

XENIUM

General Maintenance Guide

Rev 1.1

NEMESIS



The installation of your Xenium will void your console's warranty and may cause damage to your console if not installed correctly. Please ensure that power is not applied to your XBox during this installation procedure.

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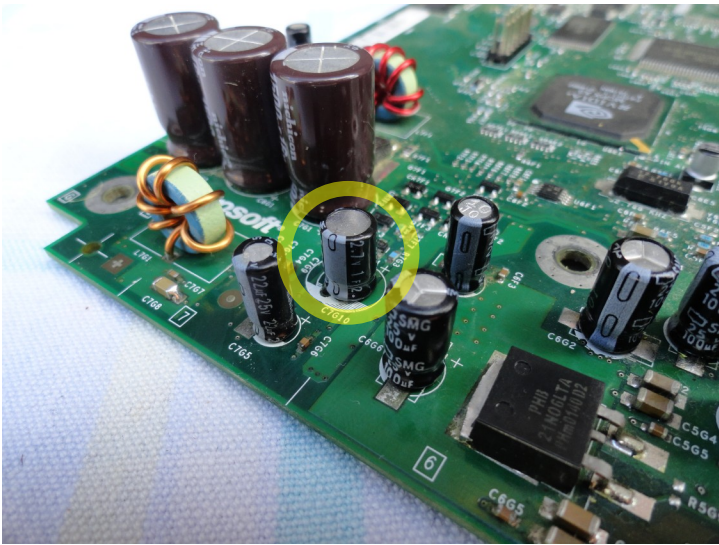
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Recommended Tools



A good soldering iron with temperature control will be a huge benefit. My general rule of thumb is to use 340°C for general soldering, 360°C for desoldering and 400°C for anything that's grounded. I like to use a 1.2mm tip on my iron with 0.8mm solder with 60% lead, be sure to use Flux as it will greatly improve the quality of your work. I recommend desoldering wick and a solder sucker. Some isopropyl alcohol, cotton tips and a toothbrush will assist with any cleaning.

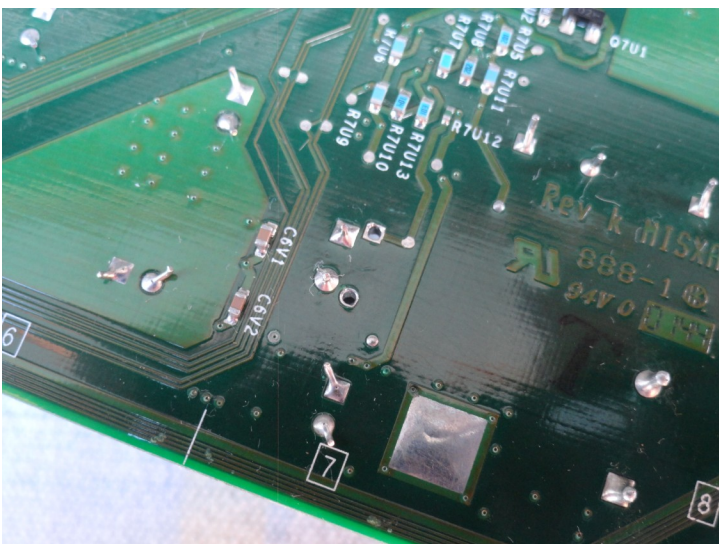
ClockCap Location



On console versions 1.0 to 1.5 the ClockCap is located towards the front left corner of the motherboard within a cluster of other capacitors as shown in the image. It is highly recommend that the ClockCap is removed on these consoles as the ClockCap that was used has a bad habit of leaking acid which "will" damage motherboard. Note that in this image the ClockCap has already been replaced with a new "Nichicon" capacitor.

