ABH

OPERATING MANUAL AND USER GUIDE

ABH200C & ABH300H

Albion
AMPLIFICATION

www.albionamps.com

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Important Safety Instructions

1. Read these instructions – All the safety and operating instructions should be read before this product is operated.

2. Keep these instructions – The safety and operating instructions should be retained for future reference.

3. Heed all warnings – All warnings on the appliance and in the operating instructions should be adhered to.

4. Follow all instructions – All operating and use instructions should be followed.

5. Do not use this apparatus near water – The appliance should not be used near water or moisture – for example, in a wet basement or near a swimming pool etc.

6. Clean only with dry cloth.

7. Do not block any ventilation openings. Install in accordance with the instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.

11. Only use attachments/accessories specified by the manufacturer.

12. Use only with the cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart or rack is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.

13. Unplug the apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way including: power supply cord or plug damage, liquid spillages, objects falling into the unit, exposure to rain/moisture or impact damage.

15. Please keep the unit in a well ventilated environment.

16. CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

17. WARNING: To reduce the risk of fire or electric shock do not expose this apparatus to rain, moisture and dripping or splashing of liquids. Containers filled with liquids such as vases or drinks should never be placed on top of or near the unit.

18. WARNING: The mains plug/appliance coupler is used as disconnect device, the disconnect device shall remain readily operable.

19. The lightning flash with arrowhead symbol is to alert the user to the presence of non-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

    - Warning: To reduce the risk of electric shock, do not remove cover (or back) as there are no user-serviceable parts inside. Refer servicing to qualified personnel.

- The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance.

20.  Protective earthing terminal. The apparatus should be connected to a mains socket outlet with a protective earthing connection.

21.  Correct Disposal of this product. This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmentally safe recycling.

22. WARNING: The terminals marked with the symbol of " ⚠ " may be of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by an instructed person or the use of ready-made leads or cords according to manufacturer's instruction.

23. "Class 2 Wiring" for all other TERMINALS provided the audio output power exceeds 10W per channel under normal operating conditions or the apparatus is intended to be installed or interconnected in the field by a SKILLED PERSON.

Important Warnings

⚠ ALWAYS read the manual of your new amplifier – even if you are experienced with guitar amplifiers and their technology! There could be something important that you need to know.

⚠ ALWAYS check that your new amplifier is suited to the mains power supply in your country.

⚠ NEVER disconnect the earth (ground) connection from your amplifier. It is there to prevent you from receiving a fatal electric shock!

⚠ NEVER use your amplifier equipment in a high moisture environment (such as rain) or allow it to get wet.

⚠ ALWAYS use correct and well maintained cables for all inter-connections whether for power, speaker or signal connections. If in any doubt, get them checked or renew immediately.

⚠ NEVER use your amplifier products with any cooling vents covered, even partially. Your amp loves being fed nice cool air!

PARTICULARLY with valve (tube) amps allow your amp to warm up before playing, 5 minutes is a good length of time. Also allow your amp to have a good cool down after playing and before moving it, especially into the back of a car on a cold winter's night! Your valves will last longer if you give them a little respect and TLC. Valves are pretty tough when you think of what they are made from – but can be very fragile if treated with physical abuse.

⚠ ALWAYS use a cable rated for loudspeaker connection use for connecting your amplifier to your loudspeaker system. DO NOT use a screened guitar cable for speaker use.

⚠ NEVER use your amplifier without it connected to a suitable matched loudspeaker system.

WARNING! Sometimes parts of the outside of your amplifier may get hot to the touch. This is quite normal and will be within safe operational limits. These limits are set by various countries safety approvals committees, and we at Albion Musical Instruments design, build, test, and have approved our products to these international standards. I.e. CE, UL, CSA, CB, ETL etc.

EMC INTERFERENCE. Even though all Albion Musical Instruments products are designed and tested to international electro-magnetic interference standards, please note that cellular phones in close proximity may cause some interference with your amplifier.

