

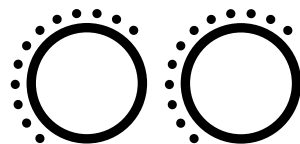
Optimal Audio



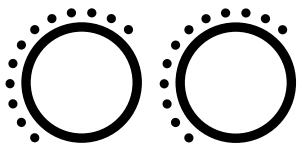
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WebApp

Cross platform control app for Zone series



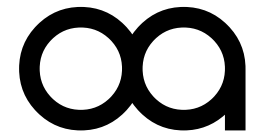
Controllers



Controllers

WebApp

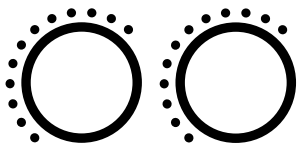
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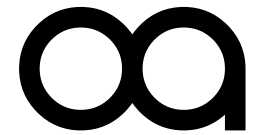
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Optimal Audio



Congratulations on your choice of Optimal Audio for your latest sound system installation.

The Optimal Audio range of compatible audio zoners, amplifiers and loudspeakers are designed to work together simply and effectively.

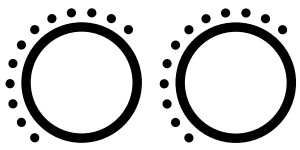
WebApp is the interface for your Optimal Audio system. It provides access to the functionality of the Zone series enabling complete system configuration, while also being flexible enough that venue staff can be presented with a simple user interface which allows them to easily operate the system. WebApp is accessed via the web and hosted on a server built into every Zone product.

Important Information

Prior to installation of Zone, please check for latest **firmware update**.

<https://optimal-audio.co.uk/support/software>

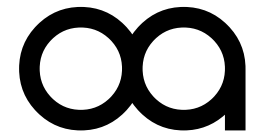
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Updating firmware

BEFORE POWERING ON THE UNIT

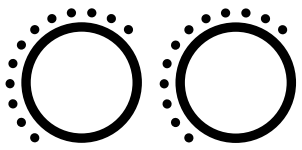
Before setting up Zone via WebApp for the first time it is important to ensure that the unit is running the latest firmware.

The instructions below apply to any computer operating system.

- Extract the SD Card from the rear of the Zone unit by gently pushing it in. If your laptop or desktop has a slot for an SD Card, insert the Optimal Audio branded SD Card until it latches. If you do not have a suitable SD Card slot, you will need to use a USB SD Card adapter. These are readily available.
- Go to the software download page <https://optimal-audio.co.uk/support/software/> and download the Zone Bundle containing the latest firmware.
- Copy this file, `system.bundle` to the SD Card – place it in the root directory of the SD Card. Do not place it in a folder.
- Once copied, safely remove the SD Card from the reader and place it back in the slot on the rear of your Zone.
- Connect to your network (see page 5).
- Connect Zone to power – and the update process will start automatically.
- On the front panel, the power light will show blue – the unit is checking the SD Card and it will flicker as the bundle is unpacked.
- If the firmware on the card is new, the unit will update – the light will flash orange.
- Once the firmware is up to date, the light will turn green, indicating that Zone is booting up. This takes between 20 – 30 seconds.
- Flashing green indicates searching for an IP address.
- If the network connection is good and the unit has a suitable IP address, the indicator will turn white and the remaining front panel lights will illuminate.
- Your firmware is now updated and you are ready to launch WebApp.

Light	Colour	Mode	Zone Status	User Action
Power	Blue	Solid	Unit startup	Wait, if no SD card is present, the unit will not boot and will show a continuous blue light
	Blue	Flashing	The unit is unpacking a system bundle file onto the SD card	Wait
	Orange	Flashing	Updating firmware	Wait
	Green	Solid	Booting up	Wait, once booted and the front panel controls are showing, if the unit is being used without a network a solid green light will show
	Green / White	Flashing	The FUNC button was held at startup - a network change is taking place	See page 5
	Green	Flashing	Searching for IP address	Wait
	White	Solid	Unit on, network connection good, IP address assigned	Ready to use
	Red	Solid	Software fault	The unit has encountered an unrecoverable error, please contact support.
Protect	Red	Solid	System fault – audio will not pass on affected channel	Power down, investigate fault
Temp	Red	Solid	Unit is overheating	Power down, clean fan filters
Clip	Red	Solid or Flashing	Audio signal overload	In WebApp, check sources and outputs for excessive volume and turn down as appropriate

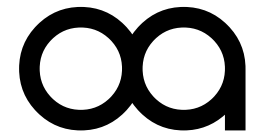
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Connecting to a network and opening WebApp for the first time

Connect the ethernet socket of your Zone to a network or directly to your laptop using standard CAT5/6 cable. If you have a WiFi router connected to this network, you will be able to access wirelessly.

- The factory configuration of the unit is for DHCP. It will attempt to connect to a DHCP server and will stop after five attempts after which it will assign an Automatic Private IP Address (APIPA) address of the form 169.254.x.x on subnet 255.255.0.0.
- In your browser type in the mDNS address **http://optimalaudio.local**
- Some devices do not support mDNS in which case you will need to use the IP address in your browser.
- To view the last octet of the IP address of the unit, hold down the two “All Zones” buttons on the front panel simultaneously. The volume indicators below them indicate the last two digits of the address - for example .123 would be shown with LED 1 on the Mic1 rotary, LED 2 on the Mic2 rotary and LED 3 on the Paging rotary.

Recommended setup

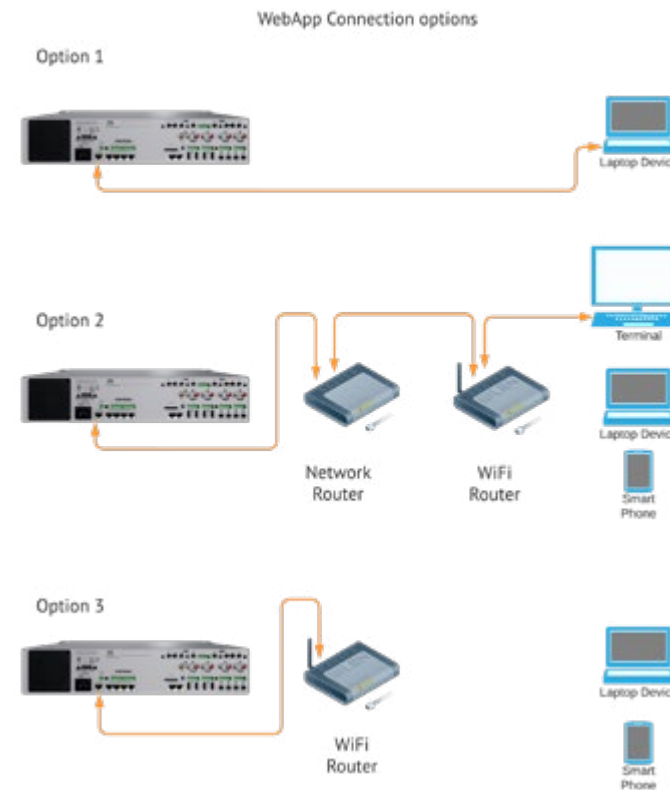
Once you have connected to the WebApp for the first time, it is recommended that you set a static IP address for the unit and turn off DHCP.

- Navigate to the Network page – Settings>Network (under System), where you can assign the necessary network settings. Be sure to untick Use DHCP when assigning your own IP address. Tap Save Settings to finalise this step.

If the unit has been set to a static IP address and this is not known, DHCP can be forced back on by holding the “FUNC” button during start-up. As the unit boots, the power light will cycle between white and green lights to show that this network configuration change has taken place.

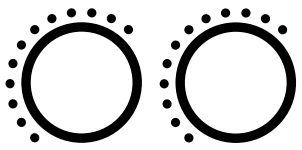
If the unit is set to DHCP and no server is available, a static IP address can be forced in the same way. Hold the “FUNC” button during start-up and an IP address of 192.168.1.250 will be set.

This will allow access to the unit from devices on the same subnet (255.255.255.0). Once connection has been established, settings can be chosen correctly in the Network page.



For further details on networks and settings, see the Network section in this guide

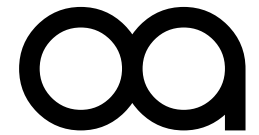
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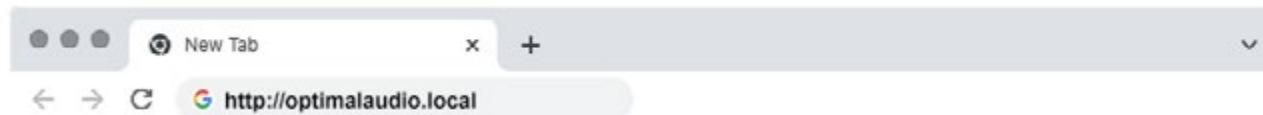
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Opening WebApp

Ensure your device and your Zone unit are on the same network

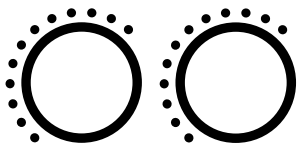
To open WebApp, open the browser of your choice on any device – desktop, laptop, tablet or phone – WebApp is cross platform so will work on any web enabled device.

In the address line of your browser, type **http://optimalaudio.local** and you should be straight in.

Alternatively, if you know the IP address of your Zone, you can type this instead.

With most Android devices using the IP Address is the only way to access WebApp.

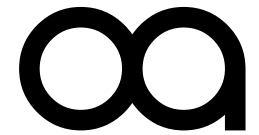
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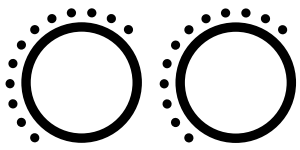


Using WebApp

The landing page view shows two sections – the operator view for controlling Zones, Global Presets and Routines (timed preset recall), and the pin-lockable **Settings** section where the more critical settings can be secured from being tampered with.

Whenever you wish to return to the landing page, click the OA logo in the top left corner of the screen.

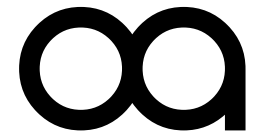
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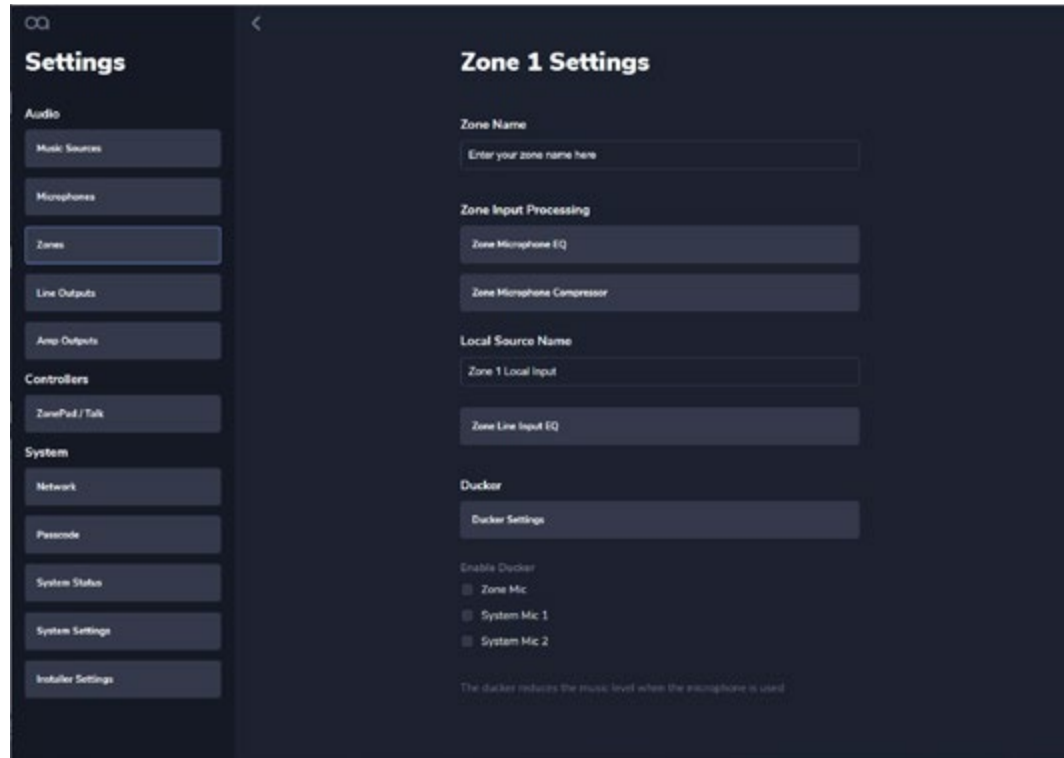
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User operator sections

Zones

A zone will be an area of a building that requires a chosen music source, microphone and associated levels. A single zone may use one or more physical outputs on the Zone processor as required for different loudspeaker types used within that zone.

