

  **Phil Jones Bass**

PJB BRIEFCASE



OWNER'S MANUAL

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Thank you for purchasing the PJB BRIEFCASE. A great deal of dedication and passion went into designing and building this no-compromise, high performance compact-combo 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 BRIEFCASE 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.**
- **Never use this product in the vicinity of water. If the BRIEFCASE were to get wet, it could kill you by electrocution.**
- **Do not use this amplifier in a way that would compromise its ventilation system. Never block the air intake or fan output.**
- **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.**

OVERVIEW OF THE BRIEFCASE

The BRIEFCASE is not your usual combo-practice amp. The most striking difference between this combo and others is that it features an extremely clean and powerful amplifier and full range compact speaker that can run on AC or DC power. It can accept voltages from 100 to 240 volts by using the voltage selector switch, can run on an internal lead acid gel battery (not supplied) or even an external 12V DC source such as a automotive starting battery.

Though it is a dedicated bass amplifier, this unit will work ideally for other instruments, particularly acoustic variety due to its natural hi-fi sound character. This unit is also an ideal upright bass amplifier.

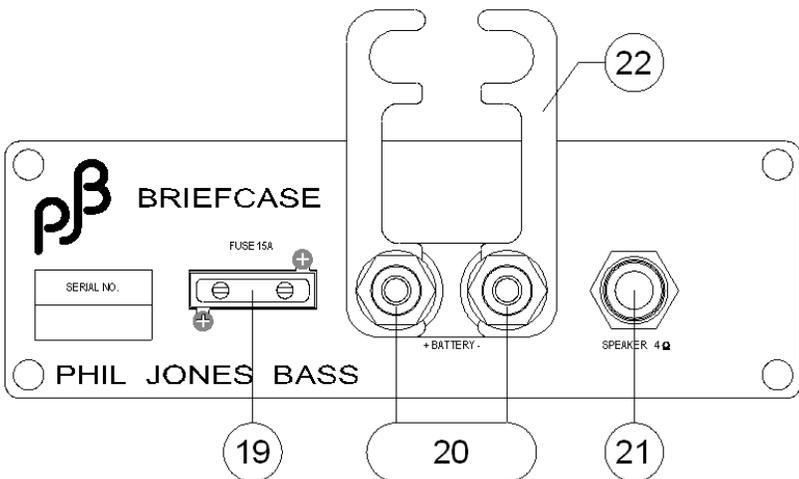
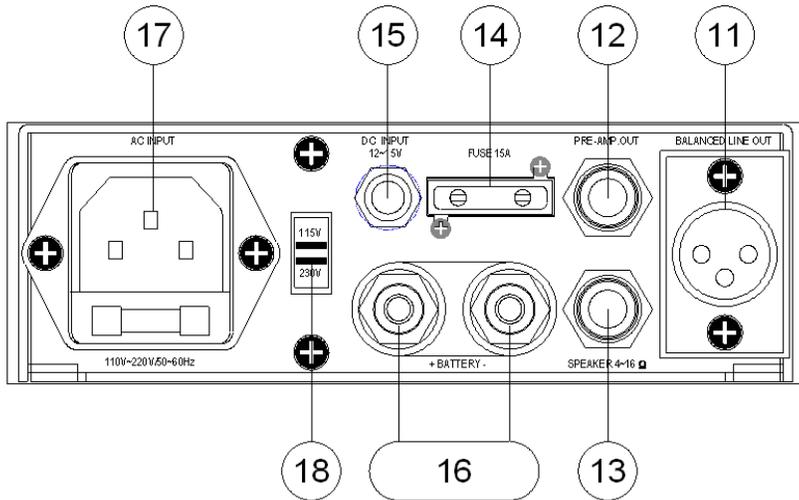
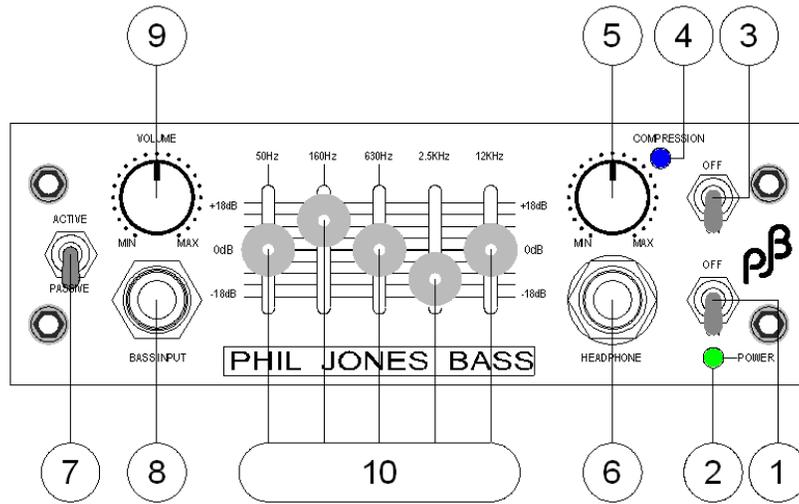
The two 5 inch proprietary PJB drivers have been acoustically optimally loaded by precise computer analysis to provide a full-range, dynamic sound that can play down to an open E string with ease. The BRIEFCASE can handle an open B string if not too much bass boost is used.

