



# 12CH Module ECO # 4

DARK ENERGY  
SURVEY

- Modification to restrict the range of Bias Voltage settings.

	Current DAC Settings			Current Output		"New" DAC Settings			"New" Output	
	Low(V)	High(V)	Gain	Low(V)	High(V)	Low(V)	High(V)	Gain	Low(V)	High(V)
Vsub	-2.5	10	x4	<b>-10</b>	<b>40</b>	0	10	x4	<b>0</b>	<b>40</b>
Vog	-2.5	5	x1	<b>-2.5</b>	<b>5</b>	0	5	x1	<b>0</b>	<b>5</b>
Vdd	-10	2.5	x2.5	<b>-25</b>	<b>3*</b>	-10	0	x2.5	<b>-25</b>	<b>0</b>
Vr	-10	2.5	x1.5	<b>-15</b>	<b>3*</b>	-10	0	x1.5	<b>-15</b>	<b>0</b>
*limited by output amp power supply										

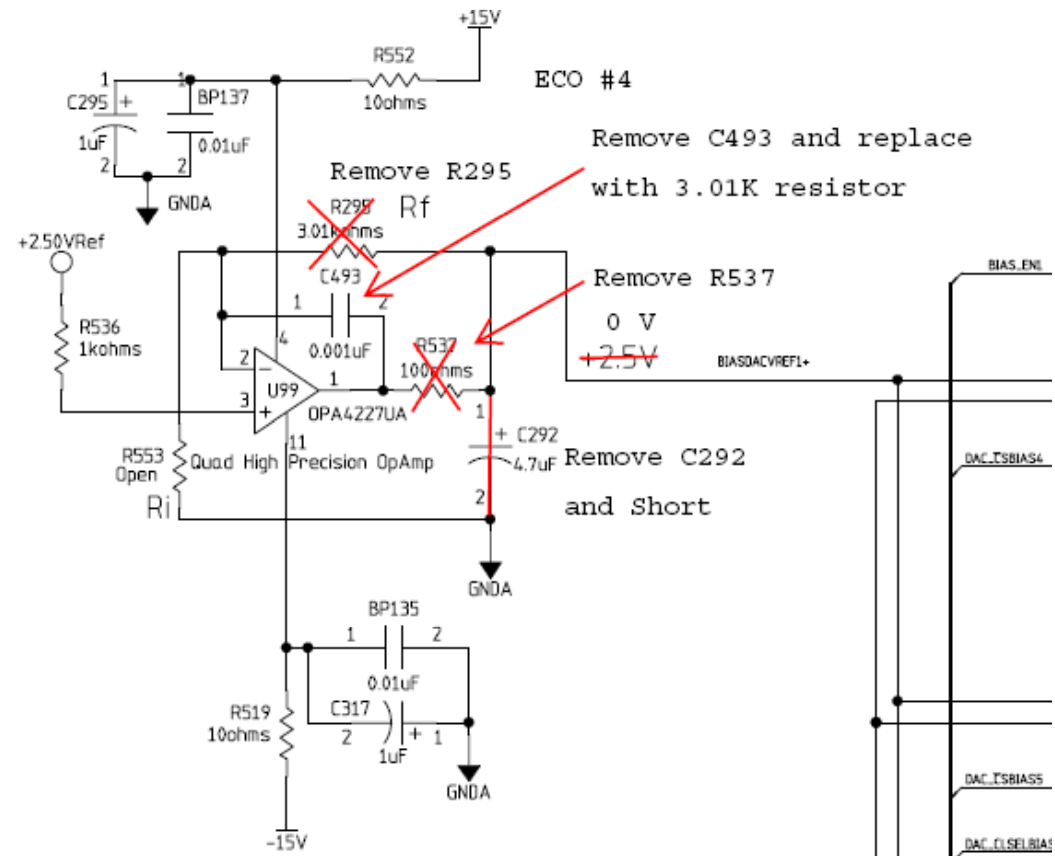
- We can further restrict possible settings with firmware if needed!
- Also, we have eliminated a control bit which could be used to set all DACs to low or mid range – firmware change.



# Change Vr DAC reference

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- Remove
  - R295
  - R537
- Remove C292 and short
- Remove C493 and replace with 3.01K resistor

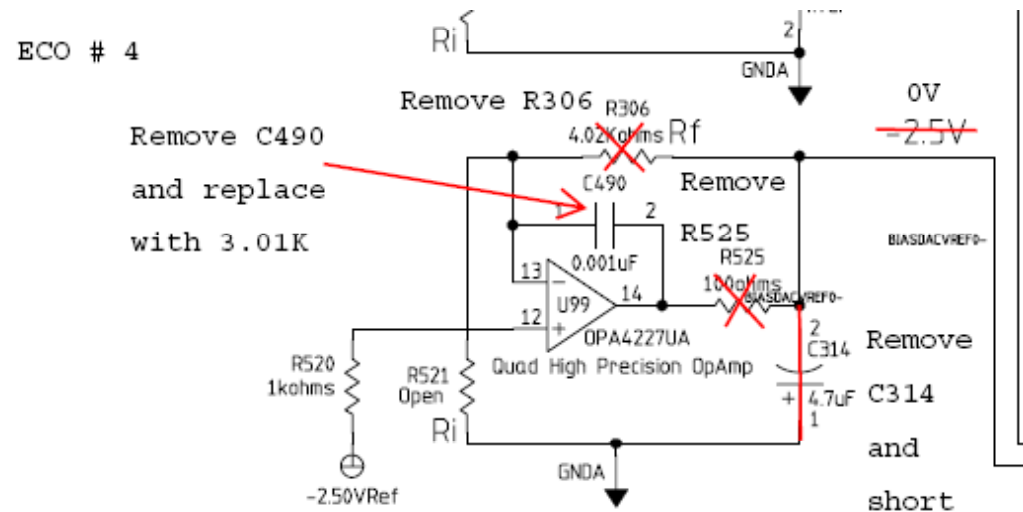




# Change Vsub DAC reference

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SURVEY

- Remove
  - R306
  - R525
- Remove C314 and short
- Remove C490 and replace with 3.01K resistor





# Change Vog and Vdd DAC reference

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- Remove
  - R539, R297
  - R555, R298
- Remove C310 and C312 and short
- Remove C502 and replace with 3.01K
- Remove C503 and replace with 3.01K resistor

