AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

☐ P.O. BOX 265
OGDENSBURG, NY
U.S.A. 13669-0265
TEL: (315) 472-5270
FAX: (613) 226-2802

TEL: 1-800-265-6681
FAX: 1-800-561-1970

e-mail: info@avtechpulse.com
http://www.avtechpulse.com/

☒ BOX 5120, LCD MERIVALE
OTTAWA, ONTARIO
CANADA K2C 3H4
TEL: (613) 226-5772
FAX: (613) 226-2802

INSTRUCTIONS

MODEL AVH-S-1-P-UHA-UHC

0 TO 10 Volts, 130 ps

IMPULSE GENERATOR

SERIAL NUMBER: _____

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 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

E-mail: info@avtechpulse.com
World Wide Web: http://www.avtechpulse.com

TABLE OF CONTENTS

Manual Reference: T:\instructword\avh\AVH-S-1-P-UHA-UHC-ede.sxw.
Last modified July 14, 2005.

INTRODUCTION

The AVH-S-1-P-UHA-UHC is a high performance DC-powered module capable of generating 130 ps wide impulses with 0V to 10V amplitudes at repetition rates up to 1 MHz into 50Ω loads.

Instruments with the "-P" model suffix can generate 0 to +10V, whereas instruments with the "-N" model suffix can generate 0 to -10V.

The AVH-S-1-P-UHA-UHC must be triggered by an external TTL pulse (> 50 ns) applied to the "IN" connector.

The output is designed to drive 50Ω loads. (A 50Ω load is required for proper operation.) The output is AC-coupled.

This instrument is intended for use in research and development laboratories.

INSTALLED OPTIONS

-UHA option: Prime power is +24V DC, rather than the standard +15V DC.

-UHC option: Constructed without the use of the standard aluminum electrolytic capacitors. Ceramic or tantalum capacitors are to be used instead.

SPECIFICATIONS

Model:	AVH-S-1-P-UHA-UHC
Amplitude[1]: (50Ω load)	0 to 10 V
Pulse width (20% rise time):	≤ 130 ps
PRF:	0 to 1 MHz
Polarity[2]:	Positive or negative (specify)
Propagation delay:	≤ 75 ns (Ext trig in to pulse out)
Jitter:	± 15 ps (Ext trig in to pulse out)
DC offset option[3]:	Apply required DC offset to back-panel solder terminals (± 50 Volts, 250 mA max)
Trigger required:	+ 5 Volts, 50 to 500 ns (TTL)
Connectors:	In, Out: SMA, Power: Solder terminals
Power requirements:	+24 Volts, 200 mA
Dimensions (H x W x D):	43 mm x 66 mm x 107 mm (1.7" x 2.6" x 4.2")
Operating temperature:	+5°C to +40°C

1) For operation of variable-amplitude units at amplitudes of less than 20% of full-scale, best results will be obtained by setting the amplitude near full-scale and using external attenuators on the output.
2) Indicate desired polarity by suffixing model number with -P or -N (i.e. positive or negative).
3) For DC offset option suffix the model number with -OS. Avtech Model AVX-T bias tee can also be used to obtain DC offset.

ORIGINAL QUOTATION

Date: Tue, 03 May 2005 08:59:24 -0400
From: Avtech Sales
Subject: Re: followup on Quote # 12548

XXXXX,

We can reduce the cost of the -UHC option to $XXXXX, but we are not willing to waive it entirely as this option does incur real costs in terms of engineering time and documentation.

I am pleased to re-quote as follows:

Quote number: 12561

Model number: AVH-S-1-P-UHA-UHC

Description: Impulse Generator

Polarity: positive

-UHA option: Prime power is +24V DC, rather than the standard +15V DC.

-UHC option: Constructed without the use of the standard aluminum electrolytic capacitors. Ceramic or tantalum capacitors are to be used instead.

Datasheet: http://www.avtechpulse.com/impulse/avh-s-1

Price: $XXXXX US each, FOB destination (includes 5% academic discount).

Quote valid for: 60 days

Estimated delivery: 60-75 days after receipt of order (excluding export permit* delays).