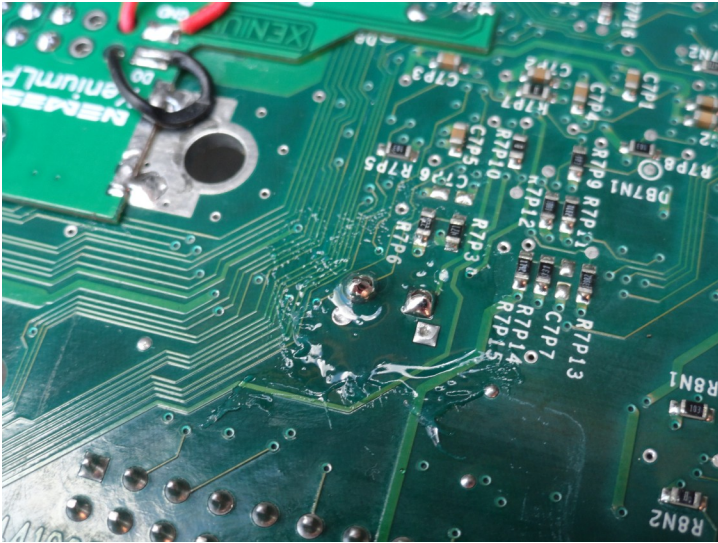


Version 1.6 console ClockCaps are located right next to the IDE connector and clearly stands out. These ClockCaps are "Nichicon" which are one of the best capacitors you can get. I have ever seen these ClockCaps leak and shouldn't require removal. From memory version 1.6 consoles wont boot or work correctly without a ClockCap.



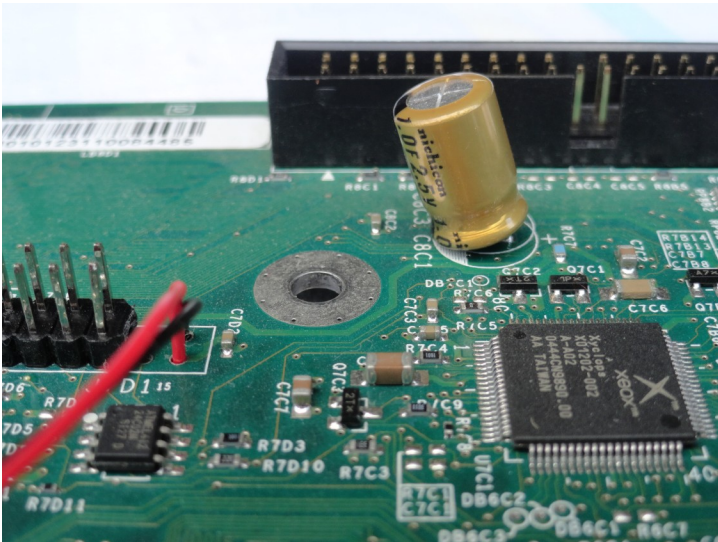
The underside of the motherboard you can see that there are two sets of through holes to allow for different sized ClockCaps.

ClockCap Removal

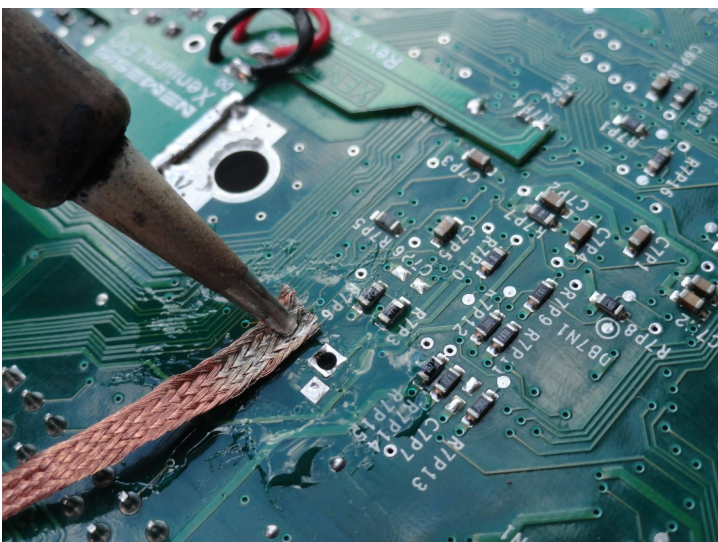


For the removal and replacement of the ClockCap I will be using a version 1.6 console. I don't recommend simply breaking off the ClockCap as this will make it very difficult to clean out the through holes later on.

