

# Appendix A: Checking and Setting Voltages and Fuses

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# Checking and Setting Voltages and Fuses

This appendix describes how to check and change the voltage and fuses in the LASERPULSE Synchronizer and the Mirror Image Shifter. From the following sections, select the instructions appropriate for your instrument.

## Line Voltages and Fuses for the LASERPULSE Synchronizer

This section gives information on line voltages and fuses for the LASERPULSE Synchronizer. The Synchronizer can operate on several AC line voltages (100–120, 220–240 volts). The Synchronizer automatically senses the line voltage and sets itself. The fuse, however, should match the line voltage. Table 1 lists the fuses for each line voltage.

**Table 1**  
Matching the Fuse to the Line Voltage

<b>Line Voltage (VAC)</b>	<b>Fuse Rating (T) (A/V)</b>
100–120	3.0/250
220–240	1.5/250

## Replacing Faulty Fuses

The LASERPULSE Synchronizer uses a 3-amp (250 volt) fuse with 100–120 VAC and a 1.5-amp (250 volt) fuse with 220–240 VAC. To replace a faulty fuse, follow these steps:

1. Disconnect the power from the Synchronizer and remove the line cord.
2. Lift off the power-entry module on the back panel of the Synchronizer using a small-blade screwdriver or similar tool.
3. Replace the fuses with Time-Lag, 250V fuses.
4. Replace the power-entry module cover.

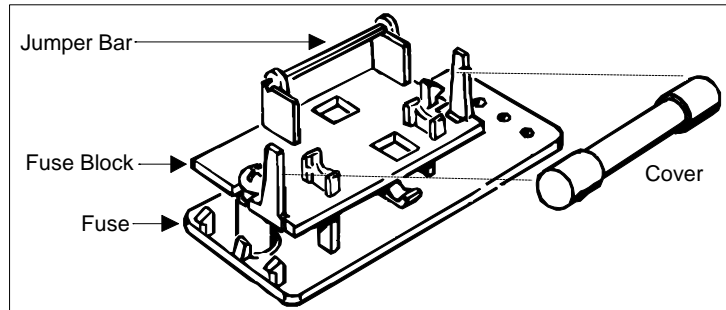
## Changing Between European and American-Style Fuses

Before installing the Synchronizer, make sure the fuse is compatible with your site. The Synchronizer works with both North American and European-style fuses. The 100–120-volt model comes with the American-style fuse and the 220–240-volt model is equipped with the European-style fuse. If you need to change the fuse from North American (Figure F-3) to the European style (Figure F-4), follow these steps:

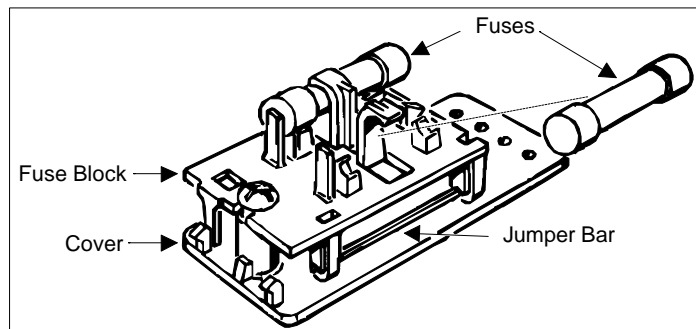
1. Disconnect the power from the Synchronizer and remove the line cord.

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2. Lift off the power-entry module on the back panel of the Synchronizer cover using a small-blade screwdriver or similar tool.



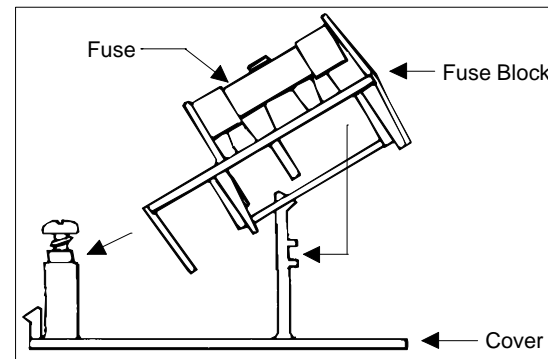
**Figure 1**  
North American–Fusing Arrangement



**Figure 2**  
European–Fusing Arrangement

3. Loosen the screw on the fuse block two turns.

4. Remove the fuse block (Figure 3) by sliding it up and away from the screw. Lift the block from the pedestal.



**Figure 3**  
Fuse Block/Cover Assembly

5. Change the fuses. Two European fuses are required. Invert the fuse block and slide it back onto the screw and the pedestal.
6. Tighten the screw and replace the power-entry module cover. The fuse that enters the housing first is the active one.

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### Line Voltages and Fuses for the Mirror Image Shifter

The Mirror Image Shifter can operate on the following AC line voltages: 100–120 and 220–240 volts. Make sure that the line voltage indicated in the window of the AC power-cord connector corresponds to the incoming line voltage (see Figure 1).\*

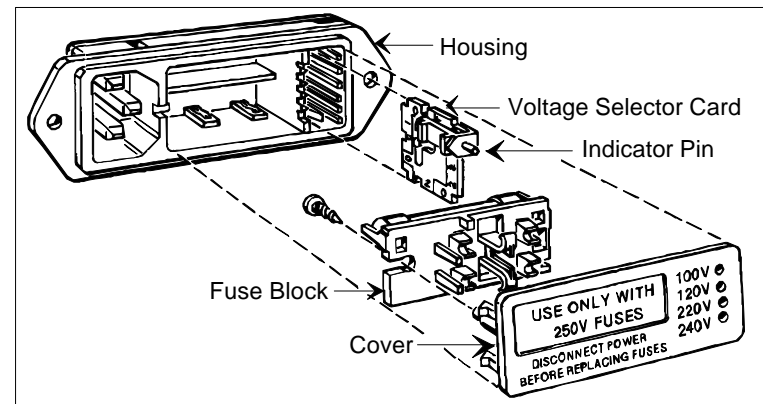
**Note:** The 220–240-volt models have a sticker on the back panel indicating the voltage.