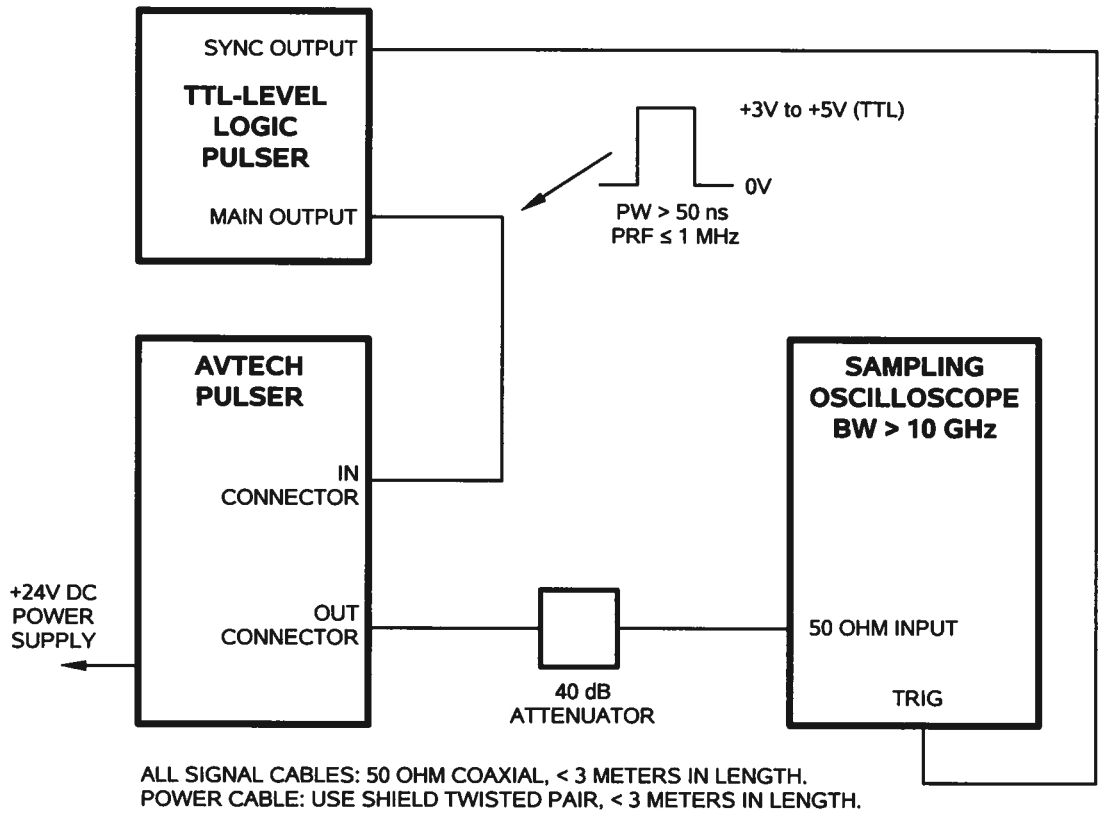
*Export Permit: The AVH-S-1 models are very high performance pulse generators, which are considered to be "Nuclear-Related Dual-Use Goods" under government regulations. As such, an "End Use Statement" must be completed when ordering. The necessary form is attached (in PDF format). We will use the information in the completed form to apply for an export license from the Canadian government, which will take 1 to 6 weeks to obtain. We cannot ship your order without the license. Please return the completed form to us by fax.

Regards,
Dr. Michael J. Chudobiak
Chief Engineer

--- Avtech Electrosystems Ltd. ---------- since 1975 ---

PO Box 265 ph: 1-800-265-6681 or 613-226-5772 Box 5120,
Ogdensburg, fax: 1-800-561-1970 or 613-226-2802 LCD Merivale
New York email: info@avtechpulse.com Ottawa, Ontario
USA 13669-0265 http://www.avtechpulse.com/ Canada K2C 3H4

BASIC TEST ARRANGEMENT



GENERAL OPERATING NOTES

1) The bandwidth capability of components and instruments used to display the pulse generator output signal (attenuators, cables, connectors, etc.) should exceed 10 GHz.

2) The use of 40 dB attenuator on the output will ensure a peak input signal to the sampling scope of less than one volt.

3) In general, the source pulse generator trigger delay control should be set in the 0.1 to 1.0 us range, for proper positioning of the output pulse on the sampling oscilloscope display.

4) WARNING: The module may fail if triggered at a PRF greater than 1 MHz.

5) The output pulse amplitude is controlled by means of the one turn potentiometer (AMP).

6) For additional information:

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

July 14/05