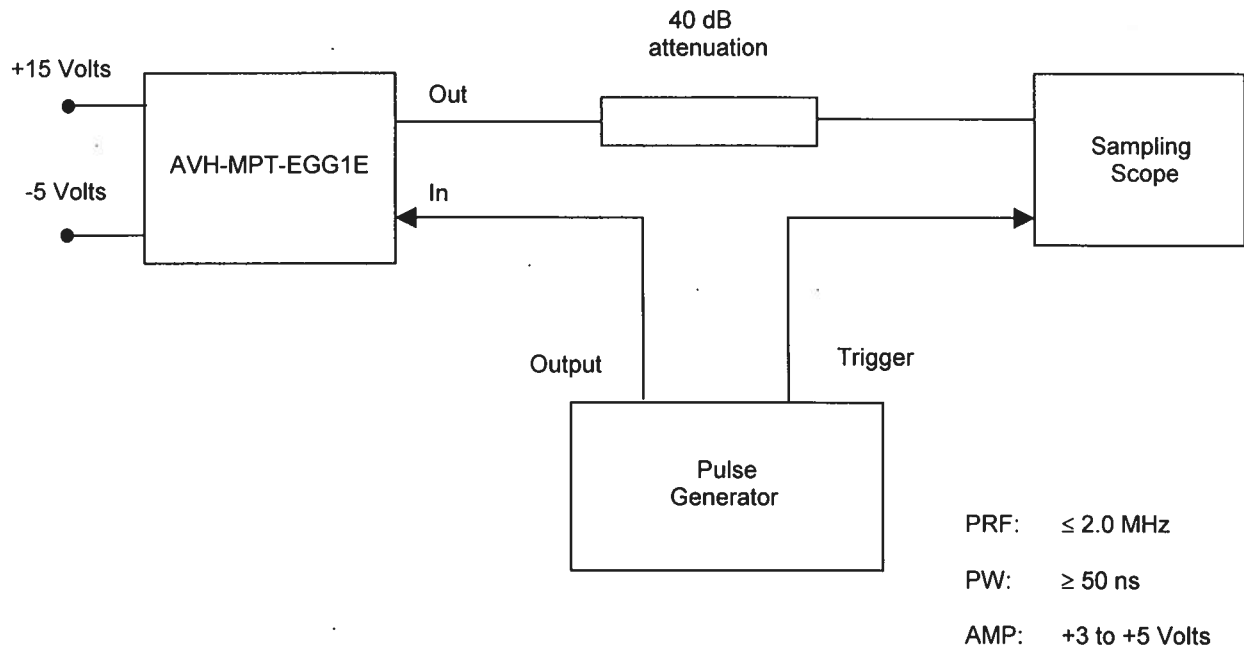
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Manual Reference: Q:\office\instructword\Avh\AVH-MPT-EGG1Eedc-fig.doc, created September 26, 2000

FIG. 1: IMPULSE GENERATOR TEST ARRANGEMENT



GENERAL OPERATING INSTRUCTIONS

- 1) The bandwidth capability of components and instruments used to display the impulse generator output signal (attenuators, cables, connectors, etc.) should exceed ten gigahertz.
- 2) Units with the S.N. 9488 and higher are shipped with 220 ufd capacitors soldered to the +15V and -5V input terminals. These capacitors (along with some internal inductors) serve to limit the spurious 57 KHz signals on the power supply lines to less than about 2 mV peak to peak.
- 3) The module should be screwed to a heat sink capable of dissipating at least 3 Watts. Tapped 2-56 holes are provided on the bottom surface of the unit. Heat sink grease should be placed between the chassis and the heat sink.
- 4) The use of 40 db attenuation will insure a peak input signal to the sampling scope of less than one volt.
- 5) This unit normally provides a 100 ps rise time but this may be increased to 250 ps by reducing the -5 Volt bias supply to 0 Volts.
- 6) In general, the pulse generator trigger delay control should be set in the 100 ns range. Other settings should be as shown in the above diagram.
- 7) The impulse generator can withstand an infinite VSWR on the output port.
- 8) For additional assistance:

Call: 613-226-5772
Fax: 613-226-2802
Email: info@avtechpulse.com

ORIGINAL QUOTATION**AVTECH ELECTROSYSTEMS LTD.**

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Quote No: <u>9819</u>	Sender's Fax: <u>613-226-2802</u>
File: <u>Q:\office\instructword\Avh\AVH-MPT-EGG1Eedc-fig.doc</u>	Receiver's Fax: <u>505-998-0671</u>
To: <u>EG&G</u>	Receiver's Phone: <u>505-998-0677</u>
<u>Albuquerque, NM</u>	Date: <u>April 7, 2000</u>
Attn: <u>John Eberly</u>	Number of pages: <u>3, including cover</u>
Subject: <u>Price and delivery quotation</u>	

Following our recent telephone conversations, I am pleased to provide the following revised quotation:

Quote Number:	9819
Model Designation:	AVH-MPT-EGG1E
Output Amplitude: (to 50 Ohms)	+10 Volts (Fixed)
Rise Time:	100 ps (see enclosed prototype waveform)
Fall Time:	3 ns
Pulse Width (FWHM):	≈ 1.5 ns (Fixed)
PRF:	0 to 2 MHz
Backmatched:	Yes
Size:	1.1" x 1.3" x 2.3"
Prime Power:	a) +15 VDC, (± 1 Volt), 210 mA at 2 MHz b) -5 VDC, 10 mA
Temperature Range:	-10°C to +50°C
Propagation Delay Variation:	Reduced by a factor of 4 relative to Model AVH-MPT-EGG1A

Connectors: SMA

Other: See Model AVH-MPT, page 80

Price: Quantity of 1: \$1,998.00 US each
Quantity of 3: \$1,498.00 US each
Quantity of 5: \$1,250.00 US each
Quantity of 10: \$1,098.00 US each
All prices FOB destination

Delivery: 30 to 120 days, after receipt of order.

Thank you for your continuing interest in our products. Please call or email me if you require any further information.

Regards,

Dr. Walter Chudobiak
Chief Engineer

WC:mf

COPY OF E-MAIL TO: Sowerg@sp.egginc.com

August 28, 2000

Dear Gary,

- 1) We have been conducted tests on our house model and we have observed the following:
 - a) A 20 mVPP 57 KHz spurious exists on the +15V IN terminal and a 10 mVPP 57 KHz spurious exists on the -5V IN terminal.
 - b) The +15V spurious is reduced very significantly (to 2 mVPP) by the addition of a shunt 200 ufd capacitor. This is in general agreement with your experience.
 - c) The -5V input is reduced to 3 mVPP by the addition of a shunt 200 ufd capacitor and a series 470 uh inductor. The inductor is between the capacitor cathode and the -5V terminal.
 - d) We recommend that you try adding this LC network to the -5V input and repeat your tests.
 - e) We plan to add the two capacitors and the inductor internally on the batch we are currently producing. In addition, we are studying the inductor to see if we can further reduce the 3 mV spurious. In fact, we are continuing our tests to see if we can further reduce the 2 mV on the +15V input.
 - f) If mV level spurious are still a problem then we would recommend the addition of 50 to 60 kHz band stop filter networks on the +15V and -5V inputs. These must be placed on the exterior because of severe space limitations. Unfortunately, we are not skilled filter designers.
- 2) I hope the above preliminary observations are helpful and encouraging.

Regards,

Dr. Walter Chudobiak
Chief Engineer

Sept 26/2000