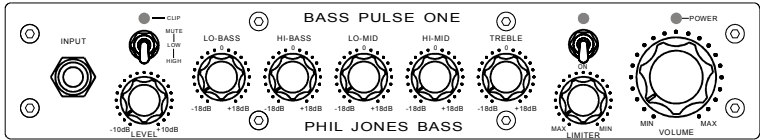


Phil Jones Bass



PJB BP-400



OWNER'S MANUAL

Thank you for purchasing the PJB BP-400. A great deal of dedication and passion went into designing and building this nocompromise, high performance compact amplifier. It was conceived to be a dedicated amplifier for the “connoisseur” bassist. Reading this manual will enable you to get the best performance from it so that you may enjoy many years of service.

READ THIS FIRST

- Before using the BP-400 please read ALL the instructions.
- On receipt of product, check for any signs of physical damage arising from shipping. If any damage is visible contact your dealer.
- Keep all original packing.
- Do not use this amplifier in a way that would compromise its ventilation system. When operating, never cover the heat sink on rear panel.
- Do not locate this amplifier near any heat source.
- This amplifier must be connected only to a power source specified in this manual.
- For safety do not leave the amplifier plugged into a power source for long periods of time when not in use.
- Do not let any liquid or foreign objects fall into any openings on the amplifier.
- Never use this amplifier if it has:
 1. Suffered any physical damage.
 2. Been subjected to any liquids, rain or moisture.
 3. Damaged cables connected to it.
- If any of the above occurs, the amplifier should be examined by qualified service personnel.
- Always operate this amplifier with the correctly rated fuse.
- Never use this amplifier without proper grounding.
- The mains plug is used as disconnect device, the disconnect device shall remain readily operable.
-  Protective earthing terminal. The apparatus should be connected to a mains socket outlet with a protective earthing connection.
-  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.
- The apparatus shall not be exposed to dripping or splashing.

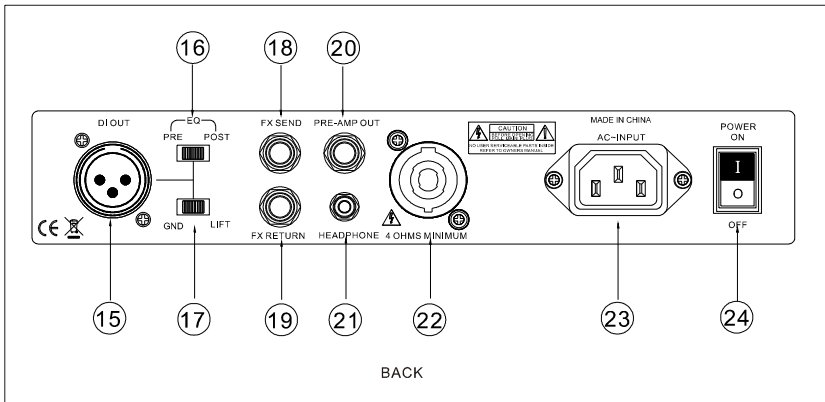
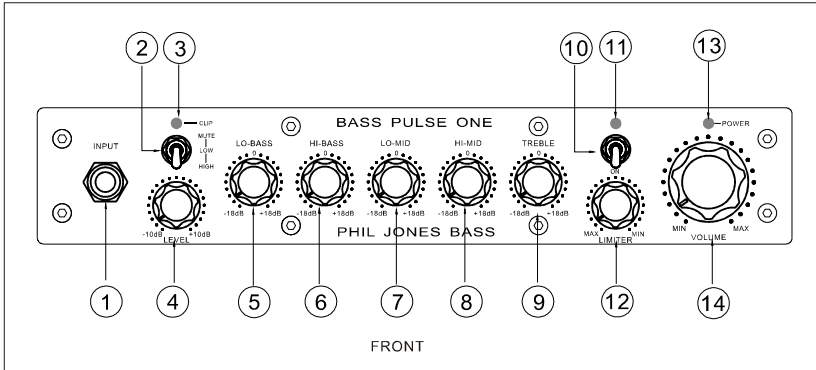
- Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord. (For Denmark only)
 - Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan.(For Finland only)
 - Apparatet må tilkoples jordet stikkontakt. (For Norway only)
 - Apparatet skall anslutas till jordat uttag. (For Sweden only)
- Minimum distances should be over 15cm around the apparatus for sufficient ventilation;
 - The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains, etc.
 - No naked flame sources, such as lighted candles, should be placed on the apparatus;
 - The use of apparatus in moderate climates.

