

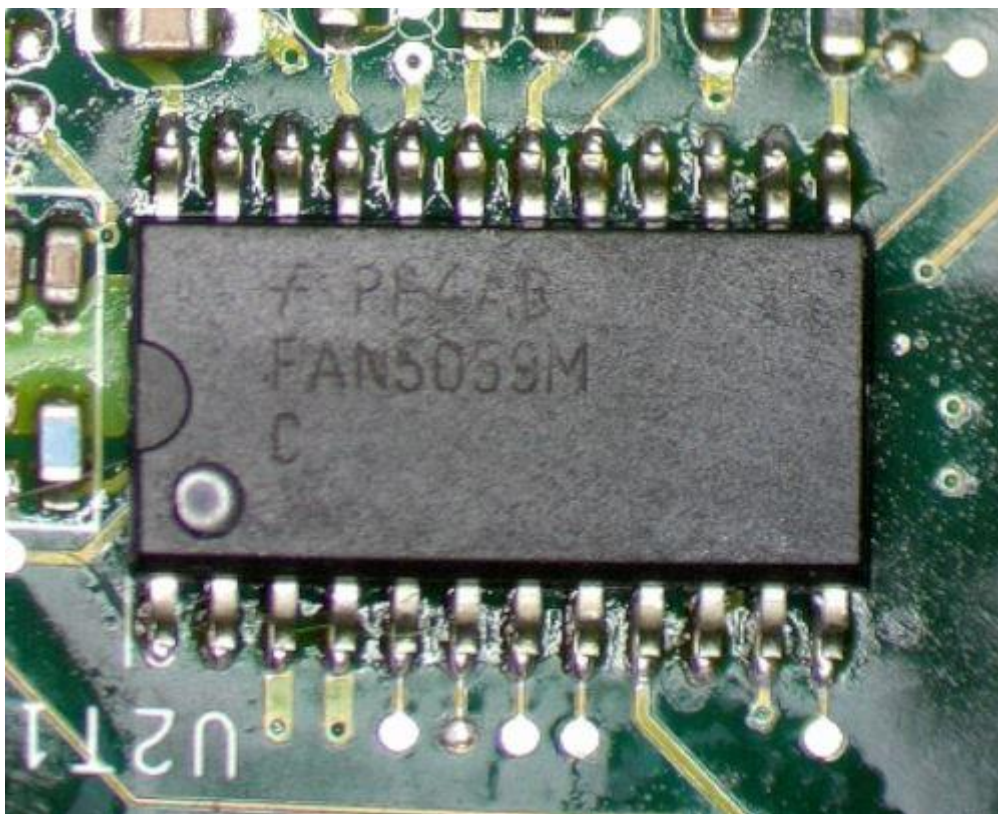
V1.6 OG XBOX 1.4GHZ CPU V_CPUCORE Modifications

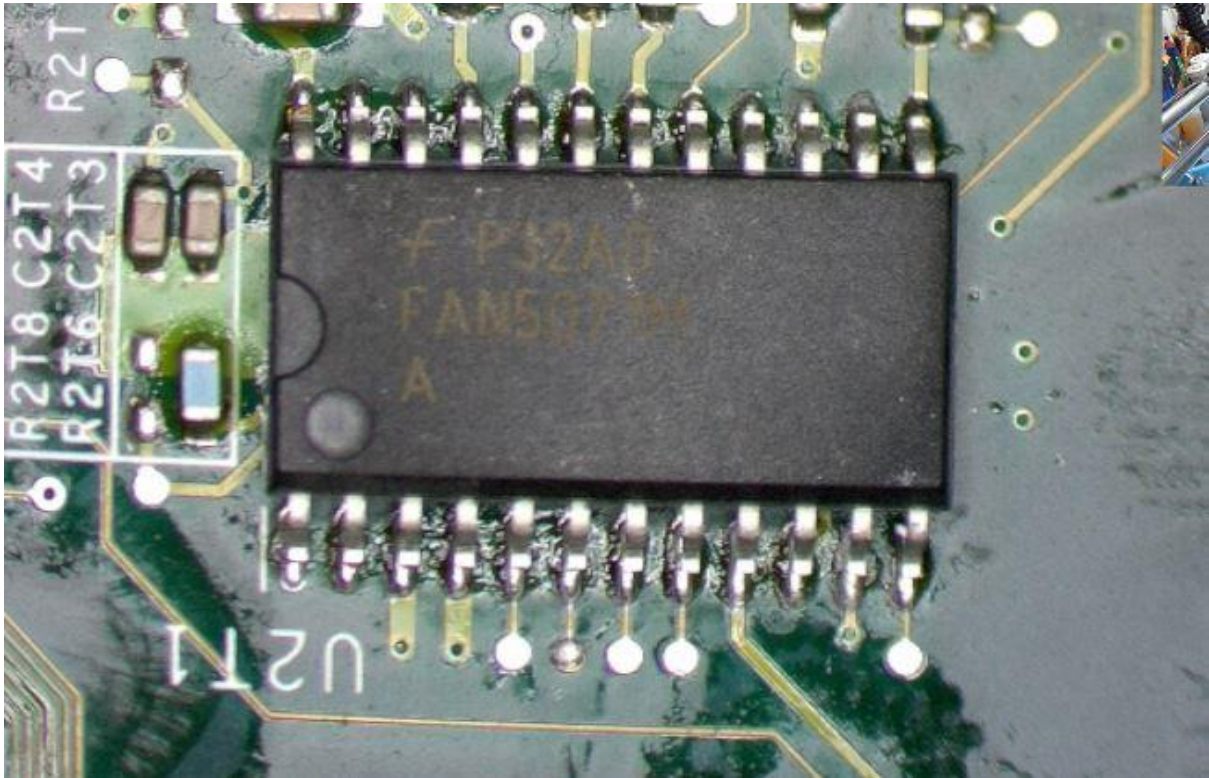
This document is solely for the purpose of adjusting the V_CPUCore voltage for a V1.6 Original Xbox with a **1.4GHZ TUALATIN CPU** installed. Make adjustments at your own risk.

