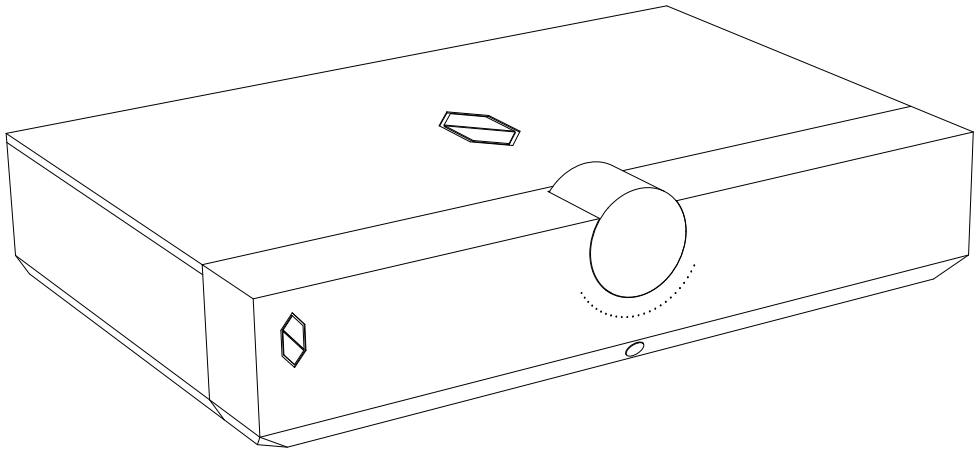
WELCOME

Thank you for choosing COS D1. We at COS Engineering are thrilled to share with you the joy of soaking in music through this unit.

Please have a few minutes for this manual before powering D1 on.



CONTENTS

UNPACKING

You will find in the D1 box the following:

- COS D1
- four spikes
- a remote control
- a power cord
- this manual.

Please keep the D1 box. In an unlikely event that maintenance is needed, the box shall be used for protection of D1 in transit.

PLACEMENT

D1 needs a solid and stable surface to stand firmly and four spikes should help keep it level. D1 does not need much air to stay operational, but suffocating it is certainly a bad idea. Where D1 is placed is not critical, but please keeps it away from known magnetic fields.

The infrared window is located below the indicator LEDs at the bottom edge of the front panel. Please remove any obstacle that might block this window, since your remote controller needs a clear line of sight to this window to operate your D1.

Mains Connection

Before powering on, please make sure that the voltage selected, in the Voltage Selection of the back panel, is the same as the AC outlet voltage of your area. If it is not, please do the following:

1. Use a screwdriver to unlock the cover and take it out

2. Use your finger or a simple tool to tip out the voltage selector

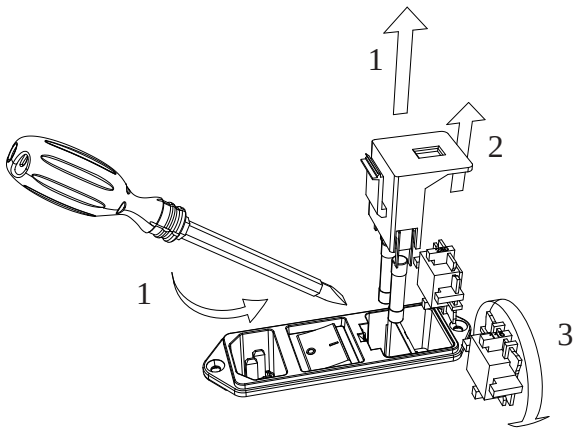
3. Flip the voltage selector so that the other voltage number is on top. Only two options available:115 (110~120VAC) and 230 (220~240VAC)

4. Insert the voltage selector in the same place till it clicks

5. Put the cover back on

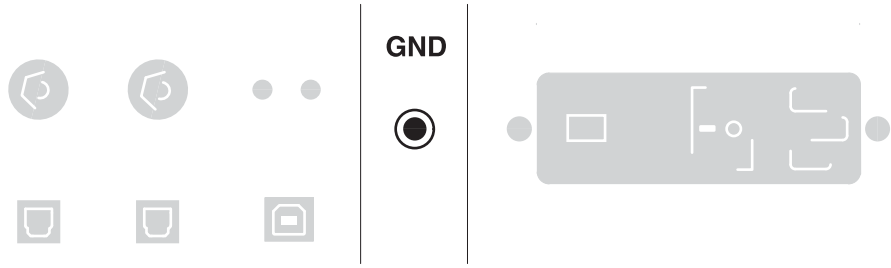
When this is done, you will notice that the voltage number is upside down. Do not panic. It is so designed.

