

WARWICK



MANUAL

Warwick Amplification Double Stage Bass Amplifier Head

DS 300 · DS 500 · DS 800

INTRODUCTION

Thank you for purchasing a Warwick Pro Series amplifier.

Unleash your sound with this ultimate Dual Channel bass amp head.

Power, versatility and precision in a compact format - the Warwick Amplification DS Series Bass Amp Head brings everything you need to elevate your bass playing experience. Whether you're gigging on stage, jamming in the studio, or practicing at home, this amp head delivers unbeatable performance with features designed for the modern bassist.

Tailor your tone with two independent channels, each featuring its own gain control and 4-band EQ for precise sound shaping. Perfect your tone with the built-in compressor and always stay tuned with the ultra-sensitive tuning feature.

Bluetooth and USB features, parallel FX LOOP, DI OUT, AUX IN and LINE OUT connections - even bi-amping capability - this amp head provides all connectivity options you could possibly need on stage or in the studio.

Whether you're refining your sound for recording, crafting new music, or rocking your next gig, the WA DS Series Bass Amp Head gives you everything you need to be at your best. Bring your sound to life and experience next-level bass performance.

Precautions / Safety Instructions

Power supply

The amplifier is powered using an IEC power cable which supplies AC power to the unit. Connect the IEC power cable to a mains outlet with a protective earth connection.

Incorrect mains voltage may cause serious damage to the unit. Always check the mains voltage rating and the setting of the voltage selector switch on the amplifier before connecting the power cable. Unplug the unit when not in use or during lightning storms.

Connections

Always switch off the amp and connected devices before connecting or disconnecting cables. This will help to prevent malfunctions and equipment damage. For speaker connections: make sure to use dedicated high quality speaker cables and only connect cabinets equipped with speakers rated for at least the output power of the amp. Speakers with a higher rating are recommended to prevent damage to the speakers at high output levels. For all other input/output connections: use only high quality shielded audio cable to prevent noise issues.

Cleaning

Clean only with a soft, dry cloth.

Handling

Do not apply excessive force to switches or controls. Do not block ventilation openings. Install in accordance with the instructions. Do not allow paper, metal, dirt or other objects to get into the unit or its connections. Do not drop the unit or subject it to shock or excessive pressure. To avoid deformation, discoloration or other serious damage, do not expose this unit to the following conditions:

- direct sunlight
- excessively dusty or dirty environments
- heat sources
- high humidity or moisture
- strong magnetic fields
- strong vibration or shock
- extreme temperature

Risk of electric shock

To reduce the risk of fire or electric shock, do not remove any screws or open the unit. There are no user serviceable parts inside the amplifier. Refer all servicing to qualified service personnel. Do not expose the unit to rain or moisture.

FCC certification

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Volume warning

This amplifier is capable of producing high sound pressure levels. Prolonged exposure to these high sound pressure levels can cause permanent and irreversible hearing damage. Ear protection is recommended for prolonged use at high volume. If you experience hearing loss or ringing in your ears, consult a physician.

Notes about disposal

This product carries the selective sorting symbol for Waste Electrical and Electronic Equipment (WEEE). This means that this product must be treated in accordance with European Directive 2012/19/EU in order to be recycled or dismantled to minimize its impact on the environment. The user has the option of returning the product to a competent recycling organization or to the retailer when purchasing new electrical or electronic equipment.

**RECYCLING****Main Features**

- dual channel bass amplifier head with USB and Bluetooth interface
- solid-state design, class D amplifier circuitry
- power output : DS 300: 300 W @ 4 Ω / 180 W @ 8 Ω
DS 500: 500 W @ 4 Ω / 300 W @ 8 Ω
DS 800: 800 W @ 4 Ω / 480 W @ 8 Ω
- separate 4-band EQ with Mid presets and +/- 15 dB cut/boost for each channel
- 3.5 mm (1/8") headphone output for silent practice
- integrated compressor to control dynamic response and sustain
- integrated highly sensitive tuning feature
- 3.5 mm (1/8") AUX input
- Bluetooth audio input
- USB audio interface
- Pre or Post EQ balanced XLR DI output with switchable ground lift
- parallel FX Loop
- bi-amping capable LineOut
- 3-mode cabinet simulation for DI OUT and headphone output
- supports channel and compressor switching with an optional footswitch
- sophisticated protection features

