

PULSE GENERATOR  
PERFORMANCE CHECK

Model: *M-1011-B R5*

S.N.: *9897*

Date: *AUG 9 2001*

- a) Output signal amplitude:  
*0 TO 100V (R<sub>L</sub> ≥ 50Ω)*
- b) Pulse width:  
*100NS TO 1μS*  
*(10% MAX DUTY CYCLE)*
- c) Rise time:  
*≤ 10NS*
- d) Fall time:  
*≤ 10NS*
- e) PRF: *0 TO 1 MHz*  
*(10% MAX DUTY CYCLE)*
- f) Jitter, stability:  
*OK*
- g) Prime power:  
*120/240V*  
*50-60Hz*



(A)

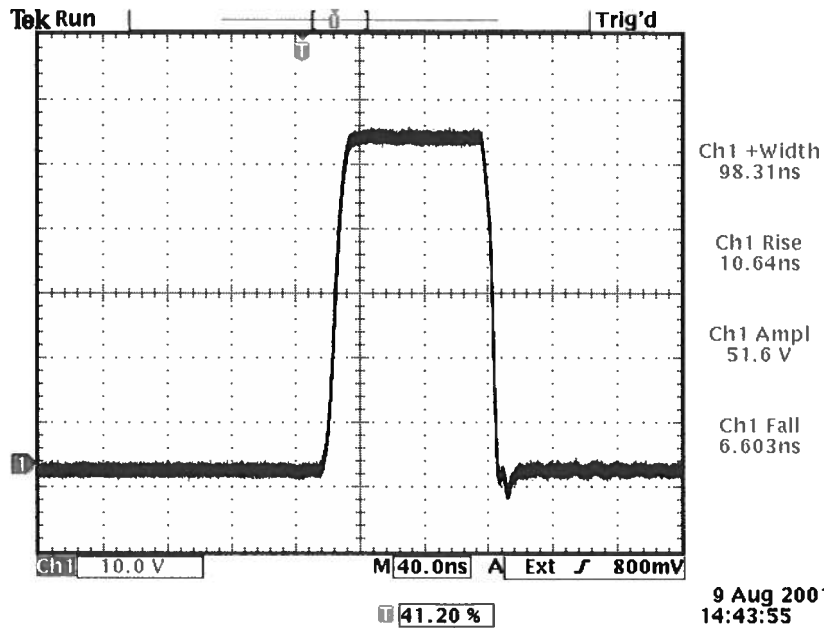
9897

PRF = 1.0 MHz.

POS OUT

$Z_{out} = 50 \Omega$

$R_L = 50 \Omega$



(B)

