

# [H]ardBASS



## User Manual

**DF-15A** *15" Active Loudspeaker*

**DF-SUB** *18" Active Subwoofer*

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## **Introduction**

Thank you for your purchase of the **Deep-Forest (DF) Series** of Loudspeakers by **[H]ardBASS !!**  
We hope this Loudspeaker brings you bountiful enjoyment and deep-seated inner fulfillment.

- **DF-15A** 15" 3000W Tour-Grade Active Loudspeaker (134dB SPL Peak)
- **DF-SUB** 18" 4000W Tour-Grade Active Subwoofer (140dB SPL Peak)

The watchwords for this series are: **Pristine, Powerful** and **Atmospheric**. This series features discrete amplification of premium loudspeaker transducers lovingly housed to our exceptional cabinet craftsmanship.

## **Safety Information Notices**

Please read this manual entirely before operating the unit. Keep this manual nearby for your reference. **Always follow all safety instructions written in this manual.**



Inspect the power cord for any signs of damage before use. If the cord is damaged, do not use it. Use only the supplied power cord or one approved by a qualified electrician.

Never circumvent the safety of the ground conductor or polarized plug. Do not handle power cord with wet hands. Do not operate in environments where the unit could get wet.

Do not open the cabinet of this unit. There are no user-serviceable parts inside this unit. Please refer any servicing to a qualified technician only.

If the fuse is blown, please consult a qualified technician. Replace only with a fuse of the same value as the original.

This unit draws a large amount of electrical power from your AC Mains. Please ensure your electrical installation is designed for the power draw of this unit and meets all relevant codes, guidelines and standards in your locality. **If in doubt, please consult a qualified electrician.**

Disconnect unit from AC Mains when not in use. Disconnect during periods of AC Mains instability, such as generator start up or shut down, welding, severe weather, lightning or thunderstorms.

## **System Overview - Operation and Function**

Active Loudspeakers are used to provide Sound Reinforcement in Public Address (PA) systems. They are regularly seen in Churches, Temples, Mosques, or in Live Entertainment for bands, Event launches, or other Music Recreation events.

This series consists of two units, **DF-15A** 15" Active Full-Range Loudspeaker and **DF-SUB** 18" Active Subwoofer. Each unit is sold separately and can function independently.



The Deep Forest series of Loudspeakers is capable of very high Sound Pressure Levels (SPL).

**Excessive exposure to very loud sounds may cause hearing loss. Please exercise responsible use.**

**Please comply with all local ordinances issued by any and all authorities having jurisdiction.**

Position the Active Loudspeaker, inclusive of any stands or cables attached, securely so that it does not present a fall or trip hazard to persons in the area. Never attempt to suspend the Loudspeaker using any handles. **Bass may cause the Loudspeaker and items nearby to move !!**

Keep this unit away from sources of heat, dust, or moisture. Do not touch the metal heatsink of the amplifier, as it may become hot during operation. Never use any lubricant sprays on knobs.

## Setting Gains

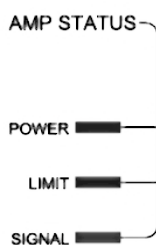
Giving a little attention to the Gain settings of your entire signal chain will ensure that you get the best performance and reliability of your Loudspeaker.

When gains are correctly set, the Loudspeaker will attain the highest desired volume level only when required by the programme content. There will also be sufficient signal throughout so that the noise floor is minimized.

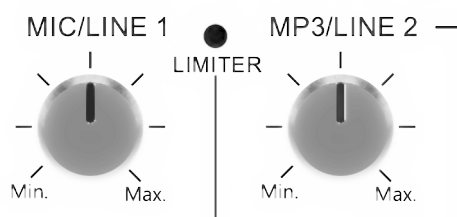
Almost all Mixing Consoles or signal processing equipment include colorful LED lights to display their signal level. These LEDs may be green, yellow and red as a helpful color code. Generally you want to keep signal levels *bouncing nicely in the green*, only touching the yellow or red lights during extremes in the programme content.

