



SuperTjoebClock

Owner's Manual

The **SuperTjoebClock** is, after the widely acclaimed TjoUpsampler, the latest and greatest new enhancement for your world famous Njoe Tjoeb 4000 cd-player.

It transforms the sound of your player into an even higher league than previously thought possible, by the simple replacement of the player's system-clock oscillator for a unique and highly sophisticated piece of electronics that generates the most stable and clean clock signal of all aftermarket clocks available.

The unique character of this device is enhanced by the fact that it is the only audio-clock in the whole wide world that uses a Vacuum Tube as the heart of the oscillator.

Tubes are well-known for their very linear operation, with very low noise and distortion products. The ultra-clean sine wave generated by this extremely sturdy and stable long-life mini-triode is shaped into a square wave of unrivalled speed, accuracy and jitter properties exactly in the region where you want it to perform best: the Audio Band.

Specifically the parasitic noise in the 10Hz...100kHz region is much lower than of any of the comparative designs, and this noise is THE determining factor for the audibility of jitter. The absence of this jitter results in a stunningly reduced sense of what we call the "digital" sound of CD.

This makes the sound of your player a lot more transparent, more dynamic, more colorful, more detailed, more open, more balanced, more involving, and ultimately more musical than ever before.

Note:

The SuperTjoebClock in your Tjoeb 4000 player needs some time to warm up after you have connected your player to the mains: for 15 seconds it will not respond to operation commands, neither from the front panel nor from the remote control.

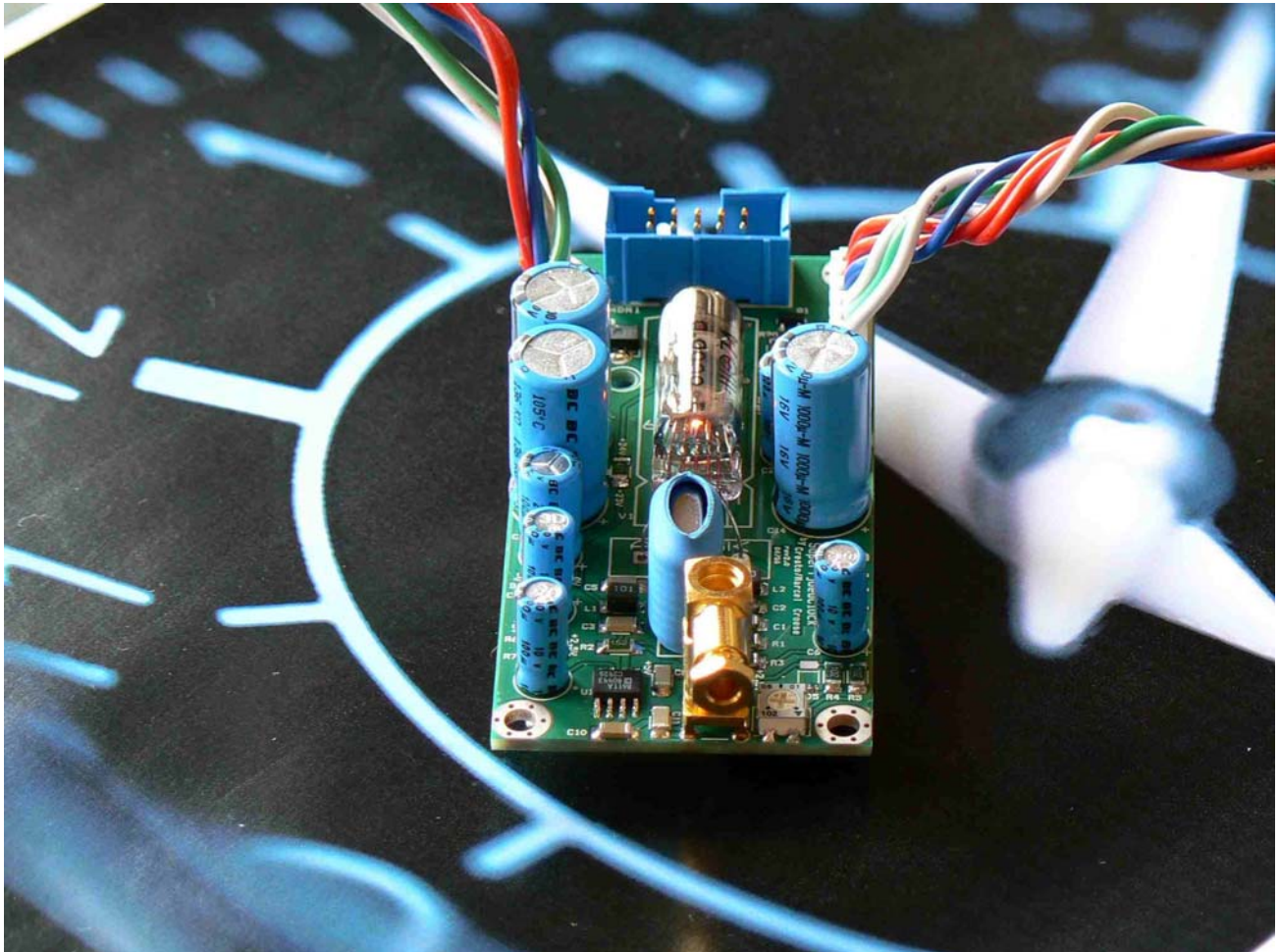
A slight "click" can be audible from within the player when the SuperTjoebClock is ready, and the player is released after the 15 second warmup time. The player is put into standby, the display will remain dark until either the power on/standby button is pressed, or the open/close button, or the play button.

