Congratulations on your purchase of Carnaby HE2 and thank you for selecting Cranborne Audio to be a part of your music creation process.

Carnaby HE2 is an evolution of our Carnaby 500 HarmonicEQ® developed into a 19” rackmount format. While we had always planned for Carnaby HE2 to be more than just ‘two Carnaby 500’s in a box’, we have loved reading about what our customers hoped for in such a box and hope you are as excited as we are about introducing Carnaby HE2 to your workflow.

While the fundamental (no pun intended) sound of Carnaby remains wholly intact, we have set about expanding the tonal options and control that you now have available. Carnaby 500 is an incredible colourbox and audio ‘finisher’, with Carnaby HE2, you now have the ability to delve deeper into the world of saturation like never before. While our HarmonicEQ® circuit appears similar to a conventional parametric EQ, it is a very different beast, and so we encourage you to explore its musicality with your ears, and not with any preconceptions of conventional EQs.

Cranborne Audio, for us, means so much more than metal boxes with components in them. These are our labours of love that embody and demonstrate our demand for excellence. By distilling what matters and putting our soul into these tools, we hope to help other people make magic and express themselves, and in some way, become part of our Cranborne Audio family.

So welcome to the Cranborne Audio family. We care for our family, and we care about making your audio recordings sound as incredible as possible.

Carnaby HE2 User Guide 2.0

So now your Carnaby HE2 is out of its packaging, you're probably itching to get it powered on and making music! But before you get started, please read the sections below that will help guide you through the process of setting up Carnaby HE2.

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Carnaby HarmonicEQ®

At its heart, HarmonicEQ is a 3-band parametric EQ with a unique and revolutionary EQ concept conceived and created by us here at Cranborne Audio. It uses harmonic saturation to boost and cut frequency content, enhancing your sources, stems and mixes with genuine analogue harmonic saturation with the feel, familiarity, and control of an equaliser.

Input Dynamics
Each EQ band features a level control that adjusts the saturation level for that band, while the channels global Input and Output controls manage the signal's overall journey through that channel. For instance, you have the option to reduce the mid frequencies (to a maximum of approximately +/- 10dB for each band), and amplify the module as a whole to enhance saturation in the high and low frequencies, keeping the mid frequencies relatively untouched. Conversely, amplifying the mids causes them to reach the saturation threshold sooner than the low and high frequencies, especially if those are kept at +/- 0dB.

As our HarmonicEQ® circuit is highly dynamic, you can change how Carnaby HE2 affects your source audio by adjusting the gain of the signal hitting the Carnaby HE2’s input.

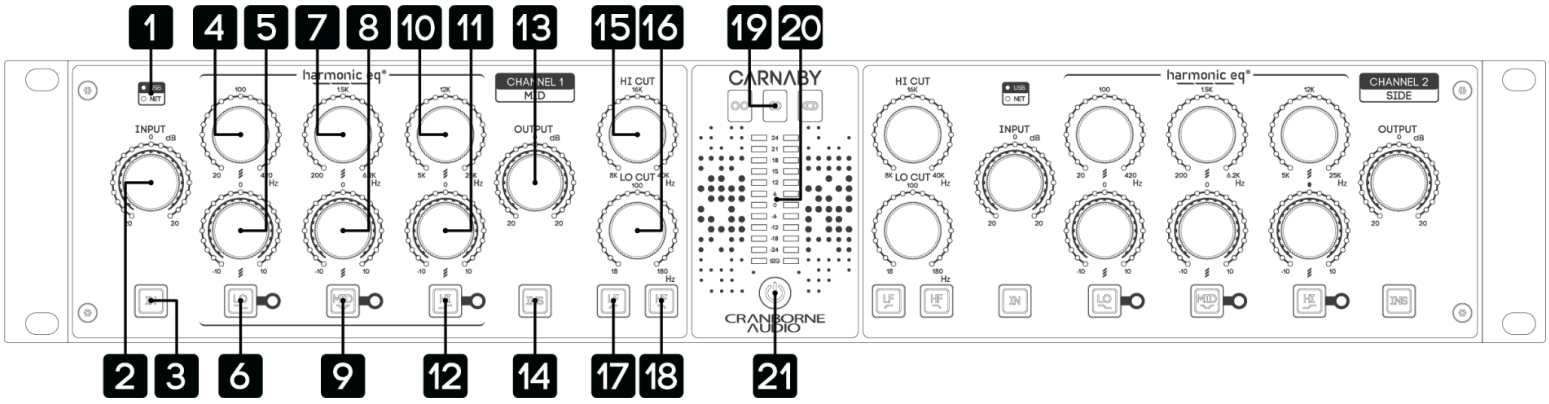
Per-band saturation types
Lo band - Hard clipping from 420Hz down to 20Hz to extend sub harmonic frequencies for a thick, warm bottom end using a shelf.

Mid band - Peaking filter with a fixed Q that affects 200Hz up to 6.2kHz.

Hi band - Saturates for smoother high end from 5kHz to 25kHz, also harnessing a shelf to affect everything above the frequency that’s been set.

Because each of Carnaby HE2’s EQ bands overlap with one another, when combined with the per-band IN switches, you have at your fingertips a huge array of settings with which to achieve incredible results.