Two fuses are located inside the cover. They are 6.3 X 32 mm(1/4 X 1 1/4") in size and rated for 1A, 250V AC. If replacement is needed, please use fuses with the right spec.



EARTH GROUND CONNECTION

In some countries, there is no earth ground established when plugging into AC mains. We recommend that this earth ground connection be connected to a known earth ground (like water pipes that run through the ground, or copper spikes that are driven into the ground for this reason). If you are not sure about this portion, please ask your dealer for assistance.



Caution!

It is important that all components in your system be properly grounded. Do not defeat a three-prong AC cord with "ground-lifter" or "cheater" adaptors, since it may allow dangerous voltages to build up, which would pose a threat to you and your equipment.

INPUT TO D1

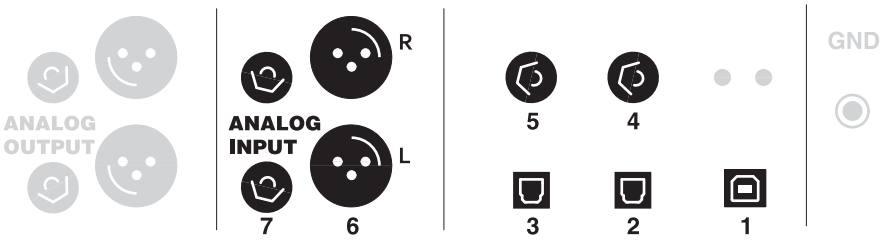
D1 has seven input connectors on the back panel, engraved as 1 through 7. The first five are used for digital signals from computer, CD transport, DVD player, etc..., and the last two are used for analog signals from tuner, TV, setup box, and phono amp.

The details are as follows:

#1: USB Audio (USB Type B connector)
#2: Optical Input (Toslink)
#3: Optical Input (Toslink)
#4: S/PDIF Input (RCA connector)
#5: S/PDIF Input (RCA connector)
#6: Balanced Analog Input (XRL female connector pair)
#7: Unbalanced Analog Input (RCA connector pair)

The pin assignments of XLR-type female input connectors are:

Pin 1: Signal ground
Pin 2: Signal + (non-inverting)
Pin 3: Signal – (inverting)
Connector ground lug: chassis ground

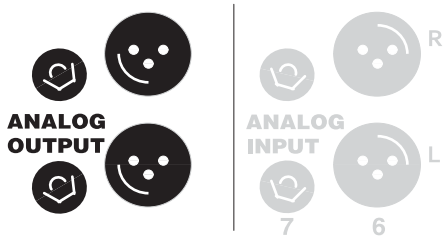


OUTPUT OF D1

D1 provides both balanced and unbalanced outputs, with an XLR male connector pair and an RCA connector pair, respectively.

The pin assignments of XLR-type female input connectors are:

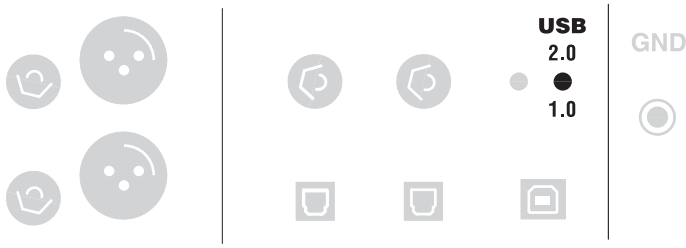
Pin 1: Signal ground
Pin 2: Signal + (non-inverting)
Pin 3: Signal – (inverting)
Connector ground lug: chassis ground



BUFFER SELECTION

There is a buffer switch on the back panel of D1, and it should be turned on for optimum performance. Sometimes digital music data do not move along and get converted in perfect tandem, which causes jitters, and even a few micros-second timing error is enough to perturb the ears and frustrate the mind. Therefore, D1 uses one-second depth buffer, along with an independent and accurate clock, to receive data, align them and send them out in precise time frames for conversion.

However, the buffer should be switched off when a video is playing, so the depth of the buffer is reduced to a little to ensure video-audio synchronization. Switching the buffer on or off will take effect immediately.

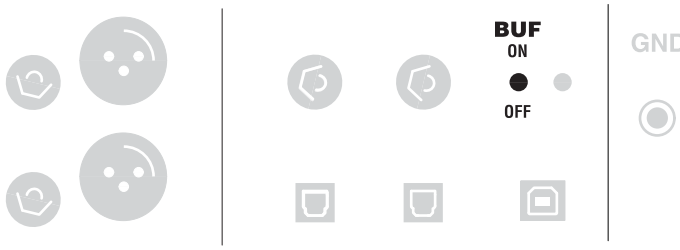


USB AUDIO SELECTION

D1 supports both USB Audio Class 1.0 and 2.0. The selection is made through adjusting USB switch on the back panel. The main difference between USB Audio Class 1.0 and 2.0 is that the USB Audio Class 1.0 can't go beyond 96K samples per second with 24 bit data depth.