The SuperTjoebClock will remain active as long as the player is connected to the mains; also when switched to standby the player will always be instantly ready to play your discs.

Happy rocking around the Clock!

Rev1.2/HiFiWinkel/MC 08-2006

The SuperTubeClock Mounting Manual for the Njoe Tjoeb 4000



Rev 2.1 - Aug 2006

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1. The SuperTubeClock and the Njoe Tjoeb 4000
2. Manual: Mounting in Njoe Tjoeb 4000
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1. The SuperTubeClock and the Njoe Tjoeb 4000.

The SuperTjoebClock is, after the widely acclaimed TjoUpsampler, the latest and greatest new enhancement for the world famous Njoe Tjoeb 4000 cd-player.

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Happy rocking around the Clock!

2. Manual: Mounting the SuperTubeClock in the Njoe Tjoeb 4000 cd-player

STEPS:

1: Player.

Preparing the Tjoeb 4000 circuit for receiving the clock signal from the SuperTjoebClock:

- a. opening the player according to the manual on the AH! Website
- b. lifting the transport
- c. removing the existing quartz crystal from the printed circuit board
- d. cutting the legs of two capacitors
- e. connecting the new Clock Wire to the board
- f. reinstalling the transport in the player

2: SuperTubeClock.

Preparing the SuperTubeClock for installing:

- a. Attaching the feet to the SuperTubeClock board
- b. Mounting the SuperCrystal on the SuperTubeClock board.
- c. Making the connections to Clock Wire, Power Supply and Tjoeb board.

On the following pages a detailed description and instruction manual is found.

It is advisable to read through the instructions prior to starting to do the procedure.

Manual: Mounting the SuperTubeClock in the Njoe Tjoeb 4000 cd-player

1.: Preparing the Tjoeb 4000 circuit for receiving the clock signal from the SuperTjoebClock:

a. **To dismantle the CD-player and gain access to the inside portions, carefully follow these instructions:**

These instructions can also be found on the AH! Website: <http://www.hifi-planet.com/ah3-enhp.htm>

Introduction

This information is given under the restriction that only professional qualified technicians use this information to do repairs or modifications. No responsibility for any personal or material damage is taken by us and it's the full responsibility of the person who uses this information to open, repair or modify any of the **AH!** products. The information is only provided to give the MAXIMUM aftersales service and is not intended to replace any assistance from us or our partners. The information is absolutely not given because of a high failure-rate, but simply because we feel that you, as the owner of the product, deserves to have the maximum knowledge about it!