## Limiter Indication

This Loudspeaker includes a red **LIMITER** indicator which will illuminate whenever the capabilities of the Loudspeaker are exceeded. If you notice this red light is lit, please lower the volume until it no longer blinks.



**DF-SUB** Limiter  
Indicator Light



**DF-15A** Limiter  
Indicator Light

**Continuing to operate at this high volume level may cause damage to the Loudspeaker. Such damage is not covered under warranty !!**

## Power sequencing

To prevent startling the audience, set Loudspeaker volume to minimum before turn-on and turn-off. Connect and turn-on all the signal equipment while Loudspeaker is still OFF to prevent any turn-on or plug-in sounds coming through the Loudspeaker. At the end of the programme, switch off the Loudspeaker first before switching off any other signal equipment.

## **DF-15A Overview**

The **DF-15A** is an Active Loudspeaker for Live bands, Public Address (PA) or DJ systems or for Music Recreation. It is suitable for coverage of indoor or outdoor live events of up to 300 persons.

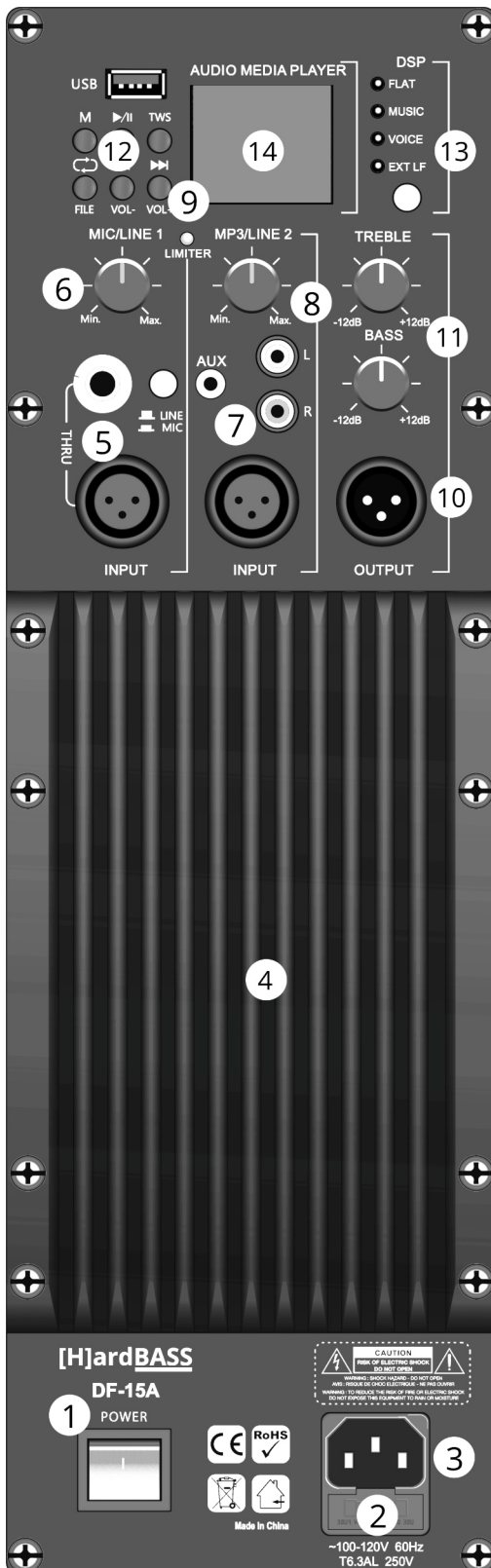


### Cabinet Features:

- 15" Tour-Grade Active Loudspeaker
- Full-Range Frequency Response (20kHz to 45Hz)
- Built-in Amplifier with integrated Media player functions
- 3000W Power / 134dB Max SPL (Peak)
- Large 5.3" Compression driver with 2" Copper Voice Coil and 1" Exit to Wide-Dispersion Horn
- Large 15" Woofer with 3" Copper Voice Coil
- Cabinet designed for greater definition on the vocal frequencies (Voice)
- Extended Low-Frequency response
- Tripod Stand or Subwoofer Pole Mounting
- Straight (Vertical) or 8° downward Tilt on Tripod or Pole
- Floor Standing or Monitor Wedge resting.
- Stackable for storage.
- Handles on all sides for easy carrying
- Strong perforated metal grill

