Power Amplifiers

BLACKAIRS4-V1

BLACKAIRB2-V1

BLACKAIRCH5-V1

OWNERS MANUAL

Congratulations on purchasing your VIBE amplifier. Please read this manual in order to fully understand how to get the best results from this product and ensure that all advice on how to look after the product is followed.

Thank you for buying VIBE, we hope you enjoy listening to your product as much as we enjoyed creating it.

ATTENTION

An aftermarket audio amplifier will place an additional load on the vehicles charging system. Most modern vehicles have sufficient capacity in the charging system as not all the electrical components of the vehicle will be switched on at once.

Check the fuse rating of the amplifier and use this as the peak current requirement. Generally the continuous current draw will be a third of the peak current.

WARNING

During the normal use of this amplifier the heatsink may become very hot.
Please do not touch during or immediately after use.
Please ensure that when installing this product the heatsink will not come into contact with any materials that may be damaged by heat such as upholstery or plastics.

LIMITED WARRANTY

All VIBE products carry a full 12 month warranty, valid from the date of the original receipt and proof of purchase. In order to validate this warranty, the online warranty card should be completed within seven days of the original purchase date. The original receipt and packaging should be retained for this twelve month period. If the product develops a problem any stage during the warranty period, it should be returned to the point of purchase in it's original packaging, and complete with no items missing. If the store is unable to repair the product it may have to be returned to VIBE.
A full description of VIBE's warranty information can be found on our website:
www.vibeaudio.co.uk/warranty

WHAT IS NOT COVERED

- Damage to product due to improper installation.
- Subsequent damage to other components.
- Damage caused by exposure to moisture, excessive heat, chemical cleaners and / or UV radiation.
- Damage through negligence, misuse, accident or abuse. Repeated returns for the same fault may be considered abuse.
- Any cost or expense related to the removal and / or re-installation of the product.
- Damage caused by amplifier clipping or distortion.
- Items repaired or modified by any unauthorised repair facility.
- Return shipping on non defective items.
- Products returned without a returns authorisation number.
- Damage to product due to use of sealant.

INTERNATIONAL WARRANTY

Contact your international VIBE dealer or distributor concerning specific procedure for your country's warranty policies. **www.vibeaudio.co.uk/warranty**

WARNING

VIBE equipment is capable of sound pressure levels that can cause permanent damage to your hearing and those around you. Please use common sense when listening to your audio system and practice safe sound.

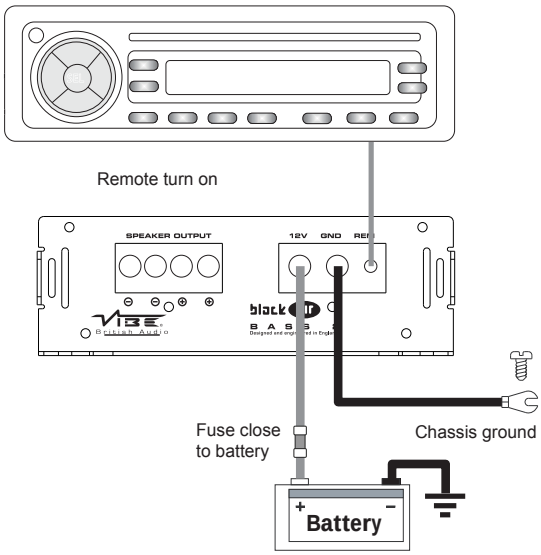
MOUNTING GUIDELINES

Your VIBE amplifier is designed with a swift installation routine in mind.

Please mount the amplifier in a dry location on a solid surface.
NEVER mount the amplifier upside down as this will cause the amplifier to over heat and will eventually damage the amplifier.

Before fixing the amplifier in place please ensure that there is sufficient air flow around the exterior of the casing, at least two inches is sufficient.

POWER CONNECTIONS



POWER CABLE

• At least 8 gauge cable should be used for the power connection to the amplifier.

• The power cable should be taken directly from the battery. Rubber grommets should be used when passing through any bulkheads to prevent the cable from becoming chaffed or cut.

• It is vital that a fuse / circuit breaker (of at least equal value to the one fitted on the amplifier) is placed inline with the power cable and is no further than eighteen inches away from the battery.

• Please ensure that the fuse is not fitted until the entire installation procedure is complete.

