

Armonia Hi-Fi

KIT CD1

DIY CD-player kit with Philips CD-PRO2

Assembling instruction

Armonia Hi-Fi by Eurotronic

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Thanking You for the interest in our product, we wish you pleasant hour during the working of this kit and the following listening time.

Enjoy the music!!

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Please read carefully this document and keep it in a safe place, it will help you for the assembly of the kit.



Remember to switch off the power supply before start working on the electrical parts.



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Preface

This document is referred to the Armonia Hi-Fi's "CD1" CD player in KIT.



This device request caution because the CD-PRO2 use a laser diode to read the compact disc. Attention must be used to not directly expose your eyes to the laser diode.

For this reason, both the CD-PRO2 and the control electronic board, are equipped for the use of a microswitch that immediately switch off the laser diode when the cover of the disc is opened. You MUST check the proper functionality during the movement of the cover of the CD hole.



This KIT do not require an high level of electronic competence to be mounted. The electronic boards are supplied mounted, tested and interconnected. The interconnection cable between the CD-PRO2 and the boards are furnished mounted because of the small connector utilized. Every wire have a differnete colour to better identify the cable.

For who want to change the interconnection wire, we suggest to let a small piece of wire near to the connector to simplify the connection.

!!! Do not sold the wire directly on the CD-PRO2 mechanism !!!

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How the kit will arrive to you

The kit is furnished with the cable soldered on the PCB and the connector mounted on the other side. Every connector is identified by a different colour and the same colour is marked on the CD-PRO2.

The kit and the CD-PRO2 mechanism are checked before shipment

The power supply board and the control board are mounted together to protect the glass display. Obviously this cannot be considered a real condition of use, but only a greater precaution for the transport.

The display is in glass, and it is very delicate. Care must be taken to the small part on the left side of the display: if it will be damaged the display would be compromised irremediably. Please do a lot of attention during the phases of the workmanship of the cabinet.



The spacer of 20mm used like spacer between the two cards will serve for the assemblage of the power supply board, while those of 10mm will serve for the display board. With a spacer of 10mm, the display and the infrared receiver doesn't touch the front panel, while the buttons stick out a little. This solution could be adopted in case of use of plexyglass front panel.

First things to do

We suggest you to verify the correct operation of the kit before disconnecting the cables from the cards. It will help you to take familiarity with the kit.

As first operation, will be necessary to divide the two cards and insert the connectors on the mechanism. Care must be taken to the matching of the connector's color.

At this point you are ready to check the operation of the kit. Put the parts on a smooth and not conductive surface (wood palette).

Connect the power supply transformers following the instructions brought in the paragraph of the connections. Attention must be done to avoid short circuit.

Use the laser-off microswitch every time that you remove the disc from the mechanism. Remember that the laser must not be directly looked with eyes when mechanism is turned on.

Put a disc on the mechanism and power the unit: the disc will turn and the information of duration and number of passages will be displayed. Then the CD-PRO2 will stop waiting for the user commands. If it will be possible also connected the audio OUT or the digital EBU to verifies that is all OK.

Before disconnect all the wire, verify for every cable the details brought on the manual (color, clamp where connected is). This will be useful for the following reconnection when the kit will be placed in the cabinet.

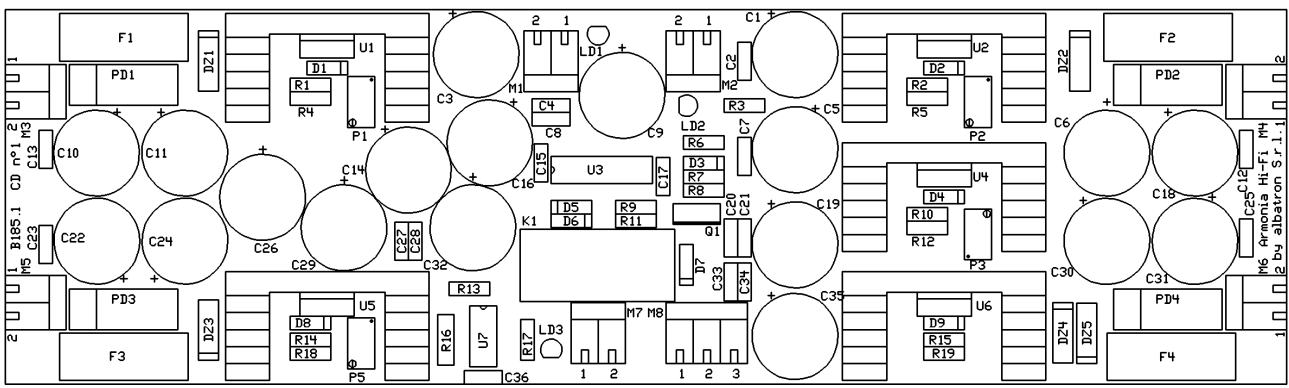
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Electronic boards

Here you will find the drawing of the two boards, so it will be useful for better identify all the parts. The two board are identical: 240 x 70mm.

