



# PS2 Tool guide

Complete strip down & rebuild

Compiled by Parris.

Proof read & assisted by Unclejun.



## PLEASE READ CAREFULLY PRIOR TO DISASSEMBLING UNIT

The Playstation2™ Development Kit series is possibly one of the most complex pieces of hardware I have personally taken apart & rebuilt. In doing so on three separate occasions I noticed that the order in which the unit is reassembled is fairly important to avoid frustration and back-tracking. This guide is meant purely to assist those who are confident that their technical & electronics skills are of sufficient level for the task.

If you have any doubts that you would not successfully complete any of the steps, then don't start them! Obtaining spare parts for this unit is very difficult and you don't want to go down that route.

For the purpose of demonstration, the unit used in the following guide is a DTL-T10000. There are several different models and the internals of your specific unit may differ.

**DISCLAIMER:** The PS2 unit contains a **Class A laser**, which is capable of damaging your eyesight if handled incorrectly. You should never attempt any maintenance on this unit whilst there is power being supplied to it. Disconnect it prior to carrying out ANY of the following. The unit also contains **many sharp metal parts**, plus it contains a large **power supply unit** carrying a very high electrical charge. I take no responsibility for any personal injury, damage to goods, the Playstation2 unit and/or other items. ***You carry out the following steps at your own risk and I am not accountable in any way.***

Your unit may vary or I may have provided incorrect information. Please feel free to correct details and always make your own notes to avoid issues.

Enjoy!

Parris

# Recommended tools

- **A good set of strong Philips & flat headed screwdrivers**
- **A small pair of pliers**
- **A vari-speed drill and range of metal drill bits**
- **A soldering iron & solder (just in case)**
- **A large flat area clear of any other objects (a computer desk)**
- **A couple of large plastic containers to place parts into**
- **A plastic tub to contain the smaller parts in**
- **A plastic cup to contain all the screws in**
- **Anti-static wipes and / or baby wipes (must be good quality i.e. Pampers or similar)**
- **Vitally important is an anti-static band around you wrist, clamped onto the metal casing! (Failure to do so may result in static from you damaging the electronic equipment).**
- **A digital camera and / or a thick marker pen & piece of paper to assist with identifying various parts and more especially cable routes!**
- **Small tube of Silicon Grease**
- **Several cable ties**
- **A Small, but sharp knife.**



## Disassembly procedure : Case Removal

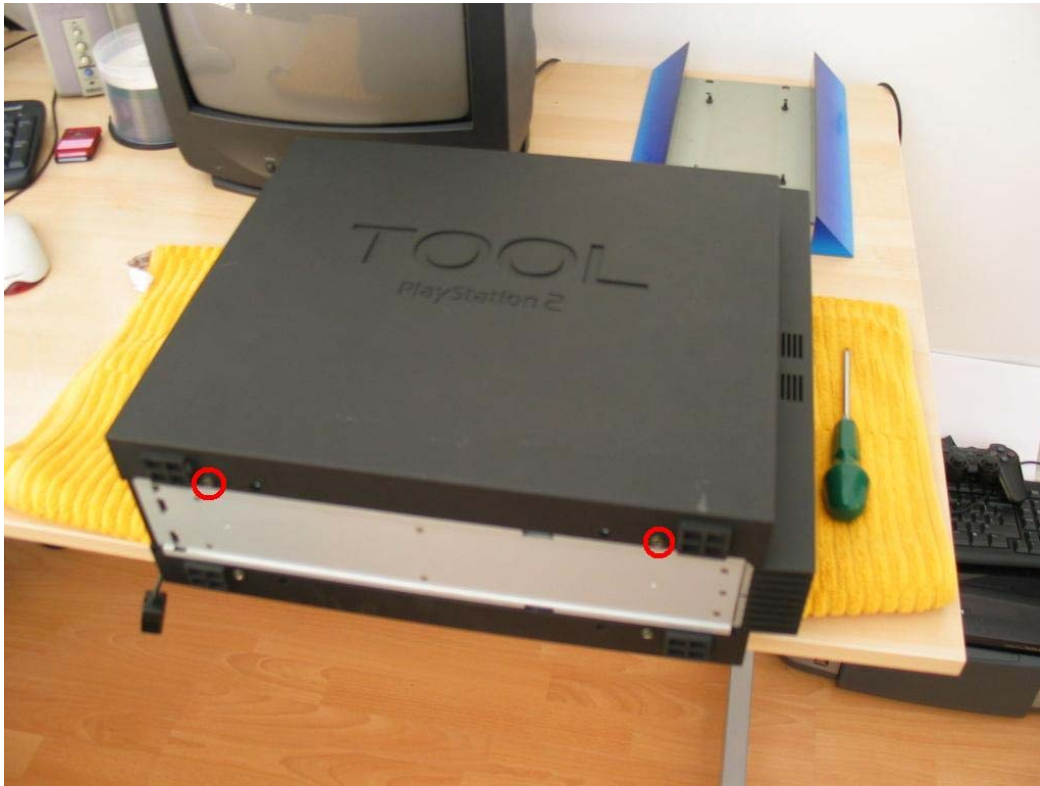
Irrespective of what you wish to do inside the unit, the removal of the case remains precisely the same. As such it's the best place to begin.

You should note that your unit may be missing it's blue base, but it is not essential. It was part decoration and part a means of keeping the unit steady.

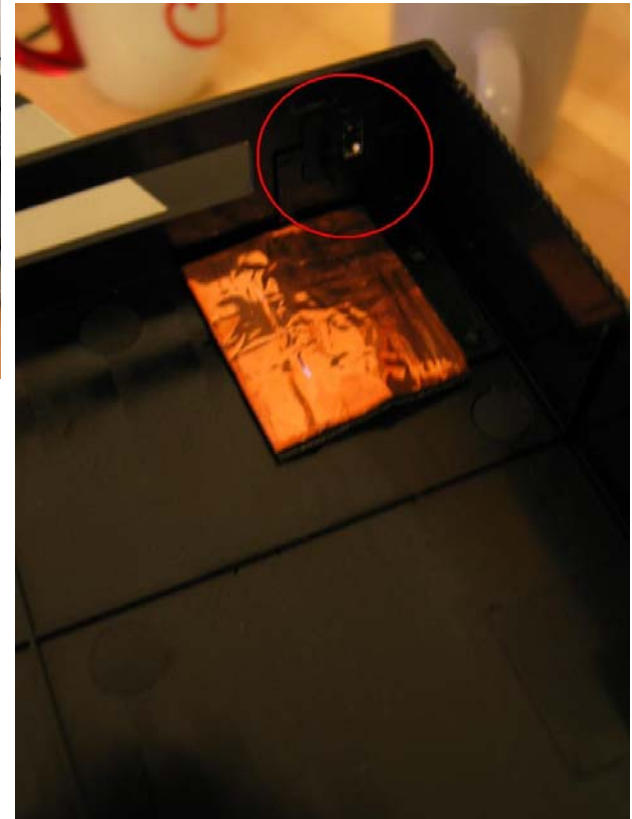
**Step 1)** If you have the base then remove it now by placing the Tool on it's side. I usually place a towel underneath to stop the casing from being scratched or damaged throughout the procedure. It also stops the desk being scratched once the plastics are off and the metal ATX case is exposed.



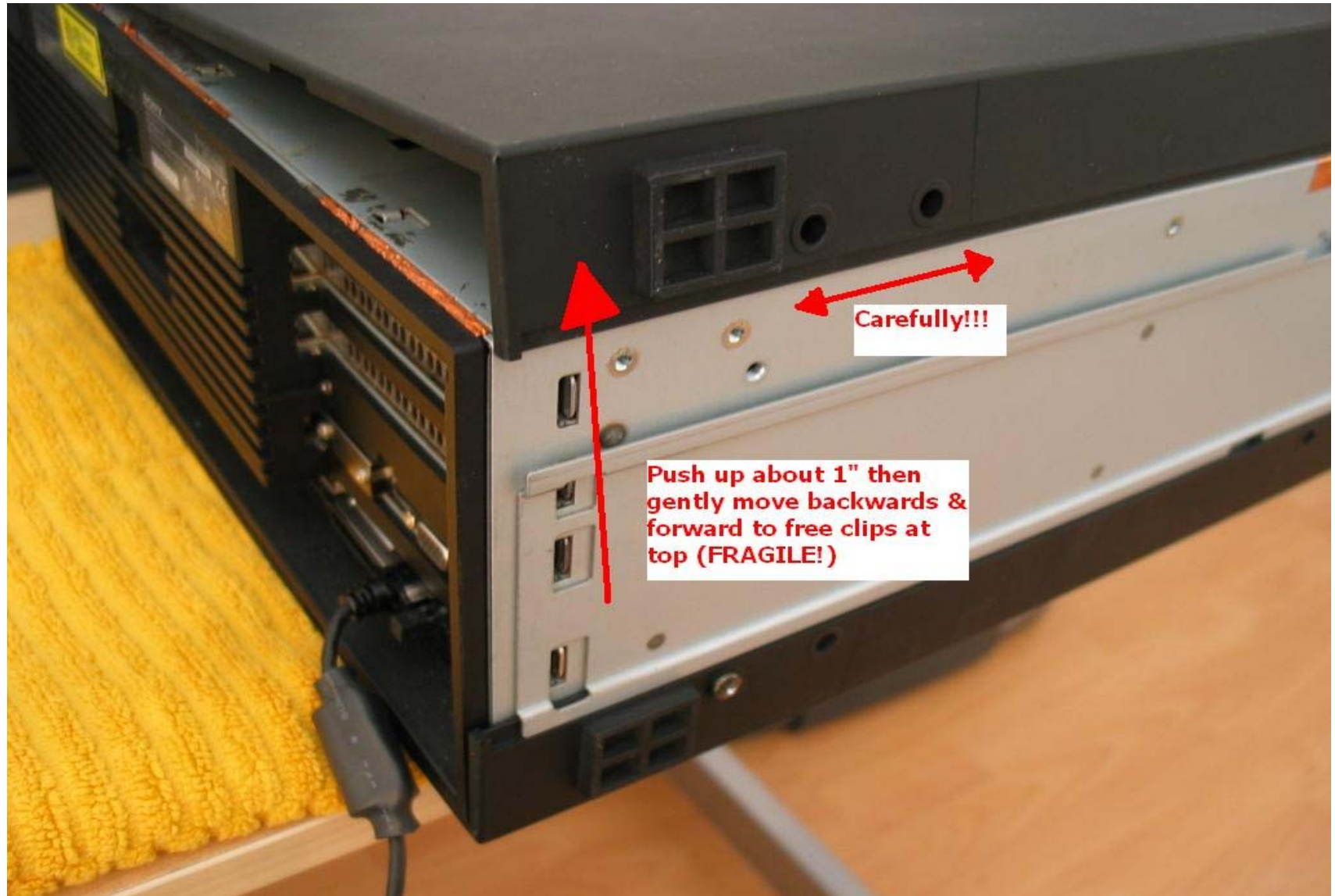
**Step 2)** Remove the next set of screws...



**Note:** Thanks to DRussian for pointing this out to me, as I had forgotten. The DVD drive eject button has 2 very fragile little arms that stick out to the REAR of the opened case lid. Take GREAT care when removing or replacing the casing that you do not break them.



**Step 3)** Here's your first opportunity to break something. The plastic top plate has 4 small clips at its top most edge. If you are too rough in removing this you'll completely destroy the casing. Push up about 1" and then gently rock the case plastic whilst pushing it **away** from the rear of the machine. Replacement is the same delicate procedure in reverse.

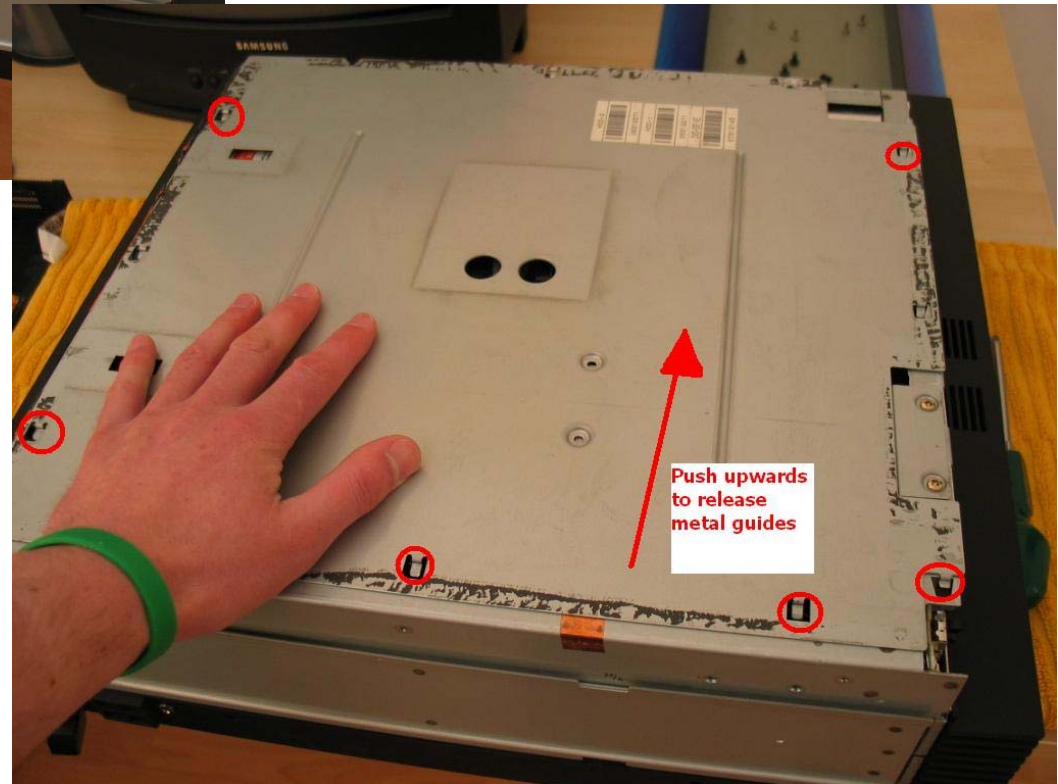




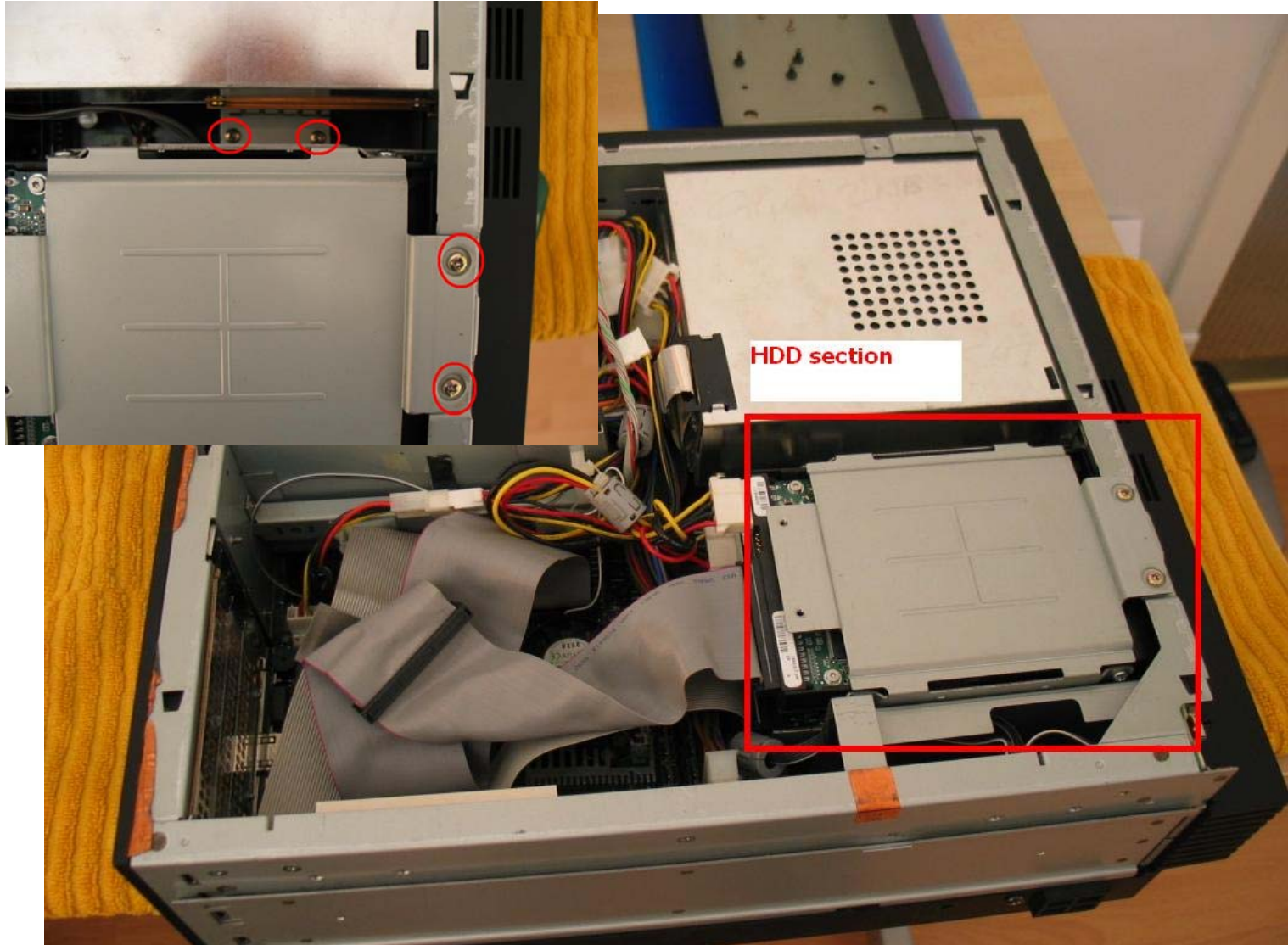
**Step 4)** Remove the 4 screws holding the metal plate in position. If the unit has never been opened before, you'll have copper tape all round the edges. This is incredibly sharp and should be removed with great care. It serves no purpose other than to protect the unit from EMI & RF interference. I suggest removing it all completely as any bits of it that make it onto the motherboard by accident will kill the unit!

**Step 5)** Don't be tempted to stick your fingers into the 2 holes. Push the metal plate upwards. 6 metal latches hold the plate in place. Underneath this large plate are several sharp metal parts.

**NOTE:** It's from this point onwards that you require the anti-static connection to the frame of the casing whilst working internally.

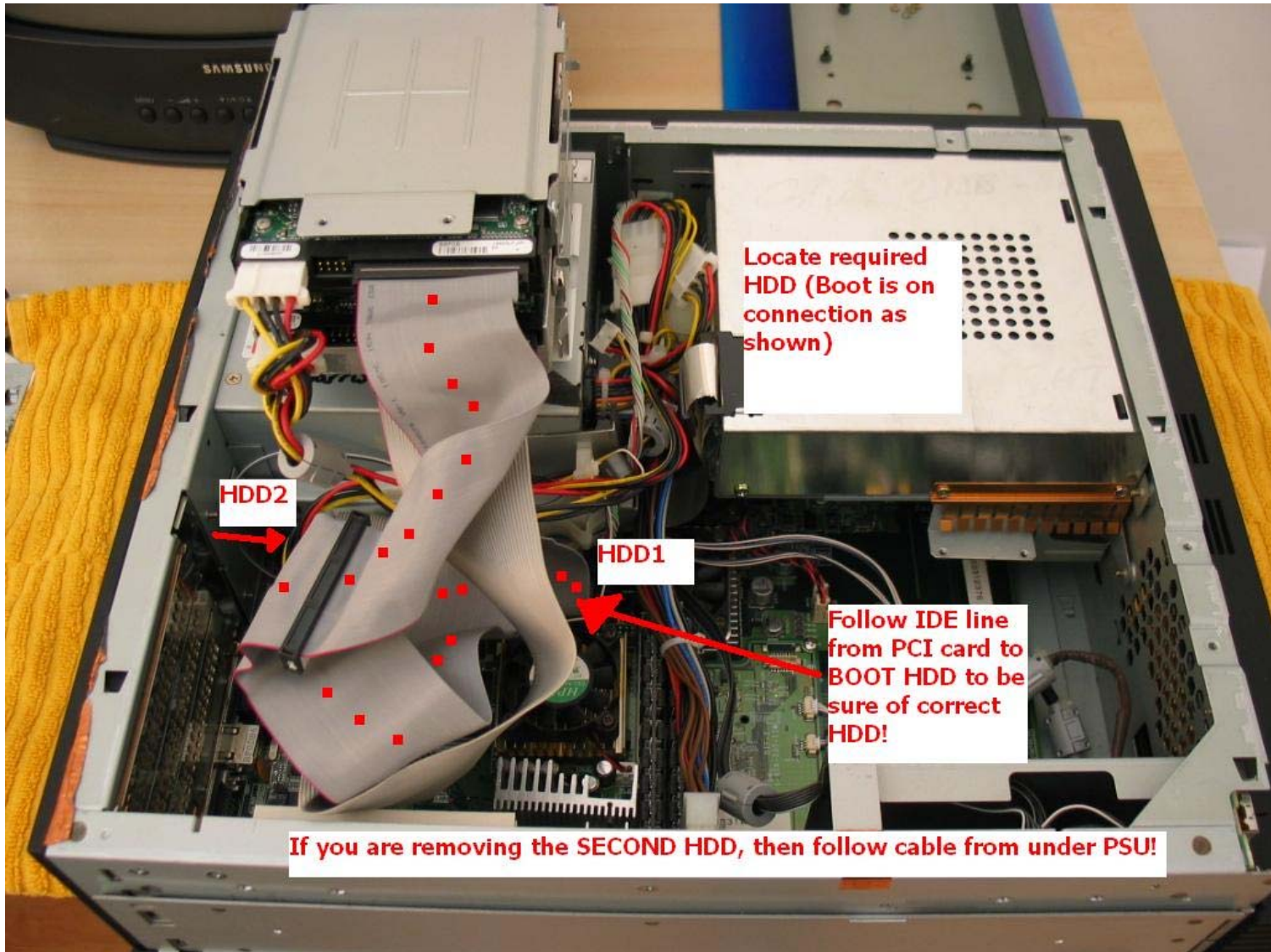


**Step 6)** You've exposed the internals, you have clipped an anti-static protector between you and the casing and now you are ready to remove the first part. Locate the HDD section and the 4 screws holding it in place. The first 2 screws are to the front of the machine on top and the second pair are between the HDD section and the DVD drive (**see insert**). Remove these screws and gently ease the HDD cage out of the unit. It has 2 prongs holding it in position! Before doing ANYTHING look carefully at the cabling...





**Step 7)** This is another opportunity to really make a mess of things. I cannot stress the importance of marking the various cables, taking photographs (as you work) and keeping a keen eye on what you are doing. Using a marker pen, identify the main HDD and the secondary HDD. I marked on the SIDE of the HDD cage (metal cage holding HDD) their positions and marked on the IDE lines which was going where. Before you move onto Step 8, make sure you know how to put this bit back together again!

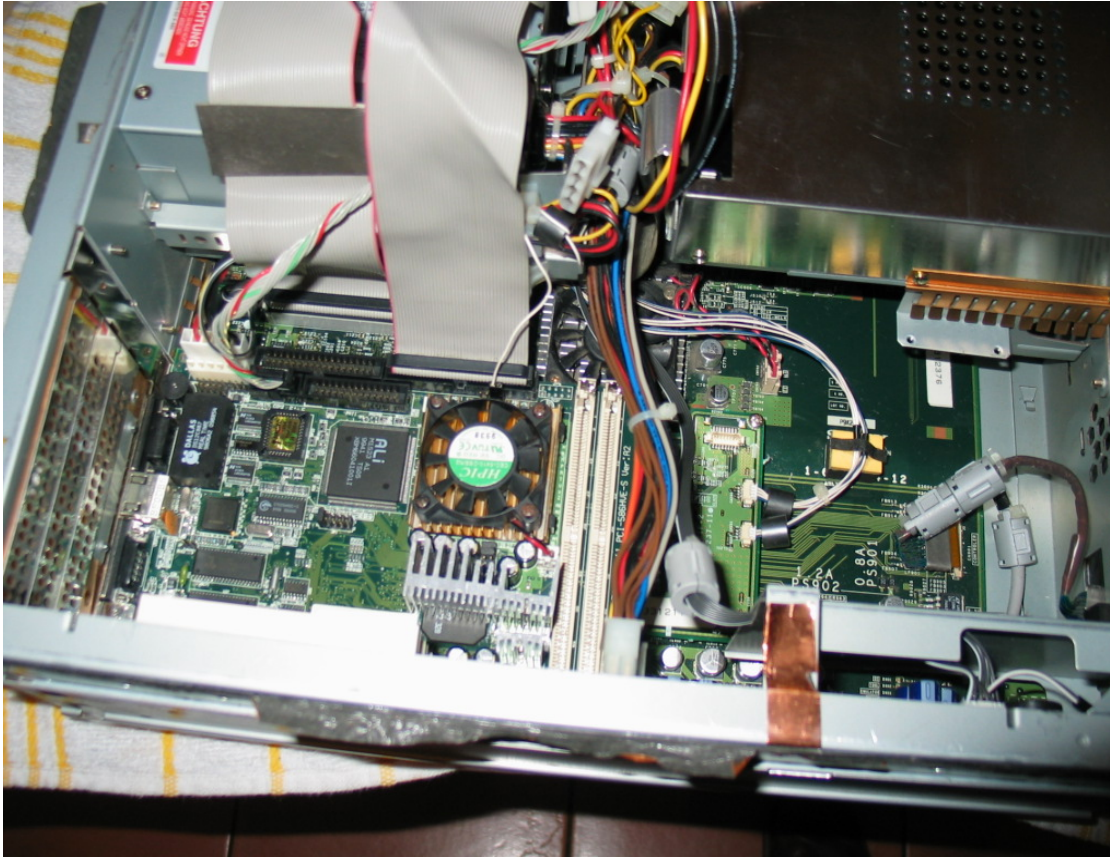


**Note:** The size of the 2 internal HDD is rather important. They should be a minimum of 30Gb each in order to contain all of the material required. In the T10000H however, both the HDD are actually 40Gb Seagate units (Model ST340810A) (image A).

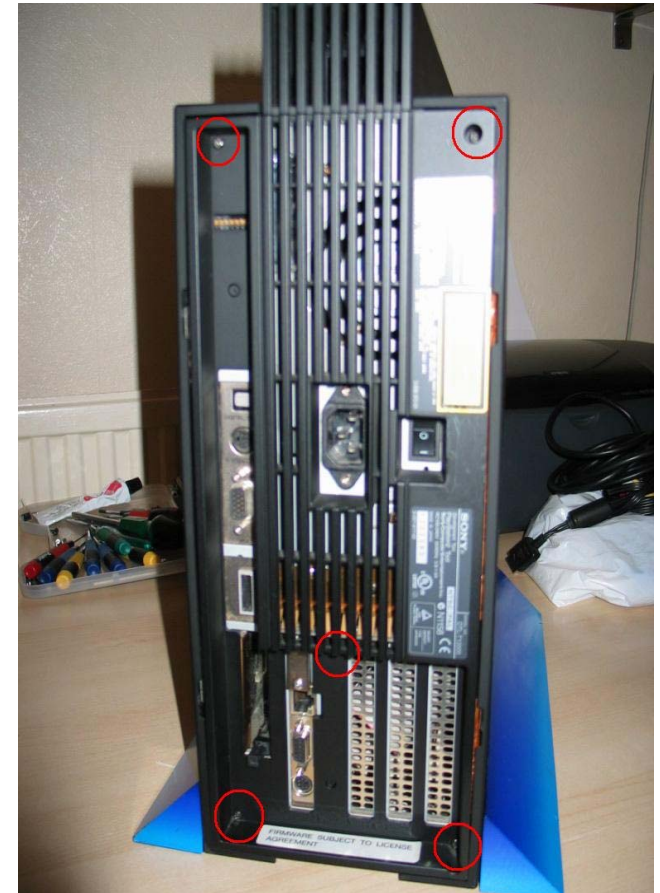


...If you are simply removing, replacing or updating the DATA on the 2 internal HDD then this is your last disassembly step. Simply remove the appropriate HDD(s), attach to a suitable PC IDE line and update the HDD as required.

