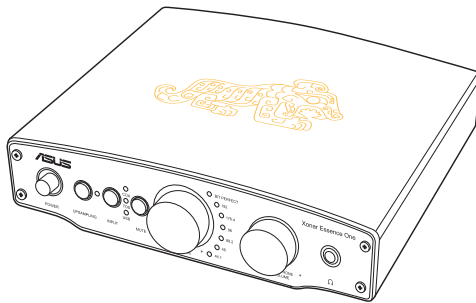


Xonar Essence One

Hi-Fi USB DAC (Digital-to-Analog Converter)

Opamp Swap Guide

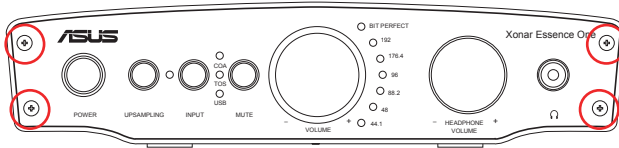


Third Edition
Oct. 2012
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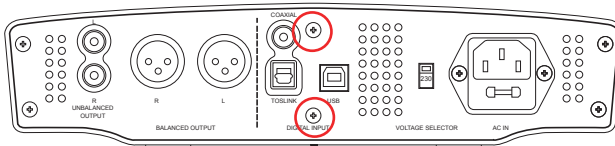
1. Disassembly

1. Loosen the four screws in the front panel and the two screws in the rear panel with a screwdriver.

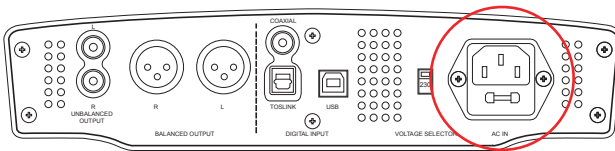
Front Panel



Rear Panel



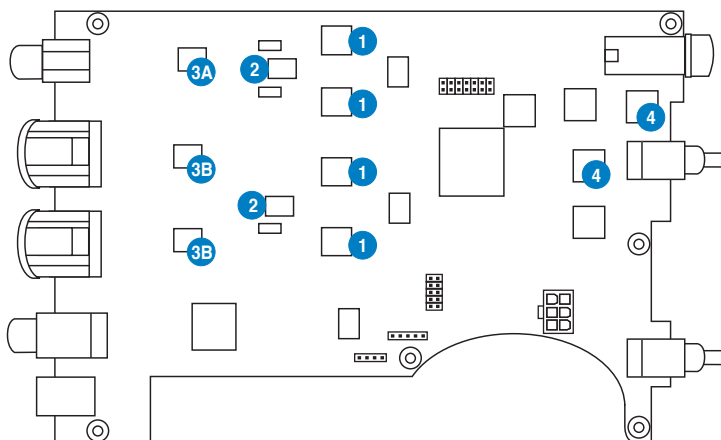
2. Push the power connector on the rear panel to remove the machine bed (including the PCB board and power module) from the machine housing.



2. Swap Guide



Change all the OP-amps of the same types in the same slot. For example, if you need to change DAC I/V (slot 1), you would need to change all the OP-amps of the same types in all slot 1. If you need to change DAC buffer (slot 2), you need to change the OP-amps of the same types in all slot 2.



1. Serves as I/V (current to voltage convertor) that turns current from DAC into voltage for output purpose. Changing this will affect all outputs (including Headphone output, RCA output and XLR output).
2. Serves as Low Pass Filter that filters background noises. Changing this will affect all outputs (including Headphone output, RCA output and XLR output).
- 3A. Serves as buffer that enhances the output signal for the speaker. Changing this will affect the RCA output.
- 3B. Serves as buffer that enhances the output signal for the speaker. Changing this will affect the XLR output
4. Serves as buffer that enhances the output signal for the headphone. Changing this will affect the headphone output.

Output Opamp	All outputs (Headphone output, RCA output, XLR output)	Headphone output	RCA output	XLR output
1	√			
2	√			
3A			√	
3B				√
4		√		

Recommended OPamp List

Brand	Model name
NS	LME49860
NS	LME49720NA
NS	LM4562NA
TI	OPA2111
TI	OPA2132
TI	OPA2107
ADI	OP275
ADI	AD823
NJRC	MUSE01
NJRC	MUSE02

Sound Impression

The following table lists the sound impression brought by different combinations of op-amp pairing.

DAC I/V Slot 1	DAC buffer Slot 2	Sound Impression
TI – OPA2107	TI – OPA2132	Brighter vocal, slightly less bottom sound
TI – OPA2107	NS – LME49860	Even brighter than the above combination, and more detailed with less but tighter bottom sound
NS – LME49720	NS – LM4562NA	Less warm than stock OP-amps, more extensive detailed and dampened mid-range, Essence ST/STX style
NS – LM4562NA	NS – LM4562NA	Wider sound stage but less detailed than the above combination
NS – LM4562NA	NJRC – MUSE02	Powerful, punchy sound with good sound stage; less detailed present.
NS – LME49720NA	NJRC – MUSE02	Brighter, thinner sound and more detailed than the above combination

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