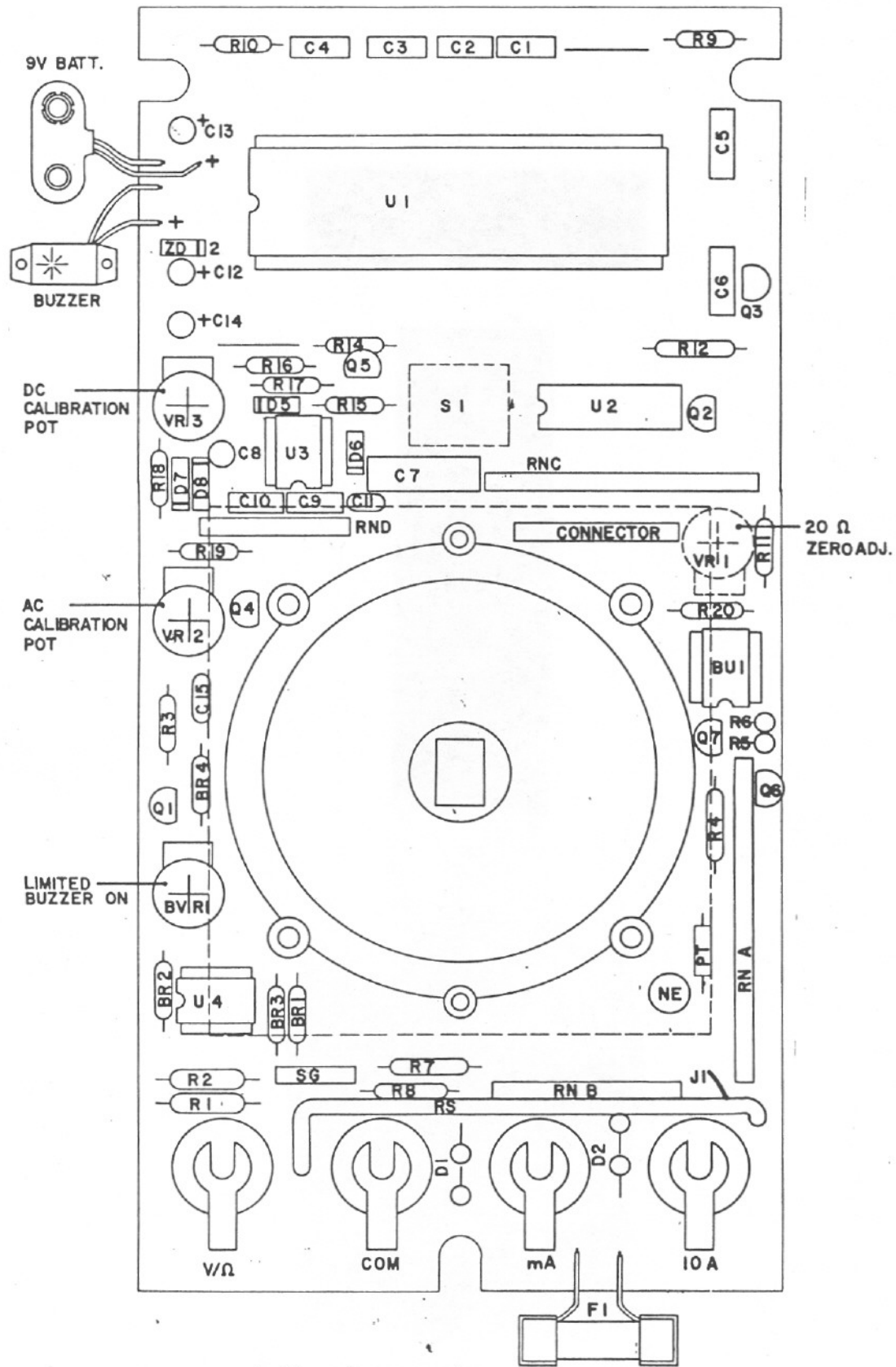


2M-8010

FIG. 15-2 COMPONENT LAYOUT



Note: Subsequent revisions to this document may exist. Use for general reference.

Calibration Procedure:

This procedure should be performed at an ambient temperature of $23 \pm 2^\circ \text{C}$ and a relative humidity of less than 80%. Allow the instrument to stabilize at this temperature for a minimum of 30 minutes.

1. Remove the battery cover, battery and the three screws holding the back case to the front case.
2. Lay the DM-8010 upside down on a soft non conductive surface and slowly remove the back case.
3. Remove the two wire leads at the base of the circuit board by prying up on the connector with a small screw driver. Do not pull on the wire.
4. Remove the two wire leads at the top left of the circuit board connecting the buzzer to the circuit board and remove the back case.
5. Install the test leads, select the 200 mVdc range and reconnect the 9V battery.
6. Connect the test leads to a 190 mVdc $\pm 0.02\%$ calibrator and adjust the "DC, ADJ" potentiometer until the DM-8010 reads exactly 190.0.
7. Remove the calibrator and switch to the 200 mVac range.
8. Connect the test leads to a 190 mVac $\pm 0.05\%$ calibrator at a frequency of 45-500 hz. Select a frequency at which the highest accuracy is desired. Adjust the "AC, ADJ" potentiometer until the DM-8010 reads exactly 190.0.
9. Remove the calibrator and then the test leads from the instrument.
10. Reverse steps 4 through 1 to replace the back case.