Start by adding an excessive amount of solder to both of the ClockCap pads.

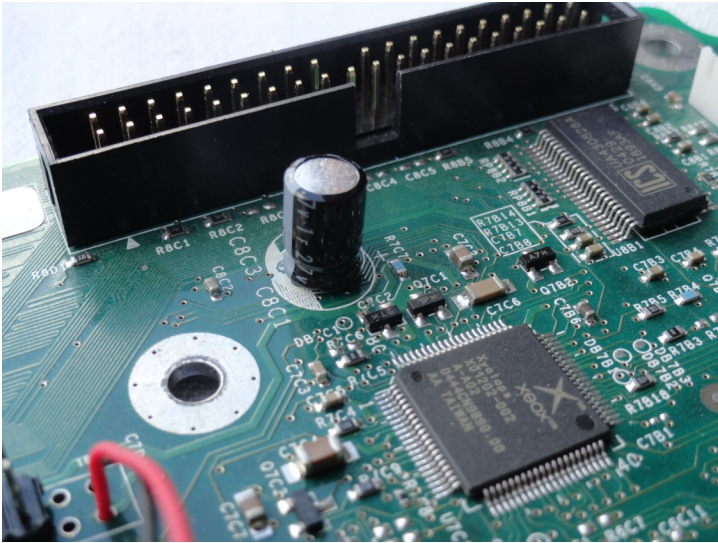


While heating up one pad at a time, apply pressure to the cap so it breaks free. You may need to do this a couple of times rotating between the two pads until the ClockCap is completely removed.

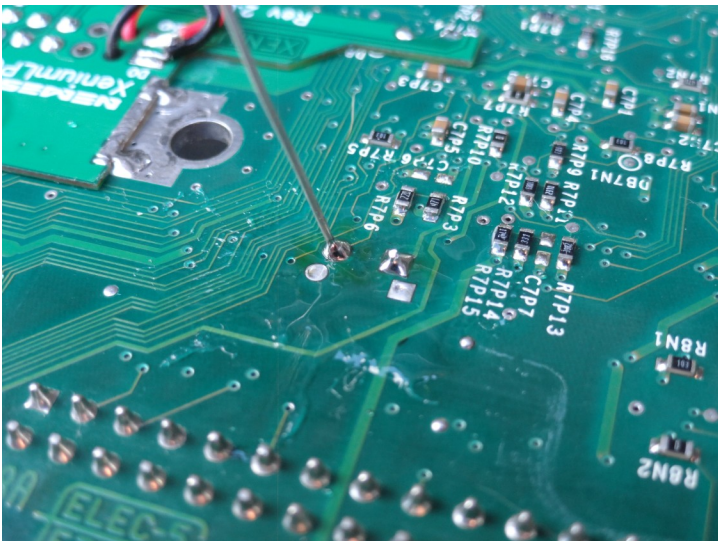


With the ClockCap removed use a solder sucker to remove the majority of the solder then apply flux and clear out the remaining solder from the through holes with some wick.

