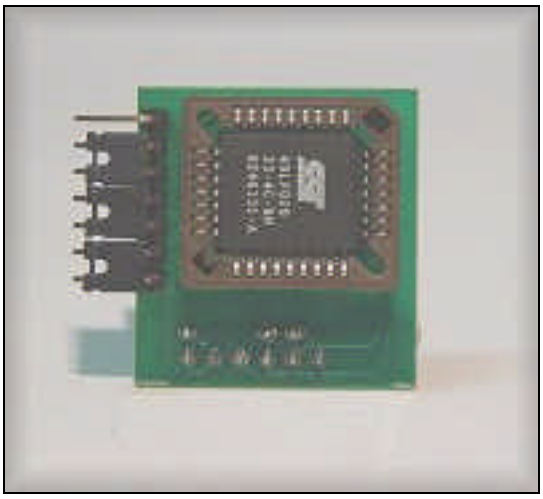
# OzXChip

## Installation Manual
## For revision 1.3



Warning: The installation of your OzXChip 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.

If you have any concerns regarding the installation of the OzXChip please seek advise in our message forums (http://www.ozxchip.com/forum) or on the IRC at #ozxchip on EF Net.

# Table of Contents

# Part 1. The features of the OzXChip (revision 1.3).

The OzXChip revision 1.3 has optional features that can be used in a number of different ways. In its standard form the OzXChip uses jumper blocks to select between the different modes that these features offer, the jumper blocks can be replaced with switches as shown in the Advanced installation method in Part 4b. We recommend that the OzXChip is installed using the jumper blocks initially and when the operation of the OzXChip is confirmed to be working the introduction of switches can occur.

## Write Protect Mode (Pins 1, 2 & 3)


When the jumper block is connected to pins 2 and 3 you are able to flash your OzXChip using a hardware programmer, the OzXFlash software or any other compatible flashing software.


When the jumper block is connected to pins 1 and 2 you are unable to flash your OzXChip. This is the safest mode of operation to prevent accidental corruption of the bios installed on your OzXChip.

## OzXChip Enable Mode (Pins 4 & 5)

The OzXChip can be disabled by removing the jumper block from pins 4 & 5. The OzXChip Enable Mode relies on the onboard bios bypass wire being soldered to the jumper that is connected to pins 6 & 7. The basic installation method for the OzXChip does not allow this mode to function and as such you are required to use the installation method described in Part 4b of this manual to utilize this feature.

## Onboard bios bypass (Pins 6 & 7)

As shown in Part 4b of this manual a wire needs to be soldered onto the jumper that is connected to pins 6 & 7 to allow the OzXChip Enable Mode described above to function.

## Part 2. Disassembling the XBox.

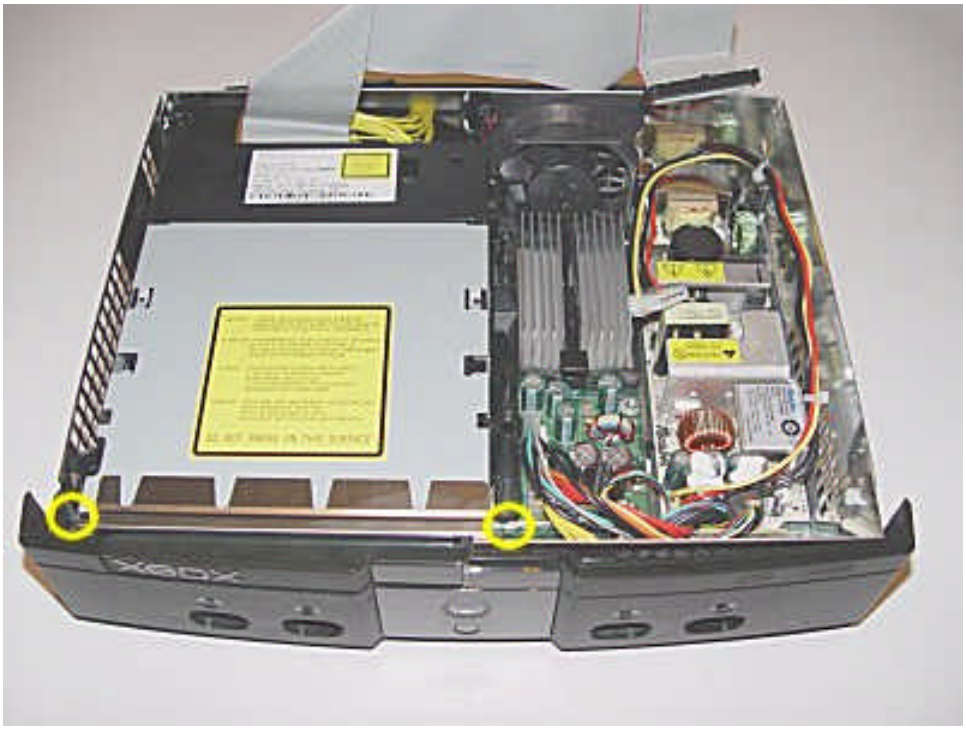
To disassemble your XBox console you must first remove the cover, you will need a Torx 20 screwdriver to do this and the image below indicates the location of six torx screws that must be removed.

You will need to lift the consoles feet up as displayed in the picture below to access four of the torx screws. The green circles above indicate the location of two torx screws that are hidden under stickers, remember that breaking these stickers will void your warranty but it is the only way that you can install the OzXChip.

Firmly remove the console's cover and you will reveal the contents of the Xbox!