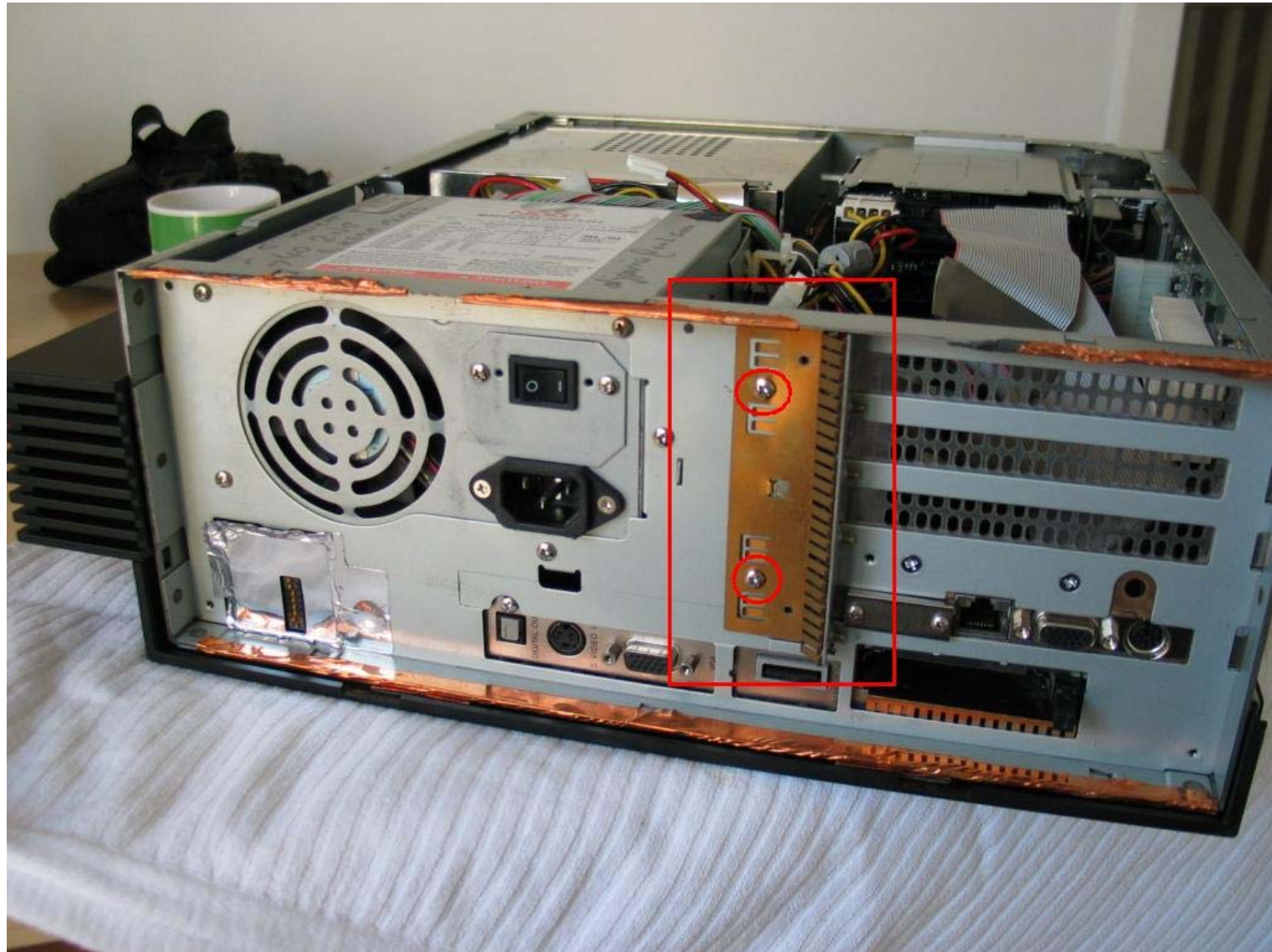
**Step 8)** Your unit will look similar to the following image (A). You are now about to remove several key cables that definitely need to be marked and / or clearly photographed to ensure they go back into the right places.



You are about to remove the PCI card from the unit. This requires removing the back plastic section, so place the unit upright and locate the 5 screws holding the plate in place. (B)

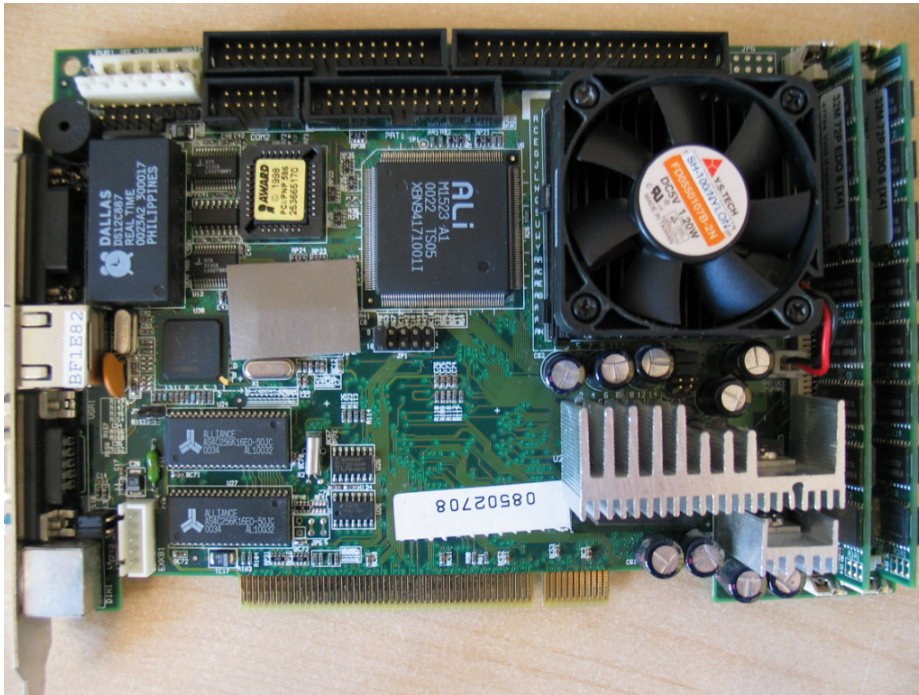


**Step 9)** Remove the copper plate and underneath you'll find another screw holding the PCI card into the PCI slot. Remove that.



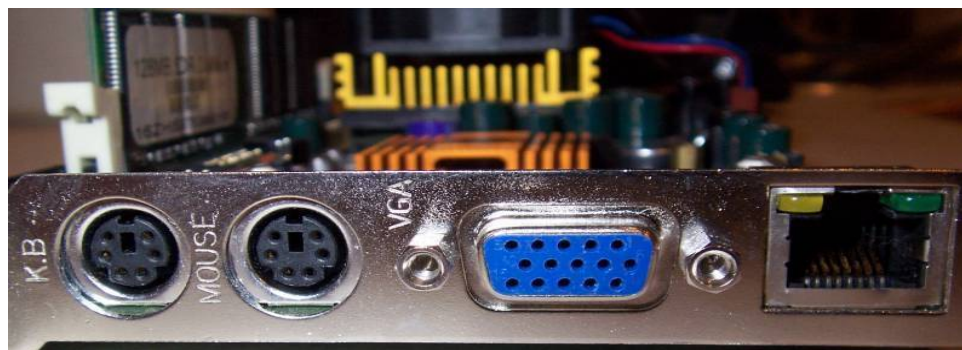
**Step 10)** As you have clearly labelled, memorised or photographed the cables attached to the **PCI-586VE-S** PCI card you can disconnect them and gently remove the PCI card from its slot. Lay it carefully to one side. / *recommend using some anti-static bags to place smaller PCBs into.*

The PCI card looks as follows and it is worth checking the condition of the fan & heat sink. Reseat the memory strips and also make sure the processor is sitting correctly. This is a very expensive PCI card and hard to obtain. Don't damage it! *Depending on the particular model of your unit the specifications may vary.*



**Note:** The PS2 Tool as standard comes with 2 x 32Mb 72 pin EDO memory sticks. These can be replaced if damaged. The processor is a Socket 7 Intel 233MMX.

**Note:** You may be lucky enough to have a very different version of PCI card. It is the **PCI-815VE**. It is easily identifiable without opening the unit up as it has a BLUE VGA socket and instead of a single keyboard input, it has keyboard & mouse. The main advantage of this particular card is that you can upgrade the processor & simply add large memory sticks. It is clearly not something that should be done without understanding the BIOS settings. Particular attention should be paid to the removal of the existing CPU. It is held in the socket very tightly and forcing its removal may do damage to CPU and socket! **Currently I do NOT have the wiring diagram for this particular PCI card so please take care in reinstall.**



Thanks to Port187 for the information on this particular PCI card.

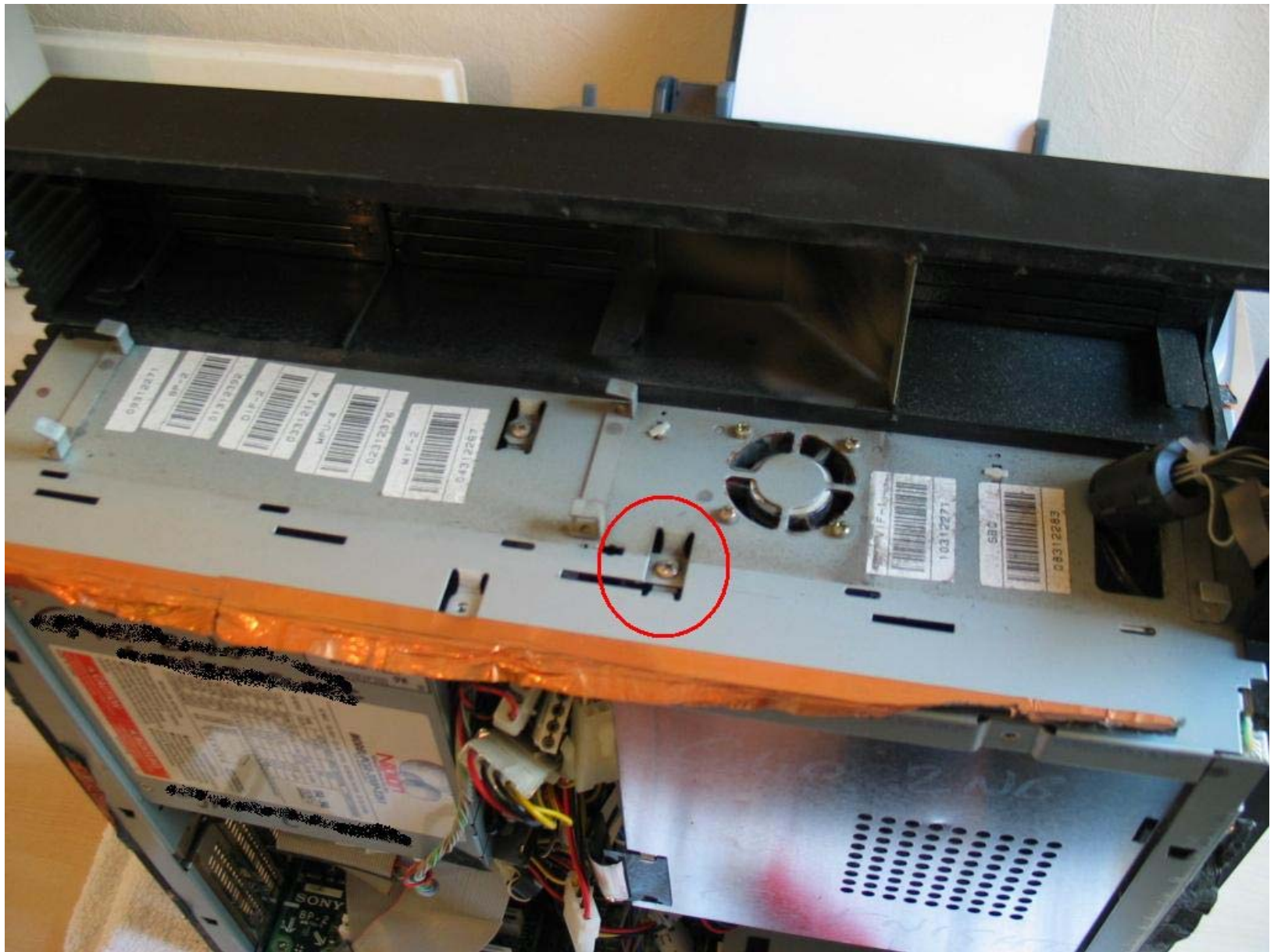
**Step 11)** The next step is to remove the DVD drive. This is a lengthy procedure and frankly Sony should be ashamed of themselves for making it so utterly inaccessible. First of all place the PS2 unit upside down (A), so the exposed side is now facing down onto the surface of the desk. Remove the plastic side panel in exactly the same way as described in [Step 2 & Step 3](#). The exposed metal side plate (B) differs slightly from the open side and has only 2 screws holding it into place– **leave them in situ for the moment!** Right the unit again and you should have a unit looking like image C.



**Step 12)** Another opportunity to mess up some plastic! To get at the screws which hold the DVD drive in place, you are required to completely remove the TOP (Mohawk) section and the façade of the PS2 unit. I am going to describe the 2 parts as Mohawk & Façade throughout. With the unit upright as in **Step 11 : image C** locate the clip as detailed in image A. Gently raise the clip with a screwdriver (flat) and pull the Mohawk away from the façade being careful not to break the fragile plastic clips in the process. Once you begin to pull your unit should look like image B.

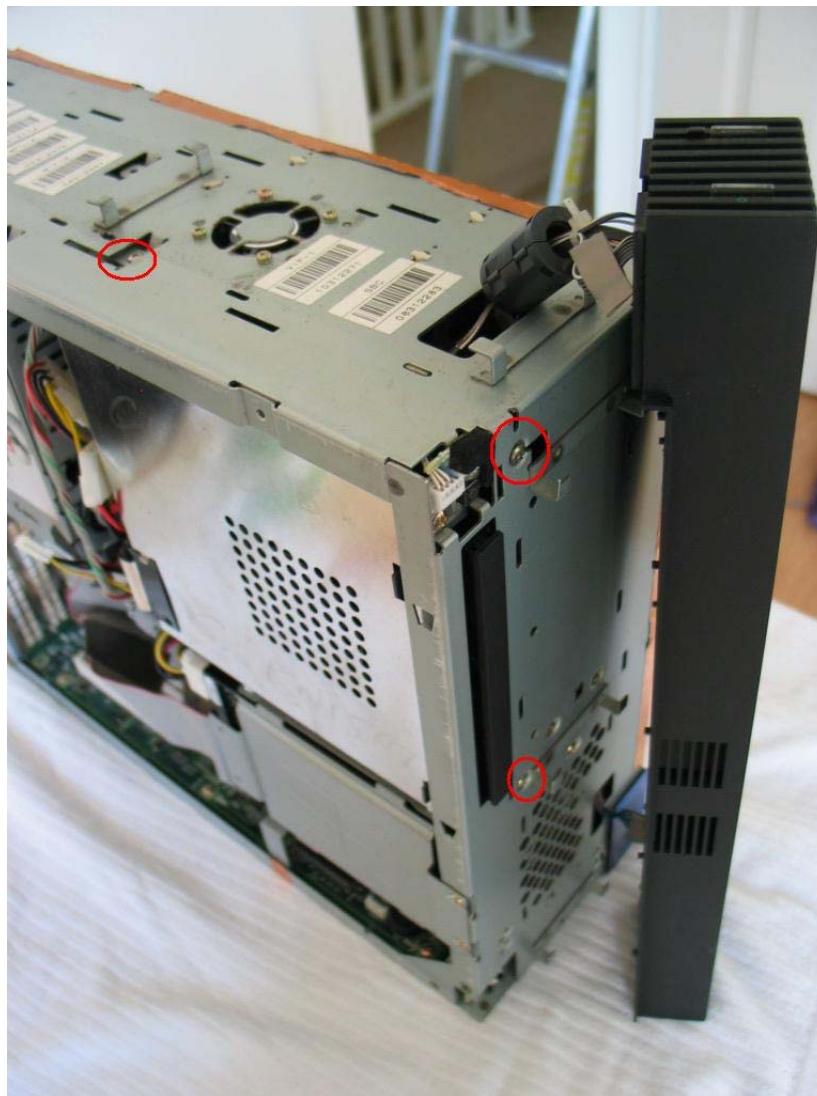




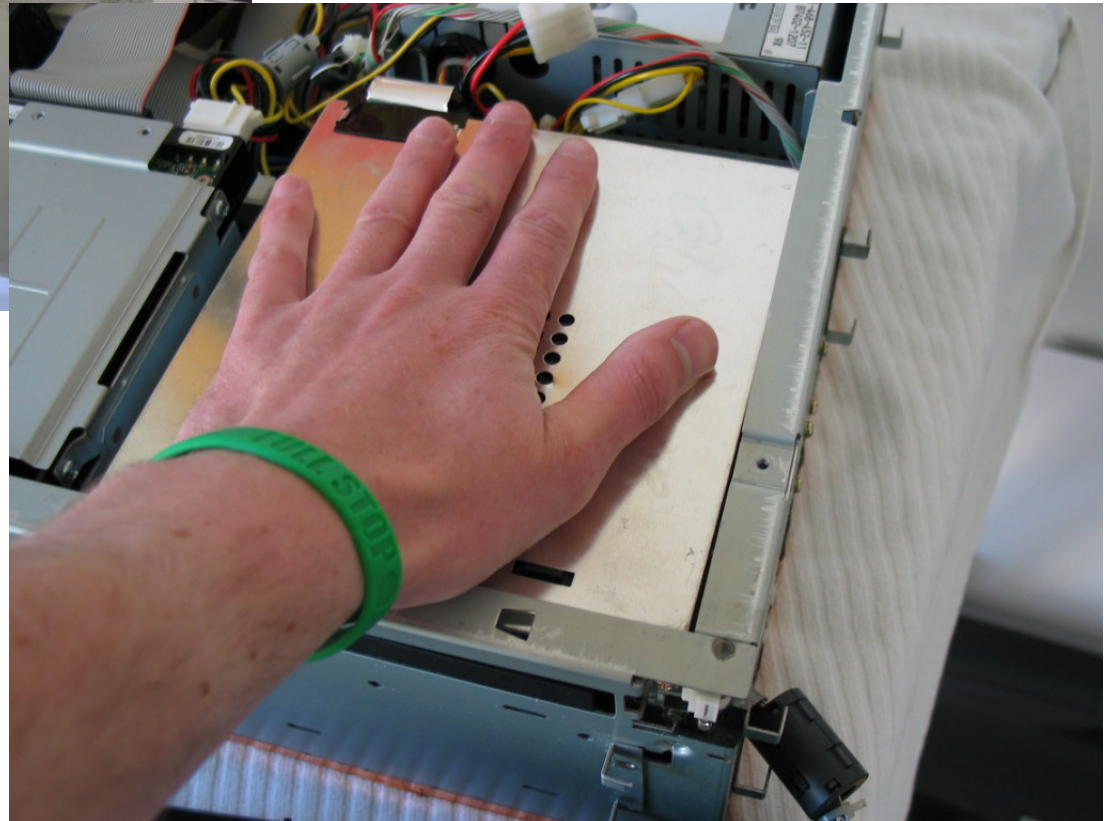
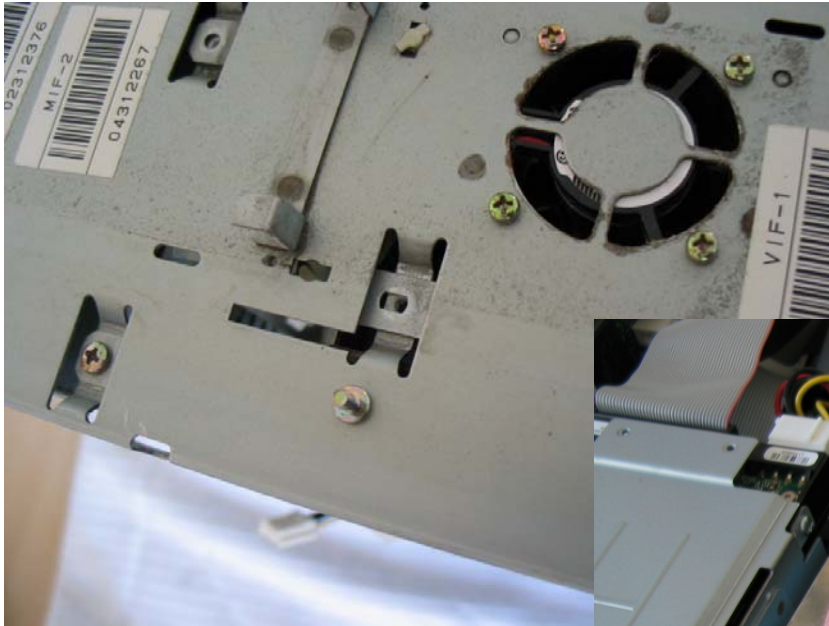


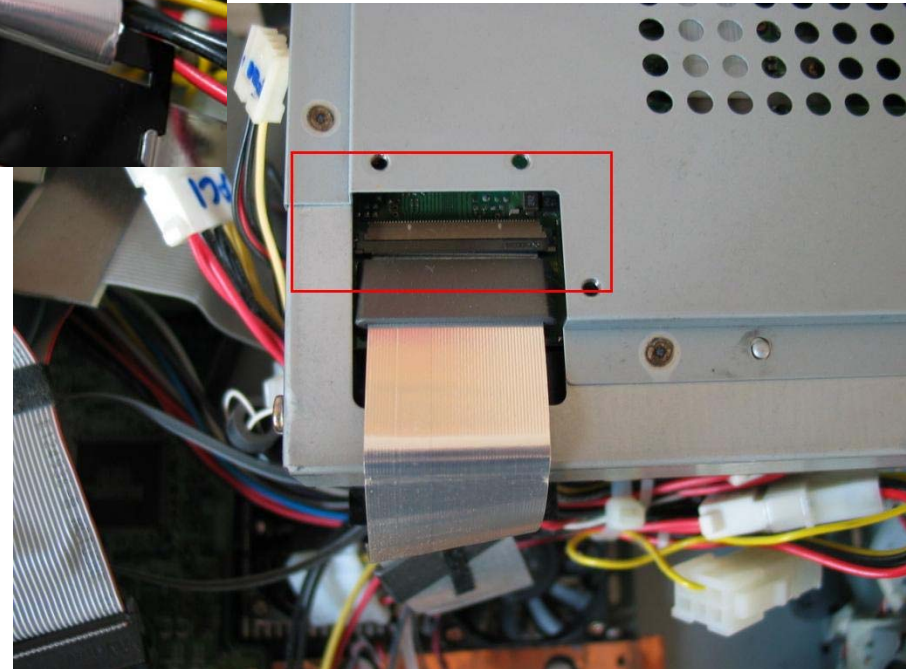
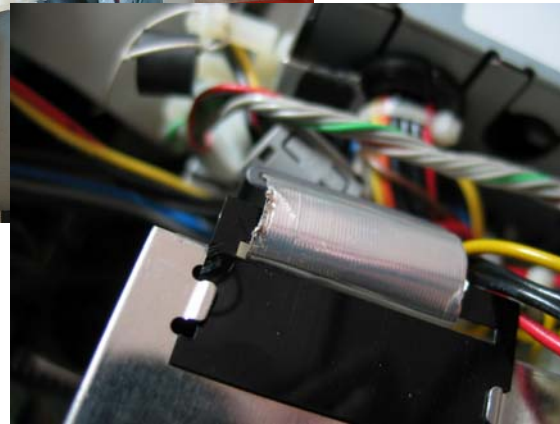
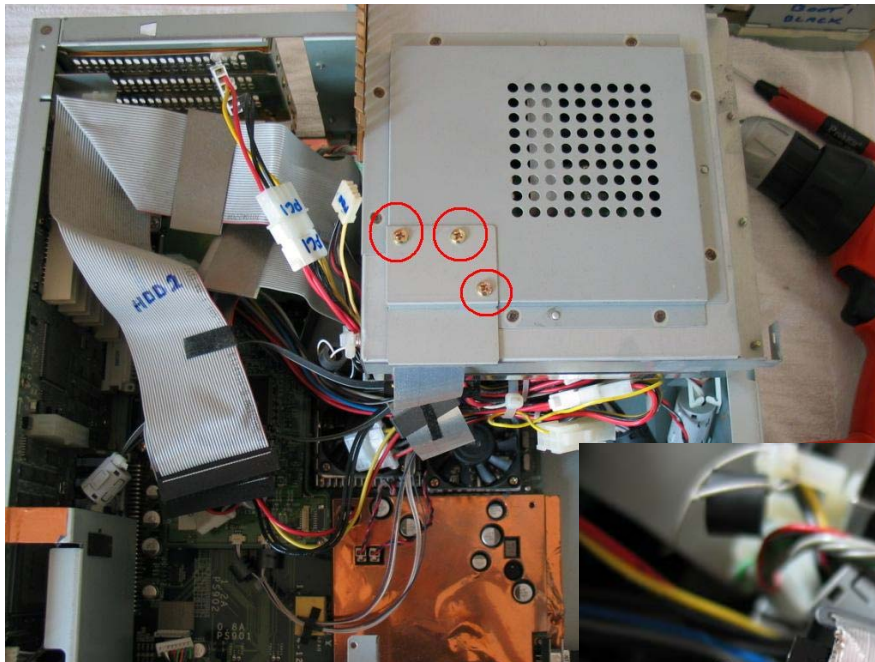
...locate, but do not currently remove this particular screw! It is the 3<sup>rd</sup> and last DVD screw to be removed!

**Step 13)** Far more straight forward. Again locate the little clip at the base of the façade and perform the same task as with the Mohawk, lifting the clip gently with a flat screwdriver. LIFT the façade off it's metal guides in an upwards movement, but then move the entire façade gently to the RIGHT of the machine, being careful not to over stretch the connecting cables at the top or the controller / memory port cable at the bottom of the façade. You will expose the entire metal front of the ATX case and the DVD drive screws. Remove the screws carefully...



**Step 14)** ...taking care not to shear the screw heads as they are particularly fragile, remove the 3<sup>rd</sup> screw (A). Push the DVD drive gently away from the façade being careful not to damage the single long strip IC attached underneath. Do not allow the DVD drive to drop onto the PCB below. **Notice that the rear of the DVD unit has a little arm that catches the top of the metal ATX frame.**





**Step 15)** Lay the DVD drive upside down on top of the PSU. Take care not to twist or damage the IC cable attached. Remove the 3 screws mentioned in image A.

Remove the IC cable from the black retaining clip in image B. Be careful not to damage the cable... It is far better to bend the black plastic out of the way than flex the fragile IC.

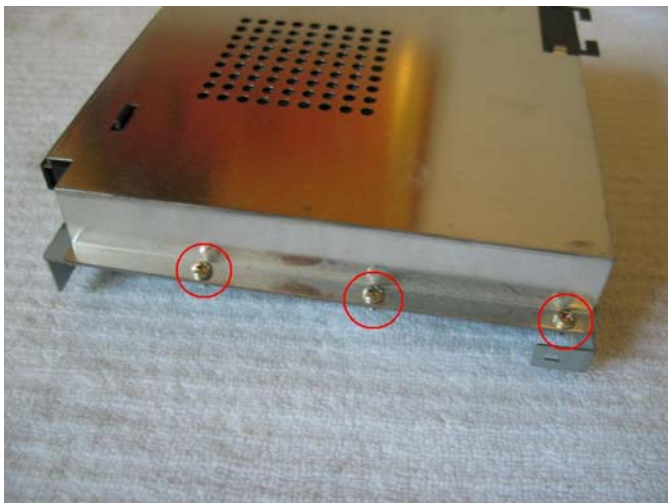
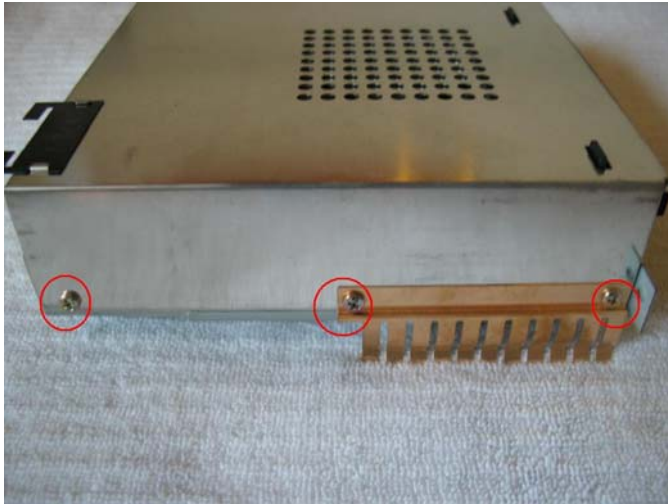
...now unclip the IC cable from the connection in image C.

**Step 16)** Gently remove the far end of the IC cable from the motherboard underneath the PSU (Best seen in this image with the PSU already removed). Be very careful when lifting the flap upwards as you could damage it or the cable.



