User's Manual

BB15 | 15" Powered Subwoofer

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- Compact Size, Light Weight, Easy To Transport
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- Excellent Output-To-Size Ratio

Description:

Big bass from an extra small, even lighter cabinet.

David Lee continues to push the envelope of design for mobile-optimized subwoofers. The BB15 subwoofer's compact size and excellent output-to-price ratio was designed for gigging DJs, home studio bass-heads, or venue owners with limited space.

A powerful, easily portable system for deep bass and superior sound quality, the BB15 offers Plug and Play usage, integrated DSP, a 2400 watt continuous amplifier, and a compact, lightweight design. At only 21" x 17" x 24" and 70 lbs, it produces very deep bass for its size, with frequency response to 40 Hz ±3 dB, bringing alive notes that mass-market subs simply can't reproduce.

For DJs and venues seeking extremely deep bass at moderately high levels in tight spaces, the BB15 is the smallest, lightest and most cost-effective solution available. Suitable for the truly bass-insatiable, whose focus is on modern music that features frequencies from 40-50Hz at up to 130dB, this extremely compact sub weighs only 70 lbs.

The BB15 is a single 15-inch direct-radiating subwoofer. Featuring a long excursion, 15-inch woofer loaded into a vented enclosure that is tuned to optimize low frequency output using a very large port. The amplifier is loaded at the interior port end to utilize the air flow at high output for additional cooling. The cabinet was designed to minimize materials, cost and weight and maximize efficiency.

It includes a 2400W RMS amplifier, rated for RMS output using continuous sine wave signal. This is not a peak or burst power rating. The amplifier is capable of delivering 2400W of continuous output, ensuring that the amp isn't the limiting factor in the output of low frequencies. Providing abundant power also virtually eliminates the possibility of overheating and damage to the woofers caused by clipping.

All that electrical power is converted into acoustical power by a 15 inch neodymium motor woofer. This premium-quality driver features a copper-winding voice coil. High-intensity Neodymium magnets are lighter and provide higher efficiency so the result is a lighter and louder cabinet.

Integrated, comprehensive DSP is included. Processing includes high-pass and low-pass filters as well as multiple protection systems and limiters to control all manners of driver overload, including thermal, excursion and clipping. The protection systems effectively prevent overheating of the voice coils and minimize long-term thermal compression while having virtually no effect on the transient response and peak output of the loudspeaker.

The cabinets are constructed from 15mm multi-ply Birch laminate, assembled using dado joints, screws and advanced composite adhesives. Stainless steel bolts are used to secure the drivers, amplifier and pole sockets. The cabinet is finished in an extremely rugged, black polyurethane coating.

The driver is protected by a black powder-coated, perforated steel grill. The woofer cones are waterproofed so the cabinets are safe to use outdoors where they may encounter rain, in nightclubs where drinks may be spilled on them, or in dusty environments that may leave the drivers needing a thorough deep cleaning.

BB15 15" Powered Subwoofer | SPECIFICATIONS

Acoustical

Loudspeaker Description:	Single 15" direct-radiating vented subwoofer
Frequency Response (±3 dB):	40-105Hz
Maximum Sustained Output:	127 dB SPL, 1 meter, half-space (ground plane)
Max SPL (Peak)*:	130 dB
Nominal Dispersion (°H x °V):	Omnidirectional (360 x 360)

Electrical

Amplification:	2400W RMS Class D Amplifier
DSP:	Integrated Comprehensive DSP including High Pass, Low Pass, Phase Alignment, EQ, and Limiting
Electrical Connectors, Amplifier:	Neutrik powerCON Input (Blue) NAC3FCA, Neutrik powerCON Through (White) NAC3FCA
Electrical Connectors, Mains:	Standard US 3-pin 120V - Optional connectors may be specified at time of order
Voltage Operating Range:	90-132V AC, 50-60Hz.
Current Draw, Nominal:	3.2A @ 120 volts (typical, 1/8 max power)
Signal Input Connector:	XLR-F
Signal Output Connector:	XLR-M (pass-through only)

Physical

Cabinet Construction:	CNC machined 15mm multi-ply Birch laminate with extensive bracing and dado joinery.
Transducer (Low Frequency):	1 x 15 in. diameter (380mm) Neodymium motor woofer with 4 in. (100mm) voice coil, waterproof cone
Dimensions (HxWxD):	20.5 in (521mm) x17 in (430mm) x 24 in (610mm)
Net Weight:	70 lbs
Shipping Weight:	83 lbs
Exterior Finish:	Rugged, weatherproof, textured, bonded high-pressure black polyurea coating
Grill:	Perforated, powder-coated steel
Handles:	2 Integrated Handles

