Servicing the Mirage is quite simple and straightforward. Rather than diagnose and replace individual components, you will replace complete modules. The Ensoniq Module Exchange Program is available to all Authorized Repair Stations and will be the most cost and time efficient method for both you and your customer.

At Ensoniq we are equipped with sophisticated machinery to diagnose module faults quickly and accurately. The exchange program will help you to make reliable repairs to your customers' instruments with a minimum of downtime and expense.

The troubleshooting chart will cover just about any occurrence and will tell you which module should be replaced. Refer to the appropriate section for the steps involved in the replacement of the particular module.

TROUBLESHOOTING THE MIRAGE

Most problems with the Mirage will be fairly easy to diagnose, with a few exceptions. What may appear to be disk drive or display problems are often problems with the power supply or with a defective diskette. For this reason, we recommend that you always load a diskette that you know is good and check the power supply before troubleshooting the rest of the unit.

TO CHECK THE POWER SUPPLY

First, plug the Mirage in and turn it on. Then remove the five screws securing the control panel and raise the panel. Check to make sure that all the connections are secure and correct.

When the Mirage has warmed up for five minutes begin to test the voltages at the points shown in Figure 2 and Figure 3A - 3B. If the voltages vary outside the allowable limits, replace the power supply and test the unit before proceeding with further diagnosis.

TRANSFORMER AND POWER SUPPLY VOLTAGE CHECK POINTS

The following charts show the connector terminal number and correct voltage values for the power supply and transformer.

POWER SUPPLY VOLTAGE MEASUREMENTS

VOLTAGE VALUE	MEASURE BETWEEN TERMINAL NO.'S
+5VDC ±5% (50mv AC ripple max.)	2 - 4 3 - 4 5 - 6 5 - 7 6 - 8 7 - 8
+12VDC ±10% (100mv AC ripple max.)	1 - 2 1 - 3 5 - 9 8 - 9
-12VDC ±10% (100mv AC ripple max.)	5 - 10 8 - 10
7.5VAC	11 - 13 12 - 13
12VAC	14 - 15 14 - 16
15VAC ±20%	11 - 12
24VAC ±20%	15 - 16