### Amplifier Features:

- Discrete Class-D amplification of High-Frequency (HF) and Low-Frequency (LF) Transducers
- Digital Signal Processor (DSP) for optimized performance and protection
- Preset DSP modes: Flat (for Main/Live), Music, Voice and External LF (for external subwoofers)
- Balanced XLR, Stereo RCA and 3.5mm AUX line inputs
- Balanced XLR and 1/4" Microphone Input
- Balanced XLR Line output to additional Active Loudspeakers or Subwoofers

DF-15A Amplifier Tour

Key:

1. Power On / Power Off switch
2. Fuse holder (use only with same value fuse)
3. IEC Power cord socket
4. Metal heatsink (Caution: may become hot)
5. Microphone/Line1 Input  
The **Mic/Line** switch adds extra preamplification. Engage the **Mic/Line** switch if plugging a Mic directly into the XLR or 1/4" socket. Disengage switch when using Line-level input such as a Mixer
6. Mic/Line 1 Volume Control Knob
7. Balanced XLR, Stereo RCA and 3.5mm AUX Line 2 Input
8. MP3/Line 2 Volume Control Knob
9. LIMITER indicator light **Important:**  
If this light is illuminated, please lower volume !!
10. Balanced XLR output (to additional Active Loudspeakers or Active Subwoofers)
11. Equalization Control knobs  
Treble EQ at 12kHz @ +/- 12dB  
Bass EQ at 80Hz @ +/- 12dB
12. USB/MP3 (Flash Drive) Input section  
Long-press to access alternative button function  
*Vol+* and *Vol-* buttons and *MP3/Line2* knob control the volume  
*M* button switches between USB and Bluetooth playback  
*TWS* pairs the Bluetooth link  
*File* starts folder navigation with *Repeat* (loop), *Play*, *Pause*, *Next* and *Previous* navigation
13. DSP Preset selector (Flat/Music/Voice/Ext LF)
14. Screen display for media player

## **DF-15A Operation Notes**

### **Quick-Start procedure:**

1. Ensure the Loudspeaker is securely positioned without any trip or fall hazards.
2. Connect and turn-on all the signal equipment while Loudspeaker is still OFF. This prevents any turn-on or plug-in sounds coming through the Loudspeaker.
3. Ensure the volume is set to the Minimum position (turned all the way anti-clockwise).
4. Switch on the Loudspeaker. Slowly raise the volume to a comfortable and adequate level.
5. Adjust the DSP Preset and Treble/Bass Equalization to your preference.  
**Do not excessively boost treble or bass, as this may cause damage to the Loudspeaker. Such damage is not covered under warranty !!**
6. If at any point during the programme the **LIMITER** indicator light is illuminated, please lower the volume. **Continuing to operate at this high volume level may cause damage to the Loudspeaker. Such damage is not covered under warranty !!**
7. At the end of the programme, switch off the Loudspeaker first before switching off any other signal equipment. This prevents any turn-off sounds coming through the Loudspeaker.

### **DSP Presets**

- Flat - the default mode which is suitable for Mains or Monitors in Live Events.
- Music - delicately boosted Highs and atmospheric deep bass for music recreation
- Voice - tailored frequency response for Vocal programmes to minimize Larson-effect feedback
- Ext LF - optimized frequency response for use with external subwoofers

### **Bluetooth Pairing**

- When in Bluetooth pairing mode, the Loudspeaker will be identified as "DF-15A"
- Volume is controlled by MP3/LINE2 knob and Vol+/Vol- buttons, as well as your phone volume
- TWS pairing is a special "Stereo Bluetooth" mode which pairs two DF-15A units. **This mode is not recommended for professional settings due to high interference in the 2.4GHz wireless band.**
- To attempt TWS, press the TWS button twice on both speakers. Distance cannot exceed 10 feet.
- For more robust and stable connection, use an XLR-XLR cable instead of TWS.

