CDP-101 Front panel removal & service

Overview

It may be necessary to remove the front panel to gain access to repair or service the following:

- Playback control switches
- Indicator board
- Infrared receiver
- Headphone board
- Power or Timer switches
- Loading motor and gears
- Cleaning of display window

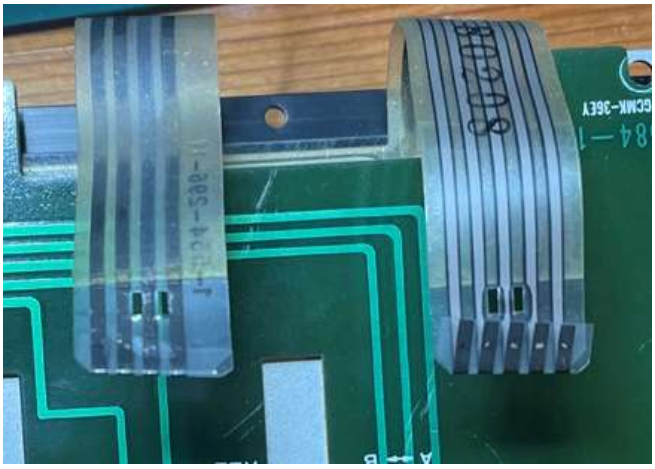
NOTE:

Do not remove the front panel unless absolutely necessary. The ribbon cables connecting the control button membrane to the indicator board are extremely fragile.

The ribbon cables are made from two plastic layers bonded together with tracks of conductive paint sandwiched between them.

Over time the glue holding these two layers together weakens, and because the conductive tracks are also now stuck to them, if they get pulled apart even slightly, the conductive track is broken.

The area most prone to failure is where its inserted in to its connector on the indication board. Here the bottom plastic layer ends exposing the conductive tracks and it's at that edge where the bond between the two layers is weakest and most likely to start separating.



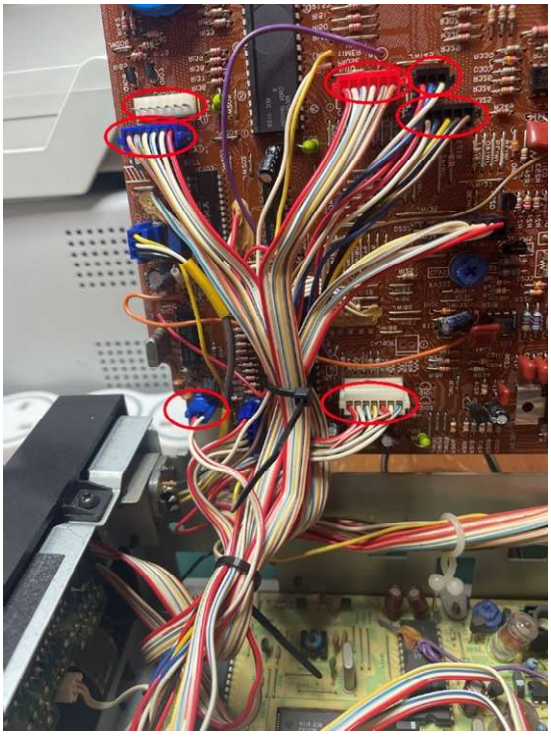
Removing the front panel

NOTE: This procedure minimises disturbing the ribbon cables as much as possible by de-soldering their connectors from the indication board. This is possible by lifting up the servo board and moving cables out of the way, exposing the solder points for the connectors.

Please be aware access is difficult and removal is best done with a de-soldering gun and small iron.