• The two tables overleaf are to help you decide on what cable is correct for you. The first enables you to select the size of cable depending on the length required. The second will help you convert the cable size from American Wire Gauge to Metric and Imperial if you need to.

CONNECTIONS

	Length of Run							
Current demand	0 – 4 Ft	4 – 7 Ft	7 – 10 Ft	10 – 13 Ft	13 – 16 Ft	16 – 19 Ft	19 – 22 Ft	22 – 28 Ft
0–20 amps	14	12	12	10	10	8	8	8
20–35 amps	12	10	8	8	6	6	6	4
35–50 amps	10	8	8	6	4	4	4	4
50–65 amps	8	8	6	4	4	4	4	2
65–85 amps	6	6	4	4	2	2	2	0
85–105 amps	6	6	4	2	2	2	2	0
105–125 amps	4	4	4	2	0	0	0	0
125–150 amps	2	2	2	0	0	0	0	0

AWG to Metric and Imperial Conversion Chart cross sectional area			
AWG Number	Inch	mm	mm^2
0	0.325	8.25	53.5
1	0.289	7.35	42.4
2	0.258	6.54	33.6
3	0.229	5.83	26.7
4	0.204	5.19	21.1
5	0.182	4.62	16.8
6	0.162	4.11	13.3
7	0.144	3.66	10.5
8	0.128	3.26	8.36
9	0.114	2.91	6.63
10	0.102	2.59	5.26

GROUND CABLE

• At least 8 gauge cable should be used for the ground connection to the amplifier.

• The amplifier ground should be connected directly to the chassis of the vehicle, to bare metal.

• The cable length should be kept to an absolute minimum.

• It is not recommended that you connect the ground cable to the vehicles seatbelts anchor point.

REMOTE TURN ON CABLE

• A minimum of 18 gauge cable should be used for this connection.

• The cable should be run with exactly the same care and attention as the power cable and taken back to the source (headunit) and joined to the remote cable provided.

• If the source (headunit) does not have a remote turn on cable then a 12v supply should be used. This will require a switch to be fitted inline to enable the amplifier to be turned on and off. Remember that if this switch is left on you will flatten the car battery. Alternatively the VIBE DeltaBox line convertor can be used to supply a remote turn on trigger, please visit **www.vibeaudio.co.uk** for more information.

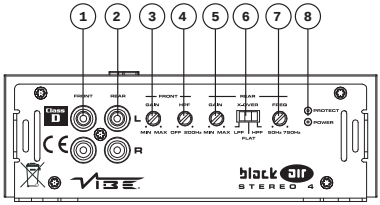
RCA CABLES

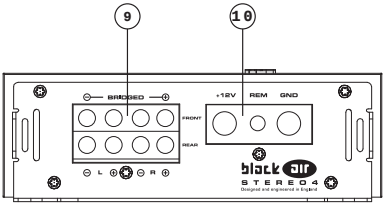
• Depending on the model number of your amplifier and the number of speakers you wish to power you will have to run either one or two RCA cables from the source to the amplifier.

• Please take extra care when running these cables from the source to the amplifier. Ensure that they are placed away from all items that can generate any interference, wiring harnesses etc.

• It is recommended that the RCA cables should be run on opposite sides of the car to the previously installed power cables if possible, to avoid the cable picking up interference.

