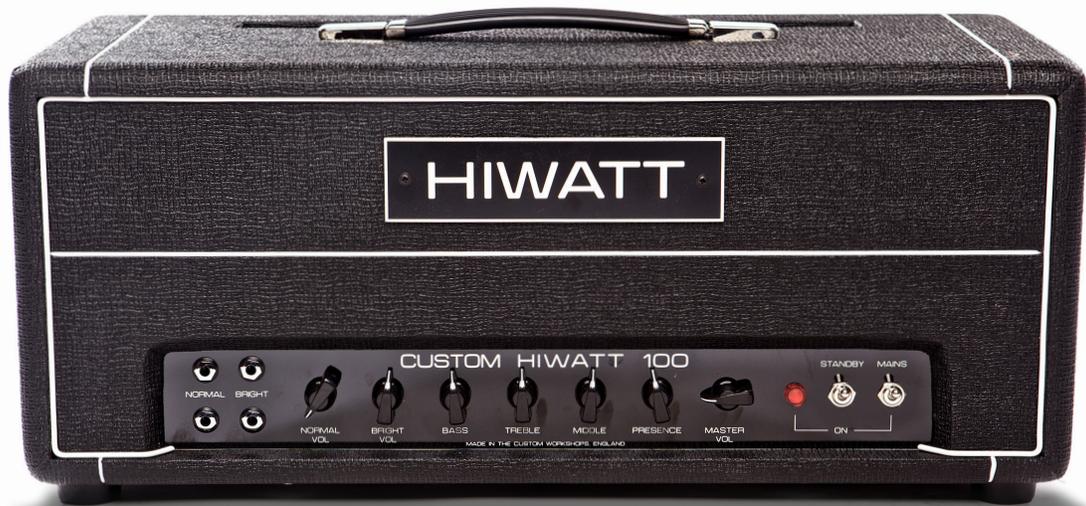


HIWATT

AUTHENTIC BRITISH SOUND



HIWATT
Custom Shop

Universal
OWNERS MANUAL



Hiwatt.co.uk



IMPORTANT SAFETY INSTRUCTIONS

Please read these instructions carefully before switching your amplifier on.

- Always use the supplied mains lead provided with your amplifier. If a replacement is needed, please contact your Hiwatt Dealer.
- Never attempt to by-pass fuses or fit ones of incorrect value.
- Do not attempt to remove the amplifier chassis, there are no user serviceable parts.
- All servicing should be carried out by a professionally qualified service technician.
- Never use an amplifier in wet or damp conditions.
- Always unplug this amplifier during lightning storms or when unused for prolonged periods of time.
- Protect the power cord from being walked on or pinched.
- Do not switch the amplifier on without the loudspeaker connected. It is important that the amplifier and speaker are matched at the correct impedance. Failure to do so can result in damage to the amplifier or speaker.
- Please ensure that the voltage selector/ indicator matches the supply voltage of the country in which the amplifier is being used.
- Always ensure free movement of air around the amplifier to prevent overheating.
- Never modify or make changes to equipment or use in an unapproved manner

WARNING – if used improperly or without proper safeguards this equipment can cause hearing damage or loss of hearing.

Follow all instructions and warnings

Please keep instructions in a safe place

Register product online: Hiwatt.co.uk



The lightning flash with arrowhead symbol, with an equilateral triangle, is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk to persons.



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

IMPORTANT

Servicing is required when the apparatus has been damaged in any way, such as when the 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.

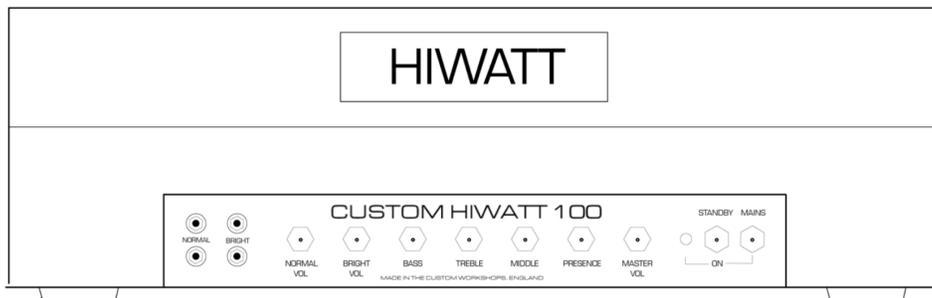
HIWATT CUSTOM SHOP MANUAL

Congratulations - you have purchased one of the most iconic guitar amplifier brands ever engineered. This amplifier was hand built in our Custom Shops in England using only top quality parts and original vintage Hiwatt specifications, transformers hand wired in England to our traditional standards.