1. Remove the upper case
2. Rotate the player it's back plate is facing you

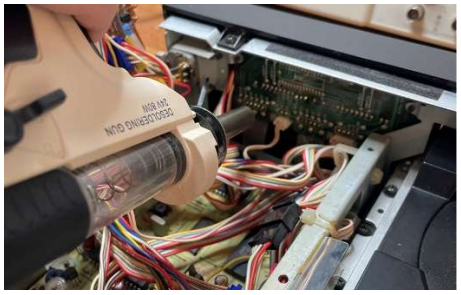
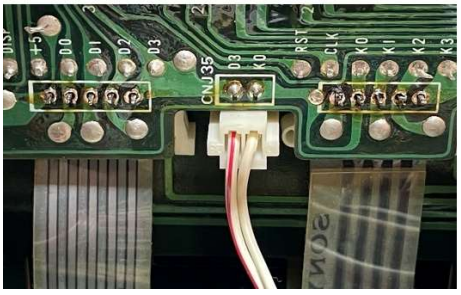
3. Remove the two screws holding the Servo board in place
4. Lift up the Servo board and remove connectors (circled)
   CNJ7, CNJ8, CNJ9, CN12, CNJ13, CNJ6, CNJ4



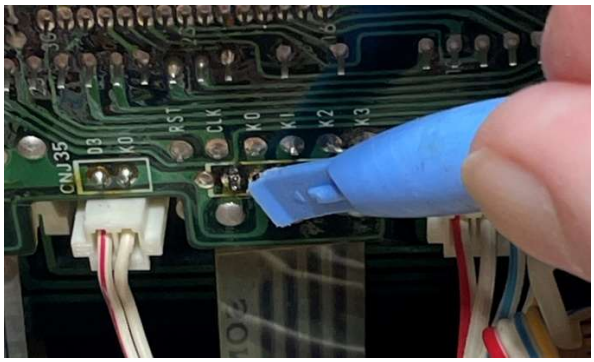
5. Cut away the tie clips holding the cable bundle together and lay the cables flat

NOTE: Ensure the cables from CNJ4 and CNJ13 are free to move as these are connected to the LED board on the panel and will need to be pulled out.

6. Ideally using a de-solder tool remove the solder holding the connectors in place

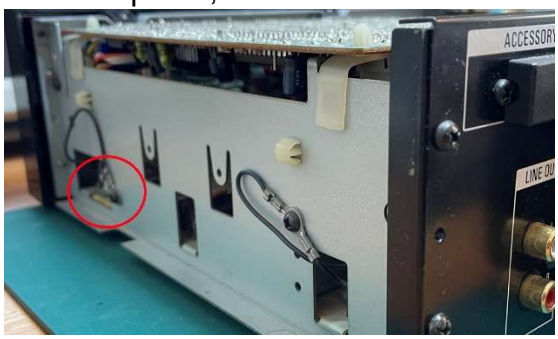
7. Using a blunt tool confirm the pins are free from the PCB. Redo any that are not free.



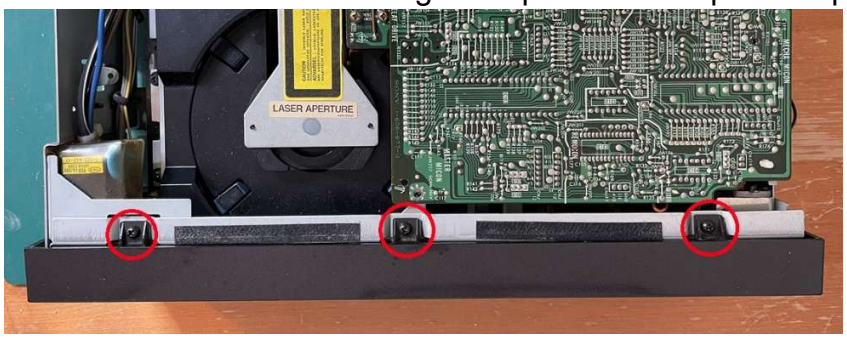
8. Once all pins are free fold the servo board back down and secure with its two screws.

NOTE: In tests it was found that applying heat to the connector like this this doesn't damage the ribbon cable.