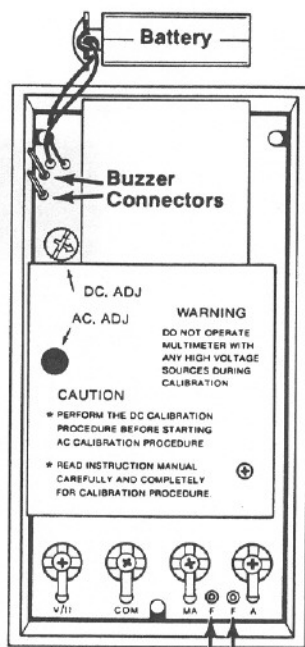


Fig. 3 Connectors at base of Circuit Board

Sec. 14 RETURN FOR REPAIRS

Before returning your DM-8010 for repair be sure to check that the failure to operate properly is not due to the following:

1. weak battery
2. open fuse
3. open test leads

If these conditions do not exist and the instrument fails to operate properly, return the instrument and accessories prepaid to

A.W. Sperry Instruments Inc.
Customer Service Department
245 Marcus Blvd.
Hauppauge, N.Y. 11788

State in writing what is wrong with the instrument. All warranty returns must state "In Warranty" and we must have a warranty card on file. See Warranty statement on page 2 for full warranty disclosure. Repair estimates will be furnished if requested for out of warranty instruments.

DC Volts

RANGE	RESOLUTION	18°-28°C ACCURACY	INPUT IMPEDANCE
200mV	100µV	± (0.25% rdg + 1d)	10MΩ
2V	1mV	"	"
20V	10mV	"	"
200V	100mV	"	"
1000V	1V	"	"

Overload Protection: 1000 Vdc or peak ac on all ranges
 Normal Mode Rejection Ratio: >46 dB at 50/60 Hz (1K unbalance)

AC Volts (average responding, calibrated in RMS of a sinewave)

RANGE	RESOLUTION	18°-28°C ACCURACY 45-500Hz	INPUT IMPEDANCE
200mV	100µV	± (0.5% rdg + 5 d)	10MΩ shunted by < 100 pF
2V	1mV	"	"
20V	10mV	"	"
200V	100mV	"	"
750V	1V	± (1.0 rdg + 5d)	"

Overload Protection: 1000 Vdc or 750 Vac Continuous except 200mV range, 15 sec. max. above 300 V.

DC Current

RANGE	RESOLUTION	18°-28°C ACCURACY	FULL SCALE VOLTAGE BURDEN
20µA	10nA	± (0.75% rdg + 1d)	0.25V maximum
200µA	100nA	± (0.5% rdg + 1d)	0.25 "
2mA	1µA	"	0.25 "
20mA	10µA	"	0.4 "
200mA	100µA	+ (0.75% rdg + 1d)	1.9 "
10A	10mA	± (1.5% rdg + 5d)	1.7V maximum

Overload Protection: 0.2A/250V fuse on mA inputs.
 15A for 15 sec. on 10A input.

AC Current (average responding, calibrated in RMS of a sinewave)

RANGE	RESOLUTION	18°-28°C ACCURACY 45-500 Hz	FULL SCALE VOLTAGE BURDEN
20µA	10nA	± 1% rdg + 5d)	0.25Vrms maximum
200µA	100nA	± (0.75 rdg + 5d)	0.25 "
2mA	1µA	"	0.25 "
20mA	10µA	"	0.4 "
200mA	100µA	"	1.9 "
10A	10mA	± (2% rdg + 5d)	1.7Vrms maximum

Overload Protection: 0.2A/250V fuse on mA inputs.
 15A for 15 sec. on 10A input.

Resistance

RANGE	RESOLUTION	18°-28°C ACCURACY	FULL SCALE VOLTS	SHORT CIRCUIT CURRENT
20Ω	10mΩ	± (3% rdg + 5d)	35mV ± 20%	1.8mA ± 20%
200	0.1Ω	± (0.5% rdg + 3d)	400mV "	2.3mA "
2K	1Ω	± (0.3% rdg + 1d)	250mV "	240µA "
20K	10Ω	"	320mV "	45µA "
200K	100Ω	"	330mV "	5µA "
2M	1KΩ	± (0.75 rdg + 2d)	330mV "	0.5µA "
20M	10KΩ	± (1.5 rdg + 1d)	330mV "	0.05µA "

Overload Protection: 500V ac/dc all ranges.
 Maximum Open Circuit Volts: 500mV ± 20%, except 20Ω and 200Ω ranges 2.8V ± 20%.

Continuity

Buzzer sounds at approximately less than 200Ω
 Response time: less than 100m Sec.
 Open circuit voltage: 2.8 Vdc ± 20%
 Overload protection: 500 Vac/dc

Diode Test (Display will indicate resistance in kΩ)

Open circuit voltage: 2.2 Vdc ± 20%
 Maximum test current: 3 mAdc ± 20%
 Full scale voltage: 1.4 Vdc ± 20%
 Overload protection: 500 Vac/dc