



# ***AH4X4 USER MANUAL***



British Engineering from the  
Black Country United Kingdom



## Welcome

Dear Player,

Thank you very much for purchasing your new Laney product and becoming part of the worldwide Laney family. Each and every Laney unit is designed and built with the utmost attention to care and detail, so I trust yours will give you many years of enjoyment.

Laney products have a heritage which stretches back to 1967 when I first began building valve amplifiers in my parent's garage.

Since then we have moved on from strength to strength developing an extensive range of guitar, bass, public address, multi instrument and keyboard amplification products along with a list of Laney endorsees that includes some of the world's most famous and respected musicians.

At the same time we believe we have not lost sight of the reason Laney was founded in the first place - a dedication to building great sounding amplification for working musicians.

Warm Regards,



Lyndon Laney  
Chairman & Founder

## Introduction



The Audiohub range of multi instrument amplifiers is designed to be the center of your audio world.

The portable, mains or battery powered AH4X4 with its stylish and lightweight aluminum chassis the ideal solution for your street busking, open air gigs, parties, background music, talking presentations/aerobics/shops/bars or bedroom practice requirements.

Featuring six independent channels, the AH4X4 allows you to connect sources from either balanced XLR's, line and high impedance/instruments, as well as a dedicated Aux In, PLUS a Bluetooth® source.

Each of the AH4X4's XLR equipped channels; feature assignable FX, consisting of a Reverb/Delay effect with adjustable Time control.

All channels benefit from advanced (switchable) Feedback protection helping to keep your performance professional and feedback free.

The AH4X4 can be run from a wall mounted mains adaptor, which is supplied as standard, or batteries for anywhere operation. Use either standard AA batteries or for maximum battery life use LITHIUM ION batteries for up to 24 hours non-stop operation.

Ideal for keyboards, vocals, electronic drums as well as pre recorded audio; the Audiohub AH4X4 features custom drivers to ensure optimum performance whatever sound source you use.

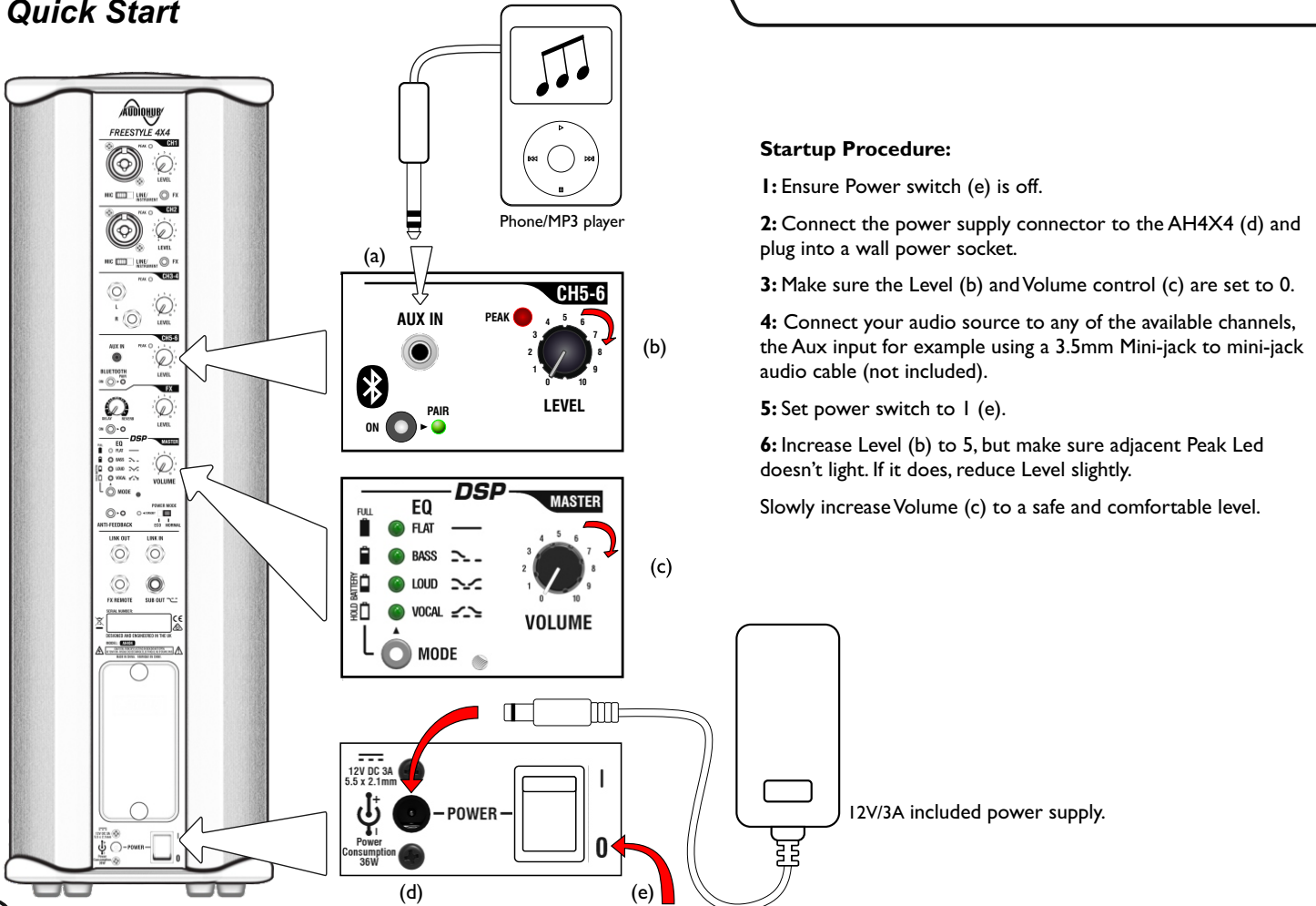
The AH4X4 is the ideal solution for all of your audio performance needs...wherever you are and whenever you need it.



