

# LaserCon

## LDP Conversion Card for Thayer's Quest

Version 1.01

Design and Firmware by Shaun D. Wood

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**LaserCon** is an adaptor card for the replacement of the original laser disc player installed from the factory to a newer, more reliable player. It is to be installed in an arcade version of Thayer's Quest, which was manufactured by R.D.I. for use in North America.

### **Supported Replacement Players:**

Pioneer - LD-V8000 LD-V4400 LD-V4300D LD-V4200  
LD-V2200 CLD-2600 CLD-2400

The V8000 and V4x00 series are preferred due to their improved search speed performance. The 2000 series is approximately equivalent to the PR-7820. If you are buying a new player, do yourself a favor, and only consider a 4000 or 8000.

### **Parts List**

LaserCon board, Main-board interface ribbon cable, Player interface serial cable.

### **Installation Instructions**

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

All players must be configured for proper serial communication as follows:

**Baud Rate: 4800, No Parity, 1 stop bit, Data Length: 8 bits,  
TxD terminator: <CR>.**

#### **LD-V8000:**

Connect the player to a TV or monitor.

Press and hold the "DISPLAY" button while powering-on the player.

Press "SCAN FORWARD" to reach Page-5 "RS-232 SWITCH P-5"

Verify: Baud Rate: 4800, No Parity, 1 stop bit, Data Length: 8 bits

To make changes, press "STEP FORWARD" to highlight an item, then press "STEP REVERSE" to change the setting.

Press "SCAN FORWARD" to reach Page-6 "RS-232 SWITCH P-6"

Verify: TxD terminator: <CR>.

### **LD-V8000 - Optional Setting:**

P-7: Memory Control (The LD-V8000 player has the ability to hold and “freeze” the last displayed frame of video during a search operation. Thereby eliminating the blackout screen between scene searches. Some people prefer this mode, while others consider it a change from the “original” feel of the game.)

For “Original” blackout searches:

Video Memory Mode: CONTROL DISABLE

Auto Memory: OFF

For “Freeze frame” searches:

Video Memory Mode: CONTROL ENABLE

Auto Memory: ON

**\* Press “DISPLAY” to save your settings and exit.**

### LD-V4200:

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

### LD-V4400:

Connect the player to a TV or monitor.

Press and hold the “DISPLAY” button while powering-on the player.

Press “SCAN FORWARD” to reach Page-3 “RS-232 SWITCH P-3”

Verify: Baud Rate: 4800, TxD terminator: <CR>.

To make changes, press “STEP FORWARD” to highlight an item, then press “STEP REVERSE” to change the setting.

**\* Press “DISPLAY” to save your settings and exit.**

### LD-V2200 & CLD-V2400:

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

### CLD-V2600:

On the back of the player, set dip-switches 1 & 2 – OFF (up)

## 2. Install the LaserCon card:

Remove the original player interface ribbon cable from the main board.  
Store it away for safekeeping.

Find a convenient location near the main board for mounting the LaserCon card.  
Use a pencil to mark the mounting-hole locations on the cabinet wall.

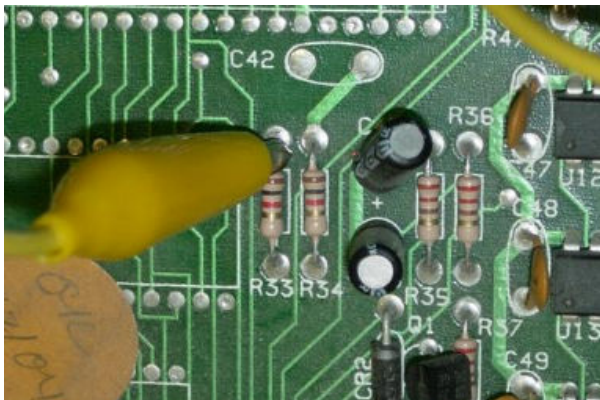
Use a 1/16 drill bit to make starter holes. Do not exceed 1/4" deep.

Mount the LaserCon card using wood screws and spacers.

Install the ribbon cable (provided) from the main board's player connector, to LaserCon's "CN1". (For proper connection, the ribbon must go over one of the two boards. Do not turn the LaserCon to place CN1 directly next to the main board's player connector.)

Attach the alligator lead wire to +5Volts.

You can attach to any point supplying +5V power that you like. My recommendation is to **attach to the leg of R33 or R34 on the side closest to C42**.  
(Ground is supplied through the ribbon cable.)



Install the player into the game cabinet.

I will leave the means of supplying AC power to your player up to you. You can adapt the original supply wire to your new player, or run the wire separately to outside power. If you need help with this part, feel free to email me.

Connect the supplied serial cable from LaserCon's CN2 and the player's 15-pin connector.

This is a custom cable. You **cannot** use any other serial cable. If you need to replace the cable for any reason, the pin connections are as follows...

	9-pin Female		15-pin Male	
GND	pin-1	-----	pin-11	GND
TxD	Pin-2	-----	pin-10	RxD
RxD	Pin-3	-----	pin-9	TxD

### 3. Set Dipswitches:

On LaserCon, set switch ....      1      2      3      4  
**OFF ON ON ON (default for shipping)**

On the Thayer's Quest main board, Set....

**B4-OFF                      B5-OFF**

### LaserCon Dip-switch settings (Ver. 5.30 firmware)

Program Space	Switch 1	Switch 2	Switch 3	Switch 4	Player Baud
Euro Space Ace w/'91 ntsc disc	0	0	0	0	9600
Euro Space Ace w/'83 ntsc disc	1	0	0	0	9600
Euro DL/SA	0	1	0	0	4800
Euro DL/SA	1	1	0	0	9600
Space Ace w/'91 disc - V1000	0	0	1	1	4800
M.A.C.H. 3 PR-8210 mode	1	0	1	0	4800
Dragon's Lair / Space Ace / Thayer's Quest LD-V1000 mode	0	1	1	1	4800
Dragon's Lair / Space Ace PR-7820 mode	1	1	1	0	4800

## **Operation**

Power on your machine.

The red LED should light, indicating that the LaserCon board is properly powered.

After a one second delay, the “LDP” LED should light, indicating that LaserCon has established serial communication with the player.

After a short time, the “CPU” LED should light, indicating that LaserCon has received the “PLAY” command from the main board.

The Player should now begin to spin-up and play. The “LDP” LED will go dark, indicating that the player is busy.

Once the game is up and running, all three LEDs should remain lit, with only momentary blinking of the “LDP” LED during searches.

Enjoy!

## **Disclaimer**

Use at you own risk. By accepting this product, user also accepts all responsibility for the use of this product and releases its manufacturer, Shaun D. Wood, from all possible responsibilities for damages of any kind that the user may incur due to use or misuse of this product.

## **And Finally...**

If you are having any trouble installing your LaserCon card, please contact me immediately via email. I will help you get it working.

LaserCon is an open source project. If you want to write code for other games or players and would like to have copies of the schematics and firmware files, contact me, or visit [www.wood1st.com/lasercon](http://www.wood1st.com/lasercon). Please consider donating your work to be included in future releases of LaserCon.

If you need any help or have any questions, comments, or suggestions, please contact me: [shaun@wood1st.com](mailto:shaun@wood1st.com).