We have tried and tested this method with great results and great temperatures for the V1.6 upgraded CPU system. The adjustments in this documentation provide V1.33-1.37 to the VFB line which provides V1.38-1.43 to the CPU Core between using either setting below. You can make finer adjustments with the VID lines on the V1.6 at your own risk. There are images of the VID layout and the FAN5071 VID table if you require making other adjustments.

Firstly the OG CPU DC-DC regulator only supplies max 18W to the CORE and the TUALATIN PIII requires uses more than the OG regulator(FAN5059-U2T1) can supply to the upgraded CPU. The FAN5059 needs to be swapped out with an FAN5071 DC-DC regulator as it can supply up to 30W for the upgraded CPU.

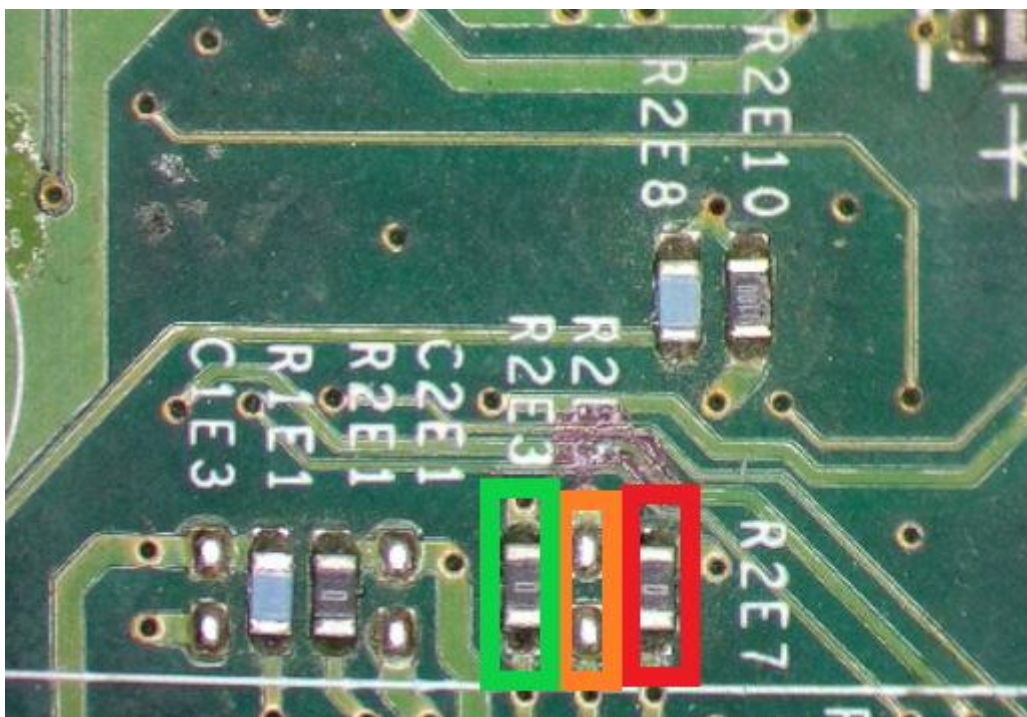
STEP 1: Remove the current FAN5059 and replace it with an FAN5071 regulator. It is located on the underside of the board below the CPU area. Below is a picture of the FAN5059 and below that is the FAN5071 in it's place.



