How to change the backup battery on the korg DDD1

Over time the battery on the main PCB will fail, as they were designed to last 5 years, most batteries now in korg DDD1 machines are now 23 years old!
A sign that the battery has failed is when you switch on the DDD1 and it automatically carries out a “system reset” , which erases any data stored in the machine. To fix this ,you need to change the backup battery, but the battery is tricky to replace as it was soldered to the main PCB. Unfortunately Korg didn’t use a battery holder on the board and decided instead to solder the battery
To the board instead , (probably to save costs in manufacture).
The battery is a 3v coin cell battery, similar to the batteries found on PC computer main boards. It shouldn’t be confused with the other, larger battery found by removing the plate under the DDD1, this battery is only for the sampling board, and will only be present if the sampling board is fitted to the DDD1.(the sampling board and large battery where supplied together as a kit.)
This guide has been written to enable owners to carry out the modification to the DDD1 to change their own battery and fit a new Battery holder , which will enable future battery changes to be made easy.

Disclaimer:
This Mod is fitted entirely at your own risk!
It is a guide only, written to help DDD1 owners modify their own machines.
It is not intended for commercial use.
This guide is not endorsed or recommended by korg, and has nothing to do with the Korg company.
I (and others associated with this guide) take no responsibility if you : blow up or fry your circuit boards on your DDD-1 or any connected equipment, have any personal injury resulting from fitting or using this mod, burn your dinner, cause a third world war or anything else that you feel was caused by fitting this mod.
This is for experienced modders out there.
It is ESSENTIAL that you have electronic experience and good soldering skills, please be careful and take your time! Don’t rush the job **and** don’t do the mod if you not sure about any of the instructions. **We don’t want you to ruin your DDD-1 drum machine!**

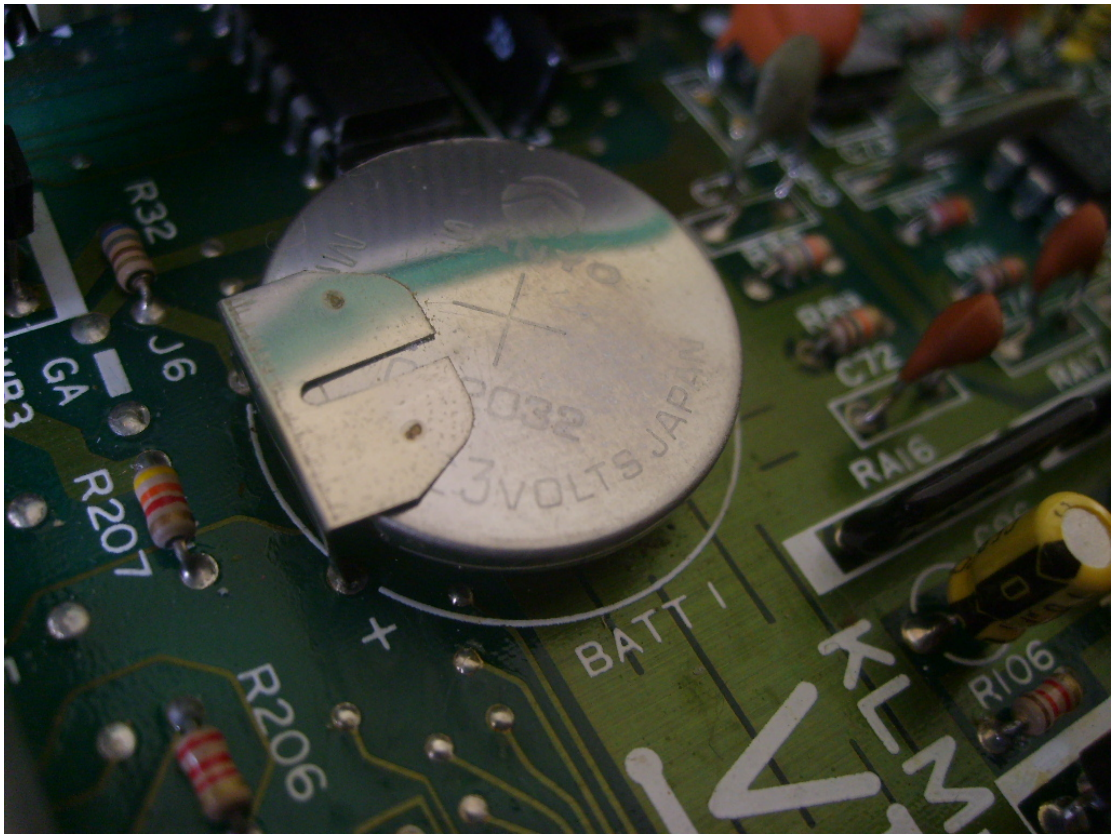
Please read all the instructions before starting work!!