FRONT PANEL



1. **INPUT 1:** 6.35 mm (1/4") TS jack for connecting active or passive instruments. When using effect pedals in front of the amp, connect the output from the last device in the signal chain here. We recommend using high-quality instrument cables for the best sonic performance and reliable connection. If only INPUT 1 is used, the signal is routed through channel 1 or 2, depending on the channel indicator next to the input.
2. **INPUT 2:** 6.35 mm (1/4") TS jack for connecting a second instrument. If both inputs are used, instrument 1 will use channel 1 and instrument 2 will use channel 2. Use the *Preamp Stage* switch (see below) or an optional footswitch to switch between instruments.

Note about connecting two instruments: Even with two instruments connected to the two inputs, it is not possible to use both instruments at the same time. Only one instrument (selected by the *PREAMP STAGE* switch) will be active. This allows for professional musicians to configure two sounds for two different instruments and quickly switch between them on stage.

3. **PREAMP STAGE switch & indicator:** This button is always lit when the amp is on. Pressing this button toggles between Channel 1 and 2. The active channel is indicated by the LED next to the button.
 - Only one instrument is connected to Input 1: The button switches Input 1 to Channel 1 or 2.
 - Two instruments connected to Inputs 1 and 2: Button toggles between Instrument 1 on Channel 1 and Instrument 2 on Channel 2.
 You can also use a footswitch to toggle between channels. The *Preamp Stage* button will not function when a footswitch is connected.
4. **Clipping LED:** There are two separate red LED for channels 1 and 2. They light up when the signal going into the power amp section is clipping, i.e. distorted. To prevent clipping, reduce the input signal from effects pedals in front of the amp, or reduce the *GAIN* for the respective channel on the amp. Compressor and tone stack settings can also affect signal strength and cause clipping. Adjust your settings so that the *CLIP LED* illuminates only during strong signal peaks, but not continuously. Clipping will not harm your amp (see [Protective Circuits.](#))

Potentiometer controls: All front panel pots have stacked knobs with the ring controlling the settings for channel 1 and the top controlling the settings for channel 2 (with the exception of the Compressor control - see below).

5. **GAIN:** Controls the input gain for each channel.

Tone Stack: The active 4-band EQ section provides up to +/- 15 dB of cut or boost for each band. Controls set to the center position (detent at 12 o'clock) provide a flat / neutral response for that band. Turning the knobs clockwise boosts the frequency band, while turning the knobs counterclockwise cuts the band.

6. **BASS:** Cuts or boosts bass frequencies around 50 Hz.

7. **LO MID:** Cuts or boosts the frequency range selected by the switch next to it.

8. **Frequency switch:** Sets the center frequency for the LO MID control as 250 Hz, 350 Hz or 450 Hz. Upper switch for channel 1, lower switch for channel 2.

9. **HI MID:** Cuts or boosts the frequency range selected by the switch next to it.

10. **Frequency switch:** Sets the center frequency for the HI MID control as 800 Hz, 1 kHz or 1.2 kHz. Upper switch for channel 1, lower switch for channel 2.

11. **TREBLE:** Cuts or boosts treble frequencies around 6.5 kHz.

12. **VOLUME:** The volume control adjusts the signal level for the power output stage and the speaker output on the back of the amplifier. Turn Volume fully counterclockwise before turning on the power and slowly increase the volume until the desired level is reached.

13. **Headphone:** 3.5 mm (1/8") headphone output for signal monitoring or silent practice. The headphone output receives a mix of instrument signal, Bluetooth audio and AUX IN signal (when MUTE is ON).

14. **MUTE switch:** Mutes the speaker output for silent tuning or for quiet practice using the headphone output. DI OUT and LINE OUT are also muted. Headphones are not muted. MUTE is active when the button is lit.

