SECTION II
INSTALLATION

2-1. INTRODUCTION

2-2. This section of the manual has the necessary information and instructions to install and interface the -hp- Model 3478A Digital Multimeter. Included are initial inspection procedures, power requirements, environmental information, and instructions for repacking the instrument for shipment. The information in this section is for Service Trained Personnel.

WARNING

The information in this manual is for the use of Service Trained Personnel. To avoid electrical shock, do not perform any procedures in this manual or do any servicing to the 3478A unless you are qualified to do so.

2-3. INITIAL INSPECTION

2-4. The 3478A was carefully inspected both mechanically and electrically before shipment. It should be free of mars or scratches and in perfect electrical order upon receipt. The multimeter should be inspected for any damage that may have occurred in transit. If the shipping container or cushioning material is damaged, it should be kept until the contents of the shipment have been checked for completeness and the instrument has been mechanically and electrically checked. Procedures for checking the electrical performance of the 3478A are in Section IV. If there is mechanical damage, the contents are incomplete, or the multimeter does not pass the Performance Test, notify the nearest Hewlett-Packard office (a list of the -hp-Sales/Service offices is located in the back of the manual). If the shipping container is damaged or the cushioning material shows signs of stress, notify the carrier as well as the Hewlett-Packard office. Save the shipping material for the carrier's inspection.

2-5. POWER REQUIREMENTS

2-6. The 3478A requires a power source of 100V, 120V, 220V, or 240V ac (−10%, +5%), 48Hz to 440Hz single phase. The maximum power consumption is 25VA. For the 3478A to meet its noise and normal mode rejection specifications, the multimeter must be operated using a *line frequency of either 50Hz or 60Hz* (dependent on instrument option). A listing of the 3478A's power options, the corresponding power line voltages and frequencies, and fuses are as follows:

Option	Voltage and Frequency	Fuse
Option 315	100V ac @ 50Hz	250mAT
Option 316	100V ac @ 60Hz	250mAT
Option 325	120V ac @ 50Hz	250mAT
Option 326	120V ac @ 60Hz	250mAT
Option 335	220V ac @ 50Hz	125mAT
Option 336	220V ac @ 60Hz	125mAT
Option 345	240V ac @ 50Hz	125mAT
Option 346	240V ac @ 60Hz	125mAT

CAUTION

Before connecting power to the 3478A, make sure the power source matches the power requirements of the multimeter, as marked on the rear panel (below the power receptacle). If the instrument is incompatible with the available power source, go to paragraph 2-7 to reconfigure the multimeter.

2-7. Line Frequency and Line Voltage Selection

WARNING

To avoid electrical shock and personal injury, make sure the multimeter is disconnected from its external power voltage source before removing any covers.

2.8 The Power Line Frequency configuration of the 3478A is set by the leftmost switch in the 8 secion "DIP" switch on the multimeter's rear panel. Locate the switch and set the rocker to the desired line power frequency (either 50 Hz or 60 Hz). The switch is shown in Figure 2-1 (shown set for 60 Hz operation). To set the 3478's input line voltage, perform the following procedure.

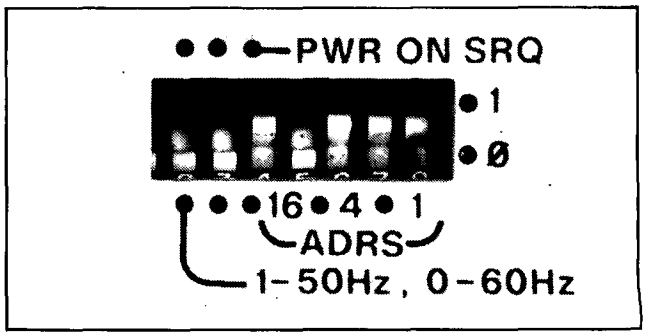


Figure 2-1. Line Frequency Switch

a. Remove the 3478A rear bezel and top cover as described in Section V of this manual.

b. Locate the Line Select wire (gray) and the line terminals. The Line and the terminals are located between the 3478A's power transformer and rear panel.

c. Refer to Figure 2-2 and connect the gray wire to the line terminal corresponding to the desired input line voltage.