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3

## Quick Start



### Startup Procedure:

1: Ensure Power switch (e) is off.

2: Connect the power supply connector to the AH4X4 (d) and plug into a wall power socket.

3: Make sure the Level (b) and Volume control (c) are set to 0.

4: Connect your audio source to any of the available channels, the Aux input for example using a 3.5mm Mini-jack to mini-jack audio cable (not included).

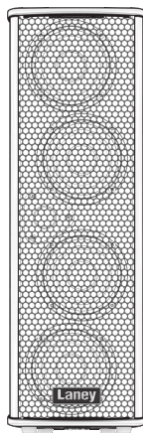
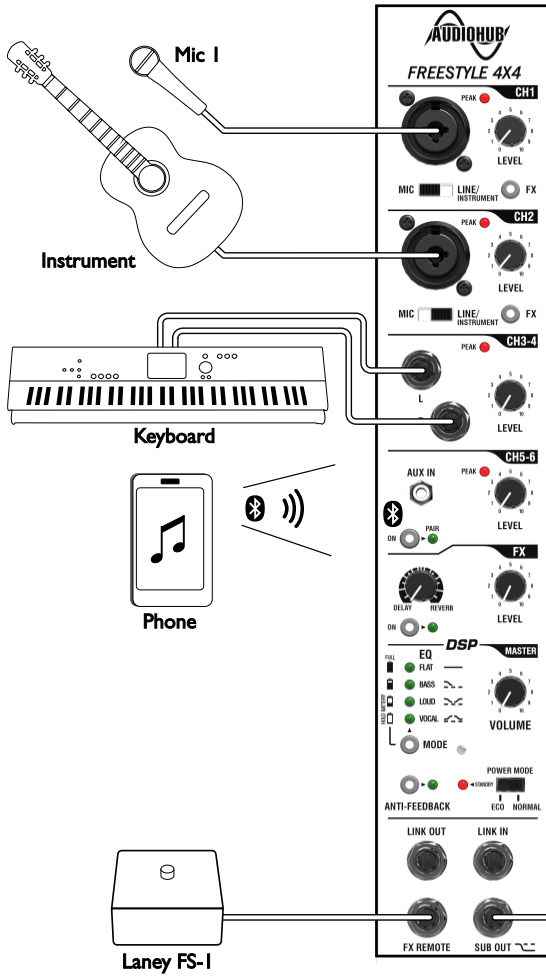
5: Set power switch to I (e).

6: Increase Level (b) to 5, but make sure adjacent Peak Led doesn't light. If it does, reduce Level slightly.

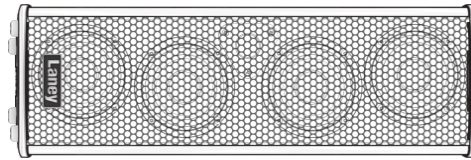
Slowly increase Volume (c) to a safe and comfortable level.

## Sample setup - Single AH4X4

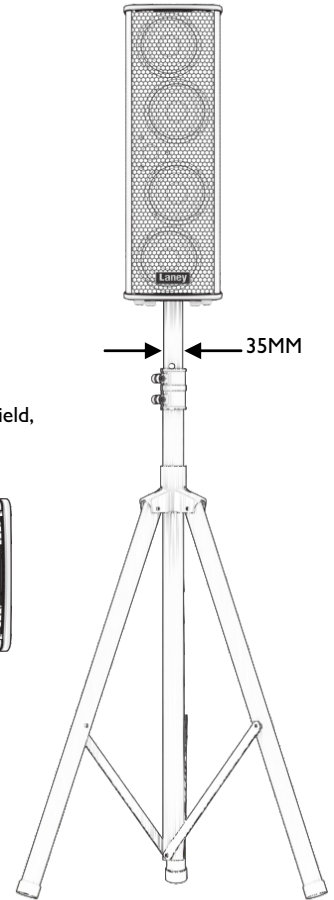
Your AH4X4 can be used vertically, horizontally, or on a pole stand.