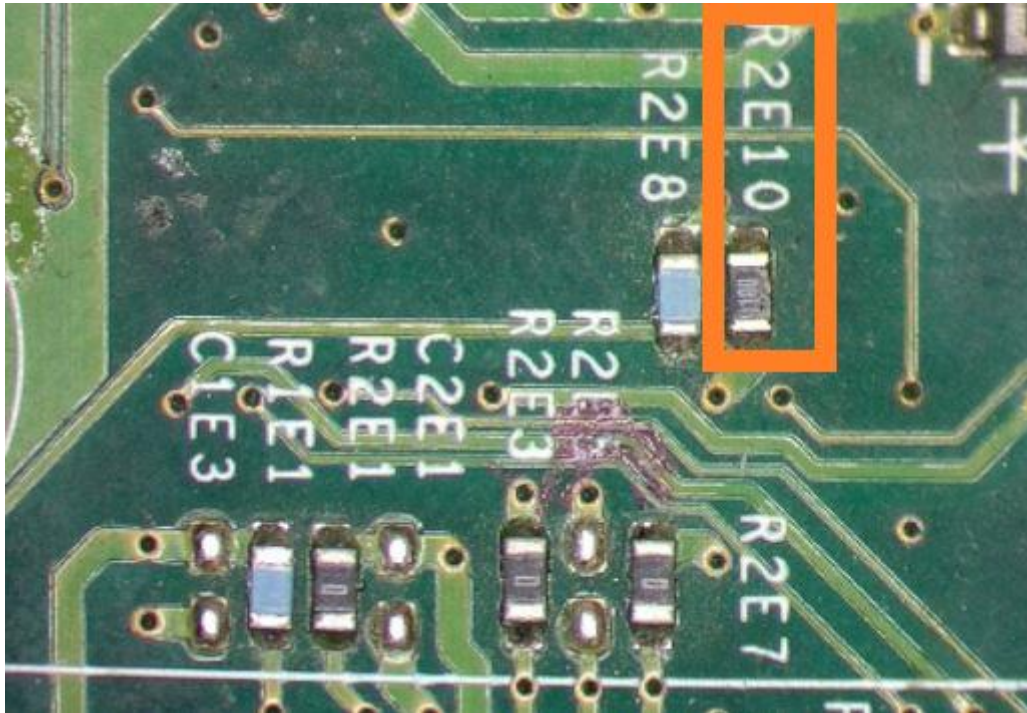


STEP 2: Adjust the VFB VID lines to suit. *****(1.425V)** This requires removing the 0 ohm resistor from **R2E7** and moving **R2E3** to **R2E5**. *****(1.35)** This requires Removing **R2E7** and leaving **R2E3** populated.

Run either of these 2 voltage adjustments to which the console runs stable. Findings show that some units do not like the lower 1.35VFB and games freeze on boot but run stable on 1.425VFB

