

CDPLAYER LITE USER MANUAL

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Thank you for purchasing AD LABS cd-player lite module. For building your DIY high-quality audio player as well as OEM assembly, the module will bring you sonic satisfaction along with high versatility.

1 - Connectors

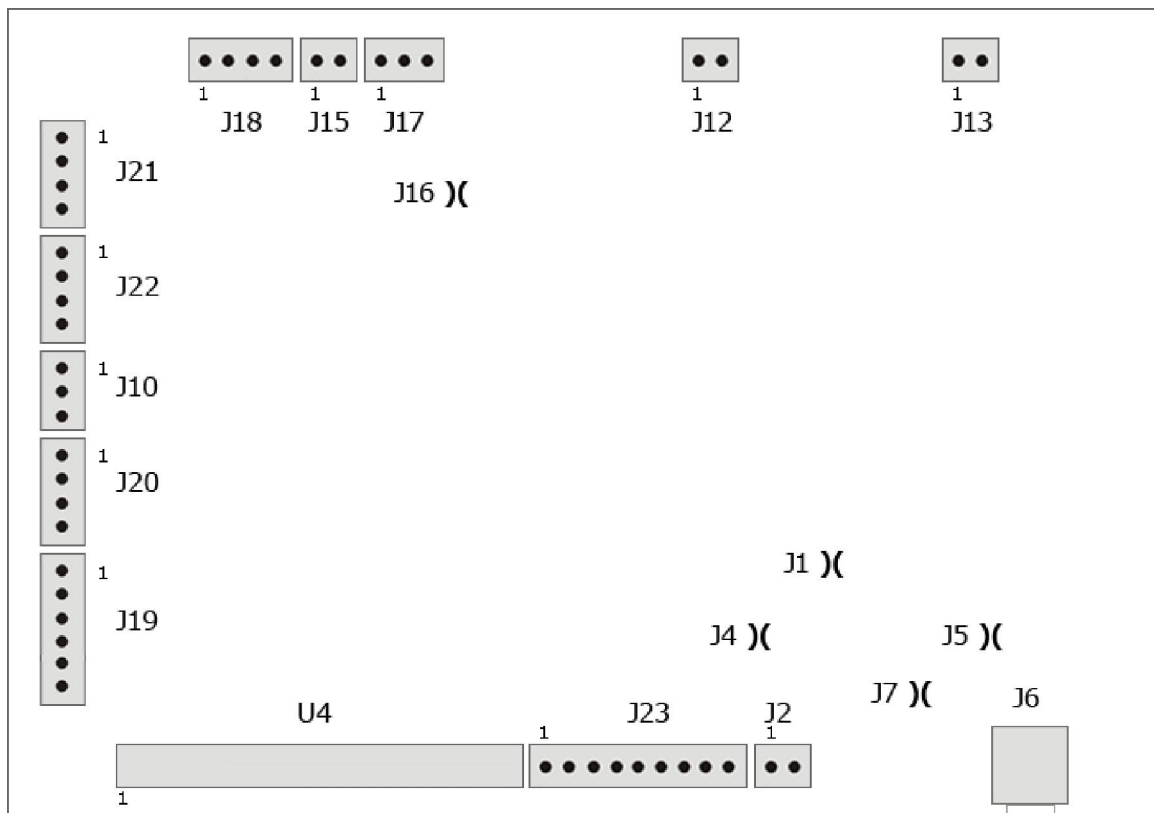


Fig. 1 – Cd player lite module top view

The cd player lite module is 120 x 86 mm in size. Along with the side connectors some solder-pads named J1, J4, J5, J7 and J16 can be noticed. A small amount of solder should be placed on them prior to activation of the corresponding functional mode.

1.1 Inputs/outputs (digital audio)

- **spdif 1** : **J2** (2 pin, 2.54 mm pitch connector)
 - pin 1 : active, pin 2 : ground;
- **spdif 2** : **J6** (RCA female connector) ;
- **I2S port** : **J23** (9 pin, 2.54 mm pitch connector)
 - pins 1,3,5,7,9 – ground;
 - pin 2 : BCLK (bit-clock);
 - pin 4 : LRCLK (left-right clock);
 - pin 6 : SDATA in (serial data in);
 - pin 8 : SDATA out (serial data out).

