

ADJUSTMENT for AMPROBE ACDC-620T

1. DCV

- Set rotary-switch to " $\approx V$ " range, push the shift bottom to set DC voltage measurement. Apply 300V to the "V- Ω - μF " and "COM" input terminals adjust VR2. The reading must be adjusted to $300.0 \pm 0.1V$.

2. ACV

- Set rotary-switch to " $\approx V$ " range, apply 300V/60Hz to the "V- Ω - μF " and "COM" input terminals adjust VR3. The reading must be adjusted to $300.0 \pm 0.1V$.

3. Capacitance

- Set rotary-switch to " μF " range, apply 180 μF to the "V- Ω - μF " and "COM" input terminals adjust VR1. The reading must be adjusted to $180.0 \pm 0.1\mu F$.

4. Temperature (TYPE K thermocouple Calibrator Required)

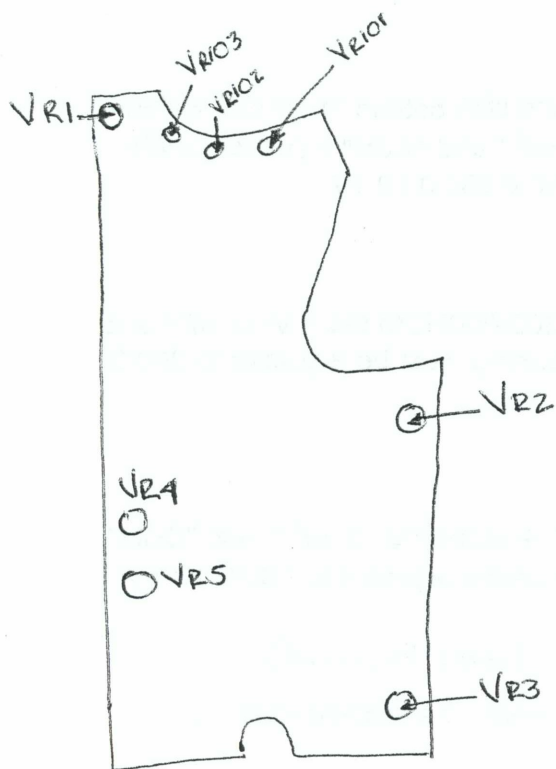
- Apply 0 °C to input jacks, then adjust the VR5. The reading must be adjusted to 0 °C.
- Apply 1000 °C to input jacks, then adjust the VR4. The reading must be adjusted to 1000°C.
- Must be calibrated 0000°C before 1000°C calibration, else the result will be mistaken.
- Be sure the source and meter have putted in same environment about 10 minutes. Just using copper wire to connect the source and meter.

5. ACA

- Set rotary-switch to " $\approx A$ " range, testing 300A(60Hz) with Jaw, adjusts VR102 for the Jaw position sensitivity (differential reading between measured coils in jaw's top side and bottom side is less then 0.3A).
- Test 300A/60Hz with jaw, in order to meet the meter accuracy specifications, the conductor must be inside the jaws and centered within the indicated marks as much as possible. To adjust VR103, the reading must be adjusted to $300.0 \pm 0.1A$.

6. DCA

- Set rotary-switch to " $\approx A$ " range, push the SHIFT button to set DC current measurement, measured current is zero, adjust VR101 and for the reading is $\pm 0.2 A$ (offsets adjust).

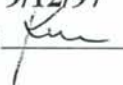


* Revised : 1/9/98

* Read Warning Statement
(Ref # W-1.0)

ACDC-620T Q.C. PROCEDURE

Written by: KL 9/12/97

Approved by KM: 

1) ACV

- a) Set the rotary switch to "V".
- b) Set the Wavetek to the values below and check the readings on the ACDC-620T.

Input (ACV)	ACDC-620T
1	0.7 - 1.3
10	9.5 - 10.5
100	98.2 - 101.8
500	489 - 511
750	736 - 764

2) DCV

- a) Set the rotary switch to "V", and press "SHIFT" button once to select DC.
- b) Set the Wavetek to the values below and check the readings on the ACDC-620T.

Input (DCV)	ACDC-620T
1	0.7 - 1.3
10	9.6 - 10.4
Press Hold button	9.6 - 10.4
0	9.6 - 10.4
Press Hold button	000.0
100	98.7 - 101.3
500	492 - 508
1000	987 - 1013

3) Resistance

- a) Set the rotary switch to " Ω ".
- b) Set the Wavetek to the values below and check the readings on the ACDC-620T.