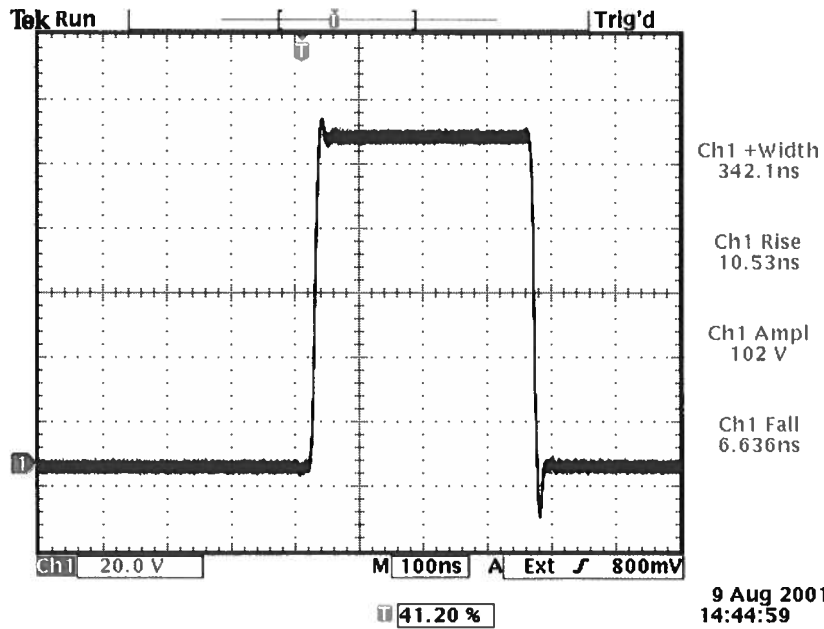
9897

$PRF \approx 100 \text{ kHz}$

$Z_{out} = 2 \Omega$

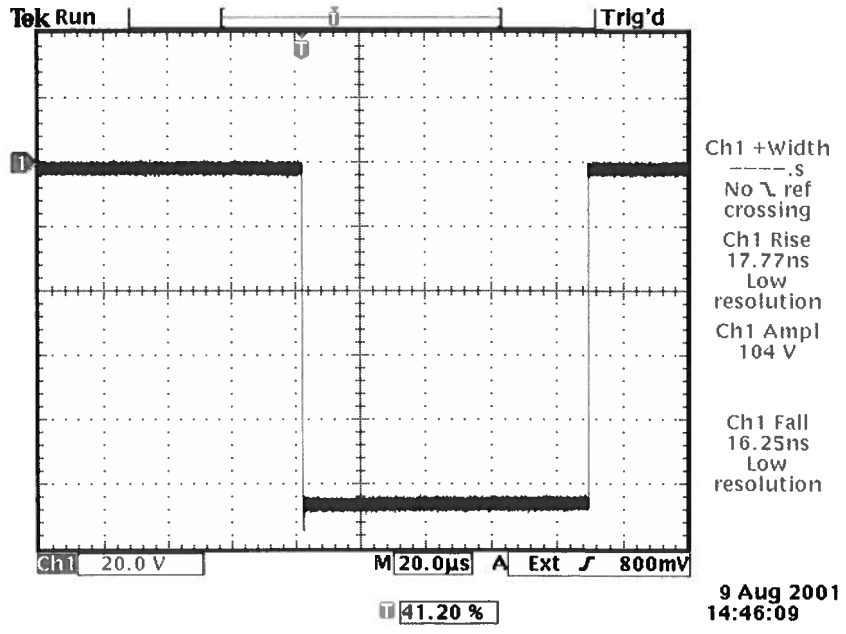
$R_c = 50 \Omega$

POS out.



③

9397  
PRF = 100 Hz  
NEB out  
 $Z_{out} = 2 \Omega$   
 $R_c = 50 \Omega$



①

9894 & AUX-MR.B6.

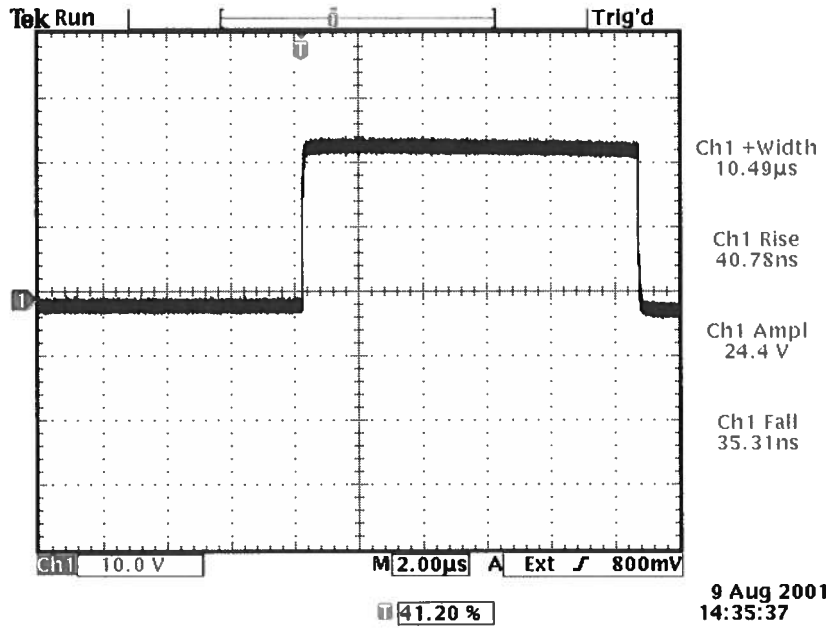
POS OUT

$Z_{out} = 2 \Omega$

100 VOLTS IN.

$R_c = 3 \Omega$

(LOAD VOLTAGE)