FEATURES

- Switchable Active / Passive input
- 5 Band Graphic EQ
- Optical Limiter
- Headphone Output
- Pre-amp Output
- Balanced Line Output.
- Drives Speakers 4-16 Ohms
- Dual AC Voltage Operation
- Works on 12V Rechargeable Battery
- 12V Charger Input
- Smart Battery Management
- Sophisticated protection circuitry
- Special “Soft-Clipping” 100watt Amplifier
- Ultra low noise pre amplifier circuit

US Patent # D514,089

FRONT & BACK PANEL DIAGRAMS



FRONT & BACK PANEL DESCRIPTION

1. POWER ON/OFF SWITCH.

This switches the main power on and off in the amplifier. When the power is switched off and the unit is still plugged into a power source it will be stand by, so please do not leave the amplifier plugged into a power source for long periods of time when not in use.

2. POWER LED INDICATOR.

With power switched on the LED light is green. When the amplifier's protection circuits have switched it off it will be illuminated red.

3. LIMITER ON/OFF SWITCH.

Sends signal through limiter or bypass.

4. LIMITER INDICATOR.

This 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

5. COMPRESSION ADJUSTMENT LEVEL.

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.

6. HEADPHONE OUTPUT JACK.

This jack accepts ¼ inch stereo headphone jacks. *When a headphone is connected to the jack, the speakers will still be connected to the sound. If you want to play on headphones only, then simply disconnect the speaker cord at the back.*

7. PASSIVE/ ACTIVE BASS INPUT SWITCH.

This switch allows you to match the BRIEFCASE to match either active or passive basses.

PASSIVE - Higher sensitivity, high impedance input (125mV/4.7MΩ). For bass instruments 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.

ACTIVE- Lower sensitivity input setting (300mV) for basses with onboard electronics. Input matched for low signal to noise ratio and optimum transfer of electrical signal from modern high-end basses.

8. INSTRUMENT INPUT JACK.

This is a standard ¼ inch mono jack socket.

9. VOLUME 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.

If your bass have a high output, then it could be possible to achieve the maximum volume from the BRIEFCASE with the volume control set in a low position. If you increase the level on this control, you will only add distortion which can damage the speakers.

10. 5-BAND GRAPHIC EQUALIZER.

This is a dedicated bass instrument equalizer designed to give you optimized tone of your instrument. The frequency bands have been set precisely so that your desired tone can be achieved with the minimum amount of sliders. The EQ filters are set at: 50Hz 160Hz 630Hz, 2.5KHz and 12KHz with 18dB of boost or cut. This EQ has a lot of control on your sound so do not use too much boost, particularly on the 50Hz or 160Hz bands as this will greatly limit just how much headroom you have.