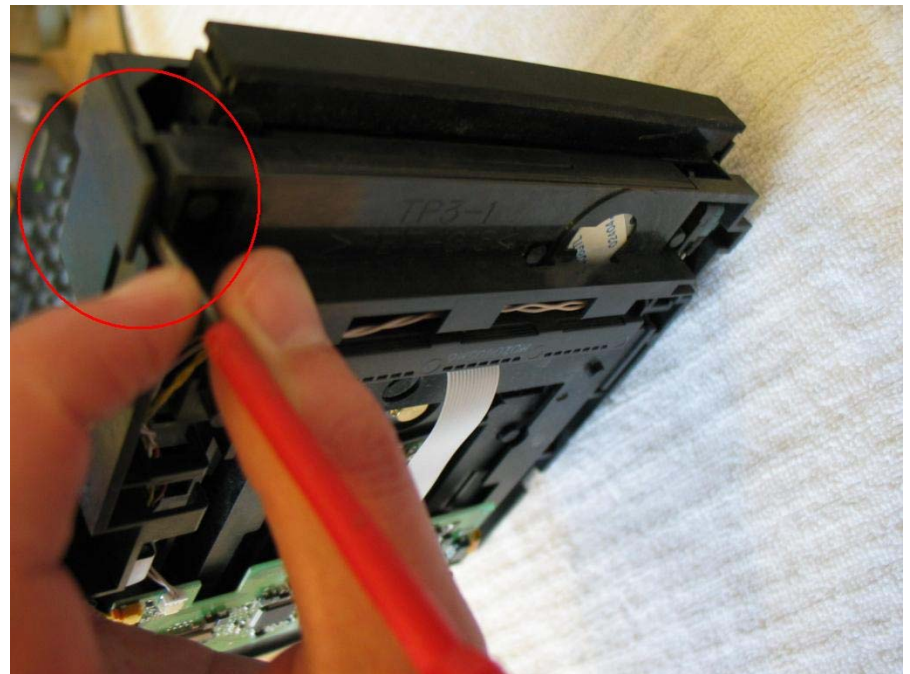
...At this point you may be repairing only the DVD drive. If not, then skip past this section until I recommence with disassembly of the façade. ([Click here to skip](#))

**Step 17)** Disassembly of the DVD unit. Many of the reading errors are caused by faulty drives rather than damaged or burnt lasers. It's best to start by cleaning out the DVD drive and then examining the laser unit. Remove the 6 screws holding the DVD drive metal cage together (images A & B). Take care as the edges are sharp. Note the earth strip and its position.

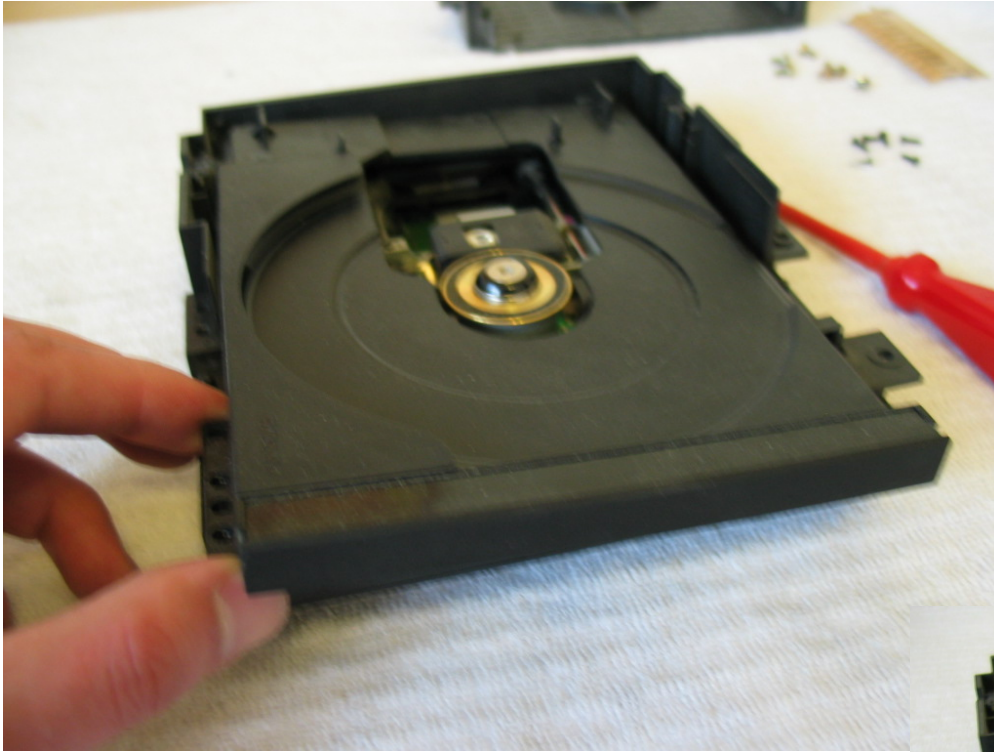


Remove the 4 small black screws as shown in image C. See next page before removing...

**Step 18)** Remove the DVD from the metal base (3 screws shown in image A).

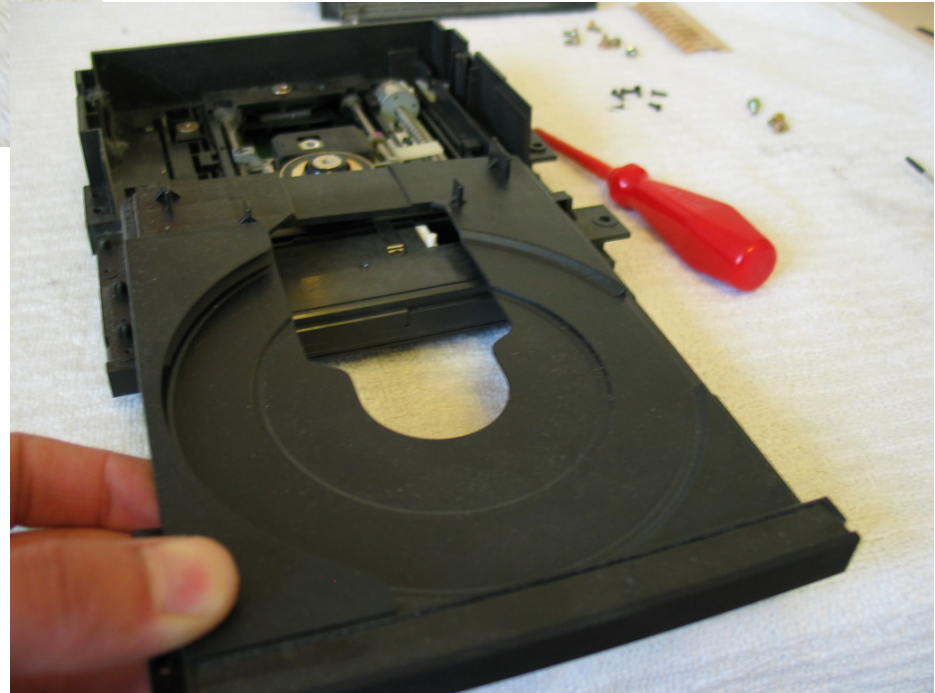


Use a flat edged screwdriver to unhook the lid catch (shown in image B).

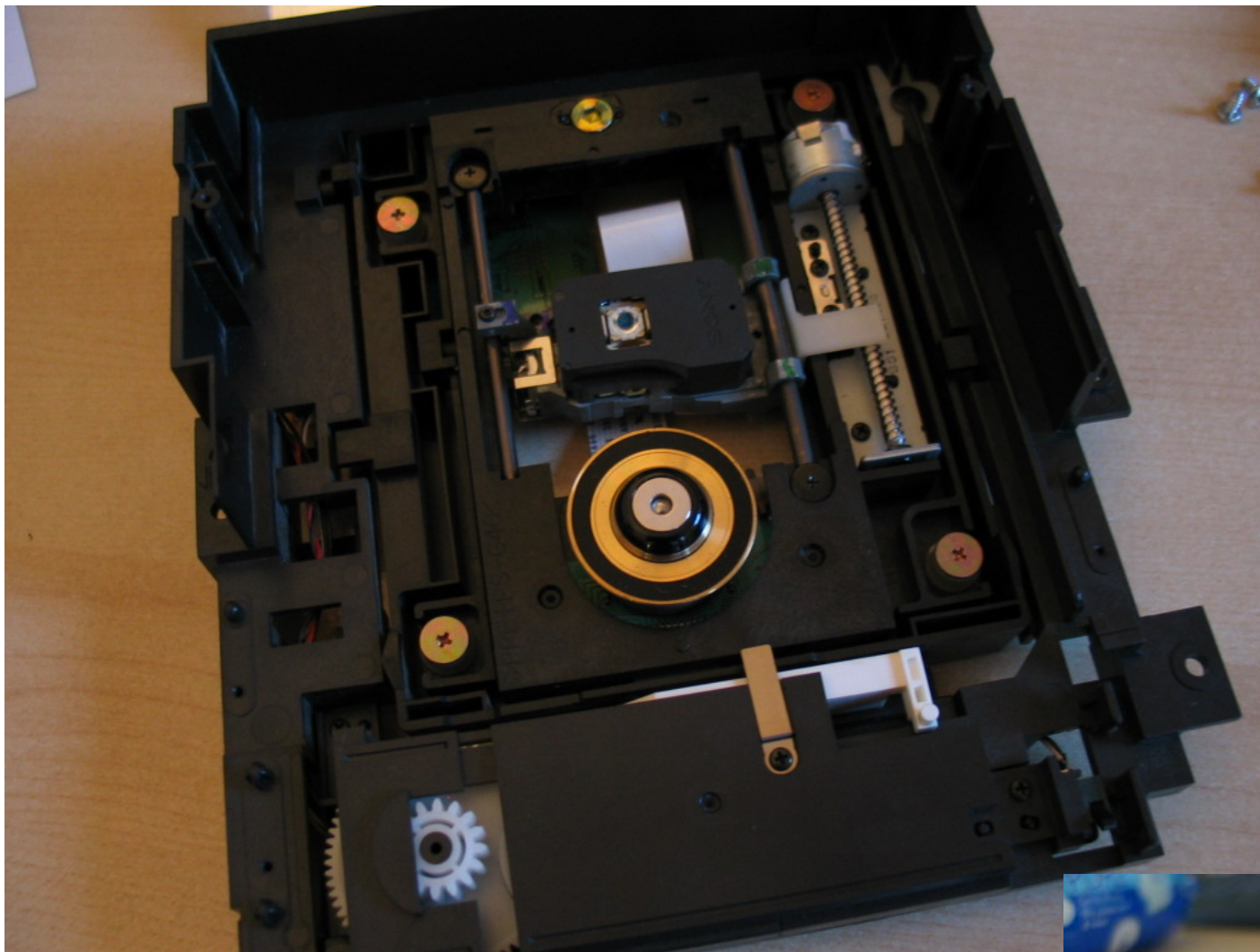


Lift the edge with the small plastic arm upwards gently and then pull the tray towards you...

...when it gets to this particular point it might show some resistance. Pull more forcefully off out of the frame, but don't force it to the point of breaking it. You can do most repairs with the tray in place.

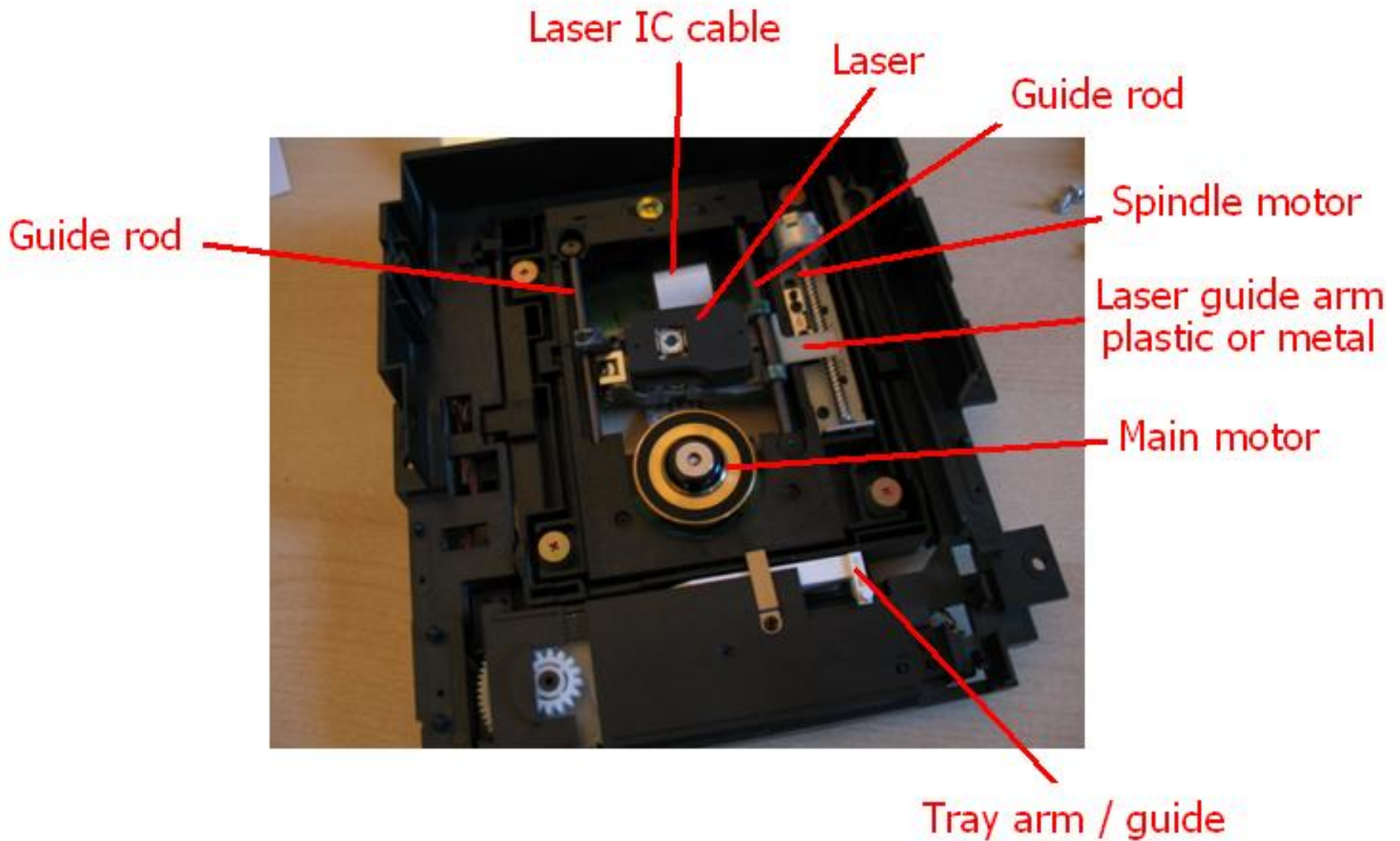






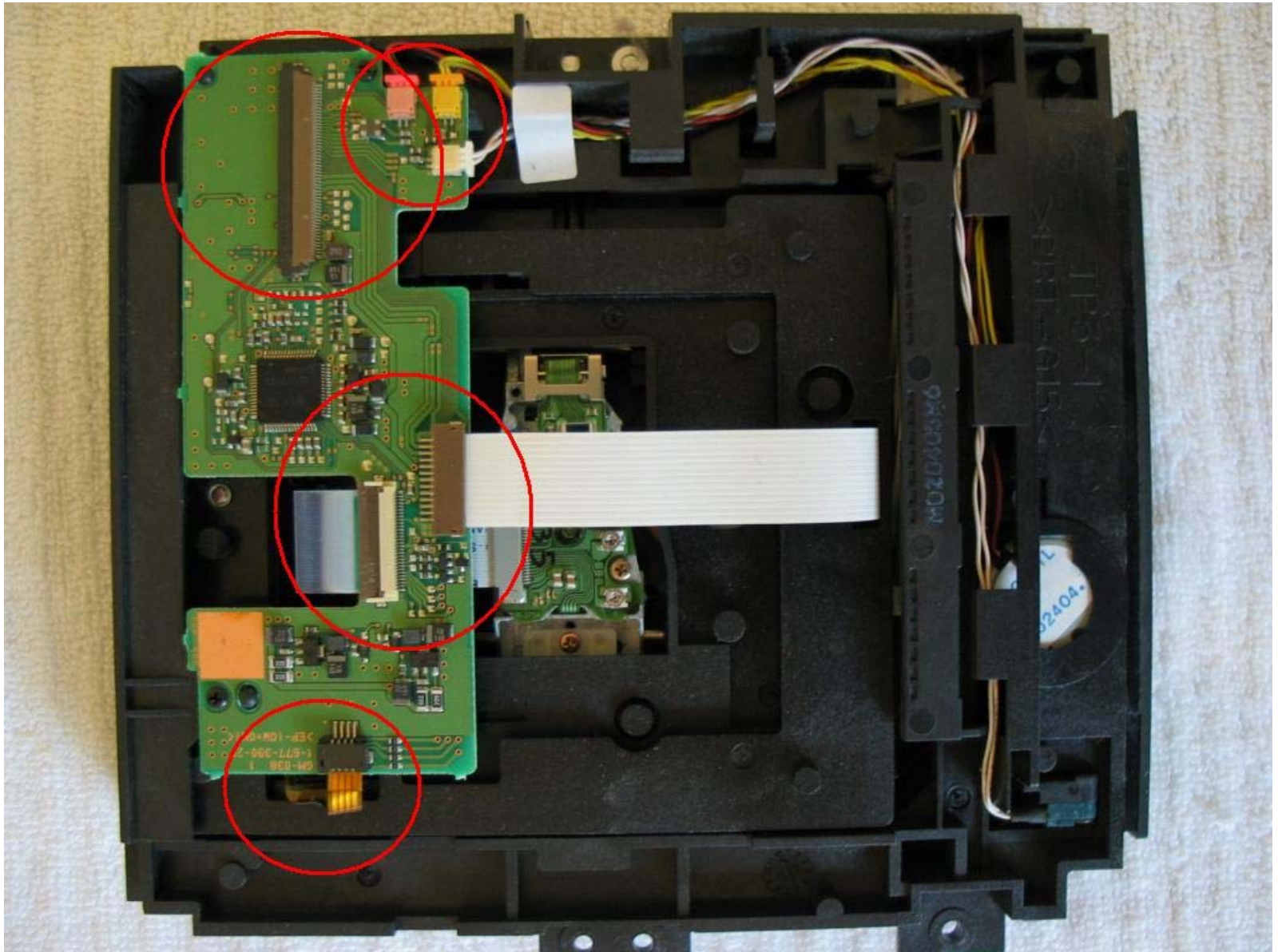
**Note:** This is the DVD drive found in both the T10000 & T10000H. The older unit uses a KHS-400A laser, which can be replaced with the same laser as found in the H unit. This is the KHS-400B laser. **I cannot stress enough the importance of ensure that no power is supplied whilst fitting & repairing a DVD / Class A laser mechanism. Laser radiation can & will damage your eyesight permanently!**



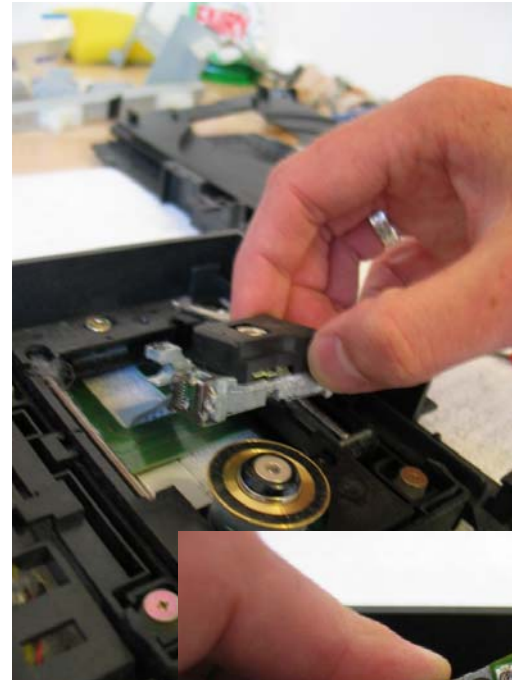
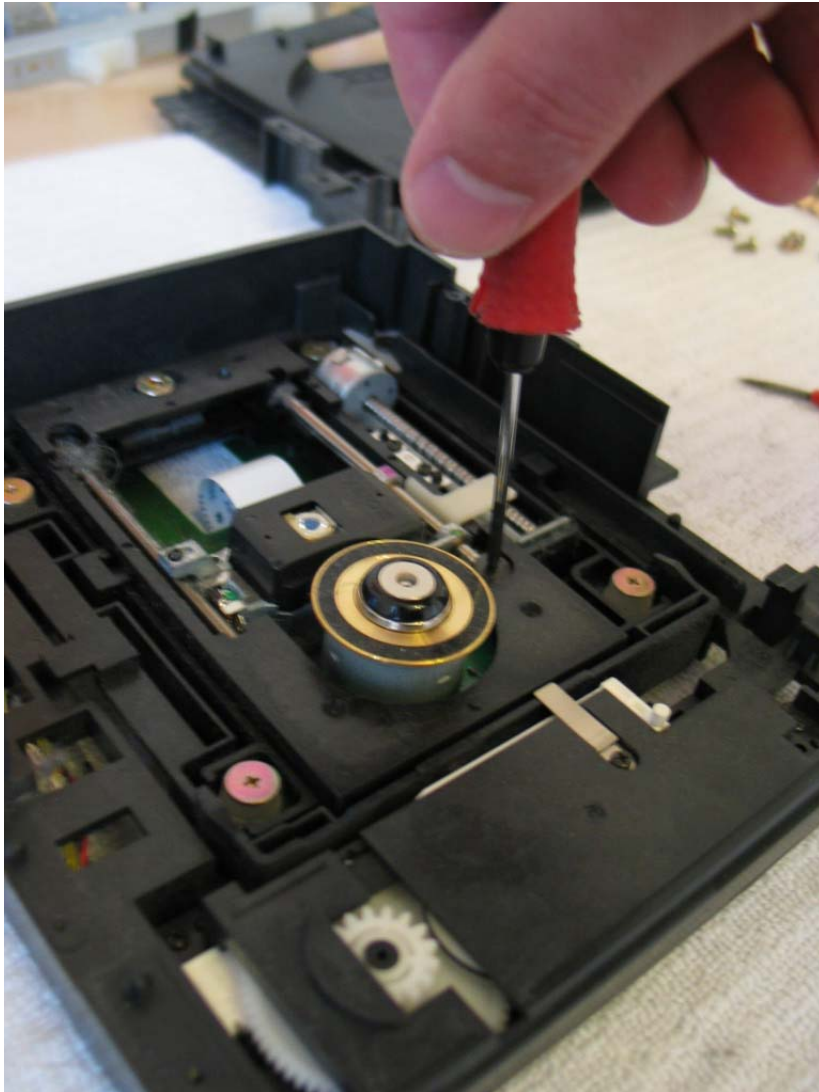


There are several different types of DVD unit and therefore this guide cannot be expected to cover all of them. In essence the units are very similar to retail DVD units and you should be able to find online guides for each individual unit. Both the T10000 and T10000H are the same mechanism however. The DVD unit should look as clean & free of dust, objects or matter as the previous close up image of the DVD unit. If not, then it may be one reason for your unit suffering from reading errors.

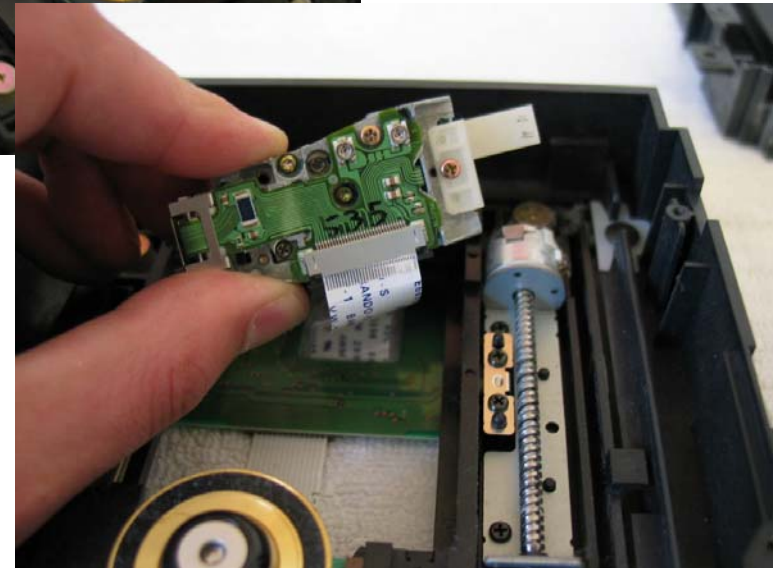
**Note:** During this disassembly it is hopefully not necessary to repair the base of the DVD drive. If so, it is likely that your DVD drive is needing replaced. The main things to note are that the encircled connections and cables are securely seated and the cable clips undamaged and holding the IC cables in place firmly.



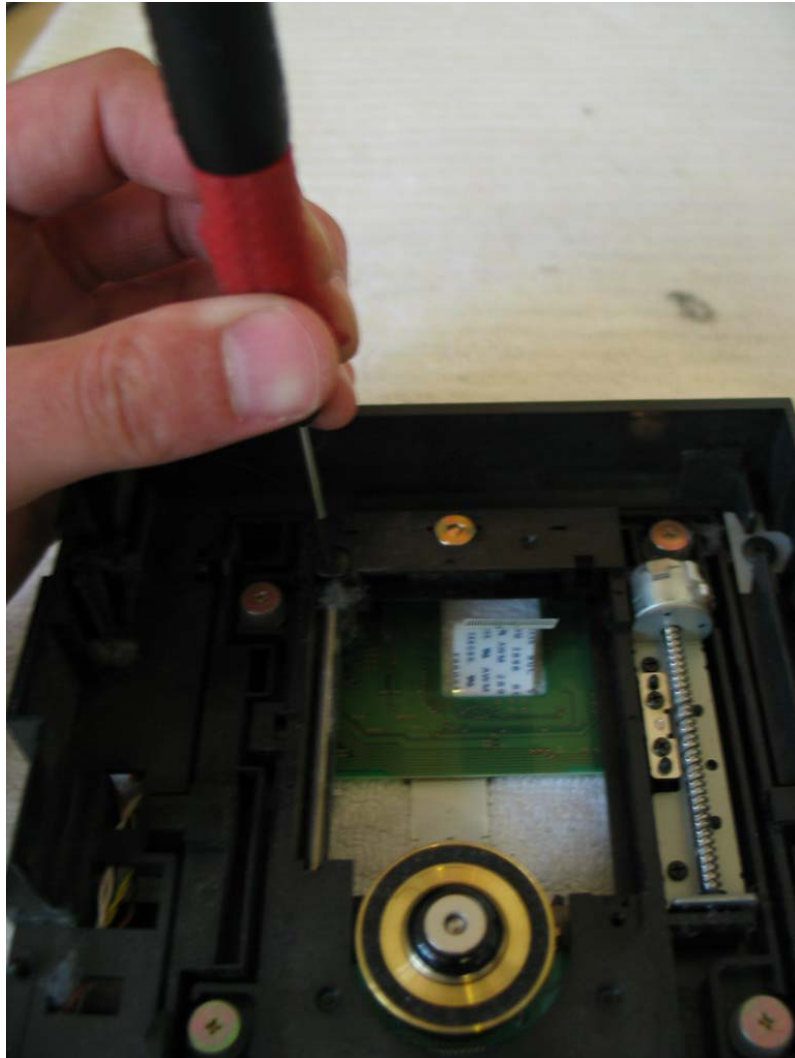
Remove the screw holding the guide rod that goes THROUGH the laser. This is the main guide rod holding the laser into the frame (image A). Lift the laser out and remove the guide rod (image B) and flip the laser up to expose the IC cable. Take great care in releasing the IC cable from the clip. If you overly force the clip it will become so damaged that a connection will no longer be strong and therefore fail.



