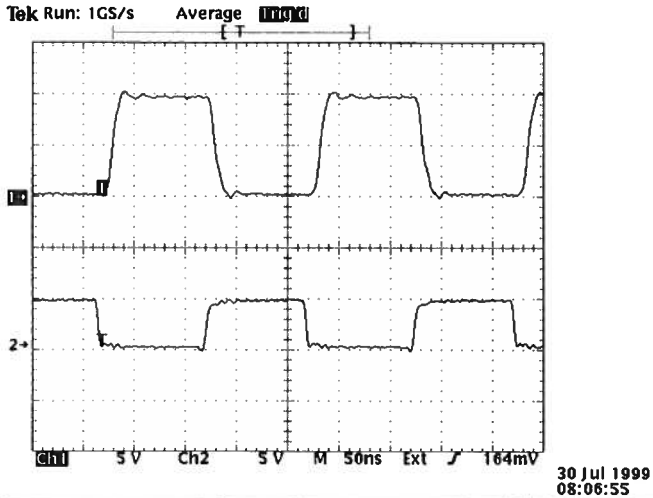


PULSE GENERATOR
PERFORMANCE CHECK

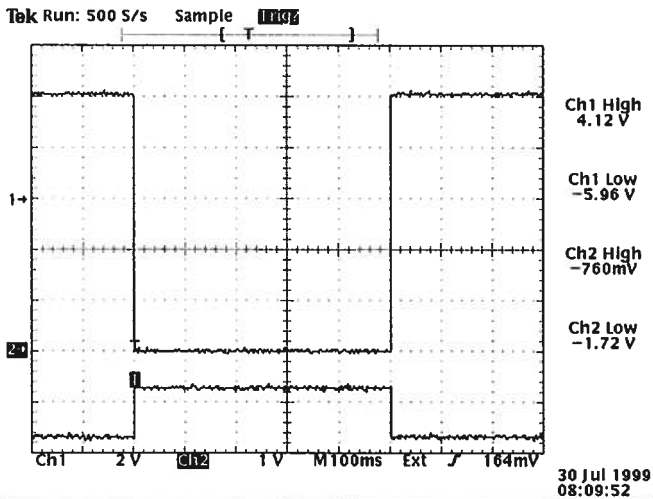
Model: AV-1021-B

S.N.: 8991

Date: July 30, 1999



Top: OUT 1, +10V amplitude, 0V offset, into 50Ω
Bottom: Logic complement, TTL, into 50Ω
Both: Frequency 5 MHz, 5V/div, 50 ns/div



Top: OUT 2, -10V ampl., +4V offset, into 50Ω, 2V/div
Bottom: Logic, ECL, into 50Ω, 1V/div
Both: Frequency 1 Hz, 100 ms/div

- a) Output Signal Amplitude: 0 to ±10V ✓
- b) Pulse Width: 20 ns - 500 ms ✓
- c) Rise Time: 10 ns ✓
- d) Fall Time: 10 ns ✓
- e) PRF: 1Hz - 10 MHz ✓
- f) Jitter, Stability: OK ✓
- g) Prime Power: 120/240V AC, 50-60 Hz, ✓



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

P.O. BOX 5120 STN. F
OTTAWA, ONTARIO
CANADA K2C 3H4
TEL: (613) 226-5772
FAX: (613) 226-2802

"-B" Functional Test & Calibration Certificate

Date of test:	July 21, 1999					Tester:	MJC
Programmed model name:	AV-1021-B						
Programmed serial number:	8991						
Firmware revision:	1.95						
Internal trigger checked at:	1 Hz	100 Hz	10 kHz	1 MHz	10 MHz		
Actual measured output ¹ :	0.9999 Hz	100.0 Hz	9.98 kHz	1.000 MHz	9.94 MHz		
External trigger checked:	Yes						
Trigger load resistor present:	200 Ohms						
Manual trigger checked:	Yes	No spurious trigger in manual mode for output on/off/on:				Yes	
Pulse compression checked:	Yes						
Pulse width checked at:	20 ns	200 ns	20 us	2 ms	200 ms		
Actual measured output ² :	19.4 ns	202.4 ns	20.2 us	2.02 ms	200 ms		
DC mode checked:	Yes						
PWin = PWout mode checked:	Yes						
Duty Cycle Limit:	N/A						
Delay nulled:	Yes						
Delay checked at:	100 ns	10 us	1 ms	100 ms			
Actual measured output ¹ :	100.0 ns	9.99 us	1.005 ms	100.3 ms			
Double pulse checked:	Yes						
Gate checked:	Yes						
Invert mode checked:	Yes						
ECL/TTL modes checked:	Yes						
Zout switch checked:	Yes						
Amplitude checked at:	+1V	+10V	-1V	-10V	Into 50 Ohms, 20 us PW		
Actual measured output ² :	+0.99V	+9.92V	-1.01V	-10.0V			
Amplitude polarity:	+/-						
Zout calibration:	N/A						
Electronic amplitude control:	N/A						
External amplify mode:	N/A						
Monitor V/I Ratio:	N/A			Monitor offset nulled:			
LCD Monitor calibrated:	N/A			Monitor offset nulled:			
Mon. Single Pulse/Min PW OK:	N/A			SHA Cap:			
Offset checked at:	0V	+10V	-10V	50 Ohm test load			
Actual measured output ² :	< 10 mV	+10.0V	-9.94V				
Offset nulled (output on):	Yes	Amplitude-dependent offset nulled:				Yes	
Offset nulled (output off):	Yes						
RS-232 checked:	Yes						
Sync pulse width checked:	50 ns						
Circuit Boards:	PS:	93	Main:	86			
Overload Trigger Resistance:	Trips at:	N/A	Installed:	N/A			
DC fuses:	Positive:	N/A	Negative:	N/A			
AC Current at 115 VAC:	Quiescent:	0.40 A	Max. Load:	0.46 A			
Photographed:	No						

