







Designator	Description
W2	WIRE LEADS, 16GA BLACK 5", (WIRE MUST MEET 037-115-000) (1) .250 FF (079-046) REF. AMP 63306-1
W1	WIRE LEADS, 16GA WHITE 5", (WIRE MUST MEET 037-115-000) (1) .250 FF (079-046) REF. AMP 63306-1
SW2	SPST SLIDE SWITCH (REF. ARK-LES S-5022CD03) (C+K# 55207) (REF CENTURY #246-421-000)
SW1	SPST SLIDE SWITCH (REF. ARK-LES S-5022CD06) (C+K+S5207) (REF CENTURY +246-421-000)
R14	RESISTOR, 22 OHM 1/4 W 5%
R13	RESISTOR, 1K OHM 1/4 W 5%
R12	RESISTOR, 270 OHM 1/2 W 5%
R11	RESISTOR, 510 OHM 1/4 W 5%
* R10	RESISTOR, 3.0K OHM 1/4 W 5%
R9	POTENTIOMETER, 2K OHM (REF. PHIER PT10V2KA)
· R8	RESISTOR, 300 OHM 1/4 W 5%
R7	RESISTOR, 3.3K OHM 1/4 W 5%
R6	POTENTIOMETER, 500 OHM (REF. PHIER PT10V500A)
R5	RESISTOR, 1.2K OHM 1/4 W 5%
R4	RESISTOR, 1K OHM 1/4 W 5%
R3	RESISTOR, 220 OHM 1/2 W 5%
R2	RESISTOR, 470 OHM 1/2 W 5%
R1	RESISTOR, 470 OHM 1/2 W 5%
Q5	SCR 55 AMP NON-ISOLATED (CENTURY SUPPLIED #244-073-000)
Q4	TRANSISTOR, NPN (REF. MPS3904)
Q3	TRANSISTOR, PNP REF. (Motorola MPSA93, 2N5401 or equ.)
Q2	TRANSISTOR, PNP REF. (Motorola MPSA93, 2N5401 or equ.)
Q1	TRANSISTOR, PNP REF. (Motorola MPSA93, 2N5401 or equ.)
PCB1	CIRCUIT BOARD REF. (CENTURY # 510-126-000)
D5	DIODE, 1 AMP 100V MIN, REF. 1N4002-1N4007
D4	LED, RED T 1-3/4 DIFFUSED LENS (REF. PANASONIC LN21RPHL OR EQUIV.)
D3	LED, GREEN T 1-3/4 DIFFUSED LENS (REF. PANASONIC LN31GPHL OR EQUIV.)
D2	DIODE, ZENER 1N4728A
D1	DIODE, 1 AMP 100V MIN, REF. 1N4002-1N4007
C2	CAPACITOR, ELECTROLYTIC 2.2 UF 25V MIN. (REF. PANASONIC ECE-B1JU2R2 OR EQUIV.)
C1	CAPACITOR, CERAMIC .1 UF 25V MIN. (REF. PHILIPS A104M15Z5UFVVWN)

## CALIBRATION PROCEDURE

SCR AND INDICATOR LIGHT TEST PROCEDURE: REFERENCE TESTER (620-002-000) AND TEST SHEET (850-005-044)

SUPPLY 20 VOLT PEAK FULL WAVE RECTIFIED D.C. TO J1 AND W1 (POSITIVE TO J1, NEGATIVE TO W2). NOTE: SCR MUST BE IN CIRCUIT. CONNECT D.C. POWER SUPPLY TO W6 AND J1 (POSITIVE TO J1, NEGATIVE TO W6). SLOWLY INCREASE THE POWER SUPPLY FROM 0 V.D.C. TO 3.0 V.D.C. MONITOR GREEN LED FOR ILLUMINATION.

SUPPLY 15 V.D.C. BETWEEN JI AND W2 (NEGATIVE TO J1, POSITIVE TO W2). MONITOR THE RED LED FOR ILLUMINATION.

CALIBRATION TEST: REFERENCE CENTURY TESTER (620-001-000), AND CENTURY TEST SHEET (850-005-032)

- APPLY VRAMP TO J1 AND W2 (NEGATIVE TO W2 AND POSITIVE TO J1, MEASURE THE RISING EDGE OF THE SWITCHING PULSE AT THE JUNCTION OF Q4 AND R10 TO OBTAIN THE LOW END READING. NOTE: MEASURE DEVICE INPUT IMPEDANCE MUST BE GREATER THAN 10K OHMS.
- SLOWLY TURN "LOW" POTENTIOMETER (R9) COUNTERCLOCKWISE UNTIL A STABLE READING OF 13.30 TO 13.40 VOLTS AT 22 DEGREES CELSIUS IS OBTAINED. NOTE: "LOW" CALIBRATION HAS A -35.7mV PER DEGREE CELSIUS NEGATIVE TEMPERATURE COEFFICIENT.
- 3. APPLY V<sub>RAMP</sub> TO J1 AND W2 (NEGATIVE TO W2 AND POSITIVE TO J1, MEASURE THE FALLING EDGE OF THE SWITCHING PULSE AT THE JUNCTION OF Q4 AND R10 TO OBTAIN THE LOW END READING. NOTE: MEASURE DEVICE INPUT IMPEDANCE MUST BE GREATER THAN 10K OHMS.
- 4. SLOWLY TURN "HIGH" POTENTIOMETER (R6) COUNTERCLOCKWISE UNTIL A STABLE READING OF 16.40 TO 16.50 VOLTS AT 22 DEGREES CELSIUS IS OBTAINED. NOTE: "HIGH" CALIBRATION HAS A -24.7mV PER DEGREE CELSIUS NEGATIVE TEMPERATURE COEFFICIENT.

NOTE: NO FURTHER CALIBRATION ADJUSTMENTS AFTER 10 SECONDS, BOTH READINGS TO BE TAKEN AT 15 SECONDS. IF READING IS MISSED AT FIFTEEN SECONDS, LET COOL 5 MINUTES MINIMUM.

141-290-902, 87151C

865-824-001 P4