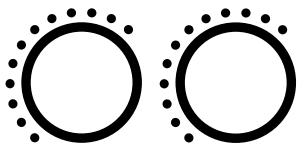
In the zones section, you're presented with the level controls and music source selection for the currently selected zone. The zones are listed on the left according to whether you have a Zone 4, 4P or Zone 8 or 8P unit. At this point it is useful to name your zones.

To do this, follow these steps:

1. On the landing page, select **Settings**.
2. Under **Audio**, select **Zones**.
3. Select the relevant zone from the list.
4. Type the name into the box.

Sources connected locally via a ZonePad 1 are also named here. Click in the box named Local Source Name and enter a name for your source.

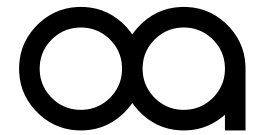
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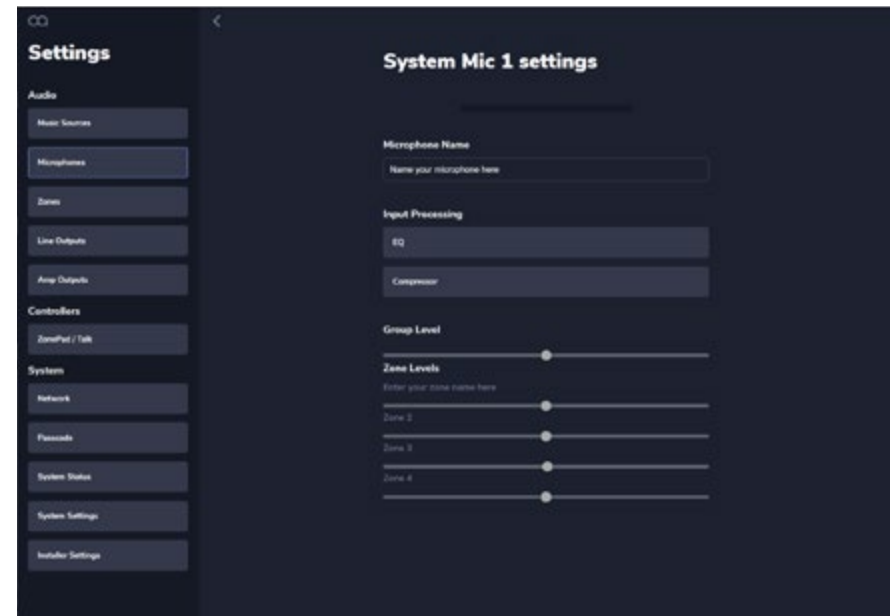
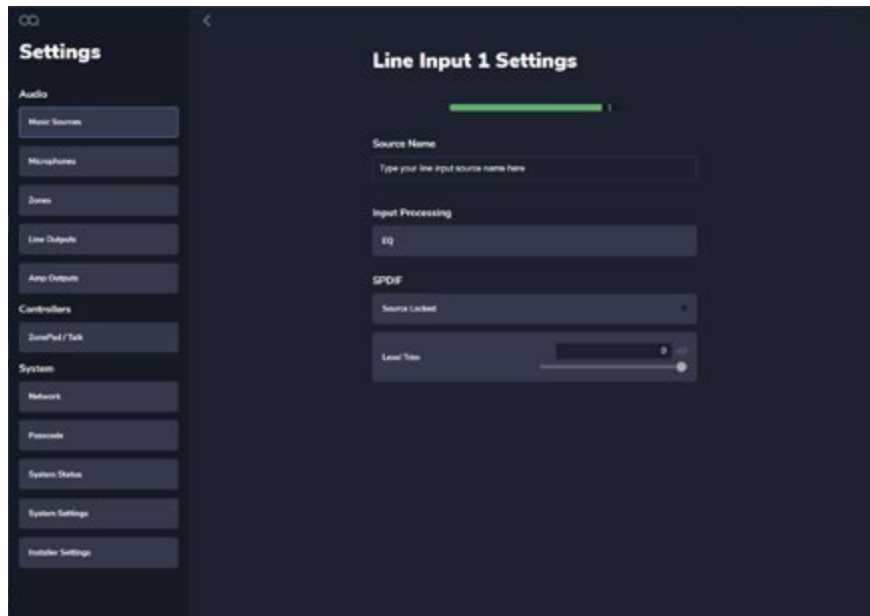


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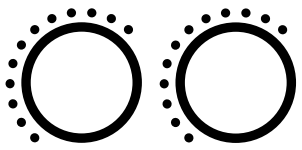
Sources

Music sources can be named in a similar fashion. Access this page via **Settings>Audio>Sources**. If an active source is already connected it will register on the green level meter above the name bar. Again, name your sources now to maintain clarity.

The same process applies to any microphones connected directly to the Zone processor. Access this page via **Settings>Audio>Microphones**. Again, name your microphones to maintain clarity.



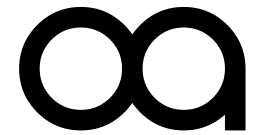
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Visibility of zones and sources

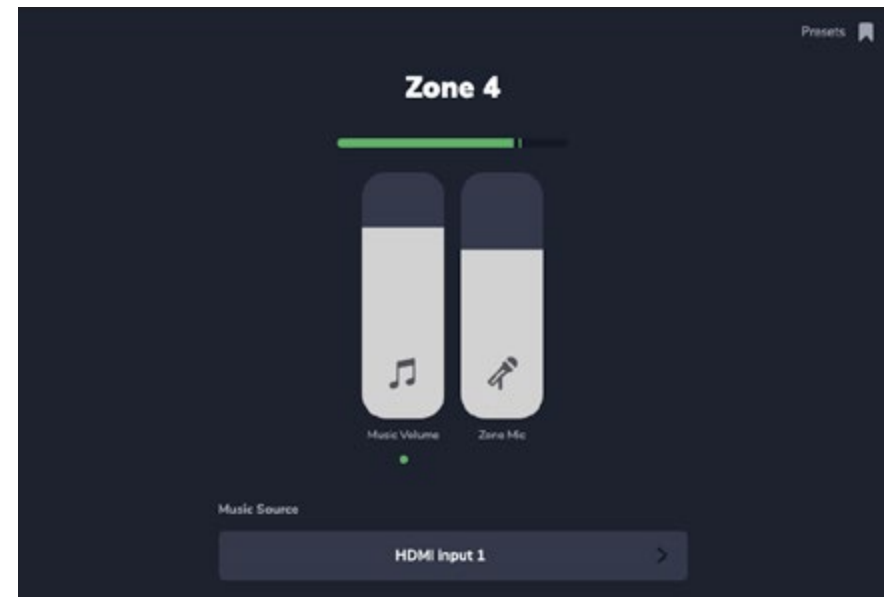
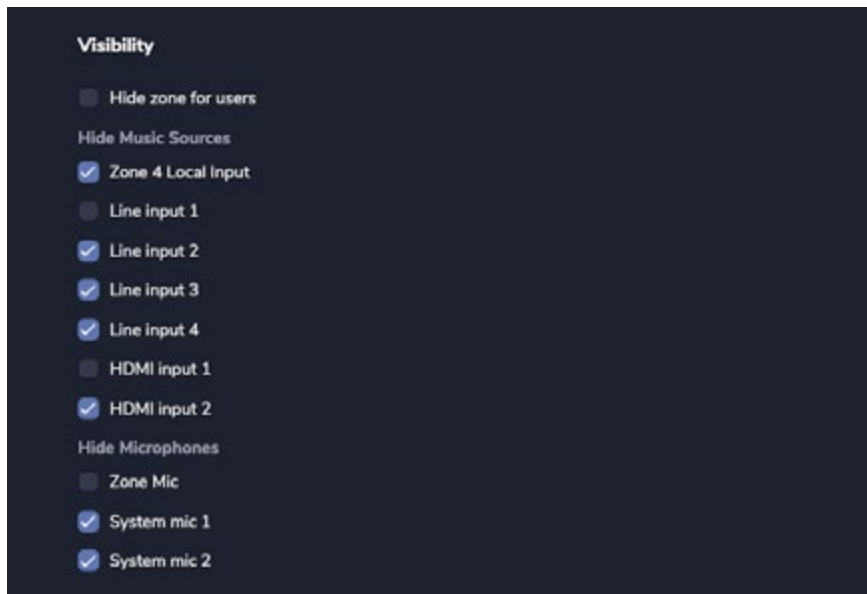
To aid usability, unused zones, music sources and microphones can be removed from view on a zone-by-zone basis to provide a cleaner interface.

Navigate to **Settings>Zones** and select the relevant Zone. Scroll down to Visibility for the configuration options:

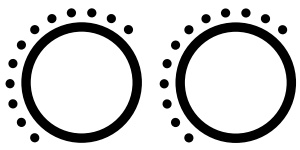
Here you can select whether the entire Zone is hidden, or any of the inputs not used in that Zone. Anything that is checked will NOT be visible.

In single zone systems, a single Zone view can be presented without any navigation icons on the left of the screen. This is intended to be pinned to the home screen which gives a full-screen app feel with no URL bar.

Navigate to **Settings>Zones** and select the relevant Zone. Scroll to the bottom and click the **Open Single Zone Control Panel** button. You will be presented with a screen similar to this, containing the visible sources for the single Zone.



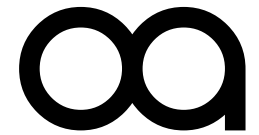
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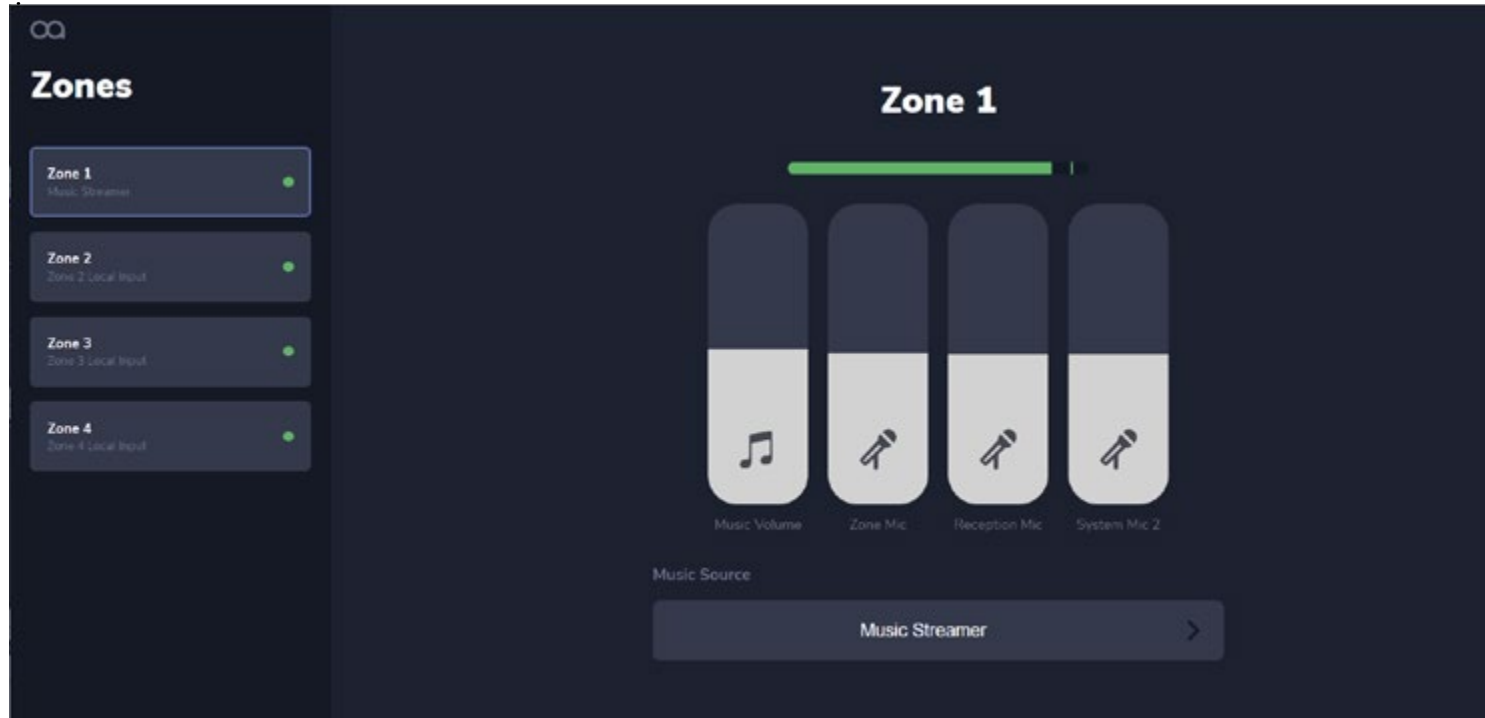
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Setting levels in a zone

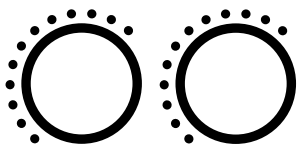
Now that you have named your sources and zones, selecting a zone will bring up the control page for that zone, showing the Music Sources and Microphones according to Visibility settings in that Zone.