Optional

Covers:	Available fitted, padded nylon covers
Casters:	4 Casters and hardware to attach to the rear of the cabinet.
Online Information:	bassboss.com/bb15

**Peak output is calculated using "industry standard" techniques. These calculation methods create theoretical specifications that are inflated over what can actually be achieved. BASSBOSS real world output specifications are provided as "Maximum Sustained Output" ratings, which reflect actual measured, continuous output levels.*

Our proactive philosophy causes specifications to be subject to change whenever improvements are made.

Setup Instructions:

1. **Place loudspeaker in the desired location. Ensure that it is secure and stable.**
2. **Rotate the input attenuator knob counter-clockwise to the lowest setting.**
3. **Connect signal from the sound source (mixer) via the XLR female input jack.**
4. **Connect the XLR male output to the next available loudspeaker input via an XLR cable (if applicable.) This is a full-range pass-through connection and no processing is applied to this output.**
5. **Connect the Neutrik PowerCON (blue) connector to the blue power inlet socket. Do not force. To insert, align the indexing tabs on the connectors, insert the plug fully into the socket and rotate clockwise until the latches catch. To remove, pull back on the latch tab and rotate the connector counter-clockwise to the index stop, then pull outwards.**
6. **Work backwards from the speakers to the outlets, making all PowerCON connections before plugging in to mains power.**
7. **Connect the electrical plug to a power source.**
8. **Move the POWER switch to the ON position.**
9. **Rotate the input attenuator clockwise to achieve the desired sound level.**

The integrated DSP includes all the required processing for safe operation and alignment with the accompanying BASSBOSS top boxes. DO NOT USE third-party outboard processing with BASSBOSS powered loudspeakers. This will not improve, and will most likely degrade the sound quality and output capacity.

When connecting multiple BASSBOSS loudspeakers in a system, signal can be passed through from one powered loudspeaker to another using XLR cables. No processing is applied to the signal as it passes through from the input to the output connectors in each loudspeaker. Signal can be routed in any sequence because each loudspeaker receives a full-range signal and applies the necessary processing in order to operate as part of the overall system. It is recommended to run signal to the nearest box first and patch to the next nearest box in sequence.

When connecting BASSBOSS speakers in a system including other brands of loudspeakers, it's recommended to connect the BASSBOSS speakers first in sequence, then connect other speakers to the pass-through outputs. This ensures that no inappropriate processing is applied to either loudspeaker.

The typical power draw of one BASSBOSS 2400W amplifier module is approximately 5A. With heavy demand, the current draw can peak at 20A for brief periods but under NEMA code, a 20A breaker should sustain a peak draw of 40A for several seconds without tripping.

It's recommended to connect no more than two 2400W amplifier to an individual 20A circuit. In situations where circuits must be shared with other equipment or other brands, it's recommended to power combinations of a BASSBOSS subwoofer and a top on a circuit and to power each subwoofer and top combination on a separate circuit to reduce the chances of overdrawing a circuit and tripping a breaker.

Operation and Controls:

There are 2 control knobs on the amplifier.

1: GAIN
Provides attenuation of the input from off to full output. Use appropriate gain structure to ensure the output feeding the subwoofer doesn't reach clipping and distortion before maximum desired sound level is achieved. The amplifier has a complement of limiters and safeties to protect itself and the driver however, if audible distortion occurs, lower the level of the incoming signal.

2: EXO ADJUST
This control adjusts the effective crossover frequency allowing the subwoofer to be used with multiple sizes and styles of top boxes while minimizing out-of-bandwidth noise and phase shift in the crossover region. Rotating the EXO knob fully counter-clockwise (left) results in an effective crossover frequency of 80Hz. Rotating it fully clockwise (right) results in an effective crossover frequency of 100Hz.

3. CARDIOID SWITCH
Toggle Switch allows selection between NORMAL mode and CARDIOID mode.

With the switch in the NORMAL (up) position, the speaker is in normal operating mode and any number of cabinets can be arrayed side-by-side facing the same way when they are all in NORMAL mode.