⚠ ALWAYS have your amplifier serviced by a technician qualified in servicing musical instrument amplifier products. If in doubt please contact your dealer.

Designer's Introduction

Designing the ABH range of bass amps and cabinets has been a great pleasure for me. When I finally started to play the prototypes I immediately knew my team had done a great job, to any designer of any product THAT moment is pretty awesome, believe me. My aim of creating new bass products with, what I think is, great style, massive punch, warmth yet with clear tonality, and without having to mortgage your home, had become reality. The bass market is very competitive, filled with many different ideas and products, and for Albion Musical Instruments to make its impact on that market meant that our products had to be pretty special; after the initial launch at Music Messe 2010 and the comments that people had about the range, including those from some pretty impressive bass players, I knew we had made something special. I hope that you agree with that!

Thank you

Outline Specification

The ABH200C and ABH300H amplifier circuit utilizes a combination of technologies to provide optimum performance required for high class consistent playing night after night. Both amplifiers use the same circuitry, only differing in the power supply transformer values to provide the required power output.

The main preamplifier and tone forming circuit section uses 2 double triode low noise 7025/12AX7/ECC83 valves (tubes) including the Bass and Treble EQ circuits, running from a 380 volt HT power supply and DC heaters. The output from the valve preamp circuit then passes through the Mid circuit, which is separate from the preamp. This mid circuit uses a very special high voltage operational amplifier circuit in order to pass the valve tone from the preamp to the power amp without adding extra unwanted colouration. All it does is change the mid frequency spectrum.

The power amplifier stage is an extremely rugged but very musical bipolar transistor design that delivers the wide range response required for the punch and wide bandwidth required by today's bass players. The power stage is pretty much OVER-engineered to maintain night after night of high level bass guitar playing without compromise. As mentioned above, the power stage is very musical, it has a very sweet tone and handles being pushed into distortion (which is a very big test on any bass product!) with ease and without any ultra harsh unpleasantness – it really delivers the goods with what we think is a pretty superb sound level (SPL) for 200 and 300 watt bass rigs. To keep things cool, the power amp is thermostatically fan cooled on a very large heatsink – another example of our over-engineering. As with the other power items the power transformer is also larger than what other manufacturers put in their comparative bass amps. Why? Because it helps deliver the lowest notes without batting an eyelid! It doesn't run out of steam!! And also helps keep things very cool (except for the preamp valves of course!

The ABH200C and ABH300H amplifiers have a pretty impressive array of switchable options that make for a very versatile bass system, covering gain variations for both active and passive guitars, external Tuner connection with panel and footswitchable muting for silent tuning, plus some very neat preset tone contouring options.

Our EQ system of Bass, Middle, and Treble may seem pretty simple, but each control has a 3-position rotary switch selecting different frequency bands that give a very wide range of EQ options.

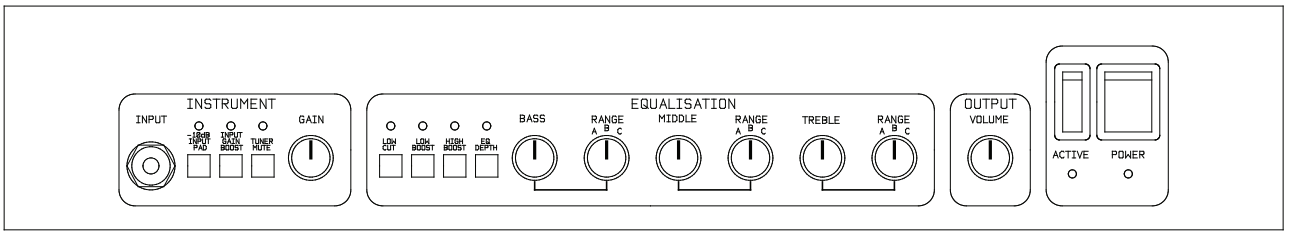
The signal handling capabilities of ABH bass amps puts you in control of the dynamics that you want - be it from clean, warm Jazz, through to overloaded Rock bass styles. Our bass amps and speaker systems are designed to deliver and handle them all.

