

COPLAND DAC215 USER GUIDE



GETTING STARTED

Installation

Open the carton and remove the amplifier from its plastic bag. The AC-power cord is placed in the bottom of the carton. Before placing the unit in your home, read this carefully.

CAUTION !

Various regulation agencies require us to bring the following information to your attention. Please read carefully.

! Before plugging into the AC wall outlet, ensure that the tubes are well seated. The tubes can be seen right behind the front panel grill. If necessary, the small grill plate right over the tubes can be removed, hereby gaining access to push down the tubes until seated.

! Check that your supply voltage is the same as indicated on the back of the unit.

! To prevent fire or shock hazard, do not expose this unit to rain or moisture.

! Dangerous voltage inside. Do not open the cabinet while connected to the AC wall outlet. There are no serviceable parts inside. Repairs should be carried out by qualified service personnel only.

! Ensure that no objects or fluids pass through the ventilation openings. If liquid is spilled into the amplifier, disconnect from the mains and consult a qualified service technician.

Do not subject the unit to high mechanical vibration; the valves are sensitive to this. The trouble-free life of an electronic instrument is greatly extended by providing sufficient ventilation to prevent the build-up of high internal temperatures that cause deterioration. Allow enough clearance so that cool air can enter at the front and top.

Input / Outputs

Use shielded cables to connect the signal source to the inputs. To minimise the possibility to hum, the shielded cables should run parallel to each other or loosely twisted together. Locate the cables away from speaker leads and AC power cords.

AC Power

The amplifier AC power cord is plugged into a 50/60 Hz wall outlet. The right voltage is indicated on the back panel just beside to the AC power inlet.

All DAC215 are shipped with factory set mains working voltage according to the destination country

The main voltage setting can only be changed by a qualified technician.

Front Panel



1. Headphone output: A Stereo 6.3mm (1/4") jack for connecting the headphones. Connecting headphones mutes the audio output from the back panel AMPLIFIER OUTPUT terminals.

2. Amplifier switch: The AMP switch is illuminated when the appliance is supplied with the mains voltage and turned on by the power switch (6).

In *off* position, the switch light is red, the amplifier section of the unit is bypassed, and the DAC output is directed straight to the back panel DAC output terminals.

In *on* position the switch light will turn green and the amplifier section is engaged. All incoming signals will be directed through the amplifier to the back panel AMP output terminals or straight to the front panel headphone output when a headphone is plugged in.

3. Audio level: To adjust the volume to the desired listening level. Turn the control clockwise to increase the volume.

4. Sample rate: The incoming signal sample basis rate (44.1 kHz / 48 kHz or DSD single rate) is shown at the right column LEDs.

Higher value sample rates are shown as the basis sample rate and a corresponding multiplication factor shown at the right column LEDs.

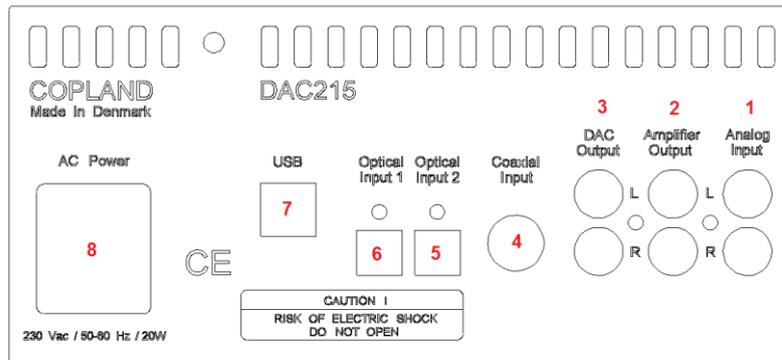
44.1 kHz	=	44.1 LED
48 kHz	=	48 LED
88.2 kHz	=	44.1 LED and x 2 LED
96 kHz	=	48 LED and x 2 LED
176.4 kHz	=	44.1 LED and x 4 LED
192 kHz	=	48 LED and x 4 LED
352.8 kHz	=	44.1 LED and x 8 LED
384 kHz	=	48 LED and x 8 LED
DSD 64	=	DSD LED
DSD128	=	DSD LED and x 2 LED
DSD256	=	DSD LED and x 4 LED

5. Source selector: Selects the appropriate input signal source.

6. Power switch: Pressing this button, the amplifier will switch cyclically between power *on* and power *off* mode. Power *on* will be indicated by the light of the AMP switch (2).