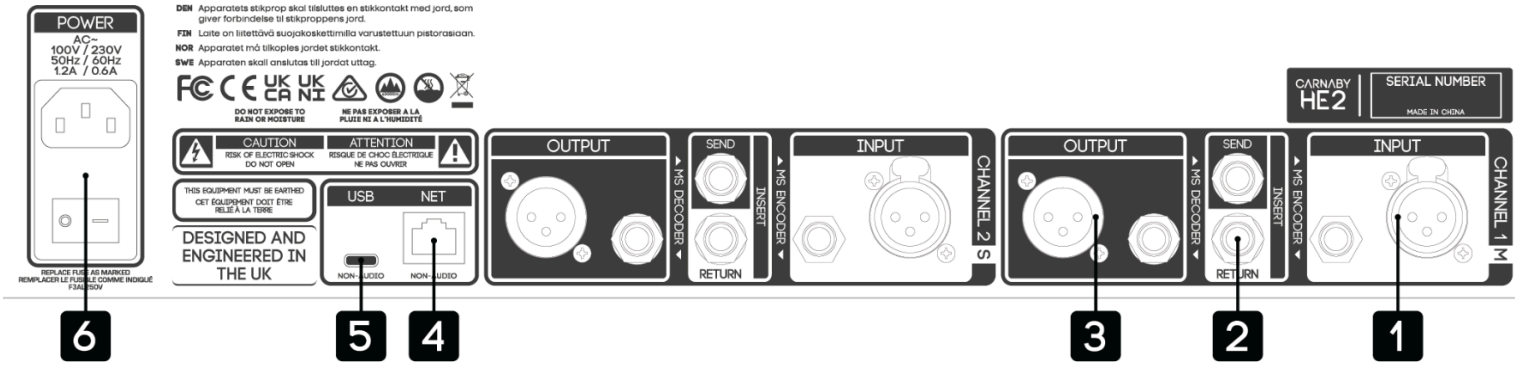
Front Controls and Connectors



[1] USB/NET Indicators: Showing when a connection is established over the USB and/or Network ports.	**[5] Lo Level Control:** **[**±10dB, 0.5dB steps**]** Adjusts up to 10dB of boost/cut for the low shelf filter at the frequency set using the Lo Frequency Control **[**4**]**. This control progressively increases the amount of harmonic saturation added to the signal above the selected frequency in boost and cut positions.
[2] Input Level Control: **[**±20dB, 1dB steps**]** Adjusts the input level and internal saturation circuits. Set around 0dB for nominal settings or push higher for more harmonic saturation.	**[6] Lo Band IN Button:** Engages & disengages the Lo Band for processing. The LED to the right indicates how hard the saturation stages are being driven.
[3] IN Button: Acts as a bypass control for Carnaby HE2.	**[7] Mid Frequency Control: [**200Hz - 6.2kHz**]** Adjusts the mid-point frequency of the mid peaking filter and sets the start frequency where the harmonic saturation is filtered into the dry signal.
[4] Lo Frequency Control: **[**20Hz - 420Hz**]** Adjusts the corner frequency of the low frequency shelf filter and sets the start frequency where the harmonic saturation is filtered into the dry signal.	**[8] Mid Level Control:** **[**±10dB, 0.5dB steps**]** Adjusts up to 10dB of boost/cut for the mid peaking filter at the frequency set using the Mid Frequency Control **[**9**]**. This control progressively increases the amount of harmonic saturation added to the signal within the selected frequency in boost and cut positions.

[9] Mid Band IN Button: Engages & disengages the Mid Band for processing. The LED to the right indicates how hard the saturation stages are being driven.	**[16] Lo Cut Filter:** Progressive slope high-pass filter. 1st order 6dB per octave, 2nd order 12dB per octave, 3rd order 18dB per octave. **[**-3dB, 18Hz-180Hz**]**
[10] Hi Frequency Control: **[**5kHz - 25kHz**]** Adjusts the corner frequency of the high frequency shelf filter and sets the start frequency where the harmonic saturation is filtered into the dry signal.	**[17] LF IN Button:** Engages and disengages Lo Cut Filter **[**16**]**.
[11] Hi Level Control: **[**±10dB, 0.5dB steps**]** Adjusts up to 10dB of boost/cut for the high shelf filter at the frequency set using the HI FREQUENCY CONTROL **[**7**]**. This control progressively increases the amount of harmonic saturation added to the signal above the selected frequency in boost and cut positions.	**[18] HF IN Button:** Engages and disengages Hi Cut Filter **[**15**]**.
[12] Hi Band IN Button: Engages & disengages the Hi Band for processing. The LED to the right indicates how hard the saturation stages are being driven.	**[19] Mode Buttons:** Selects between Carnaby HE2's (L-R) Dual Mono, Stereo & Mid/Side.
[13] Output Level Control: **[**±20dB, 1dB steps**]** Adjusts the output level of the module post processing. Set in accordance with the Input Level Control **[**2**]** to maintain unity through the module.	**[20] 12 Segment LED Meter:** 12 segment peak output meter with clip indicator at 24dBu, signal indicator at -30dBu.
[14] Insert IN Button: Engages & disengages the Carnaby HE2 Insert.	**[21] Power Switch:** Safely powers on and off Carnaby HE2. Tap to power on, press and hold to power off.
[15] Hi Cut Filter: Progressive slope low-pass filter. 1st order 3dB per octave, 2nd order 6dB per octave, 3rd order 12dB per octave. **[**-3dB, 8kHz-40kHz**]**	

Rear Connectors



[1] Channel Input: Connects balanced XLR or TRS balanced ¼” line-level analogue inputs into HE2.	**[4] NET Input:** Network control & digital recall via Carnaby HE2 Control. (NOT compatible with C.A.S.T. system).
[2] Channel Insert Send/Return: Connects external equipment in-line for processing by HE2. Post input level & pre output level. Utilises standard ¼” line-level TRS balanced jack cables for send & return.	**[5] USB port:** Used for software updates and USB control & digital recall via Carnaby HE2 Control. Carnaby HE2 cannot be used as an audio interface.
[3] Channel Output: Sends balanced, line-level output for connection to external converters and equipment.	**[6] Mains Power Inlet/Fuse Holder/Switch:** Provides Carnaby HE2 with mains power via the provided IEC AC power cable when mains switch is set to ON. Fuse is a Littelfuse 021612.5. F3.15AH250V rated part and must only be replaced with equivalent.

Channel Inputs [R1**]**

XLR Input - The rear XLR input accepts balanced and unbalanced Line inputs only.

¼" Jack Input - The ¼" Jack input can accept balanced or unbalanced Line sources.

Note: Each channel's ¼" Jack input takes precedence over that channel's XLR input. Each Carnaby HE2 channel will default to its ¼" Jack when it is connected irrespective of whether the XLR input is also connected.

Channel Outputs [R3**]**
Each of Carnaby HE2's channels have 2 discrete outputs that can be used simultaneously for multi-routing scenarios and splitting capabilities in the studio or on stage.

XLR Output - The XLR output is a fully balanced line output with a maximum output level of +24dBu. This connection should be used when connecting Carnaby HE2 to an audio interface line-input for recording. This connection can also be safely connected to an unbalanced input without damage using the correct cable.

Impedance Balanced ¼" Jack Output - The ¼" Jack output is an impedance balanced output that can be connected to both balanced & unbalanced sources using a TRS or TS jack cable. The output has a maximum output level of +18dBu.

Inserts [R2**]**
Carnaby HE2 features a bypassable TRS Insert **[**R2**]** on each of its two channels. With these Inserts being post Mid/Side encoding and pre Mid/Side decoding, you can use each of these Inserts to connect outboard hardware after your signal hits the HarmonicEQ® processing.

By utilising the Insert IN buttons for each channel **[**F14**]**, each channels Insert can be engaged and disengaged, allowing for the A/B'ing of your outboard processing.

Dual Mono / Stereo / Mid Side

Select one of the following modes using the Mode Buttons **[**F19**]**.

Dual Mono - When selected, each Carnaby HE2 channel will operate independently, allowing for different settings per channel.

Stereo - When selected, either channel's hardware controls can be used to update the parameters across both channels, this means that both Left & Right audio channels will be processed identically.

Mid/Side - Carnaby HE2 allows for Mid/Side processing, facilitating the application of Harmonic EQ® to the separate mid (centre) and side (stereo width) components of your stereo signal. Your stereo signal will be appropriately encoded for Mid (channel 1) & Side (channel 2) HarmonicEQ® processing, and decoded before passing to the channel outputs **[**R3**]**. This is especially valuable for mastering, mixing, and sound design applications.