Vertical: Wide horizontal sound field, ideal for PA.



Horizontal: Narrow horizontal sound field ideal as stage monitor.



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## Inputs

Your AH4X4 provides you with a choice of four dedicated input channels, two of which are stereo allowing up to 8 mono inputs.

**1. CH1/CH2 MIC/LINE INPUT:** Combi socket providing the flexibility to connect either an XLR or jack terminated cable. For improved noise performance, both inputs will accept a balanced signal, but will quite happily work with a single ended, unbalanced signal. For best results, always use a good quality instrument/mic cable.

**TIP** Phantom Power is available from the XLR Input only.

**2. MIC LINE:** Use to select required gain setup for your chosen input device.

For low impedance dynamic microphones please use the MIC input settings. For LINE level devices such as keyboards, drum machines, signal processors or an instrument, switch to the LINE/Instrument setting. Phantom Power is available from the XLR Input only.

**3. PEAK:** A warning light to let you know that your signal is almost at the point of over-loading the input. Ideally, you don't really want to see the Peak led light at all. Damage won't occur to the amplifier, but audio quality may suffer.

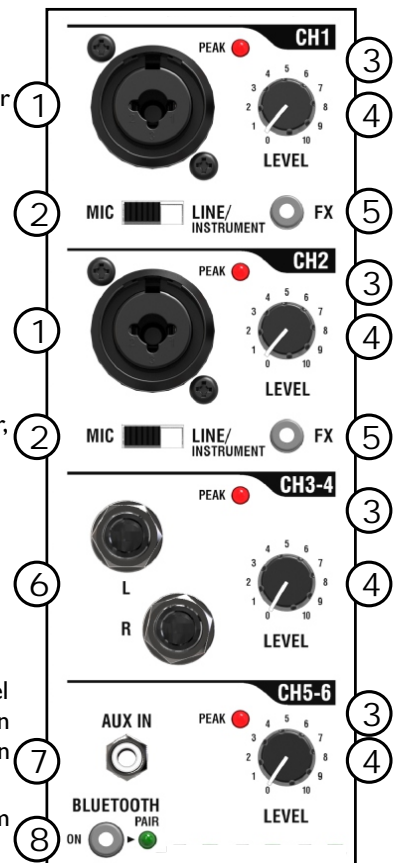
**TIP** Peak illuminates constantly = possible distortion.

**4. LEVEL:** Use to set the optimal level for the input, but also to create a desired level balance with other channels. Adjust the Level control so the Peak Led lights only during the very highest peaks of the connected signal, then reduce the Level control slightly so the Peak led doesn't light.

**5. FX:** When enabled, the channel signal is routed through the onboard FX processor. For more information, please page 7.

**6. CH3/4 STEREO LINE INPUT:** 2 x Unbalanced Jack sockets for connection of a stereo line level signal. Either input may also be used to connect a single mono source, or two individual sources. When connecting independent sources, use the output controls on your device to adjust the balance between the two signals. Active instruments may also be connected here.

**7. AUX IN:** A convenient 3.5mm stereo jack input, perfect for adding a backing track to the mix from your MP3 player or phone.



## FX and Outputs

**8. Bluetooth:** Keep things tidy and lose the wire by connecting your source via a Bluetooth capable device.

To enable the onboard Bluetooth receiver, press the ON button. Whilst searching, the adjacent Pair led will flash fast. Once a connection has been established, the Pair led will flash slowly. The range for a Bluetooth connection is approximately 10M.

**TIP** — If you aren't using Bluetooth, de-press the Bluetooth ON switch. This will reduce power consumption and prevent accidental pairing.

**TIP** — Both Bluetooth and AUX inputs can be used simultaneously.

(Please see the manufacturers documentation for your Bluetooth device for connection information).

**9. FX TYPE:** This control determines the amount of Delay or Reverb to be applied to CH1 and CH2 if FX switch (5) is enabled. The delay/reverb length will be increased as you turn the control away from the centre position for both modes.

**TIP** — Don't forget to enable CH1/CH2 FX switches and enable Master FX ON, if you want them to be routed through the FX processor.

**10. MASTER FX ON:** Quickly switch FX on and off using this control. The adjacent LED will illuminate when the FX section is active. The FX can also be switched via a Laney FS1 foot-switch.