General instructions

Before you decide to go and work on any **AH!** or whatever other piece of electronic equipment):

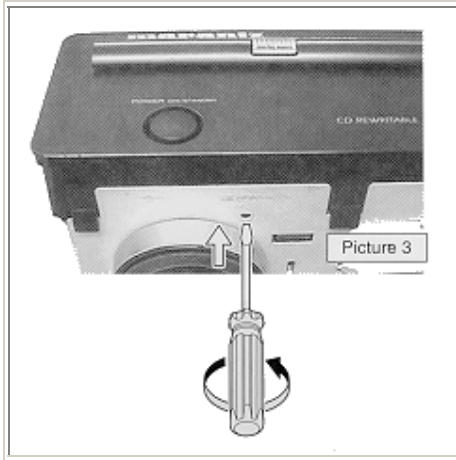
1. Switch off all equipment with the on/off switch.
2. Remove all ac-cables from the ac-sockets.
3. Remove all other cables like interconnect cables, antenna cables and speakercables.
4. Make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential. All IC's and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

Removing the topcover of your **AH!** Njoe Tjoeb 4000

Remove the 4 screws on the side of the machine and the 3 screws on the back of the machine with a T(orx) 10 screwdriver. Place the **AH!** Njoe Tjoeb 4000 with the back towards you. Lift topcover at frontside and pull backwards (keep 2 thumbs on top of the frontcover and the fingers of your both hands on the sides of the topcover). Place the topcover carefully on the side, away from the location where you are going to work on the **AH!** Njoe Tjoeb 4000.

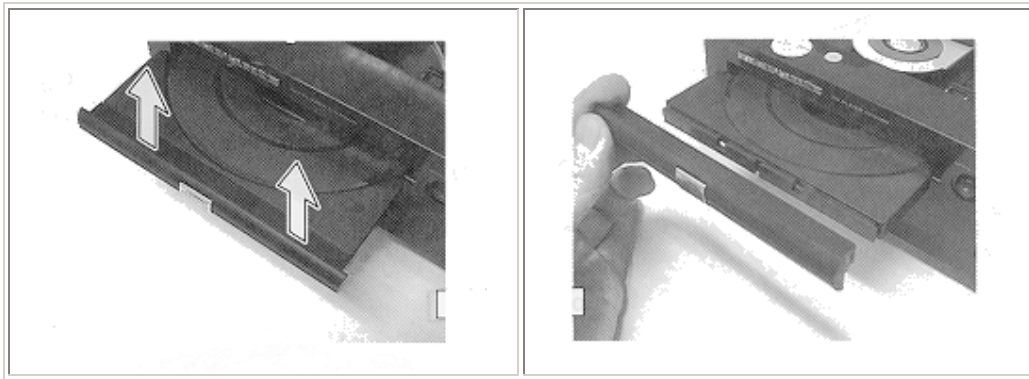
Manual: Mounting the SuperTubeClock in the Njoe Tjoeb 4000 cd-player

Removing the front of the drawer of your **AH!** Njoe Tjoeb 4000



Press open/close button to open the tray. If the tray doesn't work, turn counterclockwise a small screwdriver into the hole as shown in the picture. Then the tray comes out. After the first centimeter it is possible to pull the tray out further by hand.

Release the door cover of the tray by gently pressing upwards as shown in the pictures below.



Removing and reinstalling CD Short Loader Module **ECO SL Mk3**

1. Read introduction and general instructions on the top of this page.
2. Connect your **AH!** Njoe Tjoeb 4000 to AC voltage.
3. Press open/close button to open the drawer.
4. While the drawer is open, disconnect your **AH!** Njoe Tjoeb 4000 from AC voltage.
5. Read and follow instructions to remove the front of the drawer as described earlier on this page.
6. After having removed the front of the drawer, gently push in the drawer by hand.
7. Read and follow instructions to remove the topcover as described earlier on this page.
8. Place your **AH!** Njoe Tjoeb 4000 with backside towards you.
9. Disconnect the single ground wire connected from the ECO SL Mk3 module to the bottomplate from the chassis.
10. Unscrew and remove the 2 Torx 10 screws which attach the back of the ECO SL Mk3 to the chassis.
11. Pull the ECO SL Mk3 gently towards you while lifting it up a little.
12. Disconnect the 3 ribboncables on the right side of ECO SL Mk3 module from the ECO SL Mk3 pc-board (seen from backside of your **AH!** Njoe Tjoeb 4000).
13. Now the ECO SL Mk3 is totally free and can be taken out.