Additional Filtering

Carnaby HE2 features two, per-channel global filters for additional fine-tuning. Each filter is independently bypassable using the LF **[**17**]** & HF **[**18**]** IN buttons.

Hi Cut - Features a progressive slope low-pass filter.
1st order 3dB per octave, 2nd order 6dB per octave, 3rd order 12dB per octave.
[-3dB, 8kHz-40kHz**]**

Lo Cut - Features a progressive slope high-pass filter. 1st order 6dB per octave, 2nd order 12dB per octave, 3rd order 18dB per octave. **[**-3dB, 18Hz-180Hz**]**

Network & USB Control

By connecting Carnaby HE2 via the NET port on the rear of HE2 [R4] to a LAN (local area network), it is possible to control Carnaby HE2 hardware via our plugin or standalone application running on any device connected to that same LAN.

When connecting Carnaby HE2 to your computer via the rear USB port [R5], it is possible to control Carnaby HE2 via our plugin/standalone application running on that computer.

This USB port ONLY passes data that relates to the remote control of Carnaby HE2, it does NOT pass audio.

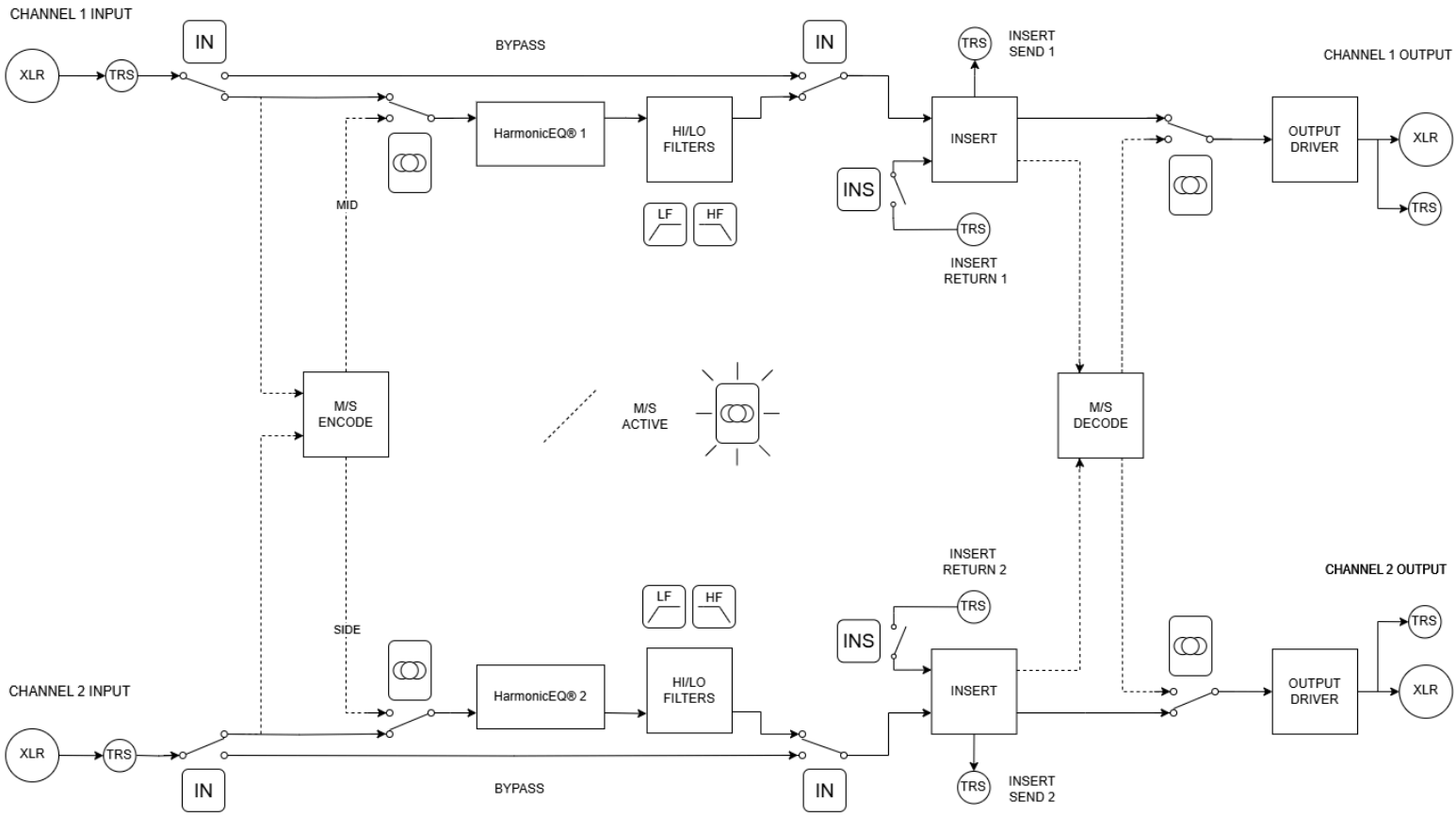
Please DO NOT connect any C.A.S.T. equipment to the network port of Carnaby HE2, doing so may damage both pieces of equipment.

Package Contents

The following items can be found in the packaging alongside Carnaby HE2:

- IEC power cable
- Allen key (2mm)
- Quickstart Guide

Block Diagram



Firmware Update Process

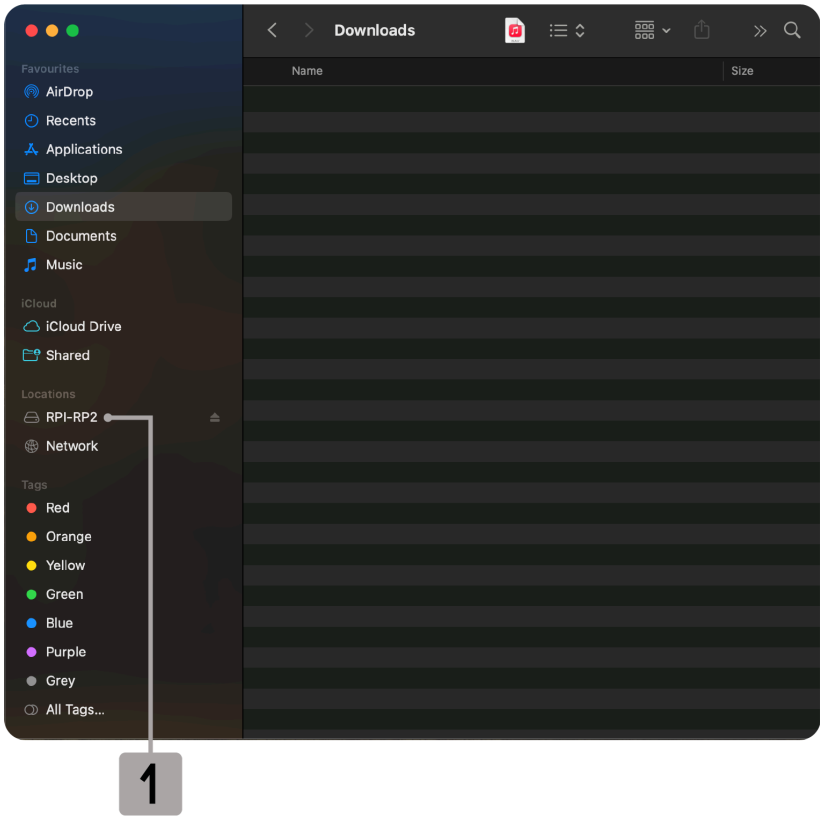
Please note that updating the firmware will return the following to default states:

- Parameters last used state
- LED brightness
- Network settings

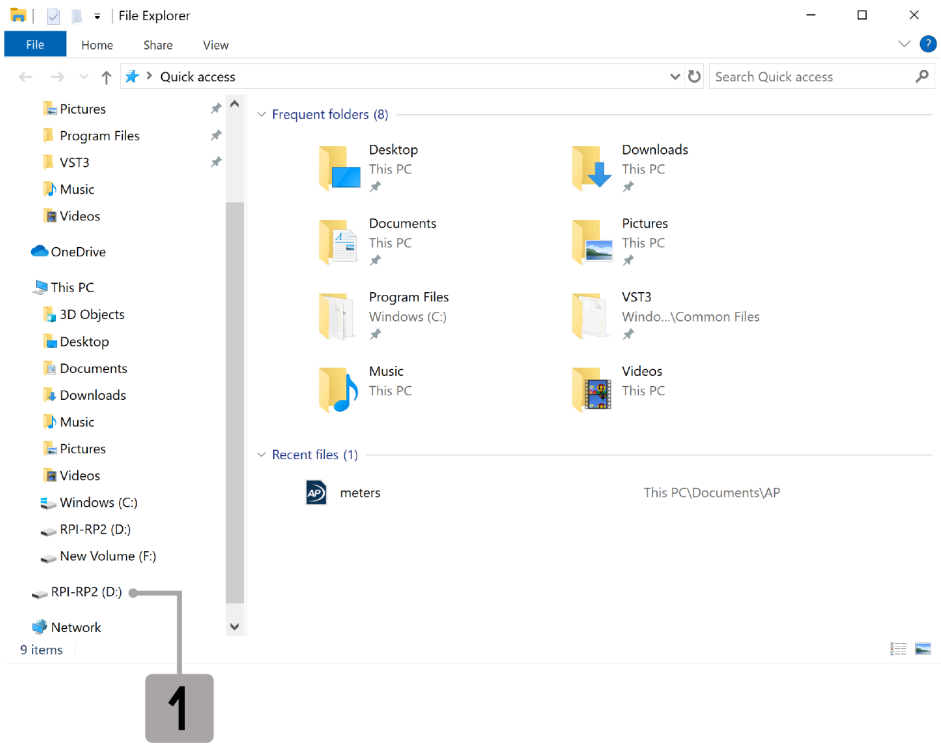
In order to use the latest software build you first need to update the Carnaby HE2 hardware's firmware. To do this follow the instructions:

1. Download the firmware file from the Carnaby HE2 product page https://www.cranborne-audio.com/carnabyhe2
2. Quit all instances of the Carnaby HE2 Control software.
3. Connect the Carnaby HE2 with a USB-C to USB-A cable to a computer running Mac OS 12, 13, 14, 15, Windows 10 or 11.
4. Only connect one Carnaby HE2 at a time for firmware updates.
5. Turn on the Carnaby HE2 hardware.
6. Do not disconnect HE2 until the firmware update is complete.
7. On the Carnaby HE2 hardware press and hold "dual mono" and "Mid Side" buttons for 3 seconds, all the LEDs will turn off (except the power button).
8. The device should now be available as a USB drive called RPI-RP2 (as labeled [1] in the images below).
9. Drag and drop the firmware file to the RPI-RP2.
10. The file will get copied across, after about 45 seconds you should see the LO CUT LED ring ramp up from off to full a few times, whilst the left four buttons light up in a sequence.
11. You will see a "Disk Not Ejected Properly" popup, this is ok, continue to wait.
12. When all the buttons are lit up (after about 60 seconds). The unit is ready for use. It should look like the image below.

Mac



Windows



Carnaby HE2 Control Software 1.0.3

The installer for the Carnaby HE2 Control can be downloaded from:
https://www.cranborne-audio.com/carnabyhe2

Please read the release notes for any plugin update, as there may be a firmware update requirement.

The Carnaby HE2 Control software gives you the ability to save and recall settings to the Carnaby HE2 hardware connected by USB or NET, as well as automating the hardware parameters within the DAW. Carnaby HE2 Control is available in several formats, please choose whichever best suits your workflow.

Plugin Formats: AAX, VST3, AU

The Carnaby HE2 Control plugin can be inserted on an audio track as part of your DAW session (some DAWs also support plugins on clips or mixer channels). The plugin does not have to be on the same track that you use to route audio to and from your Carnaby HE2 hardware. The Carnaby HE2 Control plugin allows the digital audio to pass through unaltered. The Carnaby HE2 Control plugin is categorised as "other", if you are searching by plugin type. If you are searching by vendor it will be in the folder named "Cranborne Audio".

DAW External Plugin Insert

Most DAWs have a type of plugin that allows you to route the audio through some spare channels of your audio interface. This allows you to insert external hardware signal processors in much the same way as you would an internal plugin. Our plugin adds session recall and automation possibilities to this workflow. The following DAWs support this sort of external plugin and have been tested with Carnaby HE2 Control. Each DAW, along with its corresponding name of the feature for using an external effect insert, is listed here:

- Pro Tools 2024 - i/o Insert
- Logic Pro 10 - I/O utility
- Live 12 - External Audio Effect
- Cubase 13 - External FX
- WaveLab Pro 12 - External FX
- Nuendo 13 - External FX
- Reaper 7 - ReaInsert
- Studio One 6 - Pipeline

Getting Started with the Carnaby HE2 Control Plugin

After running the installer, load up your DAW and insert the Carnaby HE2 Control on an audio track. The first thing to decide is how to connect the Carnaby HE2 hardware to your host computer, using USB or NET to LAN. If both are connected, the USB will be used.

USB Connection

If you wish to only use USB then simply leave the [11] “Enable Network” in the off state. Skip to the “Select Hardware” section of this User Guide.

NET (Network) Connection on LAN With DHCP

To use the NET connection, connect the Carnaby HE2 NET socket with a CAT5e, CAT6 or CAT6A cable to the same LAN as your host computer and tick the [11] “Enable Network” option in the Settings tab of the Carnaby HE2 Control plugin. If your LAN is using a DHCP then all the Carnaby HE2 hardware devices connected to the LAN should be discovered within a few seconds (depending on the size of the LAN). For this to work the [18] “Automatically Obtain IP address” option in the Settings tab Network section will need to be ticked (this is the default state, but only displayed if the hardware is connected with USB).