15. **COMPRESSOR switch:** Activates (button illuminates) or deactivates the compressor circuit. The compressor can also be switched with a footswitch. This button will not function when a footswitch is connected. When enabled, the compressor acts on the output of the preamp section, i.e. independent of the channel selection.

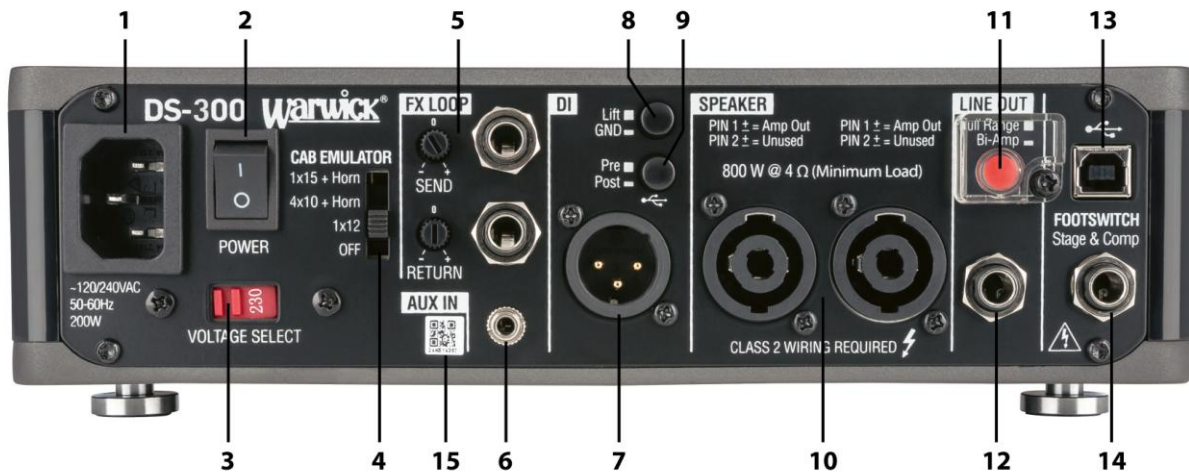
16. **COMPRESSOR control:** This is a stacked pot. The top knob controls AMOUNT, the ring controls LEVEL. AMOUNT effectively combines the Threshold and Ratio settings of a typical compressor, i.e. as you increase the AMOUNT, you are simultaneously lowering the Threshold while increasing the Ratio. The Attack and Release timing is automatic, based on the signal envelope. The LEVEL control is used for make-up gain to match the compressed and bypassed signal levels. Level has a center detent at 12 o'clock. Turning the knob to the left will attenuate the signal, while turning to the right will boost the signal.

17. **Bluetooth switch:** You can play audio from a mobile phone or tablet using a Bluetooth connection. See the [Bluetooth](#) section for details.

18. **Power and tuning indication:** The WARWICK logo glows in amber when the amplifier is powered on. The logo also serves as a tuning indicator. See [Tuning](#) section.

19. **TUNER switch:** Activates the tuning function (button illuminates). See [Tuning](#) section.

REAR PANEL



1. **AC power socket:** Use the supplied power cord to connect your amplifier to a suitable mains outlet. Always make sure to check the voltage ratings on the unit before connecting the power cord. Incorrect voltage may cause serious damage to the unit.
2. **Power Switch:** This switch turns the amplifier on (I) or off (O). Connect the power cord from the mains outlet to the amplifier before turning this switch. To unplug the amplifier, turn the switch off first, then unplug the power cord from the wall outlet, then unplug the power cord from the amplifier.
3. **Voltage selector switch:** Select the mains voltage (120/230 VAC) according to your location. This amplifier does not support voltages outside the range indicated on the rear panel.

WARNING: Proper positioning of the rear panel voltage selector switch (120 V / 230 V) should be verified before connecting the amplifier to AC power. Operating the unit with the switch in the wrong position will result in permanent damage to the amplifier. Please contact the local power provider, if in doubt about the AC line voltage in your country of usage.