¹ Checked with: HP5370A Universal Time Interval Counter

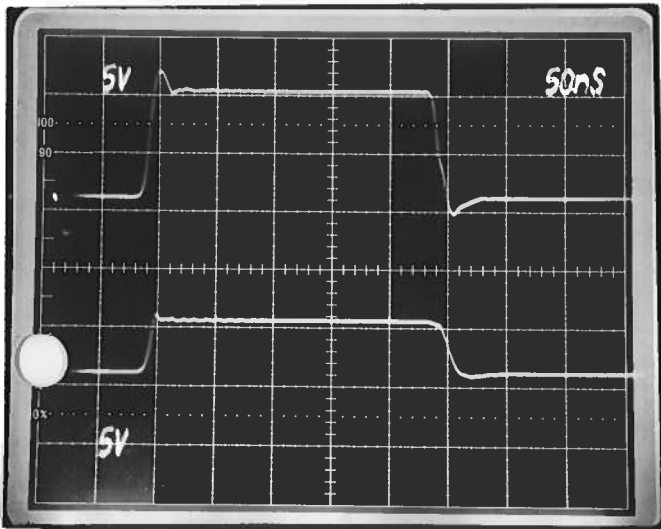
² Checked with: Tektronix TDS360 digital oscilloscope for PW ≥ 5 ns,
Tektronix 7704A/7S11/7T11/S4 sampling oscilloscope system for PW < 5 ns.

PULSE GENERATOR
PERFORMANCE CHECK

Model: AV-1021-B WITH AX-51-NUMA

S.N.: 8991

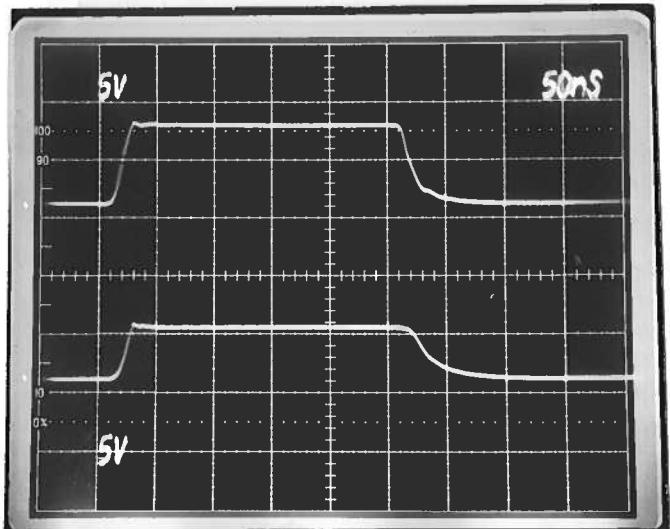
Date: JULY 28 1999.



V_{IN}

V_{DIODE}

(A) $Z_{out} = 2 \Omega$

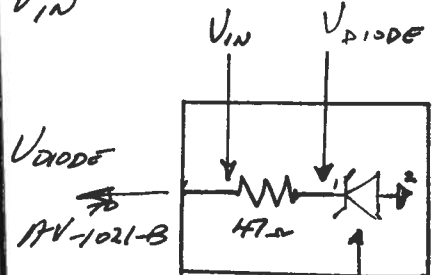


V_{IN}

(B) (A) BUT $Z_{out} = 50 \Omega$

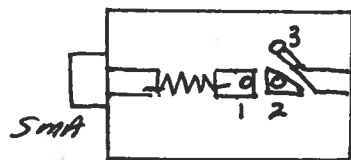
- a) Output signal amplitude:
 $0 \text{ TO } \pm 100 \text{ mA}$
($Z_{out} = 2 \Omega$)
- b) Pulse width:
 $50 \text{ NS TO } 0.5 \text{ sec.}$
- c) Rise time:
 $\leq 10 \text{ NS}$
- d) Fall time:
 $\leq 10 \text{ NS}$
- e) PRF:
 $0 \text{ TO } 10 \text{ MHz}$
- f) Jitter, stability: OK

g) Prime power: $120/240 \text{ V}$
 $50 \text{ to } 60 \text{ dB}$



$$I_{DIODE} = \frac{V_{IN} - V_{DIODE}}{47}$$

IN4734 ZENER DIODE
SIMILARLY 4-5 VOLT
LASER DIODE.



PIN 2 IS
GROUNDED