NET (Network) Connection on LAN Without DHCP

The Network settings in this area need a USB connection to initially set up the Carnaby HE2 hardware for manual IP address, subnet mask, gateway and MAC address. If you wish to use a NET to LAN without a DHCP, untick the [18] “Automatically Obtain IP address” option in the Settings tab Network section, this option is only displayed if the hardware is connected with USB. Best practice is to unplug the network cable and connect only the USB cable before changing the manual network settings, press Apply, wait 10 seconds then connect the network cable. When setting a manual IP address for your Carnaby HE2 hardware make sure this address is unique in your LAN, with the same subnet mask as your host computer. Updating the firmware will clear any manually assigned IP address and revert the Carnaby HE2 hardware back to [18] “Automatically Obtain IP address” ticked.

Select Hardware

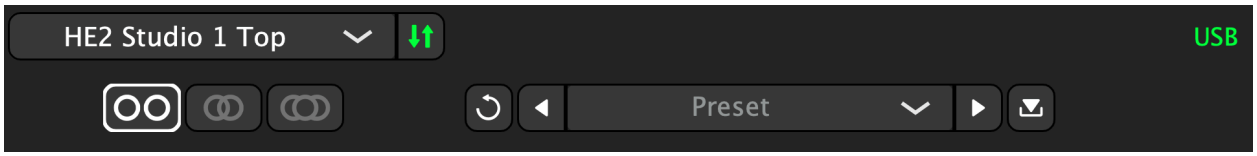
Each time you instantiate a new plugin you must then use the [4] Hardware Selector menu to tell the plugin which Carnaby HE2 hardware to connect to, as instructed by the GUI:

If using NET it may take a few seconds to discover all the hardware devices.

If you only have one Carnaby HE2 hardware device but wish to use it on multiple DAW tracks, we do support multiple instances of the Carnaby HE2 Control plugin in the same DAW session; just be careful to only connect one plugin at a time to the hardware. When you are happy with one track, bounce the audio, use the [6] Connection button to disconnect that connection, then go and work on the next track. When a plugin successfully connects to the hardware it pushes its settings to the hardware. (The NET connection supports single click take over, so you don't have to manually disconnect the previous plugin before connecting another).

If you have multiple Carnaby HE2 hardware units you can have each one connected to its own dedicated plugin. Recalling your DAW session will then maintain a consistent plugin to hardware relationship.

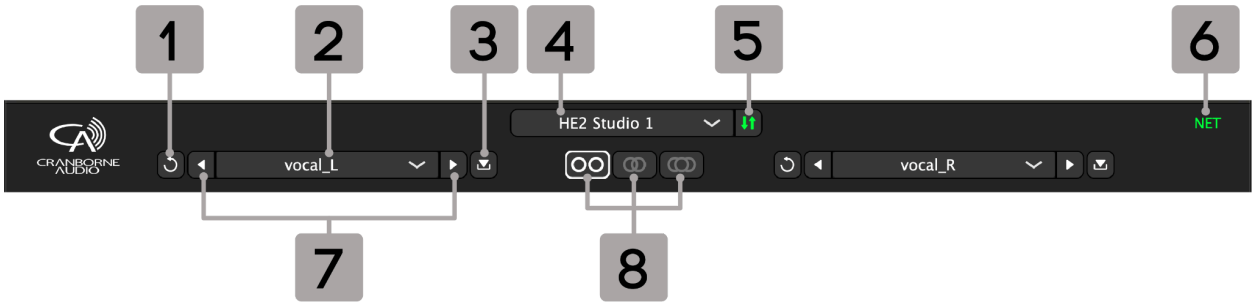
A successful connection between a plugin and hardware looks like this:



A selected but disconnected plugin to hardware state looks like this:

The states of the [4] Hardware Selector and [6] Connection buttons are saved and recalled with the DAW session.

Top Section of the GUI



[1**] Reload Preset** - If settings have changed away from the loaded preset, reload the selected preset settings with this button.

[2**] Preset Selector Menu**- This is where you will find any saved presets. Presets are loaded per channel, if you wish to save the full state (including mode, hardware and connection state) you can do so with most major DAWs. When in dual-mono or mid side mode, you are able to select a distinct preset per channel. There is another preset selector on the right for channel 2. When in stereo mode the channel 1 preset will be sent to both channels.

[3**] Save Preset** - When you have settings you wish to retain, this allows you to save a preset. Presets are saved, and can be sent as loadable files.

[4**] Hardware Selector** - This is where you select the specific Carnaby HE2 that this instance of the plugin will control. Each Carnaby HE2 will have a unique identifier.

[5**] Connection -** When green this indicates a successful connection to the hardware. This button can toggle the hardware connection state off/on.

[6**] USB/NET Indicator -** State the connection type.

[7**] Preset Selector Inc/Dec -** Cycle through saved presets using the left and right buttons.

[8**] Mode** - Switches between dual mono, stereo or mid side modes.

HarmonicEQ® Tab

The screenshot below shows each channel’s parameters. When a Carnaby HE2 hardware device is connected, the plugin parameters state will be pushed to the hardware.

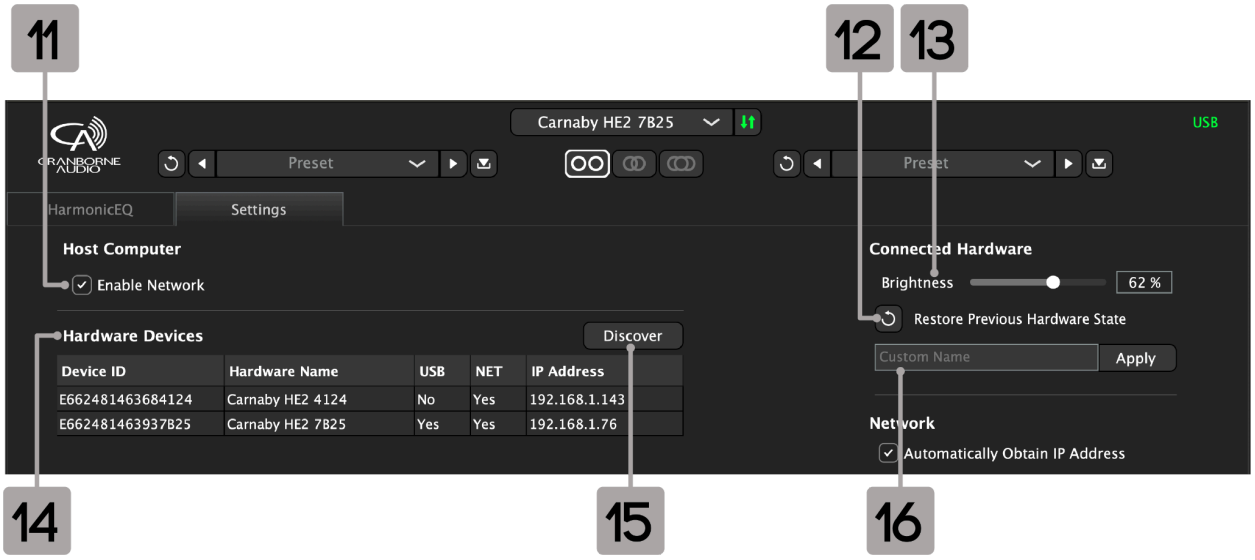
Bottom Section of the GUI

[9**] Info -** Displays information, such as the currently connected Carnaby HE2 hardware and its firmware version. If the connected hardware needed a firmware update, it would say so here.