The amplifier starts to play after 40 seconds. During the warmup period, the light of the AMP switch (2) will be flashing.

Back Panel



1. Analog input: Accepts a analog signal for instance from a tuner or a CD-Player

2. Amplifier output: Output from the volume control and amplifier section of DAC215. Connect to the input of a power amplifier.

3. DAC output: Direct output from the DAC. Connect to a suitable input of an amplifier.

4. Coaxial input: S/PDIF (Sony/Philips Data Interface) input from a CD player. It is a single ended square wave of amplitude around 0.5 V pp.

5. Optical input 2: TOSLINK - fiber optic transmission of S/PDIF.

6. Optical input 1: TOSLINK - fiber optic transmission of S/PDIF.

7. USB Input: Use a certified USB2.0 cable. Connect the cable to the DAC215 and then to the external USB source.

8. AC power: The AC Power Cord is plugged here.

USB playback

The DAC215 asynchrony USB converter module has a power supply and power transformer secondary winding of its own. It is capable of working with 32-bit files with 384 kHz signal frequency.

We use a modified version of the “Amanero” USB module. The USB module requires a driver for Windows to recognize it.

You will find a link to the Windows driver and a guide for installation on page 7 in this manual.

MAC OS and LINUX computers works without drivers.

Only use USB 2.0 rated cable, i.e., a maximum length of 3 metres.

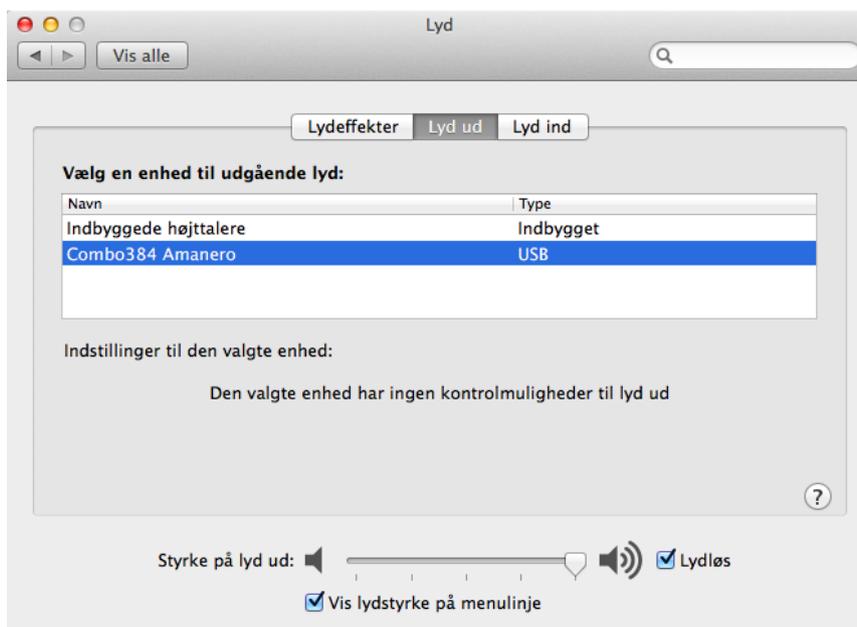
Using DAC215 with a MAC OS

MAC OS does not require any driver installation.

After turning the DAC215 on and plugging it in by the USB, the device should show up on the MAC.

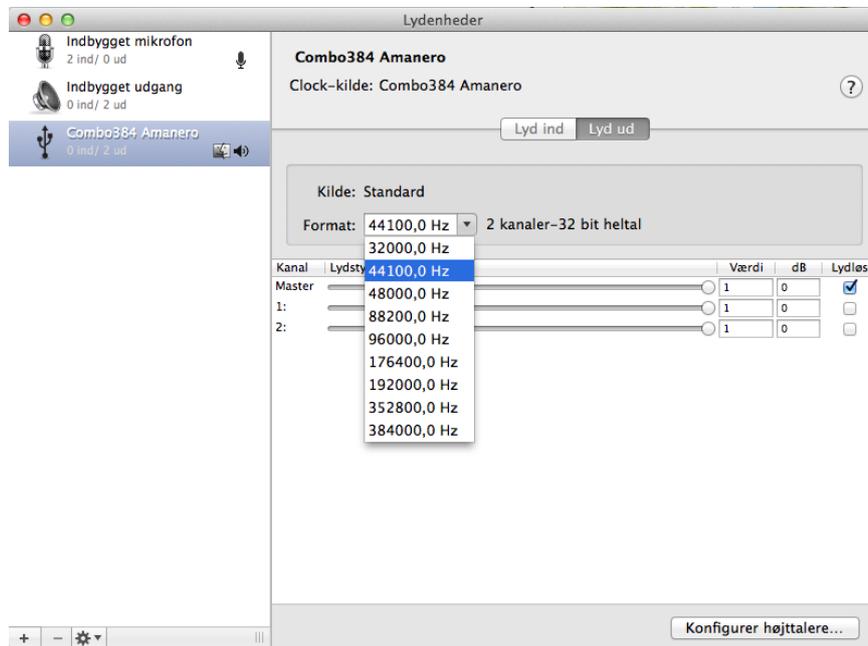
Note: The MAC will not describe the device as DAC215 but as Amanero Combo module.