11. XLR- DIRECT OUTPUT SOCKET.

This is an ultra-low impedance (200 Ω) 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 will however, vary the DI output.

12. PRE AMPLIFIER OUTPUT JACK.

These are used for driving a second amplifier such as the M-500 or the PJB S-1000 slave amplifier or even a tuner.

13. LOUDSPEAKER OUTPUT JACK.

The BRIEFCASE will work on any load from 16 Ω down to 3 Ω , which is the safe maximum load for this amplifier. The internal speakers are 4 Ω . So if you are considering using an extension speaker, you should not connect up the internal speakers at the same time.

14. LOW VOLTAGE FUSE.

This is a 15amp 32 volt automotive fuse same as found on motor vehicles. It protects the low voltage DC circuits in the BRIEFCASE. Never use a higher current rating fuse.

15. 12 V DC- BATTERY CHARGING SOCKET.

This socket is for use when the BRIEFCASE is utilizing an internal battery. The battery can be charged up in a vehicle from a standard 12 volt socket (cigarette type). A cable is supplied for this purpose. **DO NOT ATTEMPT TO USE THIS SOCKET TO RUN THE AMPLIFIER, ONLY USE IT FOR CHARGING PURPOSES ONLY.** The current drain of operating the amplifier is beyond the current capabilities of this socket.

16. 12 V DC- BATTERY INPUT TERMINALS.

This is the DC power feed to the BRIEFCASE amplifier. If you are using the internal battery then these terminals must be connected to the lower battery terminals with the link supplied. An external Heavy Duty 12volt automotive battery can be connected to these terminals.

The wire between battery and terminal must be at least 12 amp rating and connections secure and tight. The battery polarity (+ and -) must be connected correctly.

17. AC INPUT SOCKET/FUSE.

Connects the amplifier to AC power supply. Always use a grounded plug and make sure the AC cable is more than 3A rating at 250-volt AC. If you require a longer AC power cord, we recommend the PJB heavy duty 20 foot power cords. These are available as an accessory. **Use a slow blow ¾ inch fuse rated at 1 amp 220-240V or 2amp fuse for 110-120V.**

18. AC INPUT -VOLTAGE SELECTOR.

Switches the amplifier to run on either 110-120 volt or 220-240 volt AC power. **Never try to run the amplifier on a 220-240 volt supply when switched to 110-120 volt. This can possibly cause major damage to the amplifier.**

19. INTERNAL BATTERY FUSE.

When the BRIEFCASE has the internal battery installed, this fuse protects the battery should it be overloaded due to a short circuit.

20. INTERNAL BATTERY TERMINALS.

This is the output of the internal battery. **Do not connect these terminals to anything other than the DC input terminals of the BRIEFCASE amplifier.**

21. LOUDSPEAKER INPUT JACK.

This is the input jack to feed the BRIEFCASE internal loudspeakers. The impedance is 4 ohms. These speakers must be connected via the short speaker link cable (provided) to the BRIEFCASE speaker output jack. If you do not want sound from the speakers such as playing through headphones only, then disconnect these speakers from the amplifier.

22. INTERNAL BATTERY TERMINAL LINKS.

These connect the output of the internal battery to the DC input of the amplifier. **Make sure these are never touching each other nor have any contact with other metal objects.**

GETTING STARTED

BEFORE SWITCHING ON POWER – Check that the voltage selector is set to the correct voltage in your country. (110volt-120volt USA / Japan or 220-240V Europe/Australia.)

ALWAYS USE A HIGH QUALITY GROUNDED AC POWER CABLE. NEVER USE THIS AMPLIFIER WITH THE GROUND CONNECTION REMOVED. We recommend you use original PJB cables.

OPERATION & POSITIONING

TURN THE VOLUME DOWN on the BRIEFCASE before plugging in your instrument.