[10**] GUI Size** - Shrink or enlarge the GUI.

Settings Tab

If the “Enable Network” option is ticked then clicking the “Settings” tab will trigger a “Discover” process, so the updated information can be displayed in the “Hardware Devices” table.



[11**] Enable Network -** If you wish to use the NET port, tick this option. This setting affects all Carnaby HE2 Control plugins in all DAW sessions on your host computer.

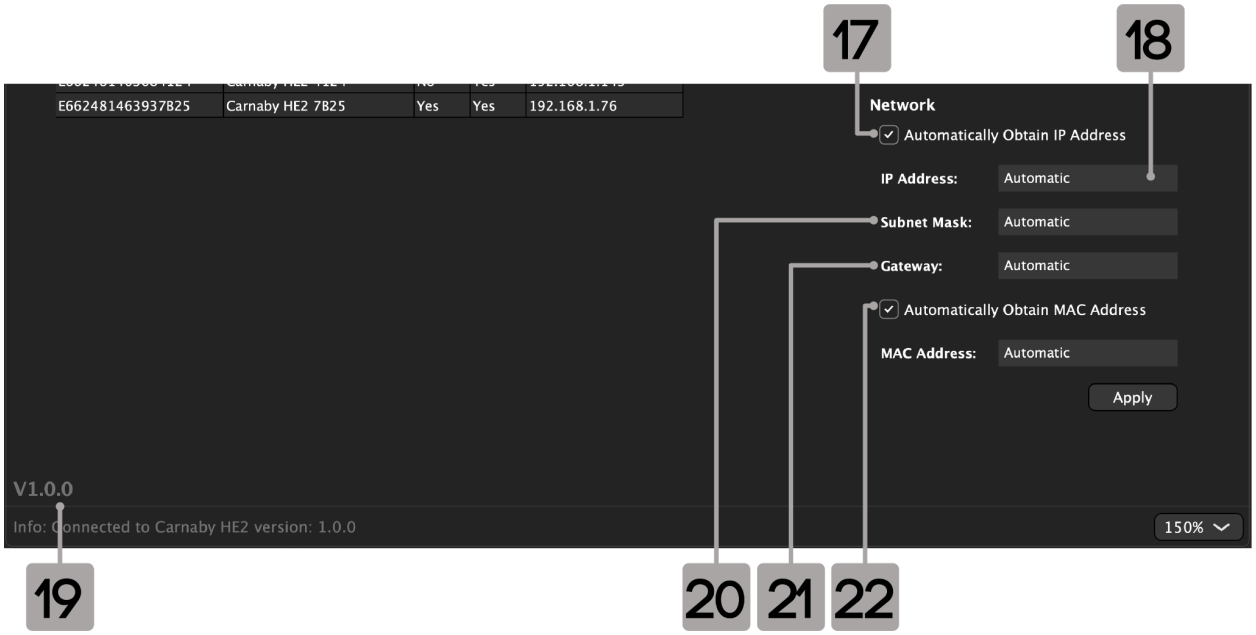
[12**] Restore Hardware State** - When a plugin is loaded it pushes its state to the hardware. If this happens and you want to recall the previous hardware state you can do so here.

[13**] Brightness -** Adjust the brightness of the hardware LED rings and button backlights.

[14**] Hardware Devices -** Shows information about the connection state of the hardware devices.

[15**] Discover -** If you have connected hardware devices to the network after starting the HE2 Control click this to discover them.

[16**] Custom Name -** Rename your hardware devices using this field. Custom names are saved on your host computer. Click the “Apply” button to the right to make the change.



[17**] Automatically Obtain IP address -** When ticked your Carnaby HE2 hardware will obtain its IP address from the DHCP. Untick this if you wish to assign the IP address manually. Best practice is to unplug the network cable and connect only the USB cable before changing the manual network settings, press Apply, wait 10 seconds then connect the network cable.

[18**] IP Address -** This number field is only for inputting a manual IP address, when [18] is unticked. Best practice is to unplug the network cable and connect only the USB cable before changing the manual network settings, press Apply, wait 10 seconds then connect the network cable.

[19**] Version Number -** Carnaby HE2 Control plugin version number.

[20**] Subnet Mask -** Automatic if [18] is ticked. You need to connect the Carnaby HE2 hardware with USB to see this option.

[21**] Gateway -** Automatic if [18] is ticked. You need to connect the Carnaby HE2 hardware with USB to see this option.

[22**] Automatically Obtain MAC Address -** Each HE2 will be given a unique MAC address. You need to connect the Carnaby HE2 hardware with USB to see this option.

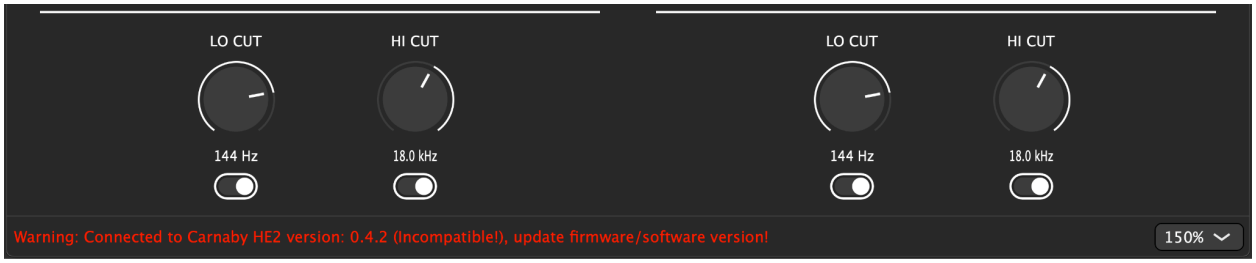
Troubleshooting

See also the “Select Hardware” section of this User Guide.

If your hardware is not appearing in the [4] Hardware Selector menu, try turning the Carnaby HE2 hardware off and on again after the plugin is instantiated. This is sometimes needed when using a USB-C to USB-C cable on an Apple Mac computer with the Carnaby HE2 hardware.