**TIP** — Master FX switch (10) must be On for FX remote to function.

**11. FX LEVEL:** Fine tune the amount of FX applied to the signal using this control.

**12. MODE SWITCH:** This dual function switch allows you to select one of four pre-defined EQ curves allowing you to adjust the overall feel of your music. To toggle from one to the next simply press the switch momentarily. An adjacent led will clearly indicate what's selected. The EQ setting will be stored in memory, ready for use next time.

**Flat:** General purpose EQ setting.

**Bass:** An increase in the low frequency content of your audio.

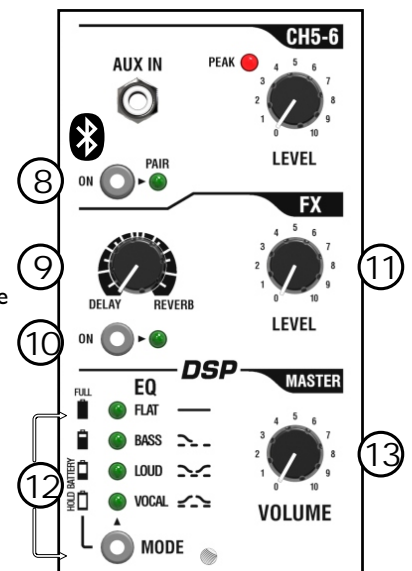
**Loud:** An increase in both low and high frequencies, with a slight mid cut.

**Vocal:** Decreases the amount of bass and emphasises the vocal content. Also ideal for outdoors

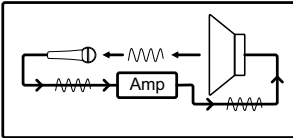
If you press and hold the Mode switch (for around a second) the EQ leds reconfigure to indicate the available/remaining battery life. The battery meter will display for as long as you hold the switch.

**TIP** — For the most reliable battery level check, there shouldn't be any sound from the speakers. This could be done by turning down input level, disconnecting/muting input signals or by turning the Master Volume (13) to minimum.

**13. VOLUME:** This is the master volume level control. It controls the level from the onboard speakers, Link Out and Sub Out. Always start with this turned to minimum.



## Outputs



Audio feedback is caused when a loop occurs between a microphone or guitar pickup and the loudspeaker. Commonly caused by pointing a microphone at a speaker or simply by the two being too close. The result is an unpleasant screeching or whistling sound. The AH4X4 is equipped to deal with this.

**14. ANTI-FEEDBACK:** When the Anti-Feedback control enabled, (the adjacent LED will illuminate) the AH4X4 actively and automatically searches for any signs of feedback (over multiple frequencies) and eliminates it before it becomes a serious problem.

**TIP**—If you have microphones connected, enable the Anti-Feedback.

**15. POWER MODE:** The AH4X4 comes equipped with two power modes; Normal and ECO mode.

Normal mode gives the maximum output level, while ECO mode is designed to prolong battery life whilst slightly sacrificing a little output level. When powered via the provided DC power adaptor it is recommended to enable Normal power mode for best performance. Normal mode uses intelligent power switching to give you the loudest and best sound quality whilst also conserving battery life. In either power mode, the amplifier will enter a sleep state after a short period of inactivity to conserve battery life. While in this mode the amplifier is muted and the adjacent standby led illuminates. As soon as signal is detected at any of the channel 1-6 inputs, the amplifier will wake instantly without missing a beat.

**TIP**—You may temporarily disable sleep mode by holding the Mode button '12' in for one second whilst turning the power on. Four leds will illuminate then extinguish to confirm this is active. This mode will also temporarily disable the intelligent power switching and force the amplifier to follow the mode switch setting, regardless of audio level.

**16. LINK OUT:** Intended for connecting to the 'Link In' of a second AH4X4 unit. Also can be used to feed signal to another amplifier, a recorder or mixing desk.

**17. LINK IN:** Intended for connecting to the 'Link Out' of a second AH4X4 unit. Also could be used as an additional input for the AH4X4 amplifier stage. A line level signal is required here.

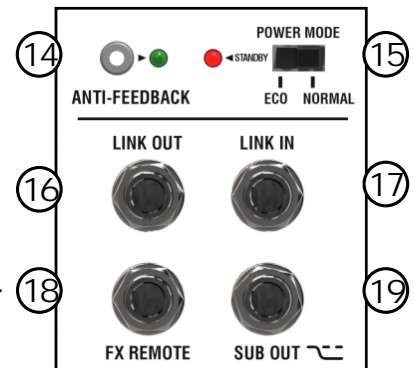
**TIP**—Connecting a signal to the Link In disables the amplifier sleep function. See page 11 for connection information.

**18. FX REMOTE:** With the use of a one-way foot-switch (Laney FS-1 recommended) the internal effects can be switched on/off

**19. SUB OUT:** A dedicated output allowing you to connect a powered sub or bass amplifier.

When a jack is plugged in to this socket, frequencies below 120Hz are removed from the onboard speakers giving more power for the mid and high frequencies. Frequencies below 120Hz are routed to the Sub Out for the sub amplifier to take care of.