Select the OA logo top left of the screen to get to the main menu, then select **Zones** and you're in.

Audio zones are listed and named, and if there is audio present, it is indicated by a green dot next to the named zones on the left side of the screen.

The selected music and microphone levels are set by familiar sliders. The sliders control the individual levels of the music and microphones. Simply select and move your mouse or finger up or down to raise or lower the volume of any of the sources shown.

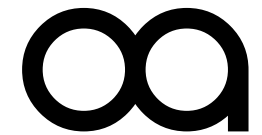
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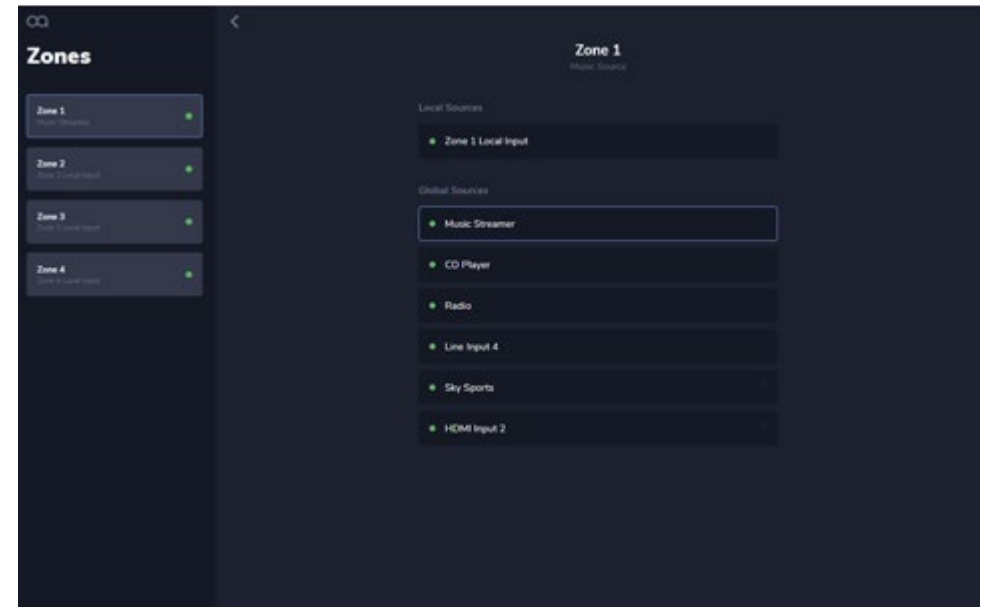
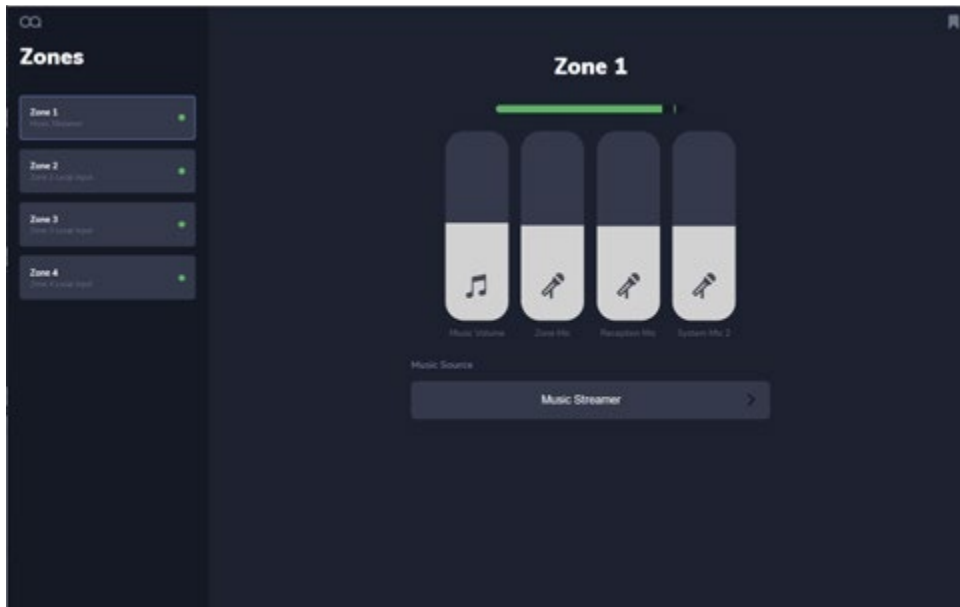
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Setting levels in a zone

Music volume – the selected music source, in this case a Music Streamer as indicated in the box below the faders.

Zone mic – the local microphone attached to a ZonePad 1 wall controller.

Reception mic – a microphone connected to mic input 1 on the Zone unit, and positioned in this case in Reception and named accordingly.

System mic 2 – Any microphone connected to mic input 2 on the Zone unit.

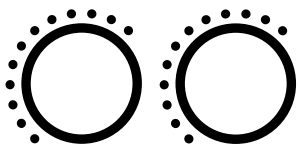
Bring up the slider on any source, and you will hear that source in the zone you are working with. The overall sound level of all combined sources in the selected zone is shown on the meter above.

Each of the named zones behaves in the same way but has independent controls, enabling you to create a mix of sources unique to each zone.

If you have a ZonePad 1 wall controller in any of your zones, the Zone mic is the local microphone attached to the ZonePad 1 wall controller and will therefore only be heard in the zone you are addressing.

Selecting the Music Source box beneath the sliders will allow you to change the music source in the selected zone from the list of connected sources, as shown.

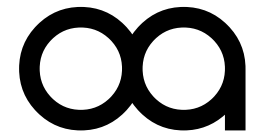
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Optimal Audio

Line and amplifier output processing

Selecting Optimal Audio and Martin Audio loudspeaker presets

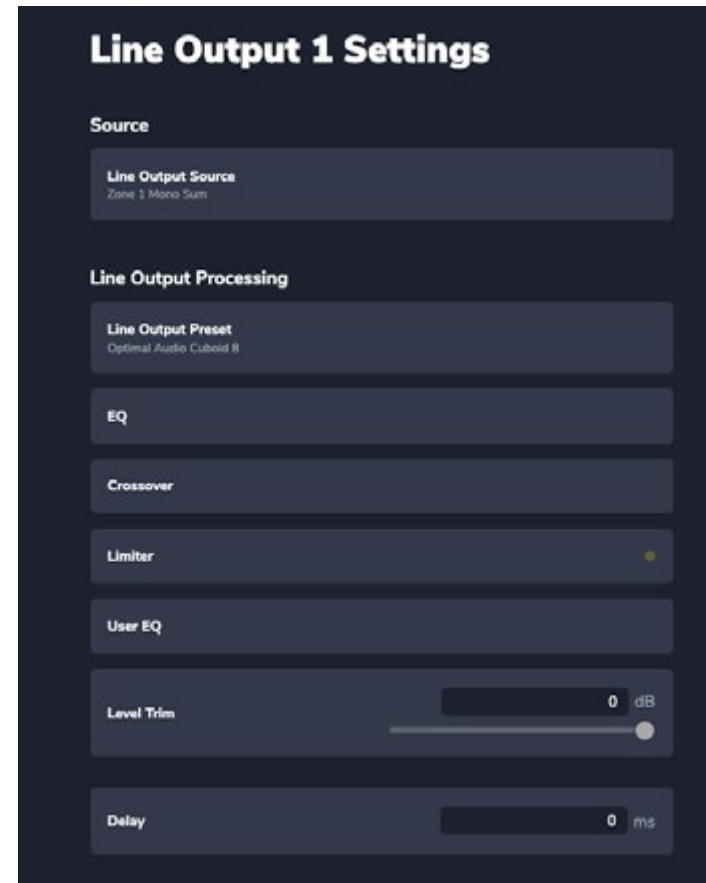
Output processing is the same for both line outputs and onboard amplifiers in the case of Zone 4P and Zone 8P. There are fewer loudspeaker presets available for the on board amplifiers where they are not sufficiently powerful to drive larger loudspeakers.

Loudspeaker presets give the best performance for the loudspeakers in use. They are available on both Line and Amp outputs.

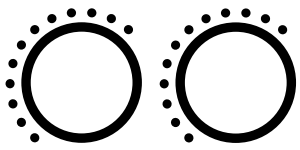
All Zone models come pre-loaded with presets for a range of Optimal Audio and Martin Audio loudspeakers. These are selected by clicking **Settings>Line Outputs** and selecting the desired output.

Selecting **Line Output Preset** will bring up a list of the available presets. Choose the appropriate loudspeaker model for your system and click the back arrow at the top of the page to return to Line Output Settings. You will now see the chosen loudspeaker model named under **Line Output Preset**.

WARNING – For line outputs no limiter settings are included in the presets. Amplifiers can vary greatly in gain, making it impossible to have a standard limiter setting. When using loudspeakers and amplifiers from other manufacturers it is strongly recommended that appropriate limiter settings are calculated and applied under **Settings>Line Outputs>Line Output Processing>Limiter** to protect your loudspeakers from damage.



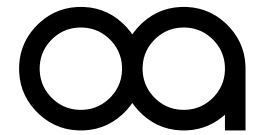
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Line and amplifier output processing

The EQ settings for the best performance of the chosen loudspeaker can now be seen by clicking **EQ** under **Line Output Processing**. It is highly recommended that these are not tampered with and that the **User EQ** settings are used for any tonal balance changes you wish to make.

User EQ

Any additional equalisation required for room compensation or personal preference can be applied using the **User EQ** on the same page.

Crossover

Line output crossovers feature two crossover filters only – high pass and low pass - and are intended primarily for use when a system includes subwoofers. When a speaker preset is selected, you will see the high pass filter in use - this is to protect the loudspeakers from damage by filtering out frequencies that the loudspeaker is not able to reproduce. The high pass should only be adjusted when a subwoofer is deployed with the selected loudspeaker.

To access crossover settings click **Settings>Line Outputs>Line Output**

Processing>Crossover

This section can also be used to apply processing to any other combinations of amplifier and loudspeaker that are connected to the line outputs on any Zone product.

Level Trim

Level trim is available for attenuating the output level of the selected output.

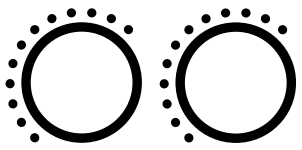
Delay

A maximum output delay of 100 milliseconds is available for time alignment of loudspeakers in larger systems. Apply delay by typing in the desired time.

NOTE: To calculate a delay time, measure the distance between loudspeakers. Those near the back of the room will need delaying to the ones near the front.