Manual: Mounting the SuperTubeClock in the Njoe Tjoeb 400 cd-player

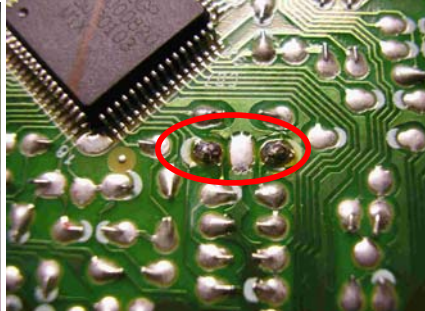
b. After having successfully removed the CD-transport, place it upside down on a flat surface that is not easily statically charged, like wood, cardboard or an antistatic work surface. A plastic, formica or metal surface is NOT recommended and is best avoided.

c. Locate the 8,4672MHz crystal, somewhere in the middle of the PC-board. It is located on the component side of the PCB; you will have to remove the little screw that holds the PCB against the transport frame, and the PCB will have to be lifted. Be careful not to lift it too high because the laser connection **flatcable** will not allow that. You can not go further than an almost 90 degrees angle. Carefully unsolder the crystal and remove it. Reuse it on the SuperTjoeb board.

d. Cut the legs of the capacitors according to picture 3.



picture 1 Xtal on inside



picture 2 Solder joints of the Xtal unsolder from here.



picture 3 Cut one leg of each of these 2 capacitors located near where the crystal was mounted – the two middle ones, numbered 2862 and 2861

e. Connecting the SuperTubeClock output wires to the Tjoeb 4000 Drive Board

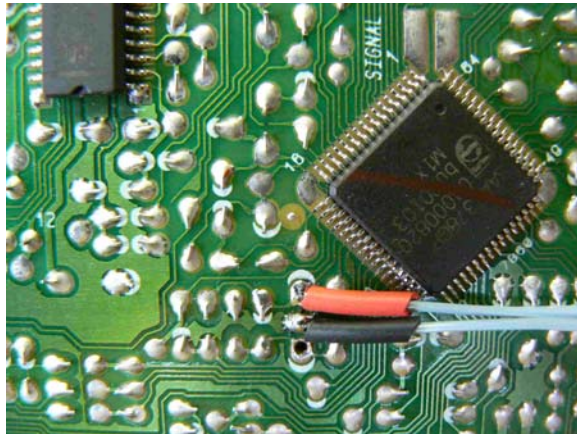
The output wire of the SuperTubeClock will have to be connected to the point where the clock signal is injected into the digital circuit.

This is the place where the original crystal is removed from, see previous paragraph on page 3.

This removed crystal will have left 2 holes/soldering pads.

Between those two solder pads is a third hole, that was not used before. This is the signal ground to which the clock ground has to be connected, in the example this is the wire with black marking.

The red marking is the active clock signal wire that goes to the neighboring hole, as shown in the picture. Leave the third hole unused.



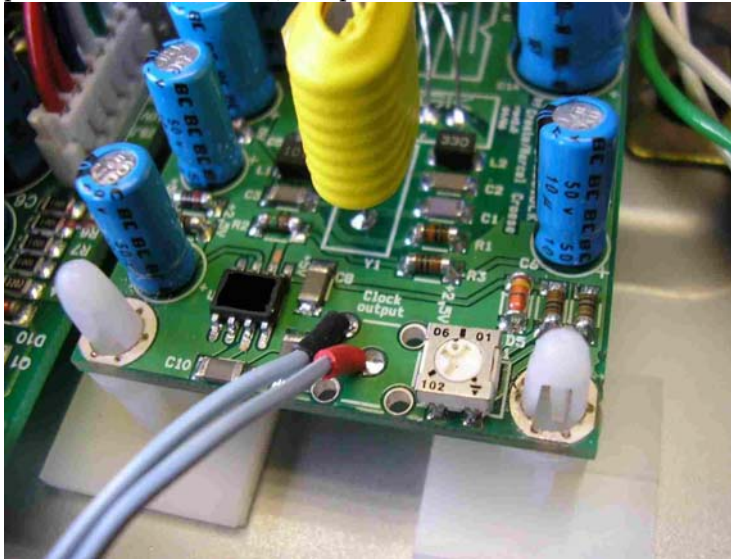
It is now time to reinstall the transport in your player: the easiest way is to follow the instructions cited above in reverse order.

The Clock Wire must be dressed such that it comes out sideways from underneath the transport and points towards the middle of the player's chassis.