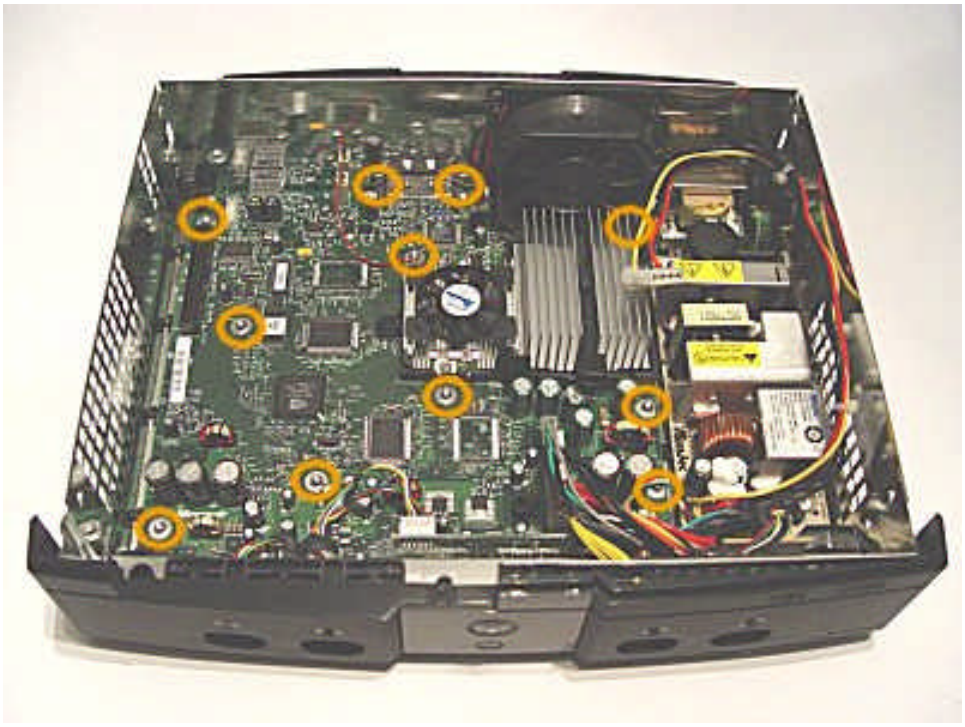
Now remove the IDE cable (marked in orange) and the power cable (blue) from the hard disk drive.
A torx 10 screw as indicated in green needs to be removed to allow the hard disk to be removed from the console.

With the hard disk removed you must now remove two torx 10 screws as indicated by the yellow circles.

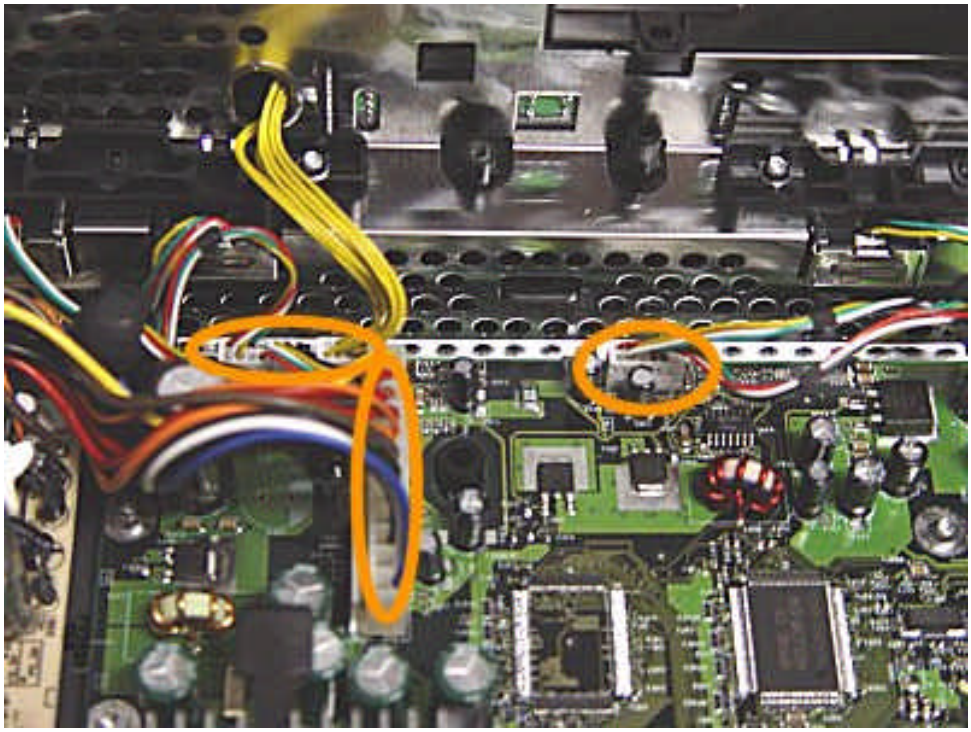


Remove the IDE and power cables from the DVD-Rom drive as indicated by the red and blue circles. You can then remove the DVD-Rom unit and the IDE & Power cables.

You can now clearly see the XBox's motherboard, to remove the motherboard you need to unscrew the eleven torx 10 screws as indicated by the orange circles. The fan on the GPU heatsink indicates a version 1.0 motherboard.