To verify what is going on, please go to the “apple sign” in top left corner of the screen and choose PREFERENCES and then the loudspeaker icon – SOUND then go to OUTPUT - on the list of devices for sound output the Amanero should appear as enabled.



Next thing to set the MIDI SETTINGS of the MAC computer. Go to the top right corner of the screen and press search icon “SPOTLIGHT” : Type MIDI SETUP and enter.

To select the sample rate: Click “Combo384 Amanero ” and select the sample rate.



The capability of DAC215 to play the high resolution of 384 kHz does not mean that you need recordings or up sampling of that resolution.

We recommend that you listen to the recordings at the resolution settings they were originally made.

Using DAC215 with a PC- (The Set up below is with Windows 8)

The USB module requires a driver for Windows to recognize it.

The USB driver should be installed without the DAC USB connected to PC.

The USB driver can be found at this link: www.amanero.com/drivers

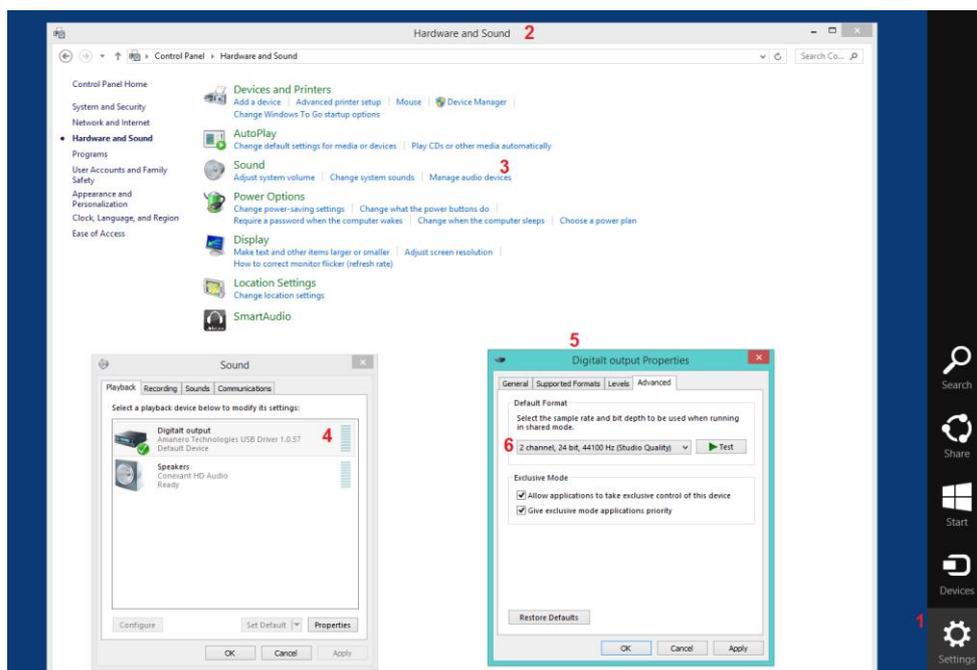
1. Download the package: [combo384 drivers xp win7 win8 1057.zip](http://www.amanero.com/drivers/combo384_drivers_xp_win7_win8_1057.zip)
2. Unpack the downloaded package in a folder
3. Run Setup_drivers_xp_win7_win8_32_64.exe

Note: When the driver is installed the PC will not describe the device as DAC215 but as Amanero Combo module.

To verify that the PC has recognised the driver:

1. Go to **Settings / Control panel /**
2. **Click Hardware and Sound**
3. Click "Manage Audio Devices". "Amanero Technologies USB Driver 1.0.57" appears as the default device.

If "Amanero Combo module" does not appears as the default device, enable it. A green check mark appears by the default selection.