**Note:** *This is exactly the same procedure as on a retail unit. So, if you are having problems with another unit, this guide might be useful elsewhere.*



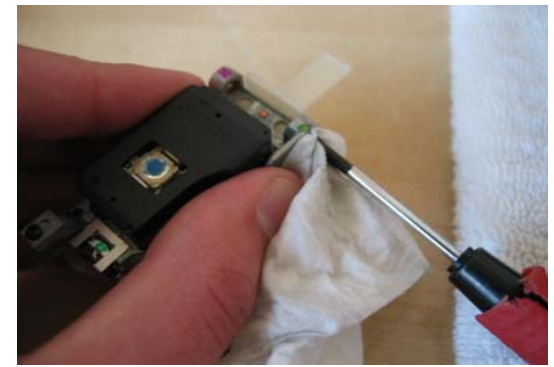
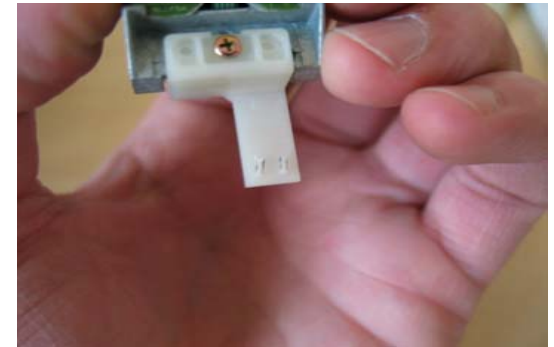
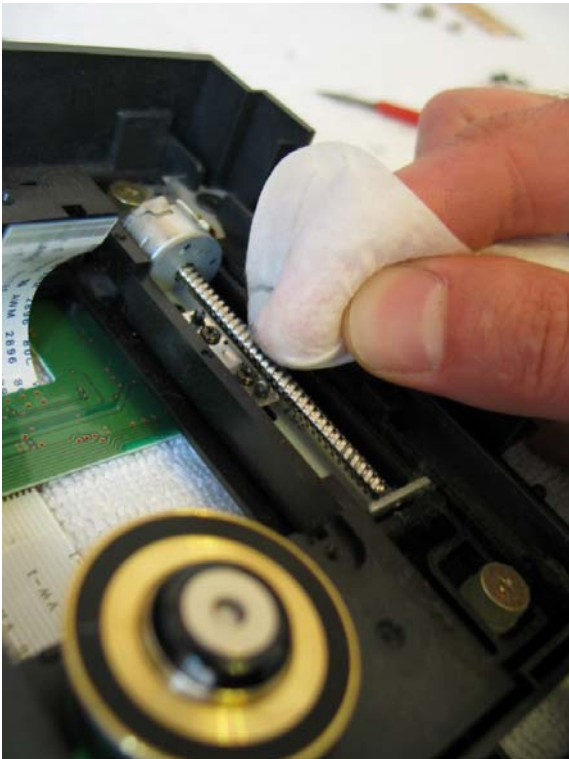
Remove the second guide rod. Now it's time to get out those baby wipes! If you don't think it's worth it, look at image B. Place the guide rod into the baby wipe and clean in backwards and forwards. That cleans off all the debris on the rod. Obviously, you also do with the main guide rod. Note the difference in size. The thicker rod is the main rod as it passes through the laser frame.

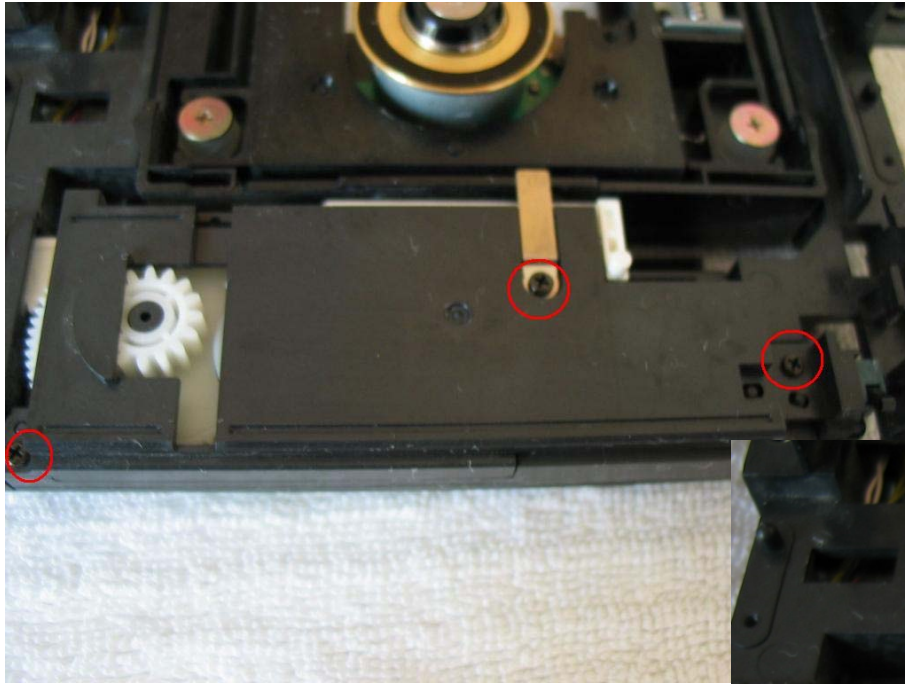


**...all that debris hinders the laser mechanism and is worth clearing out even if you have NOT experienced any issues with your laser mechanism.**

Clean off the main motor, it can pick up a lot of dirt. The Spindle Motor in particular can be very dirty and this directly affects the movement of the laser along the guide rods. The best method is to stick you nail into one of the grooves and draw the spindle down and it should spin under your finger. As you can see in image C, even a relatively clean looking spindle can actually have a LOT of debris on it.

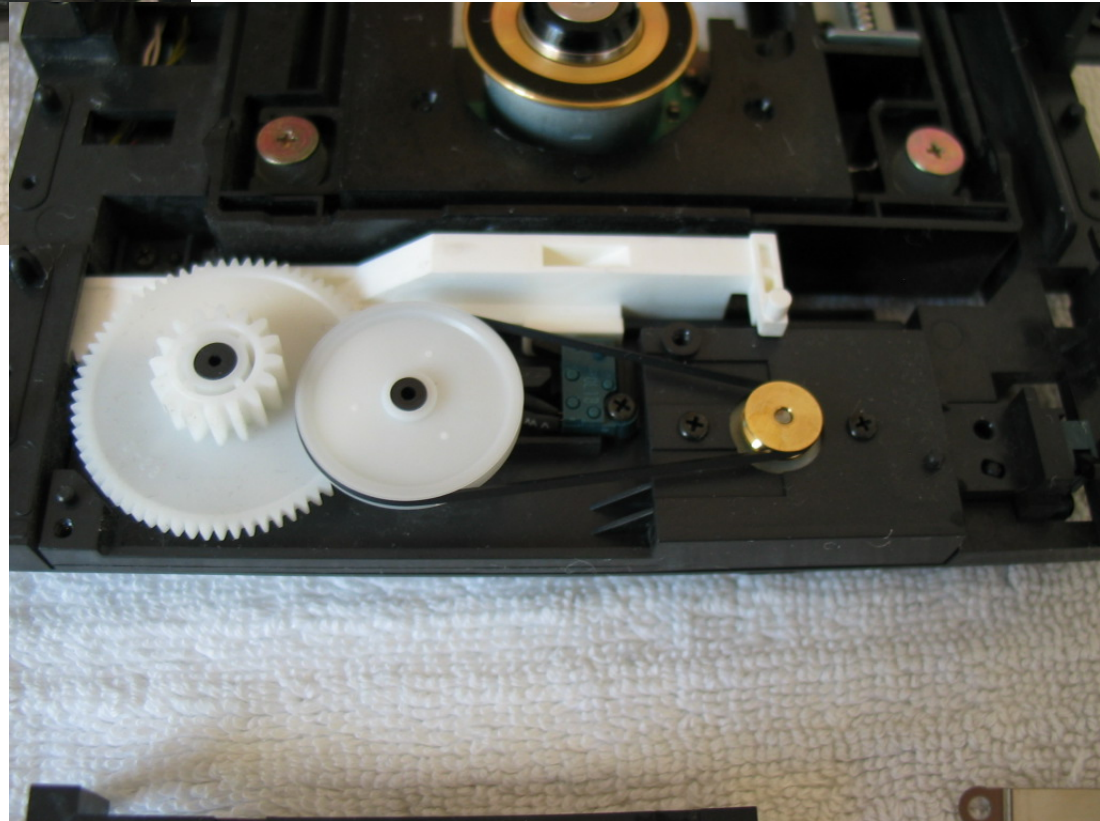
Also clean the 2 teeth on the laser guide arm. Check the depth of the teeth. If it is the plastic version you can see whether it has worn or not. If it appears to be worn then replace it (eBay = very low cost) if it is a metal arm, it becomes fatigued and the teeth look perfectly okay, it's just the metal is worn. Don't be tempted into bending it to get a longer life from it. A damaged metal one (as in SCPH-5XXXX models) will give a loud "clicking" noise. Replace it! Also use a small screwdriver to get into the holes on the laser where the main guide passes into the frame (image D).

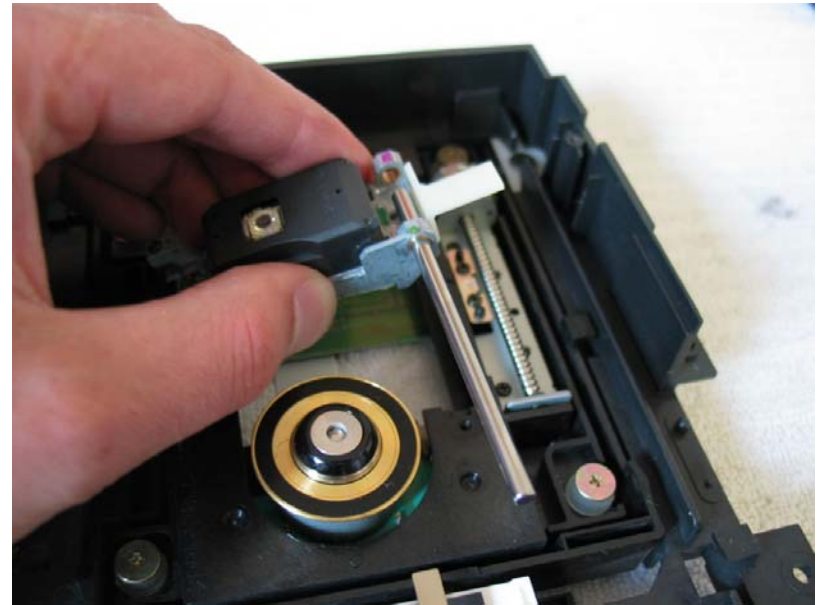
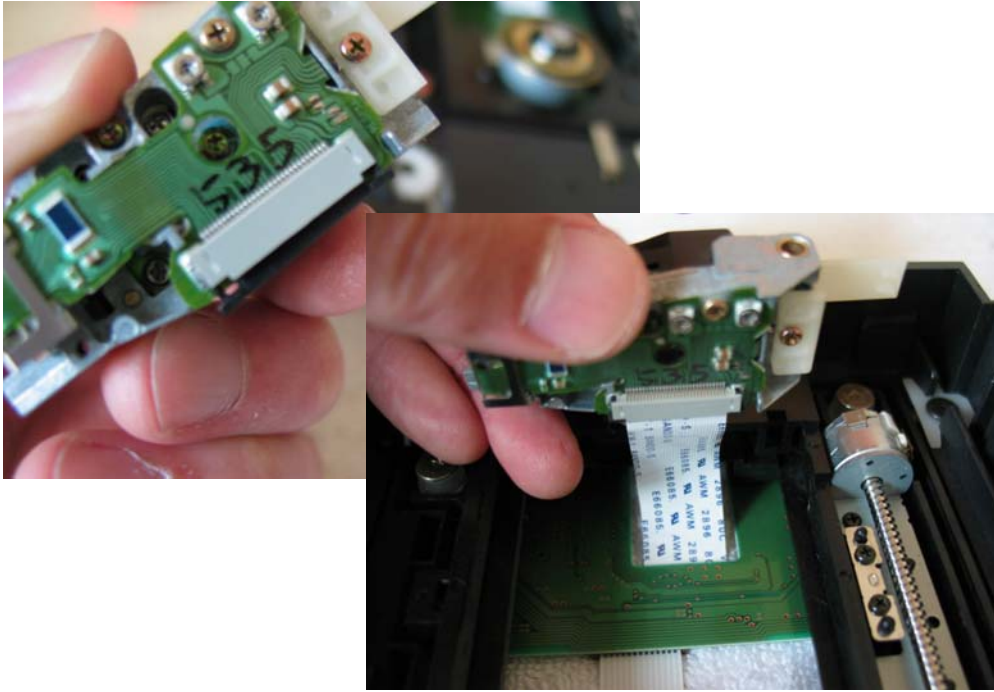




You really shouldn't need to remove this plate, but sometimes DVD tray issues stem from here. If for instance you can hear a motor, but the tray doesn't move at all then it could be the rubber band is off the spindle, crossed or damaged.

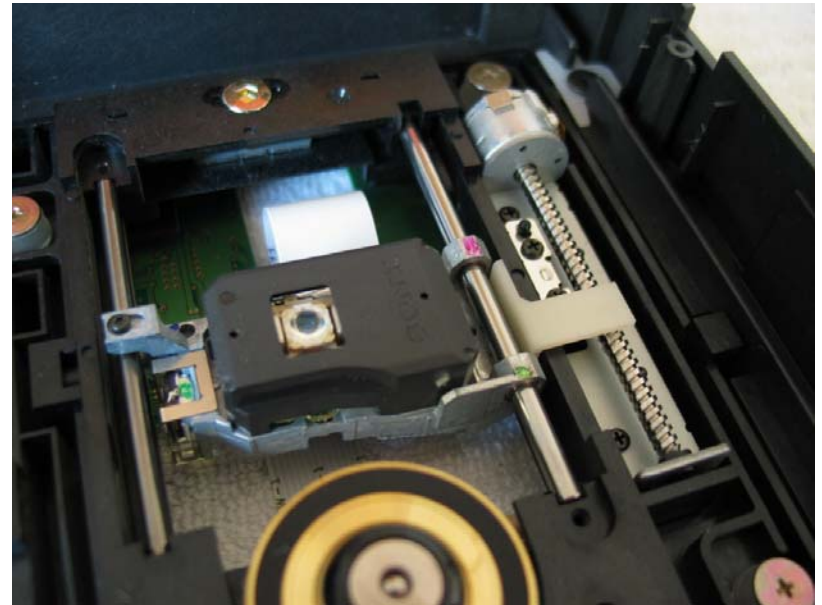
**Note:** *Unless necessary, don't go fishing inside this section. It is a pain as it varies so much between the particular DVD units and the parts are easily damaged.*



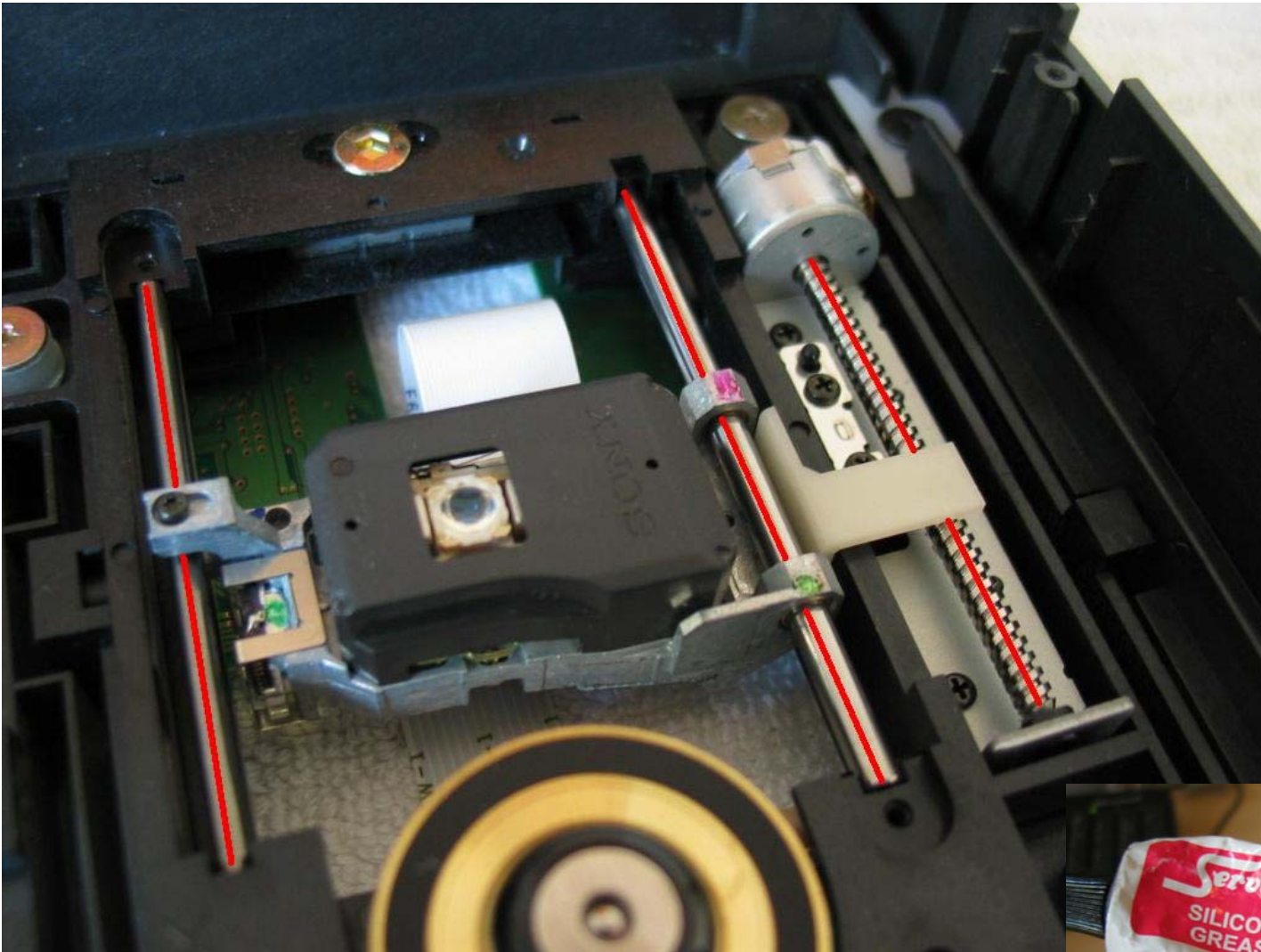


Replace the laser back into the IC cable, taking as much care as before not to damage the connection. Remember to ensure the clip is pushed gently back into place so the IC cable is firmly held. It should be completely straight (image B). Then push the main guide rod through the laser frame, attach the secondary guide rod into place and lay the laser (unsecured) into place.

See next image for where to apply the silicon grease...







Be careful not to smother the unit in grease or get it over other parts of the unit (especially not the laser). It can be rather frustrating to clean off, so I advice that once you have done this job, go wash your hands thoroughly and try not to get the grease anywhere else!



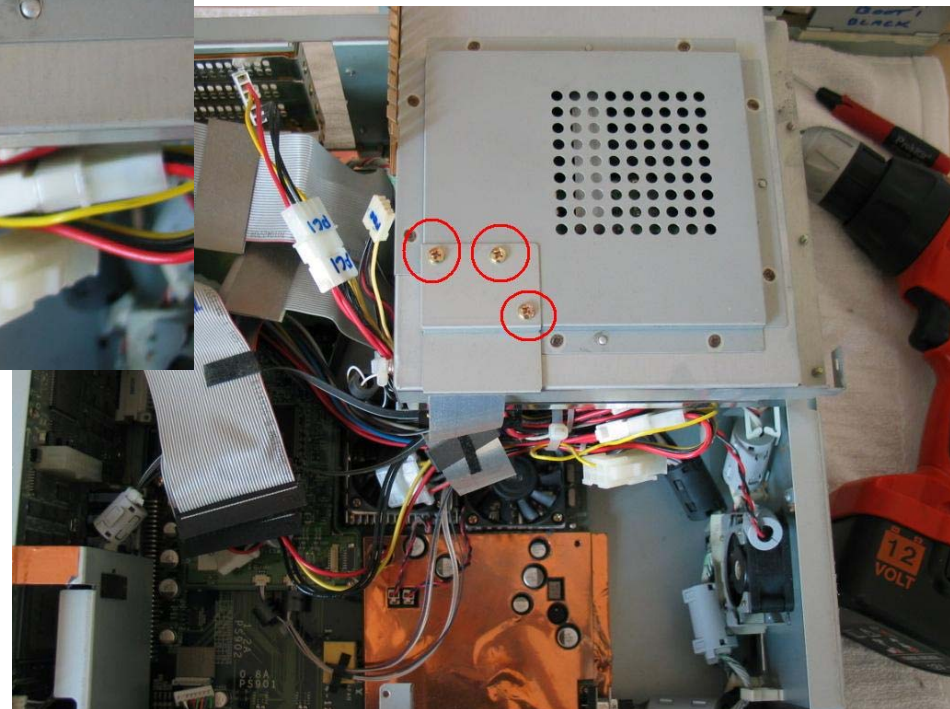
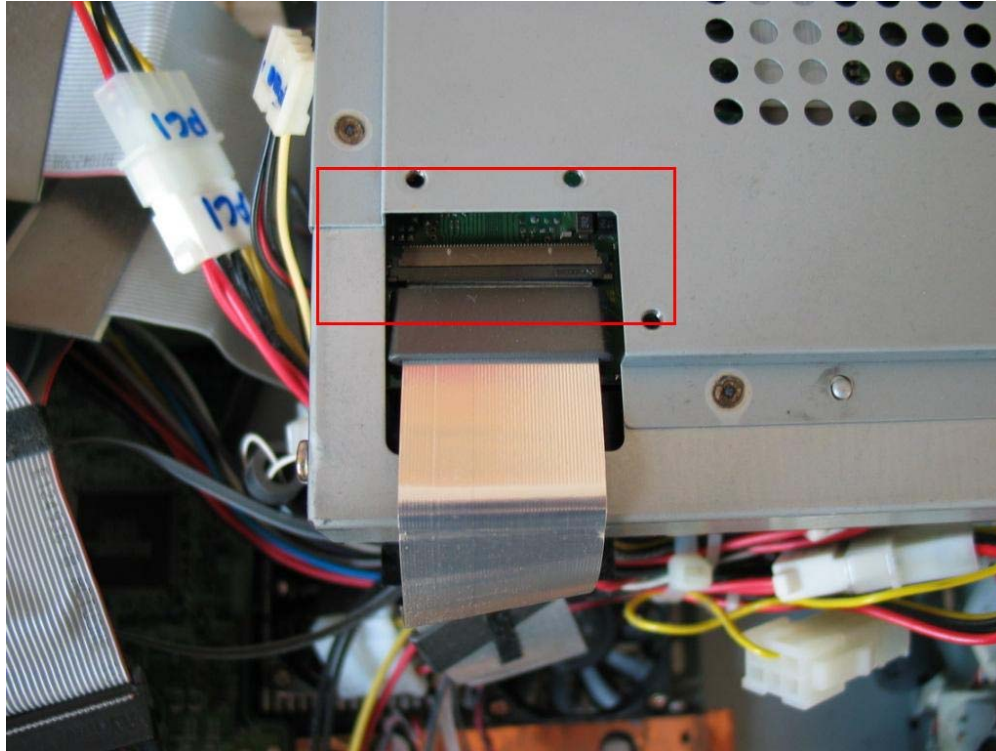
**Note:** Where the DVD drives differ from retail units is that there is NO laser depth adjuster. You simply place the laser back into the DVD drive, screw the guide rods back into place and reassemble. Particular attention needs to be paid to replacing the tray however. If you have never done it before, it can be rather frustrating. **VERY IMPORTANT!**

Place the tray onto the very edge of the DVD unit and insert the little part that secures the DVD tray to the DVD unit, but do not screw it in! Make sure the DVD tray arm / guide (see image) slots into the runner (it's a long channel that the guide runs into down the entire length of the tray) at the far end of the tray underneath. Push the tray gently up until it seems secure and now screw the tray down. If you get THIS bit wrong, the tray will fail to eject so make sure it is correct before proceeding!

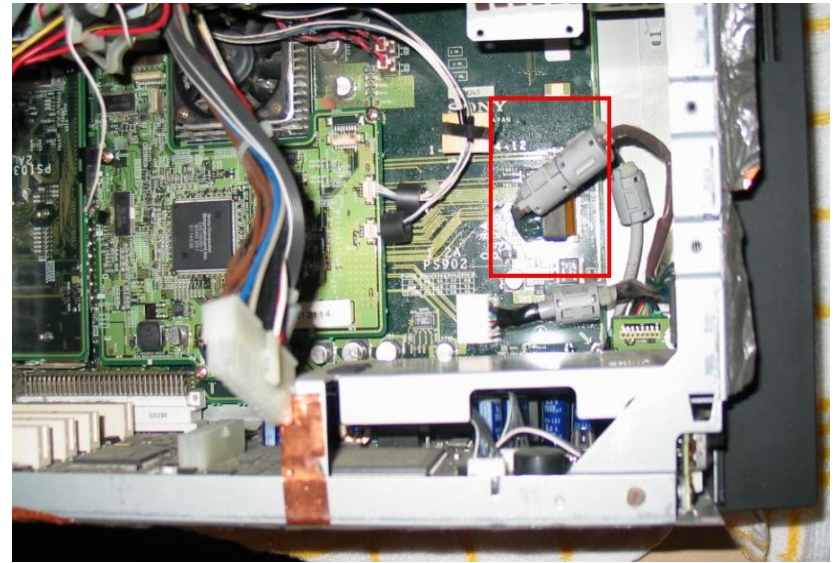
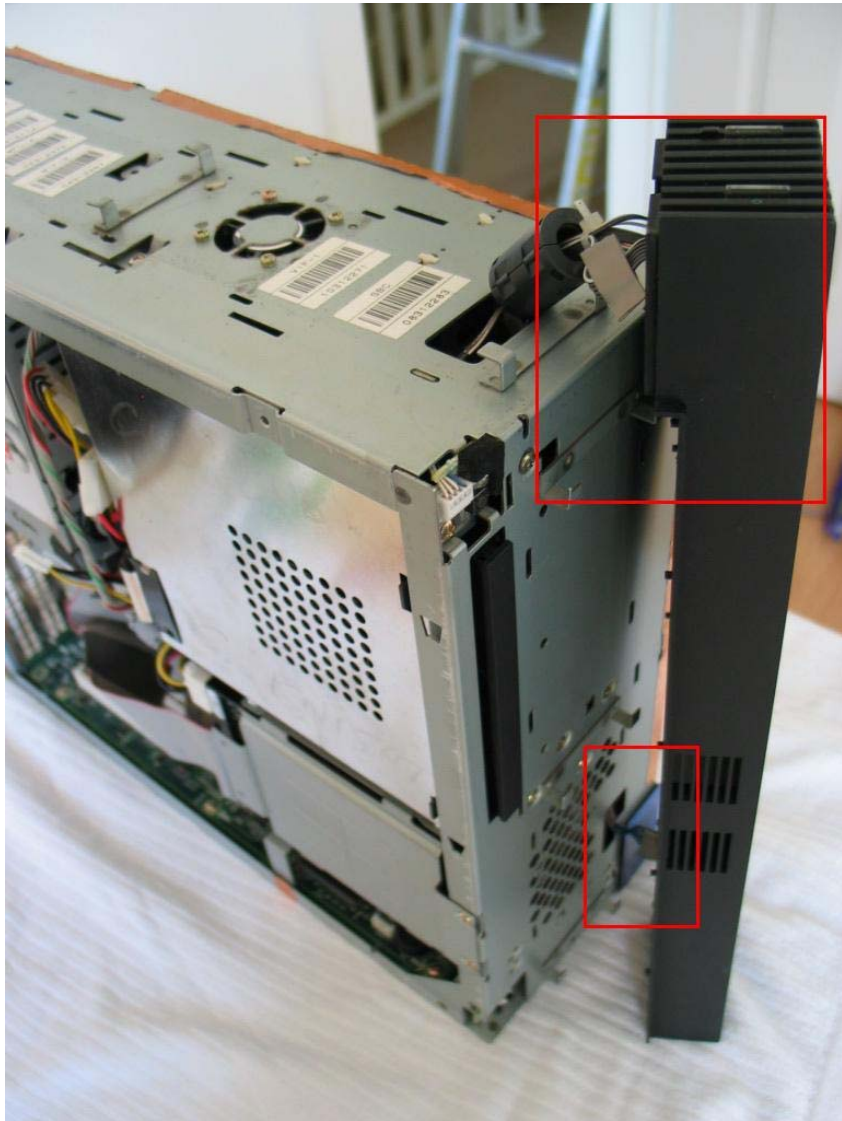


Reassemble the unit as detailed in the disassembly of unit.