On Windows the Carnaby HE2 hardware will control all connected plugins, please disconnect the [6] Connection button on any plugins you do not wish to control. If this is a problem for your work flow you may wish to consider using the NET connection option, as this supports single click plugin takeover, giving exclusive control for that plugin to the Carnaby HE2 hardware.

Ensure that the firmware version is appropriate for the plugin version, if there is a mismatch this will be reported in the [9] Info display as shown here:



Logic Pro Session Load

The default setting for Logic Pro (after version 10.4.5) is not to load the state of plugins that don’t have audio clips on the track. If this is not the behaviour you want then change the following settings: Logic Pro File menu, Project Settings, General, Opening Project, un-tick “Only load plug-ins needed for project playback”. With this setting un-ticked your Carnaby HE2 Control plugin will push its state to the hardware on session load even without any audio clips on the track.

Preset Location

The Carnaby HE2 does not come with any presets as we believe that it’s better for you to tailor the settings to your specific sonic requirements. If you did use the plugin's own preset function (rather than the DAWs preset system) then the presets will save the channel’s parameters in the following locations.

Mac:
Users/Shared/Cranborne_Audio/Carnaby_HE2_Control

Windows:
Users/Public/Public Documents/Cranborne_Audio/Carnaby_HE2_Control

Mono plugin

Coming in a future release.

Standalone Application

If you do not use a DAW such as those listed above, you can use the standalone version of Carnaby HE2 Control, it is much the same as the plugin version, except it does not live on an audio track in your DAW session, it is its own application. This also communicates to the hardware by USB or NET.

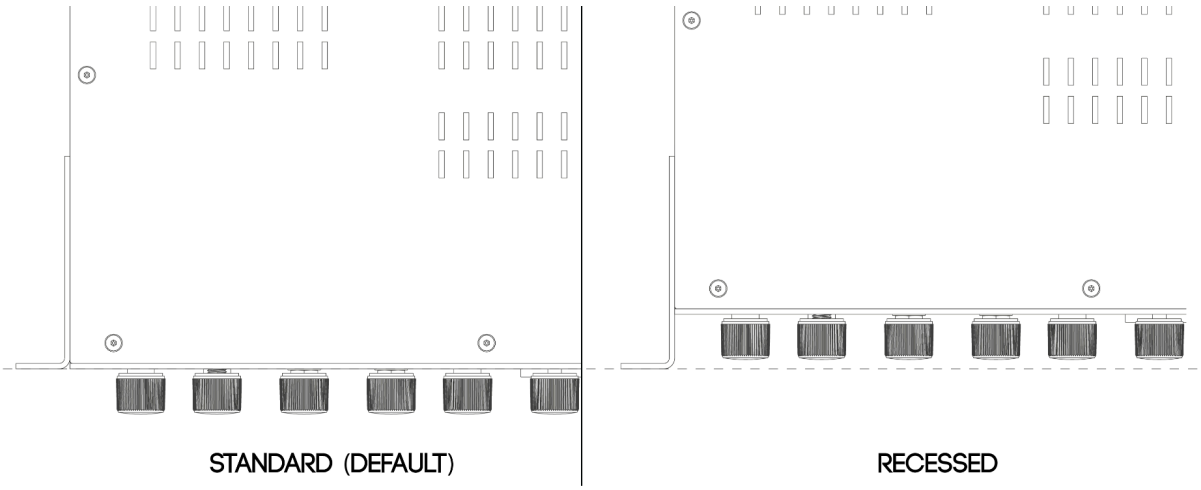
Rack-Ear Orientations

There’s more to Carnaby HE2's rack ears than meets the eye. Carnaby HE2 rack ears can be repositioned in 2 ways to suit particular applications and offer greater protection during transport.

Standard (Default) - Standard rack ear configuration where the rack ears are mounted flush to the front panel of Carnaby HE2.

Recessed - Protective rack ear configuration where the rack ears are brought forward allowing Carnaby HE2 to sit backwards into the rack to protect front panel controls during travelling and location recording.

Depending on your desired use case, you will need to remove the 4 screws securing each rack ear using the supplied 2mm allen key, realign the rack ears with the correct set of holes, and fix them firmly back into place.



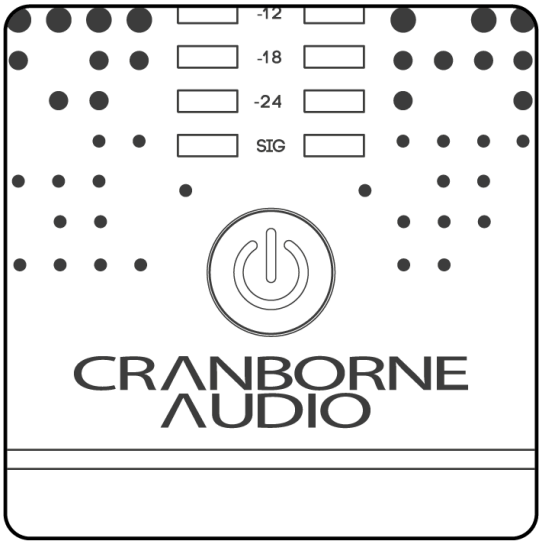
Powering Procedures

Powering On

Please ensure that Carnaby HE2 is powered on before any studio monitors are powered. Turn on the rear mains switch of Carnaby HE2 first, once done, briefly tap the power button located on the lower centre of Carnaby HE2’s front panel. The power icon will illuminate blue and you will see most front LEDs light up momentarily.

Powering Off

Make sure any monitor speakers are switched off and any headphones are disconnected from your system. Press and hold the front power button for approximately 3 seconds. The power icon will deluminate and you will hear the soft ‘clicking’ of the relays indicating that the unit has been powered off.

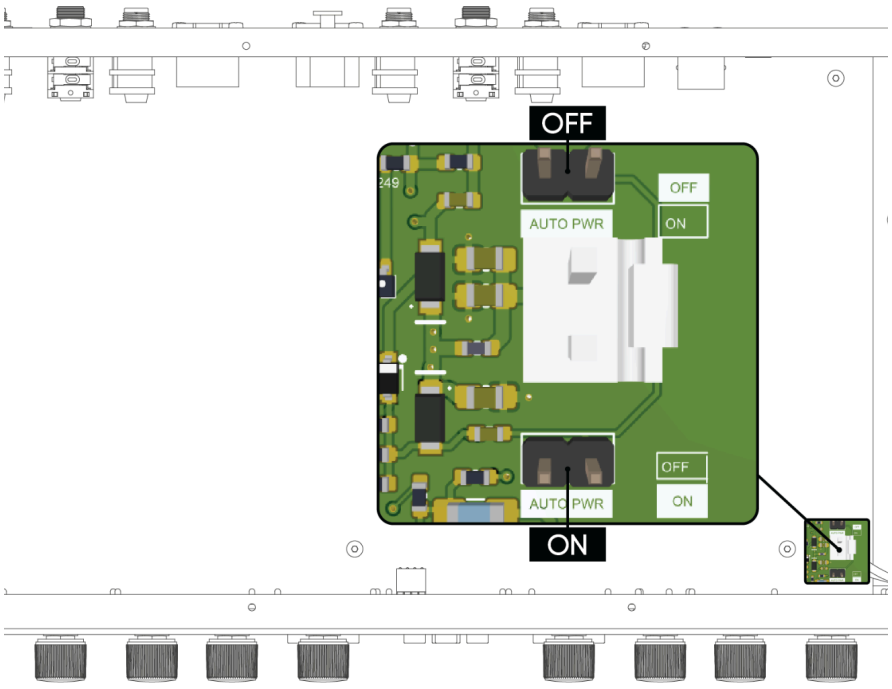


Auto Power

If Carnaby HE2 is situated in a rack full of other outboard equipment and preamps, it can be configured to automatically power on/off when power is switched on from a central location:

To enable Auto Power, a qualified technician will need to remove the top panel and move a specific jumper. Any operations that require removing the lid should be performed by a technician with an understanding of electrical safety, as this box contains mains voltages.

1. Ensure Carnaby HE2 is *<u>powered off</u>* and the power connector has been *removed.* Wait 30 seconds before continuing.
2. Place Carnaby HE2 on a flat surface and carefully remove the 10 screws fixing the top panel to the chassis
3. Before reaching inside Carnaby HE2, firmly touch its metal chassis to discharge any build-up of static.
4. Locate the 'Auto Power' label on the PCB.
5. Carefully remove the black plastic jumper that is installed over the OFF legs, and reposition it over the ON legs. This jumper will then bridge the connection and enable Auto Power On/Off.
6. Re-fix the top panel back onto the Carnaby HE2 chassis.



Safety Information
General Safety

- Read these instructions carefully
- Keep these instructions
- Heed all warnings
- Follow all instructions
- Do not use this apparatus near water
- Clean only with a dry cloth
- Do not block any ventilation openings and install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of a grounding-type plug. A polarised plug has two blades with one wider than the other. A grounding type plug has two blades with a third grounding prong. The wide blade or the 3rd prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories recommended by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- 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.
- Do NOT modify this unit, alterations may affect performance, safety and/or international compliance standards.
- Cranborne Audio does not accept liability for damage caused by maintenance, repair or modification by unauthorised personnel.
- Ensure that this apparatus is connected to an unobstructed wall outlet

Installation notes

- This unit is for indoor use only.
- When installing the apparatus either fit it into a standard 19" rack or place it on a secure level surface.
- If the unit is rack mounted, fit all rack screws.
- When rack mounting, allow adequate ventilation above and below the unit to enable cooling.
- Ensure that no strain is placed on any cables connected to this apparatus. Ensure that all such cables are not placed where they can be stepped on, pulled, or tripped over.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
ATTENTION: Afin de réduire les risques de choc électrique, ne pas exposer cet appareil à l'humidité ou à la pluie.

Power Safety

- The unit is supplied with an internal power supply and suitable mains lead. Only use the supplied mains lead, however if you decide to use a mains lead of your choice, bear in mind the following:
- Refer to the rating label of the unit and always use a suitable mains cord.
- The unit should ALWAYS be earthed with the earth on the IEC socket.
- Please use compliant 60320 C13 TYPE SOCKET. When connecting to supply outlets ensure that appropriate sized conductors and plugs are used to suit local electrical requirements.
- Maximum cord length should be 4.5m (15')
- The cord should bear the approval mark of the country it is to be used.
- Connect only to an AC power source that contains a protective earthing (PE) conductor.
- Only connect the unit to single phase supplies with the neutral conductor at earth potential.
- The unit should be connected to a mains circuit protected with a 20A breaker (USA) or 16A breaker (Europe & Other territories). Please ensure all relevant electrical safety standards for your specific territory are adhered to.

GB The apparatus shall be connected to mains socket outlets with a protective earthing connection.
DEN Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.
FIN Laite on lilettävä sojamaadoituskoskettimilla varustettuun pistorasiaan.
NOR Apparatet må tilkoples jordet stikkontakt.
SWE Apparaten skall anslutas till jordat uttag.

ATTENTION: Un-earthed metal parts may be present inside the enclosure. No user serviceable parts inside - to be serviced only by qualified personnel. When servicing, disconnect all power sources before removing any panels.

CE Certification

CE This unit is CE compliant. Note that any cables supplied with Cranborne Audio equipment may be fitted with ferrite rings at each end. This is to comply with the current regulations and these ferrites should not be removed.

FCC Certification

- Do not modify this unit! This product, when installed as indicated in the instructions contained in the user manual, meets FCC requirements.
- Important: this product satisfies FCC regulations when high quality shielded cables are used to connect with other equipment. Failure to use high quality shielded cables or to follow the installation instructions may cause magnetic interference appliances such as radios televisions and will void your FCC authorisation to use this product in the USA.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

RoHS Notice

Cranborne Audio complies with and this product conforms to European Union's directive 2011/165/EU on Restrictions of Hazardous Substances (RoHS) as well as the following sections of California law which refer to RoHS, namely sections 25214.10, 25214.10.2, and 58012, Health and Safety Code Section 42475.2, Public Resources Code.

Instructions for disposal of WEEE by end users in the European Union

The symbol shown here, which is on the product or on its packaging indicates that this product must not be disposed of with other waste. It is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for recycling waste electrical equipment and electronic equipment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

WARNING: cancer and reproductive harm - www.P65Warnings.ca.gov

Evaluation of apparatus based on altitude not exceeding 2000m. There may be some potential safety hazard if the apparatus is operated at altitude exceeding 2000m.

Evaluation of apparatus based on the temperate climate conditions only. There may be some potential safety hazard if the apparatus is operated in tropical climate conditions.

Electromagnetic Compatibility

EN 55032:2015, Class B, EN 55016-2-1:2009 A1 2011. EN 55016-2-3:2010 A1 2010, EN 55035:2017, EN 61000-4-2:2009, EN 61000-4-3:2006 A1 2008 A2 2010, EN 61000-4-4:2012, EN 61000-4-5:2014 A1 2017, EN 61000-4-6:2014, EN 6100-4-11:2004 A1 2017, EN 61000-3-2:2014, EN 61000-3-2:2013, FCC Part 15B Class B, ANSI C63.4:2014, ICES-003 Issue 6: Class B

Audio input and output ports are screened cable ports and any connections to them should be made using braid-screened cable and metal conductor shells in order to provide a low impedance connection between the cable screen and the equipment.

WARNING: Operation of this equipment in a residential environment could cause radio interference.

Environmental

- Operating Temperature: +5 to 35 degrees Celsius.
- Storage: -20 to 50 degrees Celsius.

For more information and guidance, please visit the Cranborne Audio website:

www.cranborne-audio.com