

## ERRATA #1

On page 5-8, Figure 5-3 and page 8-6, Figure 8-2:  
 FROM: AK50 and AR51  
 TO: U50 and U51

## ERRATA #2

On page 1-8:

|       |  |     |  |
|-------|--|-----|--|
| FROM: | <pre> -----   OPEN   CIRCUIT   VOLTAGE -----     3.5V     1V     1V ----- </pre> | TO: | <pre> -----   OPEN   CIRCUIT   VOLTAGE -----     &lt;3.5V     &lt;1V     &lt;1V ----- </pre> |
|-------|--|-----|--|

Change format and values of ENVIRONMENTAL: Spec as follows:  
 (Start at and include "OPERATING TEMPERATURE")

## OPERATING CONDITIONS:

|                    |   |
|--------------------|---|
| Temperature:       | 0 to 50 degree C<br>(32 to 122 degree F)  |
| Relative Humidity: | 0 to 80%, 0 to 35 degree C<br>(32 to 95 degree F) on 200<br>kOhm, 20 MOhm, & 200 S ranges.<br><br>0 to 90%, 0 to 35 degree C (32<br>to 95 degree F) on all other<br>ranges.<br><br>0 to 70%, 35 to 50 degree C (95<br>to 122 degree F). |

## STORAGE CONDITIONS:

|                    |  |
|--------------------|--|
| Temperature:       | (Without batteries): -40 to +60<br>degree C (-40 to +140 degree F)<br>(With batteries): -40 to +50<br>degree C (-40 to +50 degree C,<br>-40 to +122 degree F). |
| Relative Humidity: | 0 to 90%, -40 to 50 degree C<br>(-40 to +122 degree F).<br>0 to 90%, 50 to 60 degree C<br>(122 to 140 degree F).   |

## GENERAL:

|                             |                     |
|-----------------------------|---------------------|
| Maximum Common Mode Voltage | 500V dc/or peak ac. |
|-----------------------------|---------------------|

CHANGE/ERRATA INFORMATION

ISSUE NO: 4

6/80

This change/errata contains information necessary to ensure the accuracy of the following manual. Enter the corrections in the manual if either one of the following conditions exist:

1. The revision letter stamped on the indicated PCB is equal to or higher than that given with each change.
2. No revision letter is indicated at the beginning of the change/errata.

MANUAL

Title: MODEL 8010A/8012A  
Print Date: August 1978  
Rev. and Date: 1 - 9/78

C/E PAGE EFFECTIVITY

| Page No. | Print Date |
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| 1        | 9/78       |
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| 4        | 8/79       |
| 5        | 11/79      |
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| 7        | 6/80       |

|                    |   |
|--------------------|---|
| Power Requirements | 90 to 132V, or 200 to 264V, 50 or 60 Hz.              |
|                    | 2 watts (standard models), 3.5 watts (battery model). |
| Size:              | 22 cm by 6 cm by 25 cm (8 1/2" by 2 1/2" by 10").     |
| Weight:            |   |
| Line Model         | 1.08 kg (2 lb. 6 oz.)                                 |
| Battery Model      | 1.42 kg (3 lb. 6 oz.)                                 |

On page 1-6, under "AC VOLTS (TRUE RMS RESPONDING)":  
 FROM: ACCURACY for 1 - Year  
 TO: ACCURACY from 5% of Range to Full-Scale, 1 - Year

Extend the 20 kHz to 50 kHz column to include the 200V range.

On page 1-7, under "RESISTANCE":

|                       |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
|-----------------------|--|-----------------------|-------|------|--------|------|--------|------|-----|--|-----------------------|--------|-------|--------|-------|--------|-------|
| FROM:                 | <table border="1" style="border-style: dashed; width: 150px; height: 150px;"> <tr><td style="text-align: center;">FULL-SCALE<br/>VOLTAGE</td></tr> <tr><td style="text-align: center;">0.25V</td></tr> <tr><td style="text-align: center;">1.0V</td></tr> <tr><td style="text-align: center;">&lt;0.25V</td></tr> <tr><td style="text-align: center;">1.0V</td></tr> <tr><td style="text-align: center;">&lt;0.25V</td></tr> <tr><td style="text-align: center;">1.5V</td></tr> </table> | FULL-SCALE<br>VOLTAGE | 0.25V | 1.0V | <0.25V | 1.0V | <0.25V | 1.5V | TO: | <table border="1" style="border-style: dashed; width: 150px; height: 150px;"> <tr><td style="text-align: center;">FULL-SCALE<br/>VOLTAGE</td></tr> <tr><td style="text-align: center;">&lt;0.25V</td></tr> <tr><td style="text-align: center;">&gt;1.0V</td></tr> <tr><td style="text-align: center;">&lt;0.25V</td></tr> <tr><td style="text-align: center;">&gt;1.0V</td></tr> <tr><td style="text-align: center;">&lt;0.25V</td></tr> <tr><td style="text-align: center;">&gt;1.5V</td></tr> </table> | FULL-SCALE<br>VOLTAGE | <0.25V | >1.0V | <0.25V | >1.0V | <0.25V | >1.5V |
| FULL-SCALE<br>VOLTAGE |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| 0.25V                 |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| 1.0V                  |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| <0.25V                |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| 1.0V                  |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| <0.25V                |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| 1.5V                  |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| FULL-SCALE<br>VOLTAGE |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| <0.25V                |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| >1.0V                 |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| <0.25V                |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| >1.0V                 |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| <0.25V                |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |
| >1.5V                 |  |                       |       |      |        |      |        |      |     |  |                       |        |       |        |       |        |       |