This valve amplifier contains the original Hiwatt circuit preferred by many guitarists from the late 1960's to today. Legendary headroom, clean and clear sounds, uniquely rich in the 3rd and 5th harmonics, Hiwatt has carved out a place in tonal history. Rugged enough for use on the world's biggest stages and immortalized on some of the world's greatest albums - Custom Hiwatt is truly professional quality Studio/Stage Gear.

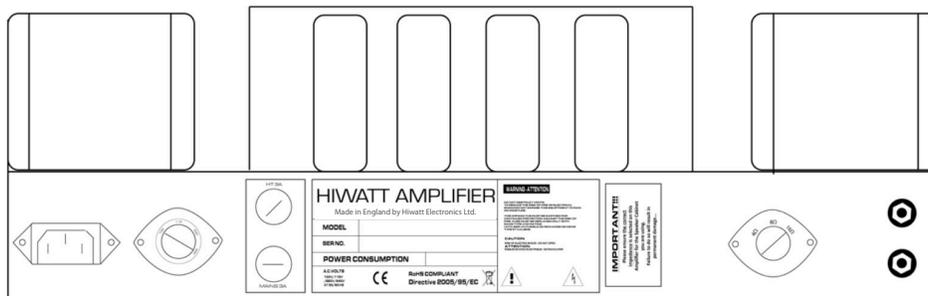
Please read this manual in its entirety before using your amplifier to ensure you get the most out of your Hiwatt amplifier in the safest possible manner. This Hiwatt amplifier is a professional guitar amplifier and is built to last a lifetime of playing both on and off the stage if used responsibly and serviced properly.

Please register with us online at Hiwatt.co.uk and keep this manual in a safe place for future reference.



Custom Hiwatt DR103 featured

Front



Back Panel

SPECIFICATIONS: *for Hiwatt Custom DR103

Type: All Purpose Guitar/Bass Amplifier Head

Cabinet: 18mm Baltic Birch Ply head box

Valve Complement:

- 4 x EL34 in the power amp
- 4 x ECC83 / 3 x ECC83 – 1 X ECC81 in the preamp

Voltage: Switchable Voltage (100v, 115v, 230v, 240v)

Impedance: Switchable Impedance (4 Ω, 8 Ω, 16 Ω)

Speaker Outputs:

- 2 x Parallel Speaker output sockets on ¼" Jacks

Power output: 100 Watts

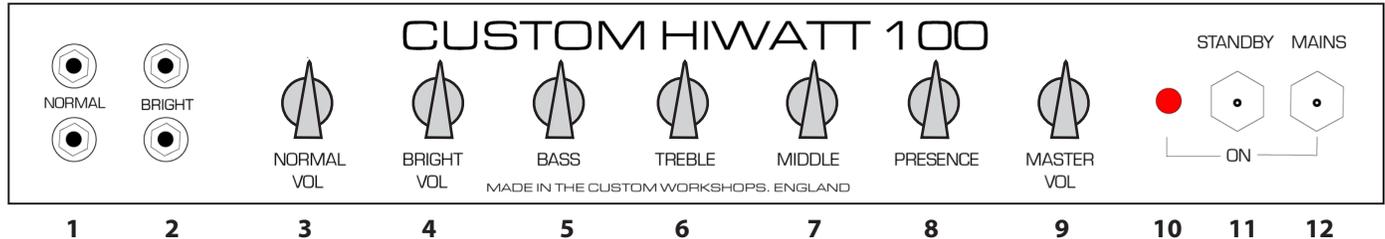
Dimensions: Height 280mm,
Width 631mm,
Depth 280mm

Weight: 23.15kg

USER GUIDE

This Hiwatt amplifier is a relatively simple to operate. The front and back panels of this amplifier are laid out in a logical manner so that the controls, switches and jack connectors are easy to use and understand.