9. With the player's back panel still facing you, to the left near the front panel are two grounding wires. Remove the screw to free them. One of them goes to the front panel, ensure it is free to move. (circled)

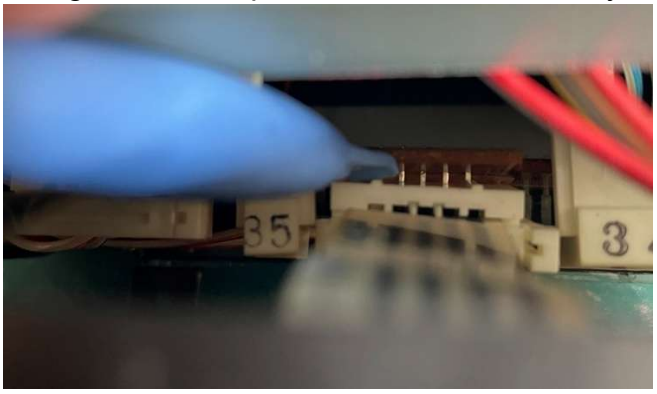


10. Remove the 3 screws holding the top of the front panel in place. (circled)



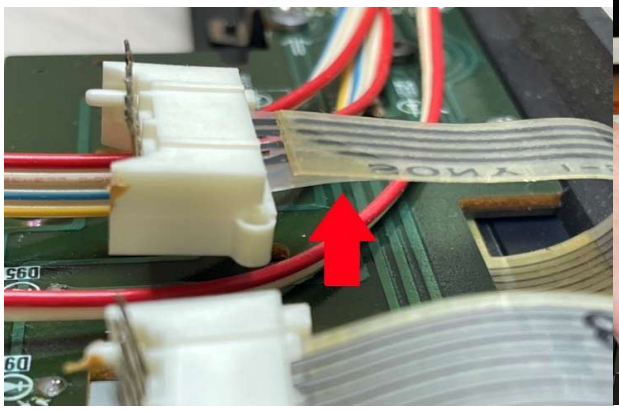
11. Turn the player over so it is now upside down with the front panel facing you.
12. Remove the 3 screws holding the bottom of the front panel in place. (circled)

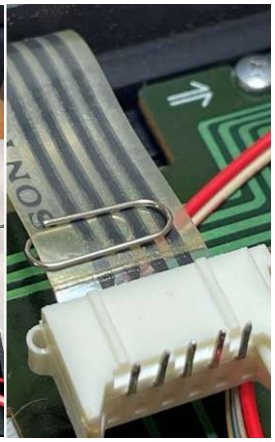
13. Pull the panel gently away from the player. It is supporting the player slightly which will drop a little.
14. Using a soft tool, push the connectors away from the PCB.



15. Ensure the LED board cables and ground wire are free to move.
16. Pull the front panel away and set aside.

Here we see one of the ribbon's back plastic layer is coming away. Fortunately, the printed conductive layer is intact so it still works. To stop this getting worse I apply a small paper clip to keep the layers together. I confirm the buttons are working by connecting a multi meter up to what are K0 and D0 and check the resistance when pressing play.