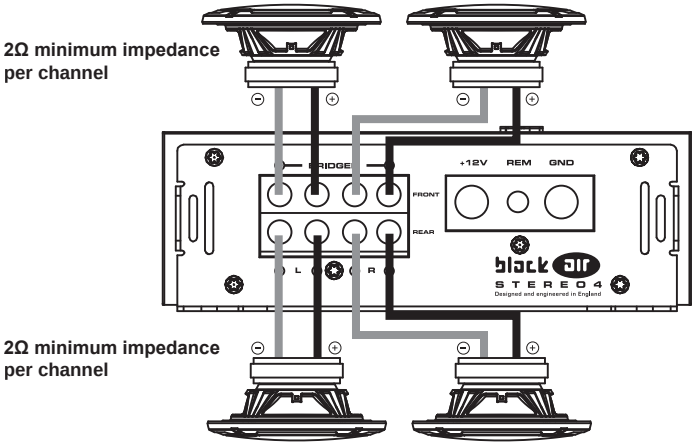
TERMINALS AND CONNECTIONS



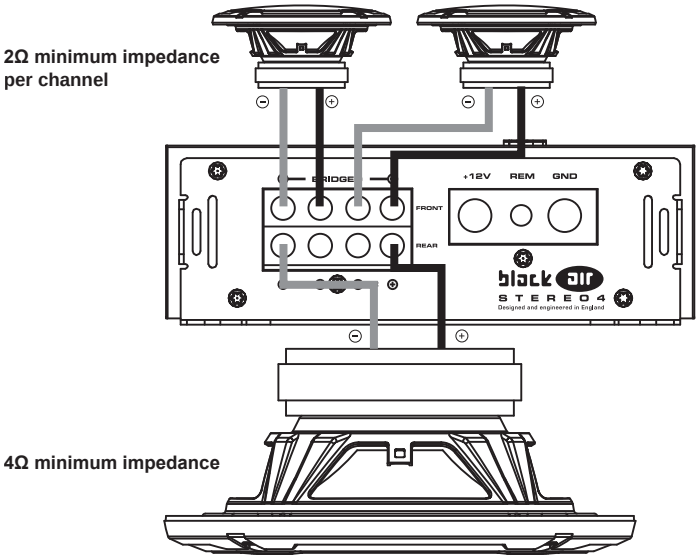


1. Front low level input
For connection to any source (head unit) with a low level output. This is your RCA output from the source (headunit)
2. Rear low level input
For connection to any source (head unit) with a low level output. This is your RCA output from the source (headunit)
3. Front gain control
This control is used to match the input signal of the source to the front amplifier channel. See the setup guide for more details.
4. Front crossover frequency control
This control is used to set the HPF crossover frequency for the front amplifier channel.
The frequency is adjustable between OFF and 200Hz.
5. Rear gain control
This control is used to match the input signal of the source to the rear amplifier channel. See the setup guide for more details.
6. Rear crossover mode select switch
This switch is used to select the crossover mode of the amplifier. FLAT is full range output, HPF is used to limit the amout of low frequency information passed to the speakers and LPF is used to limit the amount of high frequency information passed to the speakers.
7. Crossover frequency control
This control is used to set the crossover frequency for the amplifier when HPF or LPF is selected.
The frequency is adjustable between 50Hz and 750Hz.
8. Power / protect LED
If the amplifier is operating normally the green power LED will illuminate.
If the amplifier is in protection mode the red protection LED will illuminate.
9. Speaker terminals
Used to connect the speaker wires to the amplifier. See the wiring configurations section for more details.
10. Power terminals
Used to connect DC power to the amplifier. See the power connection section for more details.