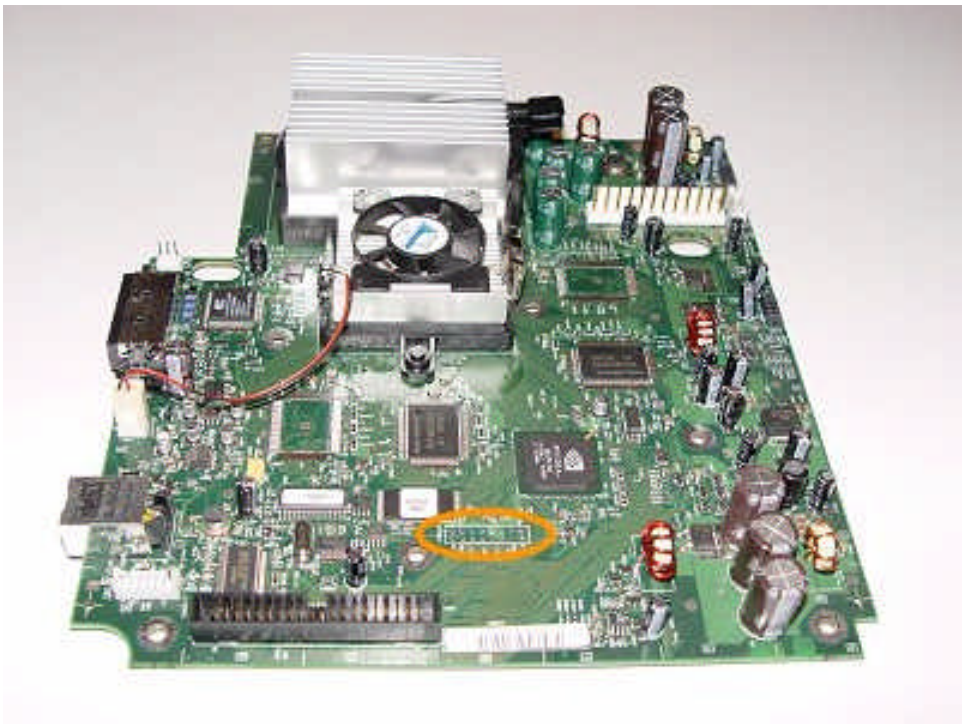


Once the screws have been removed you will need to remove the power supply connector and controller ports from the motherboard. In a version 1.0 motherboard the controller ports are connected to a daughter board that needs to be removed. The picture below shows a version 1.1 motherboard.



## Part 3 – Identifying the LPC port and installing the Female Header.

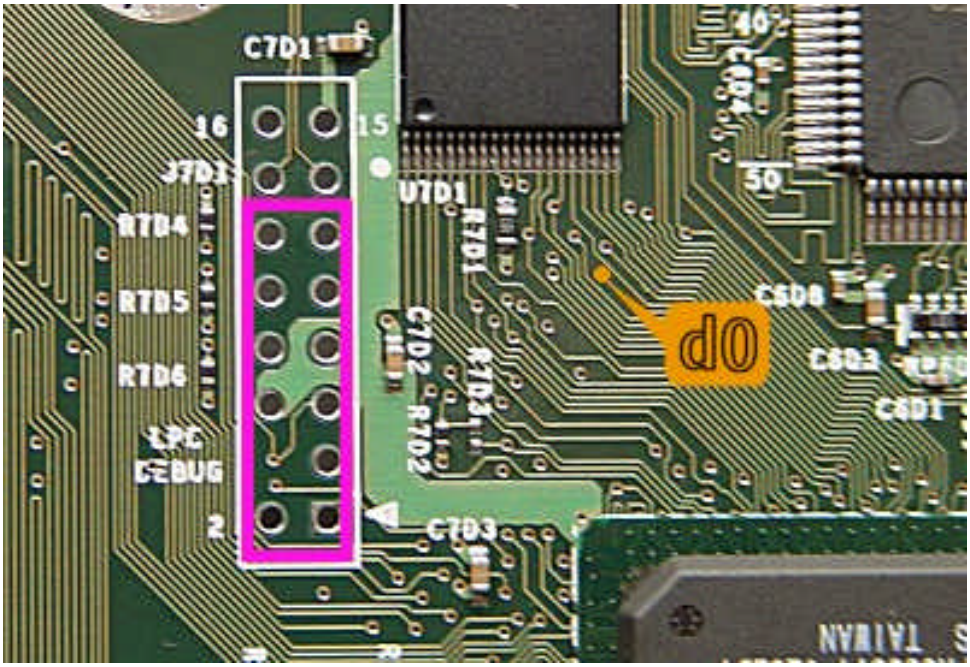
The following picture shows the location of the LPC port on the top side of the motherboard.