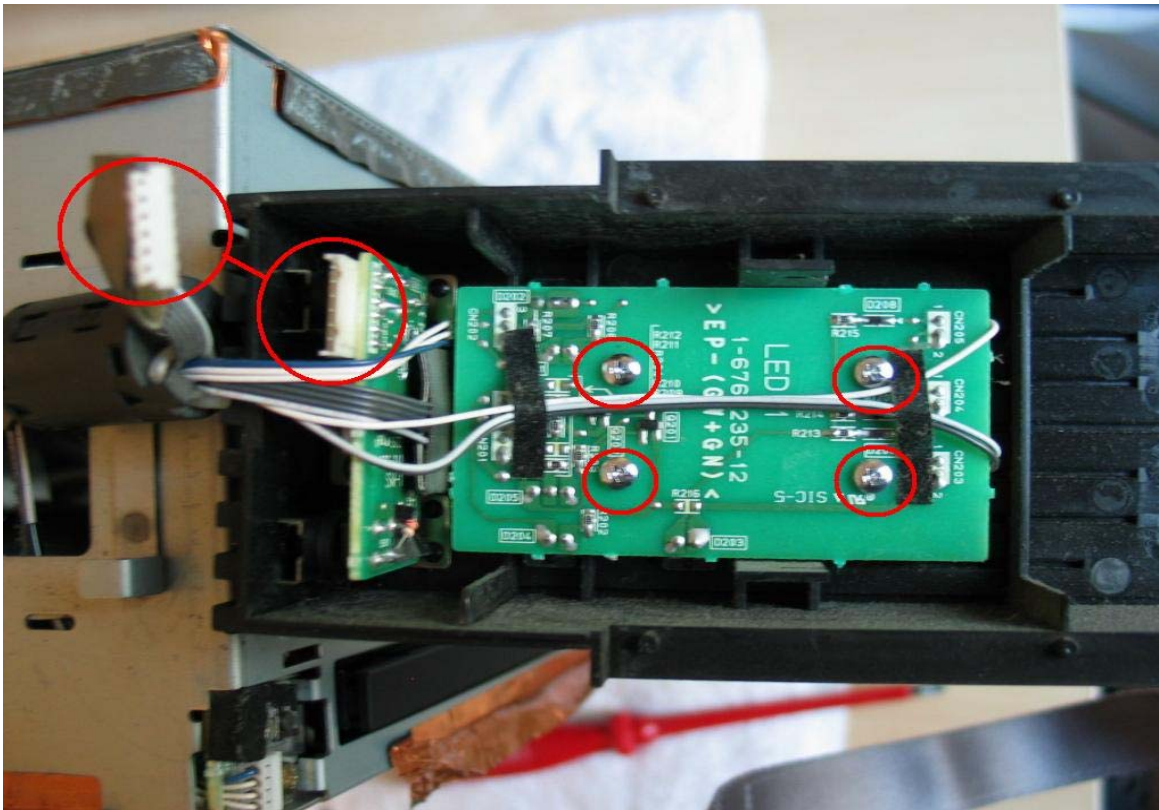
**Note:** Remember to leave the IC cable off and not to screw down the metal IC cable cover. Leave the unit currently as shown in image A. Only when you are completely reassembling the unit and have attached the IC cable at both ends do you want to replace the metal cover.



**Step 19)** Removal of the façade. You want to concentrate on 2 connections holding the façade in place. First of all you need to remove the controller / memory ports connection cable holding the façade at the bottom (image B)

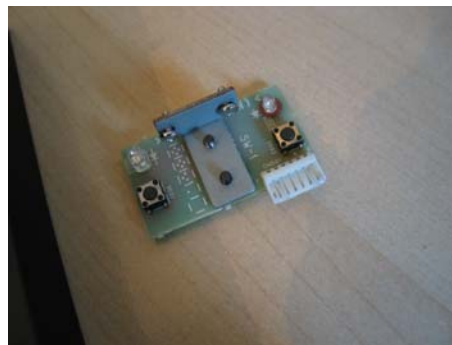
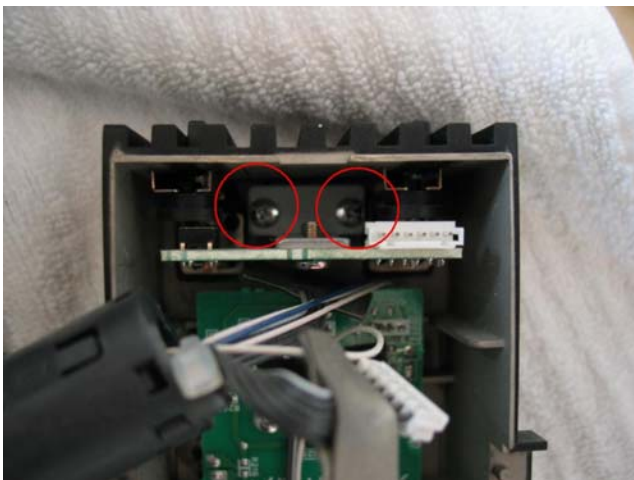


The controller port IC cable is roughly 10cm in length. Just follow it through the ATX case hole and to the motherboard and lift the white flap. Be careful not to damage the port or connection cable. Remove the 4 screws to take PCB off.



**Step 20)** Now move onto the upper connection. The POWER & RESET & LED section. Remove the 4 screws attaching the LED board & the IC cable clipped to the POWER / RESET PCB. Once this is done the entire façade simply comes away in your hand and you can remove the POWER / RESET PCB. **See below for the PCBs in this section.**

Main LED PCB CD/DVD/EMU/  
TOOL/WS & HDD



Remove the 2 screws circled in image B to release the POWER / RESET PCB.



**Step 21)** Leave the LED PCB where it is! Unless you really need to remove it, there is little point at present. Your machine should now look similar to this image (however the DVD unit is not removed in mine in this image).



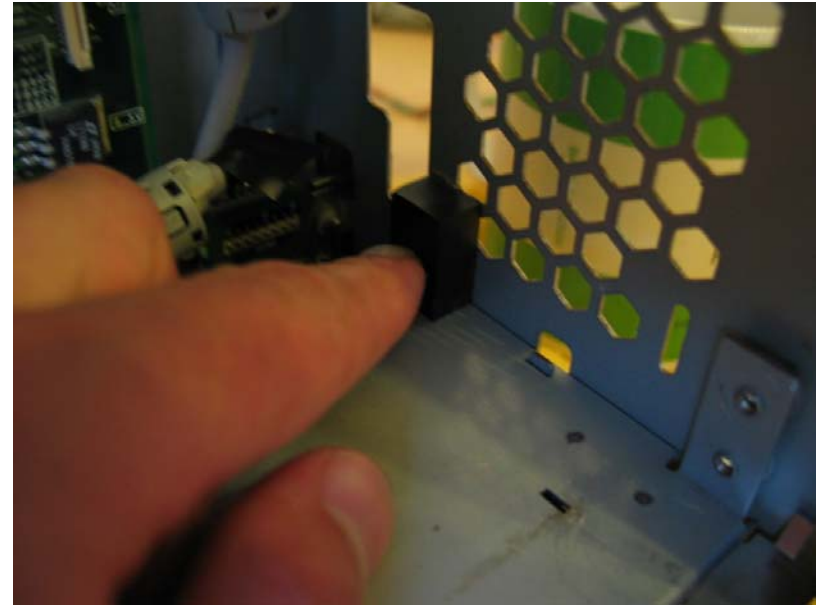
Your PS2 Development machine is now looking rather sorry for itself!

**Step 22)** To avoid catching your finger and clothes on anything, remove the metal arm that is jutting out inside the unit. The 3 screws are marked on image A.

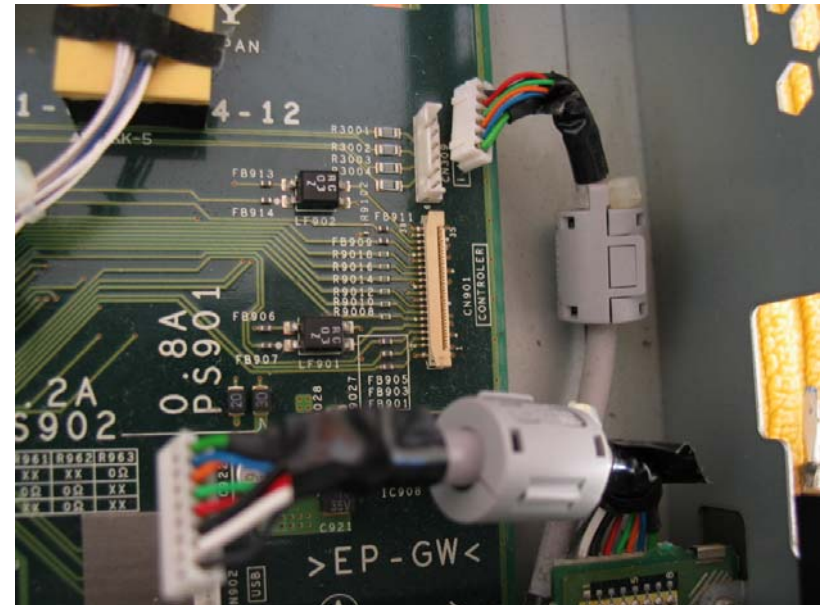
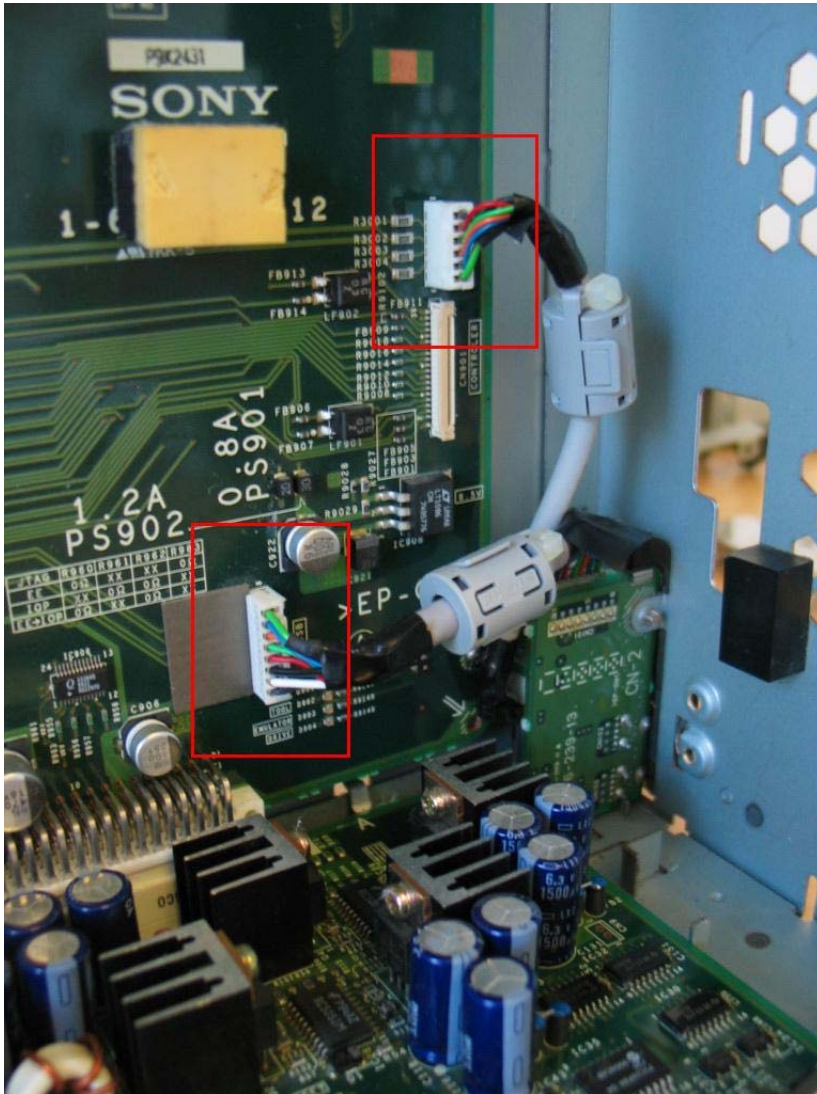


Notice its orientation for returning it to the correct spot.

**Step 23)** Whilst here, you may as well remove the Linux metal plate. Screws located in image (A). You should not need to remove rubber block image B. Be careful not to damage the Linux PCB however as it is a tight fit.

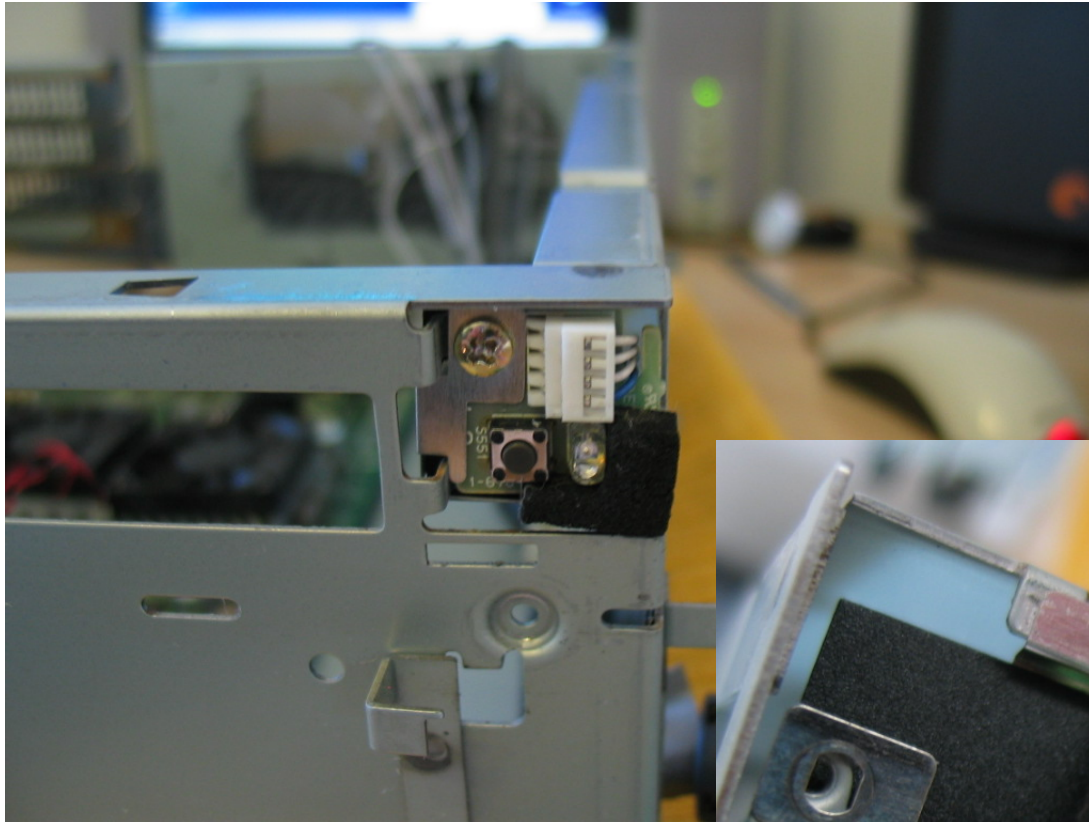


**Step 24)** With the Linux metal plate removed you have exposed the two following cables. They are now easier to reach, so unplug them (B). Note the already empty IC port is the controller / memory card slot.

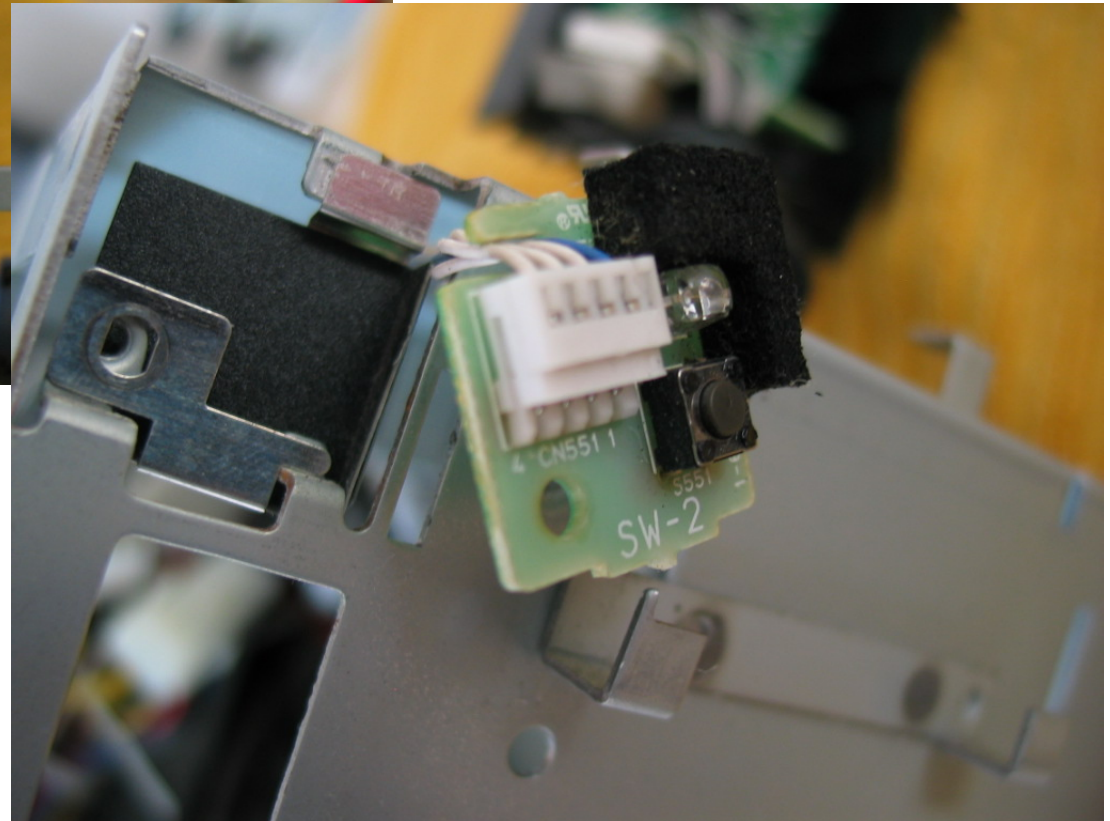




**Step 25)** The last thing on the façade for the time being is the DVD tray eject button & DVD & LED PCB.



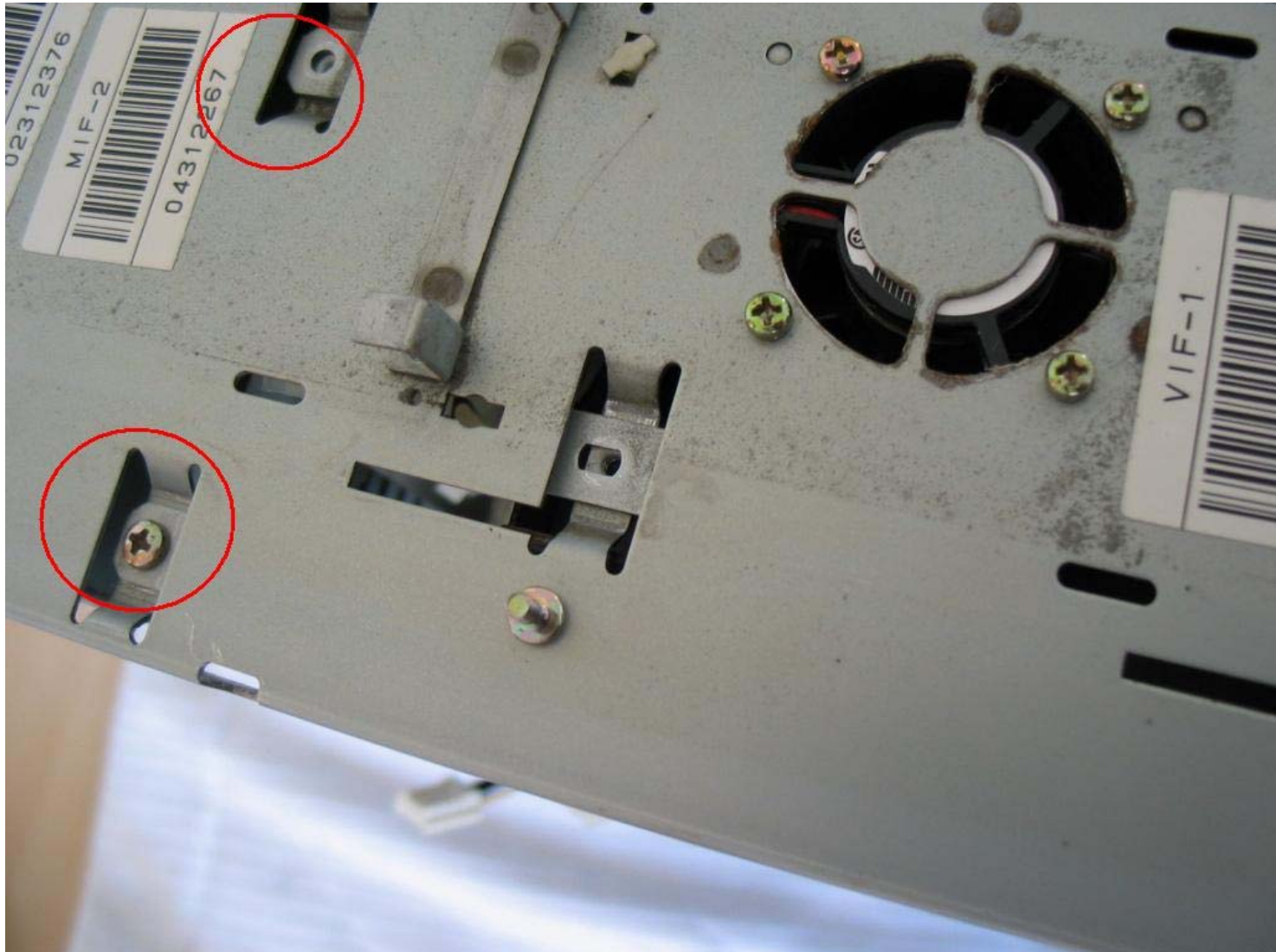
A very straight forward single screw, so no need to highlight it. Remove the screw and take the PCB out. Uncouple the IC cable and lay the PCB to one side. Notice the orientation of the piece of metal the PCB sits within. Remove that also and place beside the PCB.



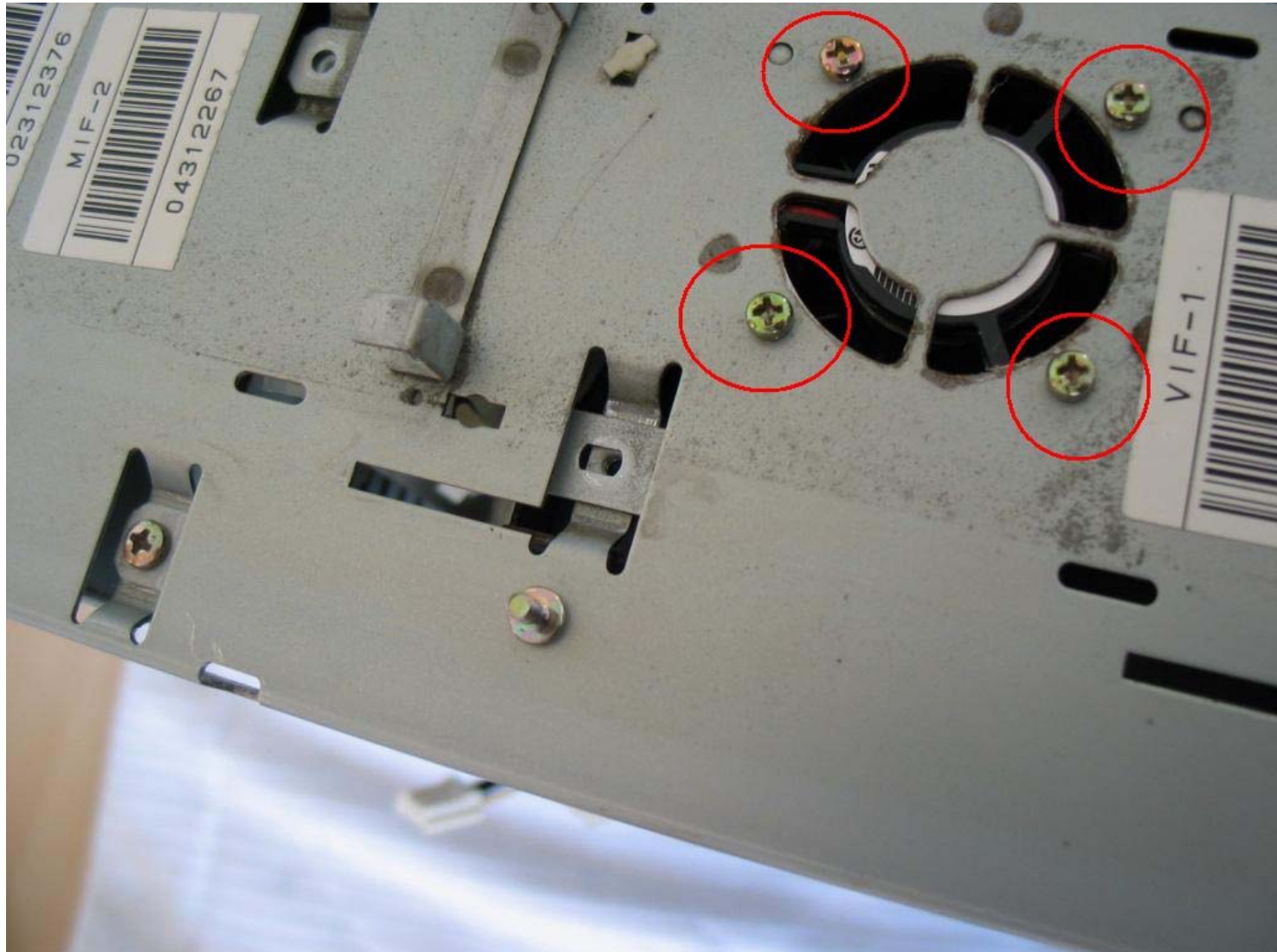
**Step 26)** You will need to remove the PSU (Power Supply Unit) and its various connections. Returning to the image in [Step 9](#) we see the rear of the unit as it was prior to gutting the unit. This is the best image I have of the back of the unit. Remove the 5 screws as marked very carefully. **It is worth mentioning that internally there are some plastic cable ties that need to be cut NOW! If you don't you will find it difficult (if not impossible) to remove the PSU and metal parts.** Hold the PSU tightly throughout this procedure – you do NOT want it landing on the PCBs underneath it!



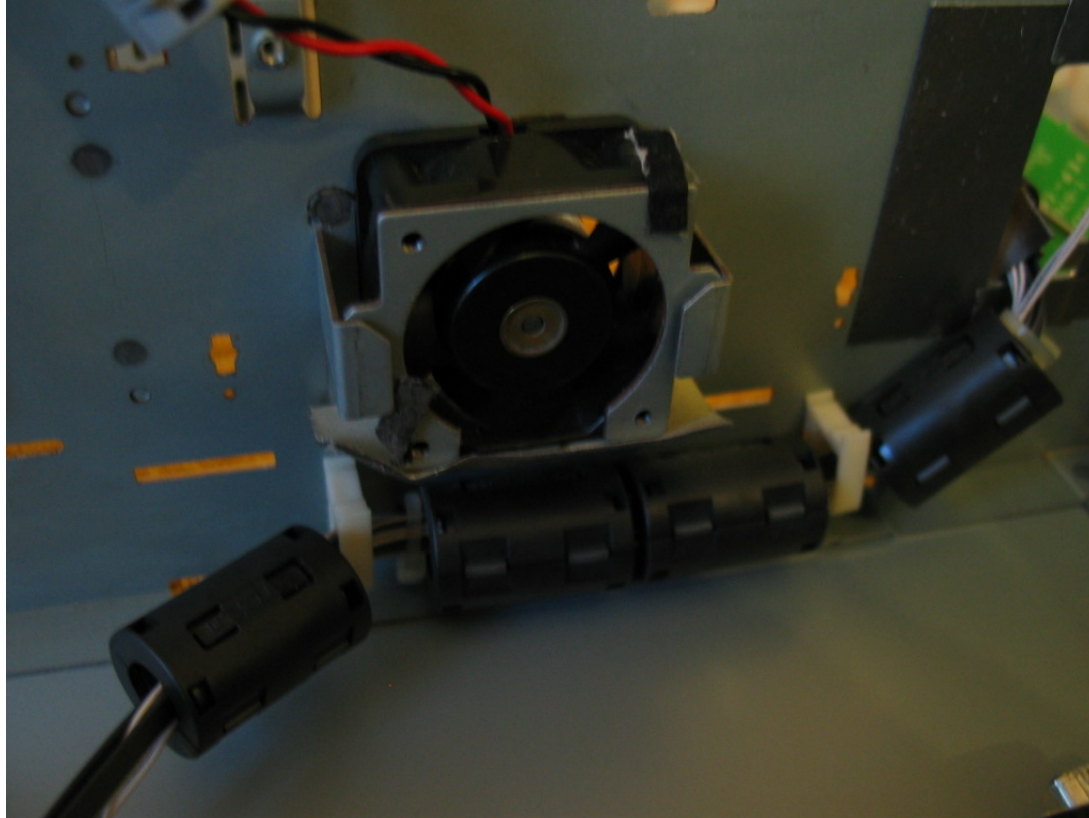
**Step 27)** Also remove the 2 screws at the top of the case which were hidden by the Mohawk and side panel. The PSU unit should now be loose enough to place on top of the case. The last connection is to the fan. All other connections should be clearly marked, labelled and / or photographed to ensure nothing goes wrong on reassembling the unit.



