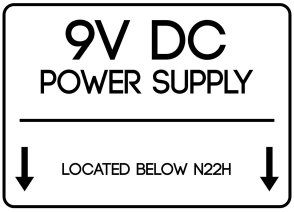


CRANBORNE AUDIO

Congratulations on your purchase of N22H and thank you for selecting Cranborne Audio to be a part of your music creation process.

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 our family. We care for our family. And we care about making your tracks, albums, scores sound as good as they should.

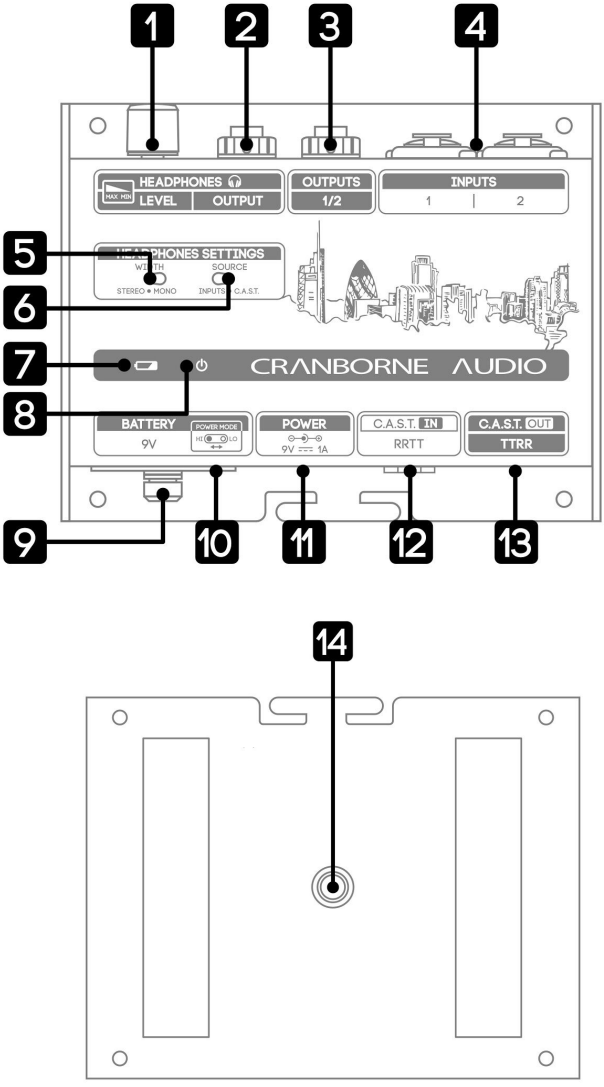
Sean Karpowicz

Edward Holmes

Elliott Thomas

Andrew Pat

Controls and Connectors



[1] Headphones Level Control: Adjusts the volume of the headphones output.	**[8] Power Indicator:** Lights Blue when N22H is Powered On via battery or mains power.
[2] Headphones Output: Used for connecting headphones to N22H. When using battery power, N22H automatically powers on when headphones are connected to this ¼" jack.	**[9] Battery Cover/Battery Compartment:** Removable cover for the 9V battery compartment and Power Mode switch. ***Note: Only 9V batteries should be used.***
[3] Outputs: Balanced, TRS outputs of the C.A.S.T. RR paths. These Outputs are passive and do not require power to operate.	**[10] Power Mode Switch:** Switches the headphone output between Low and High Power modes. ***Note: Only switch Power Modes when N22H is Powered Off.***
[4] Inputs: Combi jack inputs for connecting audio to the C.A.S.T. TT paths. Also used for connecting stereo playback during standalone operation. These analogue Inputs send audio into the C.A.S.T. TT ports passively and do not require power to operate.	**[11] Power Inlet:** Powers N22H's headphone output using the supplied 9V DC power supply. Battery is disconnected internally when power inlet is being used. ***Note: When power inlet is used, N22H stays Powered On.***
[5] Width Switch: Adjusts the Width of the headphones output between true Stereo or Mono.	**[12] C.A.S.T. IN:** Used to connect N22H to the C.A.S.T. Output of another C.A.S.T.-enabled device. ***Note: The C.A.S.T. IN port is covered using a Cat5 plug. Only remove this plug when N22H is to be used with a C.A.S.T. OUT of another device.***
[6] Source Switch: Selects the input source of N22H's headphone amplifier between the C.A.S.T. connections **[12/13]** and Inputs 1-2 **[4]** for standalone operation.	**[13] C.A.S.T. OUT:** Used to connect N22H to the C.A.S.T. IN of another C.A.S.T.-enabled device.
[7] Battery Low Indicator: Lights Red when internal power drops below 6.8v. ***Note: Duration between LED lighting Red and unit powering off will vary from battery to battery and headphones being used.***	**[14] Mic Stand Mount:** ⅜" thread mount used to fix N22H onto a mic stand or bracket. ***Note: For mic stands with a larger thread, a 5/8" male to 3/8" female screw thread adapter should be used.***

<u>Warning</u>:
N22H's Headphone Output is <u>extremely</u> loud! Prolonged exposure to loud music can cause <u>permanent</u> hearing loss. Please exercise caution when using N22H and reduce the Headphones Level Control [1] when listening for long periods of time.

Package Contents

So now your N22H is out of it's 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 getting N22H setup, plugged in, and ready-to-use as quickly as possible!