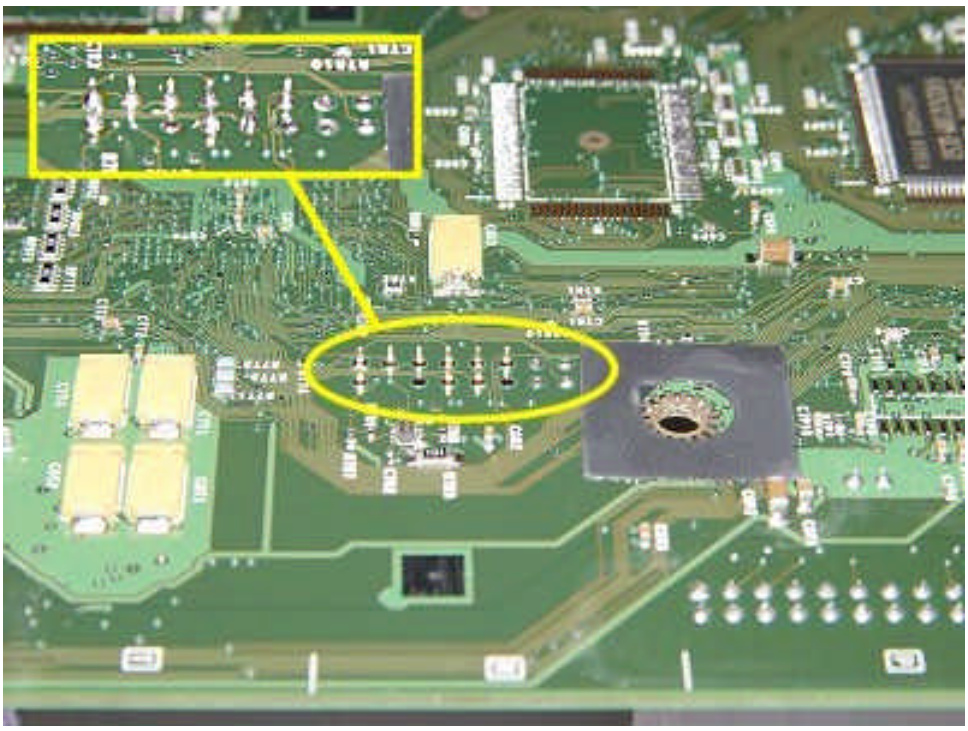
The picture below shows the location of the LPC port on the underside of the motherboard.

The installation of the OzXChip begins by mounting the female header into the LPC port.

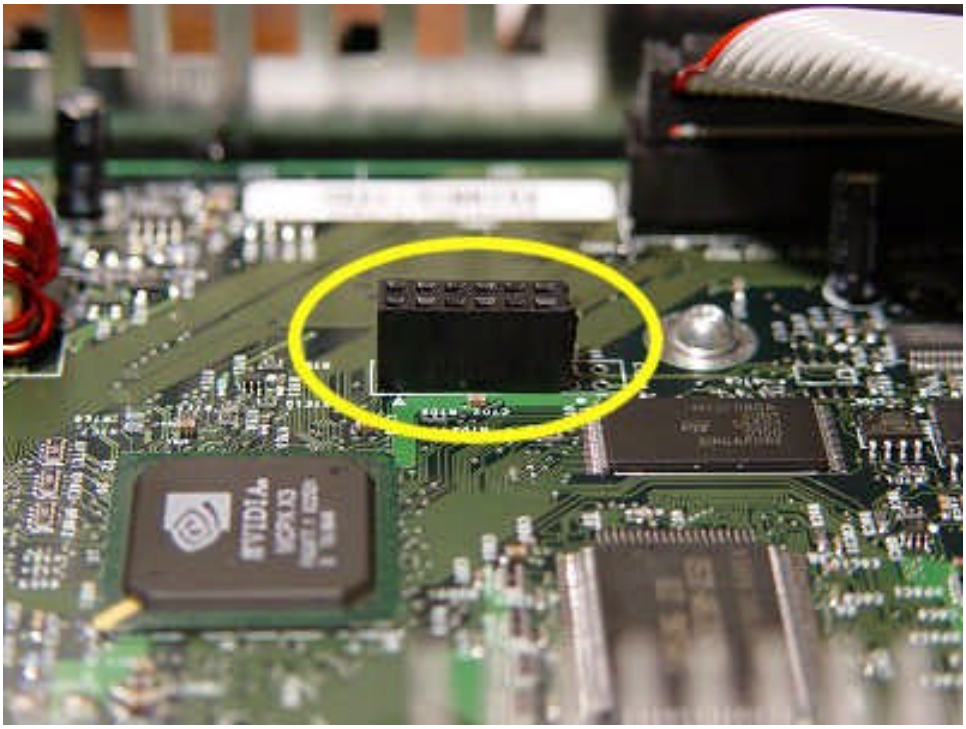
A version 1.0 motherboard will require the solder in the LPC port to be removed with de-solder braid or a solder sucker so that the header can be inserted. Most version 1.1 motherboards already have this LPC port free of solder as shown in the picture below. The pink rectangle in this picture indicates the placement of the female header, please note that the white arrow that is printed on the motherboard conveniently indicates the end at which the header should be mounted.




Once you have inserted the header into the points as indicated above you will need to it into position whilst you solder it in place from the underside of the motherboard as shown in the picture below.