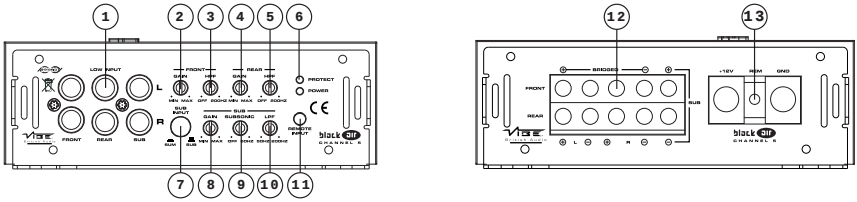
4 CHANNEL WIRING CONFIGURATION



3 CHANNEL WIRING CONFIGURATION

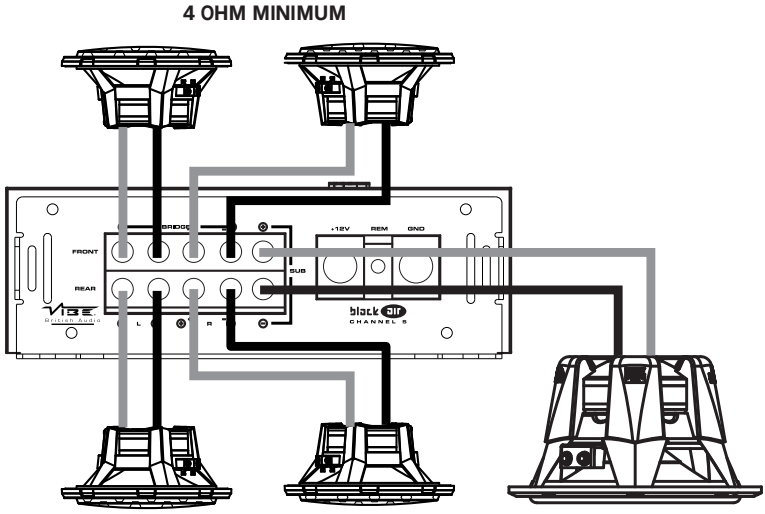


TERMINALS AND CONNECTIONS

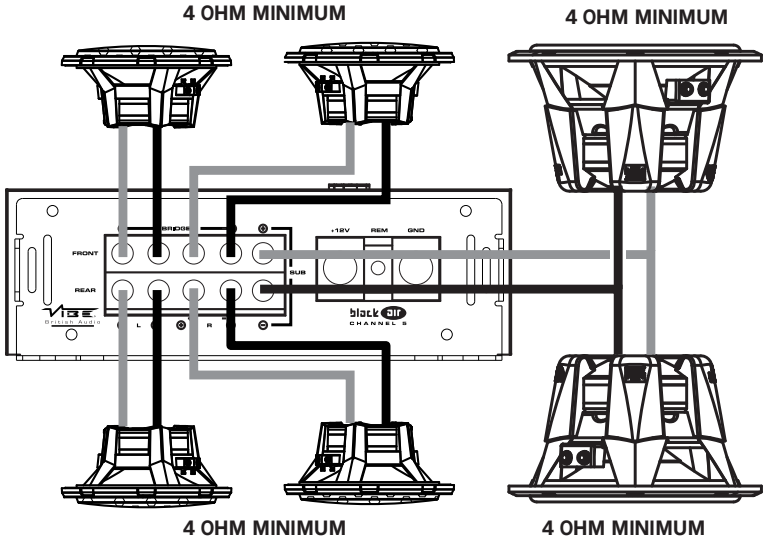


1. Low level input
For connection to any source (head unit) with a low level output. This is your RCA output from the source (headunit)
2. Front gain control
This control is used to match the input signal of the source to the front amplifier channel. See the setup section for more details.
3. Front crossover frequency control
This control is used to set the HPF crossover frequency for the front amplifier channel.
The frequency is adjustable between OFF and 200Hz.
4. Rear gain control
This control is used to match the input signal of the source to the rear amplifier channel. See the setup section for more details.
5. Rear crossover mode select switch
This switch is used to select the crossover mode of the amplifier. FLAT is full range output, HPF is used to limit the amout of low frequency information passed to the speakers and LPF is used to limit the amount of high frequency information passed to the speakers.
6. Power / protect LED
If the amplifier is operating normally the green LED will illuminate.
If the amplifier is in protection mode the red LED will illuminate.
7. SUM / SUB input
This switch is used to select the input to be used for the subwoofer. SUM setting will derive a signal from the rear channel input. The SUB setting will use a separate RCA input such as the subwoofer output on the source (headunit)
8. Subwoofer gain control
This control is used to match the input signal of the source to the subwoofer amplifier channel.
See the setup section for more details.
9. Subsonic filter
This control is used to set the subsonic filter which is used to limit the very low frequency information passed to the subwoofer. The frequency is adjustable between OFF and 50Hz.
10. Crossover frequency control
This control is used to set the LPF crossover frequency for the subwoofer amplifier channel.
The frequency is adjustable between 40Hz and 200Hz.
11. Remote control input socket
Used to connect the supplied remote level control.
12. Power terminals
Used to connect DC power to the amplifier. See the power connection section for more details.
13. Speaker terminals
Used to connect the speaker wires to the amplifier. See the wiring configurations section for more details.