Safety first

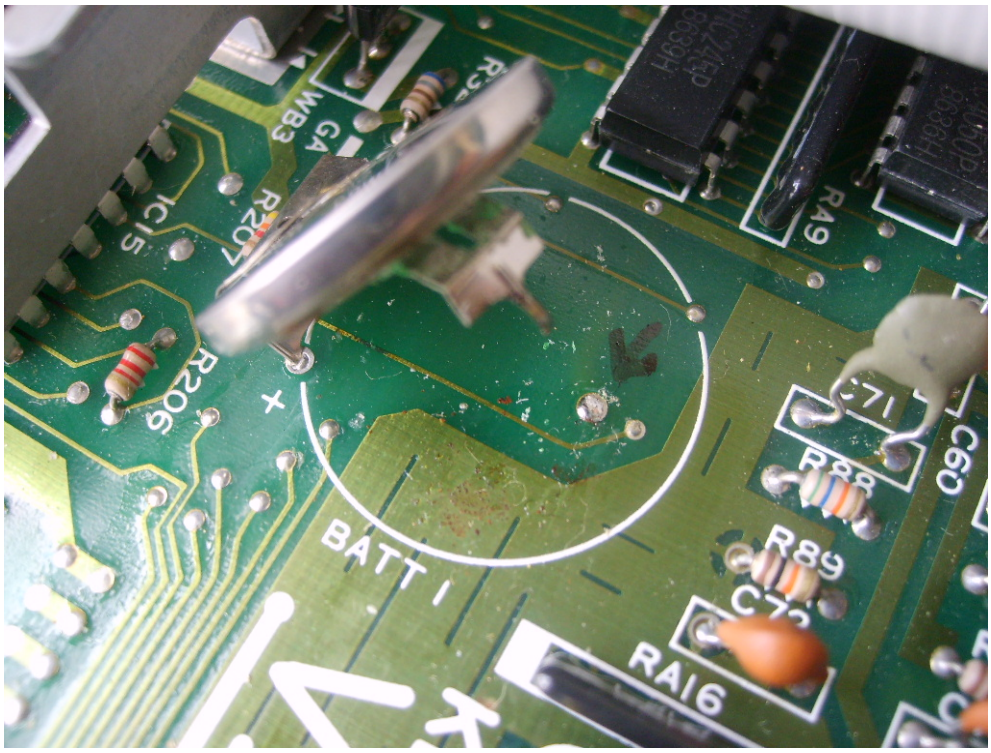
Please make sure the Korg DDD-1 is unplugged from the mains Power supply before removing cover and doing ANY work on the DDD-1. NEVER work on equipment that is connected to the mains supply

Observe precautions when using soldering equipment and work in a well ventilated area , use eye protection.