**AVTECH****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:                         | August 9, 2001 |          |                                     |                                    | Tester:   | MJC                         |
| Programmed model name:                | AV-1011-B-R5   |          |                                     |                                    |           |                             |
| Programmed serial number:             | 9897           |          |                                     |                                    |           |                             |
| Firmware revision:                    | 2.26           |          |                                     |                                    |           |                             |
| Internal trigger checked at:          | 1 Hz           | 100 Hz   | 1 kHz                               | 10 kHz                             | 1 MHz     |                             |
| Actual measured output <sup>1</sup> : | 0.998 Hz       | 99.6 Hz  | 0.999 kHz                           | 9.98 kHz                           | 1.006 MHz |                             |
| External trigger checked:             | yes            |          |                                     | Gate checked:                      | yes       |                             |
| Manual trigger checked:               | yes            |          |                                     |                                    |           |                             |
| Pulse compression checked:            | yes            |          | Low Amplitude PW Distortion Nulled: |                                    |           | N/A                         |
| Pulse width checked at:               | 100 ns         | 1 us     | 10 us                               | 1 ms                               |           | 100 Hz, +100V<br>to 50 Ohms |
| Actual measured output <sup>2</sup> : | 99.6 ns        | 1.006 us | 10.03 us                            | 1.002 ms                           |           |                             |
| PWin = PWout mode checked:            | yes            |          |                                     | DC mode checked:                   |           | N/A                         |
| Duty Cycle Limit:                     | 10%            |          |                                     |                                    |           |                             |
| Delay nulled:                         | yes            |          |                                     |                                    |           |                             |
| Delay checked at:                     | 100 ns         | 1 us     | 10 us                               | 1 ms                               |           | 100 Hz, +100V<br>to 50 Ohms |
| Actual measured output <sup>1</sup> : | 99.9 ns        | 0.999 us | 10.01 us                            | 1.002 ms                           |           |                             |
| Double pulse checked:                 | yes            |          |                                     |                                    |           |                             |
| Invert mode checked:                  | N/A            |          |                                     |                                    |           |                             |
| ECL/TTL modes checked:                | N/A            |          |                                     |                                    |           |                             |
| Zout switch checked:                  | yes            |          |                                     |                                    |           |                             |
| Amplitude checked at:                 | -10V           | +20V     | -50V                                | +100V                              |           | 100 Hz, 10 us<br>to 50 Ohms |
| Actual measured output <sup>2</sup> : | -10.0V         | +19.9V   | -50.0V                              | +99.6V                             |           |                             |
| Amplitude polarity:                   | +/-            |          |                                     |                                    |           |                             |
| Zout calibration:                     | N/A            |          |                                     |                                    |           |                             |
| Electronic amplitude control:         | OK             |          |                                     |                                    |           |                             |
| External amplify mode:                | N/A            |          |                                     |                                    |           |                             |
| Ultraviolet flux removed:             | yes            |          |                                     |                                    |           |                             |
| Monitor V/I Ratio:                    | N/A            |          |                                     | Monitor offset nulled:             |           |                             |
| LCD Monitor calibrated:               | N/A            |          |                                     | Monitor offset nulled:             |           |                             |
| Offset checked at:                    | N/A            |          |                                     | Amplitude-dependent offset nulled: |           |                             |
| Actual measured output <sup>2</sup> : | N/A            |          |                                     | Amplitude-dependent offset nulled: |           |                             |
| Offset nulled (output on):            | N/A            |          |                                     | Amplitude-dependent offset nulled: |           |                             |
| Offset nulled (output off):           | N/A            |          |                                     |                                    |           |                             |
| RS-232 checked:                       | yes            |          |                                     |                                    |           |                             |
| Sync pulse width checked:             | 50 ns approx   |          |                                     |                                    |           |                             |
| Circuit Boards:                       | PS:            | 93       | Main:                               | 108B                               |           |                             |
| Overload Trigger Resistance:          | Trips at:      | N/A      | Installed:                          | 4k                                 |           |                             |
| DC fuses:                             | Positive:      | 2A       | Negative:                           | N/A                                |           |                             |
| AC Current at 115 VAC:                | Quiescent:     | 0.44A    | Max. Load:                          | 0.85A                              |           |                             |
| AC fuse:                              | 1A             |          |                                     |                                    |           |                             |
| Photographed:                         | yes            |          |                                     |                                    |           |                             |

<sup>1</sup> Checked with: Fluke PM6681 Counter, referenced to Datum ExacTime 9390-6000 GPS Frequency Reference

<sup>2</sup> Checked with: Tektronix TDS3052 digital oscilloscope for PW ≥ 5 ns,  
Tektronix 7704A/7S11/7T11/S4 sampling oscilloscope system for PW < 5 ns.