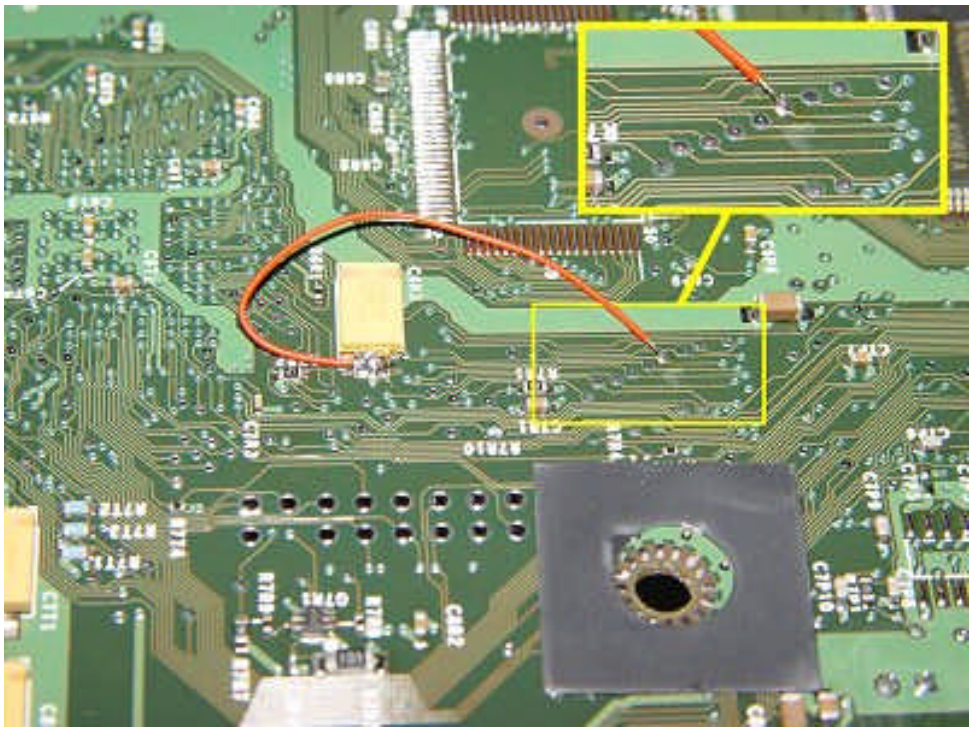
When your header is soldered in place it should look like the picture shown below.



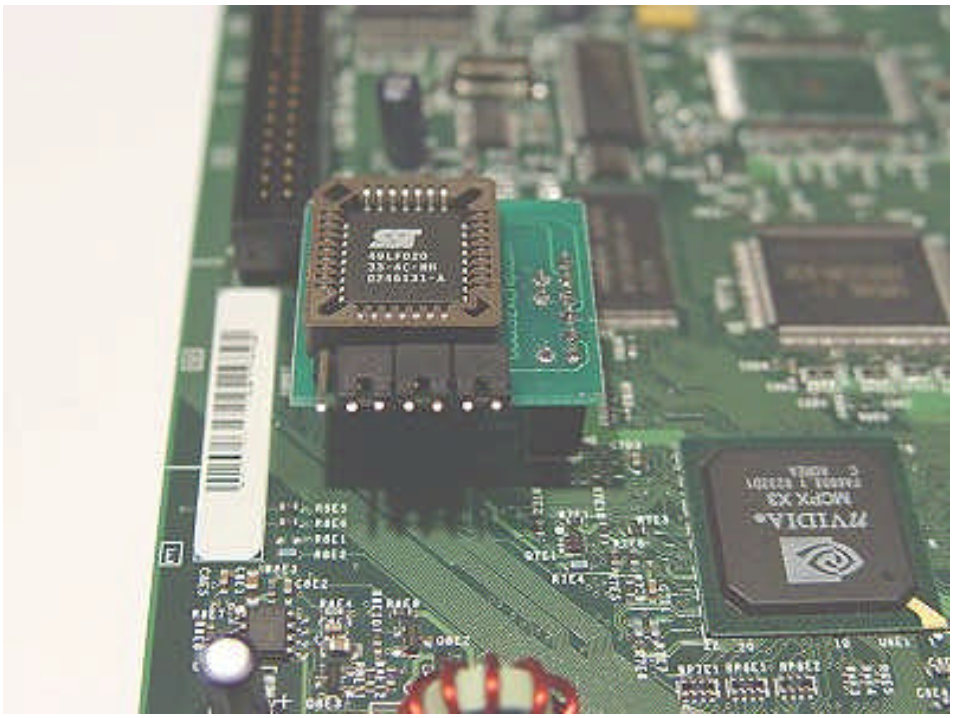
# Part 4a – Basic OzXChip Installation.

(This section of the manual is for installations of the OzXChip that do not utilize either switches for the writeprotection or the OzXChip enable mode features. If you wish to use a switch with these features please refer to Part 4b of this manual.)

Looking at the underside of the motherboard you will need to locate the area near the LPC port that is shown in the picture below. A piece of wire needs to be soldered at both ends onto the points shown below.



You can now mount the OzXChip on the female header and begin the reassembly of your XBox console.