Illust. 1

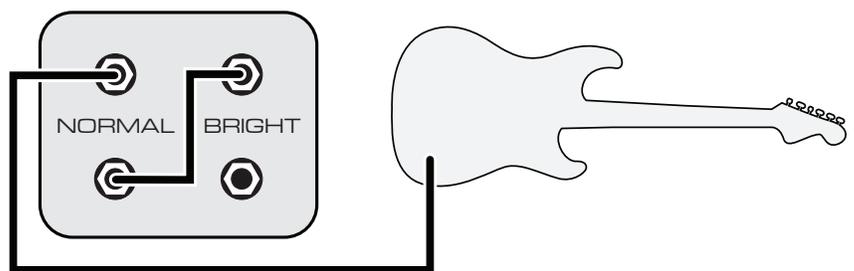


Front Panel

This amplifier has two channels, **Normal Channel** and **Bright Channel**, each with its own Volume control and two inputs. The top input on each channel is brighter and has more level than the bottom input. The bottom input is typically used for linking channels (see below) or if you prefer a cleaner and warmer sound. The other controls include **Bass**, **Treble**, **Middle**, **Presence** and **Master Volume**. These controls are shared by both channels. Also included on the front panel are the **Standby Switch** and **Mains Switch** and a **Mains Lamp**. Let's go through the functions.

- 1. Normal Channel:** The Normal channel has less high frequencies and more bass when compared to the Bright channel. It is typically used with brighter guitars including those with single coil pickups. It is also a great pedal platform channel due to its "flatter" response and fuller sound. If you are using a bright overdrive pedal with this amp, you might consider using this channel first. Plug into the top input of the Normal channel. Use the Normal Vol to control the sound level.
- 2. Bright Channel:** The Bright channel is more aggressive than the Normal channel. It has more highs, more upper mids and less bass. This is great for cutting through on stage when playing with a full band. This channel loves humbucking pickups. Plug into the top input of the Bright channel and use the Bright Vol to control the sound level.

Blending Channels: Many players blend the channels. This is done by plugging your guitar into the top input jack of the Normal channel and then a short cable from the bottom input jack of the Normal channel to the top input of the Bright Channel. Now you can use both Volume controls and blend the sound from both channels. For example, set the Bright channel volume to the sound level you want and then bring up the Normal volume to fill in the bottom end.



NOTE ON THE TWO CHANNELS:

Your Hiwatt amp is one of the best amps for using pedals because of its high headroom and harmonically rich sound. Since the two channels are voiced differently you have two tonal options to match the sound of your pedals, especially overdrive and distortion pedals. Try your pedals in both channels to see which one sounds best for your particular pedals. Then use the tone controls to further shape the sound.

3. Normal Volume: (Applies to Normal channel.)

Start with knob tuned fully anticlockwise. Increase volume by turning clockwise

4. Bright Volume: (Applies to Bright channel.)

Start with knob tuned fully anticlockwise. Increase volume by turning clockwise

5. Bass: As you would expect, this control is used to set the amount of bass.

Turn the control clockwise for more bass and anticlockwise for less bass. A Hiwatt amplifier is capable of a very full sound and will remain tight and full sounding even at high sound levels.

6. Treble: Guess what? Same goes for the Treble control. Turn up (clockwise) for more treble and down (anticlockwise) for less.

7. Middle: Get the idea yet? Want more Mids? Set this control higher.

8. Presence: The Presence control is used in conjunction with the Treble control to set the overall amount of high frequencies. Because the Presence control is in a different part of the circuit (Negative Feedback) it works in a different manner and control some of the upper mids. Blend these two controls to set the high-end tone you are looking for.

9. MASTER VOLUME: Once you've set the volume level and tone control settings to your liking, use the Master Volume to control the overall level depending on where you are playing and how loud you want to amp. When the Master is fully anticlockwise there will be no sound. *(You should always have the master volume fully anticlockwise when turning the amplifier on or off)*

Approximate master volume setting:  10:00 for normal play/setup.  2:00 to full-on for onstage play.

Note: This Hiwatt amplifier is not a high gain amp and therefore you will not get as much preamp distortion as you will get with a higher gain amp. Do not expect to get much distortion by setting the Normal or Bright channel Volume controls high and the Master Volume low. The famed sound of Hiwatt is achieved by setting the Volume controls high and blasting your neighbors!