To change the voltage setting, follow these steps:

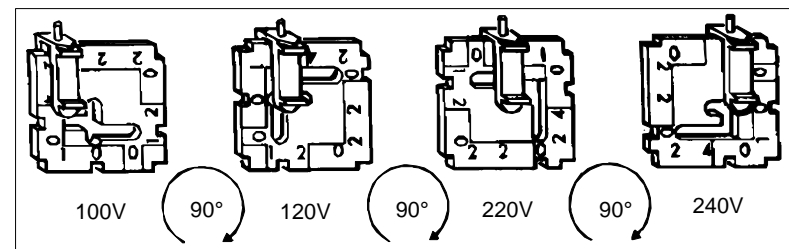
1. Disconnect the power from the Image Shifter and remove the line cord. Locate the power-entry module or the back panel of the Image shifter.
2. Lift off the cover of the power-cord connector using a small-blade screwdriver or similar tool (Figure 4). Set aside the cover/fuse block assembly.
3. Pull voltage-selector card straight out of housing using the indicator pin.
4. Orient the selector card so that the desired voltage is readable at the bottom.
5. Orient the indicator pin so that it points up when the desired voltage is readable at the bottom. When the pin is fixed, select the voltages by rotating the card 90° clockwise (Figure 5).

\*Drawings reprinted by permission of Corcom Incorporated, Libertyville, Illinois.

6. Insert the voltage-selector card into the housing, making sure the edge containing the desired voltage is inserted first and the printed side of the card faces the IEC (power cord) connector.
7. Replace the cover, making sure that the indicator pin shows the desired voltage.



**Figure 4**  
Power Entry, Fuse and Voltage Module



**Figure 5**  
Orientation of the Voltage Selector Card

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### Checking and Changing Fuses

If you change the line voltage, you must also change the fuses to match the voltage. See Table 2 for details.

**Table 2**  
Matching the Fuse to the Line Voltage

Line Voltage (VAC)	Fuse Rating (T) (A/V)
100-120	5.0/250
220-240	2.5/250

### Replacing Faulty Fuses

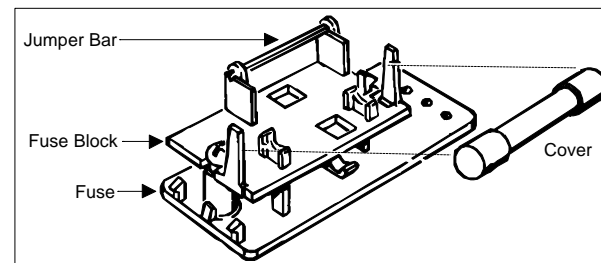
To replace a faulty fuse follow these steps:

1. Disconnect the power from the Image Shifter and remove the line cord.
2. Lift off the power-entry module on the back panel of the Image Shifter using a small-blade screwdriver or similar tool.
3. Replace the fuses with Time-Lag, 250V fuses.
4. Replace the power-entry module cover.

### Changing Between European and American-Style Fuses

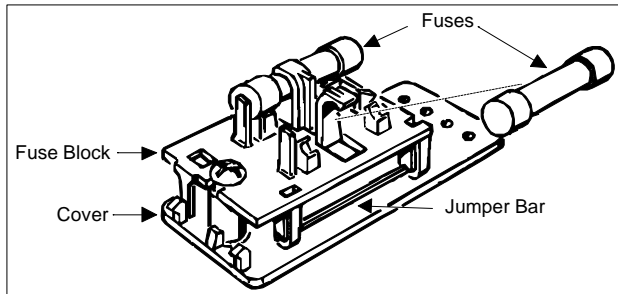
Before installing the Image Shifter, make sure the fuse is compatible with your site. The Image Shifter works with both North American and European-style fuses. The 100–120-volt model comes with the American-style fuse and the 220–240-volt model is equipped with the European-style fuse. If you need to change the fuse from North American (Figure 6) to the European style (Figure 7), follow these steps:

1. Disconnect the power from the Image Shifter and remove the line cord.
2. Lift off the power-entry module on the back panel of the Image Shifter cover using a small-blade screwdriver or similar tool.



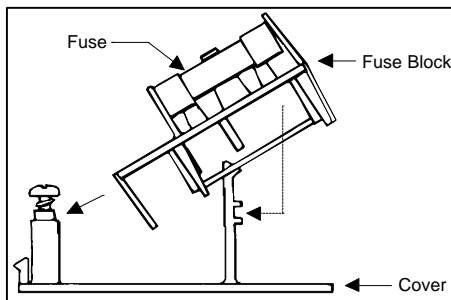
**Figure 6**  
North American—Fusing Arrangement

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**Figure 7**  
European-Fusing Arrangement

3. Loosen the screw on the fuse block two turns.
4. Remove the fuse block (Figure 8) by sliding it up and away from the screw. Lift the block from the pedestal.



**Figure 8**  
Fuse Block/Cover Assembly

5. Change the fuses. Two European fuses are required. Invert the fuse block and slide it back onto the screw and the pedestal.
6. Tighten the screw and replace the power-entry module cover. The fuse that enters the housing first is the active one.