Original Xbox V1.0 & V1.1 V_CPUCORE Voltage Adjustment for PIII TUALATIN CPU's

This document explains the adjustments that need to be performed to suit the OX CPU upgraded boards with the correct core voltages to suit the PIII TUALTIN Processors. These adjustments have been tried and tested on multiple units and works as it should. Taking these steps is a process that can damage your console,if done incorrectly and I take no responsibility if you mess things up.

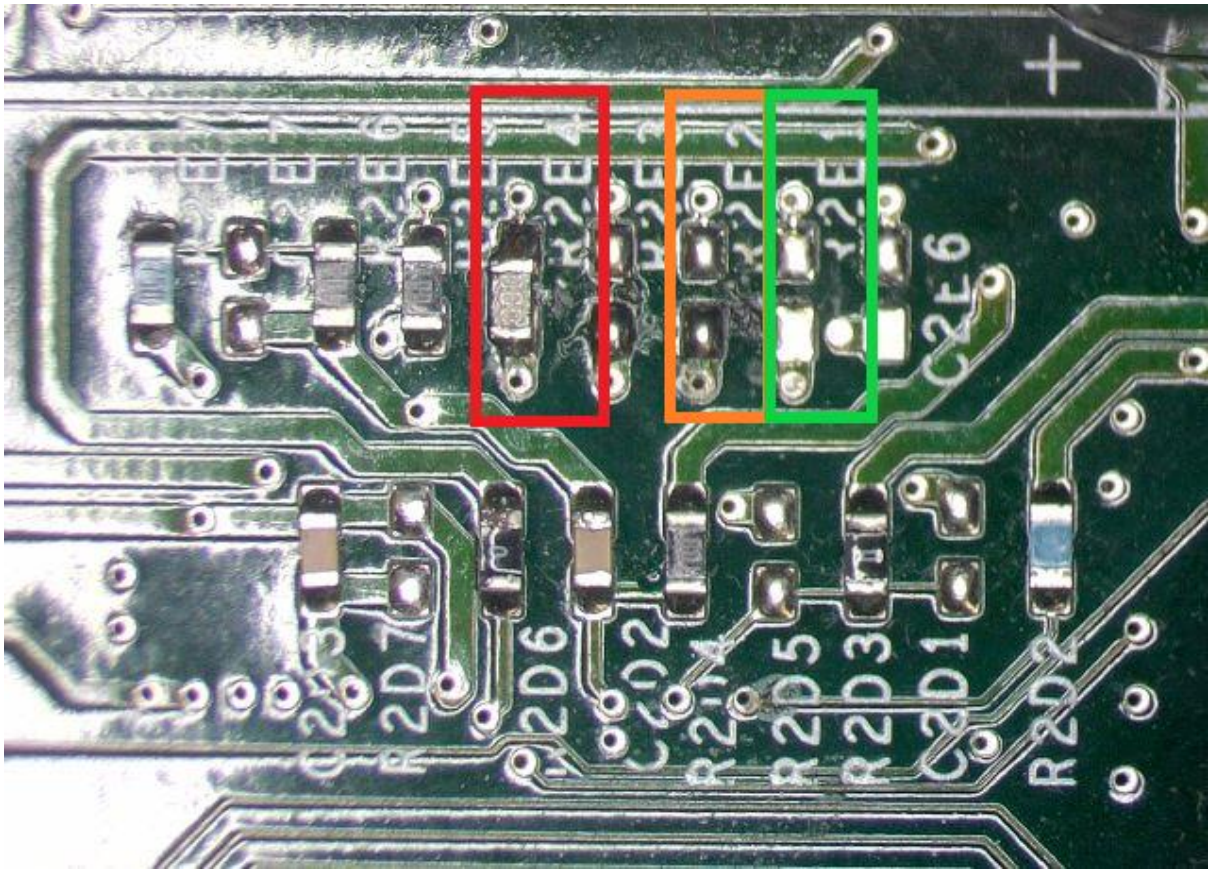
The V1.0 and V1.1 Original Xbox's have by default the SC1186 regulator and allows VID adjustments for the CPU Core Voltage. This document will show you how to adjust the Core Voltage between 1V4 and 1V45.