Keeping Cool

The amplifier needs a constant flow of cool air to maintain an optimal working temperature. If it does not get the proper cooling it needs, it is possible for the amplifier's thermal protection circuits to operate and turn off the amplifier. The protection works on temperature and current workings in the amplifier's output transistors and power supply. AC power can vary from region to region and time of day due to electricity demand. Also because the amplifier uses forced air-cooling, the operating temperature of the amplifier will vary somewhat due to the room temperature you are playing in. If the amplifier can not get enough ventilation, the protection circuits could shut the amplifier off to protect the amplifier from damage.

Positioning the BRIEFCASE for Best Sound

Often, playing in different venues will cause your bass to sound different. This is partially due to the acoustics of the hall influencing the low frequency waves that are coming from your speaker. Bass waves are large and room dimensions heavily influence them when the walls reflect the sound waves, causing them to collide by adding together or canceling each other out. This causes some fundamental notes (the ones you feel more than hear) to ring out louder than others and some notes not to be heard at all.

Here is an indication of where fundamental bass frequencies are, showing open string's approximate frequencies and acoustic wavelength:

| | | |
|------------------|--------------|----------------|
| F# string | 24Hz | 46 feet |
| B string | 31Hz | 36 feet |
| E string | 41Hz | 27 feet |
| A string | 55Hz | 20 feet |
| D string | 73Hz | 15 feet |
| G string | 98Hz | 11 feet |
| C string | 130Hz | 9 feet |

This may give you some indication of the offending notes (frequencies) that may be booming or resonating louder or quieter than others. For example if your speakers are five feet from a wall, the open A string may sound weak. That could be because the path length of the reflected sound off the wall from your speaker is exactly corresponding to half a wavelength on the open A string causing at that particular note to cancel out.

Where you position the BRIEFCASE will ultimately affect your low frequency limit. For best results keep the BRIEFCASE on the floor. Placing it on objects off the floor will cause it to sound thin and lack bass punch. Placing the BRIEFCASE with the back close to a wall will help reinforce the lower notes. Placing it in a room corner, with the rear vent firing into the corner, will further enhance the low notes.

Room size makes a large difference in how deep the bass will sound. The further the distance to the listener the less the bass will be. This is due to the physics of acoustics not the unit itself.

Unfortunately for bass players, low frequencies are always very difficult to control with room acoustics. The reproduced wavelengths of the notes you are playing often correspond to the room dimensions, in which case the reflected sound off the walls interferes with the sound from the speaker as you get further away from it.

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 BRIEFCASE 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 (5) set fully clockwise. Now switch on the limiter (4). Start playing and turn control (14) 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.

TRANSPORTING AND STORING THE BRIEFCASE

The BRIEFCASE has been ergonomically designed to be completely balanced when using the handle. The heavy duty durable rubber feet will keep it protected underneath. When transporting in a vehicle, it is recommended that you use an external case or heavy duty cover to prevent it being damaged by falling over or other objects falling on it.

When Storing:

- Keep the BRIEFCASE in a dry location preferably at room temperature.
- Do not store the BRIEFCASE in temperatures below -20 Degrees C or above 40 Degrees C.
- Do not allow it to get wet. If this occurs, never turn it on in this condition.
- Do not leave the BRIEFCASE connected to a power source.
- **STORING WITH A BATTERY** –If you use the BRIEFCASE with an internal battery and plan to store the unit for a long period, it is recommended that you either apply a topping charge every six months or remove the battery completely from the unit. (Read the following section – USING THE BRIEFCASE WITH A BATTERY for more information on using an internal battery.)

USING THE BRIEFCASE WITH A BATTERY

For the ultimate in portability, the BRIEFCASE may be operated in DC mode by using a 12 volt battery (not included). The BRIEFCASE is capable of operating on an internally housed 12 V battery as well as being connected to an external 12 V DC power source such as a vehicle starting battery.

