



# AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS  
SINCE 1975

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U.S.A. 13669-0265  
TEL: (315) 472-5270  
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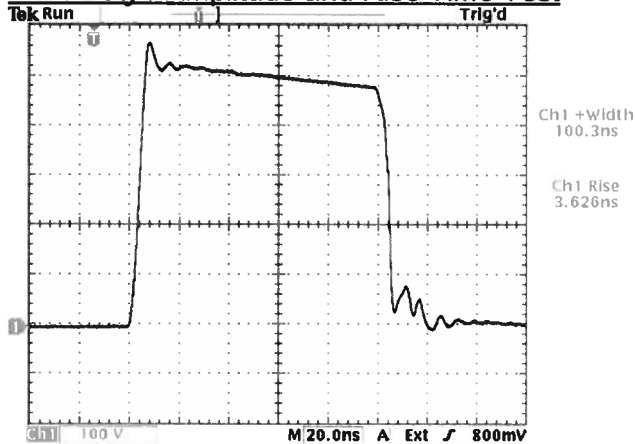
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BOX 5120, LCD MERIVALE  
OTTAWA, ONTARIO  
CANADA K2C 3H4  
TEL: (613) 226-5772  
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## PERFORMANCE CHECKSHEET

Model: AVL-5-B-P  
S.N.: 11287  
Date: September 9, 2005

### Max. Duty / Amplitude and Rise Time Test

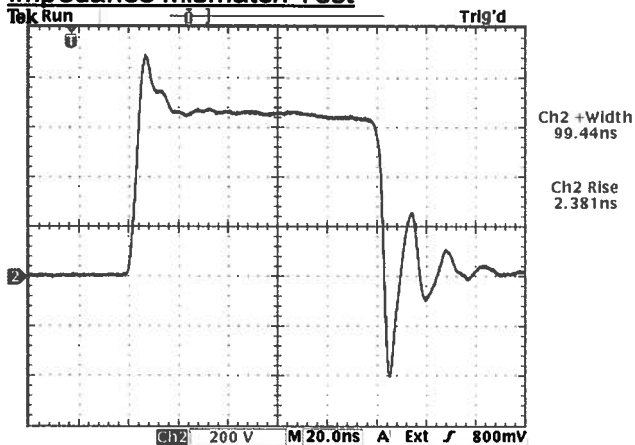


9 Sep 2005  
11:36:13

2 kHz, 100 ns, +500V into a 50Ω load.  
100 V/div, 20 ns/div.

- a) Output Signal Amplitude: 0 to +500V
- b) Pulse Width (FWHM) : 8 – 100 ns
- c) Rise Time (20%-80%): < 4 ns
- d) Fall Time (80%-20%): < 5 ns
- e) PRF: 1 Hz - 2 kHz
- f) Jitter, Stability: OK
- g) Prime Power: 100-240V AC, 50-60 Hz.

### Impedance Mismatch Test

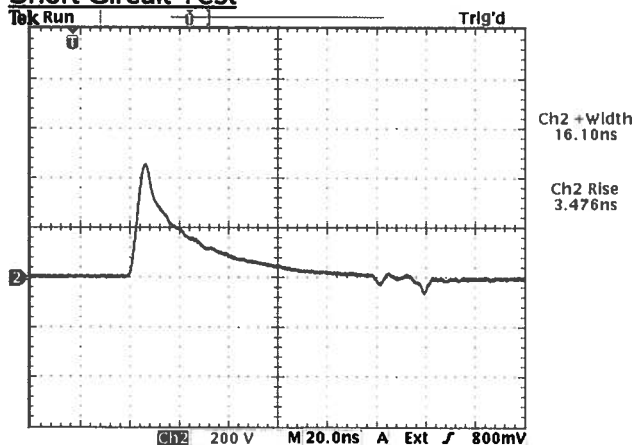


9 Sep 2005  
11:37:30

10 Hz, 100 ns, +450V into a 220Ω load.  
200 V/div, 20 ns/div.

References levels: 20%, 80%.