Range	Input Ω	Reading
400 Ω	1	0.7 - 1.3
	10	9.6 - 10.4
	100	98.7 - 101.3
4k Ω	1k	0.987 - 1.013
	1	0.7 - 1.3
	Press Continuity button	Meter begins beeping
	Press Continuity button	Meter stops beeping
	Press Zero button momentarily	000.0 - 000.2
	Press Zero button	0.7 - 1.3

4) ACA Use AC/DC Console - SSR Design #1 (Green Room)

- Set the rotary switch to "A".
- Depress the coilbox taps below and check the readings on the ACDC-620T.

Note: Polarity should be negative on our AC/DC coilbox.

Coilbox taps (ACA)	ACDC-620T
5	4.4 - 5.6
95	92.6 - 97.4
100	97.5 - 102.5
500	482 - 518
950	921 - 979

5) DCA Use AC DC Bench

- Set the rotary switch to "A".
- Press the "SHIFT" button once to select DC.
- Depress the coilbox taps below and check the readings on the ACDC-620T.

Coilbox taps (DCA)	ACDC-620T
5	4.6 - 5.4
95	93.3 - 96.7
100	98.2 - 101.8
500	485 - 515
950	926 - 974

6) Power-On Options

Options	Procedure	Verify
Demonstrate Annunciators	Press and hold the MAX.MIN button while setting rotary switch to any setting from off position.	Full annunciators are displayed.
Disable auto-off	Press and hold the MAX.MIN button while setting rotary switch to any setting from "OFF" position Then press MAX.MIN again.	The "@off" annunciator on the left side of the LCD will be off. Leave meter unattended for 30 minutes. Meter should not power off.
Disable beeper functions.	Press and hold the "BEEPER" button while setting rotary switch to any setting from "OFF" position.	Press any of the meters buttons. Meter should not beep.

7) Auto power off and Sleep mode

- Set rotary switch to any setting.
- Do not use the meter for at least 15 to 20 minutes.
- Meter will enter the sleep mode and LCD displays a blinking "@OFF....".
- Press any button for 0.5 second.

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- e) Instruments powers on.
- f) Do not use the meter for at least 15 to 20 minutes.
- g) Meter will enter the sleep mode and LCD displays a blinking "@OFF....".
- h) Do not use any of the functions for at least 5 minutes.
- i) Meter shuts off.

8) Bargraph 100 counts per bar

- a) Set the rotary switch to Ω .
- b) Set the Wavetek to the input values below and check the bargraph displayed on the ACDC-620T.

Input	Count Range Displayed	Bars Displayed
10 Ω	0 - 1000	1
180 Ω	1000 - 2000	8 - 9
390 Ω	3000 - 4000	9 - 10
470 Ω	0 - 1000	4 - 5
3.9k Ω	3000 - 4000	8 - 9

9) Capacitance

- a) Set the rotary switch to "Capacitance".
- b) Set the Wavetek to the values below and check the readings on the ACDC-620T.

Input	Reading
4 μ F	3.5 - 4.5
40 μ F	38.4 - 41.6

10) Temperature

- a) Set rotary switch to "Temp. Ω " position.
- b) Press "SHIFT" button to select "Temperature".
- c) Insert thermocouple adapter DKTA - 620, making sure that $\oplus$ prong goes into red (V/ Ω / μ F) jack.
- d) Select either T1 or T2 on adapter and insert thermocouple leads from Wavetek into appropriate jack on adapter.
- e) Set Wavetek to values shown below.

Input	Reading
- 40° C	(- 43.2° C) - (- 36.8° C)
	(- 46.2° F) - (- 32.8° F)
1200° C	(1209° C) - (1191° C)
	(2209° F) - (2175° F)

- f) Make sure readings are within limit.