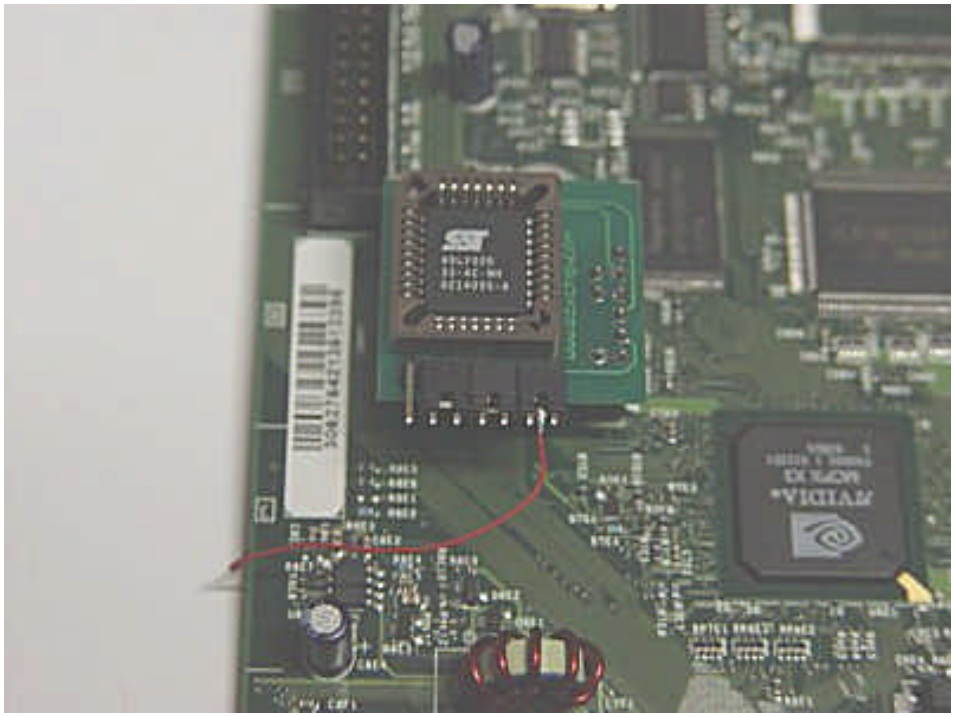


## Part 4b – Advanced OzXChip Installation with writeprotect & disable switches.

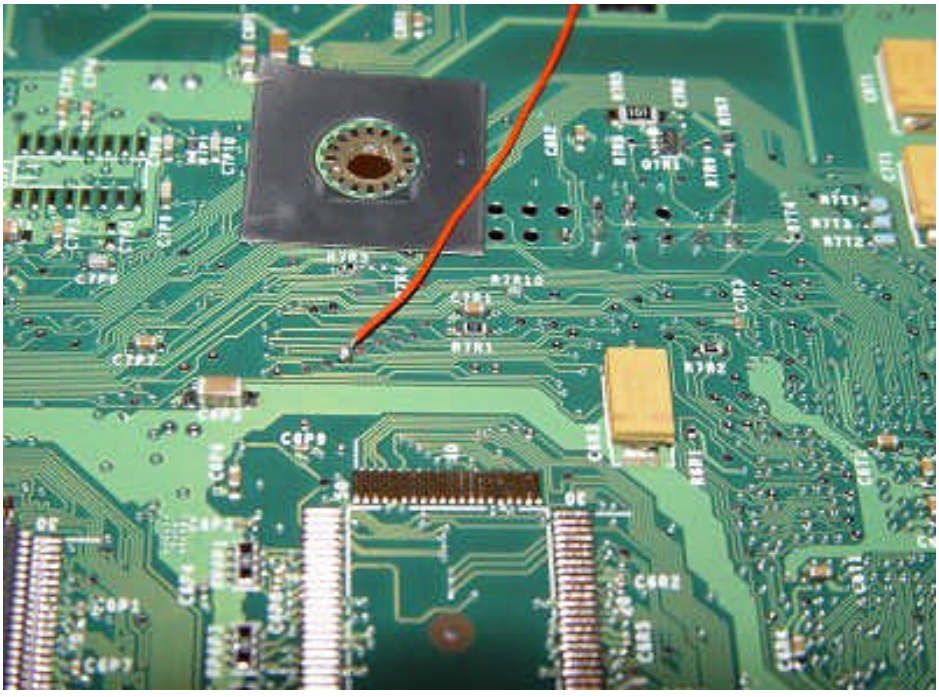
(This section of the manual is for installations of the OzXChip that utilize either a switch for controlling the writeprotection mode and/or a switch to disable the OzXChip. Ensure you have not performed the installation steps in Part 4a if using switches as shown in this section of the manual.)

Installation of the onboard bios bypass wire

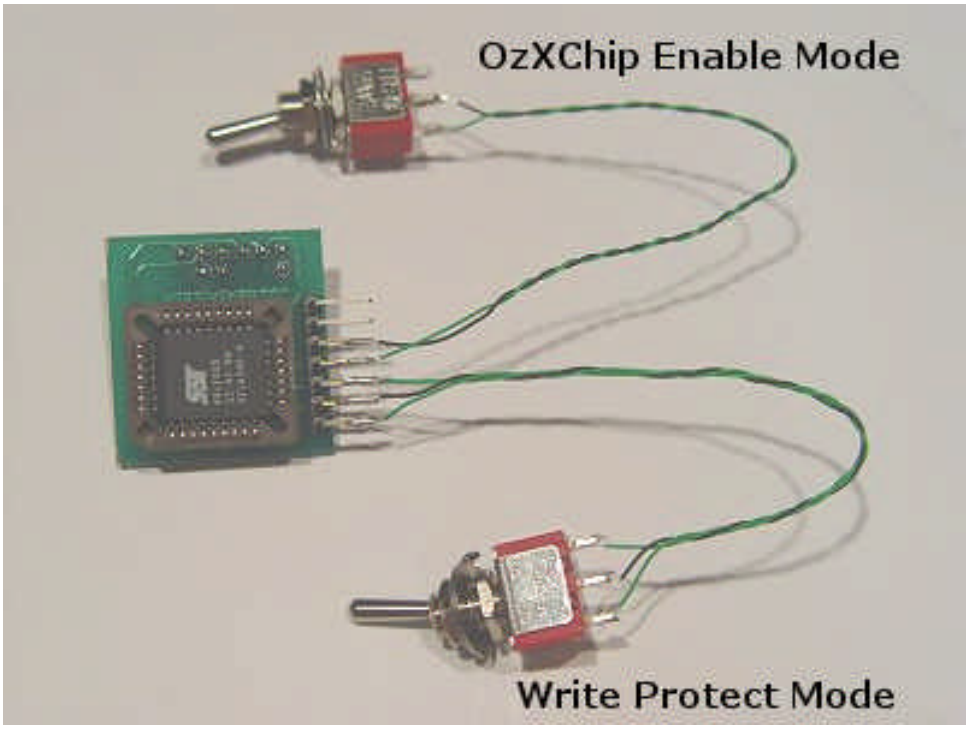
In it mandatory that this part of the installation is performed, solder a piece of wire onto the jumper block as shown below. You must ensure that you the wire is firmly soldered onto the jumper.



