

# LaserCon "Merlin-Dx"

## Installation Instructions

Control Firmware Version 6.x - by [Shaun D. Wood](#)

Read "[Instructions for setting up your MultiGame](#)" available on the Merlin-Dx and Arthur-Dx pages of the LaserCon website, before continuing with this document.

### **Install Merlin and Configure your game board:**

The Merlin board is a multi-game replacement ROM board for Dragon's Lair or Space Ace arcade machines (1983-'84 versions only). It provides game ROMs for Dragon's Lair, Dragon's Lair II, Space Ace, Cliff Hanger and Super Don Quixote. This "Dx" version is specially programmed to control [The Dexter laserdisc-replacement player](#). You must have a Dexter to use Merlin-Dx. If your arcade machine is using another player, then you will need a different version of Merlin. Please email me for more information.

### **Installed ROM sets:**

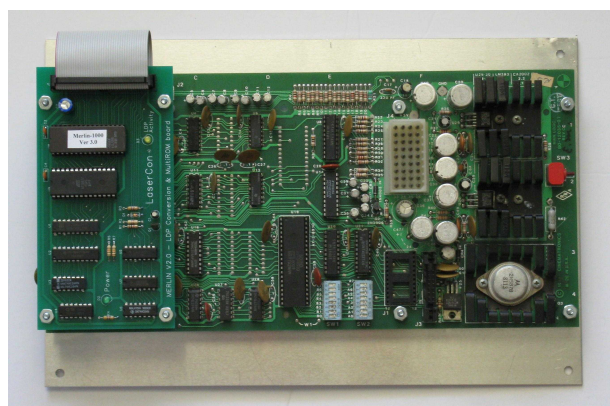
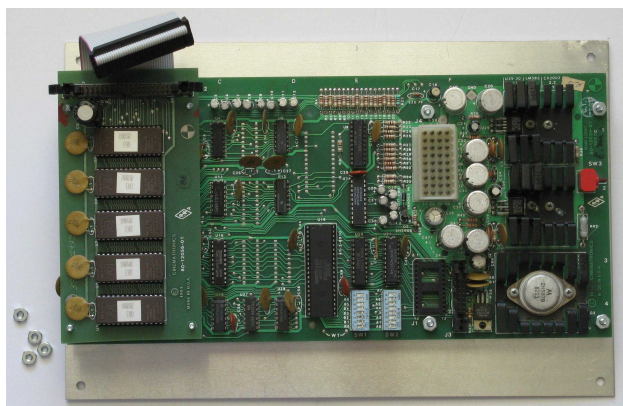
- Dragon's Lair – Original factory game – Revision-F2
- Dragon's Lair – Enhanced – Revision-G
- Dragon's Lair II Time Warp
- Space Ace – Original factory game – Revision-A3
- Cliff Hanger
- Super Don Quixote

**Parts List:** Merlin-Dx board, Dip-Switch sheets and these instructions.

#### **1. Remove the main board from the game cabinet.**

Disconnect the 40-pin ribbon cable and remove the four nuts holding the original ROM board in place. Remove the board, and install Merlin. Attach the ribbon.