Manual: Mounting the SuperTubeClock in the Njoe Tjoeb 4000 cd-player

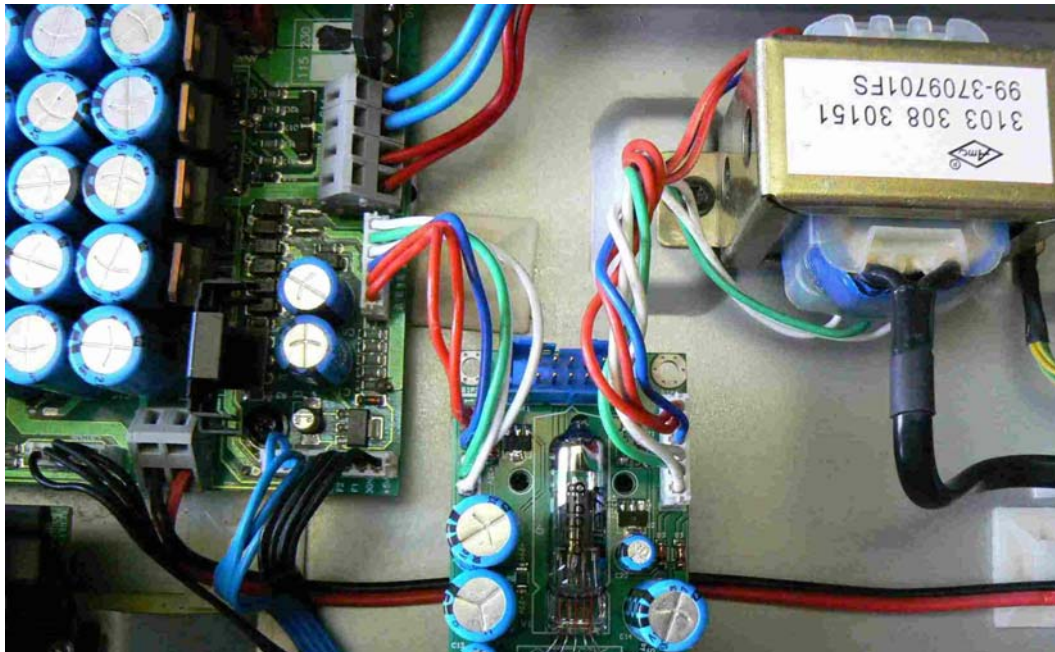
Preparing the SuperTubeClock board:

- a. Attach the 4 feet to the SuperTubeClock board.
- b. Straighten the wires of the Quartz crystal, be careful not to break them.
Solder the Quartz crystal onto the SuperTubeClock board as per the picture below.
Mount the crystal as high as possible, so that vibrations from the player are dampened by the flexibility of the wires, and hence least transferred to the crystal.
The crystal has no polarity, either way is OK.
- c. Attach the Clock output wires to the board, see picture.



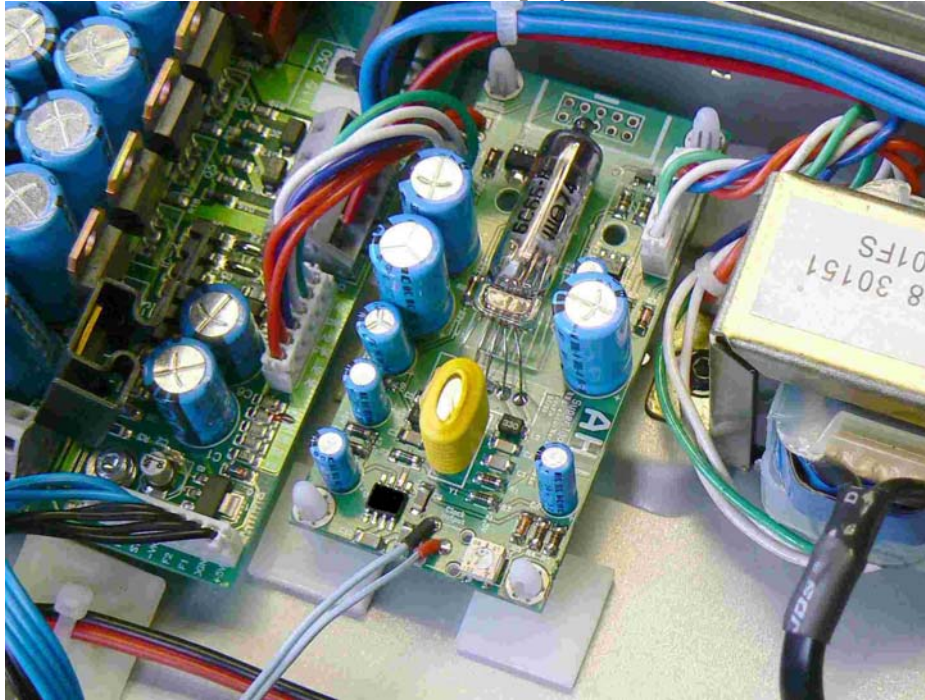
Manual: Mounting in Njoe Tjoeb 4000 p3

Next step is to connect the power supply connection, and the connection to the Tjoeb Board: see picture.