Once you know the distance, use this calculation to find the desired time in milliseconds: $\text{Time} = \text{Distance} / \text{Speed of Sound}$ (approx. 344 m/s (1128 ft))

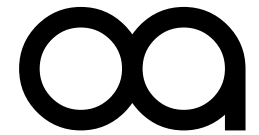
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Setting up music sources and microphones

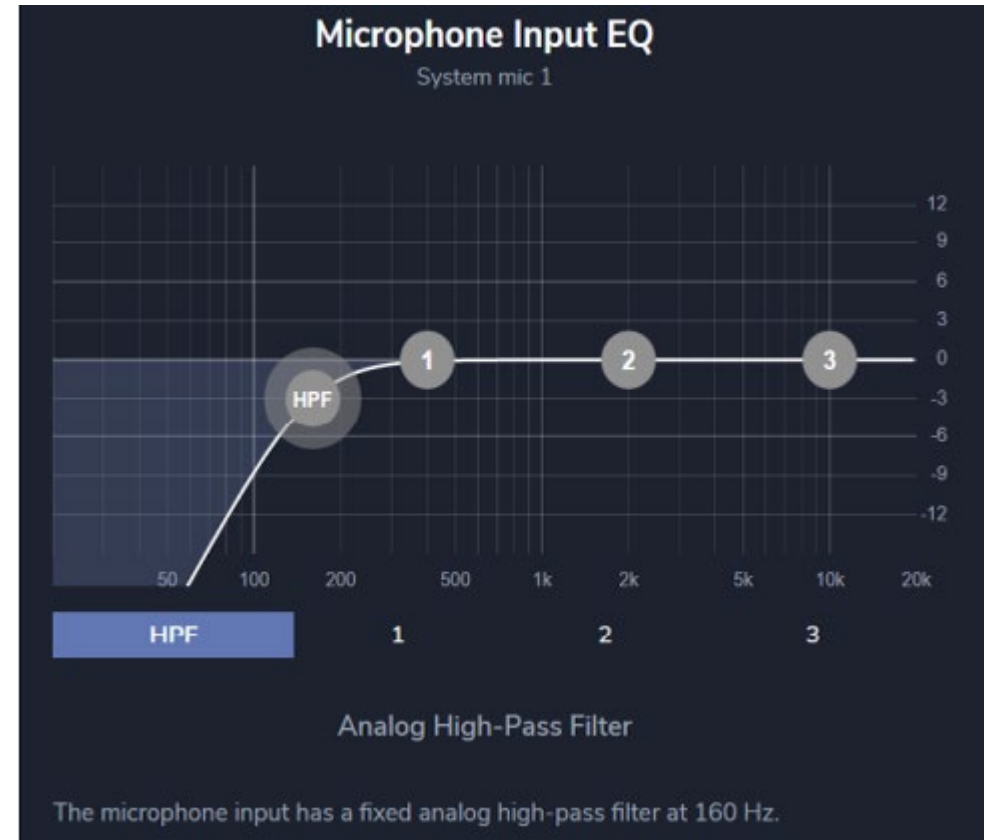
Equalisation is available for both of the microphone inputs on the Zone processor itself and those connected via ZonePad 1.

To access the controls:

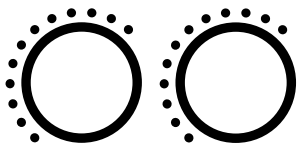
1. From the main menu, select **Settings**.
2. From the left side of the page, select either **Microphones** or **Sources**.
3. Choose your desired source from the list by selecting the relevant box.

For microphones and paging stations, 3 bands of EQ are available. There is a fixed high pass filter at 160Hz as shown on the graph.

All stereo inputs have one band of high pass EQ only.



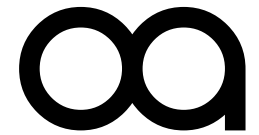
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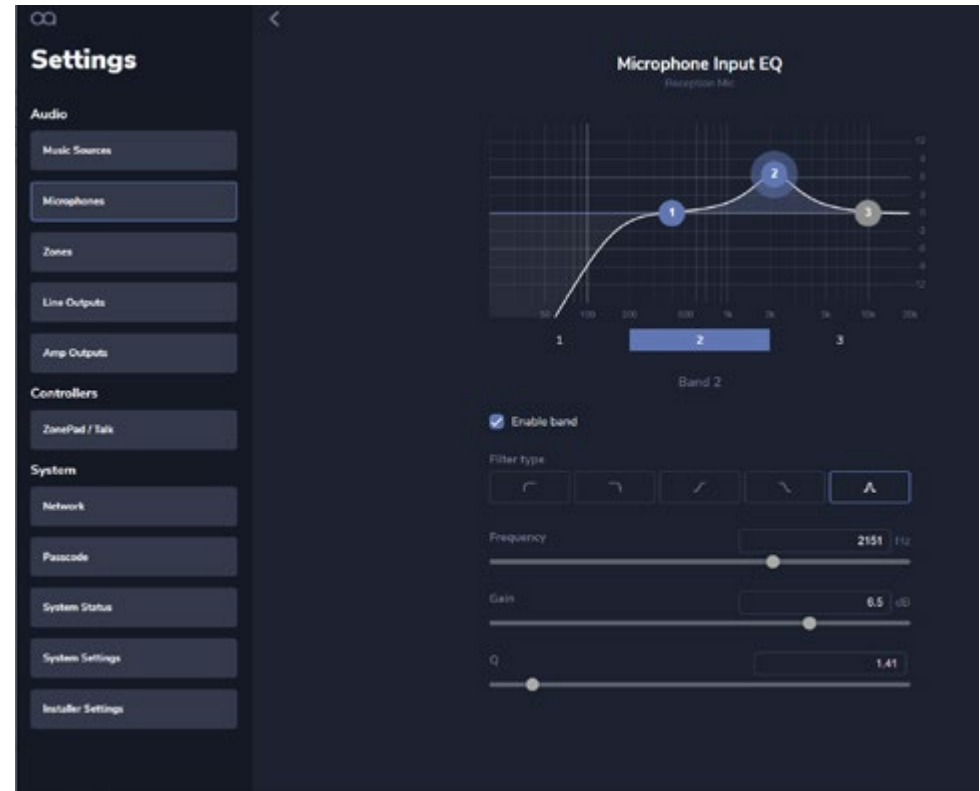
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Microphone equalisation

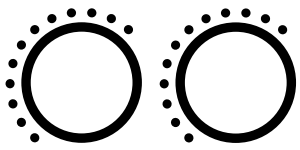
In many circumstances, the 160Hz high pass filter will be all you need to get clear speech through your loudspeakers. However, the three band parametric equalisation gives you more control.

If you are unsure about microphone equalisation try these next steps. Click on button 2 on the graph, then on the “enable band” box, then click on the fourth filter type along – a high shelf.

You can now use button 2 again, this time moving it up or down and along the graph. You will hear the clarity of the speech being re-produced change as you vary this filter. You will find a point where it sounds clear and natural, but without being harsh.



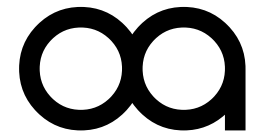
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Compression

A compressor is provided for all the available microphone inputs.

Compression can be used to control the level from a microphone, to help compensate for different presenters who will naturally have their own speech level and may speak at different distances from the microphone. For the purposes of controlling announcement microphones, it is generally best to use compression gently.

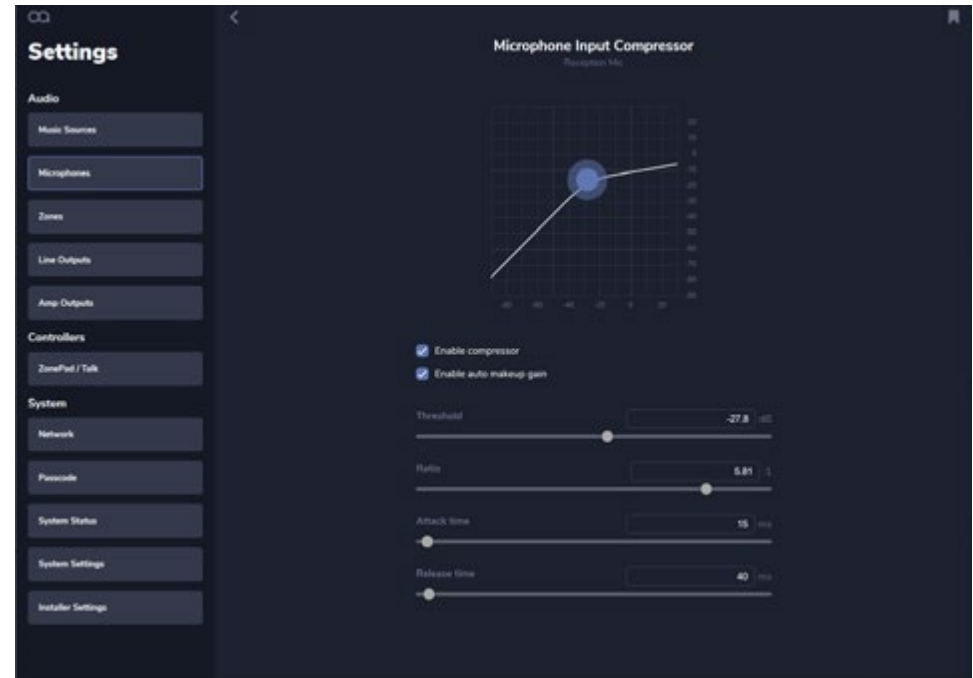
The threshold determines the level at which compression starts to work. Essentially, when the quietest person speaks there should be no compression, and the compression should be set to bring the louder voices in line with this voice. Set the threshold control accordingly, using the slider.

A ratio of about 5 or 6:1 is a good start, meaning that for every 5 or 6dB of volume increase over the threshold, the compressor will only allow 1dB. Set the compression ratio using the slider. To engage the compressor, check the 'Enable compressor' box. Make a comparison between compressed and uncompressed by talking and switching the compressor on and off.

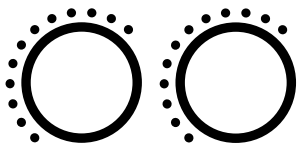
The Attack and Release controls affect how the compressor works over time. A fast attack time will affect the initial transients of the audio, whilst a slower attack will allow initial transients through and compress the audio signal afterwards. The release time determines how quickly the compressor returns to the uncompressed state after the signal has dropped below the threshold. If in doubt, an attack time of around 5 – 10 ms and a release time of around 40ms will work for most applications.

Checking the 'Enable auto makeup gain' box will compensate for any gain reduction introduced by using the compressor.

WARNING: Heavy compression in combination with auto makeup gain may cause acoustic feedback problems.



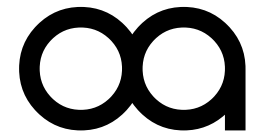
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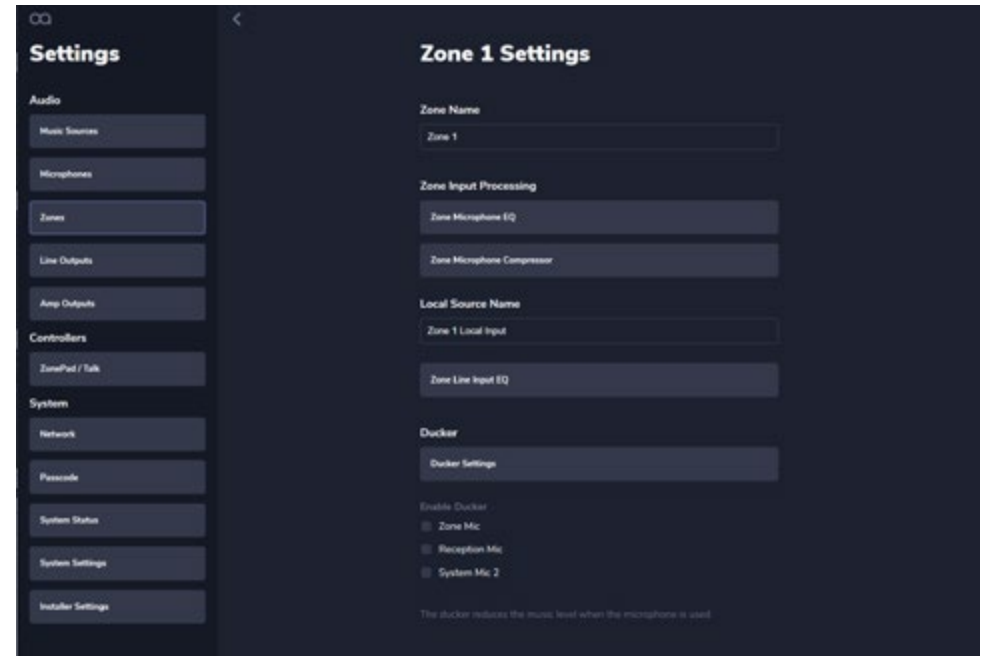
Cross platform control app for Zone series



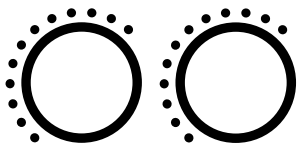
Optimal Audio

Ducker

A ducker is provided which allows the selected microphone sources to automatically lower the music level for talkover in the zone you are working in. Radio stations use duckers a great deal to allow the DJ's to talk over music. Each zone has its own individual ducker. To use the ducker, click **Zones** and select the zone you want to work on. Under **Ducker** enable the mic you wish to be the trigger for ducking the music using the relevant check box, then click 'Ducker settings'.