1.2 IDE connector

- **ATA : U4** - 40 pin (2x20) , 2.54 mm pitch connector

1.3 Supply connectors

- **J15** (power in) : power supply – digital side (see page 5 for requirements)
 - pin 1 : positive;
 - pin 2 : ground;

- **J17** (power in) : power supply - analog side (see page 5 for requirements)

- pin 1 : positive;
- pin 2 : negative;
- pin 3 : ground.

- **J18** (power out) : power supply for cd/dvd drive unit

- pin 1 : + 5v
- pin 2 : ground
- pin 3 : ground
- pin 4 : +12v

1.4 Analog out

- **J 12** : audio output (left channel)

- pin 1 : ground;
- pin 2 : signal;

- **J 13** : audio output (right channel)

- pin 1 : signal;
- pin 2 : ground.

1.5 IR Sensor

- **J 10** :
- pin 1 : ground;
 - pin 2 : supply pin(5v);
 - pin 3 : active pin

Any module TSOP 1736 or compatible will work.

1.6 User interface

J21, 22 – control buttons

(all buttons momentary action to gnd)

- J21:
- pin 1 : upsampling setting (in DAC mode)
 - pin 2 : DAC mode / input select
 - pin 3 : previous/rew (cdplayer)
 - pin 4 : load/eject (cdplayer)

- J22:
- pin 1 : next/fast fw. (cdplayer)
 - pin 2 : stop (cdplayer)
 - pin 3 : play/pause (cdplayer)
 - pin 4 : gnd.

- J19, J20 – display connector

- J19 :
- pin 1 : DE
 - pin 2 : RW
 - pin 3 : RS
 - pin 4 : DPY contrast
 - pin 5 : DPY +5v
 - pin 6 : GND
- J20 :
- pin 1 : DA4
 - pin 2 : DA5
 - pin 3 : DA6
 - pin 4 : DA7

2. Functional mode

There are two different modes the cdplayer lite module can operate, the DAC mode and the PLAYER mode. While in PLAYER mode the DAC mode can be accessed, the DAC mode is default active when no cd or dvd drive unit is attached to the board.

2.1 Set-up

Typical application for the module is cd player. A typical set-up is shown in figure 2.

The supply voltage can be applied on connectors J15 and J17 in 2 ways:

- J15 : 12 Vdc, 2A
- J17 : +/- 12 Vdc, 0.5A (if J6 is open)

or

- J15 : 12 Vdc, 2A
- J17 : -12 Vdc 0.5A (if J6 is closed)

If J16 is left open separate supplies can be connected. This way the digital and analog side are separated from the power perspective.

If J16 is closed then pin 1 of J17 is to be left un-connected. The positive 12v from J15 will supply the analog side as well.

After the module is connected as in figure 2 (with a cd/dvd-rom drive attached) it should go automatic into cd player mode. This means the usual cd-player controls are active and you can start enjoy music – both at I2S port to an external converter or directly at analog outputs.

In DAC mode the detected sample rate at the input is shown. By pressing J21/2 the dac inputs can be selected : spdif 1, 2, or I2S. A short