4. To select the sample rate: Double click "Amanero USB Driver"
5. Under "Digital outputs properties" click "Advanced" and select the sample rate.

The capability of DAC215 to play the high resolution of 384 kHz does not mean that you need recordings or up sampling of that resolution.

We recommend that you listen to the recordings at the resolution settings they were originally made.

Media Players

A music player program to convert and organize your music collection and play it back is useful to transfer music and media files to folders on your computer's hard drive, either by converting the files from your CD collection "ripping", or by purchasing files downloaded from the internet.

Specialized programs can be used as media players, they are available from for example Foobar (Windows), iTunes (Apple and Windows), J.River Media Center (Apple and Windows).

JRiver Installation

Use JRiver V20 and above or latest version. The official URL is here: <http://www.jriver.com/download.html>

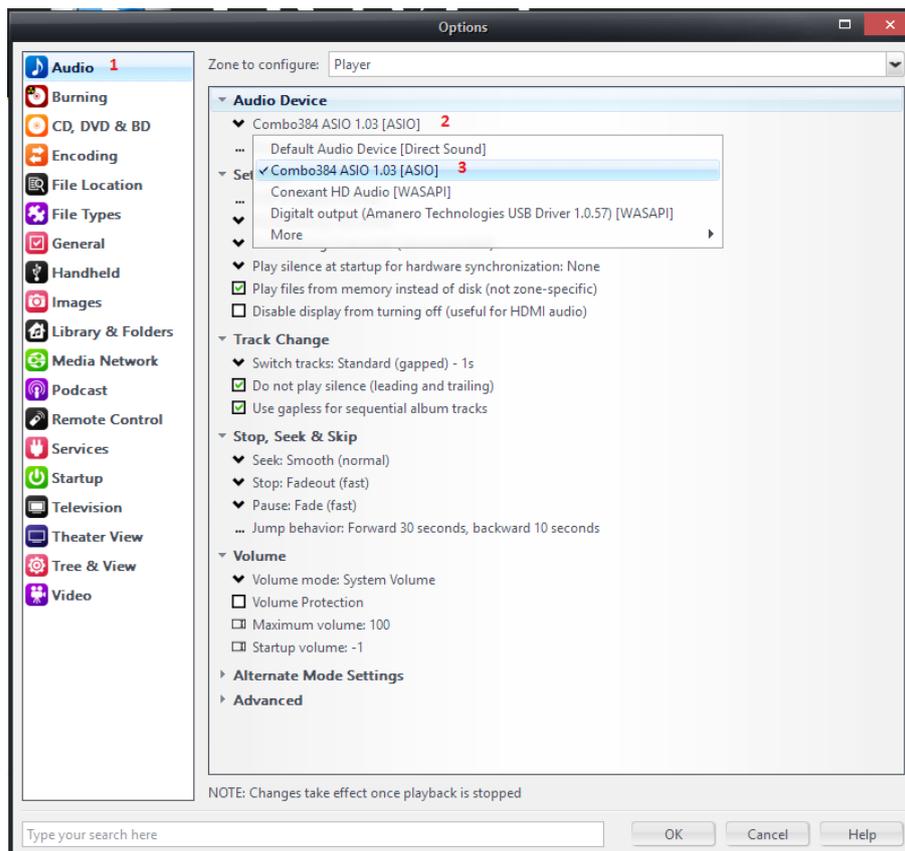
Double click [MediaCenter.exe](#) file to install JRiver to your computer.

The default language is English. You may change it through Tools / Language menu.

Setting up JRiver

This is an example of JRiver V20.

Run JRiver and select Tools / Options menu, open configuration interface.



1. Select "Audio" to switch to Audio configuration panel.

2. Under "Audio Device" select "Combo384 ASIO" (3)

For DSD playback, it is recommend using DSD (DSDIFF) Native or DSF file.

It is important to disable all the DSP and volume control when playing DSD file.

Click Settings / DSP & output format item, open DSP Studio dialog box.

Keep all the Sample rates / Output items in “No change”, the Default bit depth is Source bit depth.

Make sure that all DSP and the Volume levelling are disabled.

Finally press the OK button to save all settings.