Please read this entire section in full to understand how to properly install and use a battery with your BRIEFCASE to avoid injury or damage to the unit.

Internal Battery Requirements & Operation

Due to the perishable nature of batteries we have designed the BRIEFCASE to use standard low-cost Sealed Lead Acid batteries that are readily available by a number of suppliers. Below are the required specifications for an internal battery as well as example online suppliers for purchasing the specified battery.

Internal Battery Specifications:

Battery Type: 12 VOLT SEALED LEAD ACID Battery

Capacity (Approx.): 7 to 7.5 AH

Battery Size (Inches): 5.85 to 5.95 Length x 2.51 to 2.56 Width x 3.90 to 4.00 Height

Weight (Approx.): 5.7 lbs.

DO NOT USE ANY OTHER TYPE OF INTERNAL BATTERY THAN SPECIFIED.

Example Online Battery Suppliers and Part Numbers

The following suppliers, battery brands and part numbers are provided as an example. Please use your own discretion when purchasing through a supplier. Problems that are specific to the battery units themselves need to be addressed with the respective supplier and their warranty/return policy.

Batteries Plus

Part Number CLTXPA12-7.5F - www.batteriesplus.com



Planet Battery

Part Number PM1270 - www.batteryplanet.com



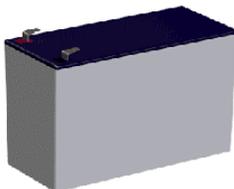
Portable Power Systems

Part Number PS-1270F1 - www.gotbatteries.com



BatteryCountry.com

Part Number 840320 - www.batterycountry.com



Installing the Internal Battery

Once you have purchased the specified battery, installation is simple:

1. Remove the plate on the underside of the BRIEFCASE by unscrewing the six Allen screws with the Allen Key provided.
2. Inside of the battery compartment are two wires held in place with a nylon tie. Cut this tie to release the wires and allow space for the battery as it is a tight fit.
3. Connect the wires to the battery by firmly pushing the “Faston” tags of the wires on the battery terminals.

IT IS VERY IMPORTANT THAT YOU CONNECT THE WIRES WITH CORRECT POLARITY:

The BLACK wire is connected to the NEGATIVE terminal.

The WHITE wire is connected to the POSITIVE terminal.

4. Carefully insert the battery into the BRIEFCASE battery compartment with the terminals facing upwards into the amplifier, **not with the battery terminals touching the metal plate.**
5. Once the battery is correctly in location, the bottom steel plate can be screwed back in place with the 6 Allen screws. The battery will be resting on a rubber gasket so when the plate is tightened up, the battery will be secure in place. **DO NOT OVER TIGHTEN THE SIX ALLEN SCREWS!**

Charging the Internal Battery

New batteries will need an initial charge of about 6-8 hours. It is recommended that you charge up for this duration before using the BRIEFCASE on battery power. To charge the battery, simply plug the BRIEFCASE into an AC power supply. No need to switch on the amplifier as battery will charge up on its own.

Charge the battery as soon as possible after use. Lead Acid must always be kept in a charged condition. The battery lasts longer with partial rather than full discharges. Over-depleting the battery charge will shorten its lifespan.

Since Lead Acid batteries must always be stored in a charged state, if you plan to store the BRIEFCASE for an extended period of time, a topping charge should be applied every six months to ensure a longer lasting battery.

Battery Performance

Battery operation performance will depend upon a few parameters:

1. How loud you are playing will determine how much playing time you will have. The louder you play, the faster the battery discharges.
2. The internal battery has a limited amount of energy that it can store due to its physical size. The battery's available energy is rated in ampere hours (approximately 7 to 7.5 ampere hours for the specified battery). This will vary slightly from each supplier and as the battery ages this will reduce. Older batteries will not have the same capacity as a new one. The more current drained from the battery, the less the capacity of energy stored will be available.