A warning that an apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.



- This lightning flash with arrowhead symbol within an equilateral triangle is intended 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.

FRONT PANEL AND BACK PANEL OVERVIEW



FRONT AND BACK PANEL DESCRIPTION

1. PASSIVE BASS INSTRUMENT INPUT JACK.

This is a standard ¼ inch mono jack socket.

For the best possible sound we recommend you use the PJB BI-12 instrument cable as it has very low self-capacitance and absolute shielding resulting in greater transparency of sound and less noise than other instrument cables.

2. INPUT/MUTE SWICTH.

Top Position: Mute On

Middle Position: Low sensitivity for mainly active basses. For basses with onboard electronics. Input matched for low signal to noise ratio and optimum transfer of electrical signal from modern high-end basses.

Bottom position: High sensitivity for passive basses that do not have active electronics, suited for older 'vintage' basses. This setting is precisely matched to high impedance pickups enabling them to faithfully reproduce the true frequency and dynamic range of the instrument.

3. LED Clip/Mute Indicator.

Green is Mute, Red is overloaded input.

4. Input Level Adjustment.

This is a fine-tuning adjustment (+/-10dB) to get the precise match between your instrument and the BP-400. When the RED LED is continuously lighting up, reduce the level on the input level control.

5. LOW BASS EQ CONTROL.

This will adjust the fundamental tones of E and A strings on 4 string basses and B, E & A on 5 string basses.

6. HIGH BASS EQ CONTROL.

This will adjust the fundamental tones of D and G-strings on 4 & 5 string basses.

7. LOW MID RANGE EQ CONTROL.

8. HIGH TEBLE EQ CONTROL.

9. TREBLE (PRESCENCE) EQ CONTROL.

10. LIMITER IN/OUT SWITCH.

Sends signal through limiter or bypass.

11. COMPRESSOR INDICATOR.

This blue L.E.D (Light Emitting Diode) will light up when the signal is being compressed. This will vary on how hard the instrument is played and how the threshold is adjusted.

12. COMPRESSOR THRESHOLD LEVEL CONTROL.

This will vary the level the limiter threshold. The compression ratio is 3dB to 1. Adjust this to suit your playing style and output power of your instrument. The blue LED will light up when the signal is being compressed. This will vary on how hard the instrument is played and how the threshold is adjusted.

13. LED POWER ON INDICATOR.

Auto standby function:

When connected to AC power, turn on the power, the power LED will light up with red, that shows the amplifier is in standby mode.

Under standby mode, when the input socket have a signal was more than 20mV, the power LED will turn green, that shows the amplifier is working.

In working mode, if the input signal was smaller than 20mV, the amplifier will turn into standby mode, and power LED will turn red.

Note: if turn off the amplifier at standby mode, the power LED will stay red for about 30 seconds or more, that's normal because the amplifier was discharging.

14. MASTER VOUME CONTROL.

This is the master volume control and it controls how much power you send to your speakers as well as the line out socket on the back of the amp. When setting up your tone or plugging in your instrument, you should keep this control at a low level. All instruments are different when it comes to how much output is from the pickups. Likewise for players, depending on how hard or soft you play. Note this control is a true "Audio Taper" control so that the level position may be set higher compared to other amps that use a "Linear Taper" control. The "Audio Taper" control has far more precision in controlling your output and uses the full rotation to control level, unlike Linear controls that just use the first few degrees of turn and give the impression the amplifier has more volume than what it actually has.

15. BALANCED LINE OUT.

This is an ultra-low impedance (200Ω) balanced line out for use with recording or PA mixing consoles. This output is not controlled by the volume control. Changing the level on your instrument, or input level will however, vary the DI output.

16. BALANCED LINE PRE/POST EQ.

This switches the EQ in or out on balanced line. You may choose the tone you have on your amp to go into the PA or for recording or you can use external EQ on mixing console the signal is sent to.