Warning! *This amplifier can be loud! We do not recommend using the amp at high sound levels especially for long periods of time. The amp can damage your hearing as well as that of your audience. Hearing protection is recommended for you and your audience. It is not to be used as a "weapon of aural destruction"!*

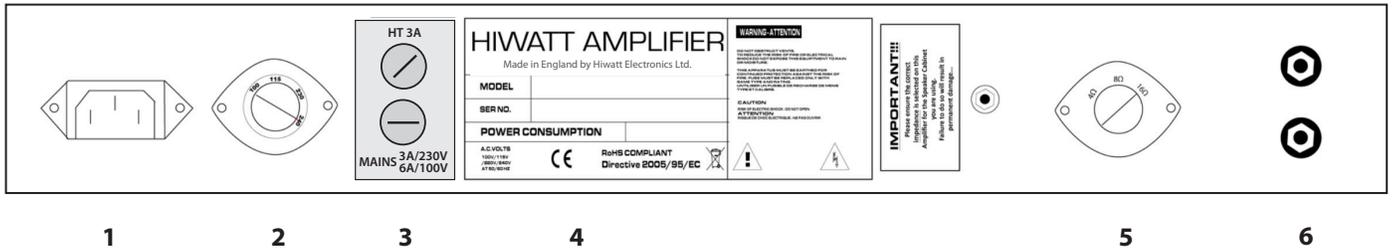
ARTIST SETTINGS:
Available @ Hiwatt.co.uk a quick set guide to getting some of the most famous tone ever created. Should you be inclined, send us a video of you playing your Hiwatt to Hiwatt.co.uk/videos. It may wind up on our website! Please include a pic of the way the amp has been set up!

BEFORE TURNING YOUR CUSTOM HIWATT AMPLIFIER ON.

- Please read the Manual in it's entirety first
- Check that the voltage selector (Back Panel #2) matches the voltage of the country you are playing in.
- Check that the fuses are correct for the voltage selected. see page 6 - (Back Panel #3) - 'fuse plate' for further info.
- Check that the Speaker Cabinet you are connect to is matching the impedance set on the impedance selector of the Amplifier (Back Panel #5)
- Always have the master volume turned fully anticlockwise when turning the Amplifier On/Off. Adjust slowly clockwise after tubes warm up.

10 Mains Lamp 11. Standby Switch 12. Mains Switch:

TO TURN THE AMPLIFIER ON, leave the Standby switch in the up (Off) position and switch the Mains switch to the down (On) position. The amp is now on in the "Standby" mode. The Mains lamp will light up to let you know the amp is on. Wait a minimum of 60 seconds to let the valves warm up to operating condition, then switch the Standby to the down (Off) position. This will ensure longer valve life.



Back Panel

From left to right:

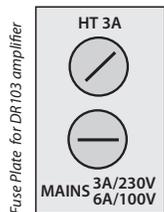
IEC Mains Socket, Mains Voltage Selector, Fuse Plate, Serial Plate, Impedance Selector and Speaker Jacks.

1. IEC Mains Socket: as with all equipment that uses wall voltage to operate, plug your mains lead from this IEC socket to the mains socket in order to power up the amp.

2. Voltage Selector: As a highly professional amplifier that is commonly used by touring bands who travel, this Custom Hiwatt includes a voltage selector so it can be used in just about every country around the world. This selector needs to be set to the proper Mains voltage in your country. **SETTING THIS SWITCH INCORRECTLY CAN CAUSE DAMAGE TO THE AMPLIFIER AND WILL VOID THE WARRANTY!**

Note: when changing the voltage on the voltage selector the corresponding fuse must also be changed. See Back Panel #3- Fuse Plate for more info.

3. Fuse Plate: This amplifier includes two fuses to protect the amplifier. One or both fuses will “blow” if there is something wrong inside or outside the amplifier. **If a fuse blows, please take the amplifier to a qualified amplifier technician for service.** Fuses with proper ratings should always be used. Do not use fuses of high ratings or bypass the fuse by putting something in the fuse holder that will bypass the fuse. Doing so will potentially cause damage to the amp, can be dangerous to operate the amplifier and VOID THE WARRANTY! **Warning - make sure your mains lead is unplugged from the wall receptacle or IEC mains socket (back panel #1) while working with fuses.**



- Please check the voltage selector is correctly set and adjust the fuses if necessary (see chart below)
- When selecting 230 or 240 volts on Voltage Selector (back panel #2) make sure the fuse in the MAINS Fuse holder is a 'time delay (slow-blow) MAINS Fuse rated at 3A or 3.15 A (T 3.15) - for 100w Custom
- When selecting 100V or 115V on Voltage Selector (back panel #2) make sure the fuse in the MAINS Fuse holder is a 'time delay (slow-blow) Mains Fuse rated at 6A or 6.3A (T 6.3) - for 100w Custom
- The HT fuse in HT fuse holder is always a FAST BLOW 3A or 3.15A (F 3.15) - for 100w Custom

