

# CERTIFICATE OF CALIBRATION

Issued By Time Electronics

Date of Issue 14 Jul 2006

Certificate Number

GTRM10000

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## Time Electronics

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Approved Signatory

Martin Yule

Peter Williams

James Watts

### Customer

### TIME ELECTRONICS

Botany Ind. Est. Tonbridge Kent TN9 1RH

### Instrument

Type MULTIMETER

Date Recd 08 Jul 2006

Manufacturer TEGAM

Model Number 130A

Serial Number E1234

ID Number TE102

Procedure TEGAM-130 (9821)

### Comments

Calibrated After adjustment.  
See Cert No. 2304 for before adjustment.

### Environmental Conditions

Temperature: 29.0°C +/- 2.0°C

Relative Humidity: 30% +/- 10%

Supply Voltage: 230V +/- 2V

Supply Frequency: 50Hz +/- 5Hz

### Traceability Information

Instrument Description	Serial No:	Cert No:	Cal Date:	Cal Due:
5051 Multifunction Calibrator	3045F7	100234	13/Jul/2006	12/Jul/2007

Calibrated by: **Stuart Richards**

Date of Calibration: **14 Jul 2006**

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Test Name	Frq (Hz)	Rqd Val	Actual Value	Allowed Error	% of Spec	Pass/Fail
<b>DC Voltage Ranges</b>						
200mV D.C.		190.09 mV	190.0 mV	1.00 mV	-9 %	Pass
2V D.C.		1.9007 V	1.900 V	10 mV	-7 %	Pass
20V D.C.		19.000 V	19.00 V	105 mV	0 %	Pass
200V D.C.		189.95 V	190.0 V	1.00 V	5 %	Pass
1000V D.C.		999.88 V	1000 V	6.0 V	2 %	Pass
<b>AC Voltage Ranges</b>						
1000V A.C.	210Hz	750.0 V	750.0 V	12 V	0 %	Pass
200V A.C.	200Hz	190.00 V	190.0 V	2.4 V	0 %	Pass
20V A.C.	200Hz	18.964 V	19.00 V	238 mV	15 %	Pass
2V A.C.	200Hz	1.9000 V	1.900 V	24 mV	0 %	Pass
200mV A.C.	200Hz	190.00 mV	190.0 mV	2.4 mV	0 %	Pass
<b>DC Current Ranges</b>						
2mA D.C.		1.9020 mA	1.900 mA	20 uA	-10 %	Pass
20mA D.C.		19.040 mA	19.00 mA	200 uA	-20 %	Pass
200mA D.C.		190.20 mA	190.0 mA	2.0 mA	-10 %	Pass
2A D.C.		1.9370 A	1.900 A	39 mA	-95 %	Marginal
10A D.C.		10.297 A	10.00 A	205 mA	-145 %	Fail
<b>AC Current Ranges</b>						
10A A.C.	200Hz	10.000 A		350 mA		Fault
2A A.C.	200Hz	1.9062 A	1.900 A	62 mA	-10 %	Pass
200mA A.C.	200Hz	190.00 mA	190.0 mA	4.3 mA	0 %	Pass
20mA A.C.	200Hz	19.043 mA	19.00 mA	428 uA	-10 %	Pass
2mA A.C.	200Hz	1.8957 mA	1.900 mA	43 uA	10 %	Pass
<b>Linearity - 20V DC Range</b>						
LINEARITY 5V		5.0018 V	5.000 V	35 mV	-5 %	Pass
LINEARITY 10V		10.0012 V	10.00 V	60 mV	-2 %	Pass
LINEARITY 15V		15.0042 V	15.00 V	85 mV	-5 %	Pass
<b>Resistance Ranges</b>						
100 OHMS		100.000 R	100.1 R	900 mR	11 %	Pass
1 KOHM		1.00000 kR	0.999 kR	6.0 R	-17 %	Pass
10 KOHMS		10.0000 kR	9.99 kR	60 R	-17 %	Pass
100 KOHMS		100.000 kR	100.0 kR	600 R	0 %	Pass
10 MOHMS		10.000 MR	10.00 MR	210 kR	0 %	Pass