

# LaserCon "Merlin-Dx"

## Set-up Instructions for New EPROM

Design and Control Firmware Version 2.x - by [Shaun D. Wood](#)

**\*If your Dexter is new, then begin below, otherwise complete "Part 1: Dexter Preparation" before continuing with this document.**

### **Part 2: Install Merlin and Configure your game board:**

The Merlin board is a multi-game replacement ROM board for Cinematronics' Dragon's Lair or Space Ace arcade machines (1983-'84 versions only). It provides multiple versions of Dragon's Lair, Space Ace, and (optionally) Dragon's Lair 2 to be played in your one game cabinet. This "Dx" version is specially programmed to control [The Dexter laserdisc-replacement player](#), which is a solid-state video player. You must have a Dexter to use Merlin-Dx. If your arcade machine is using a laserdisc and laserdisc player, then you will need a different version of Merlin. Please email me for more information.

#### **Installed ROM sets:**

- Dragon's Lair – F2 (original factory game)
- Dragon's Lair Enhancement 2.1
- Dragon's Lair Enhancement - Prototype game
- Space Ace – A3 (original factory game)
- Space Ace Enhancement 1.0

#### **Optional ROM set:**

- Dragon's Lair II Enhancement - Time Warp

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

1. Remove the main board from the game cabinet. Use a small screwdriver to remove the old EPROM from your Merlin board. Carefully install the new Merlin-Dx EPROM: Take notice that the "end notch" of the chip must face the top edge of the board. Do not force it. Make certain that all legs are resting in the socket before pressing down. *Do not re-install the board yet.*



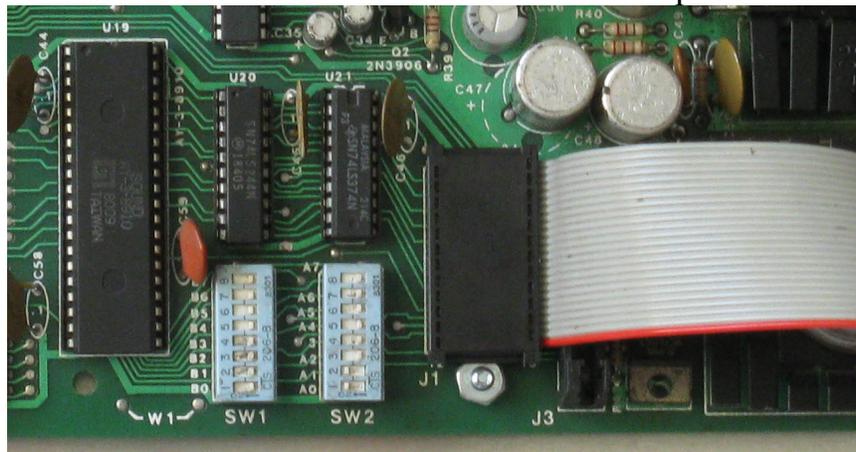
2. Use the included "switch settings" sheets to set your board's dip-switches.  
**The original switch settings from the manuals are no longer valid when using the Merlin board.** Keep the new dip-switch charts within the machine.

**\*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.**

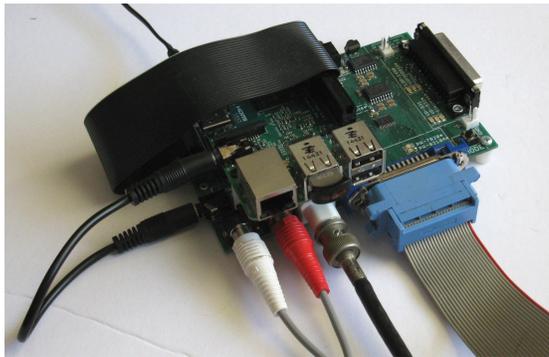
3. Install the player control ribbon cable. Dexter uses the 24 pin ribbon cable that came with the game from the factory. Email me if you need this cable.

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.

Otherwise...

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 Dexter/Merlin communication problems are found, an error code will be displayed, 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, nor during "deposit coins" type screens. 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:**

E1 - Command/Ready remains HIGH

E2 - status stays LOW

E3 - status stays LOW after a HIGH

**E1-E3:** Check ribbon cable for proper connection

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)

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

E6 - No Merlin menu disc - (Download and install Merlin menu 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)

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)