17. BALANCED LINE OUT GROUND LIFT SWITCH.

Sometimes AC Hum is induced into a sound system due to that both PA and bass amp are connected to different ground potential (known as ground loop). This switch disconnects the amps grounding to PA or recording system to eliminate this hum.

18. FX SEND SOCKET.

Connect the FX send to auxiliary FX unit input.

19. FX RETURN SOCKET.

Connect the FX Return to auxiliary FX unit output.

20. PRE AMP LINE OUT.

This output can be used to drive a PJB powered cabinet such as the PB-100 or PB-300. The PJB power cabinet PB-100 (2 x 5 inch speakers/100 watts) would be an ideal monitor and the PB-300 (6x 5 inch speakers/300 watts) would be augmenting the power from the BP-400 to add more authority to your tone. It can also be used to power another instrument amplifier or power amplifier.

21. HEADPHONE SOCKET (STEREO PHONES).

We recommend the PJB H-850 headphones as they were designed for bass and high fidelity music reproduction. They are a perfect match to the PB-400.

When a headphone is connected to the jack, the speaker output will be disconnected and the sound from you speakers will be muted.

22. LOUDSPEAKER OUTPUT.

The BP-400 amplifier will work on any load from 16 Ω down to 4 Ω , which is the safe maximum load for this amplifier. We recommend that you use PJB SS-3 or the Higher Performance SS-4 high current speaker cables. These dedicated high-current, low-resistance cables. Using inferior, higher resistance cables will greatly impair the performance of your system.

23. AC INPUT SOCKET.

We recommend that you use the supplied cable or a heavier gauge one. Always use a grounded plug and make sure the AC cable is more than 4A rating at 250-volt AC.

24. POWER ON/OFF SWITCH.

This switches the main power on and off in the amplifier. When you turn on the power, it will have about 2 seconds delay to protect the speaker.

Do not leave the amplifier plugged into a power source for long periods of time when not in use.

OPERATION & POSITIONING

TURN THE VOLUME DOWN or switch the MUTE on the BP-400 before plugging in your instrument.

Connect the speaker or speakers to the BP-400. For best results with this amplifier you should use PJB loudspeaker cabinets and PJB cables.

ALWAYS USE A HIGH QUALITY GROUNDED AC POWER CABLE. NEVER USE THIS AMPLIFIER WITH THE GROUND CONNECTION REMOVED. We recommend you use PJB cables for speaker connections as they have virtually no loss so there is maximum transfer of power from amplifier to speaker.

Setting Up the Limiter

Although a limiter is not essential to bass amplification, it can be a useful tool in smoothing out the character of your instrument or playing style. The BP-400 limiter has a preset compression ratio of 3 to 1. For each additional increase of 3dB above the set threshold, the increase in level is actually 1dB. So the dynamic range of your instrument is reduced.

First set up the limiter by having the compression control (8) set fully clockwise. Now switch on the limiter (12). Start playing and turn control (8) counter-clockwise. You will see the blue light start to come on and that is the indication that the limiter is now working. Set this control to suit your taste.

Power and Impedance Matching.

Solid state amplifiers are known as constant voltage devices. That means that the amplifier will maintain a certain voltage to the load. Just like an AC wall socket will put out the same AC voltage whether it is one light bulb or many. Power is increased as more load is on the amplifier. In other words the current will double if 2 x 8 ohm speakers are connected instead of just one. The BP-400 will work from any high impedance down to 4 ohms. The total speaker impedance can be 16, 12, 8, 6 or 4 ohms or even between these. What matters is that the current does not exceed its 4 ohm load. The lower the impedance, the greater the current and since the voltage stays pretty much the same, the power is increased. In reality there is always a small voltage drop in amplifier speaker output as the speaker load is increased. The lower the speaker impedance, the greater the load is on the amplifier.

Watts and Loudness.

To the human ear an increase in loudness is not linear. For example 300 watts is not 3 times louder than 100 watts on the same speaker. In fact it is just noticeably louder. We need ten times the wattage for us to recognize a doubling in volume. So 1000 watts will sound twice as loud to us as 100 watts.

