

Hybrid

PA12DSP & PA15DSP **2-WAY ACTIVE LOUD SPEAKER WITH DSP**



USER MANUAL

REV Z0 05-07-2023

IMPORTANT PRECAUTIONS



ALERTING THE OPERATOR TO FOLLOW IMPORTANT OPERATING INSTRUCTIONS AND PRECAUTIONS DETAILED IN THIS DOCUMENT.



WARNING THE OPERATOR THAT UNINSULATED, DANGEROUS VOLTAGES ARE PRESENT WITHIN THE ENCLOSURE THAT MAY POSE A RISK OF ELECTRIC SHOCK.

- Save the carton and packing material even if the speaker has arrived in perfect condition. Should you ever need to ship the speaker for servicing, use the original packaging supplied.
- For your own safety please read this manual carefully before using the product Hybrid PA12DSP / PA15DSP. In order to maintain good condition of the device and to ensure a safe operation, it is absolutely necessary to follow the safety instructions in this manual.



Follow all instructions printed on this user manual and the back panel of the speaker for proper and safe operation.



Do not spill water or other liquids into or on the speaker, or operate the speaker whilst under wet or damp conditions.



Ensure that power outlets and mains voltage conform to the power requirements printed on the back panel of the speaker.



Do not use the speaker if the electrical power cable is frayed or damaged. The mains cable should be routed so that it is not walked upon or pinched by objects close by. Only use the original power cable supplied with your speaker.



Always operate the speaker with the AC Earth wire connected on both sides (speaker and mains).



Precaution should be taken so that the earth connection is not damaged.



Power down and disconnect your speaker from mains power before attempting any physical connections to audio sources.



Never force the power on-off switch to the ON position if it will not stay there by itself.



Never use your speaker near heat radiating appliances, such as stoves and heaters.



Do not operate your speaker on a surface or in an environment that may impede the normal flow of air around the speaker.

- If the speaker is consistently used in an extremely dusty or smoky environment, the amplifier should periodically be blown free of foreign matter. However, this operation should only be carried out by a qualified service agent/centre.



Do not remove the amplifier module of the speaker. Removing this panel yourself will expose you to potentially dangerous voltages. There are no user serviceable parts inside the speaker.



Do not apply an input signal that is much greater than that which is required to achieve the maximum output level. This may damage the pre-amplification stage circuitry.



During long periods of disuse, the power cable should be unplugged from the mains voltage outlet.

- After long periods of disuse, the mains cable should be inspected for any damage before using the speaker again.
- Your speaker should be serviced only by qualified service personnel. Contact your nearest official retailer should your speaker need technical attention.
- Your speaker should be serviced by a qualified service technician:

- Do not clean the plastic enclosure with solvents or other chemical based cleaning products.
- Do not place heat such as lighting equipment and smoke machines on the speaker cabinet.
- Keep the device away from rain and moisture.
- Always place the device in a secure manner to prevent the device from causing injury.
- Damages caused by the disregard of this user manual are not subject to warranty. The dealer will not accept liability for any resulting defects or problems.

ADDITIONAL PRECAUTIONS FOR AMPLIFIED DEVICES

- The device is designed to be used in dry conditions only.
- Handle the power cord and all connections to the main power with particular caution!
- The device should only be connected to 230VAC, 50 Hz.
- Never handle the power cord or the device when wet, as this could lead to electronic shock.
- Make sure the power cord is in perfect condition before connecting.
- Only handle the power cord by the plug.
- Always insert the power plug last. The power plug must always be inserted without force.
- Make sure that the power plug is tightly connected with the outlet.
- Never let the power cord come into contact with other cables.
- Only replace the fuse when the device is disconnected from the main power.
- Only use fuses of the same rating and power. The correct fuse value is specified on the rear panel.

INTRODUCTION

- Congratulations on your purchase of the new Hybrid PA12DSP/PA15DSP Active Speaker, and thank you for your confidence in the Hybrid brand. You are amongst the growing number of audio professionals who have made Hybrid one of Southern Africa's leading brands of professional and commercial audio systems.
- For your safety, please read the important precautions before installing and operating your Speaker. The Hybrid PA12DSP/PA15DSP is based on the same advanced circuit topologies that have made Hybrid products the choice of professionals for the past 30 years. The Hybrid PA12DSP/PA15DSP has been designed for high operating efficiency and accurate sonic performance across the full audio bandwidth, even under stressful conditions. The internal components are of the finest available, and sub-assemblies are pre-tested before the final assembly. Each speaker is "burned in" and thoroughly tested using precision audio testing equipment before shipping. Finally, the Hybrid PA12DSP/PA15DSP incorporates extensive protective features to safeguard both the internal circuitry and transducers. This proven combination of advanced design, quality construction and comprehensive circuit protection is your guarantee for fail-safe reliability, meaning you can depend on consistent, stable performance.