ERRATA #3

On page 601-4:  
 FROM: MP12  
 TO: BT1

CHANGE #1 - 12020  
 Rev.- A, Main PCB Assembly  
 Rev.- A, Main PCB Assembly -01 Option

On pages 5-4 and 601-4:  
 FROM: H6|Screw, RHP, 6-32 x 3/16|114942|89536|114942|2  
 TO: H6|Screw, RHP, 6-32 x 1/4|385401|89536|385401|2  
  
 FROM: H8|Screw, RHP, 6-32 x 3/16|114942|89536|114942|1  
 TO: H8|Screw, RHP, 6-32 x 1/4|385401|89536|385401|REF

On page 4-8, para. 4-51, step 7:  
 FROM: R6  
 TO: R4

CHANGE #2 - 12111

Rev.- C, Low Ohms PCB Assembly (8012A-4101)

On page 5-8:

FROM: R58|Res, Var, 50K  $\pm 20\%$ , 1/2W|484089|01121|70M1G232L503M|1|1  
 TO: R58|Res, Var, 50K  $\pm 20\%$ , 1/2W|501601|89536|501601|1|1

FROM: R62|Res, Dep. Car. 1K  $\pm 5\%$ , 1/4W|343426|80031|CR251-4-5P1K|1  
 TO: R62|Res, Dep. Car. 470  $\pm 5\%$ , 1/4W|343434|80031|CR251-4-5P470E|1

FROM: R64|Res, Dep. Car. 1.3M  $\pm 5\%$ , 1/4W|442558|80031|CR251-4-5P1M3T|REF  
 TO: R64|Res, comp, 4.7M  $\pm 5\%$ , 1/4W|220046|01121|CB4755|1

ADD: R65|Res, Dep. Car. 2.2K  $\pm 5\%$ , 1/4W|441675|80031|CR251-4-5P8K2|1

ADD: R66|Res, Dep. Car. 2.2K  $\pm 5\%$ , 1/4W|343400|80031|CR251-4-5P2K2|1

ADD: VR51|Diode, zener, 6.8V|453019|07910|1N5235|1

Change TOT QTY of R63, FROM: 2 TO: 1

On page 5-8, Figure 5-3, and page 8-6, Figure 8-2:

Add R65, VR51 and their symbols between the upper left hand corner of the PCB & perpendicular to U51, (cathode towards W50). Also Add R66 between the left hand side of the PCB & parallel to C51

On page 8-6, replace Figure 8-2 with Figure 1:

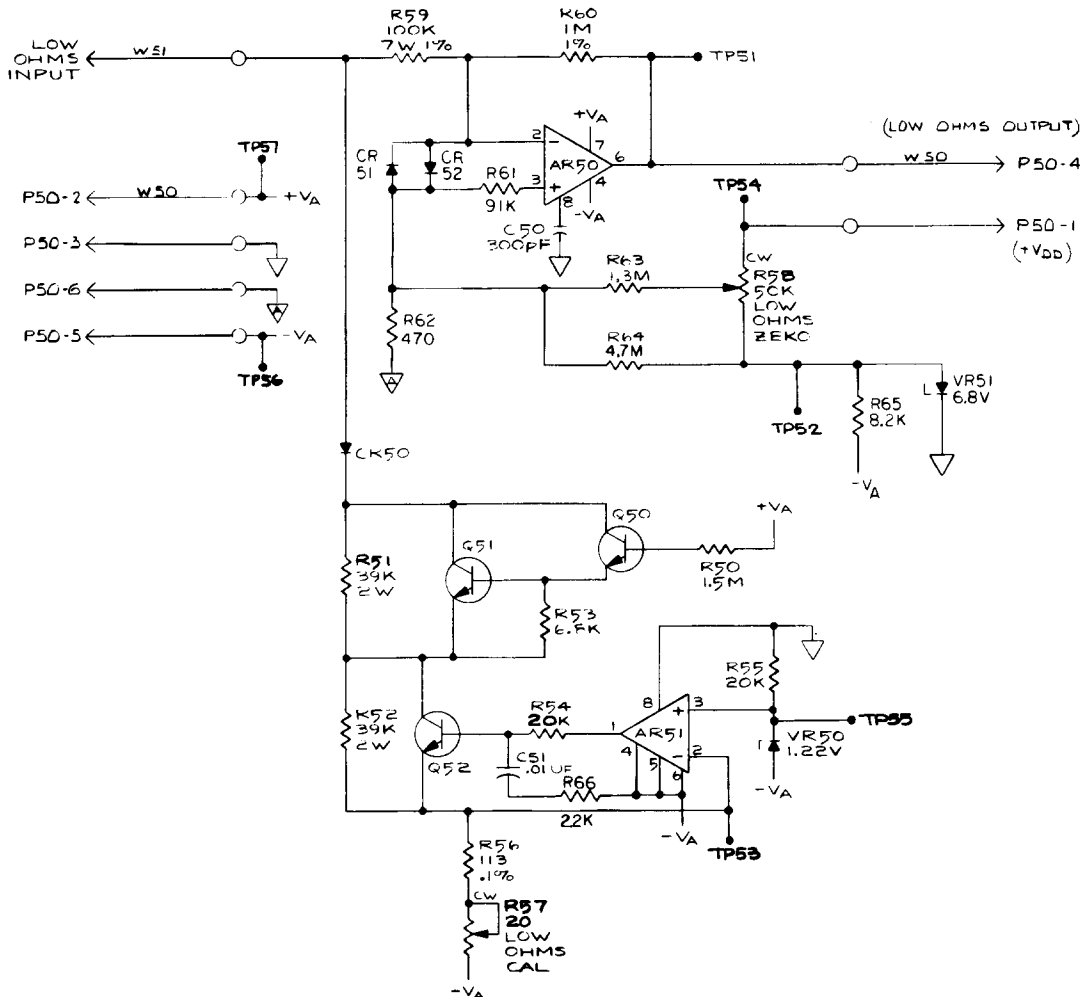


Figure 1.

## ERRATA #4

On page 601-3:

Change C11 and C13 FROM: 250V TO: 100V

On page 2-2:

Place " " at the end of para. 2-13's title.

On page 1-2:

Add the following sentence to the end of para. 1-17:

"If the DMM is equipped with an -01 Battery Option, the POWER switch should be in the OFF position when recharging the battery."

Add the following sentence to the end of para. 1-6:

"If your instrument is equipped with the -01 Battery Option, the battery must be charged before you can operate the DMM. Refer to Section 6 for instructions on charging the battery."

On page 1-8, add the following spec to the bottom of Table 1-1:

-01 Battery Power and Selectable Line Frequency Rejection Option.  
Line Frequency Rejection that may be selected; 50 Hz or 60 Hz

**BATTERY:**

Type: Two rechargeable size "C" NiCad cells

Operation

Time: 15 to 30 hr. (typical) depending upon functions used.

Recharge

Time: Approx. 14 hr. (power switch in the "OFF" position.)

**LOW BATTERY**

Power

Indicator: "BT" will appear on the DMM Front Panel display. About 1/2 hr. of operation remains when "BT" appears.

On page 2-11:

Between step 4 and Figure 2-8, add the following step:

5. For operating information on DMMs equipped with the -01 Battery Option, refer to Section 6.

On page 3-1:

Add the following sentence to the end of para. 3-2:

"If the -01 Battery Option is installed, refer to Section 6 for a description of the Theory of Operation.

On page 4-8:

Add the following sentence to the end of para. 4-49:

"If your DMM is equipped with the -01 Battery Option, refer to Section 6. DO NOT ATTEMPT THIS PROCEDURE."

On page 601-1:

Delete the last sentence of para. 601-2:

Add the following paragraphs:

601-2a. SPECIFICATIONS

601-1. The specifications for the -01 Option are presented in the 8010A/8012A Spec. Table, in Section 1.

601-2c. OPERATION

601-2d. Operation of a DMM equipped with the -01 Option is the same as the operation of a standard DMM except that noise rejection can be selected for either 60 Hz or 50 Hz. When you receive your DMM, the decal on the bottom of the DMM will be marked with the position of Line Frequency Selection Switch, S3, either 50 Hz or 60 Hz position. To select the alternate line frequency condition, remove the top case cover of the instrument using the access procedure presented in Section 4, and set S3 to the desired position. To recharge the battery, connect the DMM to line power and set the POWER switch to the OFF position, full battery charge takes about 14 hours.