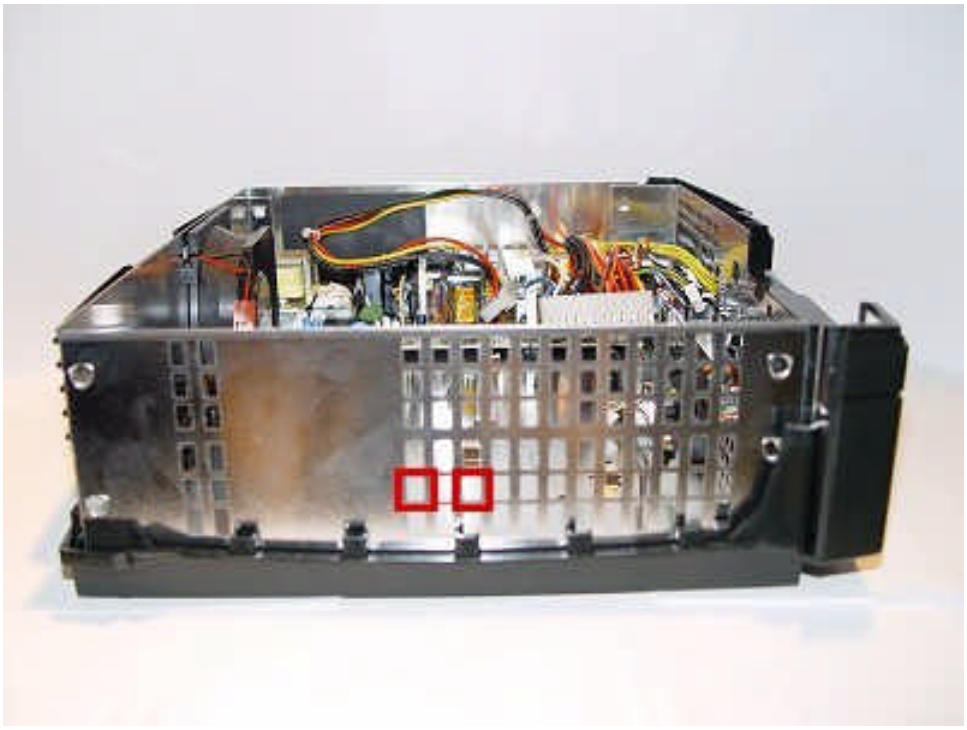
The other end of the wire needs to be soldered on the underside of the motherboard just near the LPC header as shown below.



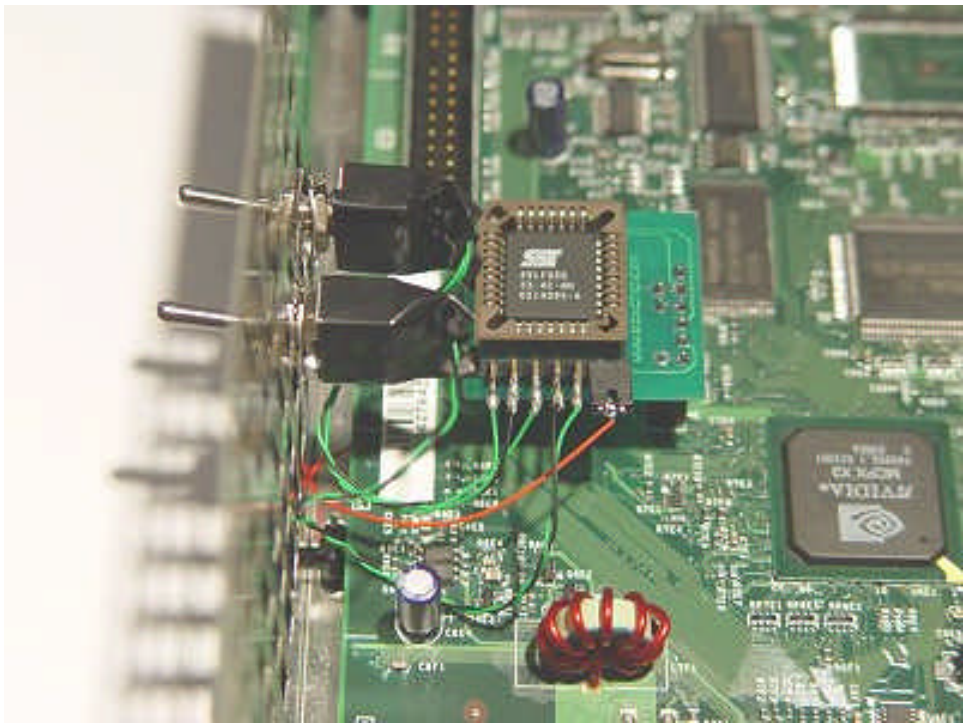
The following picture shows how to wire your switches to the OzXChip. Remember that you do not need to install both switches to utilize any one of these features. (Do not remove the jumper blocks unless you are replacing it with wires for a switch.)