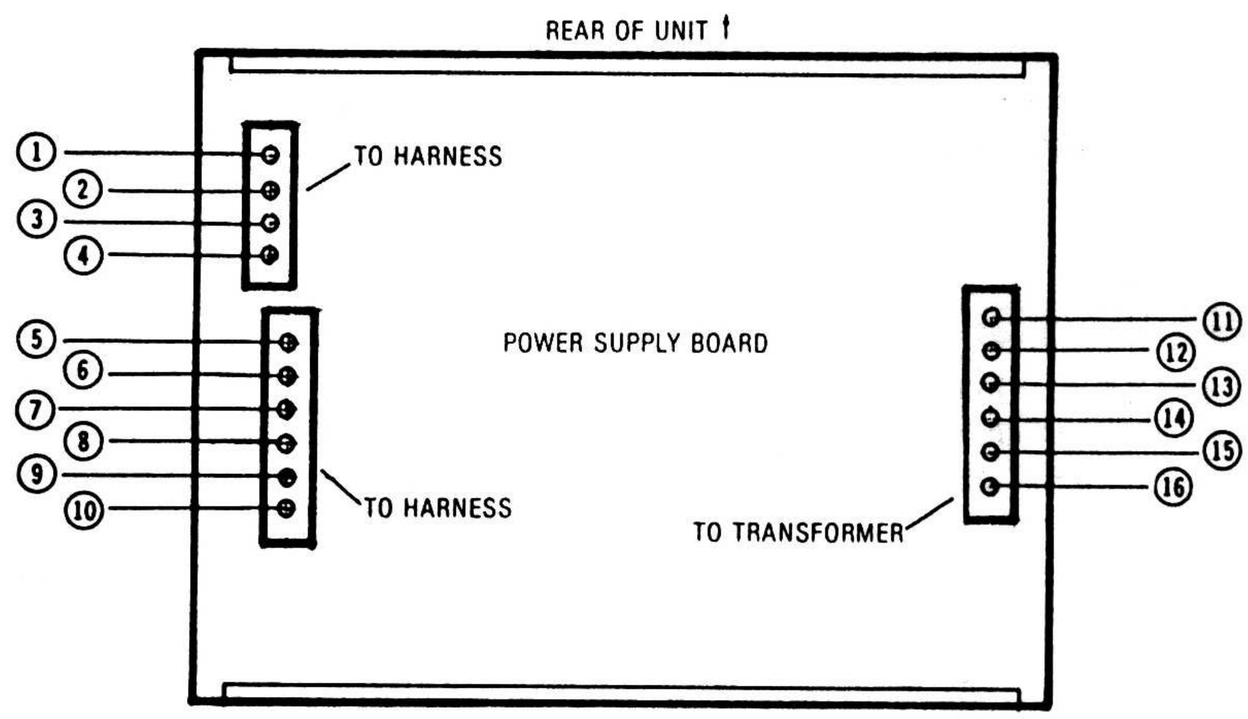

FIGURE 2 - POWER SUPPLY VOLTAGE CHECK POINTS

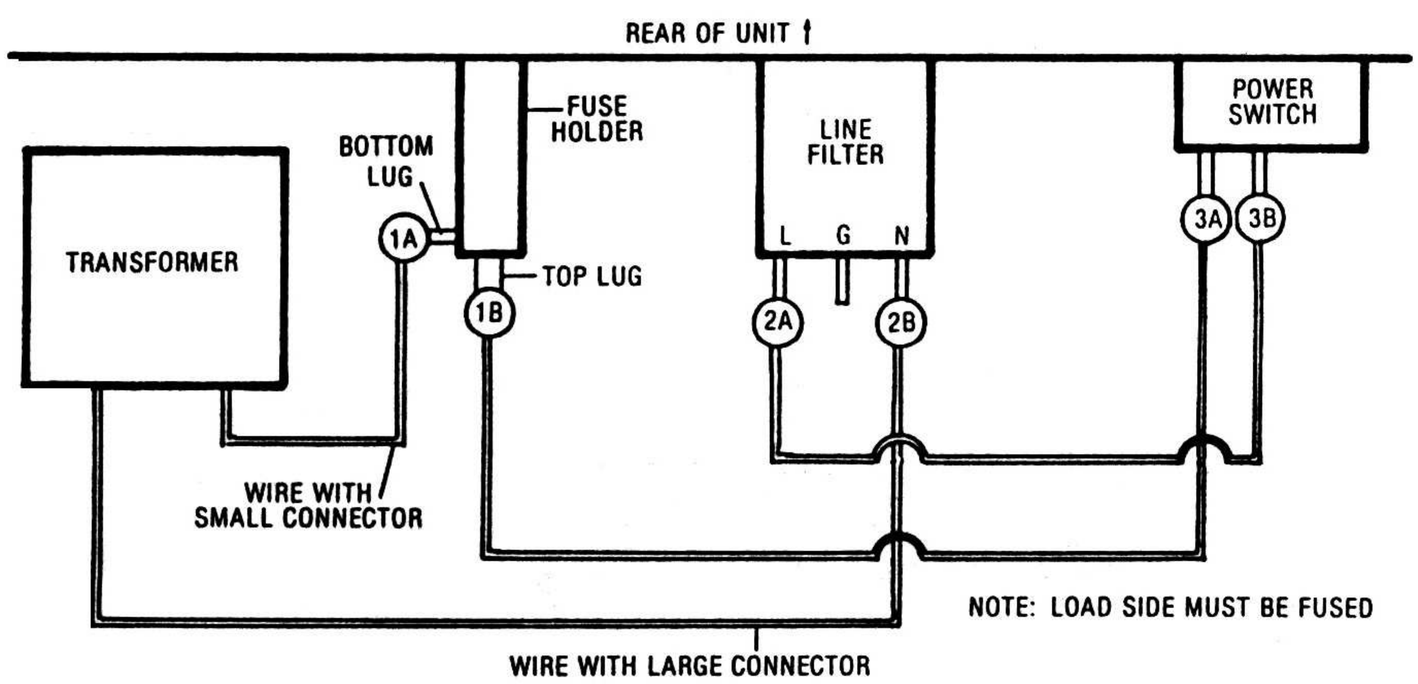

FIGURE 3A—AC LINE VOLTAGE CHECK POINTS
WIRING FOR EARLY MODEL CASE (WHERE TRANSFORMER IS ON THE LEFT).

AC LINE VOLTAGE MEASUREMENTS

With the power switch OFF, 120VAC should measure from:

1A - 2A
2A - 2B
3A - 3B

With the power switch ON, 120VAC should measure from:

1A - 2B
1B - 2B
2B - 3A
2B - 3B

There should be no voltage across the power switch contacts (3A - 3B).