**TIP**—Onboard FX are also applied to this output. This is a line level output.





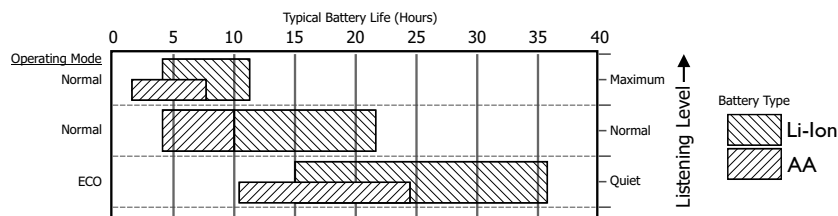
## Batteries

The AH4X4 comes with two battery holders \* allowing you to choose which best suits your needs. You can use either:

1. 3\* Lithium-ion (Li-ion) 18650 protected, button top, cells.
  - Constant high discharge rate recommended at 6A or above, with a 3AH or greater capacity for best life. We recommend quality, Self-resetting batteries with a high trip current. Please note, Lithium batteries must be the protected, button top type; unprotected cells must never be used in this product and could pose a severe fire risk.
  - Lithium batteries are not all created equally, many are sub-standard with very low or inconsistent protection levels. Sub-standard batteries could affect the performance of the AH4x4, or reduce the run time, or both! In some circumstances, these sub-standard batteries may also trigger the batteries own protection circuit too early, making the AH4x4 appear to shutdown. Always use the best high quality batteries!
2. 8\*AA alkaline (LR6) or 8\*NiMH (CR6) cells. Most AA cells cannot provide the necessary power levels for constant full power use in normal mode and are best used in eco mode or at modest listening levels, or for vocals.

### About the batteries:

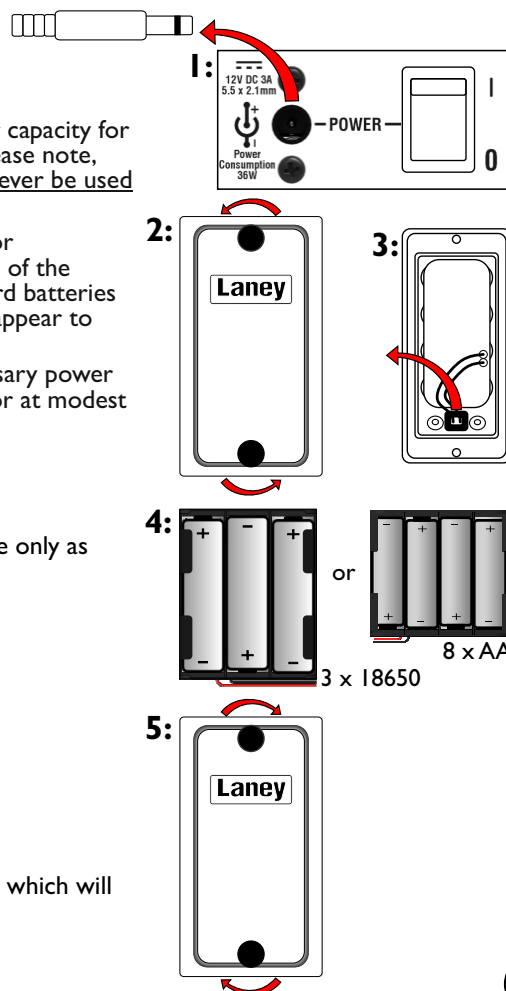
The table below gives you an idea of the usage time for your battery choice. This is a guide only as battery life is determined by many factors.



### DC Power Supply.

Your AH-Freestyle4X4 comes supplied with a high quality universal 12V Power Supply unit which will work around the world with all regional mains voltages.

**To avoid possible damage, please use this PSU only!**



### Battery safety.

If used incorrectly batteries may leak or explode and cause damage or injury, please take the following precautions.

- 1: Avoid mixing new batteries with old or part used batteries.
- 2: Avoid mixing battery types.
- 3: Do not try to recharge or take apart alkaline batteries.
- 4: Remove the batteries from the unit if it is not going to be used for a long time.
- 5: If batteries have leaked in the battery tray, remove the batteries and all traces of the discharge from the tray. Use caution so that none of the discharge gets near the skin or the eyes. Any affected areas should be immediately rinsed with cold running water, seek medical advice.
- 6: Do not dispose of used batteries in fire or water systems. Batteries must not be exposed to excessive heat such as sunlight, fire or the like.
- 7: Used batteries should always be disposed of in compliance with the current regulations applicable to the country/region where you live.