STEP 1: is to remove the 0 ohm resistor from R2E4

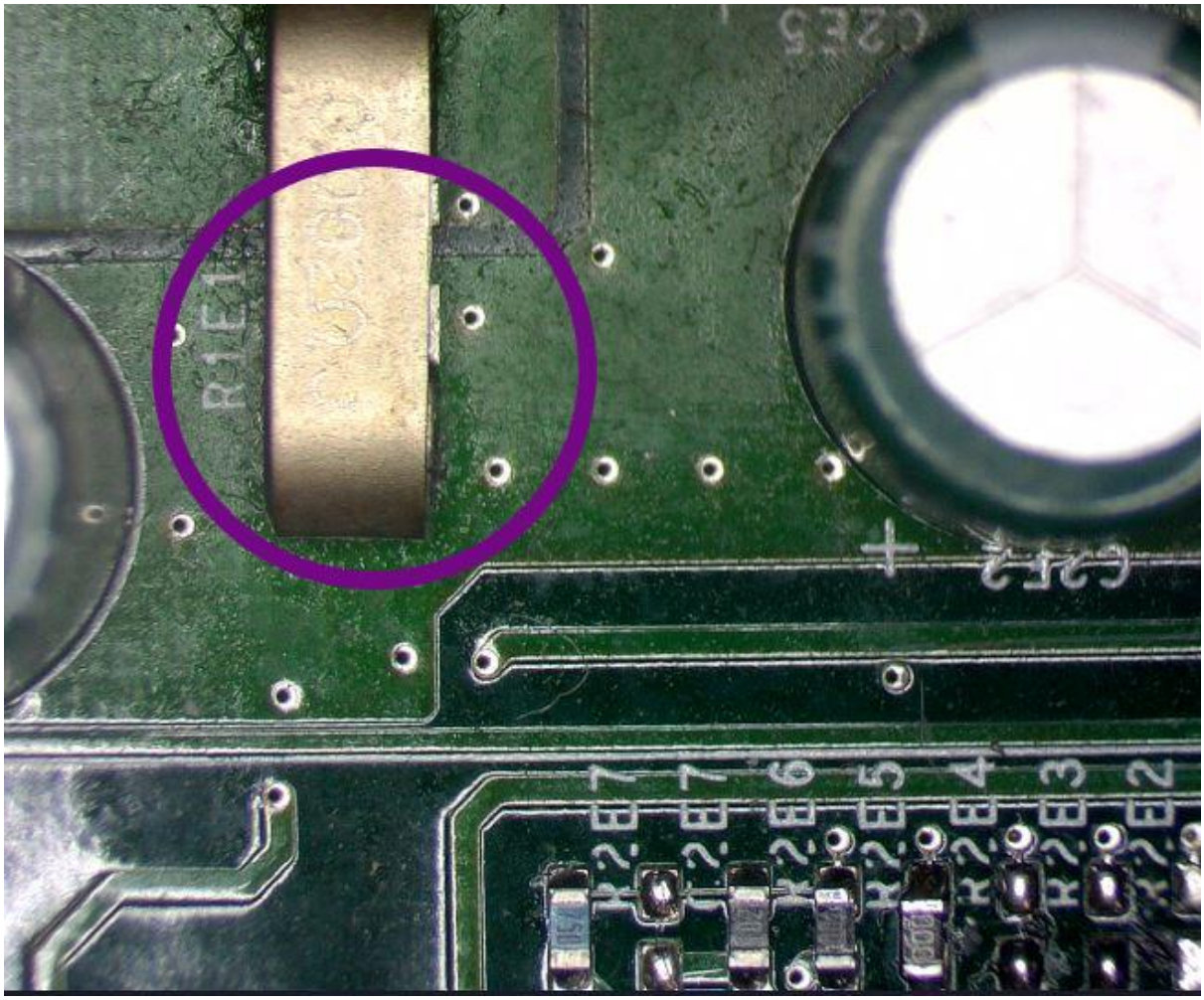
STEP 2: OPTION 1 - Populate R2E2 with an 0 ohm for 1V4 (1.40v)

STEP 2: OPTION 2 – Populate R2E2 and R2E1 with 0 ohm resistors for 1v45 (1.45v)

Use either option in STEP 2 that suits you and has stability with the console. Below is a picture of the resistors on the board and their correlating colours to the steps.



The CPU V_CORE can be tested at R1E1



Below is the VID table for the SC1186 in case you want to make any other voltage adjustments and the schematics for the resistors correlating to the VID layout. **(0 is populated and 1 is open)**

SEMTECH

SC1186

POWER MANAGEMENT

Applications Information - Output Voltage Table

Unless specified: 4.75V < VCC < 5.25V; GND = PGND = 0V; VOSENSE = V_o; 0mV < (CS+-CS-) < 60mV; = 0°C < T_j < 85°C

Parameter	Conditions	Vid 43210	Min	Typ	Max	Units
Output Voltage (1)	I_o = 2A in Application circuit (Figure 1)	01111	1.277	1.300	1.323	V
		01110	1.326	1.350	1.374	
		01101	1.375	1.400	1.425	
		01100	1.424	1.450	1.476	
		01011	1.478	1.500	1.523	
		01010	1.527	1.550	1.573	
		01001	1.576	1.600	1.624