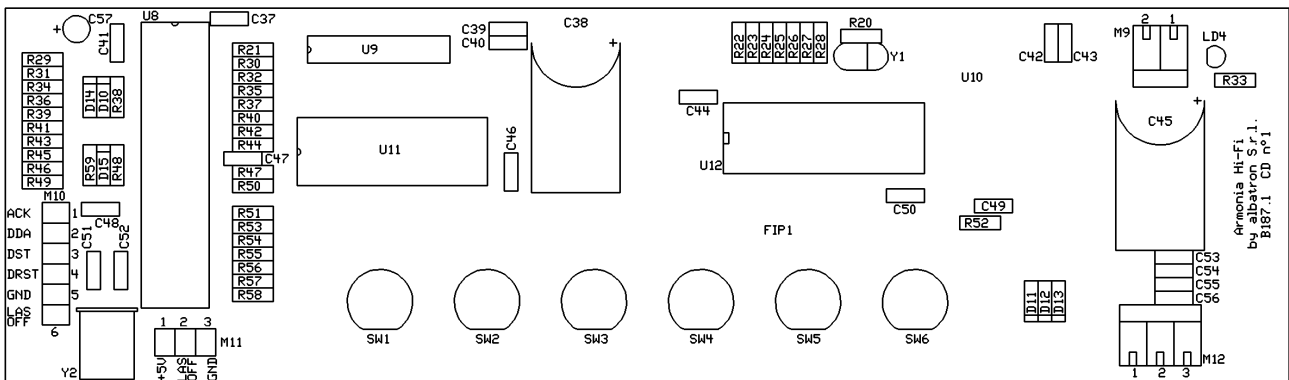
Power supply board B185.1:

Dimensioni scheda: 240 x 70 mm



Display board B187.1:

Dimensioni scheda: 240 x 70 mm

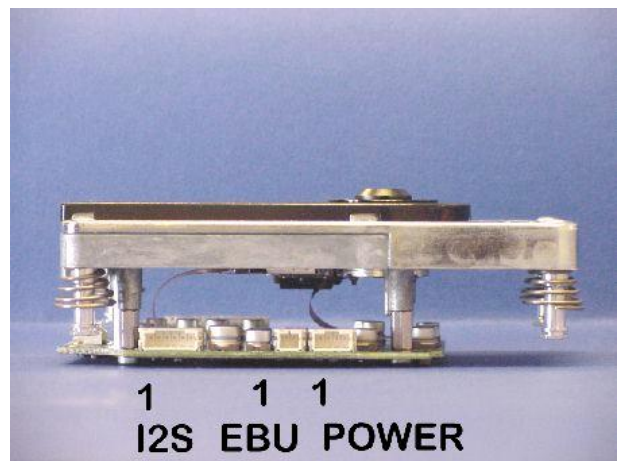
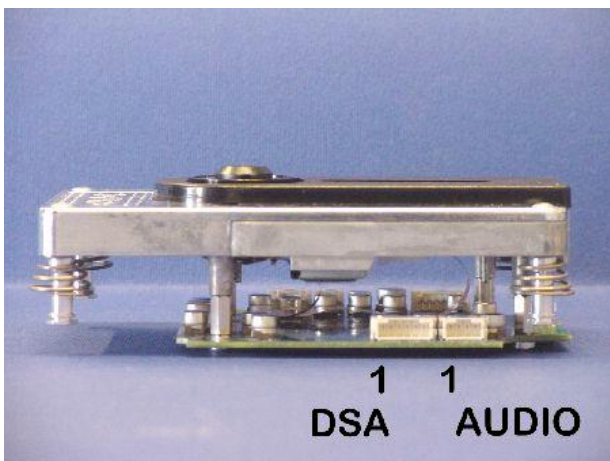


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Connector of the CD-PRO2

The CD-PRO2 mechanism have the connector placed on he two lateral sides. To better locate them, each connector is marked with a differnt color. You will find the same color on the proper cable that must be connected on that connector.

Please put the maximum care to not invert any connection.