### Fitting the batteries:

- 1: Before you start, switch off the amplifier and unplug the DC power connector.
  - 2: To access the battery compartment, remove the thumb screws on the rear of the amplifier.
  - 3: Remove the battery pack termination connector from the amplifier.
- Note** - Don't remove the connector by pulling on the connected wire.
- 4: Carefully fit the batteries into your chosen battery holder.

### Ensure the polarity markers on the battery align with those in the battery pack!

- 5: Load the battery back into the battery box and reconnect the pack termination connector.

Replace the cover taking care to not trap the wires.

The AH4X4 will not allow charging the batteries when the mains adaptor is connected, you should use a standard commercially available charger instead. Please follow the manufacturers instructions when charging.

**Rechargeable Li-ion batteries should be used and handled with care and only by persons who understand the dangers posed.**

The following Lithium batteries have been tested and found to work acceptably in this product

\* Batteries not included.

Brand	Type
Samsung	NCR18650
XTAR	3400mAH(Black)
Keppower	NCR18650B
EVVA	NCR18650 (Black)
Enerpower	NCR18650B (Blue)
Panasonic	NCR18650B (Green) (MH12210)

## Multiple AH4X4

### **Double the Inputs, double the volume.**

You may link two AH4X4's together to give either increased channels, double the volume or both.

The Aux 'A' and line signal 'B' will be heard from both AH4X4 '1' and AH4X4 '2' simultaneously

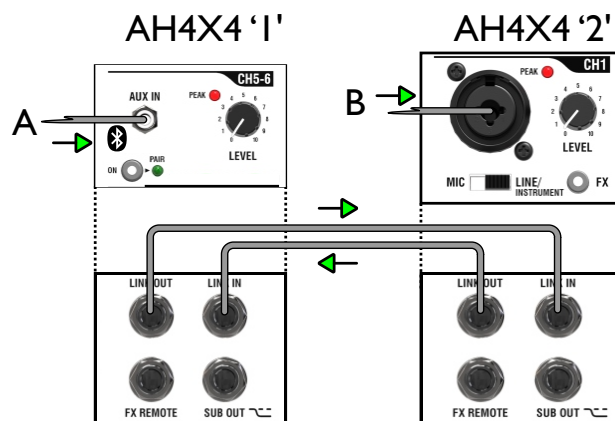
If you only want to increase the overall level without additional channels, only a connection from AH4X4 '1' link out to AH4X4 '2' Link is required.

#### **Connections:**

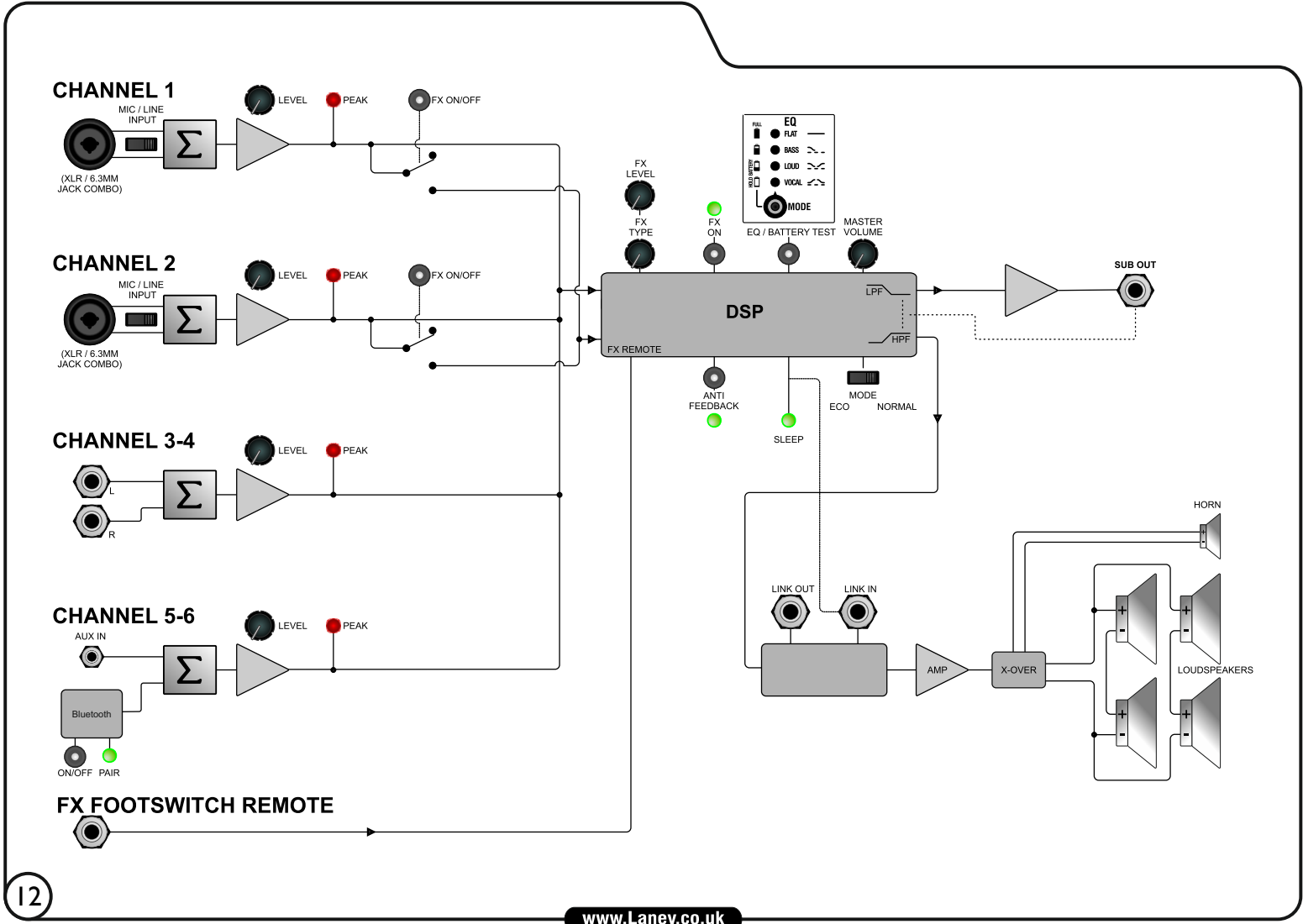
AH4X4 '1' Link Out to AH4X4 '2' Link In.