The ABH200C combo comes complete with two of our own custom designed and built Albion 10" bass guitar loudspeakers wired in parallel for 8ohm operation. These speakers are specially designed for this combo, enabling it to deliver great low end from a small cabinet.

Added to this is our (again designed and built by us) High Frequency Angular Titanium Horn and Hifi grade crossover network. This very special HF unit has a unique angular dispersion pattern that projects upwards towards the player's hearing, as well as directly ahead towards the audience. On its own the ABH200C combo has a very fine full range bass guitar response beyond that of its relatively small size, perfect for small club stages and ease of transportation. On the back of the cabinet is a passive Sub-Woofer output jack socket with built in 300Hz crossover network. This allows the ABH200C to

be stacked on top of the Albion BLS115 cabinet splitting the system into a 3-way bass system for increased bass response and wider spread when required, but still making a compact transportable system.

ABH200C & ABH300H Features and Controls



INPUT – Mono ¼" Jack socket for instrument input. Use a properly screened "guitar" cable for interconnection. There are many different makes of guitar cable available, ranging from fairly inexpensive to very expensive. Each have different characteristics, and depending on your particular guitar will give different results, so experimentation and help from your dealer is the best advice we can give.

-10dB INPUT PAD – normally the input jack connects directly to the input grid of the first valve amplifying stage at high impedance (1Megohm). This is the switch out position, and is suitable for most purposes. However, in the case of high output active guitars and preamps, the signal level may be too high for the input stage to handle without distorting. By pressing the -10dB PAD switch IN the input circuit is reconfigured to a) attenuate the incoming signal by -10dB, and b) adjust the input impedance to a more suitable value for active guitars (approx 100Kohm).

INPUT GAIN BOOST – on the other hand, the input stage may not be "hot" enough for your liking and you want to use the valve preamp's natural overdrive tone – simply press IN the Input Gain Boost switch! Please note that both the -10dB and Gain Boost switches work in conjunction with the rotary GAIN control.

TUNER MUTE – by pressing this switch the output of the amplifier is muted except for the tuner out jack socket on the back panel, thus allowing for silent tuning. The mute switch function is also available via a footswitch jack mounted on the back panel (optional footswitch is available).

GAIN – this control determines the amount of signal that the first amplifier gain stage lets through to the rest of the amplifier. It is pretty straightforward in use – lower settings are clean – high mid settings are in the start of distortion range – and high settings are in the overdrive range.

EQUALISATION STAGE

EQ CONTOUR EXPANSION SWITCHES – the EQ system of the ABH bass system is very wide ranging and very versatile in its own right, but the use of the four expansion pushswitches opens up even more possibilities.

LOW CUT – when pushed in, this switch activates a high pass filter system that rolls of the very low frequencies in the preamp circuit which is used to tighten up the sound when the preamp is required to be pushed into "overdrive" for heavy rock playing styles. This helps the sound to retain punch and drive without being swamped by the very low frequencies which can become "muddy".

LOW BOOST – conversely the Low Boost switch reconfigures the input stage circuit to boost the very low frequencies in a very warm and musical way.

HIGH BOOST – as its name implies this switch boosts the high frequencies adding great "presence" and "cut" required for modern bass playing styles. It adds "snap" without adding harshness.

EQ DEPTH – working in conjunction with the Treble and Bass EQ circuit this switch introduces an extra -6dB cut to the mid frequencies, thus expanding the EQ tonal capabilities.

BASS & TREBLE EQ ROTARY CONTROLS & RANGE SWITCHES – although the Treble and bass EQ circuit is valve driven, it is of the cut and boost variety, and therefore is flat in the mid position. Both controls are fitted with a 3-position rotary RANGE switch which selects differing component values for different frequency slopes (A,B,C) thus expanding the effectiveness of the EQ to tailor your sound to suit your playing style and bass guitar. Experimenting with these controls is advised.