Use an antistatic wristband while working on the DDD-1



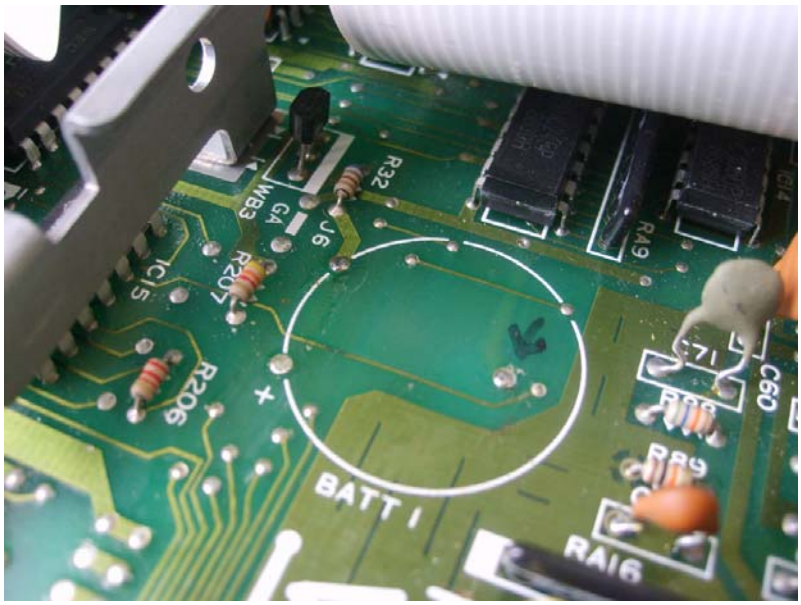
the picture above shows the original battery located on the main board of DDD1 , note that this battery is soldered onto the board.
Carefully remove the battery, by heating the battery solder joints on the board, as shown below. Be careful that you don't damage any components around the battery.



This picture shows the old battery removed from the board.This battery was completely dead , and the DDD1 lost all its settings and patterns from memory when switched off, causing a system reset every time it was switched on.

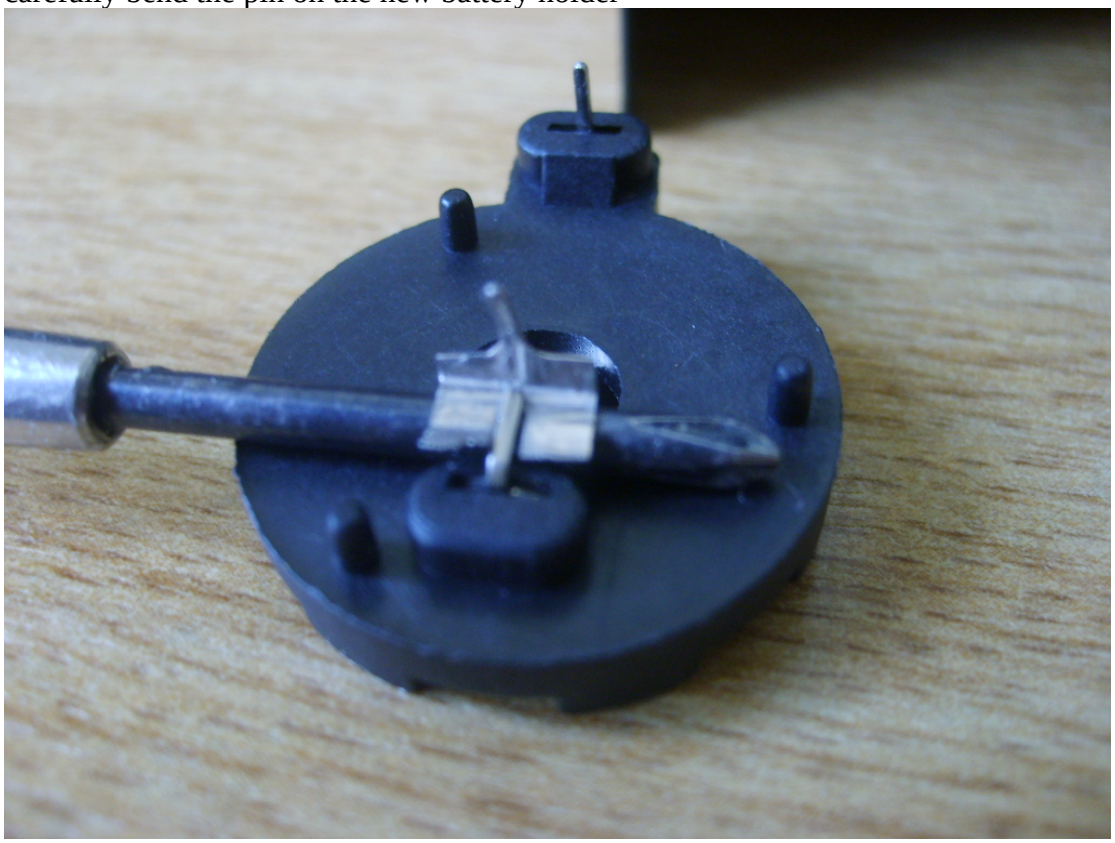
Note the green coloured corrosion around the solder tab on the battery, sometimes this can cause damage to the main board, but it is rare with these batteries. But this corrosion is to be expected on a 23 year old battery!