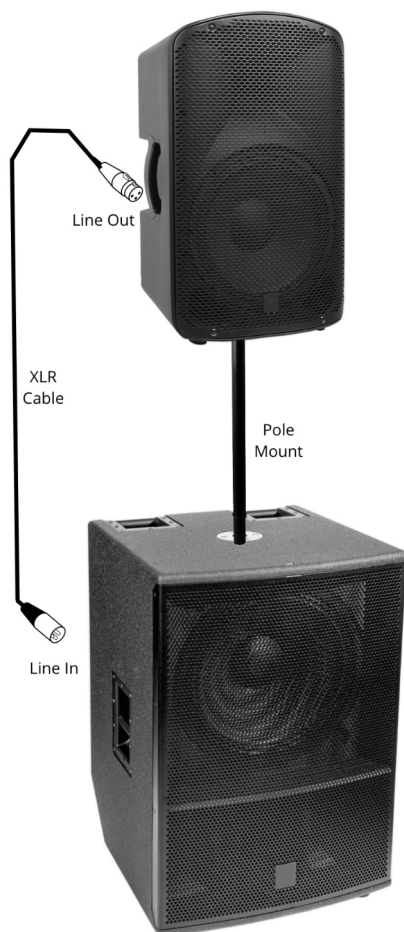


## **DF-15A + DF-SUB Configuration**

The **DF-15A** is a Full-Range Active Loudspeaker that will produce all sound in the human range of hearing with a pleasing and plentiful bass response.

However, the very low end of the frequency range (from 35Hz to 150Hz) also features a distinct tactile component to its sensation. These frequencies are felt as well as heard. To reproduce these frequencies fully requires a dedicated subwoofer, such as the **DF-SUB**.

## **Connecting DF-15A to DF-SUB**



### Quick-Start procedure:

1. Turn off all Loudspeakers and set volumes to minimum
2. Position DF-15A above DF-SUB, either directly on top (Floor standing), on Pole mount (sold separately) or on a Tripod (Sold separately)
3. Connect an XLR Male-Female Cable from the **Line-Out** of DF-15A to the **Line-in** of DF-SUB
4. Connect any source equipment to DF-15A.
5. Turn on DF-15A and slowly raise the volume to a comfortable and adequate level.
6. Set DSP Preset on DF-15A to **EXT LF**
7. Set **Low-Pass Filter** (LPF) on DF-SUB to 90Hz by rotating the knob all the way counterclockwise.
8. Turn on DF-SUB and slowly raise the volume to a comfortable and adequate level.
9. Note the **LIMITER** lights. If this light blinks during the programme, please lower the volume.
10. When finished, turn off DF-SUB before DF-15A.

The above configuration allows use of all media functions, including MP3 Flash Drive and Bluetooth playback, to be extended by the subwoofer.

Alternatively, you can send the signal into the DF-SUB first and use its Line-out to DF-15A's Line-in. However, the media player functions on DF-15A will not be sent through the subwoofer.



## **DF-SUB Overview**

The **DF-SUB** is an Active Subwoofer that will add deep bass response to your Loudspeaker system. This rear horn-loaded cabinet provides the "Chest-Thumping" sensation prevalent in modern music. It is suitable for coverage of Indoors and Outdoor Live events.

The **DF-SUB** can be matched with the **DF-15A** Loudspeaker or with any comparable Active Loudspeaker system, such as our very popular **HDR** or **HD15-XB** Active Loudspeakers.