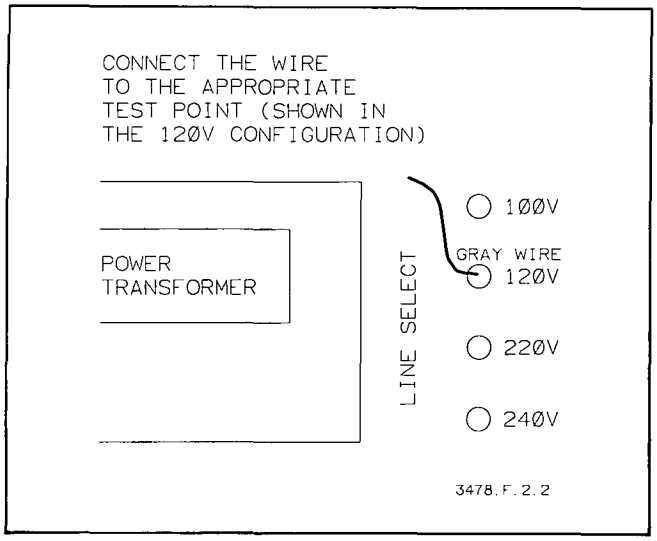


Figure 2-2. Line Select Jumper

d. After changing the Line Voltage, make sure the correct fuse is installed. For 100 V or 120 V operation, use a .25AT 250 V fuse (-hp- Part No. 2110-0201). For 220 V or 240 V operation, use a .125AT 250 V fuse (-hp- Part No. 2110-0318).

e. Reinstall the 3480A top cover and rear bezel.

2-9. POWER CORDS AND RECEPTACLES

2-10. Figure 2-3 illustrates the different power plug configurations that are available to provide power to the 3478A. The -hp- part number shown directly below the individual power plug drawing is the part number for the power cord set equipped with the appropriate mating plug for that receptacle. If the appropriate power cord is not included with the instrument, notify the nearest -hp- Sales and Support Office and a replacement will be provided.

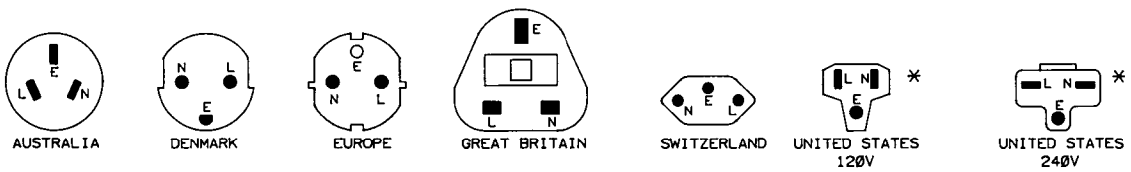
2-11. GROUNDING REQUIREMENTS

2-12. To protect operating personnel, the National Electrical Manufacturing Association (NEMA) recommendation is to ground the instrument panel and cabinet. The 3478A is equipped with a three conductor power cable which, when plugged into an appropriate receptacle, grounds the instrument.

2-13. BENCH USE AND RACK MOUNTING

2-14. Bench Use

POWER CORDS



Country	Part Number	Opt.	Voltage
Australia	8120-1369	901	250V 6A
Denmark	8120-2956	912	250V 6A
Europe	8120-1689	902	250V 6A
Great Britain	8120-1351	900	250V 6A
Switzerland	8120-2104	906	250V 6A
*United States	8120-1378	903	120V 10A
*United States	8120-0698	904	240V 10A

Power cords supplied by HP have polarities matched to the power input socket on the instrument:

- L = Line or Active Conductor (also called "live" or "hot").
- N = Neutral or Identified Conductor
- E = Earth or Safety Ground

NOTE: Plugs are viewed from connector end. Shape of molded plug may vary within country.

* CSA certification includes only these Power Plugs

Figure 2-3. Power Cords