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11) ΔT Check (T1 - T2)

- a) Insert the thermocouple leads from Wavetek into T1 on DKTA - 620, insert a Type K thermocouple into T2 side of adapter.
- b) Move switch on adapter to center position (T1 - T2) and press ΔT button.
- c) Set Wavetek to 200° F
- d) Since T2 will be reading room temperature T1 - T2 should be around 120 +/- 5° F.

cont.
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AC/DC-620T

FEATURES

- True RMS AC and DC Current Measurement to 1000A
- True RMS AC and DC Voltage Measurement to 1000V
- Capacitance Measurement up to 4000 μ F
- *Single, Dual, and Differential Temperature Measurement up to 2502°F (1372°C)
- Dual Display of Temperature in both Celsius and Fahrenheit
- Resistance Measurement up to 4k Ω
- Dynamic Min/Max/Avg. Recording
- PEAK Hold (1ms response)
- Designed to conform to UL, ULc, TUV, CE, IEC Standards
- Overload Protection On All Ranges
- Auto/Manual Ranging
- Auto Power Off
- Sleep Mode
- Data Hold
- Audible and Visual Continuity Indicator
- Fully Annunciated 4000 Count 4 Digit LCD
- Auto Relative/Zero Reference Button
- Low Battery Indicator
- Drop Proof

* Requires one or more optional type K thermocouple model TPK-56 and single type-K adapter model TAC-DMM or Dual type-K adapter model DKTA-620. Refer to the accessory section for complete information on supplied and optional items.

ELECTRICAL SPECIFICATIONS (23°C $\pm$ 5°C, RH<80%)

DC VOLTAGE

Range	Resolution	Accuracy	Overload Protection
400V	0.1V	$\pm(1\%rdg+3dgt)$	1000V
1000V	1V		AC RMS

*Input Impedance: 10M Ω

CAPACITANCE

Range	Resolution	Accuracy	Overload Protection
400 μ F	0.1 μ F	$\pm(3\%rdg+4dgt)$	600V
4000 μ F	1 μ F	$\pm(3.5\%rdg+4dgt)$	RMS
		>2mF, NO Spec.	

With film capacitor or better, use Relative mode to zero residual.

Temperature coefficient: 0.15 x specified accuracy / °C (from 0°C to 18°C or 28°C to 50°C).

AC VOLTAGE (TRUE RMS: From 10% to 100% of range)

Range	Resolution	Accuracy	Overload Protection
400V	0.1V	45Hz~400Hz	1000V
1000V	1V	$\pm(1.5\%rdg+3dgt)$	AC RMS

*Input Impedance: 10M Ω // less than 100pF Crest factor: <3:1

PEAK VOLTAGE (1 ms PEAK HOLD)

Range	Resolution	Accuracy	Overload Protection
400V	0.1V	$\pm(1.5\%rdg+43dgt)$	1000V
1000V	1V		AC RMS

Specified accuracy $\pm$ 40 digits for changes > 1ms in duration.

*Input Impedance: 10M Ω

PEAK CURRENT (1 ms PEAK HOLD)

Range	Resolution	Accuracy
400A	0.1A	$\pm(2\%rdg+43dgt)$
1000A	1A	$\pm(2\%rdg+43dgt)$

Specified accuracy $\pm$ 40 digits for changes > 1 ms in duration.

RESISTANCE

Range	Resolution	Accuracy	Maximum Test Voltage	Overload Protection
400 Ω	0.1 Ω	$\pm(1\%rdg+3dgt)$	3.3V	600V RMS
1000 Ω	1V Ω		1.25V	

*In continuity mode, built-in buzzer sounds when resistance is less than 10.0 Ω

DC CURRENT

Range	Resolution	Accuracy
400A	0.1A	$\pm(1.5\%rdg+3dgt)$
1000A	1A	$\pm(2\%rdg+5dgt)$

AC CURRENT (TRUE RMS: From 10% to 100% of range)

Range	Resolution	Accuracy	
		45Hz-65Hz	65Hz-2kHz
400A	0.1A	$\pm(2\%rdg+5dgt)$	$\pm(3\%rdg+5dgt)$
1000A	1A	$\pm(2.5\%rdg+5dgt)$	$\pm(3\%rdg+5dgt)$

*Crest factor: <3:1

K-TYPE TEMPERATURE MEASUREMENT RANGE

Range	Resolution	Accuracy	Overload Protection
-40°C~ 1372°C	1°C	$\pm(0.5\%rdg+3^\circ\text{C})$	600 V RMS
-40°F~ 2502°C	1°F	$\pm(0.5\%rdg+6^\circ\text{F})$	

K-TYPE DIFFERENTIAL TEMPERATURE

The T1 input must be greater than T1 input for T1-T2 measuring.
The accuracy does not include the tolerance of thermocouple probe.

Range	Resolution	Accuracy	Overload Protection
-50°C< Δ T<100°C	1°C	$\pm(0.5\%rdg+3^\circ\text{C})$	600 V RMS
-58°F< Δ T<180°F	1°F	$\pm(0.5\%rdg+6^\circ\text{F})$	