Example of typical new battery capacity

| Current Drain | Voltage | Duration | Capacity |
|----------------------|----------------|-----------------|-----------------|
| 0.35 amps | 10.5volts | 20 hours | 7.0 AH |
| 0.65 amps | 10.5volts | 10 hours | 6.5 AH |
| 1.2 amps | 10.2 volts | 5 hours | 6.0 AH |
| 4.5 amps | 9 volts | 1 hour | 4.5 AH |
| 14 amps | 9 volts | 15 minutes | 3.5 AH |

When you play your instrument, although you may have the capacity of 100 watts available from the amplifier, you are not using all that power all the time. Each note played uses different amount of power. Further more, when no notes are played, almost zero power is going to the speakers. A note may start out with high power but during its period of sustain it loses power (volume). It is actually hard to gauge just how long the battery can last because it depends on how loud you are playing and the style of playing. Typically, the BRIEFCASE should run around 1 hour between charges or more. If you require a long duration of several hours playing, then it is possible to hook up an external battery with a greater capacity.

Using an External 12 V DC Battery

When there is a need for extended playing without access to AC power, a larger capacity battery such as a Heavy Duty 12 Volt Automotive Battery may be connected to the BRIEFCASE using the BATTERY INPUT TERMINALS (16) in the top section of the amplifier. Use at least a 12 amp rated wire between the external battery and the amplifier terminals. **The battery polarity (+ and -) must be connected correctly and be sure that connections are secure and tight. ALWAYS USE A 12 VOLT BATTERY!**

Battery Safety & Disposal

Be sure to follow the safety precautions of the battery manufacturer to avoid personal injury when handling the battery.

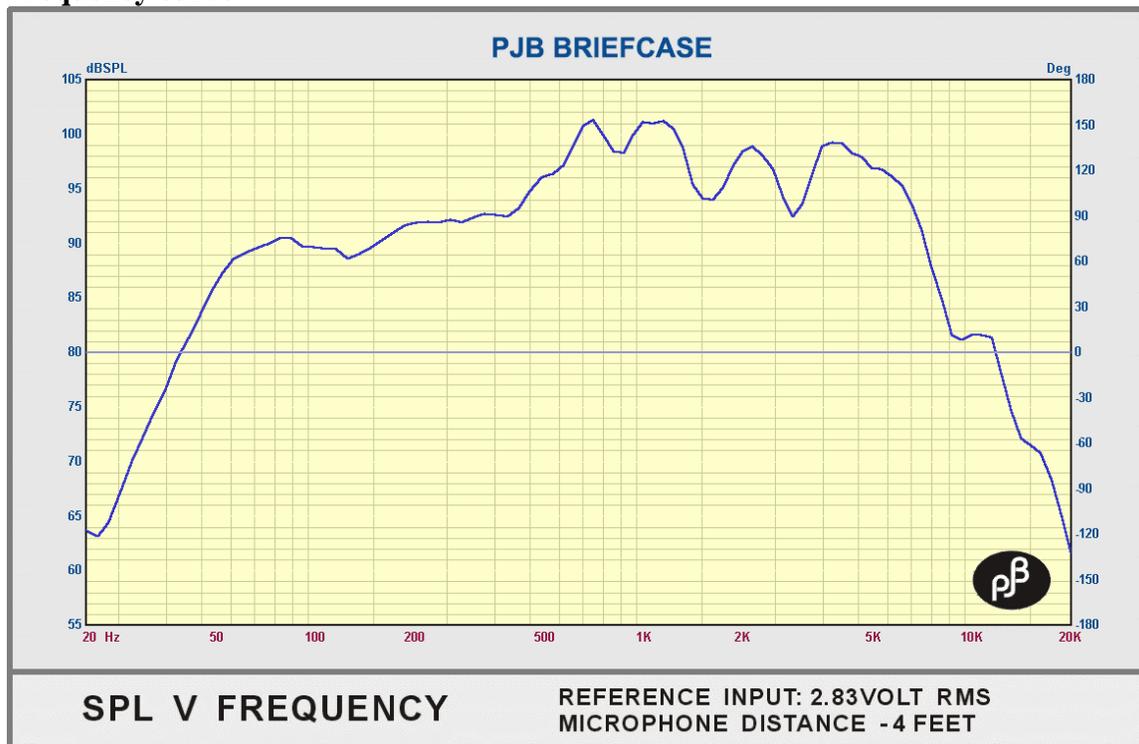
Sealed Lead Acid batteries are fully recyclable and should be accepted at any location that accepts common automotive starter batteries.