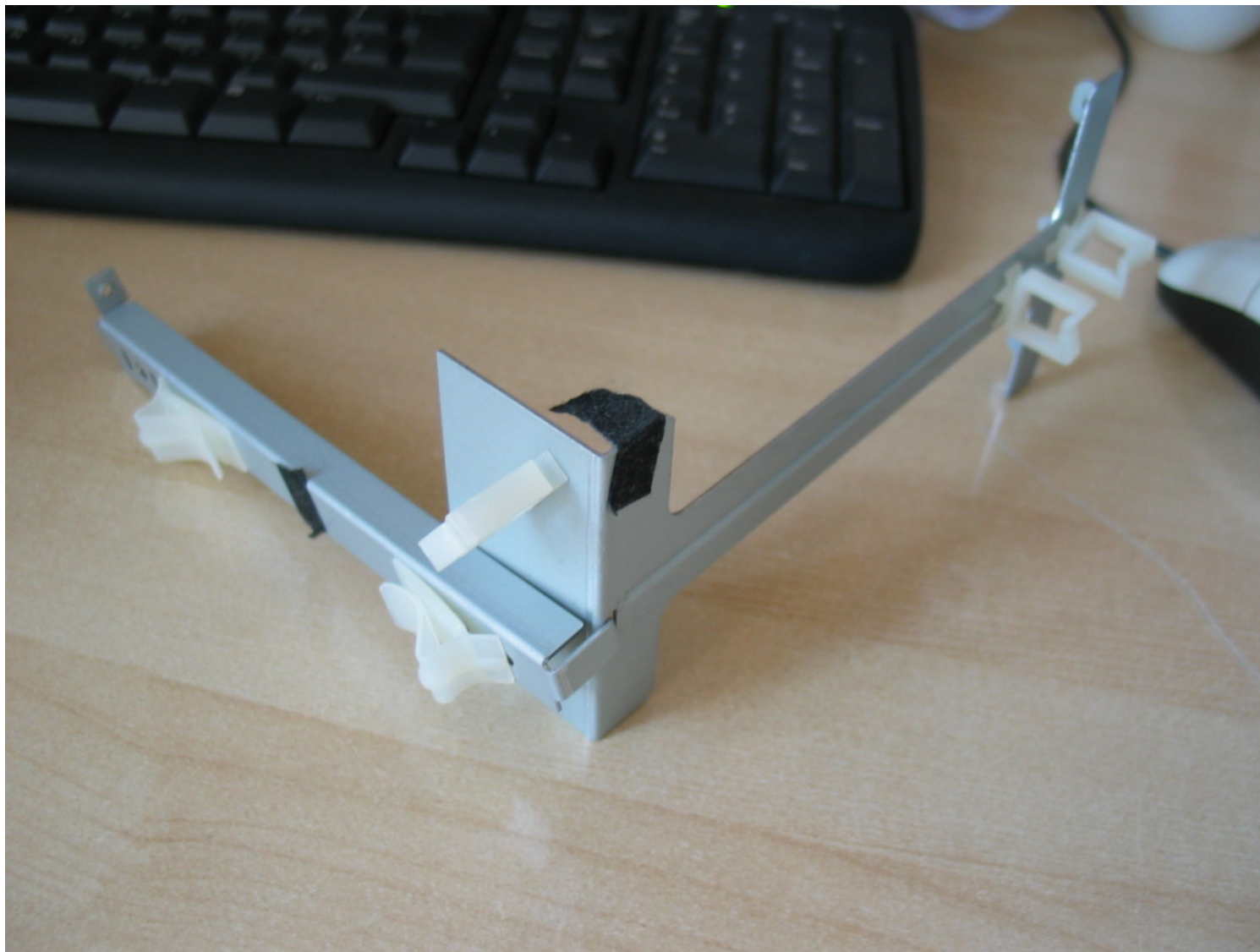
**Step 28)** The fan should now be removed from the unit by taking out the 4 screws circled here:



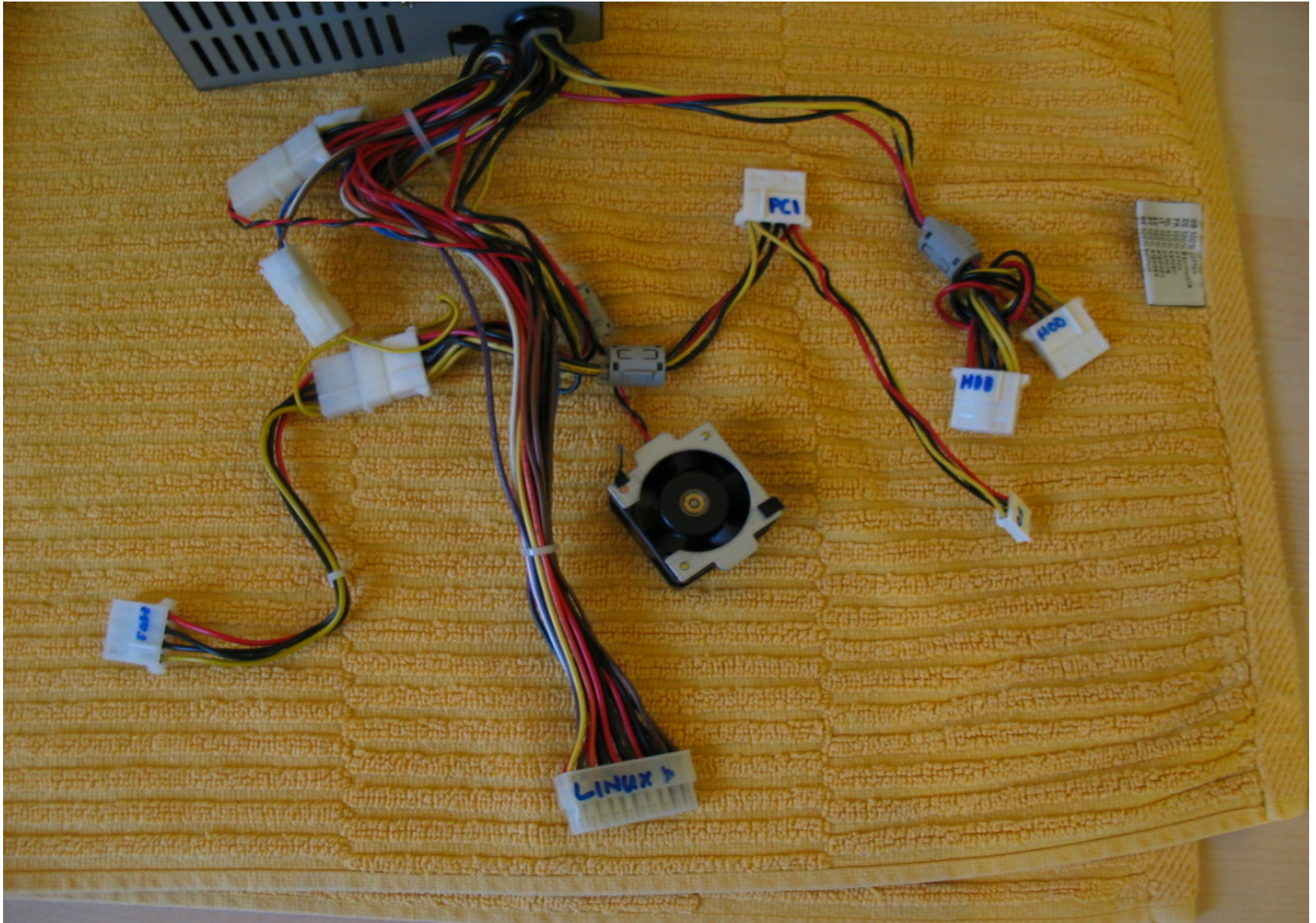
*...note the orientation of the fan and the metal plate prior to completely removing it from the casing. The gap in the metal goes to the BACK of the unit.*



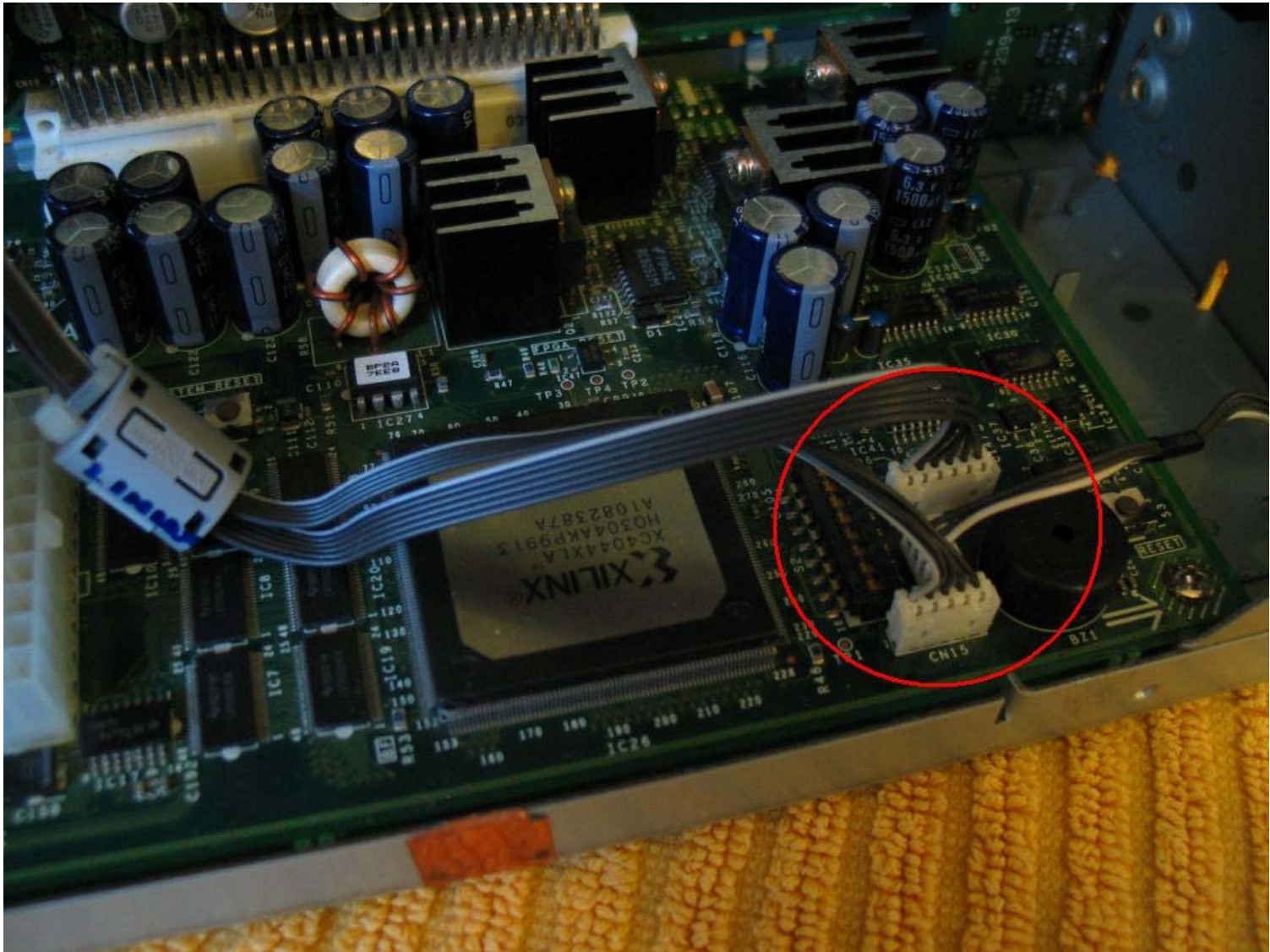
**Note:** Be careful to not the orientation and the way the two metal arms fit the ATX case and each other. It might also be an idea to use cable ties on reassembly to ensure the cables are kept in neat order and away from the 4 fans found in the unit.



**Step 29)** Ensure that the cables are cleaned off and you can easily identify the various connections and where they go to on the boards. **Note:** 1 connection remains completely free and the other smaller connection is for a FDD which is NOT present. All other connections are viable!



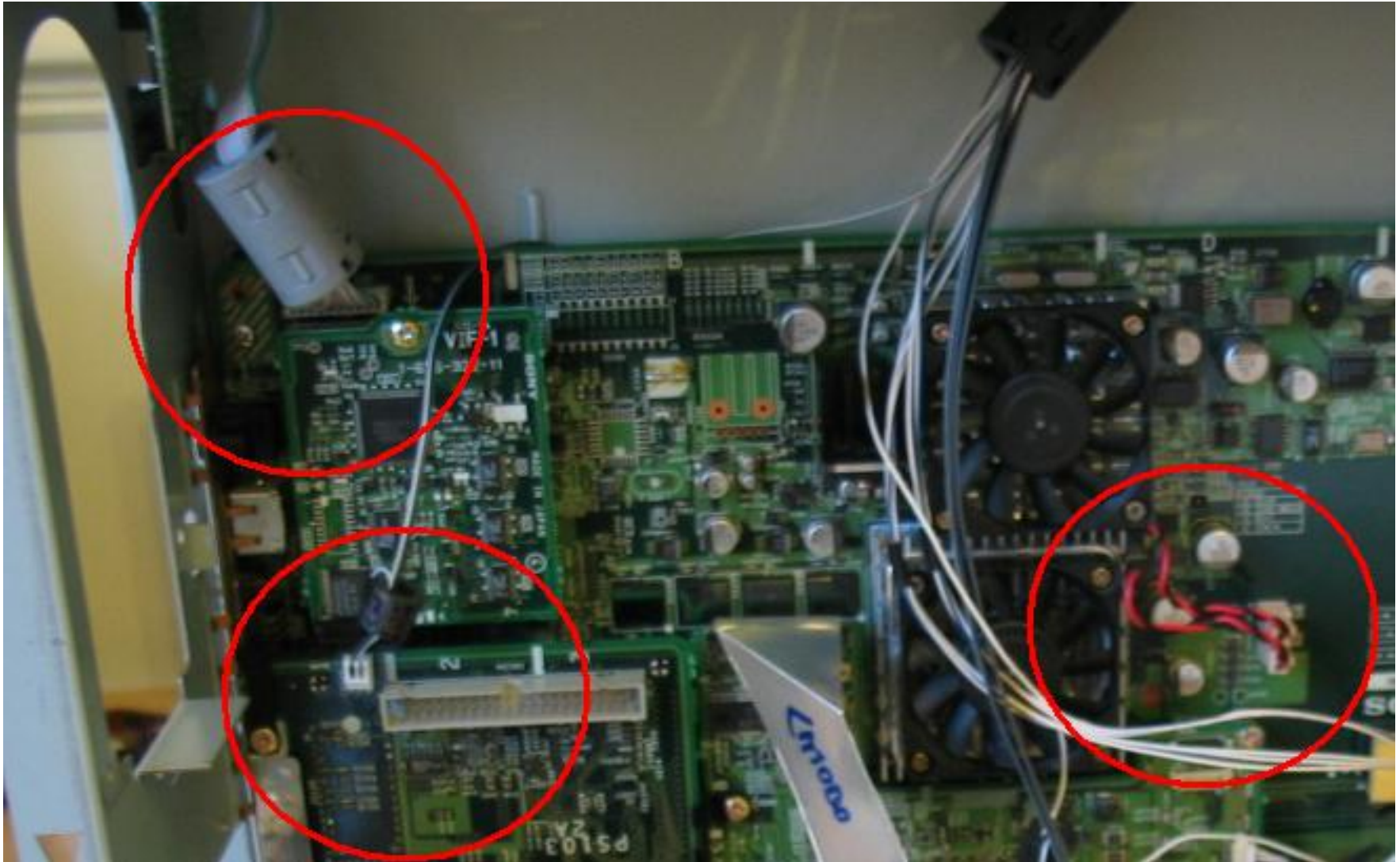
**Step 30)** Remove the 3 cables attached to the Linux board as circled.



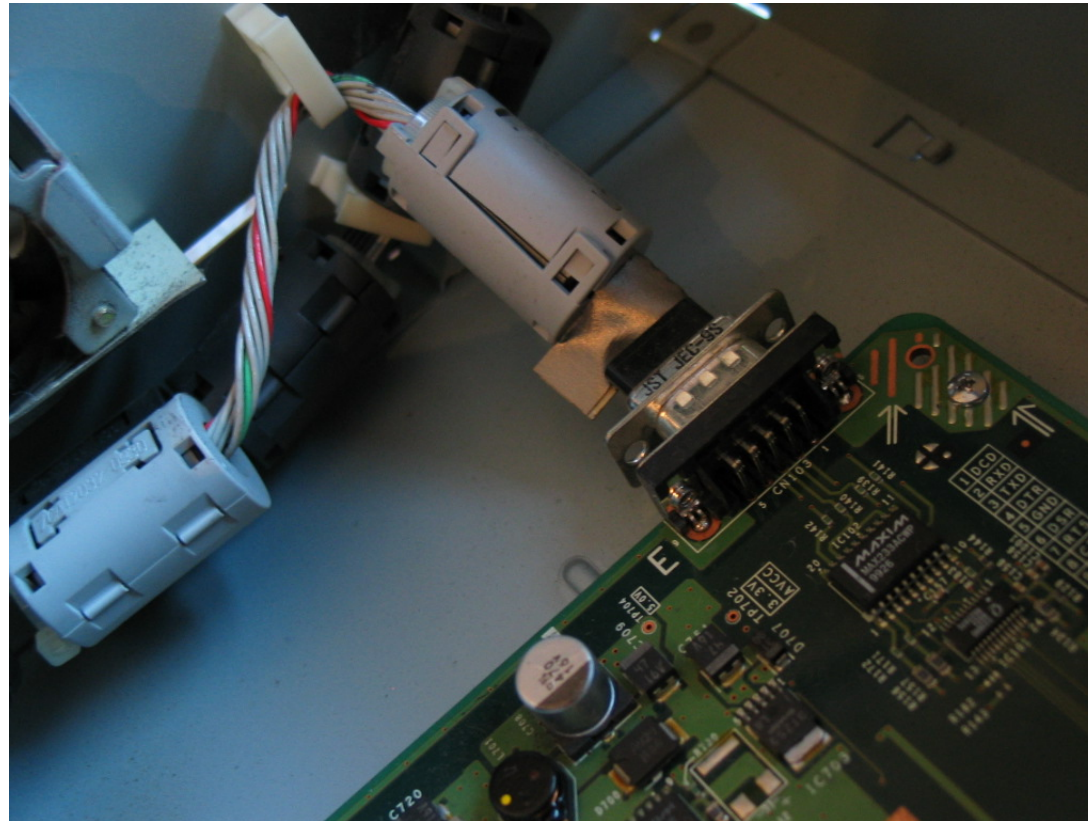




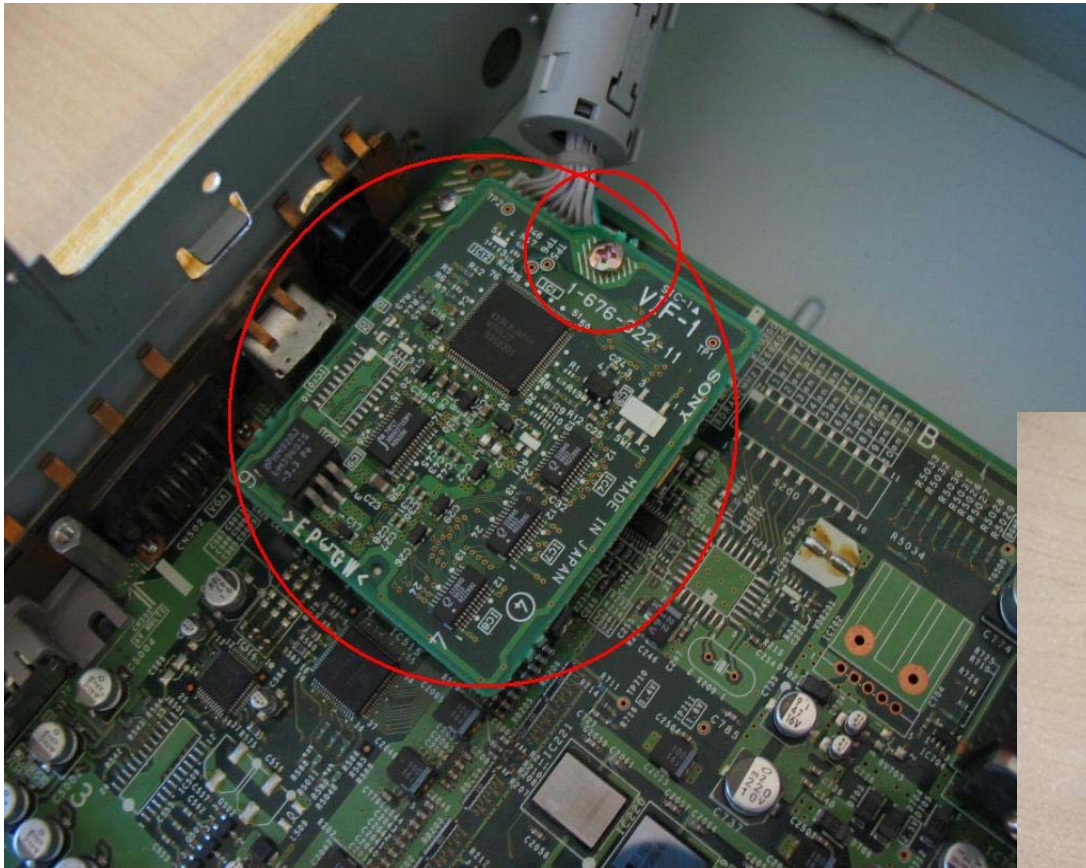
**Step 32)** Unplug the following 4 connections as circled. Making sure to note where the connections and their positions are.



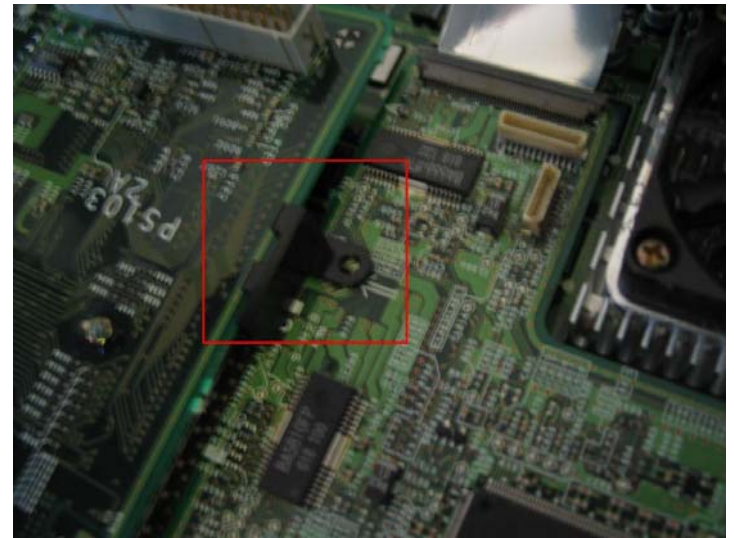
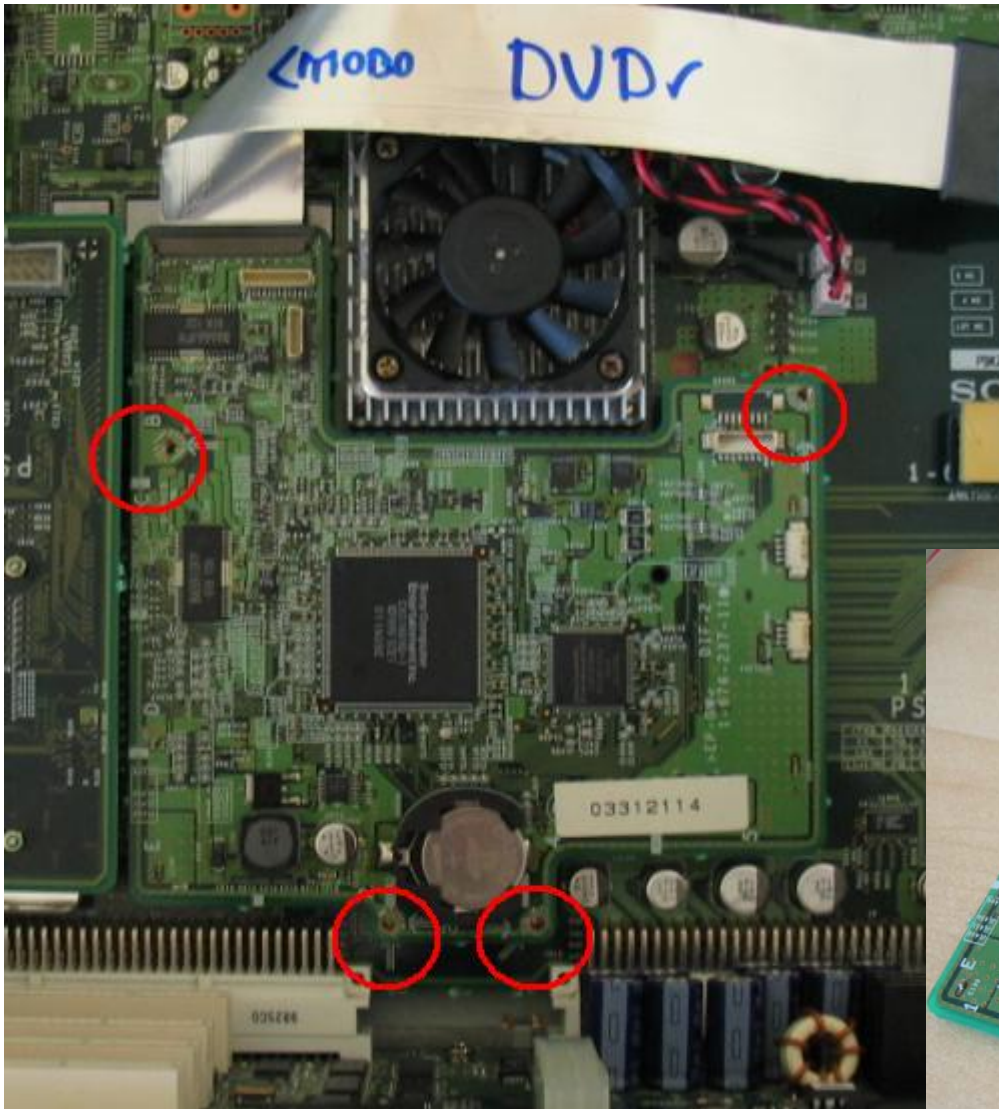
**Step 33)** Now unplug the larger connection (RS232) found at the top of the main mother board (Top Right). You can now completely remove this particular cable. Leave the other cables currently in situ. This cable connects to the PCI Card, so is already uncoupled at both ends and you can remove it.



**Step 34)** Remove the screw on this PCB located directly underneath where the PSU was ([See Step 32 for it's location](#)). Lift the PCB up gently – this removes it from the main motherboard. Place it inside an anti-static bag if possible.



**Step 35)** Remove the 4 screws holding this particular PCB in place. Note the plastic clip on the top left hand screw. Lift the PCB gently from the motherboard and lay it inside an anti-static bag if possible.