CHANGE #3 - 12337

Rev.- C, Main PCB Assembly, -01 Option (8010A-4011)

On page 601-4:

FROM: Q6|Xstr, Si, PNP-418707|04713|MPS6562|1|1  
TO: Q6|Xstr, Si, PNP|523647|04713|MPS6651|

CHANGE #4 - 12572

Rev.- D, Main PCB Assembly (8010A-4001)

Rev.- D, Main PCB Assembly, -01 Option (8010A-4011)

On page 1-6:

Change COMMON MODE REJECTION RATIO:

FROM: >120 dB  
TO: >90 dB

On pages 5-5 and 601-5:

ADD: R33|Res, comp, 3.3M +5%, 1/4W|208389|01121\CB3355|1  
ADD: R34|Res, Dep. Car. 47M +10%, 1/2W|146415|89536|146415

On pages 5-7, 601-6, and 8-2:

Add R33 and it's symbol, vertically and to the right of T1  
Add R34 and it's symbol, vertically and to the right of U8

On page 8-1:

At the bottom of Figure 8-1, add R33 and R34 as shown in Figure 2.

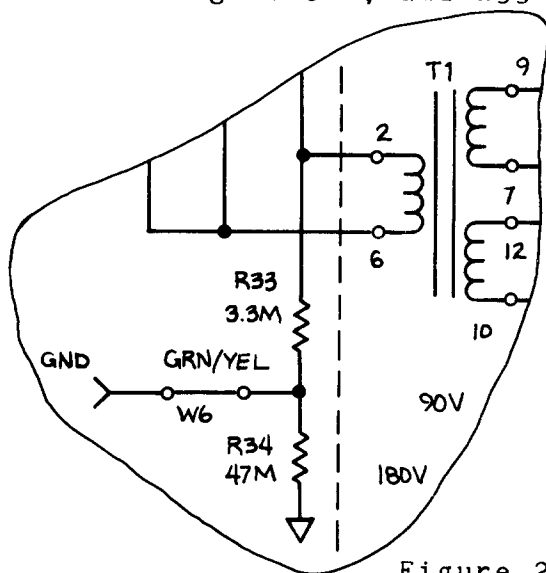


Figure 2.

#### ERRATA #5

On page 2-8, top of Figure 2-5:

FROM: (1 mS=kohm)  
TO: (?/mS=kohm)

FROM: (1 uS=Mohm)  
TO: (?/uS=Mohm)

FROM: (1000 nS=Mohm)  
TO: (1000/nS=Mohm)

#### ERRATA #6

On page 2-2, under para. 2-13:

FROM:

#### CAUTION

Exceeding the maximum input overload limits can damage your instrument.

TO:

#### CAUTION

Exceeding the maximum input overload limits can damage your instrument. The transient overload protection circuit is intended to protect against short duration high energy pulses. The components used limit the protection to approximately five pulses per second for 6 kV microsecond pulses, and about 0.6 watts average for lower pulses. Fast rep rate pulses as from a TV set can damage the protection components; RV1-RV3, R1, and R2, if replaced, use only Fluke replacement parts to maintain product safety.

## CHANGE #5 - 12976

Rev.- D, A2 Low Ohms PCB Assy (8012A-4101)

On page 5-8:

DELETE: W50|Cable, Flat, 7 Cond.|494187|89536|494187|1  
 ADD: J1|Connector, 7 Cond.|484030|00779|1-583773-4|1

On page 5-8, Figure 5-3:

Delete W50 entirely.

## ERRATA #7

On page 2-4, second column from the bottom of Figure 2-1:

CHANGE:  $k = D - D^2$

TO:  $k = \sqrt{D - D^2}$

## CHANGE #6 - 13123, 13174

Rev.- E, A1 Main PCB Assembly (8010A-4001)

Rev.- E, A1 Main PCB Assembly -01 Option (8010A-4011)

On page 5-4 and 601-3:

CHANGE: DS1|Liquid Crystal Display (LCD)|453100|89536|453100|1  
 TO: DS1|Liquid Crystal Display (LCD)|504324|89536|504324|1

## ERRATA #8

On page 4-5, para. 4-31, step 6:

CHANGE: ... and 00.3 .  
 TO: ... and 01.0 .

On page 4-5, para. 4-31, add the following substep to step 8:

d. Repeat step 8 for all conductance ranges using an open circuit. Verify that the display reads all zeros.

On page 1-5, para. 1-36:

CHANGE: If you want to measure a low resistance device, remove the 2A fuse located behind the mA terminal.

TO: If you want to test a low resistance device the 2A fuse can be used as the device. It is located behind the mA terminal.

On page 601-4:

Change the MFG SPLY CODE for R10, FROM: 80031, TO: 89536 .