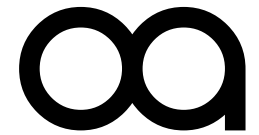
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Ducker

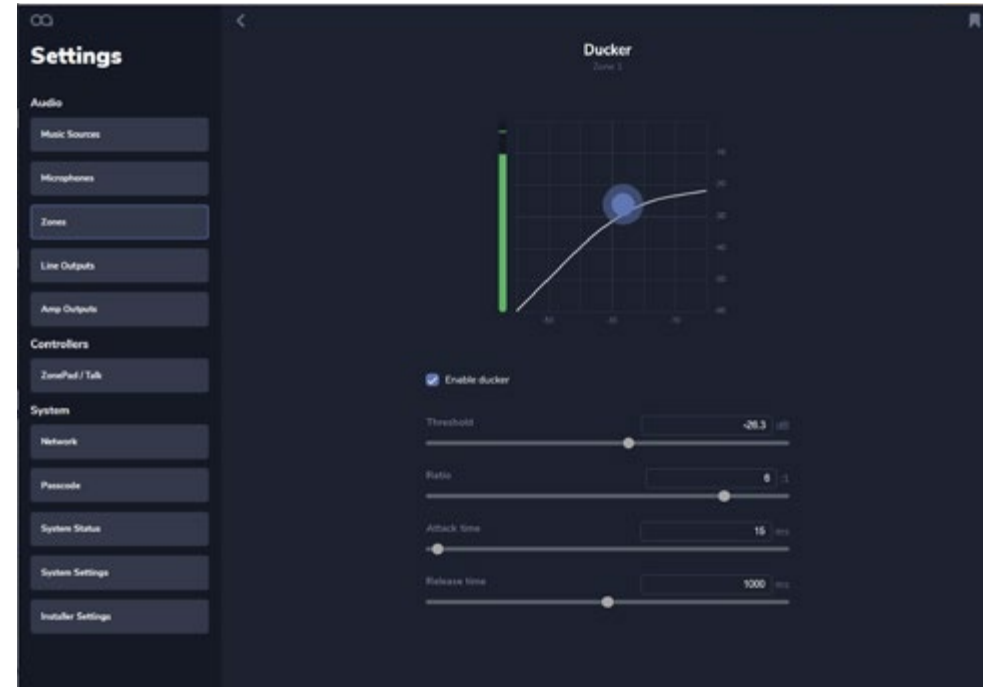
The controls here allow you precise control over the way the ducker operates.

Threshold – the level of the microphone signal at which the ducker starts to operate. If the control is set at -20dB, whenever the mic signal reaches this level it will trigger the ducker. -20dB is a good place to start – reduce it further if the music does not go quiet when you speak into the microphone – or speak louder.

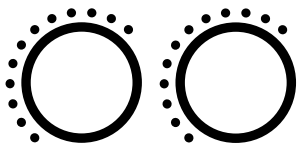
Ratio – the amount by which the music signal is reduced. If this is set at 6:1, when the ducker is triggered by the mic signal, the music level will reduce by 6dB. A good starting point would be 10:1. If you want the music to duck more, increase this number.

Attack time – the amount of time taken for the ducker to react. Essentially, a short attack time is best as it quickly reduces the music level, ensuring announcements are clear from the beginning.

Release time – the time taken for the ducker to return to normal operating level once an announcement has been made.



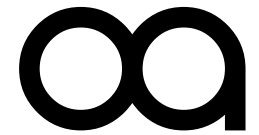
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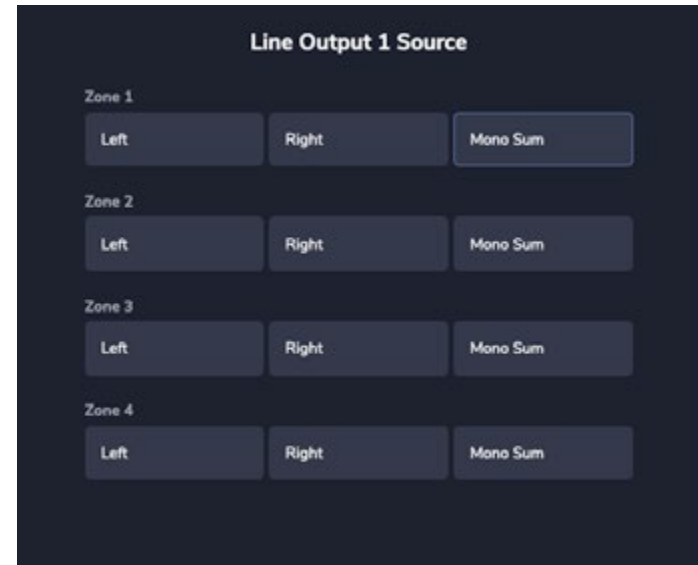
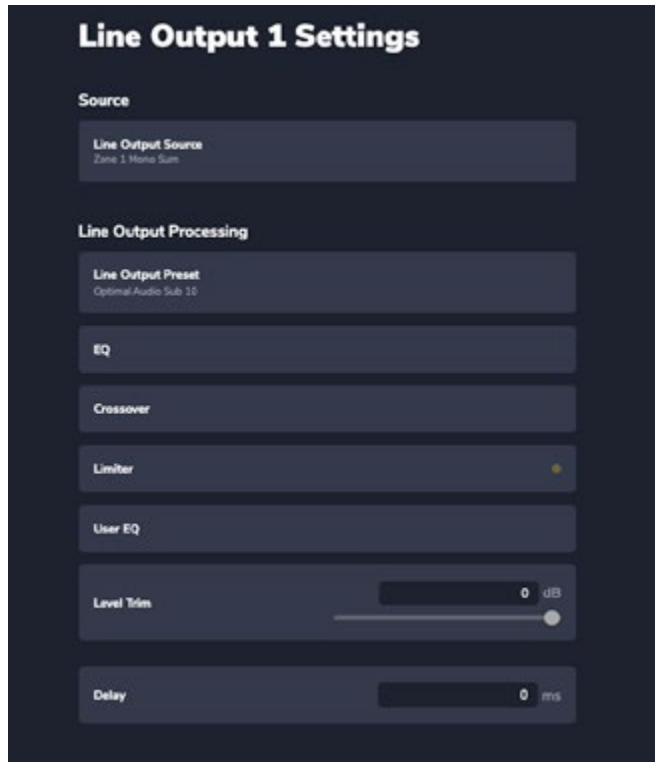


Optimal Audio

Routing sources to output

This section refers to the physical output connections on the rear of Zone units. It's vital to understand the difference between zones and outputs – several outputs can constitute a zone.

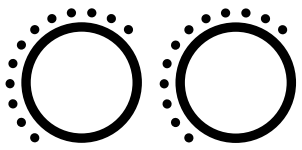
Click **Line Output Source** to select the signal source for the output you are working on. All zone mixes are processed in stereo. Mono/stereo reproduction is controlled by how you route to your outputs - either by using separate outputs for left and right or by routing just a mono sum. Note that any stereo zones require two physical outputs. Selecting the **Line Output Source** box will bring up this page:



Select the desired signal source for the output you are working with.

The process of source selection for an amp output on Zone 4P or 8P is exactly the same – just click **Amp Output Source** and select the source routing you require.

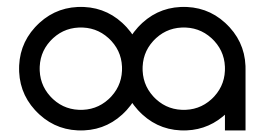
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Running amp outputs in Bridge Mode (Zone 4P and 8P only)

If you wish to derive more amplifier output power from a Zone4P or 8P, it is possible to run pairs of Amp Outputs in Bridge Mode. This is suitable for running both low impedance and 70V line high impedance loudspeaker circuits up to 200W.

Bridge Mode works across adjacent amplifier channels and is enabled in the odd numbered channel of a pair.

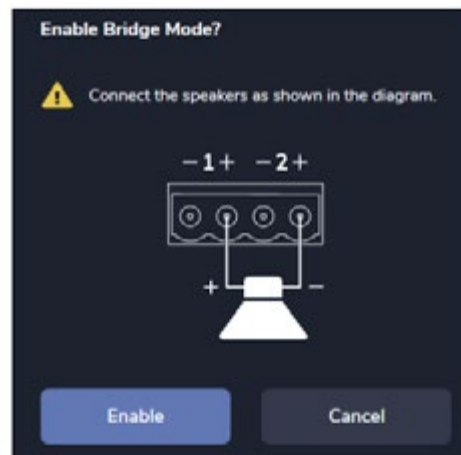
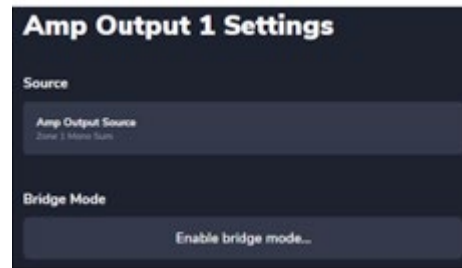
To enable, click Amp Output **Settings**>**Enable Bridge Mode**.

Take careful note of the loudspeaker wiring shown in the diagram – connect your loudspeakers accordingly.

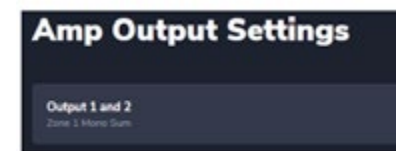
Click **Enable** to turn on Bridge Mode.

Once enabled, all output processing settings are copied from the odd output (1, 3, 5 or 7) to the even output (2,4,6 or 8). Control of a bridged pair is done from the odd numbered channel.

The outputs are then treated as a pair until the bridge mode is disabled. To disable a bridged pair, first unplug your loudspeakers and click **Disable Bridge Mode** under **Amp Output Settings**.

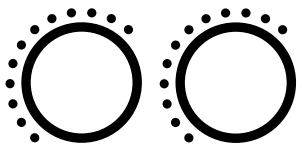


A confirmation dialog is shown along with wiring diagram.



Enabling bridge mode will allow you access to presets for loudspeakers not otherwise supported due to the power requirements to drive those loudspeakers.

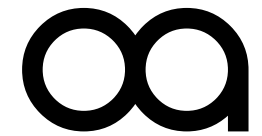
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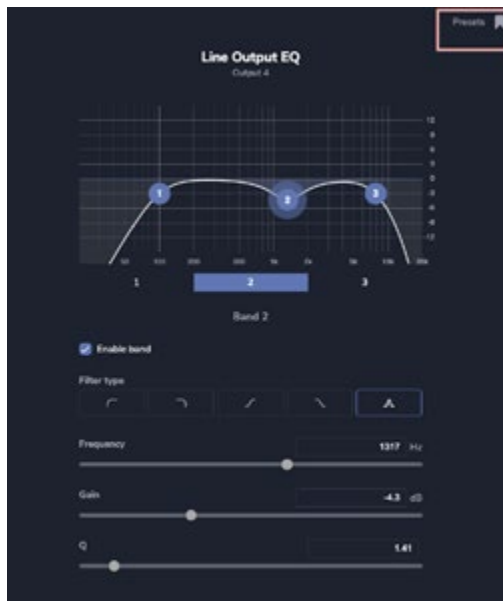
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Storing presets

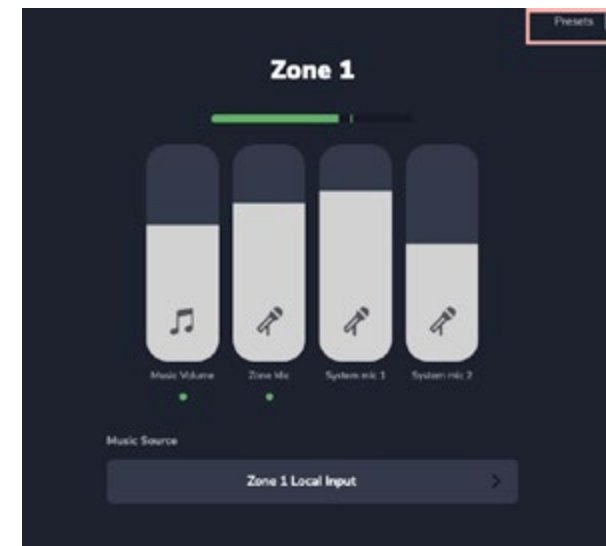
Wherever you see the bookmark icon in the top right of the screen, all of these settings can be captured to a named preset. Presets can be created per zone on the bookmark page which capture the settings visible on each zone page. Once you are happy with the balance of the sources in a zone, save it as a preset and name it accordingly.

To access the bookmark page, click the bookmark logo in the top right of the screen.

Presets are a useful way of storing and recalling settings quickly. On each page where you see this logo in the top right, this indicates that the settings on the current page can be stored as a preset for later recall.



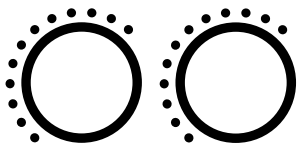
Also, a preferred mix of sources in any zone can be stored as a preset.



Presets enable the quick and accurate recall of zone mixes and DSP settings. Once you are happy with a balance of sources or a particular set of DSP parameters it is advisable to save a preset with an appropriate name.