MIDDLE EQ ROTARY & RANGE SWITCH – as stated earlier the Middle circuit is after the valve preamp, and again is of the cut and boost variety. The Range switch varies the Mid centre frequency between 400Hz, 700Hz and 1.4kHz. Because it is independent of the

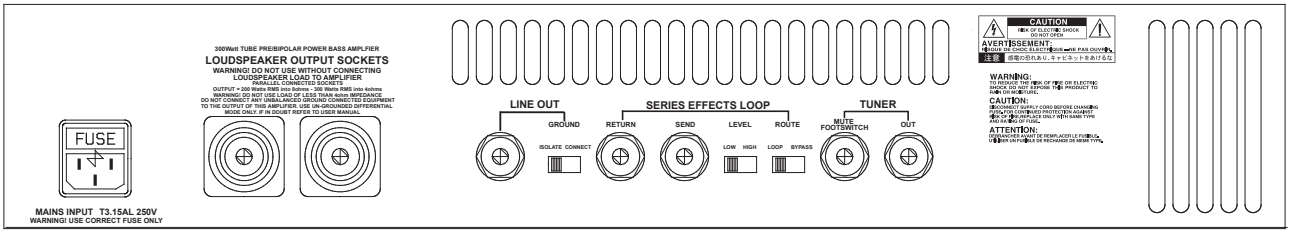
Treble and Bass circuits, even bigger variations in how the middle frequencies react are possible.

OUTPUT VOLUME – this quite simply controls the output of the preamp, giving you the required sound level and balance that you require.

ACTIVE SWITCH – this is primarily a Standby switch and turns the HT supply on or off to the valve preamp circuit.

MAINS POWER SWITCH – this is self explanatory in that it turns the mains power supply coming into the amplifier off (0) or on (1).

Rear Panel



TUNER OUT & MUTE FOOTSWITCH – as stated earlier regarding the Tuner Mute front panel switch, your tuning device can be connected here and, if required, a Albion single footswitch (optionally available) can be plugged in to facilitate remote operation.

SERIES EFFECTS LOOP – this consists of the Send and Return jack sockets, Level switch and Route switch. The Send socket supplies the preamp output signal to feed the input of your remote effects system, whilst the Return socket connects the output of your effects back into the amplifier circuit. Please remember that the loop is of the “series” type, so that the entire signal is sent and returned back to the amplifier. The Level switch has Low and High settings, the setting of this will be determined by the performance quality of your effects system. Low is nominally a loop level of -10dBV, and High is nominally 0dbV. Experiment with the Level switch to see what suits your system best.

Effects Loops in general are designed to work with rack type processors rather than floor stomp boxes. The reason for this is that most floor pedals do not have enough headroom to let the signal pass through without causing the signal to distort unduly. Also loops are designed for unity-gain systems (i.e. what goes in, comes back out at the same amount of gain and signal level) and are best suited for time based processors like chorusing and delays, graphic EQ, and studio type compressors. Definitely do not put gain type pedals (distortion overdrive etc) in the loop – it really will not sound good, and be very, very noisy! If you have a good floor type processor, then by all means experiment for your time delay type effects – use the low level – it may work, it may not!

The ROUTE switch when set to Bypass disables the Loop circuit if not being used, which is best practise if not using the effects loop.

LINE OUT – the Line Out jack is fed post preamp and post FX Loop. It is an unbalanced signal for connection into other power amplifiers and also for connection to a D.I. box for feeding into a PA system/recording system, etc. The ground switch will either connect the output jack’s ground directly to the ABH bass amp’s signal ground, or, if required to defeat ground loops, will lift the ground via a ground lift network.

LOUDSPEAKER OUTPUTS – ABH300H is fitted with 2 combined Speakon/Jack connectors wired in parallel. The maximum loading on the amplifier is 4 ohms, hence do not connect to any speaker system whose total impedance is less than 4 ohms!