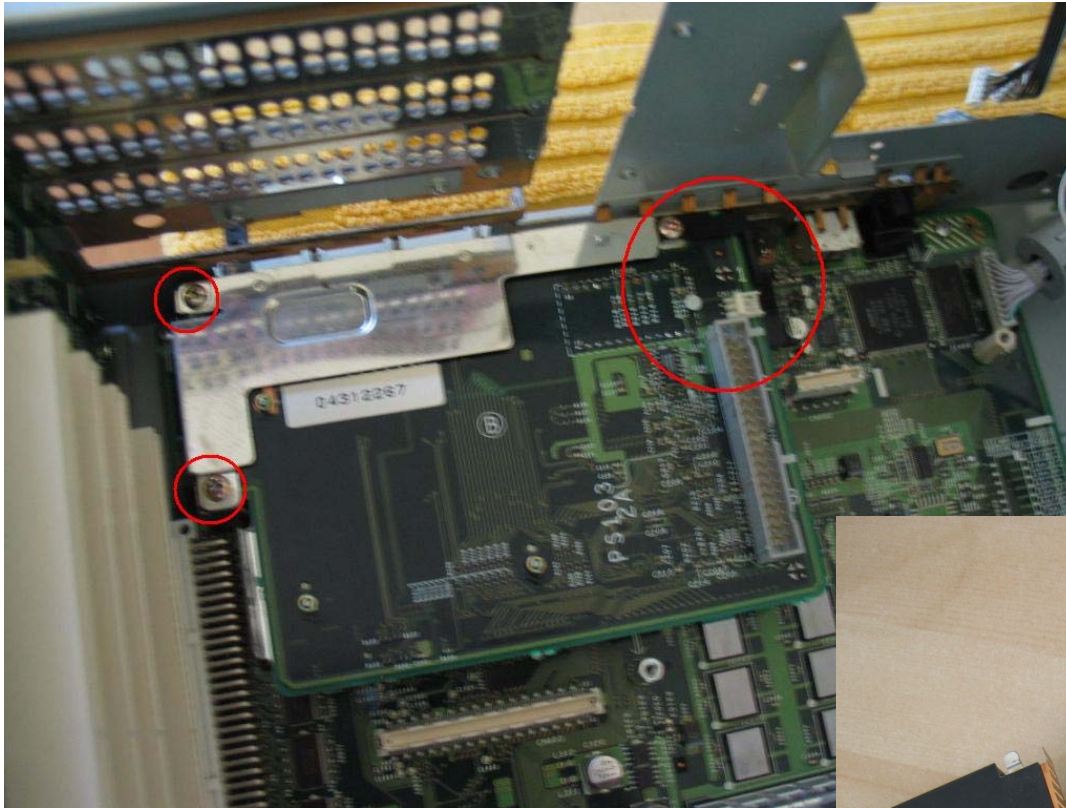


Also note the battery is a standard PS2 console battery

**Step 36)** You are now removing another rather delicate section. It's not so much fragile as it has sharp edges and it is a good idea to keep an eye on how this part is assembled.

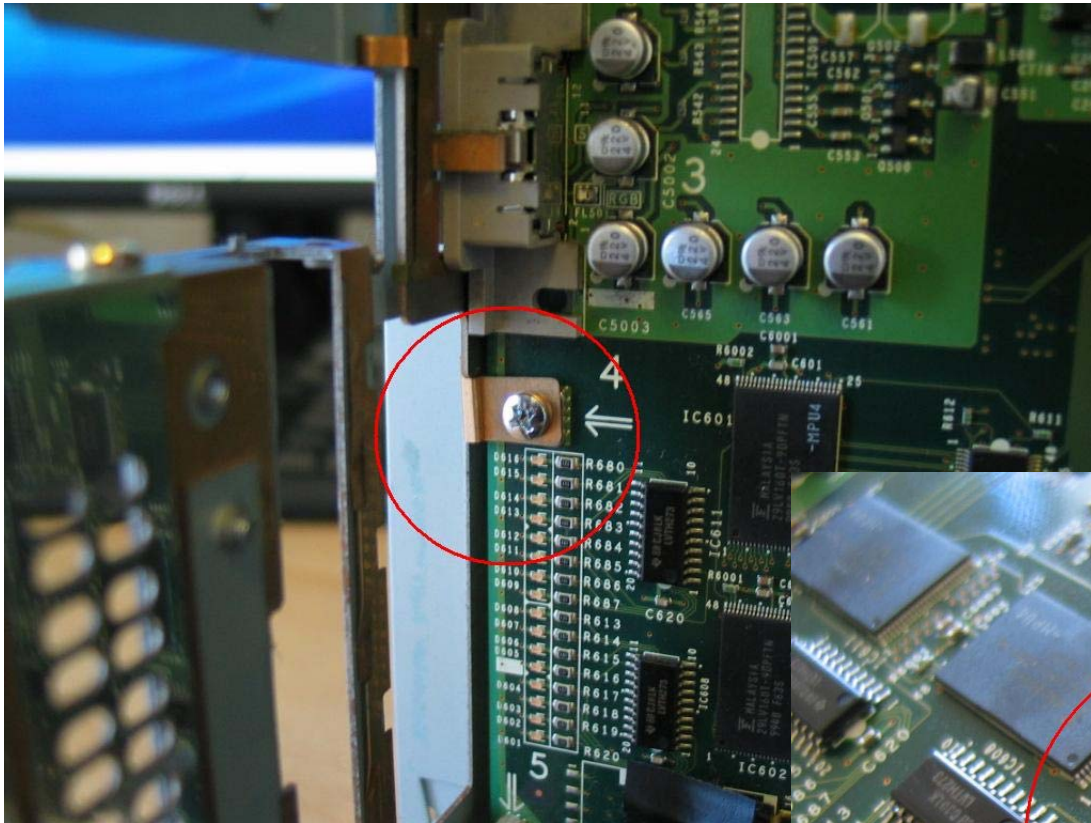
**NOTE:**

Take great care to understand the parts involved and the location of each. Note the position of the black plastic clip on the top screw (in the larger circle). Also note that the black side of the metal PCMCIA cage faces DOWN onto the main motherboard, the PCMCIA PCB then slots into place and the L shaped metal earth frame clips on top of the entire assembly whilst being screwed down.

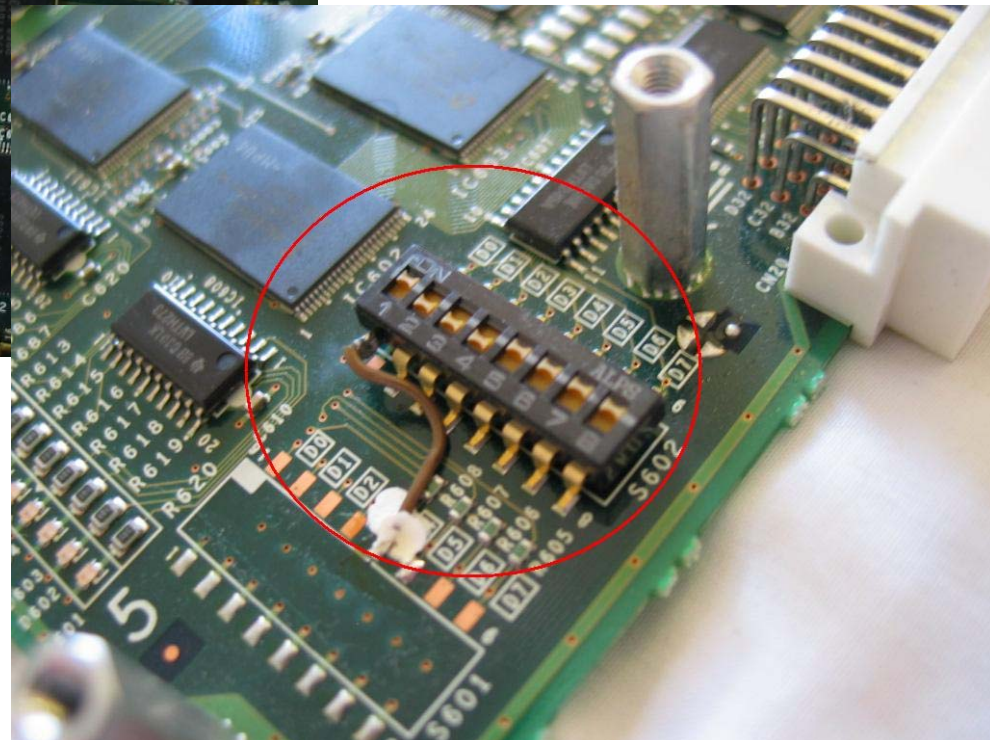


**Note:** On a T10000H model, this section is actually in 2 pieces and not 3 as the base plate is soldered to the PCB. It is actually much harder to reinsert. You need to ensure the metal earth parts do not damage the motherboard whilst you are attempting to replace it.





**Note:** This particular screw exposed by removing the PCMCIA section does NOT need to be removed from the main motherboard. It is an earth that just requires to be slackeden slightly and tightened back up again when reassembling the unit. (Image A)



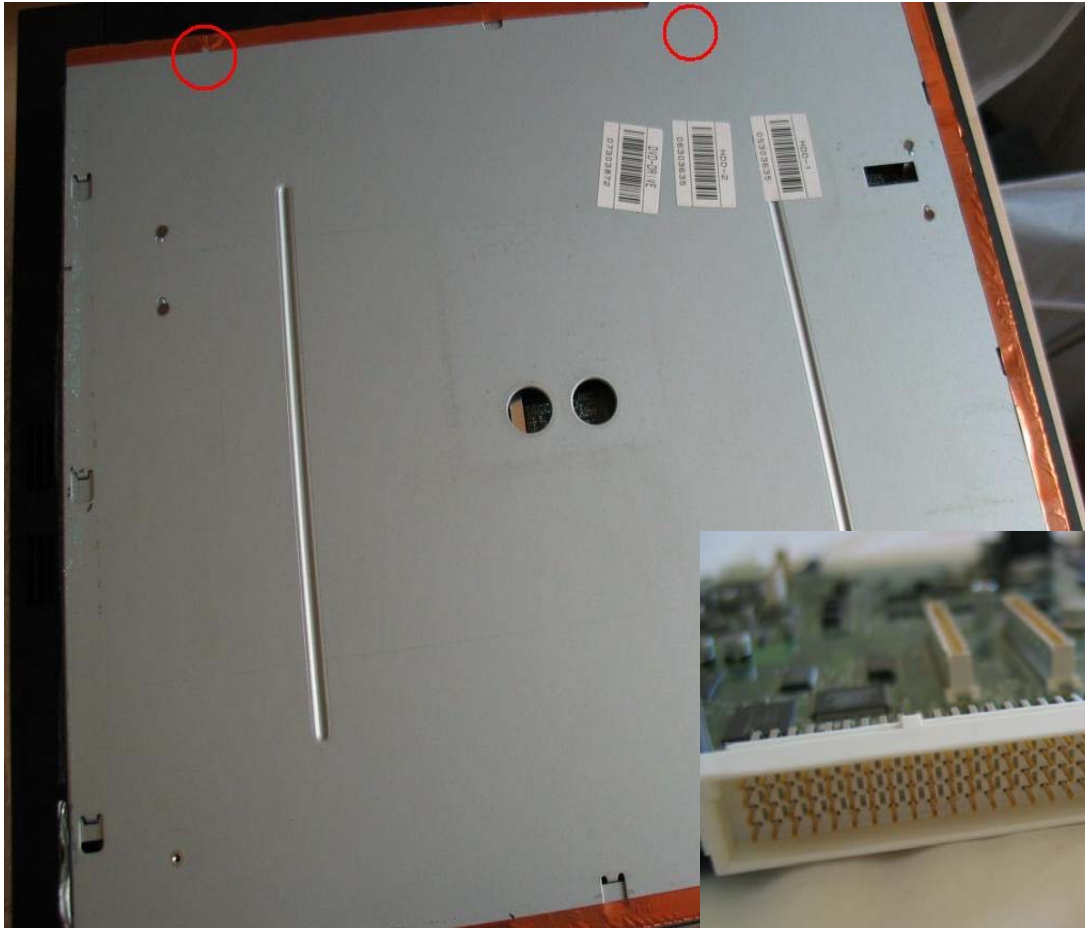
**Note:** Removing the PCMCIA section also reveals a piece of black tape, which when removed reveals the following dipswitches. This is a UK PAL/ NTSC version, therefore note your settings. Mine was set (from 1 to 8) ON/OFF/OFF/OFF/ON/ON/ON/ON and pin 1 was soldered to the motherboard as shown. On 2 different versions of the motherboard the settings were exactly the same!

**Step 37)** Your unit will now be looking similar to this particular shot. An almost completely gutted unit.

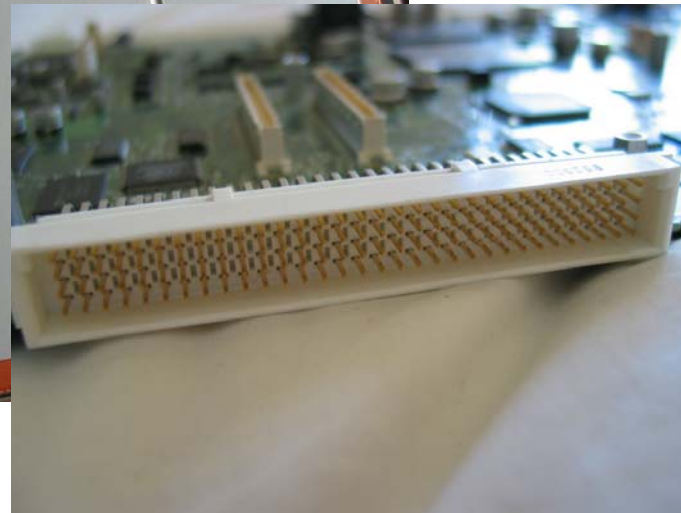




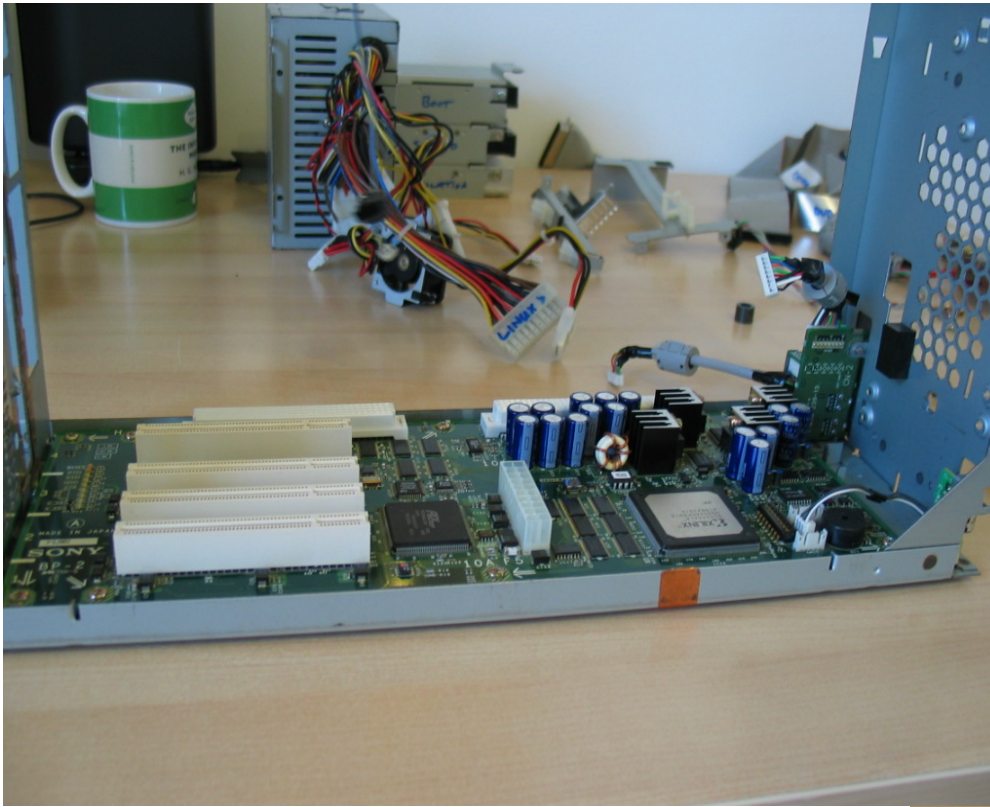
**Step 38)** Back to the rear of the machine again. Flip the unit onto its front and remove the 2 screws marked under the tape (remove the copper tape as before and bin it). *One of the screws is actually out of shot (so follow the circle up).*



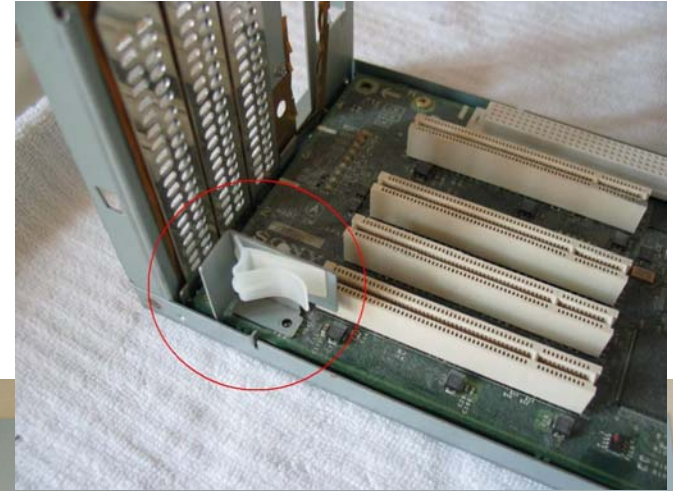
**Step 39)** Now place the unit upright so you can see the connection between the Linux PCB and the main motherboard ([as in the previous image](#)). You need to be able to grab the back metal plate in those two holes and pull gently upwards. You are decoupling the 2 PCBs and you need to be VERY careful not to over flex the connectors or pull the metal plate out from the back of the case. Just do things slowly and ensure you do no break anything. It is more upwards force than outwards! **Do NOT over flex!**



**This is the connection x 2 between Linux & main motherboard.**



You are now looking at the separated parts. Image A (Linux PCB in ATX case) and Image B (Main motherboard attached to metal back plate). On the T10000H model, there is a small metal arm that holds the HDD 2 cable in place. Image B.

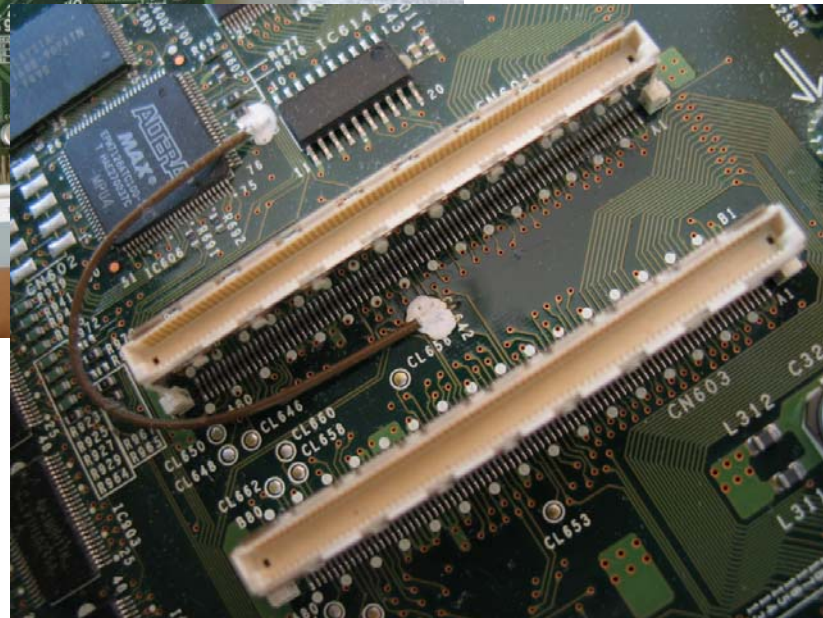


**Note:** Do not be tempted to remove the fans at this particular stage. The main motherboard bends under the pressure. Same as replacing the fans – ensure that they are removed in the correct order and replaced the same way. Do these things only when the motherboard is OFF the back plate!



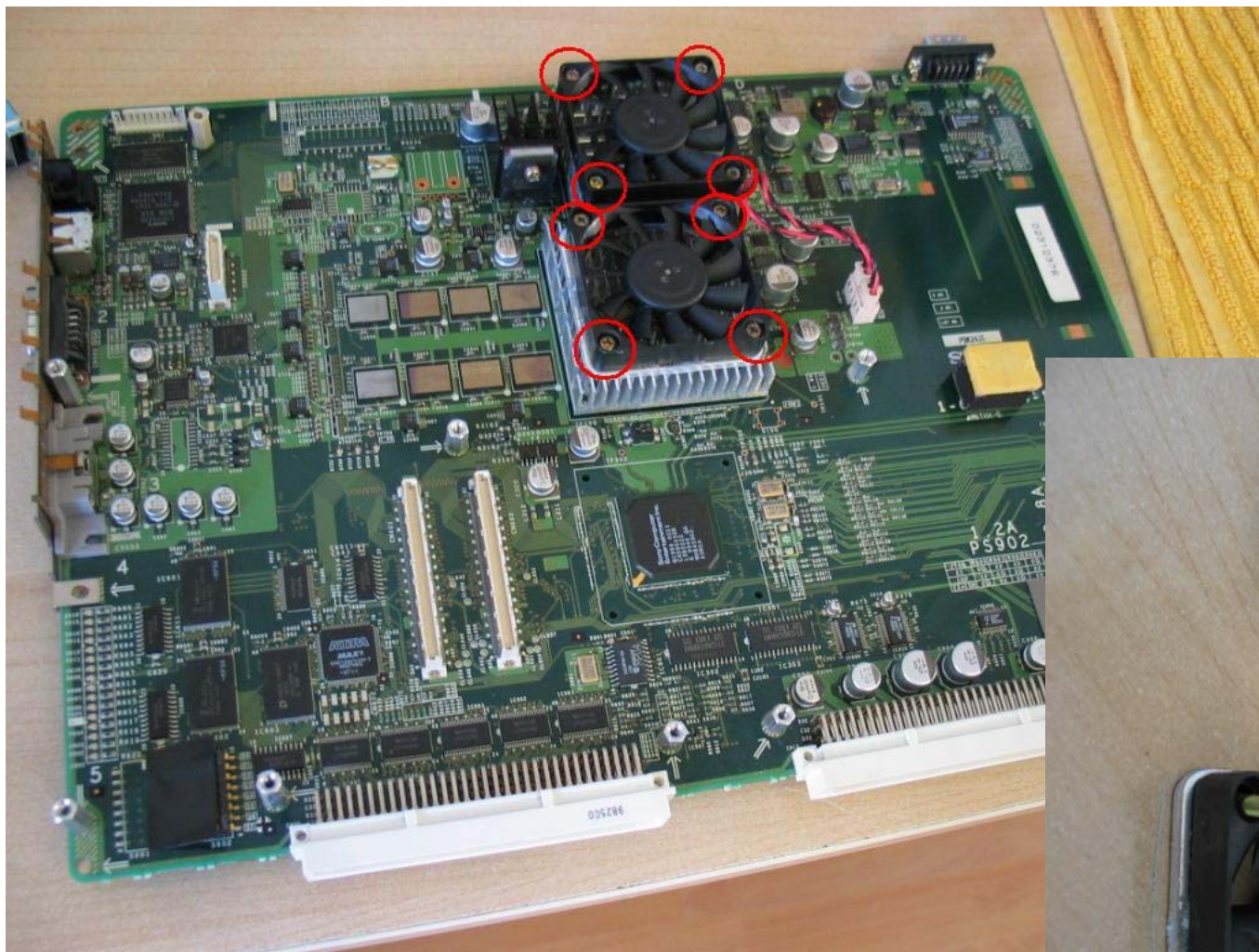
**Step 39)** Remove the 4 circled screws. Remove the main motherboard from the metal back plate.





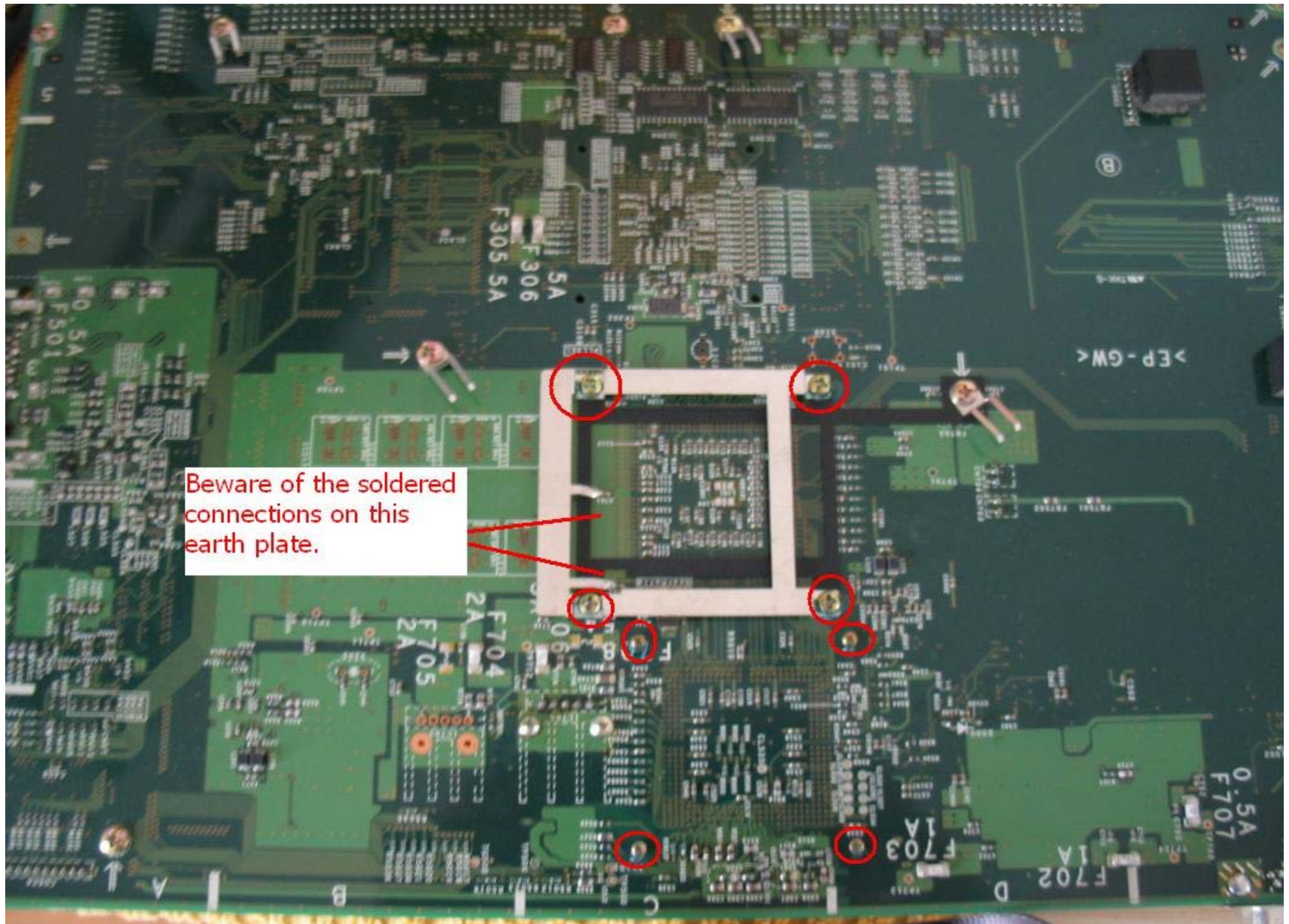
**Note:** The T10000H motherboard differs slightly. Firstly it has a large plastic plate with a copper EMI & RF backing. It needs to be removed to take the motherboard off. The screws holding the motherboard to the back plate are in the same position. This plastic plate & copper must be replaced and stuck down safely with duck tape. Just remove 1 edge of it! Also there is a single wire connection extra as detailed in image B.

**Step 40)** Remove the 8 screws attaching the 2 fans to the heat sinks. Note the different screw sizes and the metal plate under one of the fans. The metal plate is on the second fan (below the top fan).