ClockCap Replacement

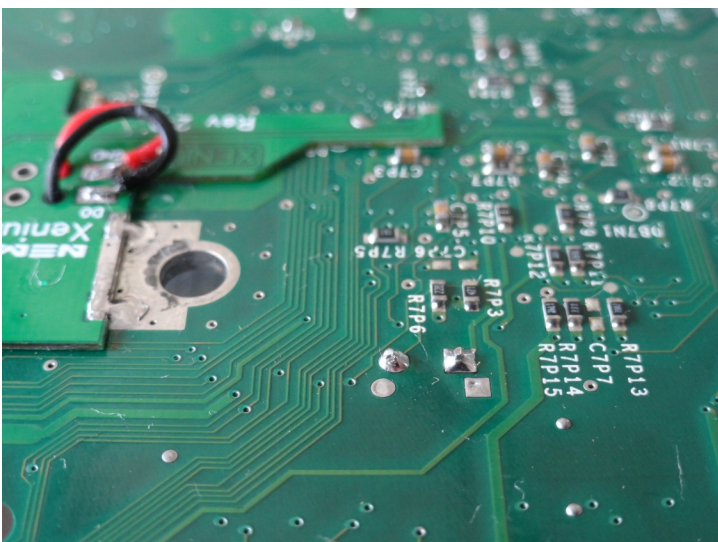


With the through holes cleared out insert the replacement ClockCap, orientating the negative white strip on the capacitor with the negative white print on the motherboard.



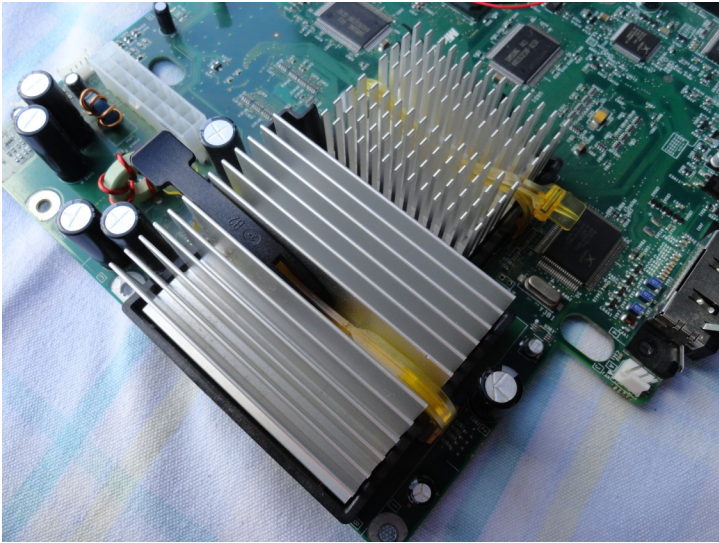
Add some fresh flux and with a clean soldering iron apply heat before adding any solder. After a few seconds add solder so it seeps into the through hole, stop once you have a nice bead as shown in the image.

Trim the legs and clean around the area with some isopropyl alcohol and cotton tips.

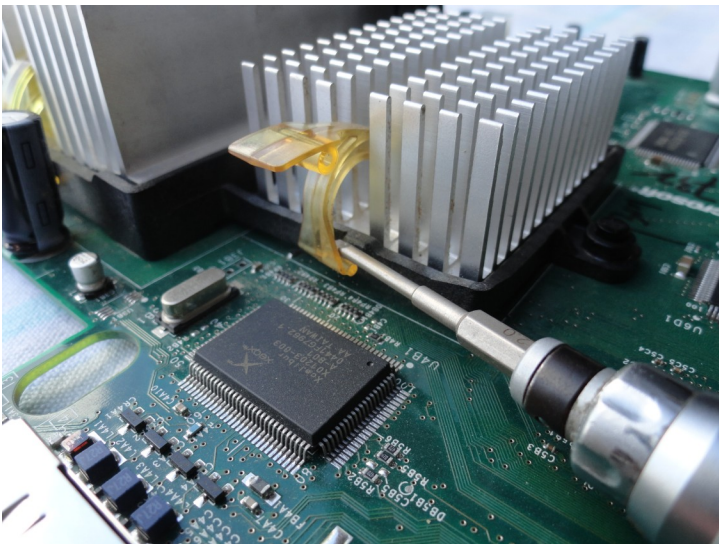


These ClockCaps are actually a "Super Capacitor" and unfortunately they are only good for up to 1000 cycles. A cycle is every time the console is turned on, so I highly recommend replacing these every few years. Alternatively you could just remove the ClockCap but this is not an option for version 1.6 consoles.