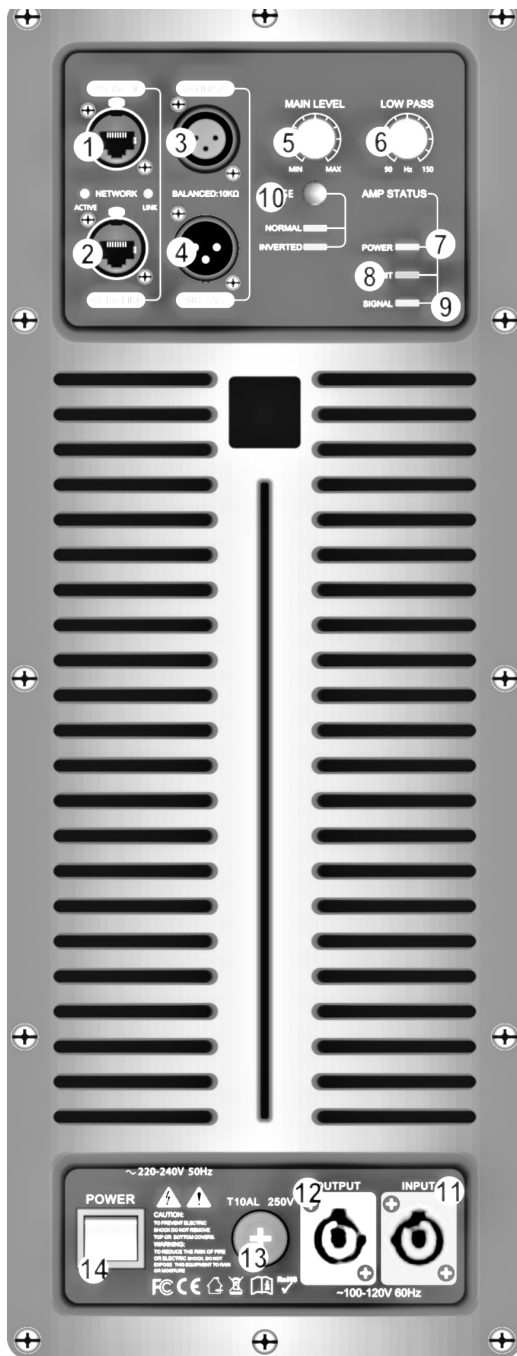


### Cabinet Features:

- 18" Tour-Grade Active Subwoofer
- Rear Horn-Loaded Cabinet for Higher SPL
- 20mm Plywood cabinet with extensive bracing
- Textured Paint finish
- Premium 18" Transducer with 4" Copper Voice Coil
- Multiple handles for easy lift and carry
- Wheels and pull-handle for superior mobility
- Strong perforated metal grill
- Pole Socket for Pole Stands

### Amplifier Features:

- Built-in Class-D Subwoofer Amplifier
- Digital Signal Processor (DSP) for optimized performance and protection
- 4000W Power / 140dB Max SPL (Peak)
- Balanced XLR Input
- Balanced XLR Output
- RS485 Ports for Service use only
- Phase Normal or Inverted selector
- Low-Pass Filter adjustable from 90Hz to 150Hz
- Robust, lockable 3-pin AC connectors (compatible with Neutrik PowerCon)

DF-SUB Amplifier Tour

Key:

1. RS485 In socket (SERVICE USE ONLY)
2. RS485 Link (SERVICE USE ONLY)
3. Balanced XLR Input
4. Balanced XLR Output
5. Volume Level
6. Low Pass Filter (adjustable between 90Hz to 150Hz)  
The **Low-Pass Filter** adjusts the bass frequency content from only low bass (under 90Hz) to also including high bass (under 150Hz).  
If using matching **DF-15A** Active Loudspeaker, set this to 90Hz by turning it all the way counterclockwise.
7. Power status light
8. Limiter indicator light **Important:**  
If this light is illuminated, please lower volume !!
9. Signal Indicator light  
This light will illuminate when signal is normally entering the Subwoofer
10. Phase switch  
Inverting the Phase may increase or decrease the bass effect depending on positioning and room characteristics
11. AC Input (compatible with Neutrik PowerCON)
12. AC Output (compatible with Neutrik PowerCON)
13. Fuse holder (use only with same value fuse)
14. Power Switch