the photo below shows the battery removed from the board



I've improvised with the battery holder by removing the "tab" from the old battery and soldering it to the new one, this makes it easier to fit it to the main board, as the holes on the board aren't a standard fit for the battery holder. if you prefer, you can solder 2 long wires to this holder and solder them directly to the board, then glue the holder somewhere inside. Either way is up to you, as both repair methods are OK.. With the method below, the holder will be attached properly to the main board and there won't be a chance of the battery holder moving around inside the DDD1, it also looks more professional.

carefully bend the pin on the new battery holder



Now use a precision screwdriver to hold the tab, as shown in the photo below

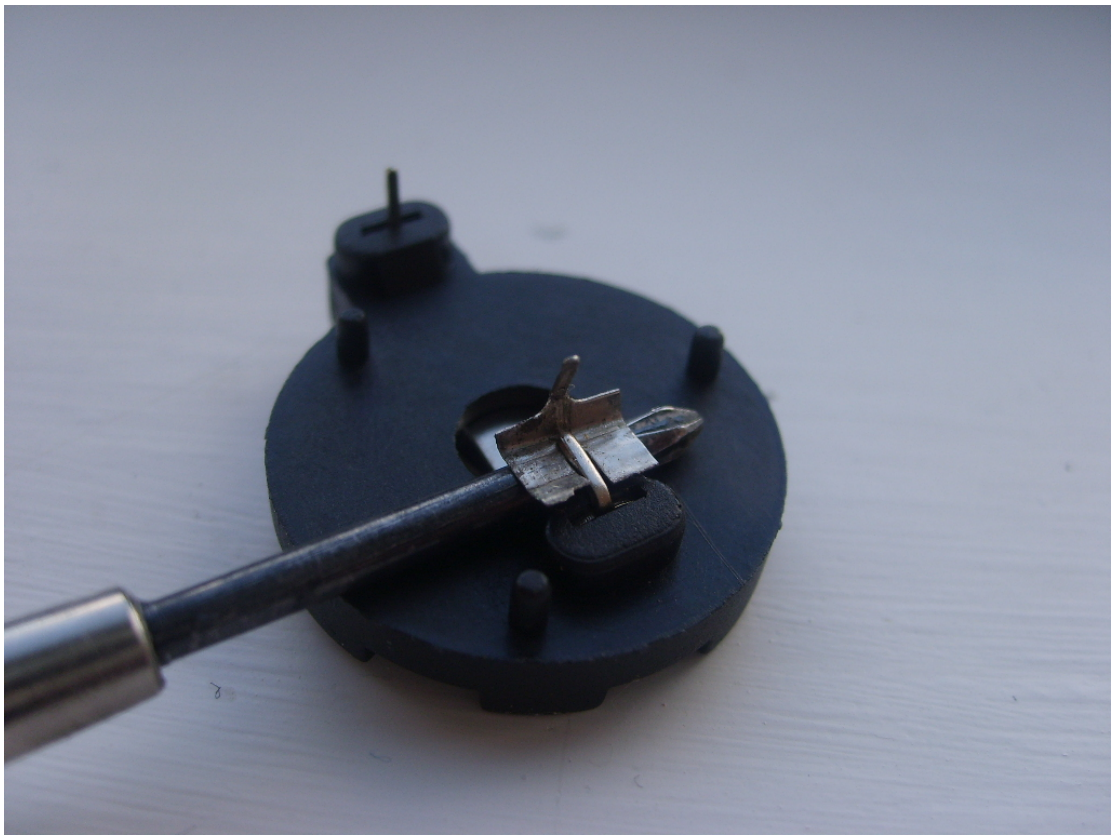
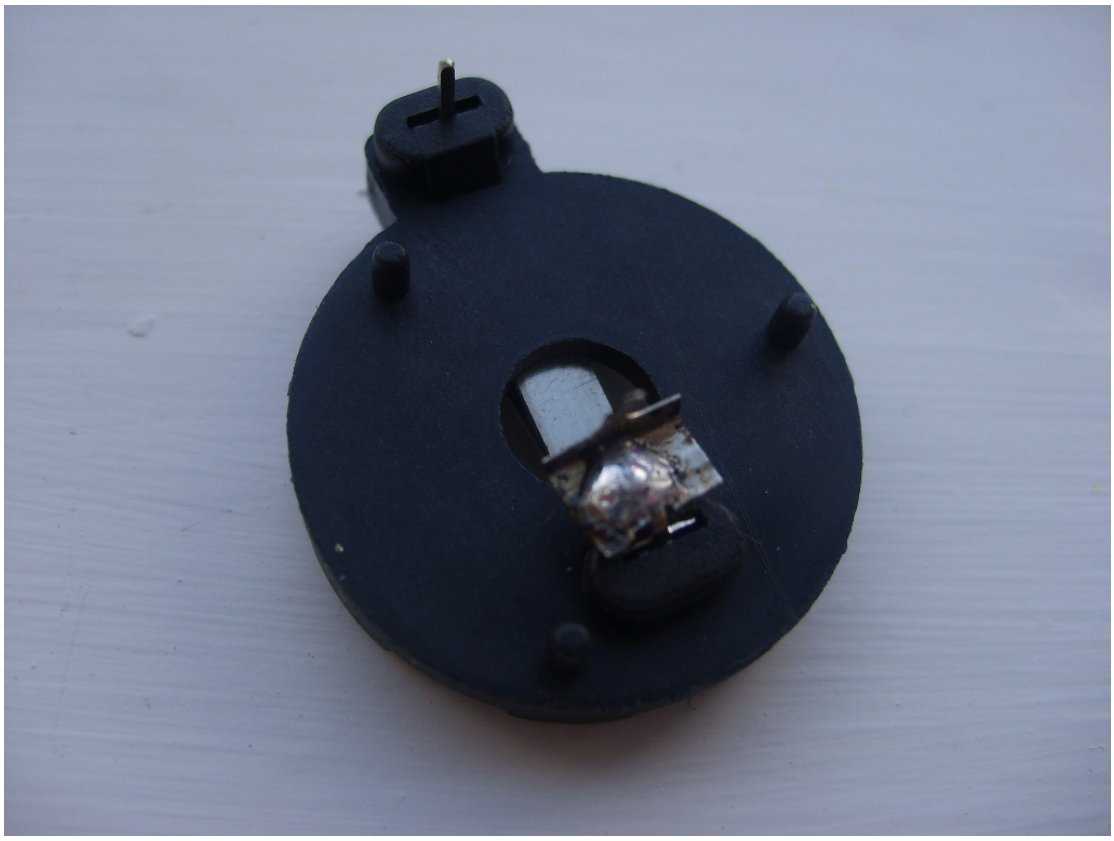
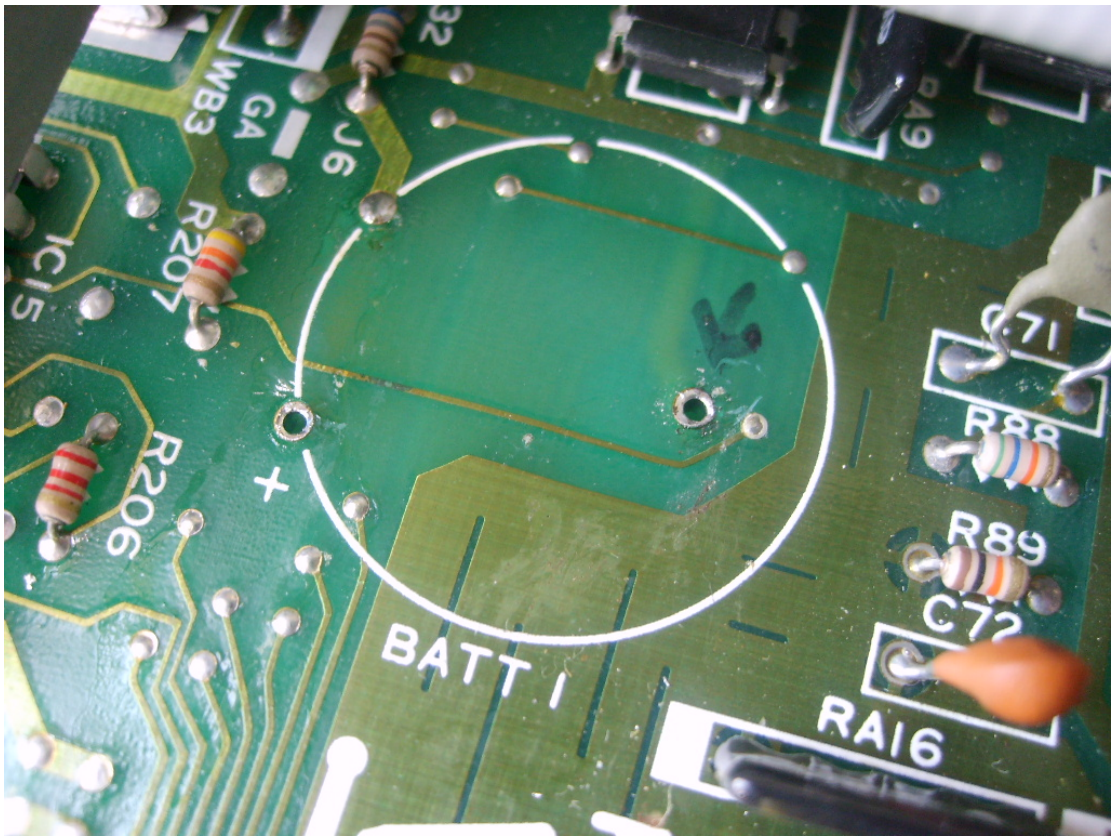
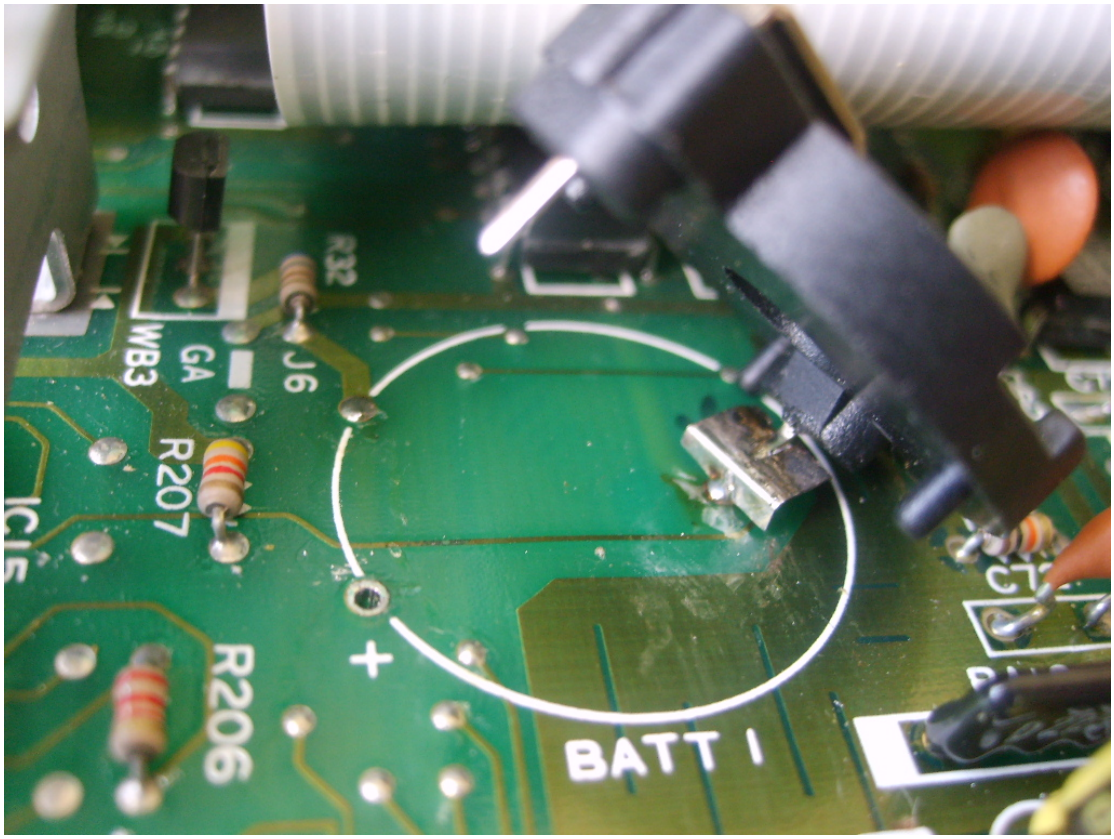