When CARDIOID operation is desired, one or two cabinets must be used in NORMAL mode and at least one cabinet must be placed in CARDIOID mode and its position reversed relative to the other cabinet(s) The ideal ratio is 2 cabinets in NORMAL with one CARDIOID cabinet between them vertically or horizontally.

Reduced	**NORMAL >>**	**Audience**
Level	**<< CARDIOID**	**Audience**
Area	**NORMAL >>**	**Audience**

The NORMAL mode cabinet(s) are used with the woofer facing towards the audience. The CARDIOID mode cabinet is rotated with the woofer away from the audience and the CARDIOID SELECT SWITCH in the CARDIOID (down) position.

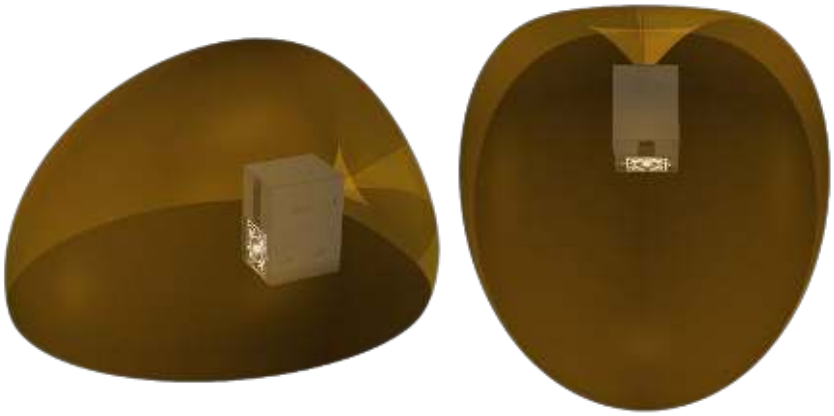
The cabinet in CARDIOID mode should have the EXO knob at the lowest level, rotated fully counter-clockwise. The EXO setting on the NORMAL mode cabinet(s) can be set to taste but all cabinets in NORMAL mode should be set the same.

Note: When the speaker is in CARDIOID mode, the green PWR LED is disabled because it will be facing the audience. The speaker will still power up and play.

When only two cabinets are used, the cabinet in CARDIOID mode can be placed on top of the cabinet in NORMAL mode.
The cabinet in CARDIOID mode can also be placed adjacent to the NORMAL mode cabinet, with the NORMAL mode cabinets placed farther from the stage or area where reduced level is desired. When only 2 cabinets are in use, the CARDIOID mode cabinet GAIN should be reduced by 3dB. The greatest level reduction occurs on axis with a line drawn from the center of the NORMAL cabinet's baffle, through the center of the CARDIOID cabinet's baffle.

Reduced	**<< CARDIOID (-3dB)**	**Audience**
Level	**NORMAL >>**	**Audience**
Area		**Audience**

Three-dimensional representation of cardioid output pattern.

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Troubleshooting:

If, after following the above instructions for setup, you have no output from the loudspeakers:

Verify that the green power (ON) LED is lit. If not, check the following:

(Note: The ON LED is disabled when CARDIOID mode is selected. To check for power, switch to NORMAL mode to illuminate the LED)

1. Is the power cord plugged into a live outlet?
2. Is the Neutrik PowerCON connector rotated into the locked position?
3. Is the Power Switch on?

If the green power LED is on, check the following:

1. Is the signal cable connected to the input?
2. Is the signal cable connected to an operating output at the other end?
3. Is the signal flowing to the input? Check the integrity of the cable by using a different cable.
4. Is the attenuator turned all the way down or at a very low level?
5. Is the signal flowing to the input full-range? Filters in the signal may remove the operating frequencies of the loudspeaker receiving them.

Amplifier Flash Sequence Codes:

Flash Sequence Codes for Warning Indicators and Protection Modes (Seen on Amp LED)

Long flashes followed by short flashes:

1-0 GROUND NOT CONNECTED: Amp still runs. Blinks 10 times on power-up then stops. Check power cord and outlet wiring.

1-1 LINE HOT AND NEUTRAL REVERSED: Amp still runs. Blinks 10 times on power-up then stops. Check power cord and outlet wiring.

1-2 GROUND NOT CONNECTED IN 240V MODE: Amp still runs. Check power cord and outlet wiring.

2-0 GFI TRIP: Amp shuts down. Power cycle to restore.