230V/240V FUSE RATING GUIDE			
Custom Shop Model	Country Supply Voltage	Mains Fuse Rating (amps)	HT Fuse Rating (amps)
20w Custom	230v / 240v	3A or 3.15A time-delay (T)	1A fast-blow (F)
LRD MKII	230v / 240v	3A or 3.15A time-delay (T)	1A fast-blow (F)
LRJ MKII	230v / 240v	3A or 3.15A time-delay (T)	1A fast-blow (F)
LRP MKII	230v / 240v	3A or 3.15A time-delay (T)	1A fast-blow (F)
Studio Stage Custom	230v / 240v	3A or 3.15A time-delay (T)	1A fast-blow (F)
50w Custom	230v / 240v	3A or 3.15A time-delay (T)	1A fast-blow (F)
100w Custom	230v / 240v	3A or 3.15A time-delay (T)	3A or 3.15A fast-blow (F)
200w Custom	230v / 240v	5A time-delay (T)	3A or 3.15A fast-blow (F)
400w Custom	230v / 240v	5A time-delay (T)	3A or 3.15A fast-blow (F)

100V/115V FUSE RATING GUIDE			
Custom Shop Model	Country Supply Voltage	Mains Fuse Rating (amps)	HT Fuse Rating (amps)
20w Custom	100v / 115v	6A or 6.3A time-delay (T)	1A fast-blow (F)
LRD MKII	100v / 115v	6A or 6.3A time-delay (T)	1A fast-blow (F)
LRJ MKII	100v / 115v	6A or 6.3A time-delay (T)	1A fast-blow (F)
LRP MKII	100v / 115v	6A or 6.3A time-delay (T)	1A fast-blow (F)
Studio Stage Custom	100v / 115v	6A or 6.3A time-delay (T)	1A fast-blow (F)
50w Custom	100v / 115v	6A or 6.3A time-delay (T)	1A fast-blow (F)
100w Custom	100v / 115v	6A or 6.3A time-delay (T)	3A or 3.15A fast-blow (F)
200w Custom	100v / 115v	10A time-delay (T)	3A or 3.15A fast-blow (F)
400w Custom	100v / 115v	10A time-delay (T)	3A or 3.15A fast-blow (F)

Hiwatt Electronics Limited recommends the use of Ceramic 'Anti-Surge' fuses for the MAINS Fuse if available

4. Serial Plate: this is where you will find the model and serial numbers of your amp as well as some technical info. Please register this amplifier hiwatt.co.uk.

5. Impedance Selector: The impedance selector switch allows you to set the amp to 4, 8 or 16 ohms. Set this switch correctly depending on your speaker cabinet(s) impedance. Setting this switch incorrectly can cause damage to the amp and VOID YOUR WARRANTY! There is more information on how to set impedance in the following section.

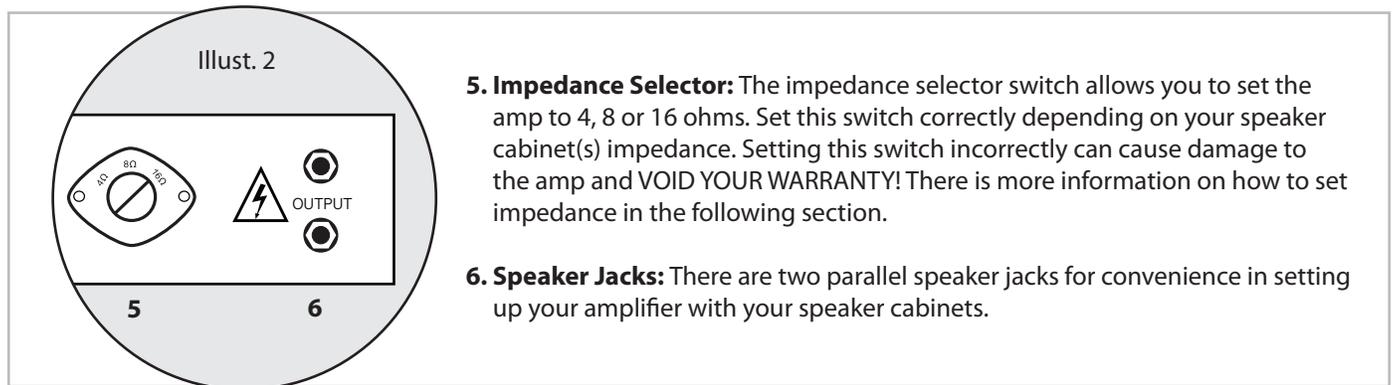
6. Speaker Jacks: There are two parallel speaker jacks for convenience in setting up your amplifier with your speaker cabinets. There is more info on how to hook up your speaker cabinets on the next page.