photo below shows tab now soldered on , battery holder ready to be fitted to board.

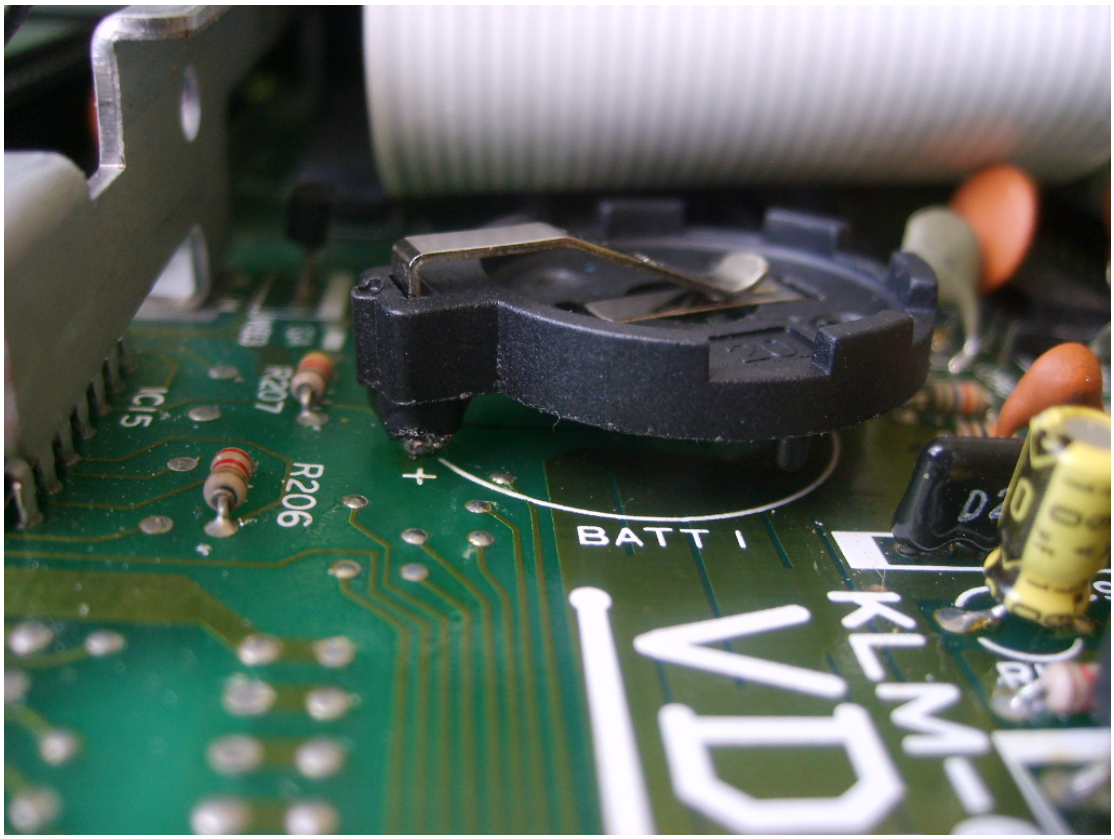




use a desolder pump to remove solder from the holes.