4. **CAB EMULATOR:** Switches between four modes of cabinet simulation:
OFF / 1x12" cab / 4x10"+ Horn cab / 1x15"+ Horn cab
Cabinet simulation is only applied to the headphone and DI outputs.
5. **FX LOOP:** 6.35 mm (1/4") TS jacks for FX SEND and FX RETURN with corresponding Level controls. This is a parallel effects loop. See the [FX LOOP](#) section for more information.
6. **AUX IN: 3.5 mm (1/8")** input for connecting external audio sources. This allows you to play your instrument along with backing tracks or drum tracks. The AUX IN signal is mixed with the instrument signal after the tone stack and the FX loop and output as follows:
MUTE OFF = AUX IN is routed to the speaker output and LINE OUT.
MUTE ON = AUX IN is routed to the headphone output only.
The signal level is controlled by the Volume knob (along with the instrument signal). You can also use the volume controls on the connected audio device to adjust the signal balance.
7. **XLR DI output:** Low impedance, balanced XLR output for connecting the amplifier to a stage box, mixing console or PA for live and studio use. The output signal depends on the PRE/POST setting (see below). The DI signal is never affected by the Volume control.
DI OUT is muted by the MUTE SWITCH. DI OUT is also muted when the Tuner is active.
8. **Ground /Lift switch:** The switch disconnects the ground connection from pin 1 of the DI output XLR connector. Change the position of this switch if you are experiencing experience excessive hum, possibly caused by a ground loop.
9. **Pre/Post switch:** When set to PRE (button is not pushed in), the signal for the DI output is taken from before the Tone Stack, but after Gain. It is therefore not affected by the tone stack settings, only by Gain.

When set to POST (button is pushed in), the DI Out signal is taken from behind the Tone Stack. It will be affected by all controls (including Compressor).

10. **SPEAKER out:** 2 x parallel Speaker Twist connectors for connecting one or two external speaker cabinets. The minimum load for the amplifier is 4 Ohm. Please pay attention to the total load when connecting two speakers (e.g. $2 \times 8 \Omega = 4 \Omega$). Do not connect two 4 Ohm speakers ($2 \times 4 \Omega = 2 \Omega$!!!). The amp can also be used without speakers for quiet practice with headphones or in studio settings using DI only. Be sure to use dedicated high quality speaker cables and to connect only cabinets equipped with speakers rated for at least the output power of the amplifier. Speakers with a higher rating are recommended. Speakers with a lower rating may get damaged at high output levels.
11. **FullRange/Bi-Amp switch:** This switch is has a protective cover to prevent accidental switching during handling or transport. Use this switch only when setting up a bi-amping configuration where the LINE OUT signal is used to send part of the frequency range to another amplifier/speaker combination. See [Bi-Amping](#) section.
12. **LINE OUT:** 6.35 mm (1/4") TS jack for outputting a line level signal to a separate amplifier, mixing console or other suitable audio equipment. The signal is taken from the output of the preamp, including the Return signal from the FX LOOP and including AUX IN. LINE OUT is muted by the MUTE switch.
13. **USB-B port:** Use a USB-B to USB-A cable to connect the USB port to your PC, MAC or compatible mobile device. See the [USB port](#) section for details.
14. **FOOTSWITCH:** Use a TRS cable to connect a passive dual footswitch (latching) for external channel and compressor switching. TRS configuration: Shaft + Tip= Channel switching, Shaft + Ring = Compressor switching. Once a cable is connected to this jack, the Channel and Compressor switches on the front panel no longer function and switching is only possible with the footswitch. The Channel and Compressor LED on the front panel will indicate the switching status.
15. **Serial number:** This is the serial number of your amplifier. You will need this number to register your warranty. Scanning the QR code will return the serial number.

OPERATION

Quick Start

1. **Connect the speakers:** Connect speaker cabinet(s) to one or both speaker outputs using a compatible speaker cable with Speaker Twist connectors. The minimum load for the amplifier is 4 Ohm. You can operate the amplifier without speakers connected if you plan to use only the headphone, LINE OUT or DI outputs.
2. **Connect the power:** Make sure the voltage selector switch is set to the correct voltage and that the power switch is in the "off" position, and then connect the supplied power cord from the AC power input of the amplifier to the wall outlet.
3. Turn Volume to zero and **turn the power switch on.**
4. **Connect an instrument:** Turn the Gain controls to minimum, and then connect one or two instruments or the outputs of upstream effects pedals to the input jacks on the front panel.
5. **Adjust the Gain** to a good input level without clipping. Adjust the **EQ** controls to your liking and slowly adjust the **Volume** controls to a reasonable level.
6. Start playing!