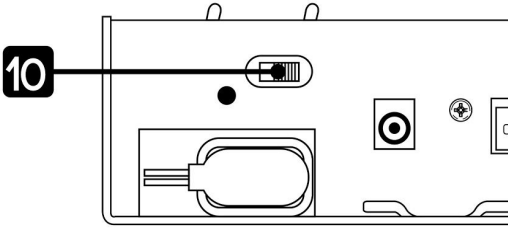
The following items can be found in the packaging alongside N22H:

- 9v DC power adapter - *(Located in compartment below N22H)*

  Note:
  Please use the supplied power supply or one that has the same specifications. Damage caused using an improper PSU is not covered under warranty.
- Quickstart Guide

Power Modes

N22H features two selectable power modes that are designed to optimise N22H's headphone output for maximum performance with high-impedance and low-impedance headphones.

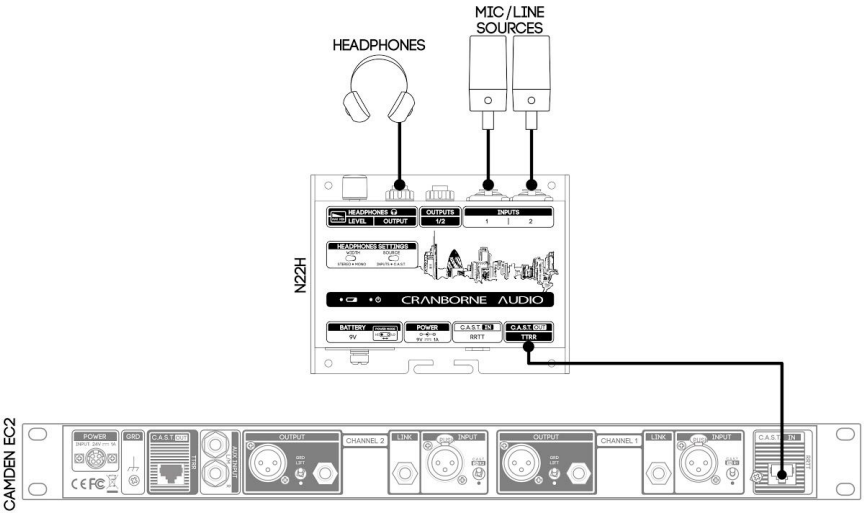


Low Power Mode
Low Power Mode optimises N22H to achieve the longest battery life and optimum volume range when using low impedance in-ear (IEM) and over-ear headphones. When engaged, N22H's current consumption is approximately 30mA idle (80mA peak) and you can achieve ~8+ hours of battery life.

High Power Mode
High Power Mode optimises N22H to achieve the highest headroom and maximum volume when using high impedance headphones. When engaged, N22H's current consumption is approximately 110mA idle (390mA peak) and you can achieve ~2 hours of battery life.

Note:
Actual battery life will vary depending on battery type being used, headphone impedance/sensitivity, source material and it's frequency content, as well as overall headphone volume.

Hardware Setup: C.A.S.T.



This hardware setup diagram will get N22H connected within a C.A.S.T.-enabled system:

1) Connect N22H's C.A.S.T. Output **[13]** to the C.A.S.T. Input of another C.A.S.T.-enabled device using shielded Cat 5e, Cat 6, or Cat 7 cable.

2) Connect balanced Mic/Line sources to the combi jack inputs **[4]** of N22H.

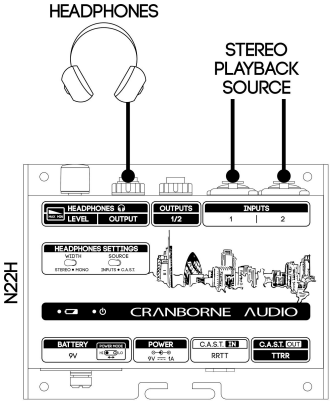
3) Select the 'C.A.S.T.' input option using the Source Switch **[6]**.

4) Select the appropriate Power Mode using the Power Mode switch **[10]**.

5) Connect headphones to N22H's headphone output **[2]**.
   i) If using battery power, the unit will power on automatically when headphones are connected.
   ii) If using mains power, N22H powers on automatically when power is detected.

Once connected, mic/line sources connected to N22H will travel through the C.A.S.T. connection and arrive at the inputs of the device for processing whilst the mix created on the other C.A.S.T. device travels directly to N22H's headphone output for monitoring. Adjust headphone level **[1]** to taste.

Hardware Setup: Standalone Mode



This hardware setup diagram will get N22H configured as a standalone, reference-quality headphone amp:

1) Connect your stereo playback source from an audio interface or similar into N22H's combi jack inputs **[4]**.
    i) For best performance, ensure that the playback source is a line-level output from an audio interface or preamp.

2) Select the 'Inputs' option using the Source Switch **[6]**.

3) Select the appropriate Power Mode using the Power Mode switch **[10]**.

4) Connect headphones to N22H's headphone output **[2]**.
    i) If using battery power, the unit will power on automatically when headphones are connected.
    ii) If using mains power, N22H powers on automatically when power is detected.

Once connected, stereo line sources passed into N22H's inputs will be sent directly through to the headphone amplifier for monitoring. Adjust headphone level **[1]** to taste.

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 or grounding-type plug. A polarized 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, altercations may affect performance, safety and/or international compliance standards.
- Cranborne Audio does not accept liability for damage caused by maintenance, repair or modification by unauthorized personnel.

Installation notes

- 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 external power supply and suitable mains lead. Only use the supplied external power supply, 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 cords.
    - 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 unit to single phase supplies with the neutral conductor at earth potential.

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

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 installation 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:: +1 to 30 degrees Celsius.
- Storage: -20 to 50 degrees Celsius.