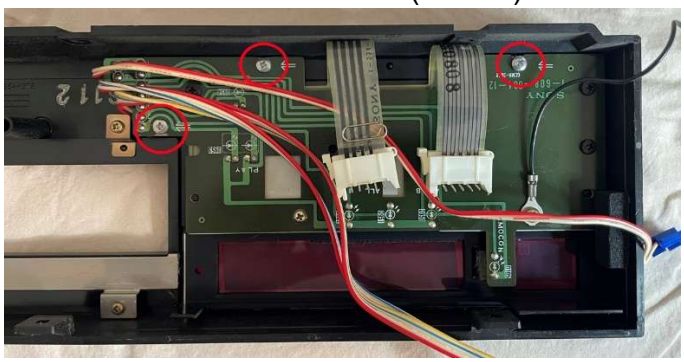




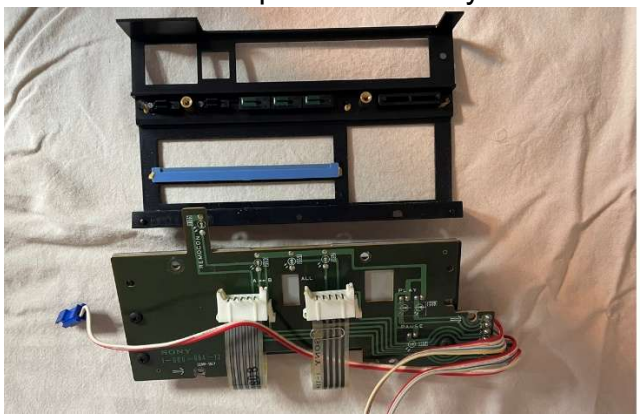
Dismantling the control panel

To remove the control panel intact and separate in to the push buttons:

1. Unscrew the 3 silver screws (circled)

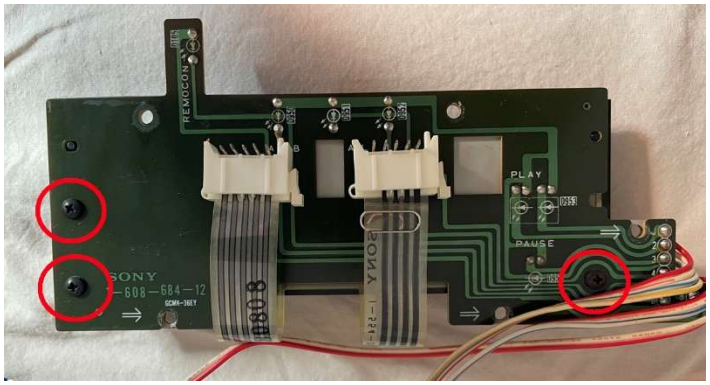


2. Lift off the control panel assembly from the frame

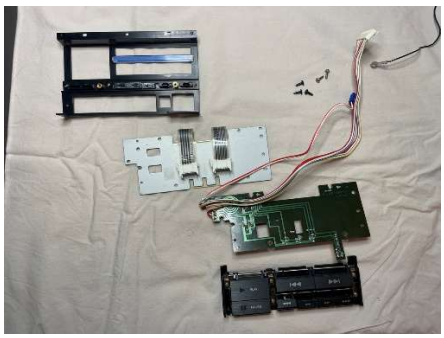


To split the push button assembly from the switch membrane and LED PCB:

3. Remove the 3 black screws



4. Lift off the LED PCB and set aside.

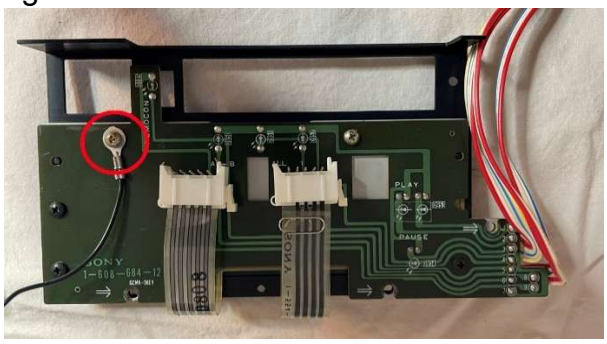


Re assembling the control panel

1. Lay the button assembly face down with the play button to the right
2. Align the membrane switch with the locators and push in place
3. Being careful not to disturb the ribbon cables, place the LED PCB on top of the membrane and secure with the 3 black screws
4. Ensure that the frame holds the top row of 6 buttons. Reset,1, All etc

5. Lift the switch assembly up and hold vertically to stop the buttons from falling forward. Check they are all seated correctly
6. Marry up the button/switch assembly with the frame