CONNECTING YOUR AMPLIFIER TO A SPEAKER CABINET

IMPORTANT: You should never turn your amplifier on without having it connected to a speaker load that matches the impedance selected on the rear of the amplifier. If you do, you risk damaging the output transformer and thus voiding your warranty.

NOTE: It is recommended that all audio cables, except for the speaker lead, used to connect to the amplifier are of a high-quality screened type. These should not exceed 10 meters in length.

***Always use a non-screened speaker lead when connecting a speaker cabinet to this amplifier.**



5. Impedance Selector: The impedance selector switch allows you to set the amp to 4, 8 or 16 ohms. Set this switch correctly depending on your speaker cabinet(s) impedance. Setting this switch incorrectly can cause damage to the amp and VOID YOUR WARRANTY! There is more information on how to set impedance in the following section.

6. Speaker Jacks: There are two parallel speaker jacks for convenience in setting up your amplifier with your speaker cabinets.

Impedance Information:

Before you decide to connect your amplifier to your speaker cabinet, you will want to know about impedance first! Impedance is the electronic load that the speaker puts on the power amplifier and is measured in Ohms. (Ω)

RULE OF IMPEDANCE:

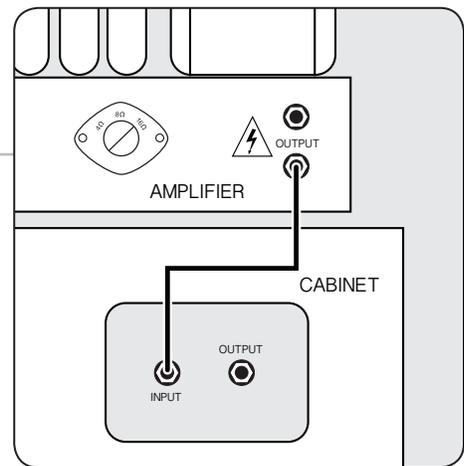
- When two speakers are wired, "parallel" the total impedance is cut in half and when two speakers are wired in "Series" the total impedance is the sum of the speakers' individual impedance.
For example: Two 8 Ω speakers wired in parallel become 4 Ω . Two 8 Ω speakers wired in series are 16 Ω .
- The actual impedance of your cabinets could be different than the individual speaker's impedance.
- Make sure that the correct impedance is selected on the back of the amplifier to match the cabinet's impedance (speaker configuration) you are using. Be sure to check the manufacturer's recommended impedance for the cabinets you are using to avoid any damage to your amplifier and voiding your warranty.
- If you use more than one cabinet, the cabinets must all be of the same impedance.
For example: If you use two cabinets, then if one cabinet is 16 ohms (Ω), the other cabinet must also be 16 ohms (Ω).

If the cabinets are not of the same impedance then you will damage the output transformer and void the warranty.

Connecting Your Amplifier to a Single Cabinet

IMPORTANT: always match the impedance of your amplifier with the impedance of the speaker cabinet(s).

- The connections are made with a 1/4" **unshielded** speaker cable
- Connect one of the amplifier **outputs** (back of amp) to the correct **input** on the speaker cabinet (rear terminal plate)

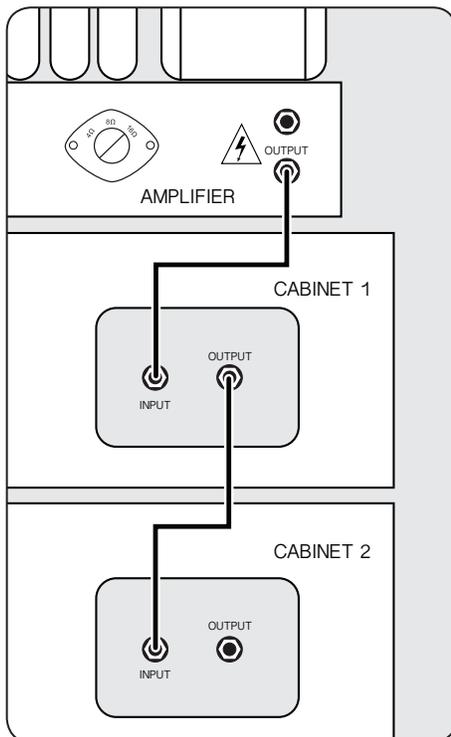


Connecting Your Amplifier to Two Cabinets in Parallel

(if speaker cabinet has parallel extension output)

IMPORTANT: always match the impedance of your amplifier with the impedance of the speaker cabinet(s).