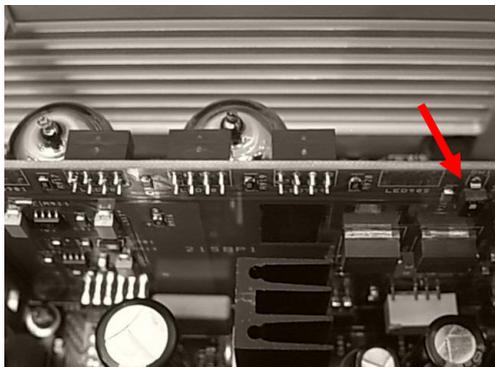
Maintenance

The DAC215 is built for a long lifetime and no special care needs to be taken, except from what is already described under installation. However, the heart of the amplifier is the tubes, and like a light bulb, they have a limited lifetime. After a period of time, they may affect the performance of the amplifier. The tubes are operated around 20% of their full nominal power, which considerably increases their life expectancy. The lifetime of the tubes should be at least 6000 hours, assuming that the player is switched on and off a couple of times per day.

Backlight

The red backlight of the tubes can be turned off and on by a slide switch located inside the DAC215 at the vertical red circuit board just behind the tubes. The switch is small and you might need something like a toothpick to operate it.

The back light is on when the switch is in the upper position and off in the lower position.



Fuse

The DAC215 employs a 20 mm glass fuse circuit breaker inside the IEC-AC socket at the back. The fuse value is 0.5A (1A for USA)

Warranty and Service

Copland provides a warranty to the first purchaser for a period of two years. Copland usually commissions the Copland agency in the country in which the amplifier was purchased to carry out any warranty work.

Following consent from Copland in a particular case, the warranty service may also be claimed at an agency in another country.

Consider your hearing

With most headphones, the output power of DAC215 allows hearing levels well above a secure level for the listener.

Listening through headphones at to high volume for extended periods can result in lifelong hearing loss. Pounding the stereocilia – the tiny hairs on the surface of cells in the inner ear - with high volume for extended time will damage your hearing.

Unfortunately, the type of hearing loss caused by over exposure to very loud noise is **permanent**.

Use headphones with sufficient bass response. Increasing the volume in order to reach an adequate level of bass, it increases the high-frequency sounds as well and these sound frequencies are the most dangerous for your hearing.

Because the perception of sound exposed directly to the ear is different from the sound traveling through the space of a room, people have a tendency to listen to music through headphones 3-5 dB louder than listening at loudspeakers. Please keep this in mind when adjusting for an adequate volume.

An increase of only a few decibels has a dramatic effect on the hazard to hearing, as each increase of 3dB represents a doubling of sound energy (and halves the time you should listen for).

Permissible noise exposures (NIOSH Standard)

Sound level (dBA)	Duration Hours:Minutes:Secound)
85	8.00.00
88	4.00.00
91	2.00.00
94	1.00.00
97	0:30:00
100	0:15:00
103	0:07:00
106	0:03:45
109	0:01:53
112	0:00:56
115	0:00:28
118	0:00:14
121	0:00:07
127	0:00:03

Average noise level in dB from typical noise sources:

Normal conversation:	55dB
A busy street:	70dB
Lawn mower/heavy traffic:	85dB
Hand drill:	98dB
Motorbikes:	100dB
Disco/nightclub/car horn:	110dB
Chainsaw:	117dB
Rock concert/ambulance siren:	120dB
Pain begins	125dB
Space Shuttle:	180dB

Specifications

Model Copland DAC215
DAC SABRE³² Reference ES9018

DAC Digital Inputs:

USB Audio: PCM 44.1~384K (24/32bit), DSD 2.8~5.6MHz (64~128X)
 Windows Vista /7 /8 /10 (32/64bit)
 Mac-OS X and Linux with UAC2 without drivers

S/PDIF Input: 1 x COAX / 2 x Optical. PCM 44.1~192K (32bit)

DAC Analog Output:

RCA. 2.0 V rms. @ 0dBFS
Frequency response: 20Hz~20 kHz (+/-0.2dB)
SNR DAC > 120dB
THD < 0.004%

Head Amp:

Tubes: 2 x ECC88 / 6DJ8 / 6922
Output Head Amp / Headphones: max. 8.5 V rms.
Output impedance / Headphones: 5.0 Ω
Output impedance / Line out / RCA : 100 Ω
Frequency response: 20Hz~100 kHz (+/-0.5dB)
SNR: 90 dB
THD < 0.02%
Gain Head Amp: 10 dB

Power AC 110~120V or 220~240V (50/60Hz) * Factory Settings
Power Consumption: 25W

Weight: 3.8Kg
Dimensions: 200 x 280 x 115 mm. W x D x H