Presets can be triggered by timed routines which are explained later in this guide.

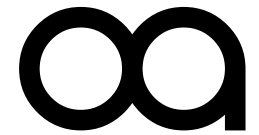
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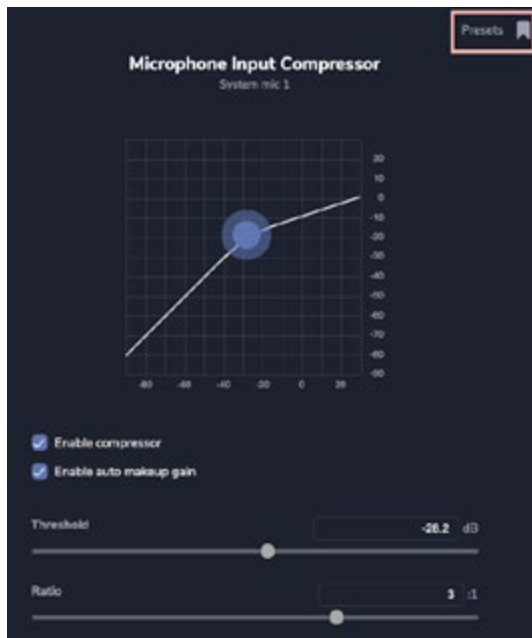


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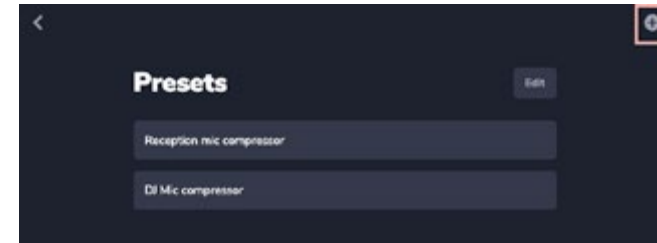
Preset management

Preset management allows the user to Rename, Overwrite, Delete or Reorder any preset created in the EQ, Limiter, Crossover, Ducker or Compressor pages of any Music Source, Microphone Input, Line Output or Amp Output.

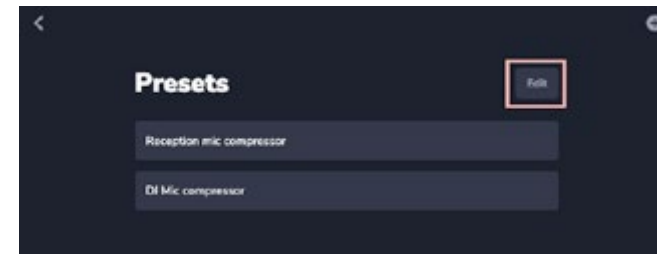
From any page (for example Microphone 1 Input Compressor), click the bookmark icon in the top right of the screen.



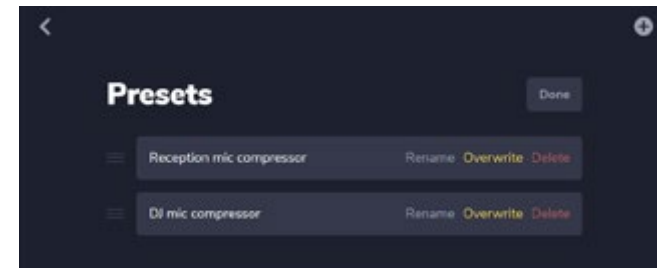
To create a new preset, click the + icon in the top right corner



To Rename, Overwrite or Delete a preset, click the Edit button

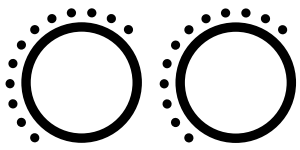


To change the order of presets, once you have clicked Edit, grab the handles to the left of the preset names and drag as required.



Click Done when you have finished.

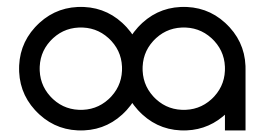
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Global presets

Global presets capture the user settings across all zones.

Access to Global Presets is from the landing page of WebApp.

Global presets are useful ways of quickly recalling a complex combination of parameters across an entire installation.

An example would be a Sports Bar where sports events are shown on a big screen. At opening time background music would play at a low level in the entire bar.

At game time the background music could be routed to areas other than the bar where the game is being shown. In the main bar the screen sound would be selected and the level set for those watching the screen.

All of this can be achieved in an instant by recalling a global preset.

Once you have set all zones to the desired sources and volumes, go to the global presets page, then click the + icon in the top right corner to create a new global preset.

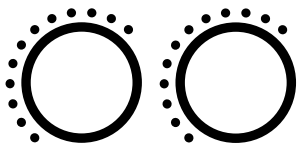
Name the preset.

To recall a global preset, go to the Global Presets page from the WebApp landing page and click the desired preset.

Global Presets can be managed in exactly the same way as audio processing presets.



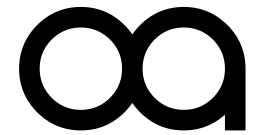
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Routines

Routines are a method to trigger Bookmarks or Global Presets in response to time settings from the built-in real time clock.

With the day of week buttons, combinations of weekday / daily or weekend timings can be set for each routine which can then trigger one bookmark for each zone or one global preset.

To create a new routine access the **Routines** page from the WebApp landing page. It is necessary to have created Bookmarks or Global Presets before a routine can be created.

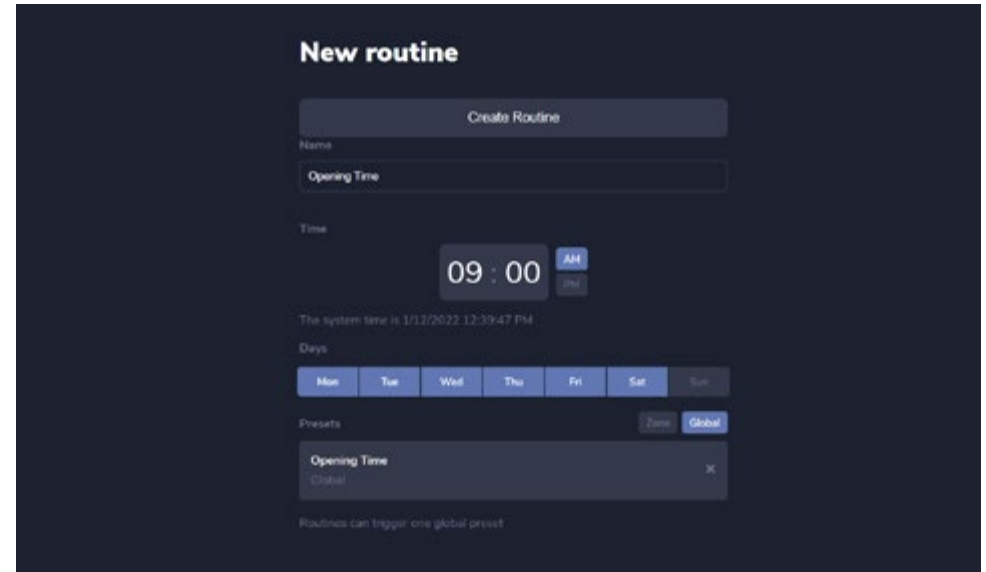
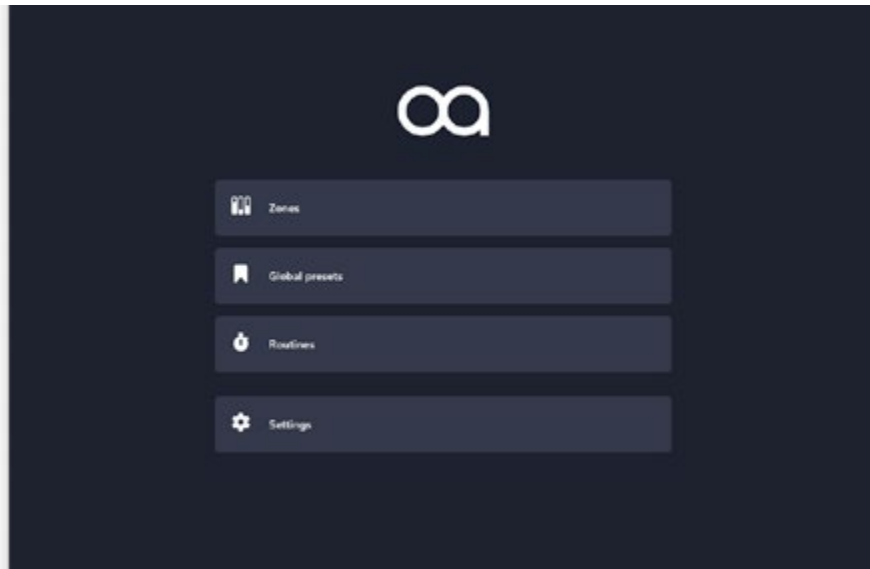
Select Create Routine.

Name the routine with something obvious and definitive, like 'Opening Time'.

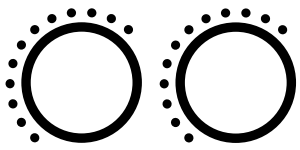
Set the time you wish the routine to trigger.

Set the days you wish the routine to trigger.

Select whether it is a global preset or a collection of zone presets you wish to trigger. You can choose from one global preset or up to eight zone presets.



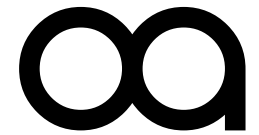
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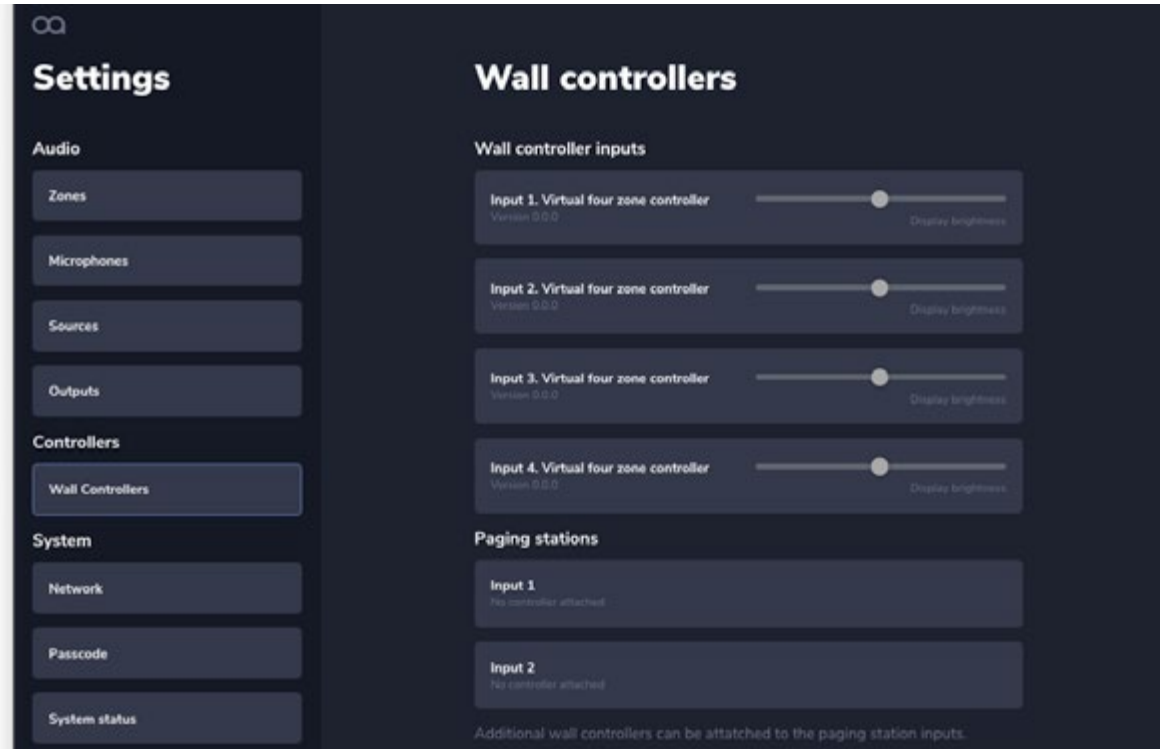
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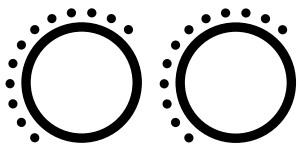
Wall controllers and paging stations

If you have ZonePad wall controllers connected to your Zone unit, clicking the 'ZonePad/Talk' button on the Settings page will bring up a list of connected units.