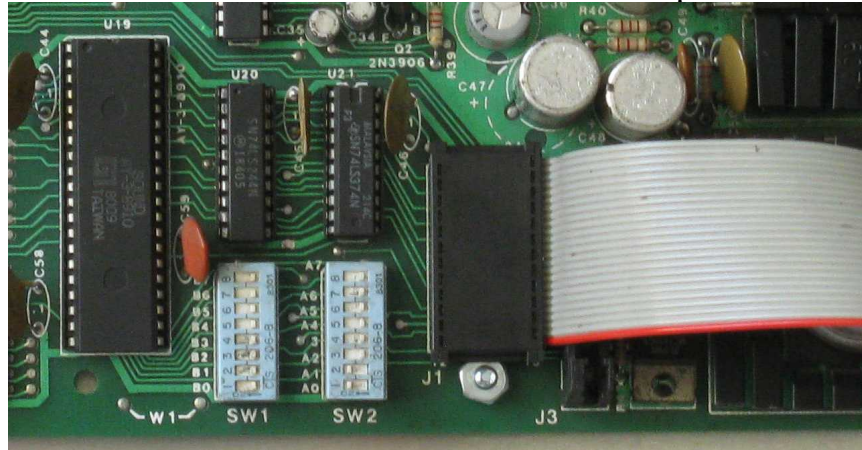
*Do not re-install the board yet.*



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**The original switch settings from the manuals are no longer valid when using the Merlin board.** Keep the new dip-switch charts within the machine.

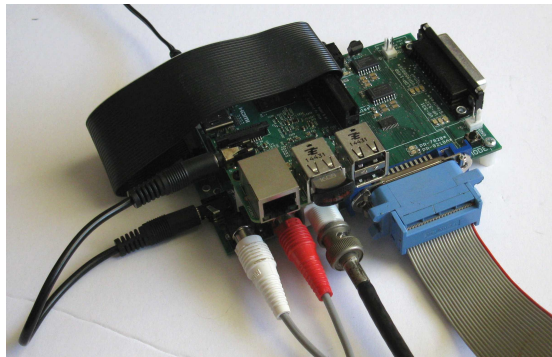
**\*Note:** The circuit board is printed with A0-A7 and B0-B7.  
The switch banks are printed with 1-8.  
**Ignore the incorrect #s printed on the switch banks.**

3. Install the player control ribbon cable.  
Please take notice of the orientation in the photo.



Re-install the main board back into the cabinet.

4. **Connect the player control ribbon cable to Dexter.**



### **Operation:**

If Dexter has been updated, or any of the laserdisc images have changed, then Dexter will begin the process of updating itself. This process can take from 1 to 30 minutes. Do not power off the system until the update is complete and the screen remains black for one full minute, or the game begins to operate. Once complete, press and hold Dexter's MODE button for 5 seconds to set for Automatic Player Detection.

Restart the machine.

Upon power up, you will hear a beep, and Merlin will begin a quick diagnostics. Information about your main board type and player-mode will be momentarily displayed in Player One's score area.

If any problems are found, an error code will be displayed on the scoreboard, otherwise the default game will scroll through the Player two score area. A second beep will be heard, and the results of the board's clock test will be displayed. Finally, the third "chime" will be heard, and the game will begin.

You may change the game by holding LEFT + SWORD/FIRE for 2 seconds. This only works *while the attract is playing*, not during game play. The game will stop, and the game selection menu will come on. Move the joystick to select the desired game. Press Sword/Fire to start the game.

### **Error Codes**

If your game fails to start, check the Player-1 score area for error codes:

E1 - Command/Ready signal from player remains HIGH

E2 - Status signal from player stays LOW

E3 - Status signal from player stays LOW after a HIGH

**E1-E3:** Check ribbon cable for proper connection (see image above).  
Check SD card on Dexter is fully inserted and Dexter is powered on.  
Hold down "mode" on Dexter for 5 seconds (set Dexter to Auto Detect).

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

Main control board is defective.  
Player ribbon installed backwards (see image above).

E5 - Dexter version error - (Use Dexter Manager to update Dexter firmware)

E6 - No Merlin menu discs - (Download and install the "Merlin Menu V2" disc)

E61 - No Merlin menu V2 disc - (Download and install the "Merlin Menu V2" disc)

E7 - No game discs loaded in Dexter

E8 - No usable game discs loaded in Dexter

Contact <http://laserdisc-replacement.com/> to obtain DL and SA laserdisc images.

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

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

E11 - Dexter failed to switch to SuperMode communications

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

If you have any error codes, questions, or comments, contact me at [shaun@wood1st.com](mailto:shaun@wood1st.com)