AH4X4 '2' Link In to AH4X4 '1' Link Out.

**TIP** → Direction of signal flow.

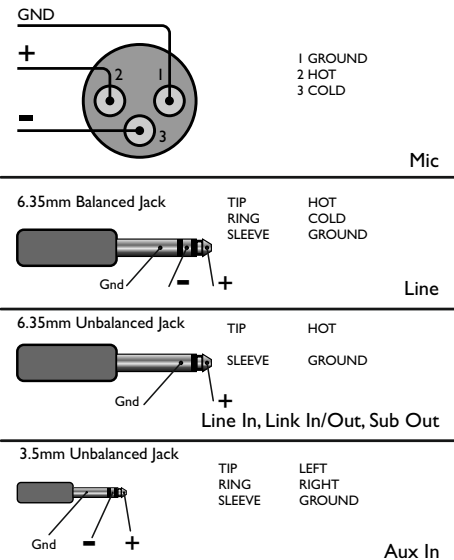


**TIP** When using the 'Link In' socket, sleep mode is temporarily disabled so that the slave does not shut down un-necessarily. (Sleep mode monitors the input channels)



## Specifications

<b>MODEL NO:</b>	AH4X4 'AUDIOHUB FREESTYLE 4X4'
<b>CHI-2:</b>	Combi Input, Combined XLR/6.3mm Jack Balanced input Mic/Line level select (Line 75mV/-20dBu) (Mic 7.5mV/-40dBu)  Level control Assignable FX Switch Peak LED
<b>CH3:</b>	Twin Line level unbalanced Jack inputs Level control Peak LED
<b>CH4:</b>	Single Stereo 3.5mm Jack Input Bluetooth audio In with Pair LED (Shows BT status) Level control Peak LED
<b>FX:</b>	Variable Delay or Variable Reverb FX Level
<b>Master:</b>	FX On/Off and status Led Master Volume EQ Mode switch (Four modes) Battery monitor Energy mode ECO/Intelligent-Normal Anti-Feedback (12 position auto notch)On/Off + status Led.
<b>Connectivity:</b>	Link In/Out. To connect another Freestyle Amp (450mV/-4dBu) Link Out may be used as line out Sub Out for active sub woofer (120Hz LP Filter) (120Hz HP filter active when Sub Out used) FX remote
<b>Amplifier:</b>	35W RMS, 70W Peak
<b>Drivers:</b>	4 X 4" Woofer 3" Silk Dome Tweeter, 1" neodymium voice coil
<b>Power:</b>	2.5mm DC inlet for 12V/3A Supply Battery holder for either 8*AA or 3*1850 cells
<b>Other Features:</b>	35mm pole stand fitting Heavy duty metal front grille Top Carry handle Aluminium sides
<b>Frequency Response:</b>	70Hz-20KHz
<b>Nominal impedance:</b>	8 Ohm
<b>Sensitivity:</b>	93dB(1W/1m) MAX SPL:117dB/1m
<b>Dimensions (unit) H/W/D</b>	540x175x175 (mm)
<b>Dimensions (packed) H/W/D</b>	650x218x215(mm)
<b>Weight (unit)</b>	6.5Kg
<b>Weight (packed)</b>	8.0Kg



The Mic/Line combi Input and Aux Input will also accept unbalanced inputs.

