

# LaserCon "Merlin-8000"

## Installation Instructions

Control Firmware Version 7.x - by Shaun D. Wood

The Merlin board is a player conversion board and ROM replacement for Cinematronics' Dragon's Lair or Space Ace (1983-'84 versions). Once installed, you will be able to use a newer Pioneer Laserdisc player and select any of 4 different game rom sets at boot up.

### Supported Pioneer Replacement Players:

Preferred: LD-V8000 LD-V4400 LD-V4300D

Acceptable: LD-V4200 LD-V2200 CLD-2600 CLD-2400

### Included ROM sets:

Dragon's Lair

Dragon's Lair II - Time Warp

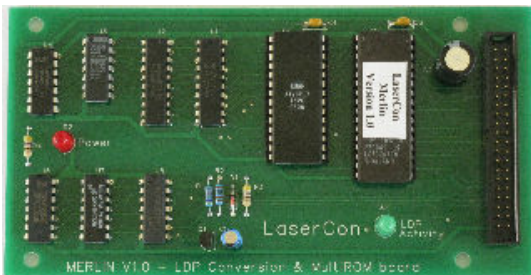
Space Ace

Cliff Hanger

Merlin will allow you to play any of the games above in the same game cabinet. Simply install the required laserdisc, and select an appropriate ROM set.

### Parts List:

Merlin board, Player control cable, Dip-Switch sheets and these instructions.



## **Installation Instructions:**

### **1. Configure your new player:**

#### **LD-V8000 / LD-V4400:**

Baud settings are auto detected and configured by Merlin.

#### **LD-V4200:**

Open the cover on the front of the player. Set all switches - OFF (up).

#### **LD-V2200, CLD-2600 & CLD-2400:**

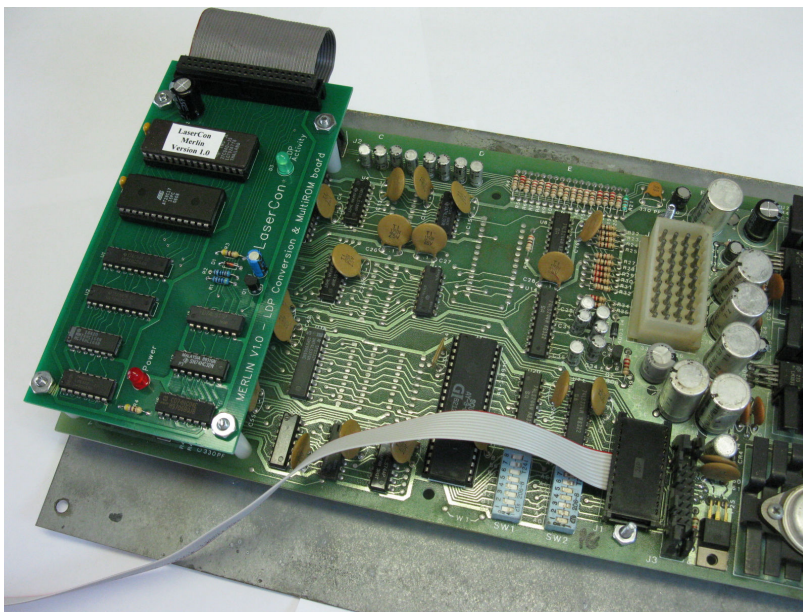
On the back of the player, set both dip-switches – OFF (up)

### **2. Install AC power for your new player:**

Adapt the existing AC power wire with an add-on power receptacle. Use either an extension cord repair part, or by installing a new power outlet to the side of the cabinet. If you need help with this, feel free to email me.

### **3. Remove the main board from the cabinet.**

Disconnect the 40-pin ribbon cable and remove the four nuts holding the original ROM board in place. Reverse the process to install the new Merlin board. Do not re-install the board yet.



#### **4. Set Dip-Switches on the main board:**

Use the included settings sheets to set your board's dip-switches. **The original settings charts from the manuals are no longer valid when using the Merlin board.** Keep the new dip-switch charts within the machine.

**\*Note:** The circuit board is printed with A0-A7 and B0-B7.

The switch banks are printed with 1-8.

**Ignore the incorrect #s printed on the switch banks.**

#### **5. Install the replacement player control cable:**

Remove the original player control cable and install the replacement cable. Please take notice of the orientation in the photo.



**Re-install the board into the cabinet.**

#### **6. Connect the control, video and audio cables to the player.**

In some cases, you may need a "BNC to RCA" adaptor to connect the video.

#### **Operation:**

For the first start-up of your machine with the Merlin board, be sure to have dip-switch A7:ON to enable the ROM selection menu. It's OK to leave the selection menu active at all times.

The default game version (The last version played, or DL-F2 for shipping), will be displayed on-screen and in player-2's score. A ten second timer (displayed in the credits) will begin to tick down. At this time, you may press "sword" to begin the default game immediately, or wait for the ten seconds to elapse for the default game to start. Moving the joystick up or down will change the game setting and stop the timer, allowing you to change the disc if necessary. After changing the game, press "sword" to start the game.

For a "Fixed" ROM set: With the selection menu turned ON, select and **start** the desired game. Then power off the machine and set A7:OFF.

The selected game version will always start at power-up without the menu.

### ***Anytime the attract sequence is playing:***

You may change the game version by holding LEFT + SWORD/FIRE for 2 seconds.

The game will stop, and the ROM selection menu will come on. Move the joystick to select the desired game. Change the laserdisc if necessary. Press Sword/Fire to start the game.

Your new selection is now the power-up default game.

This feature may be disabled by dipswitch A7.

### **High Scores**

High score save/display is available only for DL, DL2, and SA.

Scores will be saved only for each play session and will be reset when power is removed. High scores requires the use of a Pioneer LD-V8000, LD-V4400 or LD-V4300D laserdisc player, and will not be displayed properly if using a player with a lower model number.

### **Error Codes:**

In the event of a hardware or communication error with the player, one of these error codes will be displayed on the scoreboard shortly after powering on the machine.

E4 - LD I/O error (U20, U21)

(Main control board is defective, Player ribbon installed backwards)

E9 - No INT or RTC signal. - (Main control board is defective)

E10 - RAM test failure - (Main control board is defective)

E20-E27 - EPROM checksum failure - (Replace Merlin EPROM)

E30 - Serial Communication failure with the laserdisc player.

(player cable may be plugged in backwards to main board, or  
laserdisc player may be mis-configured, or main board is defective)

If you have any questions, comments or error codes, contact me at

[shaun@wood1st.com](mailto:shaun@wood1st.com)