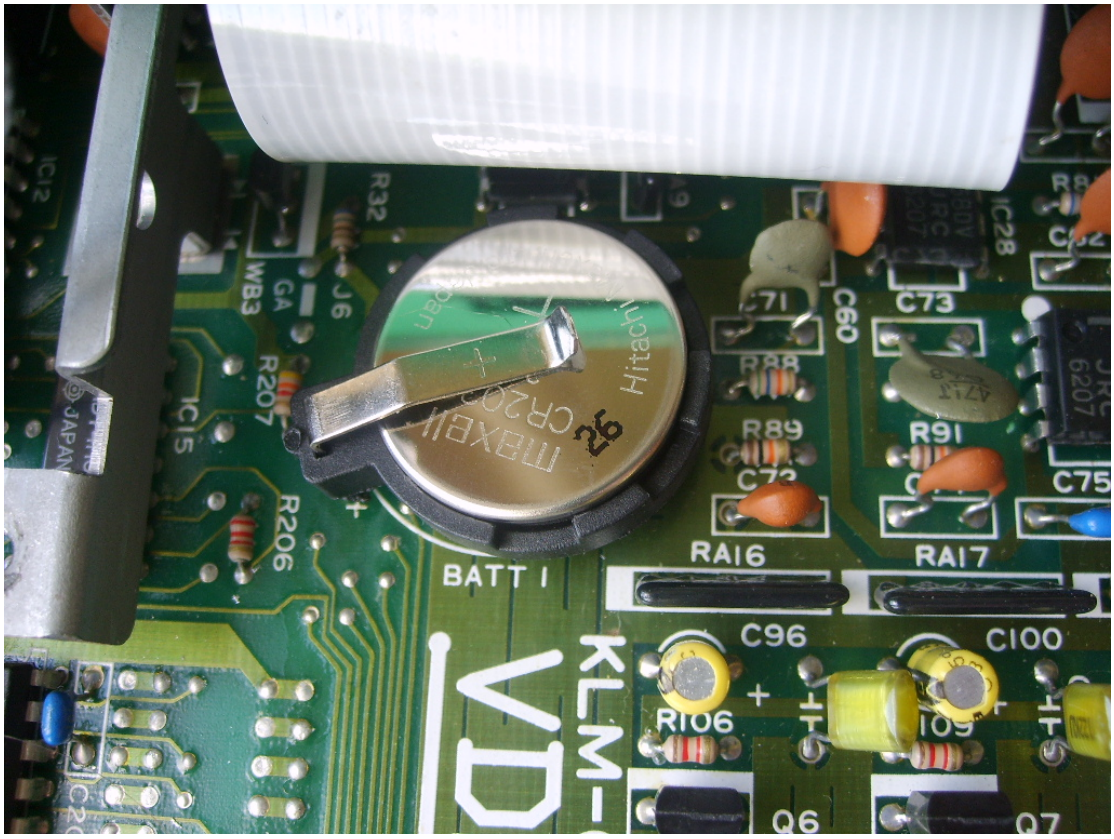


solder the old tab end in first



then carefully solder the other pin of the battery holder to the board as shown above.

use the type of battery as shown above as replacement. A CR2032 3 volt battery or equivalent



new battery now fitted into the battery holder, modification is complete, optionally ,you can use a small amount of glue on the edge of the battery holder to the main board for extra secure fitting. The best type of glue to use is glue from as glue gun , as this is flexible and has a rubber consistency when set ,ideal for use where theres vibration.

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Last edited: 30sept09