The model and current software version will be displayed according to which sockets are being used on the rear of your Zone processor. The slider allows you to control the brightness of the ZonePad display. When the unit is updating the software of the controllers, the brightness control is replaced with a progress bar.

In future this page will also display connected Optimal Audio paging stations.

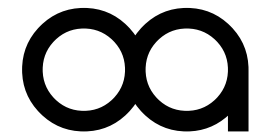
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Network

For physical network connections please refer to the 'Connecting to a network' page in this guide. Clicking the Network box under **System** will open this page.

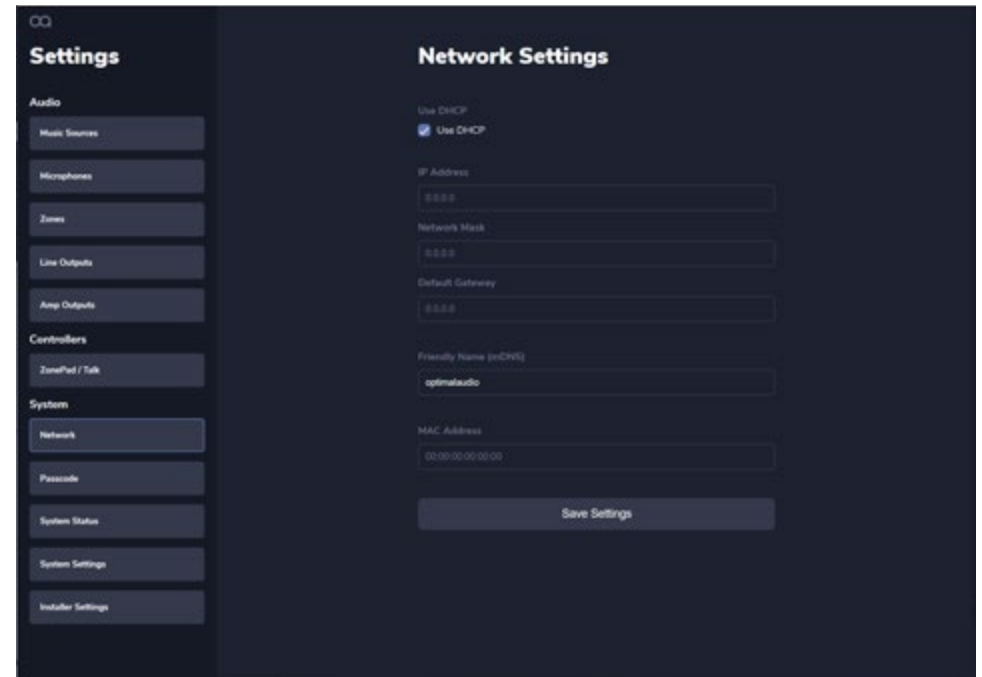
If your Zone is connected to a network, the connection details will be shown here. It's worth taking a moment to understand some basic networking terms.

IP Address

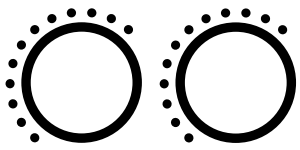
For a network to be able to identify different devices, each device must have a unique address that identifies it. This is the IP (Internet Protocol) address, and takes the form of four numbers separated by a full stop.

Use DHCP

DHCP stands for Dynamic Host Configuration Protocol. Using this means that when you connect Zone to a network, it will automatically configure the IP Address, Network Mask and Default Gateway. If you are intending to use Zone on a network using a static IP address, where the IP addresses are designated manually, uncheck this box.



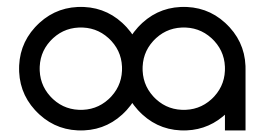
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Network

Network Mask

A subnet mask is a number that defines a range of IP addresses available within a network. A single subnet mask limits the number of valid IPs for a specific network. Systems within the same subnet can communicate directly with each other, while systems on different subnets must communicate through a router. If your Zone is connected to a computer or other device, they will both have identical Network Masks, but different IP addresses.

Default Gateway

Default gateways are essentially routing systems that ensure the request is sent to the right destination. In the case of Zone on a local network, the Default Gateway acts as an intermediary between devices, and generally has the first IP address available on the network – e.g. 192.186.0.1

Friendly Name (mDNS)

mDNS stands for multicast Dynamic Name System

This is the computer name of the device you are working with. It enables you to connect with the device using the mDNS with .local following it – e.g. **optimalaudio.local**

Typing this in to an internet browser will enable you to connect directly to your Zone according to the connection configurations defined elsewhere in this guide.

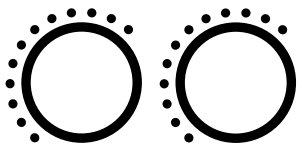
MAC Address

MAC stands for Media Access Control, and is the unique identifier given to any piece of network computing hardware at the point of manufacture. This is shown for information only and cannot be changed.

Whether Zone is being manually configured or automatically by DHCP, and is correctly connected, select **Save Settings** before leaving this page.

We recommend using a manually assigned or static IP address.

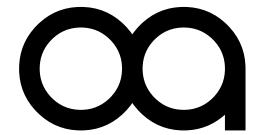
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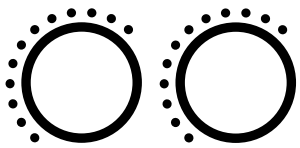
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Passcode

If you need to lock out the installation settings of your Zone, here is where you select the option to use a Passcode.



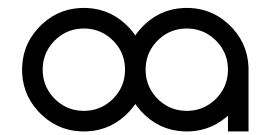
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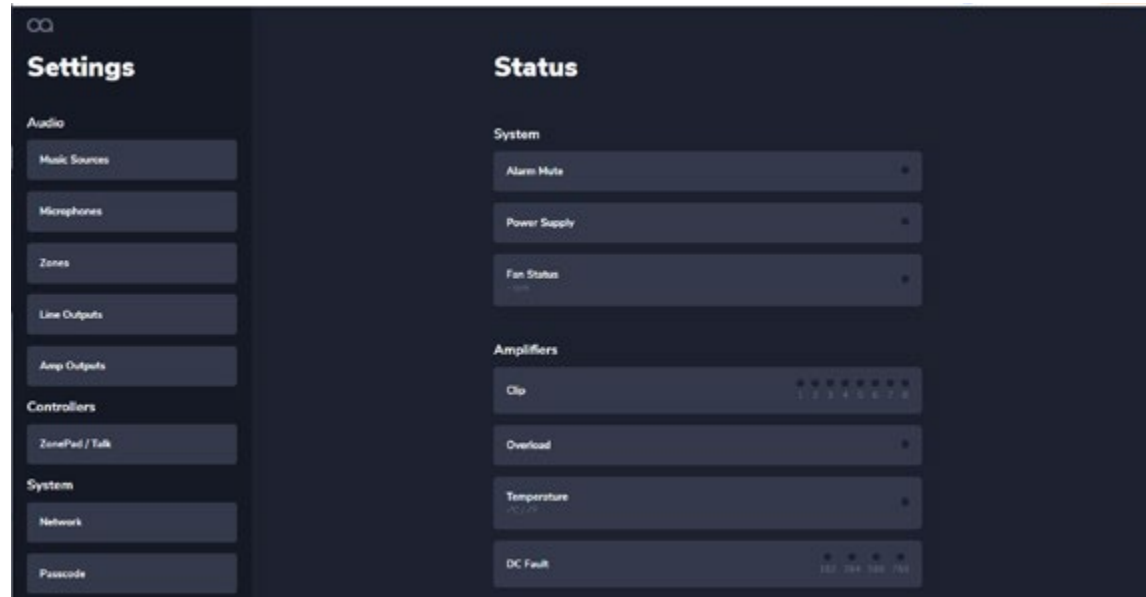
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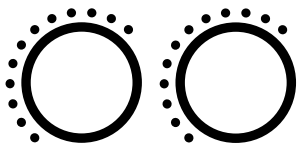


System status

This page enables the status of various key functions to be monitored.

System		Amplifiers (Zone P models only)	
Alarm Mute	Yellow – muted, otherwise off.	Clip	Individual amplifier channels red when amplifier is clipping.
Power Supply	Red – fault. Green – good.	Overload	Red – there is an overload of the amplifier power supply. Off – system is operating normally.
Fan status	Red – fault the fan has stalled. Green – the fan is operating at the correct speed.	Temperature	Red – the system temperature is too hot. Off – the system is operating normally.
		DC Fault	Channels pairs Red – power supply fault on one or both channels of a pair. Off – the system is operating normally.

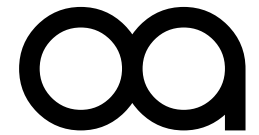
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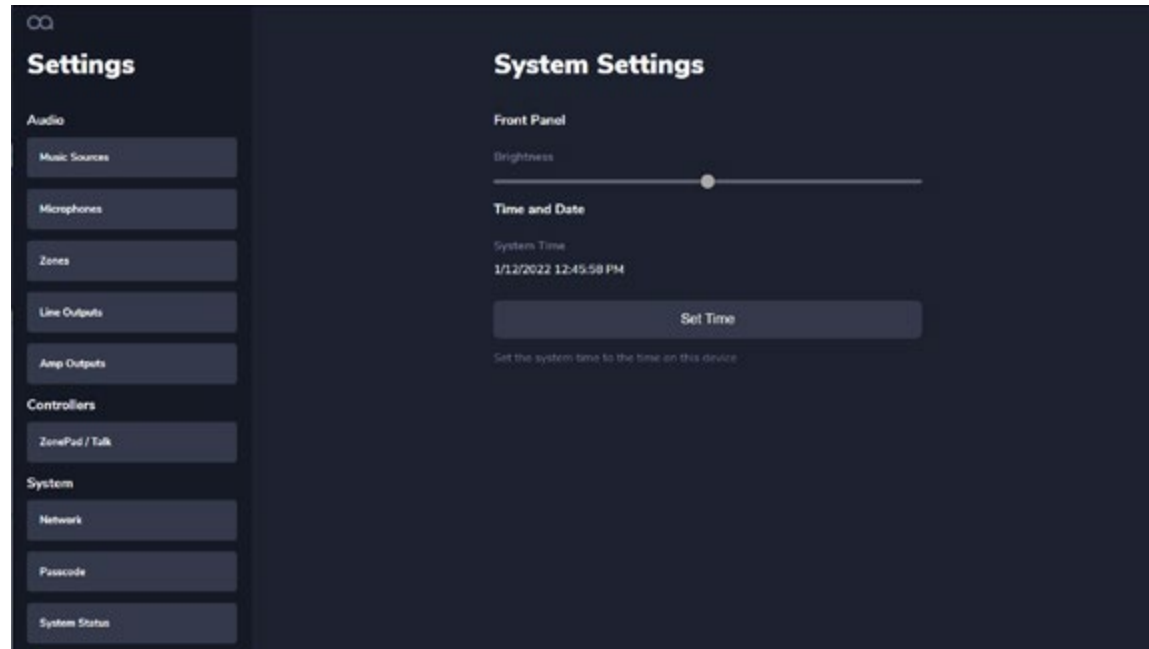
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System settings

Front Panel Brightness

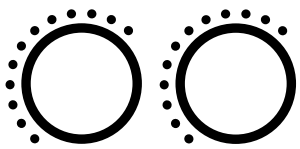
Use this to adjust the brightness of the front panel controls on your Zone. Sliding the control to the right will increase the brightness.

Time and Date

If you are using Routines it is very important that the internal clock on your Zone is accurate. Select 'Set Time' and make the necessary adjustments to bring the date and time in line with a clock that you refer to regularly.

It is necessary to do this once and the unit will then keep time, unless it has been switched off for more than a few weeks.

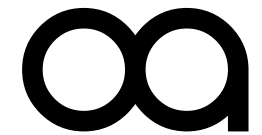
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Installer settings

Logs

The three buttons give access to logs of the processes shown.

In the rare case where there is a problem with updating software with the unit or there is a serious error, then the boot log and / or error log will be needed to track down the fault.

Upload Bundle

Software and configuration file releases are distributed from the Optimal Audio website as a single bundle file. See the description for the contents which may contain any or all of the following: Zone unit or subsystem firmware, Controller firmware, speaker presets and an updated Web App.

Firstly, go to optimal-audio.co.uk to download the latest bundle. Browse to the bundle file on your local device and upload the file. This will be transferred to the SD card. On the next reboot of the Zone unit, then bundle file will be unpacked onto the SD card filing system and used to update the system.