### Incorporated Radio Equipment Device Technical Specification:

Frequency Range:	2402-2480MHz
Transmit Power:	+8dBm (6.3mW)
Receiver Sensitivity:	-91dBm
Operating Protocol:	Bluetooth Class 2

In the interest of continued development, Laney reserves the right to amend product specification without prior notification.

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## Important Safety Instructions

- 1). **Read & Retain these Instructions** carefully before installing or operating this product.
- 2). **Comply with Warnings:** All warnings and instructions for these products should be adhered to.
- 3). **Unpacking:** On unpacking your product please check carefully for any signs of damage that may have occurred whilst in transit from the Laney factory to your dealer. In the unlikely event that there has been damage, please re-pack your unit in its original carton and consult your dealer. We strongly advise you to keep your original transit carton, since in the unlikely event that your unit should develop a fault, you will be able to return it to you dealer for rectification securely packed.
- 4). **Amplifier Connection:** In order to avoid damage, it is advisable to establish and follow a pattern for turning on and off your system. With all system parts connected, turn on source equipment, CD/MP3 players, mixers/recorders, etc, BEFORE turning on your amplifier. Many products have large transient surges at turn on and off which can cause damage to your speakers. By turning on your amplifier LAST and making sure its level control is set to a minimum, any transients from other equipment should not reach your loud speakers. Wait until all system parts have stabilised, usually after a couple of seconds. When turning off your system, always turn down the level controls on your amplifier and then turn off its power before turning off other equipment.
- 5). **Servicing:** Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the DC Power Supply 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.
- 6). **Placement:** This electrical apparatus should not be exposed to dripping or splashing and care should be taken not to place objects containing liquids upon the amplifier.  
Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat. Do not block any of the ventilation openings.  
Use only with a stand/tripod specified by the manufacturer.
- 7). **When using the DC power Supply:** Only use the approved DC power supply provided by the manufacturer.  
Protect the power cord on the DC power supply from being walked on or pinched, particularly at plugs, convenience receptacles, and the point they exit from the apparatus. See notes on using the DC Power Supply page 4.
- 8). **Batteries:** See page 9 for fitting and replacing batteries.
- 9). **Sound Levels:** Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time.  
The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures: According to OSHA, any exposure in excess of the above permissible limits could result in some hearing loss. Earplugs or protectors to the ear canals or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss, if exposure is in excess of the limits as set forth above. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels such as this amplification system be protected by hearing protectors while this unit is in operation.
- 10). **Maintenance:** Clean only with a dry cloth.  
Care of your Laney amplifier will prolong it's life.....and yours!
- 11). **Pole Stand:** Don't over-extend poles/tripods; ensure at least 4 x the pole diameter is still inside the outer pole.  
Make sure the legs have a good splay on tripods, but do not obstruct doorways or other access-ways. Ensure the unit is stable and cannot fall over.

Duration Per Day in Hours	Sound Level dBA, slow response
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

## FCC Compliancy Statement



### FCC COMPLIANCY STATEMENT

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, that may cause undesired operation.

**Warning:** Changes or modification to the equipment not approved by Laney can void the user's authority to use the equipment.

**Note:** This equipment has been tested and found to comply with the limits for 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

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This product conforms to the requirements of the following European Regulations, Directives & Rules:  
CE Mark (93/68/EEC), Low Voltage 2014/35/EU, EMC (2014/30/EU), RoHS (2011/65/EU), RED (2014/30/EU), ErP 2009/125/EU

### SIMPLIFIED EU DECLARATION OF CONFORMITY

Hereby, Laney Electronics Ltd. declares that the radio equipment types AH4X4 are in compliance with Directives 2014/53/EU, 2011/65/EU, 2009/125/EU  
Full text of the EU declaration of conformity is available at the following internet address:

[support.laney.co.uk/approvals](http://support.laney.co.uk/approvals)



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In order to reduce environmental damage, at the end of its useful life, this product must not be disposed of along with normal household waste to landfill sites. It must be taken to an approved recycling centre according to the recommendations of the WEEE (Waste Electrical and Electronic Equipment) directive applicable in your country.

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The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by Headstock Distribution Ltd is under license. Other trademarks and trade names are those of their respective owners.  
Laney is a registered trademark of Headstock Distribution Ltd.

### INCORPORATED RADIO EQUIPMENT DEVICE TECHNICAL SPECIFICATION:

Frequency Range: 2402-2480MHz  
Transmit Power: +8dBm (6.3mW)  
Receiver Sensitivity: -91dBm  
Operating Protocol: Bluetooth Class 2

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15



Model number:

Serial number:

Place of purchase:

Date of purchase:

Please complete for future reference.

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REVISION 5.00