SPECIFICATIONS

Speaker

Computer Optimized Vented Enclosure
 Speaker Frequency Response: 40Hz –15KHz
 Speaker Compliment: 2 x 5inch proprietary, extended-range drivers
 Speaker Sensitivity: 92dB/W/M
 Speaker Impedance: 4 Ohms
 Dimensions: 6 ½” W x 14 ½” H x 15 ¾” D
 Weight: 28 lbs.

Frequency curve



Amplifier

PJB 100watt Solid State amplifier with soft clip feature

Frequency Response

Passive and Active input: 40Hz -20KHz +/- 1dB.

Low Cut Filter: 24dB/Octave at 40Hz.

Maximum Output Power (5% THD)

| LOAD Ω | OUTPUT (Watts RMS) |
|---------------|--------------------|
| 16 | 40 |
| 8 | 65 |
| 4 | 110 |

Signal to Noise Ratio

Better than 80 dB (EQ off, Volume on Full.)

Impedance

Passive Input: $>4M\Omega/22pF$
Active Input: $>100K\Omega/22pF$
Line Input: $>75K\Omega$
Pre Amp Out: $<2K\Omega$
Bal. Line Out: $<200\Omega$

Levels

Passive Input: 10mV-2.5V
Active Input: 20mV-5V
Pre Amp Out: 1.2V
Bal. Line Out: Typical 100mV

Compressor / Limiter

Gain: 0dB
Compression Ratio: 3dB: 1dB

Graphic EQ

50, 160, 630, 2.5K, 10K at $\pm 18dB$

Fan Cooling

Turns on at $60^{\circ}C (\pm 5^{\circ}C)$ heat sink temperature. Stop at $40^{\circ}C (\pm 10^{\circ}C)$ heat sink temperature.