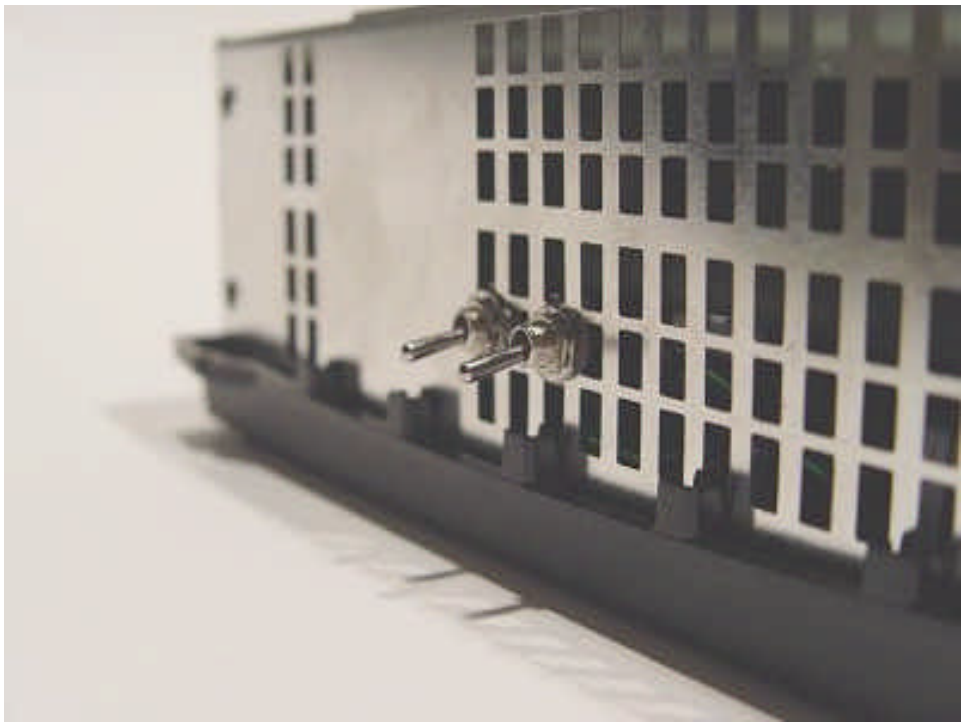

The following picture shows a suggested location for the mounting of your switches.



It is recommended that you wrap your switches with electrical tape if possible and firmly mount the switches into position. Ensure that the switches do not touch the OzXChip.



The picture below shows how the switches should look like from another angle.



To finish the installation of the switches you will need to cut two small sections of the side grill out from the cover of your XBox as shown in the picture below.

Your console can now be reassembled. Remember to try all combinations of switch settings if you experience difficulties during the use of your console.

## Part 5 – Troubleshooting

After disassembling your XBox there are a number of things that can prevent your console from operating correctly. You may experience trouble when booting the console and you would be presented with either a flashing Eject LED or a Service Code on screen. The following are a description of these errors and some hints that may assist you rectify the problem.

Flashing LED Error Codes.

GREEN/RED Flashing: Probably a bad chip, bad installation or bad bios image. Check that the OzXChip is installed in the correct direction on the header and check your soldering of the header on the motherboard. To determine if this fault is related to the installation of the OzXChip and return to the onboard bios simply remove the wire or set your toggle switch to disable the OzXChip.

SOLID GREEN/No EJECT/No AUDIO/No VIDEO: Probably a bad solder point. Check all your points again. It could also be a heat problem, make sure your fan is connected and don't put your xbox near heat sources. You can also try to open the top of the xbox and check if it goes better.

SOLID GREEN/No AUDIO/No VIDEO: This is probably a problem with your audio settings. Try to boot your XBox with a standard A/V pack instead of a HD pack.

ORANGE/GREEN Flashing: No AUDIO/VIDEO (A/V) pack.
This may be caused by solder splash on the motherboard or a damaged track.

ORANGE Flashing: This may also be down to a solder splash on the board or a damaged track. May also be due overheating.

SOLID RED: System overheated, hardware failure!

Service Error Codes.

5 - kernel - HDD not locked (retail bioses require the HDD to be locked)

6 - kernel - Cannot unlock HDD

7 - kernel - HDD timeout

8 - kernel - No HDD found

9 - kernel - HDD parameters (PIO/DMA/or size {debug}, certain size minimum is required for debug)

10 - kernel - DVD timeout

11 - kernel - No DVD Found

12 - kernel - DVD parameters (PIO/DMA)

13 - kernel - Dashboard launch fail (due to missing/bad key, or anything else that would prevent it from running) and the dashboard didn't specify why it failed.

14 - dashboard - Error loading dashboard (dashboard generic error)

16 - dashboard - Other files to do with dashboard / dashboard settings (specific dashboard error)

20 - kernel - The dashboard was attempted to load and failed; It was a cold boot, and the dashboard didn't specify why it failed, but it (for some reason) needed to be noted that the DVD passed the challenge/response authentication

Credit goes to Superfr0 for his interpretation of these service codes and his awesome contribution to the XBox scene.

## Part 6 – Disclaimer

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

The OzXChip is designed for use as a development tool and is shipped blank so that the end user is able to install their own bios. The developers of the OzXChip are aware that various hacked bios versions are available that contain copyrighted Microsoft code and can be used for piracy and in no way do we endorse or condone the use of such bioses. Our primary purpose for the development of this device is to encourage hobbiests to exploit the full capabilities of their console through the use of the legal Linux bios. For further information regarding Linux on the XBox we encourage you to visit http://xbox-linux.sourceforge.net/

For more information please check out our website at http://www.ozxchip.com