The matching Albion bass loudspeaker cabinets (BLS115, BLS210, BLS410) are all 8 ohm cabinets, thereby allowing the use of up to 2 cabinets at any time.

The ABH200C 2 x 10” combo is fitted with two 16 ohm loudspeakers in parallel for 8 ohm operation. It is also fitted with a HF horn system (as mentioned earlier). It does not have any fitted external loudspeaker connectors because it is designed to deliver the maximum power into its internal speaker system. The only exception is the Sub-Woofer output connector mounted on the rear of the cabinet. This is an 8 ohm only output and is fed via a passive

300Hz crossover system for connection of a BLS115 15" bass cabinet for extended low frequency operation when required.

MAINS INPUT – the mains input receptacle allows for the connection of the mains power cord, and also houses the mains power fuse. To comply with International Safety Regulations (for your safety and protection) your amplifier is supplied to work with the mains supply in your country. Please check the white rating label fitted to the back panel. If in any doubt, please check with your supplier. It is of utmost importance to use the correct earthed and rated power cord, as is supplied with your amplifier.

WARNING! DO NOT USE WITHOUT CONNECTING THE EARTH (GROUND) WIRE.

In the case of the mains fuse blowing, this can be changed by removing the power cord connector from the amplifier receptacle and with the aid of a small screwdriver the small drawer in the receptacle can be withdrawn allowing access to the mains power Fuse.

WARNING! USE THE CORRECT REPLACEMENT VALUE ONLY!

A WORD OF ADVICE about fuses – if a fuse blows it is usually for a very good reason, it could be anything from a voltage spike on the mains power, to a serious malfunction of your amplifier. Fuses are there for your protection – treat them with respect, and never replace with the wrong value!

Specification

ABH300H – 300 watt Head Bass Amplifier

200 watts RMS output into 8 ohm impedance loudspeaker load.
300 watts RMS output into 4 ohm impedance loudspeaker load.

2 off 7025/12AX7/ECC83 double triode small signal valves (tubes)

Thermostatically Fan and passive cooled BJT power output stage

Mains Fuse = 100V 50/60 Hz supply = T6.3AL (time lag) 250V rated 20mm glass fuse
Mains Fuse = 120V 60 Hz supply = T6.3AL (time lag) 250V rated 20mm glass fuse
Mains Fuse = 230V 50 Hz supply = T3.2AL (time lag) 250V rated 20mm glass fuse
Mains Fuse = 240V 50/60 Hz supply = T3.2AL (time lag) 250V rated 20mm glass fuse

Warning! Where fuses specified are rated at 250V please be aware that this is the rating of fuse value and NOT the rating of your particular amplifier

Dimensions (mm) = 557 (W) x 285 (H) x 148 (D)
Weight = 13.2Kg

ABH200C – 200 watt Combo Bass Amplifier

200 watts RMS output into 8 ohm impedance loudspeaker load.

2 off 7025/12AX7/ECC83 double triode small signal valves (tubes)

Thermostatically Fan and passive cooled BJT power output stage

Mains Fuse = 100V 50/60 Hz supply = T5AL (time lag) 250V rated 20mm glass fuse
Mains Fuse = 120V 60 Hz supply = T5AL (time lag) 250V rated 20mm glass fuse
Mains Fuse = 230V 50 Hz supply = T2.5AL (time lag) 250V rated 20mm glass fuse
Mains Fuse = 240V 50/60 Hz supply = T2.5AL (time lag) 250V rated 20mm glass fuse

Warning! Where fuses specified are rated at 250V please be aware that this is the rating of fuse value and NOT the rating of your particular amplifier

Dimensions (mm) = 561 (W) x 390 (H) x 552 (D)
Weight = 29.5Kg

CAUTION!
There are no user serviceable parts mounted inside your amplifier! Refer servicing to suitably qualified personnel.

This means that for your own safety and the correct performance of your amplifier, do not open the chassis unless you really do know what you are doing!

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