Tuning

1. Press the TUNER button on your amp until the button illuminates.
2. Play an open string on your instrument. The note will appear in the box below the WARWICK logo. The logo itself indicates tuning status:
 - You are in perfect tune when the **W** in the center glows green.
 - You are tuned flat when the letters to the left of the **W** light up.
 - You are tuned sharp when the letters to the right of the **W** light up.
3. **Silent tuning:** For silent tuning, you must also press the MUTE button on the amp until the button illuminates. If MUTE is not lit, you can use the tuning indicators to check your tuning during your performance.

Reference frequency: The tuning function uses an internal crystal oscillator as a reference (+/- 50 ppm accuracy). The reference pitch is set to default A=440 Hz and is not adjustable.

Note: Activating the tuner will mute the DI OUT.

Bluetooth

Bluetooth can be used to play audio from a mobile device. The incoming Bluetooth signal is routed to the headphone output only and mixed with your instrument signal. This allows you to listen to backing tracks while you practice.

Pairing: Press the Bluetooth button on your amp until it is illuminated. Activate Bluetooth on your mobile device and find "Warwick BassPro" in your Bluetooth device list. Click "Pair" to connect. There is no need to enter a passcode.

Open an audio app and start playback. Use the volume controls on your mobile device to adjust the level of the Bluetooth signal.

USB port

You can use the amplifier as a high-quality ADC/DAC audio interface (external sound card) and use the signal coming from the amplifier for DAW applications on your computer. Usually, no special drivers are required.

The digital audio signal output to the computer is the same as the DI signal. It is also subject to the setting of the PRE/POST switch (see above). This signal is not muted by the MUTE or TUNER switches.

You can also use the USB connection to play back audio from your computer. The audio signal coming from the computer is routed to the headphone output and mixed with your instrument signal. This allows you to listen to backing tracks while you practice. Use the volume controls in your computer software to adjust the level of the incoming USB signal.

Bi-Amping

When set to **Full Range** (button not pressed in), the speaker output and the LINE OUT will receive the full frequency range coming from the preamp section of this amplifier.

If set to **Bi-Amp** (button pressed in), the speaker output of this amplifier will receive only the lower mids and bass frequencies. Upper mids and treble are sent to the LINE OUT for processing by a second amp. The crossover frequency is fixed at 200 Hz.

Use a small Phillips screwdriver to remove the protective cover and turn this switch on or off.

FX LOOP

Connect SEND to the input of an external effects chain and RETURN to the output from the external effects. Use the controls next to the jacks to adjust the output level for SEND and the input level for RETURN. The Level controls have center detents. Settings above center will boost the signal; settings below center will attenuate the signal.

The SEND signal is taken from behind the tone stack, but before the Volume control, so it is not affected by the Volume setting and will not be muted by the MUTE button.

The FX LOOP signal is processed in **parallel**, so connecting cables to the SEND or RETURN will not interrupt the signal from the preamp to the speaker outputs.

You can use an external preamplifier and utilize only the power amp section of your Warwick amp by connecting the output of the external preamplifier to the RETURN jack instead of connecting an instrument to INPUT 1 or 2.

The RETURN signal will be added to your regular instrument signal after the volume control. Use the RETURN Level and Volume controls to balance the signals.

Automatic shutdown

If no input signal is detected for approximately **40 minutes**, the amplifier will automatically enter a power saving mode. All lights will turn off and the power stage will shut down to conserve power.

The amplifier returns to normal operation a few seconds after an input signal is detected.

Protective Circuits

Your new Warwick amplifier is equipped with several protective circuits to prevent malfunctions under unsuitable operating conditions.

Short circuit protection / DC output protection

The power amplifier is protected against short circuit on the speaker output. When shorted, the amp will try and drive the shorted output line for a few milliseconds once every second until the short circuit has been removed.