Heat Sink Removal



If your wanting to replace the thermal paste on your console you will have to begin by removing the smaller GPU heat sink and the larger CPU heat sink.



The plastic clips holding the heat sinks can be a little tricky to remove especially for the GPU. While applying pressure downwards on the thumb tab, you will need to use a flat head screw driver to assist in process as shown in the image to the left.



After removing the clips I still found it difficult to remove the heat sinks as they were pretty much glued in. In this case I probably didn't need to replace the thermal paste but I went ahead for the guide.

I had to apply heat to the heat sinks to get them off with my hot air rework station, alternatively a hair dryer might do it.

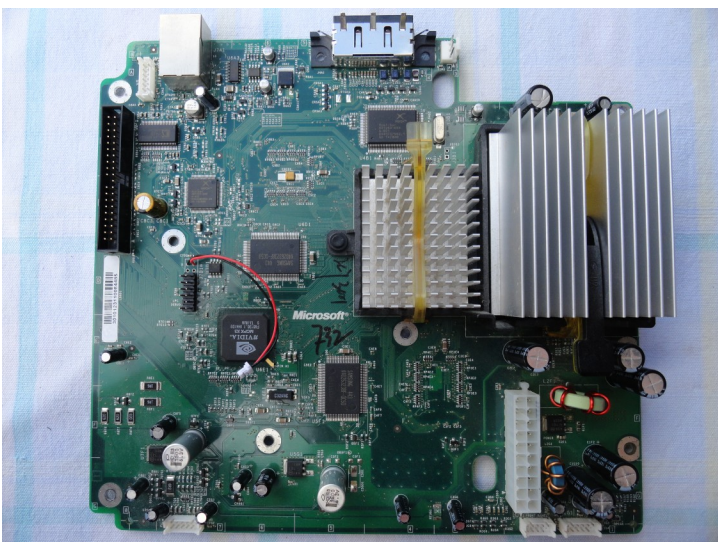
Applying Thermal Paste



Again I had to apply heat to remove the old thermal compound, it was more of an adhesive. Use an old bank card or something plastic to scrap off the compound carefully. Next with a rag and isopropyl alcohol wipe off as much as you can before maybe going over it one last time with cotton tips

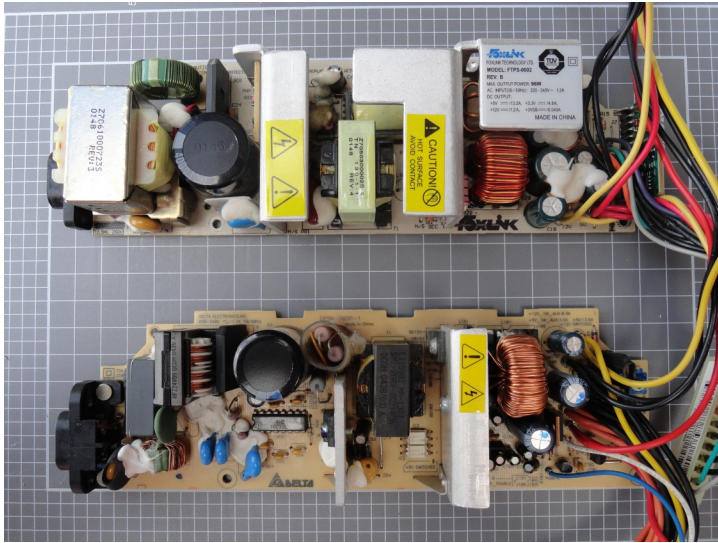


With everything cleaned up its time to apply some new thermal paste to the CPU and GPU. Just apply the one bead to the CPU and a few extra's for the GPU as shown in the image to the left. When the heat sinks are installed the thermal paste should spread out relatively even.