### Short Circuit Test



9 Sep 2005  
11:38:00

10 Hz, 100 ns, +450V into a 50Ω load shorted  
with a 12" length of patch cord.  
200 V/div, 20 ns/div.



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## "-B" Functional Test & Calibration Certificate

Date of test:	September 9, 2005				Tester:	MJC
Programmed model name:	AVL-5-B-P					
Programmed serial number:	11287	MAC address:		00:90:c2:c6:c7:e7		
Firmware revision:	3.31					
Internal trigger checked at:	2 Hz	20 Hz	200 Hz	2 kHz		
Actual measured output <sup>1</sup> :	1.999 Hz	19.97 Hz	199.5 Hz	1.997 kHz		
External trigger checked:	Yes				Gate checked: Yes	
Manual trigger checked:	Yes					
Pulse compression checked:	N/A		Low Amplitude PW Distortion Nulled:		N/A	
Pulse width checked at:	8 ns	25 ns	50 ns	100 ns	10 Hz, +500V to 50 Ohms	
Actual measured output <sup>2</sup> :	7.9 ns	24.7 ns	49.5 ns	100.1 ns	50 Ohms	
PW <sub>in</sub> = PW <sub>out</sub> mode checked:	N/A		DC mode checked: N/A			
Duty Cycle Limit:	N/A					
Delay nulled:	Yes					
Delay checked at:	100 ns	1 us	10 us	100 us	10 Hz, +500V to 50 Ohms	
Actual measured output <sup>1</sup> :	102 ns	1.005 us	9.97 us	99.8 us	50 Ohms	
Double pulse checked:	N/A					
Invert mode checked:	N/A					
ECL/TTL modes checked:	N/A					
Zout switch checked:	N/A					
Amplitude checked at:	+50V	+100V	+250V	+500V	10 Hz, 100 ns to 50 Ohms	
Actual measured output <sup>2</sup> :	+50V	+100V	+250V	+501V	to 50 Ohms	
Amplitude polarity:	+					
Zout calibration:	N/A					
Electronic amplitude control:	N/A					
External amplify mode:	N/A					
Bleeder resistors adequate:	Yes					
Burst mode:	N/A					
Monitor V/I Ratio:	N/A		Monitor offset nulled:			
LCD Monitor calibrated:	N/A					
Offset checked at:	N/A					
Actual measured output <sup>2</sup> :	N/A					
Offset nulled (output on):	N/A		Amplitude-dependent offset nulled:			
Offset nulled (output off):	N/A					
RS-232 checked:	Yes		Telnet control checked: N/A			
LCD pull-ups installed:	N/A					
PCB 108H oscillator buffer resistor:	N/A		PW, delay bias (1k/820/108H or 1k/604/108M): N/A			
PCB 108N TP14/C26 resistor:	OK					
PN trigger pull-downs installed:	N/A					
Sync pulse width checked:	100 ns nominal					
Circuit Boards:	PS:	158J	Main:	108N		
Overload Trigger Resistance:	Trips at:	7.4k	Installed:	6.98k    1000 uF		
DC fuses:	Main:	1.6A	Overload:	1.0A		
AC Current:	Quiescent:	0.21A @ 115V 0.16A @ 230V	Max. Load:	0.40A @ 115V 0.23A @ 230V		
AC fuse:	0.5A					
1.5 kV <sub>RMS</sub> , 5s, switch on, Hypot Test:	OK					
25A RMS Ground Continuity Test:	OK					
Fan operational:	Yes					
Top cover vent required:	Yes					
Photographed:	Yes					

<sup>1</sup> Checked with: Fluke PM6681 Counter (S/N 9446 066 81016),  
referred to Datum ExacTime 9390-6000 (S/N 4461) GPS Frequency Reference

<sup>2</sup> Checked with: Tektronix TDS3052 digital oscilloscope (S/N B014783) for PW ≥ 5 ns,  
Tektronix 7704A/7S11/7T11/S4 sampling oscilloscope (Cal. Label 112506) for PW < 5 ns.