Microsoft Windows supports Audio Class 1.0, whereas Mac OS X and major Linux distributions support both Audio Class 1.0 and 2.0. No device driver is needed for computers to communicate with D1 through USB port. Some NAS (Network Attached Storage) devices also support USB Audio. Please consult your NAS manufacturer for USB Audio class and compatibility information.

Always power D1 off or put D1 into standby mode before adjusting the USB Audio Selection switch. The selection takes effect when D1 is powered on or leaves standby mode.



Precaution!

Before power on D1 for the first time, please double check if the AC voltage selector is set to the correct voltage. Please refer to "Power Supply" section for detail instructions on how to adjust the voltage selector.

POWER ON

After power is switched on, the LED indicators in the front panel sequentially light up and go out as if a number of light dots running from left to right and return to the left. After that, seven LEDs remain on and the leftmost will blinks with extra brightness. Now the D1 is successfully powered on and ready for input source selection.

SELECTING INPUT SOURCE

A short press on the knob will choose the next input source, or you can select the input source by pressing the upper or lower SOURCE keys on the remote control.

ADJUSTING VOLUME LEVEL

Volume level is changed by rotating the knob or by pressing the upper or lower VOLUME keys on the remote control. Rotating the knob counterclockwise will bring up the volume, and vice versa.

More LEDs light up when the volume goes up, and less when the volume goes down.

MUTING D1

The sound of the music can be turned off by pressing the MUTE key on the remote control. Hit any key (except the STANDBY key) on the remote control or rotate/press the knob on the front panel can bring the sound back again.

STANDBY MODE

A long press (about one second) on the knob or hit the STANDBY key on remote control will put D1 into standby mode. In this mode, the volume and output relays will be turned off, and D1 will go into low power consumption state. Moreover, all the LEDs are off except the center one (6 o'clock position). Another long press on the knob will bring D1 back to operation, and the volume level and input source will stay unchanged before D1 entered the standby mode.

POWER OFF

The Power Off switch is between Voltage Selection and AC Input on the back panel. It's worth considering leaving D1 in standby mode while music is no longer played since the power consumption is very low.

Tips for Optimum Performance

- Ten minutes warm up time will help D1 to reach its ultimate performance once internal thermal equilibrium is attained.

- Switch buffer on for music playing and switch it off for video playing.

- Turn off the up-sampling feature of your player and play music at its original sampling rate. D1's dedicated DSP with COS Engineering's algorithms will do the job.

- Fix the volume of your player at its maximum and use D1 to adjust volume. Failing to do so may reduce the bit-depth of music data, which compromises music quality.

SPECIFICATIONS

Pre-Amplifier

Analog Input	Balanced x 1, Unbalanced x 1
Analog Output	Balanced x 1, Unbalanced x 1
Residual Noise	< 2uV (-114dBV) (20Hz~20KHz non-weighted, input terminated)
Input Overload	16V (balanced), 8V (unbalanced) (THD < 1%)
Input Impedance	100Kohm
Output Impedance	200 (balanced), 100 (unbalanced)
Maximum Output	16V (balanced), 8V (unbalanced) (THD < 1%)
Voltage Gain	0dB
Frequent Response	± 0.1dB (20Hz ~ 20KHz)
THD+N	< 0.001% (-100dB) (20Hz ~ 20KHz non-weighted)
Signal To Noise Ratio	> 110dB (20Hz ~ 20KHz non-weighted)
Crosstalk	< -120dB
Volume	256 steps by 0.25dB/step, total range: 64dB; < ± 0.1dB accuracy

SPECIFICATIONS

DAC

Digital Inputs	USB x1, Asynchronous 1.0/2.0; SPDIF x 1; TosLink x 1
Sampling Rate	up to 192Ksps, 24-bit
Frequency Reponse	+ 0dB, - 0.5dB (20Hz ~ 20KHz)
Full Scale Output	2V (unbalanced), 4V (balanced)
THD+N	< 0.001% (- 100dB) (192Ksps, 24-bit, 20Hz ~ 20KHz, A-weighted)
Signal To Noise Ratio	> 110dB (192Ksps, 24-bit, 20Hz ~ 20KHz, A-weighted)
Digital-to-Analog Converter	24-bit DAC x 2 (up to 192Ksps, 24-bit)
Digital Filter	COS Proprietary Linear Phase Delay

General

Weight	8.6kg
Dimension	415mm (W) x 280mm (D) x 100mm (H)
Power	100 ~ 120VAC or 200 ~ 240VAC selectable Normal Operation < 50W; Standby < 5W