7. Re-fit the silver screws, remembering to connect the grounding wire with the right hand screw

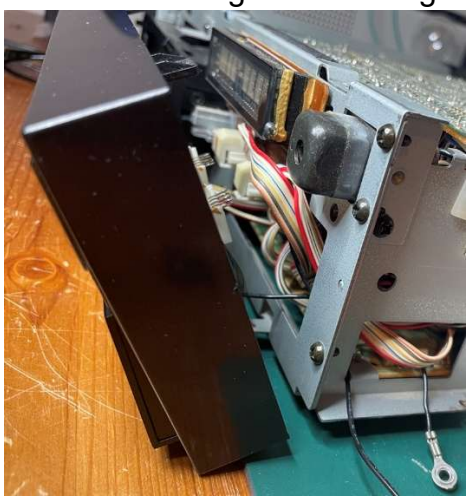


8. Refit the switch/button assembly in to the front panel by hinging it from the right side.
9. Refit the silver screws holding the assembly to the front panel

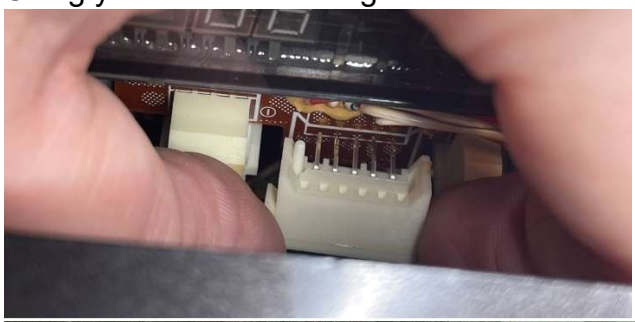
Refitting the front Panel

1. Place the player facing you and elevate the front by a 1-2cm. This will help with positioning the panel under the player. I used two CD cases.
2. Align the panel to the player and feed the two LED PCB cables through on the left and the ground wire on the right.

3. Ensure the timer switch cap is attached and switched over to the left
4. Marry the panel up to the player and arrange it so it is hooked under the bottom screw lugs and leaning out at 45 degrees



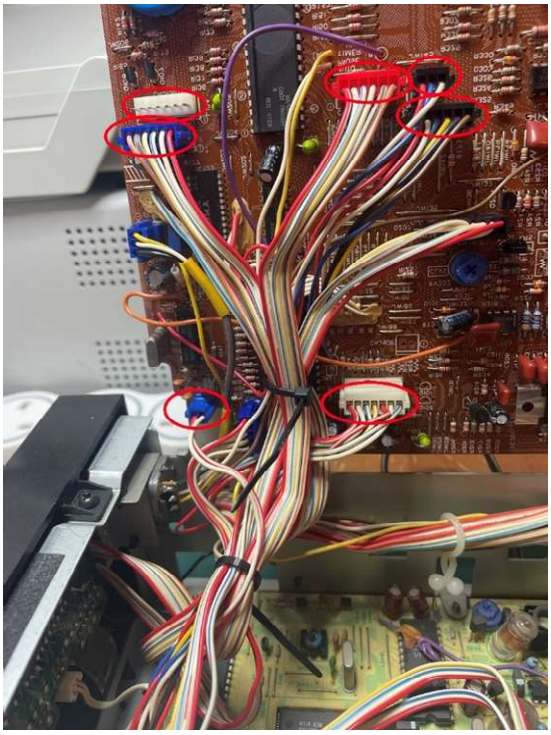
5. Using your thumb and finger refit the left connector to the PCB, then the right



6. Push the panel home, ensuring the headphone socket and switches are aligned.
7. Using the larger screws secure the top of the panel to the receiver
8. Rotate the player so the back is facing you and lift up the Servo board
9. Confirm the connectors have home correctly and solder them in place.

NOTE: This is challenging to do well due to the angle of approach. Holding the tip of the iron above the joint and bringing the solder from the bottom seemed to work well.

10. Refit connectors CNJ9, CNJ8, CN12, CNJ13, CNJ7, CNJ6, CNJ4 (circled)



11. Lower down the servo board and secure with its 2 screws
12. Reattach the ground wires to the front side of the player
13. Turn the player upside down and refit the **shorter** screws holding the bottom of the front panel on.

Procedure is complete