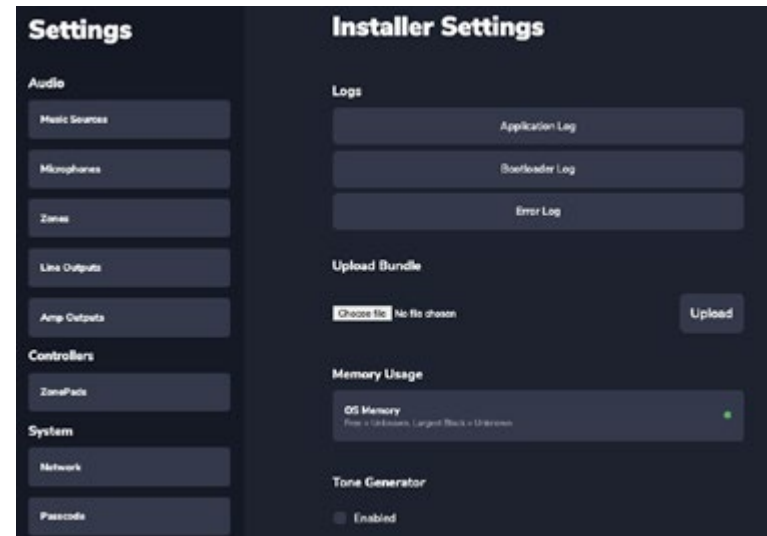
If for any reason there is no access via the web app to the Zone system, this file may be copied directly to the SD card root. Once this has been done, re-insert the SD card into the Zone, and power cycle. The Zone will unpack the file and update the firmware.

Memory Usage

Provides an indication of the memory status of the Zone unit.

The amount of free memory available is dependent on the number of web app clients connected to the Zone unit.

A maximum of eight is supported. If for any reason there is a problem with amount of memory in use, the indicator will show red and an error will be added to the application log file.



The indicator refers to operating system memory. Green = good, red = error reported to log file.

Tone Generator

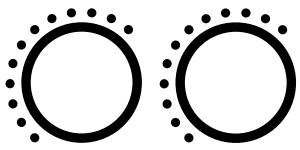
This is provided for installation troubleshooting and is only routed to Zone 1. In order to route a tone signal to outputs, they must have their source selected as Zone 1.

Warning: it is possible to create a sound level at the maximum possible that the unit can reproduce, posing a risk of damaging speakers. Use with extreme caution and always keep the level low before enabling.

Metering

All meters in the DSP can be seen here for viewing the system signal flow in one place.

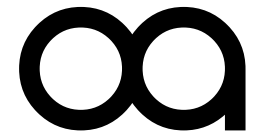
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Logs

The three buttons give access to logs of the processes shown.

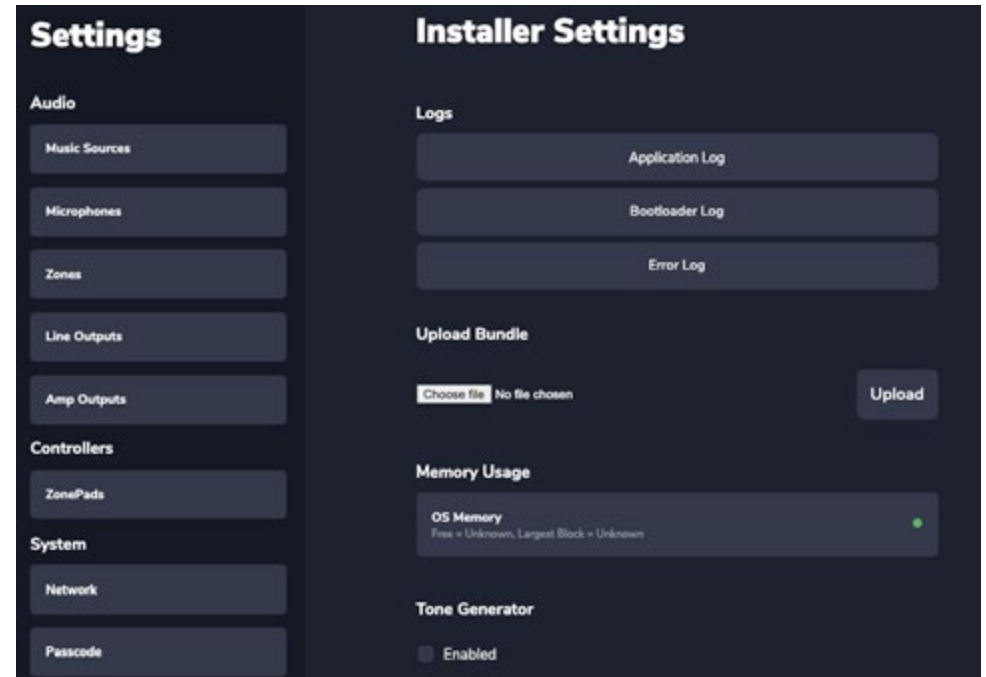
In the rare case where there is a problem with updating software with the unit or there is a serious error, then the boot log and / or error log will be needed to track down the fault.

Upload Bundle

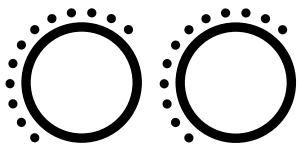
Software and configuration file releases are distributed from the Optimal Audio website as a single bundle file. See the description for the contents which may contain any or all of the following: Zone unit or subsystem firmware, Controller firmware, speaker presets and an updated Web App.

Firstly, go to optimal-audio.co.uk to download the latest bundle. Browse to the bundle file on your local device and upload the file. This will be transferred to the SD card. On the next reboot of the Zone unit, then bundle file will be unpacked onto the SD card filing system and used to update the system.

If for any reason there is no access via the web app to the Zone system, this file may be copied directly to the SD card root. Once this has been done, re-insert the SD card into the Zone, and power cycle. The Zone will unpack the file and update the firmware.



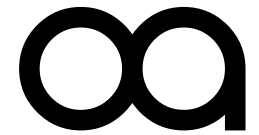
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Memory Usage

Provides an indication of the memory status of the Zone unit.

The amount of free memory available is dependent on the number of web app clients connected to the Zone unit.

A maximum of eight is supported. If for any reason there is a problem with amount of memory in use, the indicator will show red and an error will be added to the application log file.

The indicator refers to operating system memory.

Green – good.

Red – error reported to log file.

Tone Generator

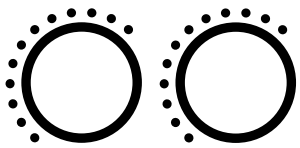
This is provided for installation troubleshooting and is only routed to Zone 1. In order to route a tone signal to outputs, they must have their source selected as Zone 1.

Warning: it is possible to create a sound level at the maximum possible that the unit can reproduce, posing a risk of damaging speakers. Use with extreme caution and always keep the level low before enabling.

Metering

All meters in the DSP can be seen here for viewing the system signal flow in one place.

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3rd party control

Open Sound Control over Ethernet is the Zone control method from 3rd party controllers.

V1.0 of WebApp includes support for UDP and TCP control of Zone parameters. To send parameters to the unit, open a UDP or TCP socket on port 8000.

```
/oa/zone/set/zone/n/level/music  
/oa/zone/set/zone/n/level/mic  
/oa/zone/set/zone/n/level/system_mic_1  
/oa/zone/set/zone/n/level/system_mic_2  
/oa/zone/set/zone/n/source
```

is the zone number

To retrieve parameters from the Zone unit, open a TCP connection on port 8000 and send:

```
/oa/zone/sync
```

All parameters will be sent back to the client. While the socket remains open, live control changes will be sent to the client.

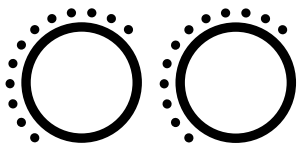
To retrieve names and status information, send:

```
/oa/zone/status/sync
```

Names will be returned with string responses to the following addresses:

```
/oa/zone/set/name/zone_1  
/oa/zone/set/name/zone_2  
/oa/zone/set/name/zone_3  
/oa/zone/set/name/zone_4  
/oa/zone/set/name/zone_5  
/oa/zone/set/name/zone_6  
/oa/zone/set/name/zone_7  
/oa/zone/set/name/zone_8  
/oa/zone/set/name/line_in_1  
/oa/zone/set/name/line_in_2  
/oa/zone/set/name/line_in_3  
/oa/zone/set/name/line_in_4  
/oa/zone/set/name/hdmi_1  
/oa/zone/set/name/hdmi_2  
/oa/zone/set/name/local_source_1  
/oa/zone/set/name/local_source_2  
/oa/zone/set/name/local_source_3  
/oa/zone/set/name/local_source_4  
/oa/zone/set/name/local_source_5  
/oa/zone/set/name/local_source_6  
/oa/zone/set/name/local_source_7  
/oa/zone/set/name/local_source_8  
/oa/zone/set/name/system_mic_1  
/oa/zone/set/name/system_mic_2  
/oa/zone/set/name/paging_mic_1  
/oa/zone/set/name/paging_mic_2
```

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Status responses will be sent with float values to the following addresses:

- `/oa/zone/status/alarm_mute`
- `/oa/zone/status/power_supply_fault`
- `/oa/zone/status/amp_1_2_dc_fault`
- `/oa/zone/status/amp_3_4_dc_fault`
- `/oa/zone/status/amp_5_6_dc_fault`
- `/oa/zone/status/amp_7_8_dc_fault`
- `/oa/zone/status/system_temperature_fault`
- `/oa/zone/status/amp_overload`
- `/oa/zone/status/dan_fault`
- `/oa/zone/status/amp_1_clip`
- `/oa/zone/status/amp_2_clip`
- `/oa/zone/status/amp_3_clip`
- `/oa/zone/status/amp_4_clip`
- `/oa/zone/status/amp_5_clip`
- `/oa/zone/status/amp_6_clip`
- `/oa/zone/status/amp_7_clip`
- `/oa/zone/status/amp_8_clip`
- `/oa/zone/status/power_supply_ok`
- `/oa/zone/status/fan_ok`
- `/oa/zone/status/system_temperature`
- `/oa/zone/status/fan_temperature`

A collection of example design files are provided for TouchOSC to demonstrate use of OSC control.

Zone8OSC.tosc:

Demonstration Zone 8 control

Zone8OSC + StatusOSC.tosc:

Demonstration Zone 8 control with status information

Zone4OSC.tosc:

Demonstration Zone 4 control

Zone4OSC + StatusOSC.tosc:

Demonstration Zone 4 control with status information

StatusOSC.tosc

Demonstration of status monitoring

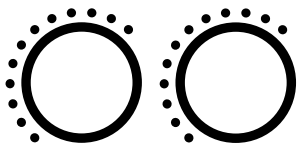
These are not intended to be used as-is but give examples of every parameter, status and name to be the basis of control panels for your application.

Other clients are available.



Zone8OSC.tosc

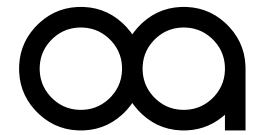
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WARNING!

DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of **sufficient magnitude to constitute a risk** of electric shock to persons.

THIS EQUIPMENT MUST BE EARTHED

Important safety instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation opening. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. To reduce the risk of electrical shock, the power cord shall be connected to a mains socket outlet with a protective earthing connection.
10. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
11. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
12. Do not unplug the unit by pulling on the cord, use the plug.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. The appliance coupler, or the AC Mains plug, is the AC mains disconnect device and shall remain readily accessible after installation.
16. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
17. Do not remove any covers, loosen any fixings or allow items to enter any aperture.

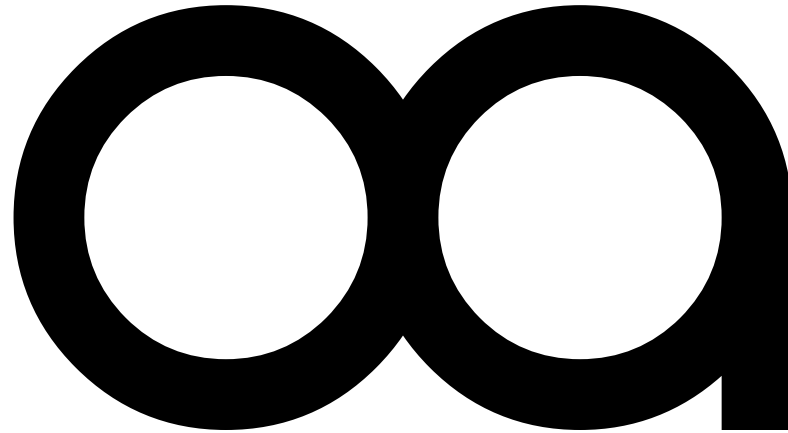
FCC compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

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Relax, It's Optimal Audio.

optimal-audio.co.uk

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