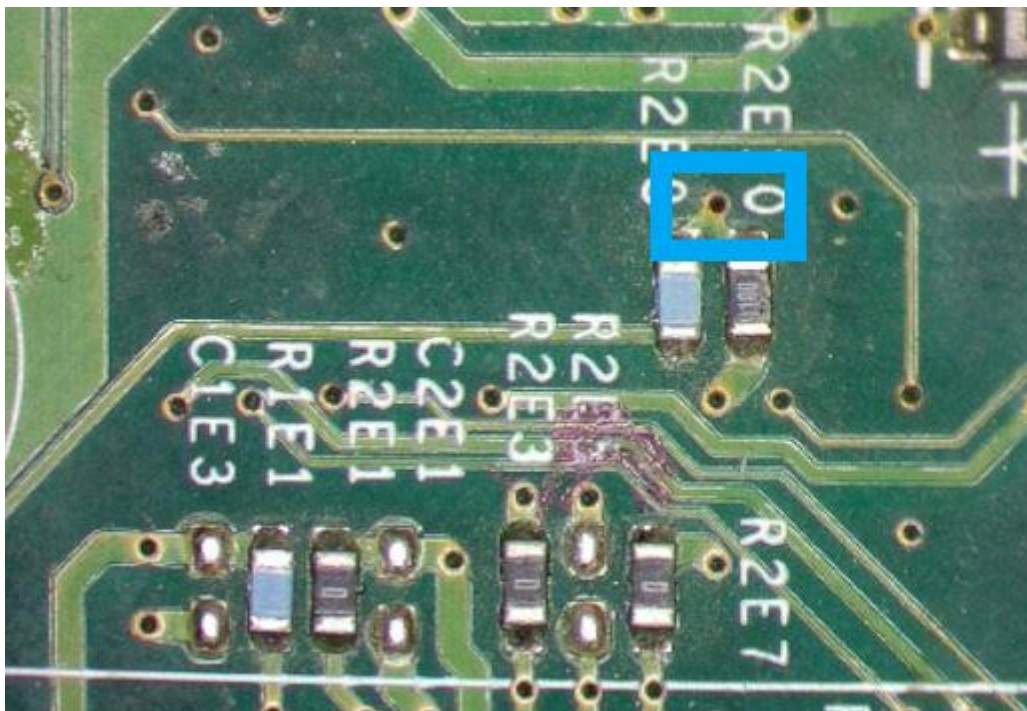


STEP 3: Adjust the divider on the VFB(Voltage Feedback) line. This is done by removing the default 110 ohm resistor located at **R2E10** and replacing it with an 330 ohm resistor.

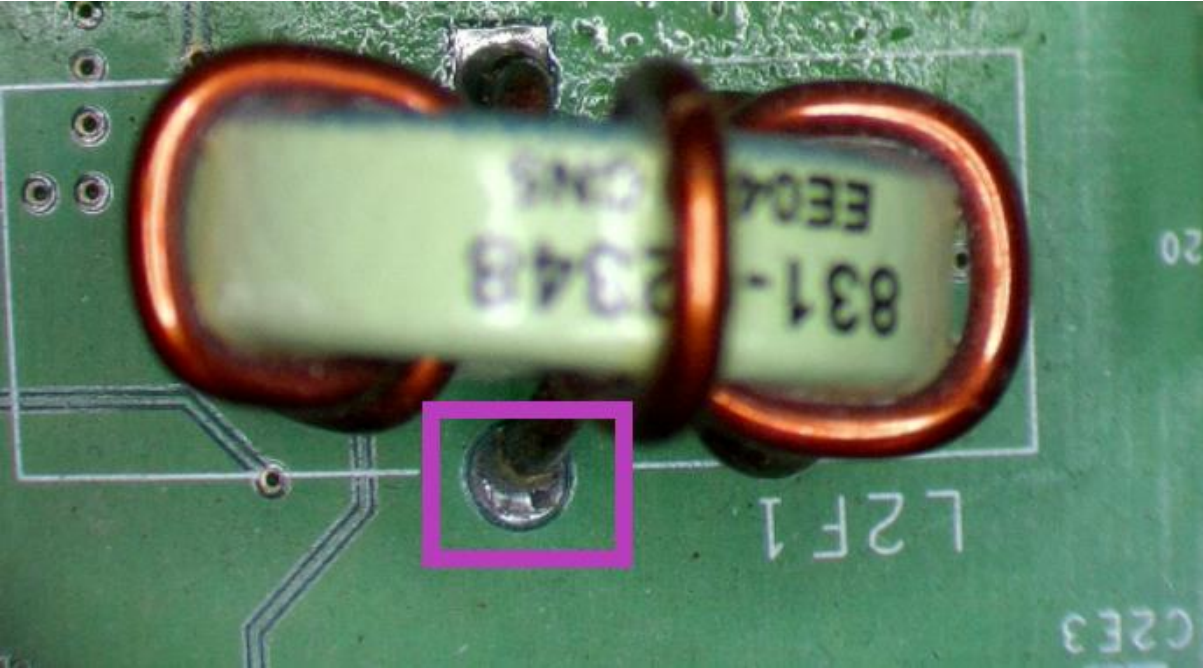


That's it!

You should now have V1.33 at the VFB line and V1.37/8 at the CPU Core line. VFB can be tested at the [VIA](#) between R2E8 and R2E10. Or at the resistors themselves.



The CPU core voltage can be tested at the coil at L2F1 and should read V1.38-1.42 depending on the voltage adjustments you went with.



Below are a screen shot of the VID layout for the V1.6 and the VID Table for the FAN5071.