- Both connections are made with a 1/4" **unshielded speaker cable**
- Connect one of the amplifier **outputs** (back of amp) to the correct **input** on the speaker cabinet (rear terminal plate)
- Many speaker cabinets come with a convenient **parallel extension output** for connecting additional cabinets in parallel. The second cabinet is connected by running an additional speaker cable from the **parallel output** of the first cabinet to the input of the second cabinet.

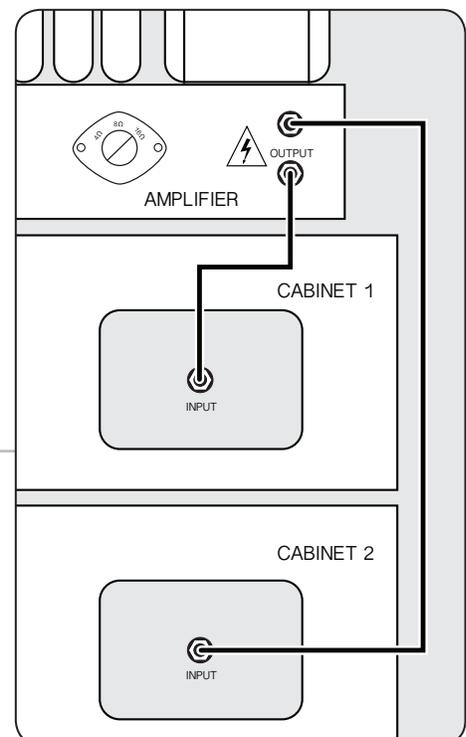


Connecting Your Amplifier to Two Cabinets in Parallel

(if speaker cabinet does not have parallel extension output)

IMPORTANT: always match the impedance of your amplifier with the impedance of the speaker cabinet(s).

- Both connections are made with a 1/4" **unshielded speaker cable**
- Connect one of the amplifier **outputs** (back of amp) to the correct **input** on the speaker cabinet (rear terminal plate)
- Connect the second of the amplifier **outputs** (back of amp) to the correct **input** on the second speaker cabinet (rear terminal plate)





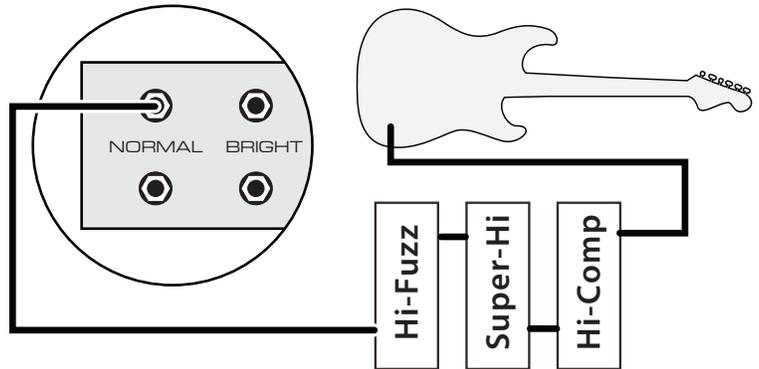
PEDALS LOVE HIWATT

“ The sound of Hiwatt amps is bold, with plenty of headroom and bottom end. They are especially great platforms for a pedal based rig.”