**Note:** The metal plate and the LONGER screws are on the bottom fan.

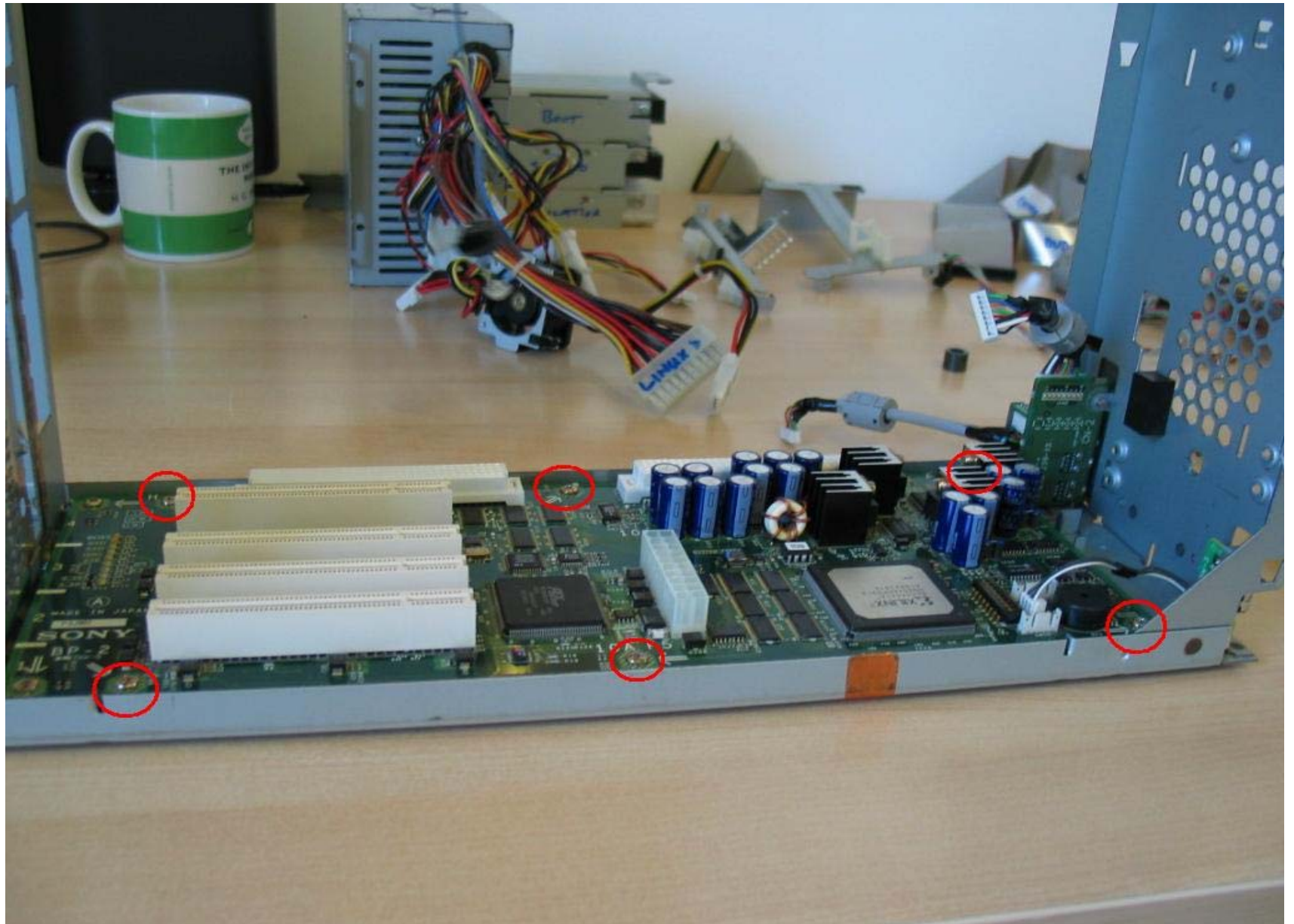
**Step 41)** Remove the 8 screws on the underside of the main motherboard. Beware of the soldered connections and also be aware of the 2 different sizes of the screws. At this point the motherboard is actually upside down! The screws are only hand tight. Any tighter and the heat sinks warp the board. Place ALL of the screws in before tightening on reassembly otherwise the heat sinks flip up! **Be careful with this part!**



**Step 42)** Gently remove the 2 heat sink by getting the edge of them with a flat screw driver and **gently** lifting them off the pads. Notice the lower heat sink is marginally bigger than the top one and also it has 2 sets of screw threads. Lay the main motherboard safely to one side. Clean it gently, but be very careful.



**Step 50)** Remove the 6 screws circled in the image. Do NOT put screws into the second set of back PCB holes! Gently lift the PCB out of the ATX frame and lay to one side.

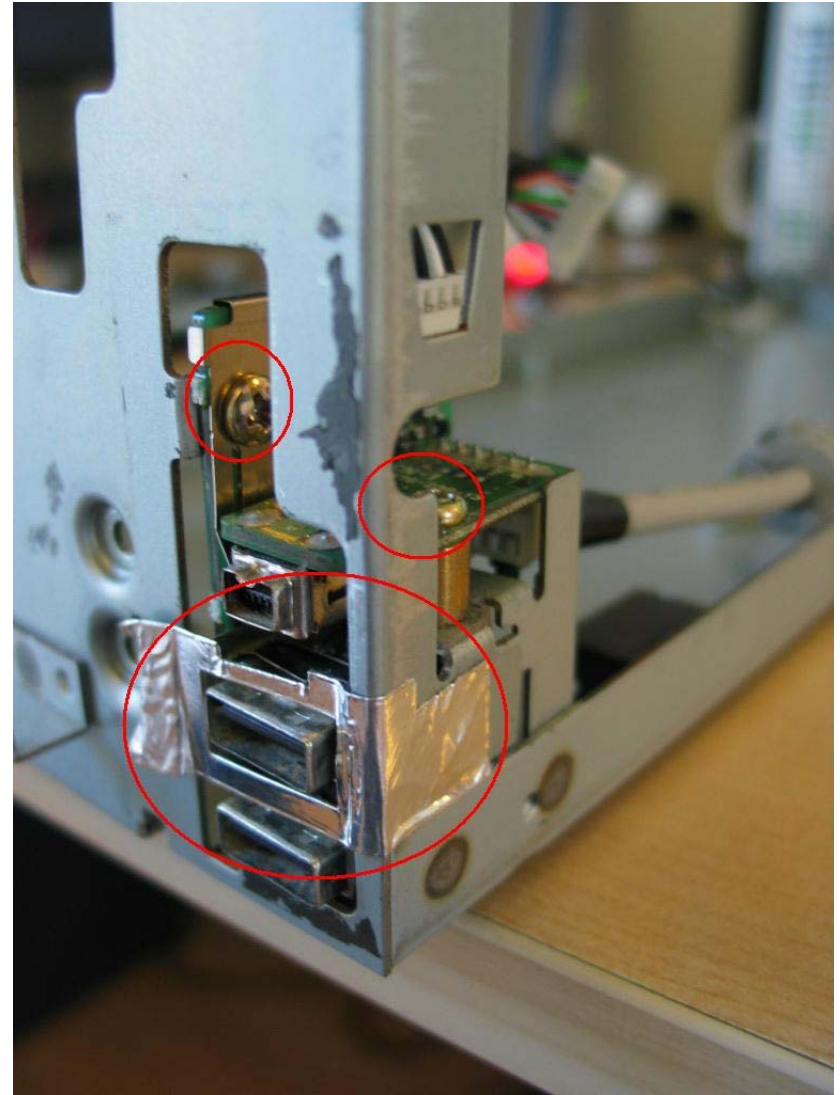


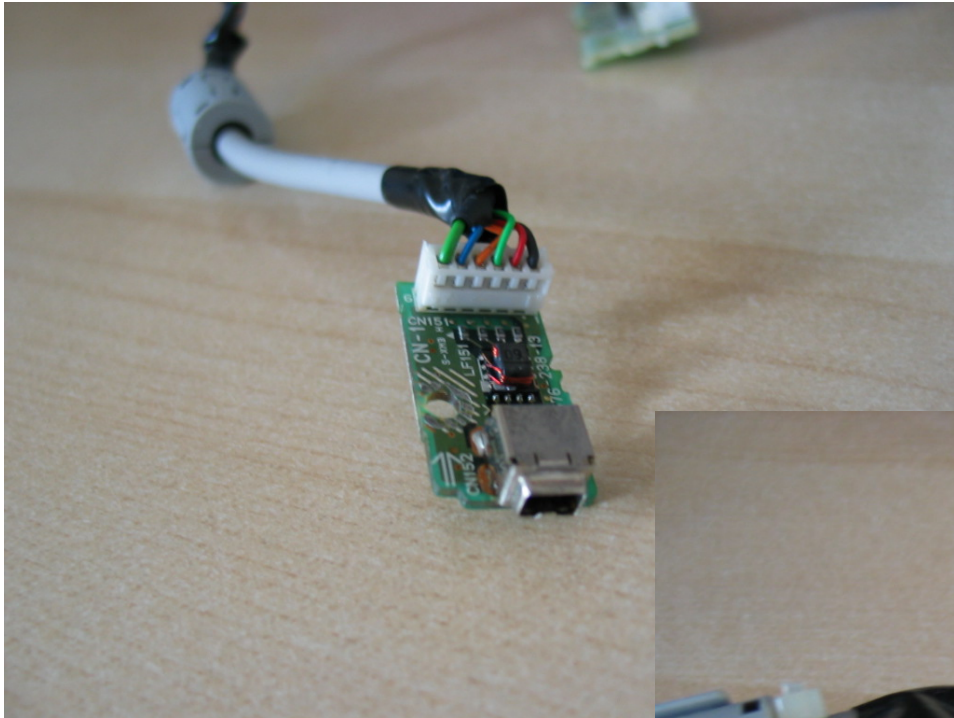


**Step 51)** Peel off the blue plastic panel. You may need to glue this back on as it's rather poor adhesive!

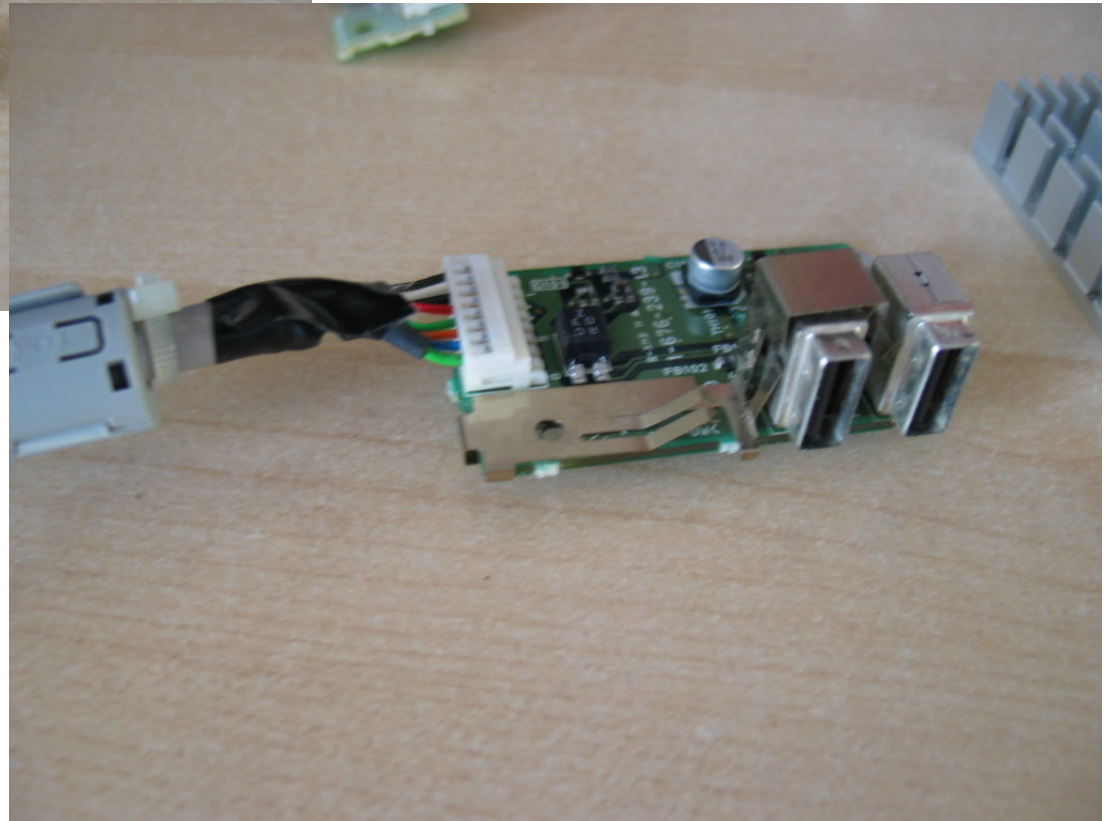


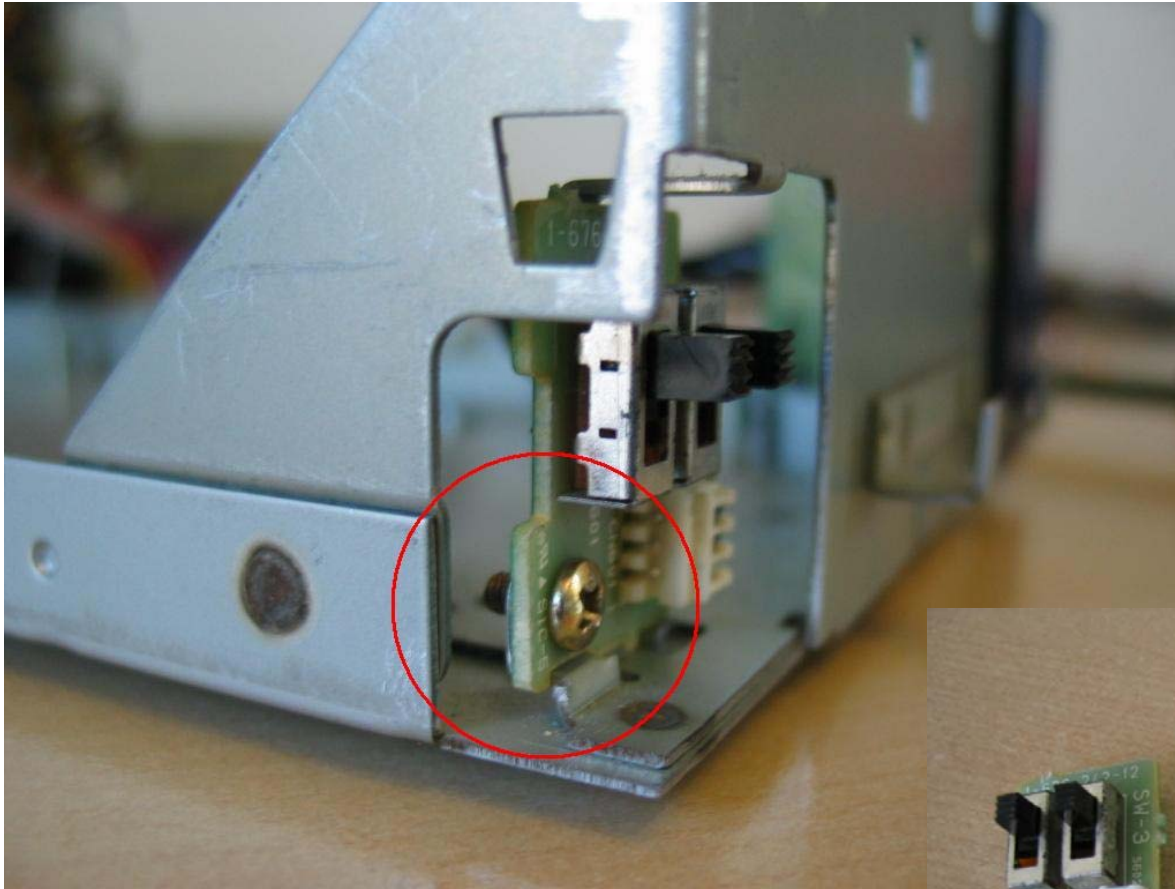
**Step 52)** Peel back the metal tape carefully and remove the 2 screws as circled. Then remove the 2 parts to expose the 2 PCBs. Place them to one side.





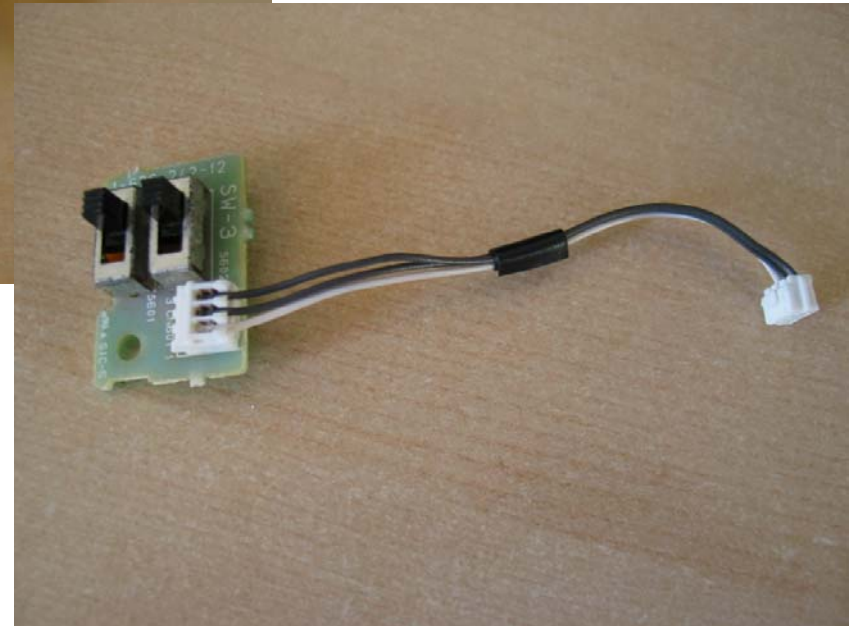
**Note:** These are the 2 small PCB boards in this section. Also note on the USB ports (x2) you will see a small metal earth clip. Notice how it is orientated for reassembly.





**Step 53)** Removal of the last part is simply a single screw and the 2 switch PCB is removed. Note the orientation of the board for reassembly as it has a notch at the top and bottom which correspond to 2 metal arms that hold it in place.

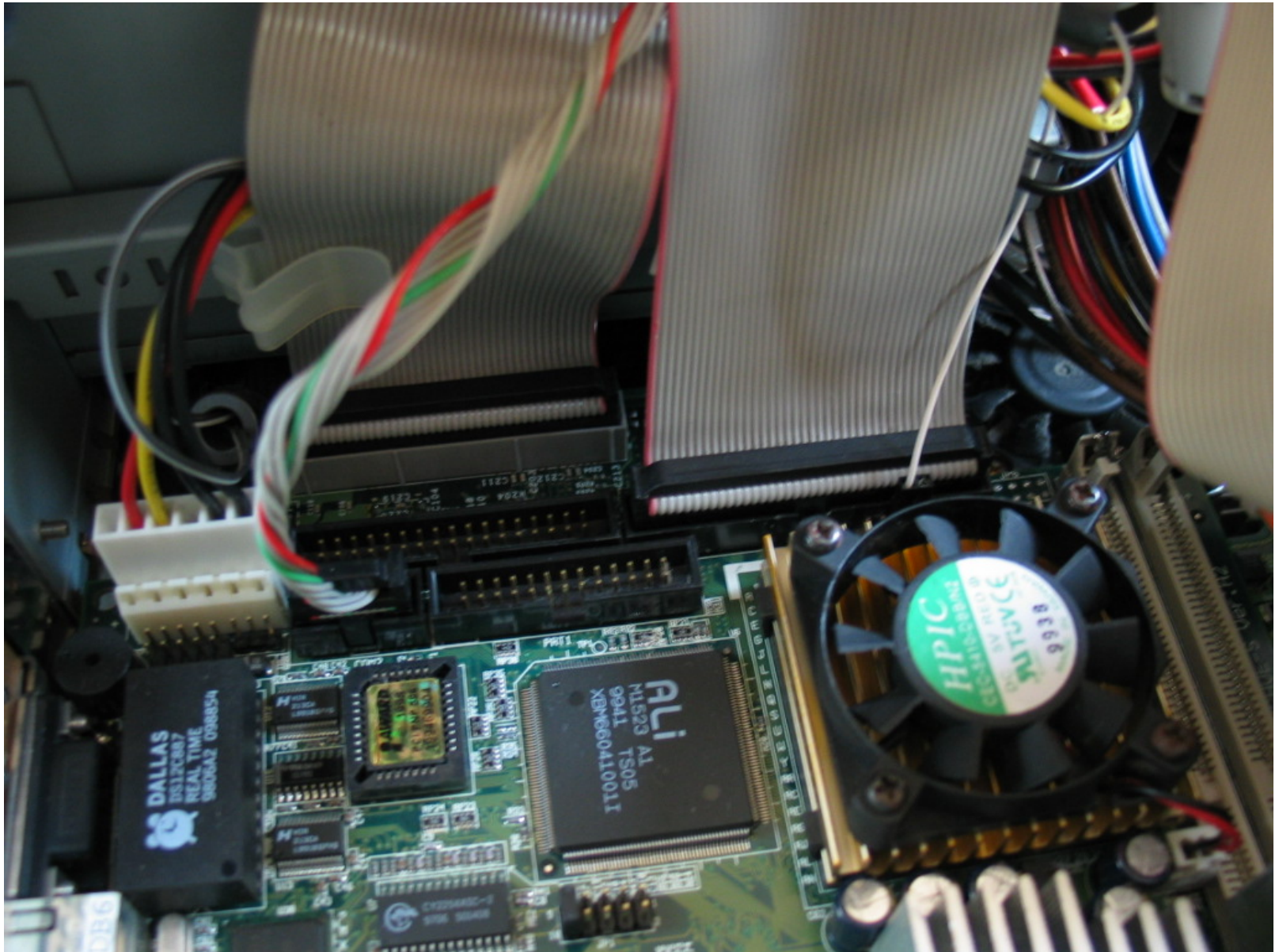
As far as disassembly of my T10000 unit is concerned, this is THE END. To reassemble, take the same steps, but in reverse. Pay particular attention to the wiring of each section. See the following pages for advice on aspects of assembly worthy of note.



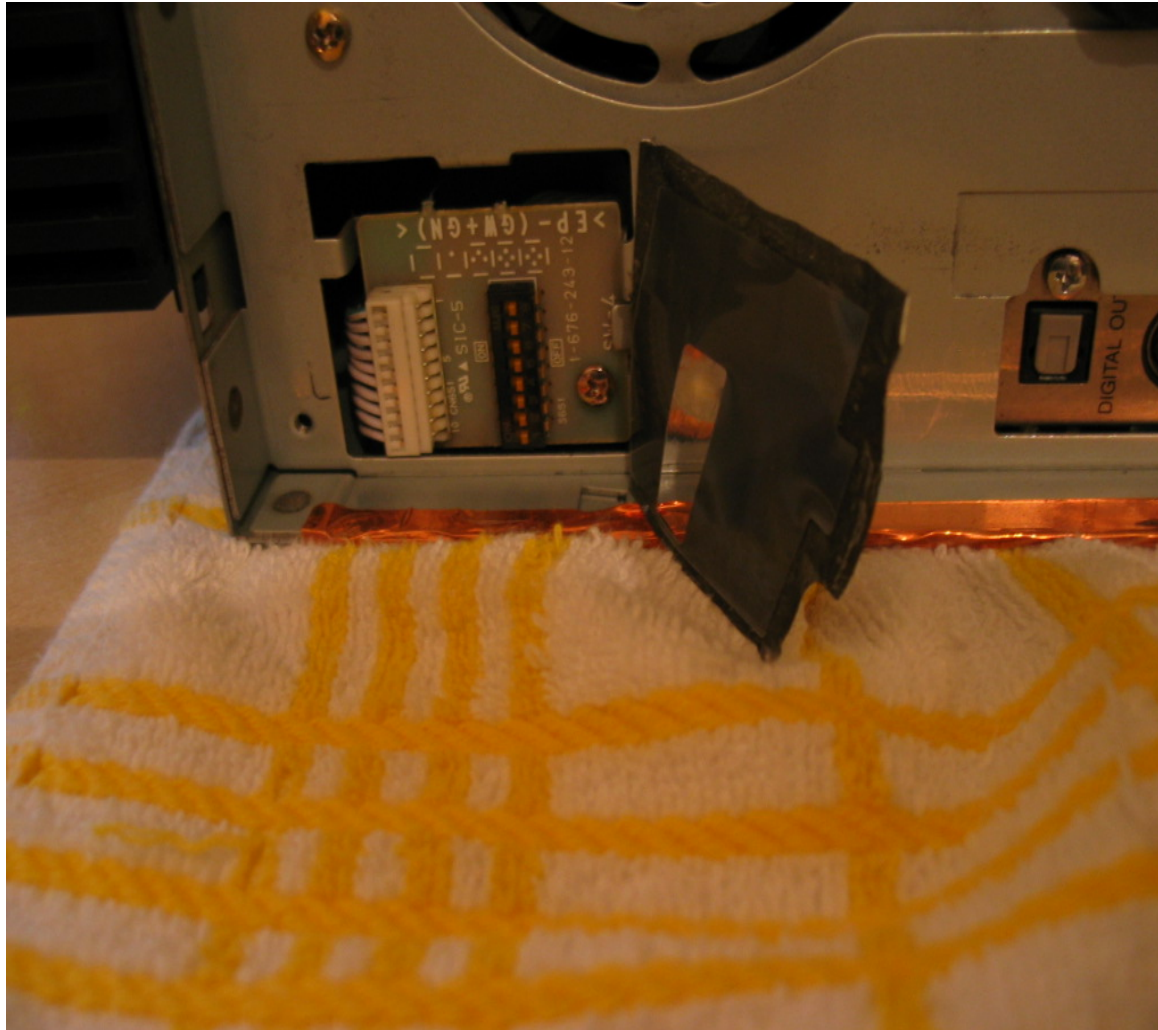
At the reassembly stage of the PCI card, please note this SINGLE white cable. It slots into the 3<sup>rd</sup> and 4<sup>th</sup> position as shown. The white cable is on the 3<sup>rd</sup> prong. **(This is the PCI PCI-586VE-S)**



Here are the other connections on the PCI. (This is the PCI-586VE-S)



To the rear of the unit is a user definable set of 8 dipswitches. These must be correctly set to ensure the operation of the unit. **THEY SHOULD NOT BE MOVED WHILST UNIT IS POWERED UP!**



The settings are as follows (Remember Dip 5 selects PAL or NTSC).

1 = DOWN

2 = UP

3 = DOWN

4 = DOWN

5 = DOWN/PAL or UP/NTSC

6 = DOWN

7 = UP

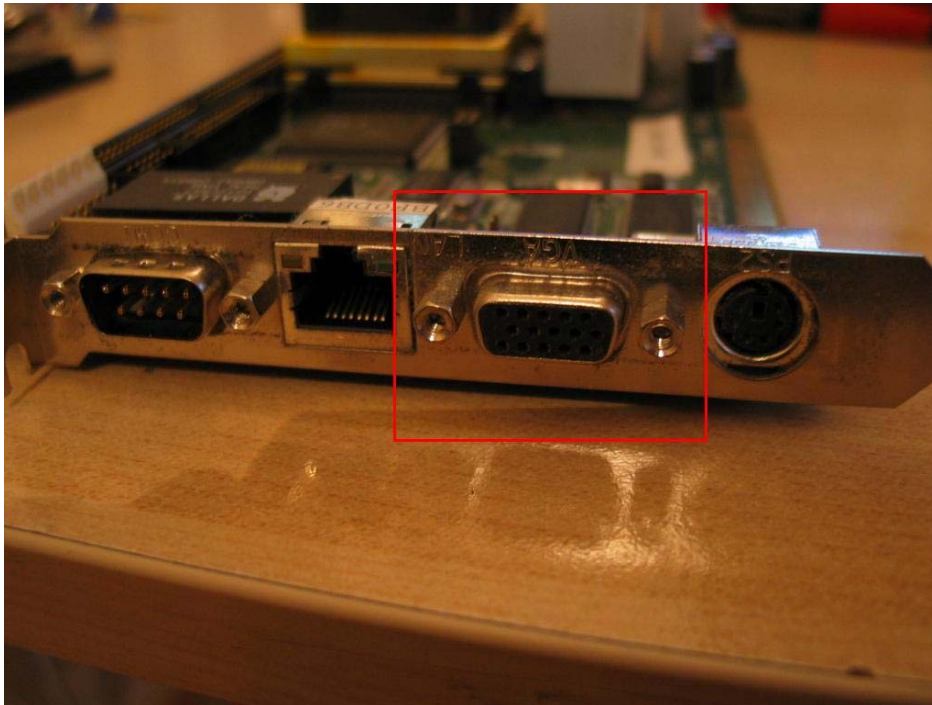
8 = UP

One mistake several people make (including myself when I first found myself testing a unit) is that the VGA port that is required for viewing the PC output is actually hidden underneath a metal plate on the PCI card. The VGA output found underneath the S-Video works with a low frequency monitor (30Hz) or when the games title uses Progressive Scan (480p & higher) but can't be used at the same time as the AV MULTI OUT.

For the best operation you need to set the units façade dipswitches to DVD & TOOL, connect the AV MULTI OUT (standard PS2 cable out) to a TV and connect the hidden VGA port to a VGA monitor.

It is also strongly recommended that you use a standard PS/2 type PC keyboard or any USB keyboard like the official Playstation2 one (model number SCPH-10240) with an USB-PS/2 converter plugged into the rear of the machine.

The USB ports on the front of the Tool are only used by the PS2 hardware, you won't be able to control the behaviour of your unit from there.



**Good luck!**

VII/2007/P&UJ – free to distribute.