The connector present on the two sides of the mechanism are:

- DSA port (6 pin) identified by a yellow color
- Analog output (4 pin) identified by a green color
- I²S port (6 pin) identified by a azure color
- digitale EBU OUT (2 pin) identified by a black color
- POWER supply (4 pin) identified by a red color

N.B. : every n°1 pin is placed on the left side of every connectors

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Power supply

Because of the microprocessor circuitry and because of the big power supply decoupling capacitor, we recommend to wait 30 seconds between every power off / power on to ensure a proper wake-up of the microprocessors.



This is a good way for all electronic equipments.



Power supply transformer:

There are four power supply AC input for the transformers. They must be connected directly to the boards's connectors. The power supply for the CD-PRO2 mechanism are generated from the power supply board.

Power supply (B185.1)	Voltage/power	Used for
M3 PIN 1 e 2	8Vac / 5VA	+5Vdc CD-PRO2
M4 PIN 1 e 2	8Vac / 5VA	+5Vdc display board
M5 PIN 1 e 2	12Vac / 15VA	+9Vdc motor of the CD-PRO2
M6 PIN 1 e 2	18Vac / 10VA	-15.5/-18Vdc display

The power supply transformer are not included in the kit in the way to permit to every one to use the preferred tipe. However, they are available separately. We normally use the "C" core trafo.

Power supply for the display board:

This connection give the power supply to the display board and you will receive the kit with this connection done. The used wire are long enough to permit a good arrange of the board in the cabinet. We suggest to cut them at the end of the mechanical work of the cabinet to better place them.

Power supply board (B185.1)	Color of the wire	Display board (B187.1)
M2 PIN 1	+5Vdc / red	M9 PIN 1
M2 PIN 2	GND / black	M9 PIN 2
M8 PIN 1	-18Vdc / gray	M12 PIN 1
M8 PIN 2	-15.5Vdc / blu	M12 PIN 2
M8 PIN 3	GND / black	M12 PIN 3

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Power supply of the CD-PRO2 “POWER”:

The power supply connector is a four pole connector. It is already connected to the power supply board.

Better result come from the shortest wire as possible, but thake in mind to not compromise the soft movement of the CD-PRO2 on it's spring.

The CD-PRO2 connector is called POWER. The cable and the connector on the mechanism are marked with a red colour.

Power supply board (B185.1)	Color of the wire	CD-PRO2 conn. POWER
M7 PIN 1	+9Vdc / blu	PIN 2
M7 PIN 2	GND / black	PIN 1
M1 PIN 1	+5Vdc / red	PIN 4
M1 PIN 2	GND / black	PIN 3

The other CD-PRO2's connections

DSA port:

The CD-PRO2 utilize the DSA port to communicate with the control board. In this way it's possible to control the CD player with the six push button on the front panel and with the IR remote control. At the same time the CD-PRO2 send to the control board the playing information of the disc to be displayed.

The connection cable is a six pole cable. It comes already connected to the control board and it's marked with a yellow reference.

Control/display (B187.1)	Function /color of the wire	CD-PRO2 conn. DSA
M10 PIN 1	ACK / yellow	PIN 1
M10 PIN 2	DDA / orange	PIN 2
M10 PIN 3	DST / green	PIN 3
M10 PIN 4	DRST / gray	PIN 4
M10 PIN 5	GND / black	PIN 5
M10 PIN 6	LASER OFF / brown	PIN 6 (GND = laser OFF)

Digital output EBU:

It's a 2 pole cable. The EBU output it's identified by a black reference.

CD-PRO2 conn. EBU	Funzione svolta/colore filo
PIN 1	GND / sch
PIN 2	EBU OUT / signal

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Analogica AUDIO output:

This output is provided directly from the CD-PRO2 mechanism by an on-board D/A converter. It uses a Philips TDA1305T. Obviously it's not a hi-fi analog output, but is good to permit a step by step construction of your system: at the first step you can use this output without an external converter.

This output connector is a four pole and it's identified by a green reference.

CD-PRO2 conn. AUDIO	Function
PIN 1	RCH / signal right
PIN 2	GND / ground
PIN 3	GND / ground
PIN 4	LCH / signal left

I2S output:

The CD-PRO2 mechanism have an I2S output. This kind of interface permit the connection wiht a proper converter. The best gain using this connection is in respect of the jitter because the signal don't need the high frequency transmission and the successive reconstruction of the low frequency signal (by a PLL) like the standard interfacing format.

The DF1704 digital filter that we use on our DAC4 I2S converter, need a clock signal to sincronize it with the mechanism. This signal is obviously present in the CD-PRO2 mechanism, but it's not connected to any output connector. The CD-PRO2 mechanism furnished with the kit have a little modification to take out this signal on the I2S connector. This is the reason of the wire on the back-side.