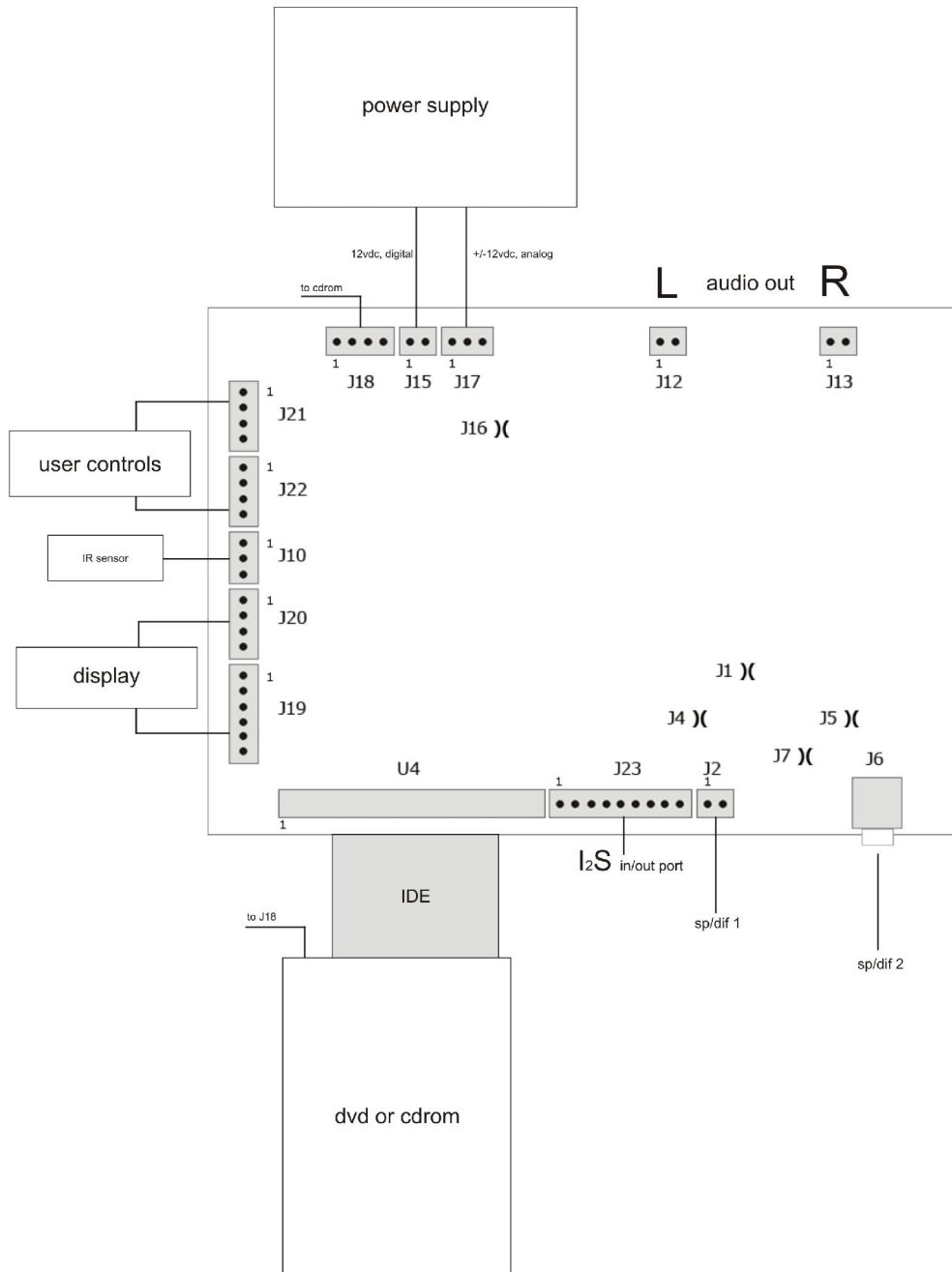


Fig. 2 – complete cd-player diagram

press on J21/1 will show the current upsampling rate. Within a 1,5 seconds timer by further pressing of the button upsampling rate can be swithched between 96k and 192k. The last value will be memorized. J1 & 4 and J5 & 7 accordingly can be used to remove the input transformers from the signal path.

3. Remote, display and IR sensor

Any RC-5 compatible remote for Philips or Marantz cd-player can be used with the unit.

For changing the DAC mode from remote you can use the following steps:

- A/B from remote enters/exits the DAC mode;
- SHUFFLE changes the input;
- SKIP BACK changes the sample rate 96k/192k.

Any 2x16 or 2x20 alphanumeric display, HD44780 compatible, can be used with the module.

The IR sensor works on 36 KHz – TSOP1736 for example.

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