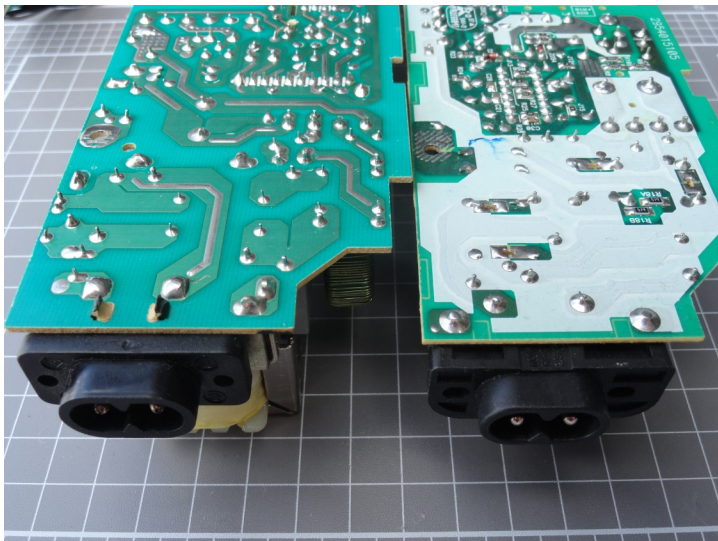


Reinstalling the heat sinks is much easier than removing them. If you've made it this far the final step should be very straight forward.

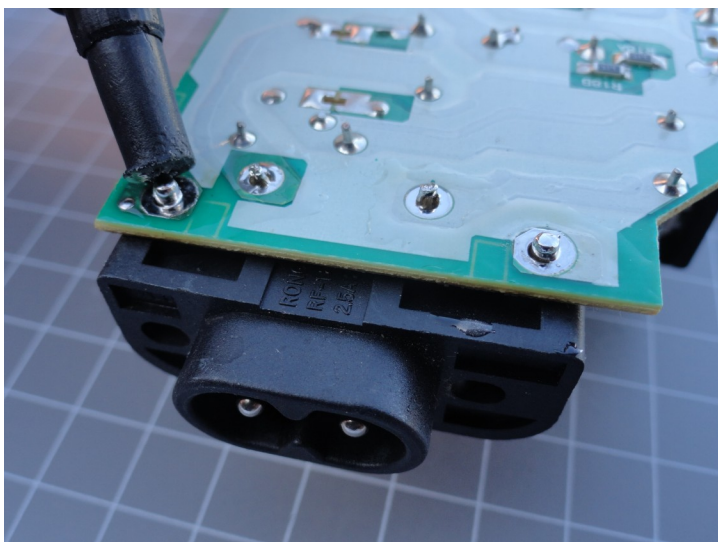
PSU Connector Reflow



The two most common power supply units in my opinion are the "Foxlink" and "Delta". I highly recommend reflowing the external connector for the figure eight power cable as these joints can crack especially with the "Foxlink" power supply's.



I have already reflowed both of these boards, the PSU on the right is the "Delta" and has 4 mounting points, whereas the "Foxlink" on the left only has 2 mounting points so it tends to move eventually cracking the solder. In this image you can see that I used an excess amount of solder for the "Foxlink" power supply.



With the soldering iron set to around 420°C add some fresh solder to soften up the pins and then use a solder sucker to get the majority of the solder. As always add flux and apply heat before soldering.

Disclaimer

By purchasing an Xenium you agree that the usage of this product is strictly your responsibility. XeniumMods is not responsible for any damage or loss of data caused during the installation or use of the Xenium.

The Xenium is designed for use as a development tool or as a device to perform certain repairs and is shipped with blank bios banks so that the end user is able to install their own bios. XeniumMods is aware that various hacked bios versions are available that may contain copyrighted code and can be used for piracy. The primary purpose of this device is to encourage users to exploit the full capabilities of their Original Xbox Console.

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