Loudspeakers also vary in efficiency with frequency. Most loudspeakers are generally louder in the mid range than in the bass or extreme high frequencies: Which is one reason why we need EQ in an amplifier. An EQ control is just a frequency selective volume control: It boosts or cuts level at a specific frequency. So excessive boosting of frequencies, especially on bass frequencies where almost 90 % of the amplifier power is used can rob a bass system of headroom.

Speaker Positioning and EQ.

Nearly all bass speakers are Omni-directional at all the fundamental tones of a bass: that is from about 200 Hertz (that's the fundamental of a G string on 12th Fret) all the way down to the lowest frequency a speaker can reproduce. The open E is 41.2 Hz and open B string is 31 Hz.

Mid range and high frequencies tend to be directional which is why many players angle their cabinets to ear level so they can hear the definition better.

Because bass frequencies radiate all around the cabinet, the bass will sound weaker when the cabinet is placed on a large stage with no boundaries. By placing the speakers close to a wall or even to a corner, the bass frequencies will appear to be much stronger and it may not need to have much boost on EQ allowing the amp to have more headroom.

By careful positioning of your bass speakers, you may be able to get a fuller low frequency without the use of boosting too much EQ. This will give not only your amp more headroom but will put less stress on your speakers.

Speaker Selection.

PJB makes a few models of speakers that will match the BP-400.

The C-8 and C-8 LITE are 4 ohms and will make full use of the amplifier's power.

If you need a smaller cab then the C-4 or C-4 LITE (8 ohms) will work and 2 can be connected to give a 4 ohm load to the amp.

PJB makes speaker cables: The SS-4 high performance cable and the SS-3 economy cable.

These are Speakon connectors and are the correct length needed for all the above cabinets.

The PJB EAR-BOX personal bass monitor will greatly enhance your playing experience in all situations. This is a tiny 2 x3 inch speaker box that fits on a microphone stand. If you play fretless bass then this may be an essential piece of kit for you. The PJB EAR-BOX connects to speaker outputs of amplifier and does not change the speaker impedance load.

SPECIFICATIONS

Amplifier

PJB 350watt, D class amplifier with digital switch mode power supply.

Frequency Response

Passive and Active input: 30Hz -20KHz

Maximum Output Power

300 watts RMS into 4 ohms

Signal to Noise Ratio

Better than 86 dB (EQ off, Volume on Full.)

Impedance

Passive Input: $>4M\Omega/22pF$

Active Input: $>100K\Omega/22pF$

Line Input: $>75K\Omega$

Pre Amp Line Out: $<2K\Omega$

Bal. Out: $<200\Omega$

Levels

Passive Input: 10mV-2.5V

Active Input: 20mV-5V

Pre Amp Out: 1.2V

FX send: 1V

Bal. Line Out: Typical 600mV

Compressor / Limiter

Gain: 0dB

Compression Ratio: 3dB: 1dB

EQ CENTER FREQUENCIES

70, 160, 630, 2.5K, 12K at +/- 18dB

SERVICE/WARRANTY INFORMATION

PJB amplifiers carry a 2 years limited warranty on parts and labor.

Products must be purchased from an authorized PJB dealer.

Buyer must complete and return the enclosed warranty card within 15 days of purchase, or register online by www.philjonespuresound.com/support/register

This warranty covers defect in materials or workmanship that occurs in normal use. Within warranty period PJB or its local distributor will repair or replace the defect unit free of labor and parts charge. It is the buyer's responsibility to use the unit strictly according to instructions written in the owner's manual.

This warranty is not transferable; it is provided to original owner only.

Damage/defects caused by the following conditions are not covered by this warranty:

- **Improper handling, neglect or failure to operate the unit in compliance with the instructions given in user manual;**
- **Connection or operation in any way that does not comply with the technical or safety regulations applicable in the country where the product is used;**
- **Repairs or modifications by anyone other than authorized PJB service agent;**
- **Damages/defects caused by force majeure or any other condition that is beyond the control of PJB.**

IMPORTANT:

- **In all warranty issues your first line of communication should be to the retailer you purchased from, even if you have purchased product from an online source.**
- **When a local distributor is available, customer who prefers to purchase across country online maybe required to pay shipping charges to retailer in order to obtain service.**

Further questions, please contact PJB by email info@philjonespuresound.com, or call 314-814-3383.

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