Maximum Battery Current: 12A

Battery Type: Lead Acid Gel Sealed Type 12Volt / 7.0AH - 7.5AH

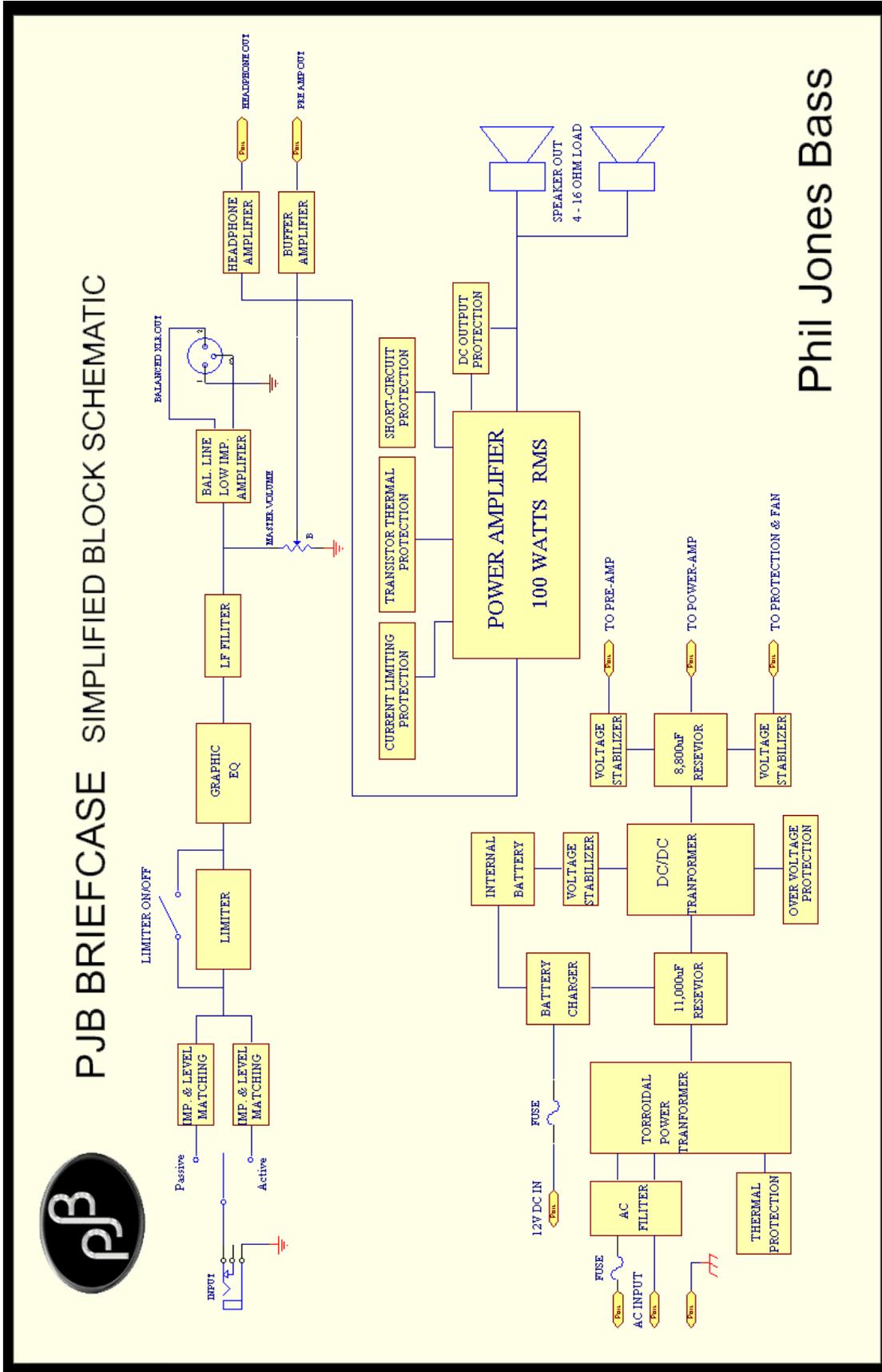
Battery Duration: Approximately 1Hour (Depending on playing level and battery quality)

Protection Circuits

1. AC line filter.
2. Slow-blow Fuse: 2 amp (AC 110volt) / 1 amp (AC 220volt)
3. AC Transformer: auto cut off at $105^{\circ}C$, auto reset at $60^{\circ}C$.
4. Transistor Thermal Protection: auto cut off at $80^{\circ}C$.
5. Loudspeaker Short-Circuit Protection.
6. DC Output Protection.

Included Parts

12 ft AC Power Cord
12V DC Coiled Charging Cable
Speaker Link Cable
Allen Key



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SERVICE/WARRANTY INFORMATION

The BRIEFCASE has a warranty period of 2 years, starting from the date of purchase. The buyer must complete and return the enclosed warranty card within 14 days of purchase.

This warranty covers defect in materials or workmanship that occurs in normal use. Within warranty period PJB 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 this manual and amplifier 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 of the speakers 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.

Should you need any warranty service, please bring the BRIEFCASE back to the dealer from whom you purchased, along with your sales receipt. Depending on the complexity of the repair work, your dealer may return the defect unit to PJB service center for repair or replacement.

Phil Jones Bass

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Please fill this in for your records.

| |
|-----------------------|
| Serial Number: _____ |
| Date Purchased: _____ |
| Dealer: _____ |