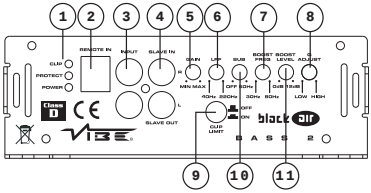
SINGLE SUBWOOFER WIRING CONFIGURATION

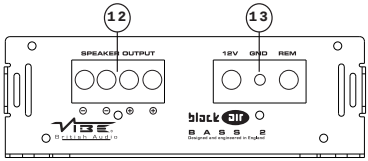


DUAL SUBWOOFER WIRING CONFIGURATION



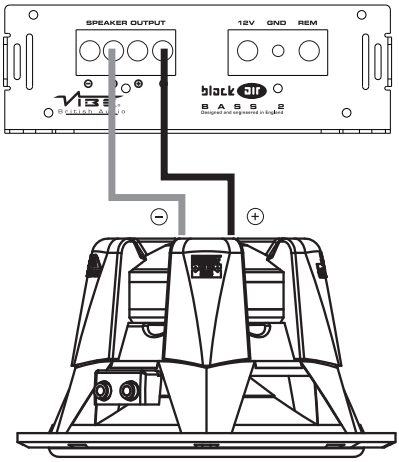
TERMINALS AND CONNECTIONS





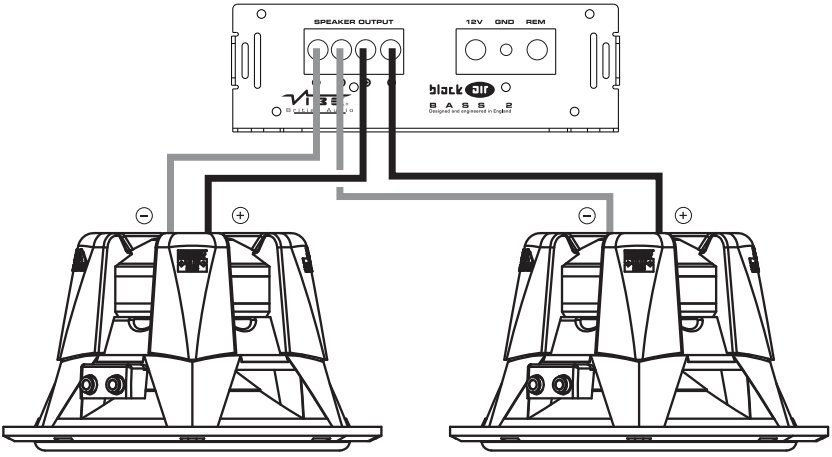
1. Power / protect / clip LED
Status of the amplifier is indicated by the LED's
2. Remote control input socket
Used to connect the supplied remote level control.
3. Low level input
For connection to any source (head unit) with a low level output. This is your RCA output from the source (headunit)
4. Slave in / Slave out
For connection to a second amplifier when operating in strapped configuration.
5. Gain control
This control is used to match the input signal of the source to the amplifier.
See the setup guide for more details.
6. Low pass frequency control
This control is used to set the LPF crossover frequency.
The frequency is adjustable between 40Hz and 220Hz.
7. Bass boost frequency control
This control is used to set the bass boost frequency.
The frequency is adjustable between 30Hz and 80Hz
8. Q Adjust control
This control is used to adjust the Q factor of the bass boost.
LOW will affect a wide range of frequencies either side of the boost frequency whereas HIGH will affect only a small range of frequencies either side of the boost frequency.
9. Clip limit
This switch is used to select the clip limiter for the amplifier, it is recommended that this is set to ON.
10. Subsonic filter
This control is used to set the subsonic filter which is used to limit the very low frequency information passed to the subwoofer. The frequency is adjustable between OFF and 50Hz.
11. Boost level
This control is used to set the amount of bass boost. The level is adjustable from 0dB - 12dB.
12. Speaker terminals
Used to connect the speaker wires to the amplifier. See the wiring configurations section for more details.
13. Power terminals
Used to connect DC power to the amplifier. See the power connection section for more details.