- Guitar Aficionado magazine 2015

Setting-up a Pedal/Pedal Board into a Single Channel

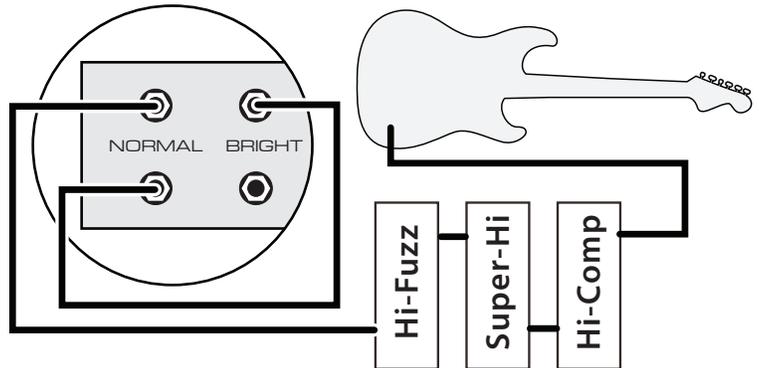
- Normal Channel - plug in pedal(s) or pedal board for effects that sound good with this channel's warmer tone like some bright Overdrive and Distortion Effects.
- Bright Channel - plug in pedal(s) or pedal board when you need the extra punch to cut through the rest of the band



V1: guitar - pedal(s) - input

Setting-up a Pedal/Pedal Board into a Linked Channel

- The link allows you to blend the Normal and Bright Channels
- Experiment with your pedals to obtain your unique sound

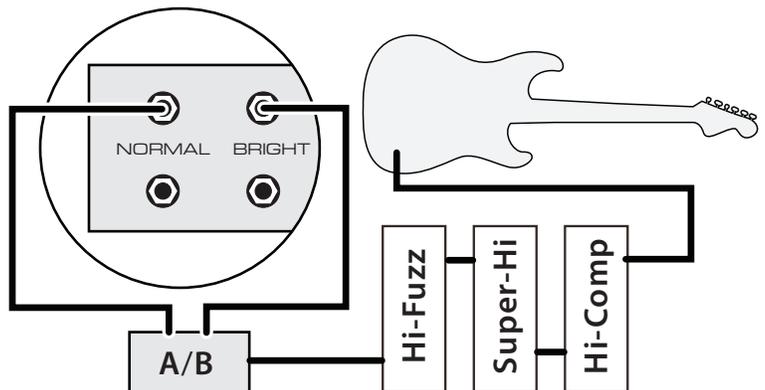


V2: guitar - pedal(s) - input with linked channel

Setting up a Foot-switchable A/B box so you can Switch Channels

A - Normal channel will be warmer

B - Bright channel will be brighter (for example, set this up louder than the Normal channel so you can instantly switch between two very different sounds and levels)



V3: guitar - pedal(s) - A/B BOX - Normal Channel and Bright Channel



HIWATT Product: Made in the Custom Shops England.

- Tip-Top: Your hand built Hiwatt Amplifier has been thoroughly inspected and rigorously 'soak tested' prior to leaving our Workshop in Doncaster England. Your Hiwatt product is guaranteed to be performing to it's desired and correct specifications. Custom Hiwatt is truly professional Studio/Stage ready gear.
- Hiwatt amplifiers are warranted against defects in materials and workmanship for a period of 3 years. Speakers, speaker enclosures and reverb tanks for 1 year, tubes/valves for 90 days.
- Note - it is your responsibility to use/operate the equipment safely and properly without modification and with a safe power supply - failure to do so is dangerous and will result in voiding your warranty - always read, reference and follow the 'important safety instructions' before turning on or operating your amplifier.
- Note - the Limited Warranty provided is to the original purchaser and is non-transferable. It is an important responsibility of yours to register your product online with us (Hiwatt.co.uk) and to retain your sales receipt and original packaging.
- Authorisation needs to be obtained by Hiwatt Electronics (Hiwatt.co.uk) before any service work is completed by a Professionally Qualified Service Technician.
- Shipping costs incurred obtaining warranty service are the responsibility of the purchaser and the purchaser must obtain permission to ship any/all product before doing so.
- Authorised returns are subject to a restocking and shipping fee.
- Note - Any damages incurred in all shipping matters must be reported to the shipper and Hiwatt Electronics immediately upon receipt of the product.

Visit Hiwatt.co.uk - for more product info and setup instructions

Phone: +44 (0) 1777-717-525

Hiwatt Electronics Limited

Once you have registered your product online at Hiwatt.co.uk, please record your serial number in the spaces provided below for future reference.

Serial Number:

Date of Purchase:

Store Contact Info:

If the unit purchased develops a fault, you will need to contact the store you purchased the unit from. You will need to provide your serial number along with your date of purchase. Please retain the original packaging materials and purchase receipt, as these will be required for any warranty repairs.

Store manual in a safe place for future reference – it contains important information for the safe operation of this equipment.



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