3-0 OVERHEAT SHUTDOWN: Amp shuts down. Restarts when temperature falls.

3-3 THERMAL LIMITER ACTING: Gain reduced to limit heat buildup. Amp still runs.

4-1 FAULT FROM GATE PCB WHILE AMP WAS WORKING: Amp shuts down. Service Required.

4-2 FAULT FROM PFC: (240V option only) Amp shuts down. Service Required. (May reset with power cycle if false triggered.)

4-3 GFI MALFUNCTION: Amp shuts down. Service Required.

4-5 FAULT FROM GATE PCB: Amp shuts down. Service Required.

4-7 BROWNOUT AT POWER-UP: Amp shuts down. Power cycle to restore. Check supply voltage.

4-8 UNABLE TO START AMPLIFIER: Power Cycle to restore. Check or eliminate power conditioner.

5-0 OVER-VOLTAGE: Amp turns off or won't start. (Seen on 120V versions when connected to 240V outlets.)

6-0 UNDER-VOLTAGE: Amp turns off or won't start. (Seen when Generators are overdrawn or long extension cords are in use.)

6-6 LINE LIMITER ACTING: Amp still runs. Output reduced to limit current draw.

Need more assistance? Support is available via phone or email. Email: family@bassboss.com Phone: 855-822-7770 toll free

Safety Information:

Important information regarding safety and the use of your loudspeakers:

Never stand in the immediate vicinity of loudspeakers driven at a high level. Professional loudspeaker systems are capable of causing a sound pressure level detrimental to human health. Seemingly non-critical sound levels (from approx. 95 dB SPL) can cause hearing damage if people are exposed to it over a long period. To prevent potentially dangerous exposure to high levels of acoustic pressure, anyone who is exposed to these levels should use adequate protection devices.

When a transducer capable of producing high sound levels is being used, it is necessary to wear ear plugs or protective earphones. See the manual technical specifications to know the maximum sound pressure level.

In order to prevent accidents when setting up the loudspeakers or loudspeaker stands, make sure they are standing on a firm surface.

Ensure that all additional hardware, fixings and fasteners used for installation or mobile deployment are of an appropriate size and load safety factor.

Pay attention to the manufacturers' instructions and to the relevant safety guidelines.

Regularly check the loudspeaker housings and accessories for visible signs of wear and tear, and replace them when necessary.

Regularly check all load bearing bolts in the mounting devices.

Caution: Loudspeakers produce a static magnetic field even if they are not connected or are not in use. Therefore make sure when erecting and transporting loudspeakers that they are nowhere near equipment and objects which may be impaired or damaged by an external magnetic field. A distance of 3 feet (1m) should be maintained between loudspeakers and sensitive equipment such as CRT monitors or magnetic storage media.

Never attempt to carry out any operations, modifications or repairs that are not expressly described in this manual.

Contact your dealer or BASSBOSS support if the product is not functioning properly.

BASSBOSS strongly recommends this product be installed by a qualified, professional installer who can ensure correct installation and certify that it is installed in compliance with the regulations in force.

The entire audio system must comply with the current local standards and regulations regarding electrical systems.

Important Notes:

To prevent the occurrence of noise on signal cables, use shielded cables only. Avoid routing signal cables close to equipment that produces high-intensity electromagnetic fields such as transformers, power cables and loudspeaker wires. Do not coil excess power cable. Do not coil or wrap power cables and signal cables together.

Thanks for being BASSBOSS Family!

WARRANTY INFORMATION

Our extensive “Sound Defense” transferable warranty covers all **BASSBOSS** products.

STANDARD CABINET WARRANTY

BASSBOSS loudspeaker cabinet integrity, including all joinery, fasteners, handles and wood, is warranted against defects in materials and workmanship for a period of six (6) years from the date of purchase. This warranty does not cover items that are intended to wear and can be replaced if worn or damaged. Examples of items not covered by this warranty are cabinet feet, grills and the finish or coating applied to the cabinet.

ENHANCED COMPONENT WARRANTY

BASSBOSS amplifiers and electronic components are covered against failures due to defects in materials and/or workmanship for a period of three years from the date of purchase.

NO WORRIES WOOFER WARRANTY

Transducers, including burned or open voice coils in subwoofers, are covered for two years from the date of purchase.