SINGLE SUBWOOFER WIRING CONFIGURATION



1Ω minimum impedance

DUAL SUBWOOFER WIRING CONFIGURATION



1Ω minimum impedance total

STRAPPED AMPLIFIER CONNECTIONS

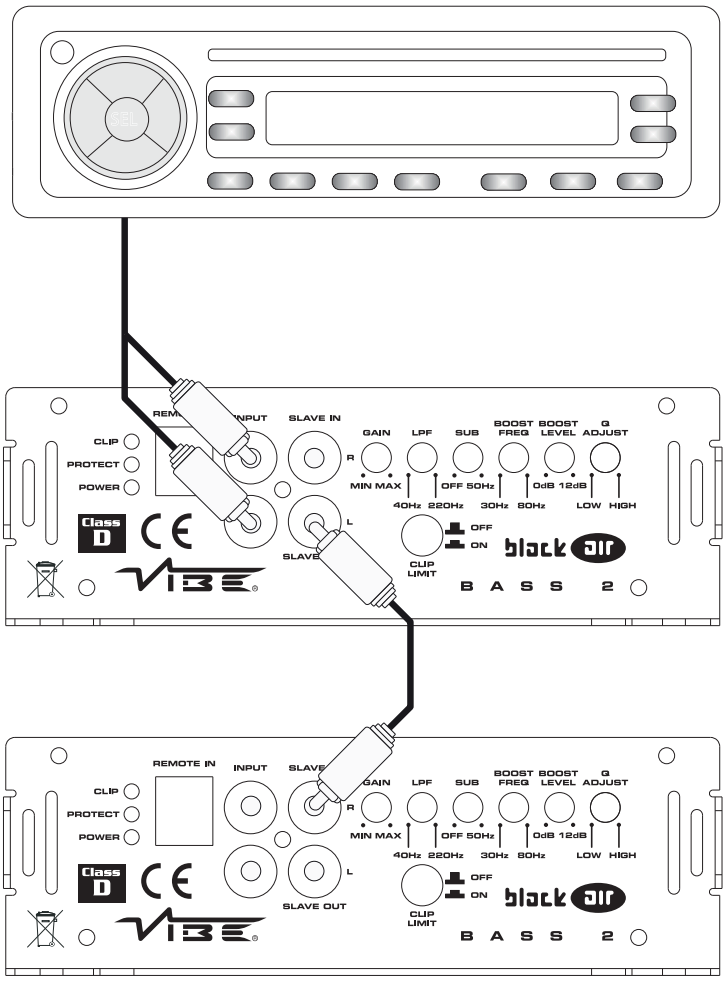
Two BlackAir Bass 2 amplifiers can be combined to deliver the full output from both amplifiers into a single channel when strapped.

Please follow the below guide on the correct strapping procedure.

Audio connections

• Connect the low level (RCA) output from the source (headunit) to the input RCA sockets of the master amplifier.

• Connect the SLAVE OUT of the master amplifier to the SLAVE IN of the slave amplifier with a RCA lead.



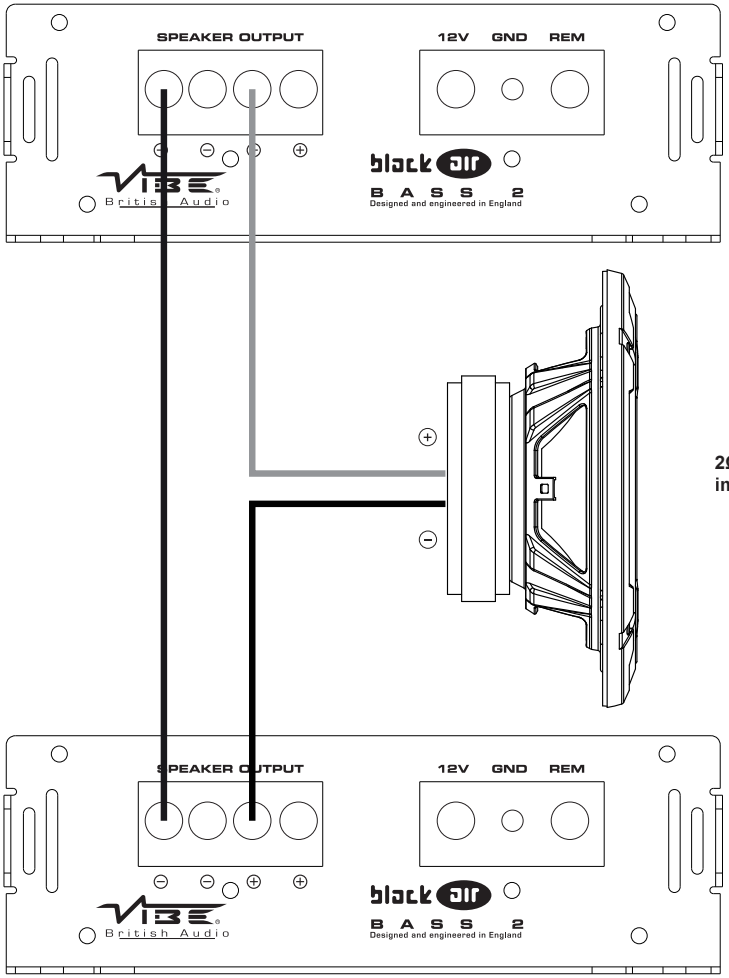
STRAPPED AMPLIFIER CONNECTIONS

Speaker connections

• Connect the negative speaker terminal of the master amplifier to the negative speaker terminal of the slave amplifier using the same gauge speaker cable that the subwoofer will be used connect the subwoofer.

