



Asus Essence One Series User Manual

Hi-fi usb dac (digital-to-analog converter)

1	
2	
Table Of Contents	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	

18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

--

•

[Table of Contents](#)

•

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Essence One Series[®]



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

User Guide



[Table of Contents](#)

[Next Page](#)

1
2
3
4
5

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Summary of Contents for Asus Essence One Series

[Page 1: User Guide](#)

Essence One Series Hi-Fi USB DAC (Digital-to-Analog Converter) User Guide...

[Page 2](#) Product warranty or service will not be extended if: (1) the product is repaired, modified or altered, unless such repair, modification or alteration is authorized in writing by ASUS; or (2) the serial number of the product is defaced or missing.

[Page 3: Table Of Contents](#)

Contents Safety Information4 Voltage Selection4 Repairs4
Fuses4 Other Safety Information5 Philosophy 6 Design
Story6 Feature Summary 7 Product Line Up9 Design Highlights
..... 9 Package contents..... 11 Driver installation12 Functionality
.....

[Page 4: Safety Information](#)

Actually, the AC input has a very wide input voltage range and can operate over a frequency range of 47.5 to 52.5 or 57 to 63 Hz. At 115, the Essence One Series will operate normally over a range of 95 to 132 VAC. At 230, the Essence One Series will operate normally over a range of 190 to 264 VAC.

[Page 5: Other Safety Information](#)

ASUS Essence One Series...

[Page 6: Philosophy](#)

2007 to build the ASUS brand in the audio industry. This gives our ASUS brand a more stable foundation through gradual growth, making it possible to move into the Hi-Fi/audiophile market.

[Page 7: Feature Summary](#)

Aesthetically Pleasing ASUS is well known for its quality control, but beyond the hard and cold facts of humidity storage and drop test, there's the soft appeal and the intrinsic properties that we look into when it comes to material selection. Whether it is sweat-proof and...

[Page 8](#) However, the jitter is worse if the transfer rate is a lot different between PC and Device. For the Essence One Series, the USB DAC monitors the PC clock transfer speed and adjusts the data transfer speed accordingly based on a buffer status to the system.

[Page 9: Product Line Up](#)

- Robust Capacitor WIMA FKP2 capacitor serves as a stable water reservoir for stabilizing power source, hence reducing ripples.
- Toroidal transformer Specially designed toroidal transformer to reduce hysteresis loss and prevent easy worn-out.

ASUS Essence One Series...

[Page 10](#) 384kHz/ 24Bit 8X Upsampling Technology While common upsampling USB DACs just transfer whatever audio source to 192kHz indistinguishably, Essence One Series upsamples 44.1/88.2 /176.4kHz input to 352.8kHz and 48/96/192kHz input to 384kHz in a symmetrical way, preserving the originality of your music collection. It also upsamples bit-rate to 32bit corresponding to the original contents.

[Page 11: Package Contents](#)

- Essence One Series Hi-Fi USB DAC x 1
- USB cable ('B-A' type) x 1
- Power cord x 1 (Some versions may have 2 power cords for different countries)
- 6.3mm to 3.5mm adaptor x 1
- Quick start guide x 1
- User guide x 1
- Audio Precision (AP) test report x 1
- Installation driver CD x 1

NOTE: The package contents vary with models. Refer to the package contents for each model on ASUS website at www.asus.com ASUS Essence One Series...

[Page 12: Driver Installation](#)

Driver installation After connecting ASUS Essence One Series with your computer by the bundled USB cable, you need to install the device driver that enables the Essence One Series to work with Windows operating system. NOTES:

- The driver is only needed when you connect ASUS Essence One Series...

[Page 13: Functionality](#)

Functionality 1. USB DAC (Digital-to-Analog Convertor) Clear, detailed, life-like sound for your digital music collection in PC/NB, with all the connection(XLR, RCA) you need for end devices. Steps:

- Connect PC/NB with an USB cable
- Need to install driver in your PC/NB to work
- Select "USB" in front panel as the input source

ASUS Essence One Series...

[Page 14: Stand Alone Dac](#)

TOSLINK UNBALANCED OUTPUT BALANCED OUTPUT DIGITAL INPUT VOLTAGE SELECTOR AC IN 3. Headphone amplifier Grants 100% performance of ALL hi-end headphones, even with impedance up to 600ohms, providing extra dynamics and sound details. Steps:

- Connect with high-quality headphones/headsets

ASUS Essence One Series...

[Page 15: Front Panel](#)

The Volume Control is used to control the output levels of the headphone jacks. 8. 1/4" Headphone output Connect your high-quality headphones/headsets with 6.3mm connector (Please use the attached 6.3mm to 3.5mm connector if your headphones/headsets are of 3.5 mm ports) ASUS Essence One Series...