In this way you don't need to give back to us the CD-PRO2 for the modification in case you will decide to buy our DAC4 I2S converter.

All the other necessary information will come with the DAC4 I2S converter's kit.

The I2S output is identified by a azure color.

Laser power off microswitch:

To ensure the switch off of the laser the CD-PRO2 use a microswitch to sense the opening of the cover of the CD. At this time the display will indicate "OPEN". Putting a new disc and closing the cover, the mechanism will read all the information contained in the compact disc and will show them on the display.

Please remove the wrapper that hold closed the switch before install it.

When the cover is opened and the microswitch stop the CD-PRO2, at the reclosing of the cover the mechanism restart like when you give power supply: for this reason the EBU output is stopped and the LOCK led on the DAC will blink.

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The microswitch is connected to the control board (B187.1).

Control/display (B187)	Function / color of the wire	Microswitch
M11 PIN 1	+5V / red	PIN 4 (N. Open)
M11 PIN 2	LASER OFF / brown	PIN 1 (common, GND = laser OFF)
M11 PIN 3	GND / black	PIN 2 (N. Closed)

The switch is used also to signal to the mechanism when the disc is changed and to read the new information. For this reason is not possible to not install it.

Mechanical alluminum plate for the CD-PRO2

In the kit you will find an alluminum plate to support the CD-PRO2 on it's suspension. You need to fix the alluminum plate to your cabinet and then place the mechanism. Insert first the rubber elements and then place the CD-PRO2 on them. After this you can place the four seeger.



The CD-PRO2 is very delicate. We suggest you to manage it in the most delicate way possible. Most care must be taken during the mechanical work of the cabinet. The CD-PRO2 utilize precision movements part that are very sensitive of dust. Remember that the internal motor have magnet: iron is attracted from them and it will cause irremediable damage.



During the exposure at low temperature, the system will need time to reach the ambiente temperature: please avoid to use it in that period.

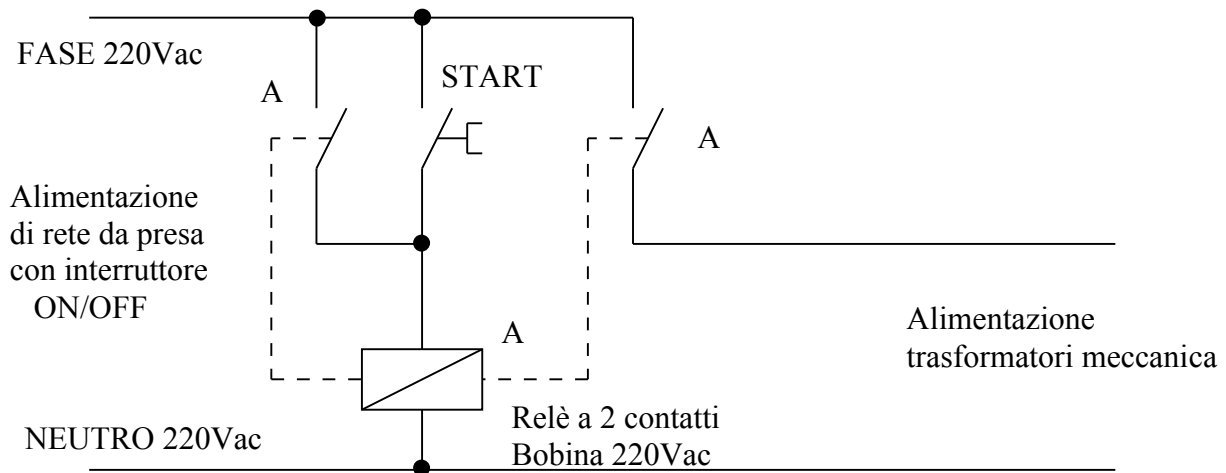
We don't suggest the use of the device in dirty places because it's possible that some dust will deposit on the lens reducing the performance.

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Some suggestion

20-06-2002

- To prevent damage coming from the power supply hole, we suggest to use a circuitry like this. In this way when a low voltage will occur, the relay switch off and you have to manually restart the power supply to the CD-player.



10-07-2002

- If you need to switch off the display, we suggest to take away the power supply to the display section with an external switch. In this way all the CD-player is functionant, also the IR remote control, but don't show nothing on the display.

Responsibility

It's not allowed the commercial use of this kit if you don't have a writing explicit consent of **Eurotronic**.

Eurotronic is not responsible for improper use, commercial abuse and use out of any legal utilization.

Because of a non finished product, it's not possible to put the CE mark. It need to be completed with other parts (cable, cabinet, connector ...) before it can be used. Everyone will ensure the responding to the actual regulations.

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