• Connect the positive speaker terminal of the master amplifier to the positive speaker terminal of the subwoofer.

• Connect the positive speaker terminal of the slave amplifier to the negative speaker terminal of the subwoofer.



2Ω minimum impedance

STRAPPED AMPLIFIER NOTES

• The minimum impedance for a strapped pair of BlackAir Bass 2 amplifiers is 2Ω.

• All controls on the slave amplifier are disabled when in strapped configuration.

• The remote level control should be connected to the master amplifier only.

• Do not attempt to strap different models amplifiers together as this may result in damage to the amplifiers.

•Do not connect any RCA leads to the INPUT sockets of the slave amplifier, only the SLAVE IN connection should be used.

SETUP GUIDE

To correctly set the gain control of the amplifier to match that of the source (headunit) use the following setup routine:

• Turn the gain control to minimum on the amplifier.
• Ensure the bass boost is set to 0 dB.
• Set all crossovers on the headunt (if applicable) to flat and both bass and treble to zero.
• Turn up the source (headunit) to approx 3/4 volume.
• Very slowly turn up the gain on the amplifier until distortion can be heard in any of the speakers or until the volume reaches an uncomfortable listening level when this is reached Turn the gain control down slightly.

The gain control is now set.

The setting of the crossover will depend on what kind of speaker you are installing.

For a subwoofer it is recommended that the crossover is set to Low pass and the frequency is set to match that of the speakers specifications, or your preferred frequency - this is usually around 60 - 120 Hz

For a pair of full range speakers it is recommended that the crossover is set to Flat.

The two frequency controls will then have no effect on the amplifiers output and the speaker will receive a full range signal.

Using the high pass crossovers will allow more control of your speakers by removing the bass (low frequencies).
The speakers can now perform at higher volumes with less distortion.

Note: The smaller the speaker, the less bass it can handle.

Adjust the crossover to get the most and best sound from your speakers, the easiest way to do this is by limiting the amount of bass you pass to them.

For a pair of speakers with a passive crossover it is recommended that the crossover is set to high pass and the frequency is set to match that of the speakers specifications. - This is usually around 40 - 120Hz

Note: By using the crossovers correctly you will not only lengthen the life of your speakers but you will also get better performance from them.

To optimise your setup seek the advise of a professional installation engineer or visit your local VIBE audio dealer.

SPECIFICATIONS

	BLACKAIR STEREO 4	BLACKAIR CHANNEL 5	BLACKAIR BASS 2
Type	amplifier	amplifier	amplifier
Configuration	4 channel	5 channel	mono bass amp
Height	2.1” (54mm)	2.1” (54mm)	2.1” (54mm)
Width	13” (329mm)	20.4” (520mm)	19.6” (497mm)
Depth	6.5” (165mm)	6.5” (165mm)	6.5” (165mm)
RMS @ 4Ω Stereo	4 x 100 watts	4 x 90	N/A
RMS @ 2Ω Stereo	4 x 150 watts	N/A	N/A
RMS @ 4Ω Mono	2 x 300 watts	1 x 300 watts	1 x 500 watts
RMS @ 2Ω Mono	N/A	1 x 515 watts	1 x 1000 watts
RMS @ 1Ω Mono	N/A	N/A	1 x 1500 watts
Maximum Power	1200 watts	1750 watts	3000 watts
Recommended Fuse	60A	80A	150A
Frequency Response	20Hz - 20kHz	10Hz - 20kHz	10Hz - 500Hz
Crossover Type	LP / HP / Flat	LP / HP / SUBSONIC	LP / SUBSONIC
Crossover Range	0Hz - 750Hz	0Hz - 200Hz	0Hz - 220Hz
Model code:	BLACKAIRS4-V1	BLACKAIRCH5-V1	BLACKAIRB2-V1

UK TECHNICAL ENQUIRIES

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