The speaker outputs are also protected against DC on the speaker line via a DC fault detector and speaker relay. The outputs will be shut down and you may have to re-start the amplifier after removing the cause of the problem.

Overtemperature

The amplifier protects itself from excessive temperature by but toggling the fan speed from low to medium to high speed. In the event that excessive temperature can't be prevented (due to blocked ventilation openings or a defective fan, for example) the unit will turn off the power amplifier when its temperature reaches 90°C and will return to normal operation once the internal temperature returns to 55°C or below.

Note that the fan is always running at low speed and can barely be heard. This ensures a long product life by keeping temperatures inside the product cool and extending the life of parts whose longevity is adversely affected by heat.

Overload

There is no limiter in the power amp section. Instead there is a "soft clipping" stage preceding the amplifier that begins to slowly square off the waveform so that the amplifier itself never actually hard clips. This soft clipper allows the amp to be driven pretty heavy into clipping without sounding too bad.

Activation of the soft clipping stage is indicated by the Clipping LED, but the amplifier will not be harmed by this.

Troubleshooting

Amplifier does not turn on

- Check the power cord connection.
- Check the power outlet (building fuse box).
- If the amp is in power saving mode, plug in an instrument and play a note. The input signal should wake the amp up.

No sound

- Check the speaker and / or headphone connections.
- Make sure the MUTE button is not lit.
- If only INPUT 2 is connected, make sure Channel 2 is selected.
- Check Gain and / or Volume settings for the selected channel.
- Check the volume control on your instrument or pedals in front of your amp.
- Turn on the Tuner and pluck a string. No note displayed means that no input signal is detected.

Loss of high end / treble

- Verify that the Bi-Amp switch on the back of the amp is not activated (pushed in).
- Check your tone stack settings.
- Check the tone settings on your instrument or the effect chain in front of the amp.

Channel and Compressor switches do not work

- This is normal if a footswitch is plugged in - use the footswitch.
- If no footswitch is plugged in, verify that nothing else is plugged into the footswitch jack on the back of the amp.

Low frequency hum when using the DI output

- Use the Ground / Lift switch to eliminate hum caused by a ground loop
- Make sure to use high-quality audio cables.

SPECIFICATIONS

	DS 300	DS 500	DS 800
Output power	300 W @ 4 Ω 180 W @ 8 Ω	500 W @ 4 Ω 300 W @ 8 Ω	800 W @ 4 Ω 480 W @ 8 Ω
Power consumption	100 W	150 W	200 W
THD at rated power	<1%	<1%	<2%
Input voltage	120 - 240 VAC / 50 - 60 Hz 230 V EU version incl. power cord with EU plug (Warning: The device can only be used in countries with 120-230 V mains voltage. Other mains voltages can damage the device.)		
Typical THD	< 0.3% @ 150 W (1/2) < 0.05% @ 30 W (1/10)	< 0.3% @ 250 W (1/2) < 0.03% @ 50 W (1/10)	< 0.5% @ 400 W (1/2) < 0.1 % @ 80 W (1/10)
Noise floor	< -90 dBr		
Power response	+0 dBr / -4 dBr 10 Hz to 20 kHz		
Input impedance	Instrument input: 680 kΩ FX Return: 10 kΩ AuxIn: 10 kΩ		
Tone controls	Bass: +/- 15 dB @ 50 Hz Low Mid: +/- 15 dB @ 250/350/450 Hz High Mid: +/- 15 dB @ 800/1000/1200 Hz Treble: +/- 15 dB @ 6.5 kHz		
Bi-amping	Crossover frequency: fixed at 200 Hz		
USB Version Sample rates OS support	2.0 44.1 kHz / 48 kHz Windows, MAC OS, Linux		
Dimensions (L/W/H)	250 x 270 x 74 mm 9.84" x 10.63" x 2,91"		
Weight	3.32 kg / 7.31 lbs	3.47 kg / 7.65 lbs	3.63 kg / 8.00 lbs
Accessories	Manual, AC power cable (3 m / 9 ft)		



Note: The manufacturer reserves the right to change these specifications without notice.

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