[Page 16: Rear Panel](#)

2. Balanced XLR Output(line-out) ASUS Essence One Series also features true balanced (XLR) outputs. Connect Essence One Series with equipment such as speakers of Balanced XLR connections. NOTES: • A lot of professional equipment will have balanced audio inputs and outputs, usually on 3-pin “XLR” connectors. The line is said to be balanced since the two signal carrying conductors are of equal (though opposite) potential.

[Page 17: Usb Port](#)

Always insure that the voltage setting is correct for your locality. See page 4 “Voltage Selection” for more information. 7. Power port (AC in) Plug the supplied power adaptor into the Essence One Series once you have completed all connections. ASUS Essence One Series...

[Page 18: Connections](#)

NOTE: Do not turn on the machine until all connections have been made. (1) Connect a USB ‘B-A’ type lead (as illustrated at left) from the Essence One Series’s USB input to one of the USB ports on the PC/NB.

[Page 19: Toslink And Coaxial S/Pdif Audio Input Connections](#)

- If you wish to disconnect your Essence One Series and return to using your previous soundcard, etc., simply disconnect it or switch off the power on the front panel. If the PC fails to disable the Essence One Series and automatically re-enable your default soundcard, you can manually disable the Essence One Series in the hardware device manager. To do this, navigate to the Device Manager (click Start —...

[Page 20: Output](#)

NOTE: It is possible to use the RCA phono connections and the XLR balanced connections at the same time, e.g. for connecting to different amplifiers or multi-room operations. However, no same audio quality is guaranteed as using RCA and XLR output non-simultaneously. ASUS Essence One Series...

[Page 21: With Active Speaker Directly](#)

UNBALANCED OUTPUT BALANCED OUTPUT DIGITAL INPUT VOLTAGE SELECTOR AC IN Active speaker (1) Connect Essence One Series with a set of active speakers directly. 3. With Headphone/Headset (1) Connect Essence One Series with high-quality headphones/headsets directly. ASUS Essence One Series...

[Page 22: Specifications](#)

Up to 352.8kHz (44.1/88.2 /176.4kHz input) or 384kHz Upsampling capability (48/96/192kHz input), 32bit I/O Ports Balanced Output (XLR) Unbalanced Output (Dual RCA) Output Jack: 6.3mm Jack headphone output Metal with plated gold, black housing continued on the next page ASUS Essence One Series...

[Page 23](#) Power cord x1 (Some versions may have 2 power cords for different countries) 6.3mm to 3.5mm adaptor x1 Accessories Quick Start Guide x1 User Guide x1 Installation driver CD x1 * Specifications are subject to change without notice. ASUS Essence One Series...

[Page 24: Opamp Swap Guide](#)

Essence One Series Hi-Fi USB DAC (Digital-to-Analog Converter) Opamp Swap Guide...

[Page 25: Disassembly](#)

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. ASUS Essence One Series...

[Page 26](#) Serves as buffer that enhances the output signal for the headphone. Changing this will affect the headphone output. All outputs (Headphone output, Headphone RCA output, XLR output) output output output Output √ Opamp √ √ √ √ ASUS Essence One Series...

[Page 27](#) 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 ASUS Essence One Series...

[Page 28: Audio Precision Test Report](#)

Essence One Series Audio Precision Test Report Version 1.0 2011/07/01 • Disclaimer: The information and contents contained in this test report are for Essence One Series user's reference only and may not be altered in any manner. Test results may vary with different testing environment and equipment.

[Page 29: Frequency Response](#)

Audio Precision Test Report Test Signals: 96KHz, 24bit (192KHz, 24bit for frequency response test) Noise Level (SNR~120dB) Audio Precision A-A FFT SPECTRUM ANALYSIS 07/15/11 10:34:20 -100 -120 -140 -160 Frequency Response Audio Precision 07/15/11 11:11:49 ASUS Essence One Series...

[Page 30](#) THD+N Full Band (-114~-110dB for 20~20KHz) Audio Precision 07/15/11 10:40:54 -100 -110 -120 THD+N 1KHz 0.0003% (-110dB) @997Hz Audio Precision A-A FFT SPECTRUM ANALYSIS 07/15/11 10:37:25 -100 -120 -140 -160 ASUS Essence One Series...

[Page 31](#) Dynamic Range (~120dB) Audio Precision A-A FFT SPECTRUM ANALYSIS 07/15/11 10:35:38 -100 -120 -140 -160 Crosstalk -132dB @ 1KHz -142~-115dB for 20~20KHz Left Audio Precision 07/15/11 10:46:20 -100 -120 -140 -160 ASUS Essence One Series...

[Page 32: Appendix: Glossary](#)

Ideally it should be very close to SNR value and the higher, the better. • Crosstalk Unwanted signal coupling from another channel of stereo or multi-channel transmission. The lower value is better. ASUS Essence One Series...