OUR SUPPORT

It is our goal to provide trouble-free loudspeakers. That objective begins as part of the design phase and continues on through to any service you may require. In order to be able to provide the lowest possible failure rate, the best possible warranty service and the fastest turn-around time, we request that you contact us immediately if you notice any problem with your system, and before you attempt any repairs. We can provide the best and fastest solution if we know the details of the problem before any repair attempts are made. Often **BASSBOSS** technicians can troubleshoot problems that may arise and no repair or further service will be necessary.

Warranty support is a service, and part of that service includes helping you prevent failures and minimize repair and shipping costs. Please do not ship products without first obtaining a return authorization number by calling 855-822-7770 toll-free or by emailing family@bassboss.com. **BASSBOSS** service technicians will provide assistance and instructions on shipping and packaging requirements specific to your service needs.

WARRANTY LIMITATIONS

During the warranty period, if your loudspeaker malfunctions or fails due to any defect in components or manufacturing, the failed parts will be repaired or replaced. This warranty does not extend to damage resulting from improper installation, misuse, neglect or abuse. Warranty coverage and eligibility will be determined upon inspection by **BASSBOSS** personnel. This warranty does not cover labor other than that authorized and performed by **BASSBOSS** personnel. Service will be performed upon the return of the failed unit, together with its original sales receipt or other proof of purchase, to **BASSBOSS** or an Authorized Service Facility.

Purchaser is responsible for all costs of shipping and handling. Cosmetic damage is specifically excluded from this warranty. This warranty is rendered void if service, repairs and/or modifications are attempted or made by anyone not specifically authorized by **BASSBOSS** to perform said services. Please contact **BASSBOSS** or your local **BASSBOSS** dealer before attempting any repairs and before shipping parts in for service. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. For more information concerning BASSBOSS service and warranty policies please contact us at (855) 822-7770 toll-free.

EXPORT WARRANTY

BASSBOSS products can be purchased worldwide. In countries without local **BASSBOSS** distributors, product requiring service must be shipped back to the US for warranty repairs. In most cases, the entire cabinet will not need to be shipped. Generally only the individual affected parts will need to be shipped to the factory for servicing. Please contact **BASSBOSS** before attempting any repairs and before shipping parts in for service.

SHIPPING AND PACKAGING

Please package your returns safely and securely. **BASSBOSS** does not cover damage that occurs in transit. Freight insurance is highly recommended.

FCC Compliance Notice:

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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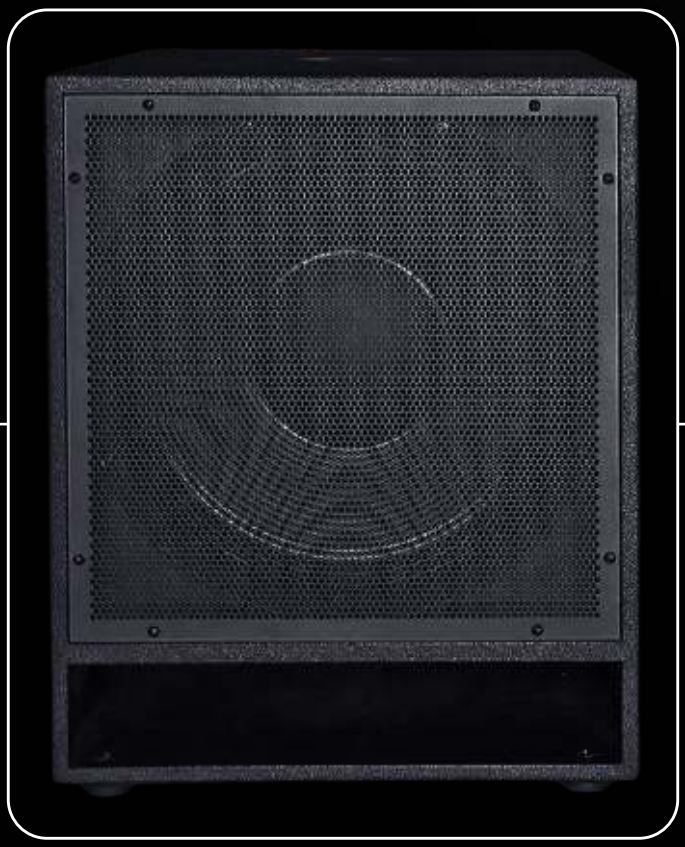

Need more assistance?
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family@bassboss.com

855-822-7770 toll free

www.bassboss.com