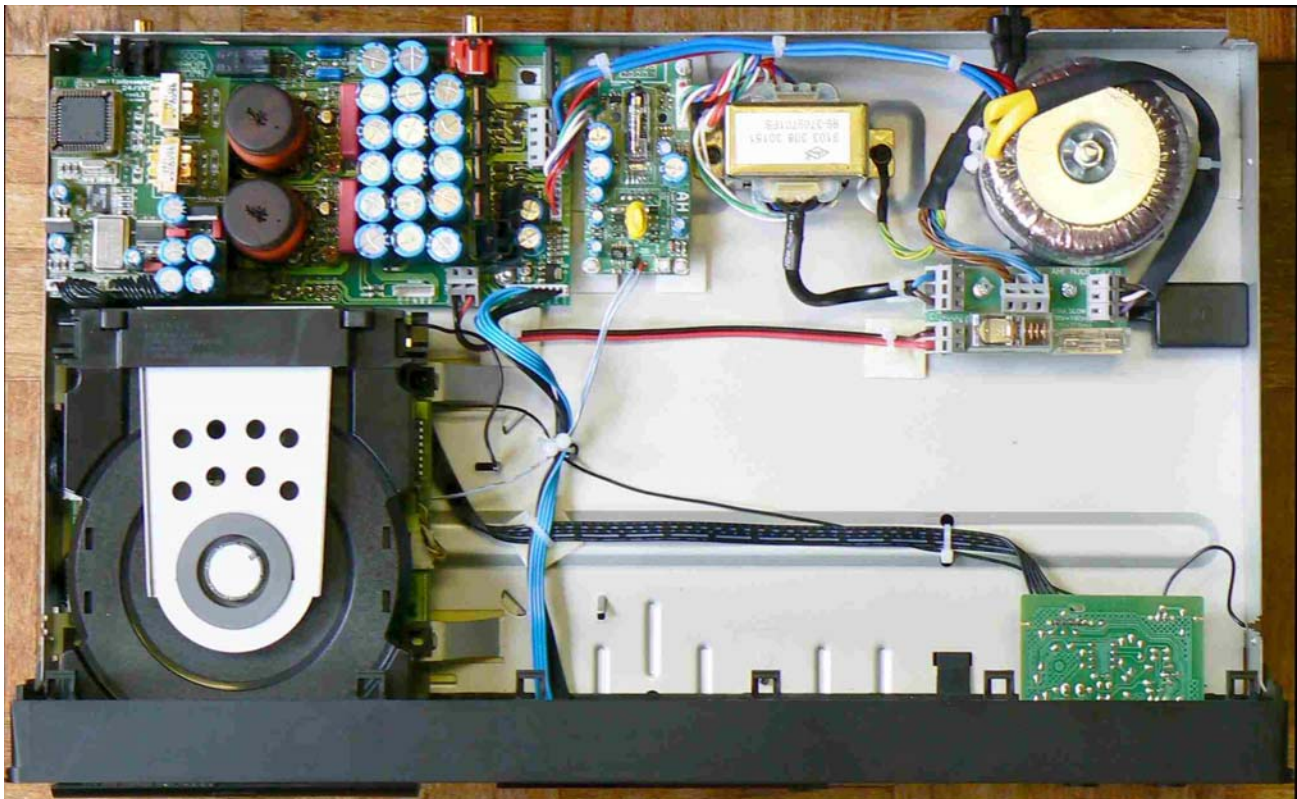


Manual: Mounting the SuperTubeClock in the Njoe Tjoeb 4000 cd-player

Last step is to remove the protective covers from the feet and stick the SuperTubeClock to the bottom of the player.



The result:



This is how it will look when the work is done!

Manual: Mounting the SuperTubeClock in the Njoe Tjoeb 4000 cd-player

3. Troubleshooting & personal comments

4. Revision List

1. Rev 2.1: Aug 31-2006: original mounting manual for StjClk in NjTj4000.

The revision number rev.2.1 corresponds to the revision numbers of the original schematics, layouts as well as the actual pcb.