## **DF-SUB Operation Notes**

### **Quick-Start procedure:**

1. Ensure the Subwoofer is securely positioned without any trip or fall hazards. Note that bass frequencies may cause objects near the Loudspeaker to move.
2. Connect and turn-on all the signal equipment while Subwoofer is still OFF. This prevents any turn-on or plug-in sounds coming through the Subwoofer.
3. Ensure the volume is set to the Minimum position (turned all the way anti-clockwise).
4. Switch on the Subwoofer and slowly raise the volume to a comfortable and adequate level.
5. Adjust Phase switch and Low-Pass Filter to preference
6. If at any point during the programme the **LIMITER** indicator light is illuminated, please lower the volume. **Continuing to operate at this high volume level may cause damage to the Loudspeaker. Such damage is not covered under warranty !!**
7. At the end of the programme, switch off the Subwoofer first before switching off any other signal equipment. This prevents any turn-off sounds coming through the Subwoofer.

### **AC Power Requirements: Important:**

The DF-SUB draws considerable electrical power from your electrical outlet. This electrical requirement is increased when using DF-SUB alongside DF-15A or using multiple DF-SUB units.

Please note the fuse rating and ensure any wiring in cables, electrical outlets, and building wiring are rated for the current draw of this unit. **If in doubt, please consult a qualified electrician.** Damage caused by insufficient AC Mains supply is not covered under warranty.

### **Artificially Boosted Bass Tracks:**

Many enthusiast-created tracks feature artificially boosted sustained ultra-low frequencies (below 35Hz) designed for car-audio subwoofer demonstrations. Note these tracks **will perform poorly** when played on a Rear Horn-Loaded subwoofer cabinet, and indeed may cause damage to the Loudspeaker. Such damage is not covered under warranty.

## **Specifications**

|                    |   |
|--------------------|---|
| <b>Model</b>       | <b>DF-15A</b>   |
| Description        | 15" Tour-Grade Active Loudspeaker   |
| Series             | Deep-Forest, High-Dynamic Range   |
| Amplifier          | Built-in Amplifier with DSP and integrated Media player functions                     |
| Power              | 3000W Peak / 134dB SPL Maximum  |
| Frequency Response | Balanced across 45Hz to 20kHz ( $\pm 3$ dB)   |
| Equalization       | High EQ: 12,000Hz $\pm 12$ dB Low EQ: 80Hz $\pm 12$ dB                                |
| Processing         | Digital Signal Processor (DSP) for optimized performance and protection               |
| DSP Presets        | Flat (for Main/Live), Music, Voice and External LF (for external subwoofers)          |
| Line Inputs        | Balanced XLR, Stereo RCA and 3.5mm AUX line inputs                                    |
| Microphone Inputs  | Balanced XLR and 1/4" Microphone Input  |
| Media Player       | USB MP3 Playback and Bluetooth Receiver   |
| Line Outputs       | Balanced XLR Line output to additional Active Loudspeakers or Subwoofers              |
| Cabinet            | Molded cabinet designed for greater definition on the vocal frequencies               |
| Mounting           | Floor Standing, Pole Mount or Tripod Mount (Straight or 8° downward Tilt)             |
| HF Transducer      | Large 5.3" Compression driver with 2" Copper Voice Coil and Wide-Dispersion Waveguide |
| LF Transducer      | Large 15" Transducer with 3" Copper voice coil  |
| Power Supply       | 120V / 60Hz US Plug   |

|                    |   |
|--------------------|---|
| <b>Model</b>       | <b>DF-SUB</b>   |
| Description        | 18" Tour-Grade Active Subwoofer   |
| Series             | Deep-Forest, High-Dynamic Range   |
| Amplifier          | Built-in Amplifier with DSP   |
| Power              | 4000W Peak / 140dB SPL Maximum  |
| Frequency Response | 35Hz to 150Hz (Low-Pass adjustable between 90Hz to 150Hz)                         |
| Processing         | Digital Signal Processor (DSP) for optimized performance and protection           |
| Line input         | Balanced XLR Input and Output   |
| Line output        | Balanced XLR Line output to additional Active Loudspeakers or Subwoofers          |
| Cabinet            | Rear Horn-loaded Cabinet using 20mm plywood, textured paint and extensive bracing |
| Transducer Details | Premium 18" Transducer with 4" Copper Voice Coil                                  |
| Power              | 120V / 60Hz US Plug   |