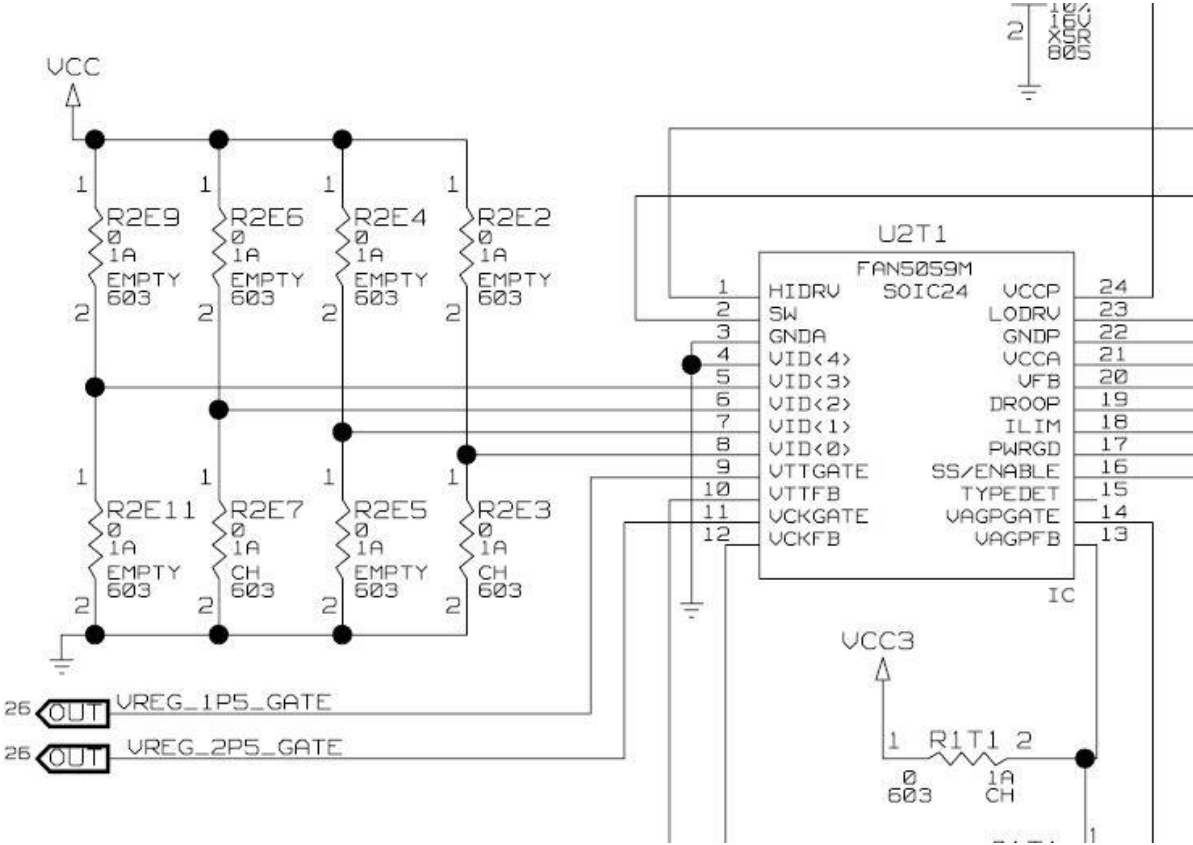


Table 1. Output Voltage Programming Codes for FAN5071

VID25mV	VID3	VID2	VID1	VID0	Nominal V _{OUT}
0	0	1	0	0	1.050V
1	0	1	0	0	1.075V
0	0	0	1	1	1.100V
1	0	0	1	1	1.125V
0	0	0	1	0	1.150V
1	0	0	1	0	1.175V
0	0	0	0	1	1.200V
1	0	0	0	1	1.225V
0	0	0	0	0	1.250V
1	0	0	0	0	1.275V
0	1	1	1	1	1.300V
1	1	1	1	1	1.325V
0	1	1	1	0	1.350V
1	1	1	1	0	1.375V
0	1	1	0	1	1.400V
1	1	1	0	1	1.425V
0	1	1	0	0	1.450V
1	1	1	0	0	1.475V
0	1	0	1	1	1.500V
1	1	0	1	1	1.525V
0	1	0	1	0	1.550V
1	1	0	1	0	1.575V
0	1	0	0	1	1.600V
1	1	0	0	1	1.625V
0	1	0	0	0	1.650V
1	1	0	0	0	1.675V

CREDITS go to Myself(ACE) – Andr0(AndrZero) and WackeDMaN