UNPACKING

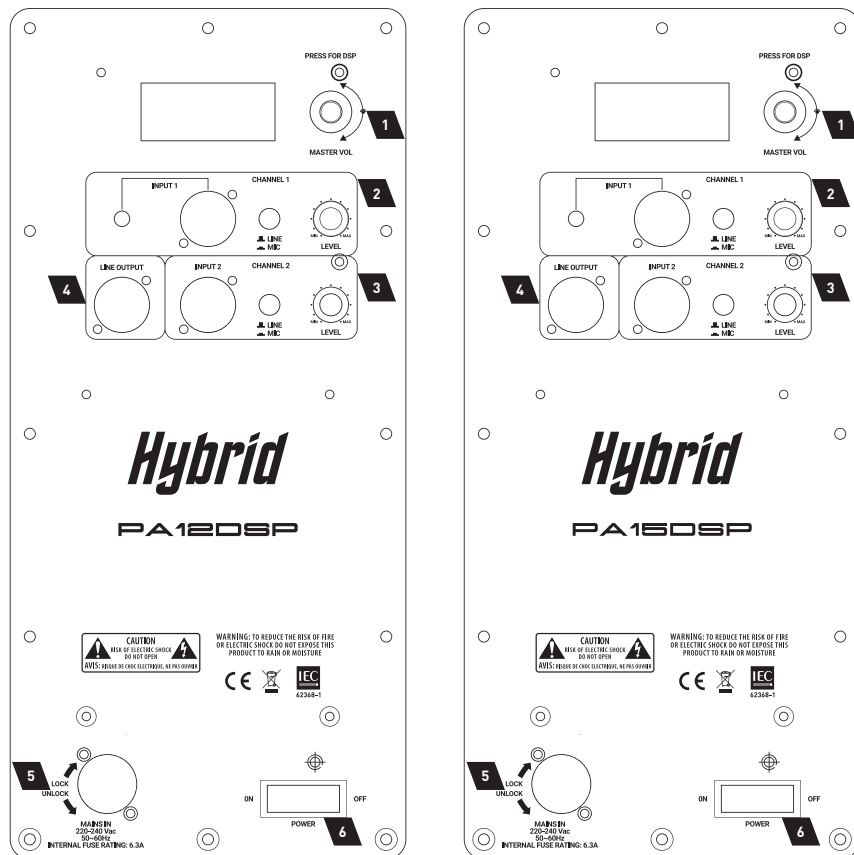
What's in the box:

- * 1 X PA12DSP/PA15DSP Active Speaker
- * 1 X 230 Vac Powered Link Cable
- * 1 X User Manual

- Please inspect the speaker carefully immediately after unpacking. If you find any visible damage, notify your supplier/retailer immediately. Be sure to save the carton and all packing materials should you need to ship the unit back to your authorised service

USER INTERFACE ELEMENTS

Rear Panel: PA12DSP/PA15DSP

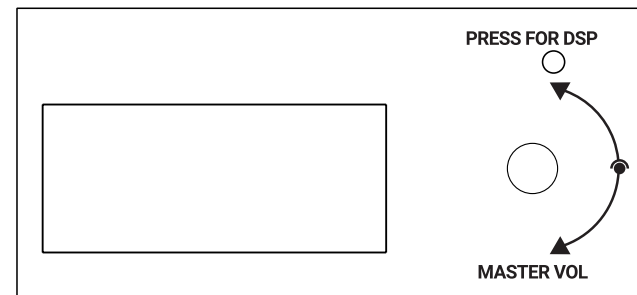


- 1: Encoder
- 2: Channel 1 Level-INPUT 1
- 3: Channel 2 Level-INPUT 2

- 4: LINE OUTPUT: XLR connector
- 5: Lock-Unlock Switch
- 6: Power ON-OFF Switch

FUNCTIONS

DSP MODULE

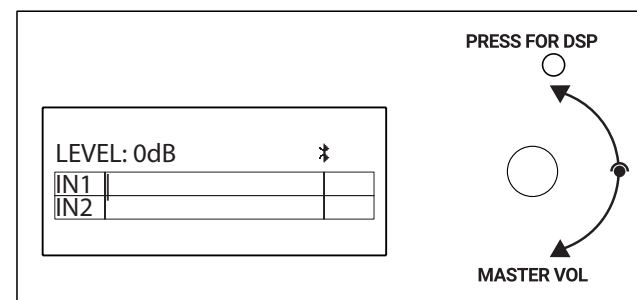


FUNCTION 1:

- DSP visualization software adjusts the frequency point, frequency response curve, sensitivity, pressure limit and other functions, and the adjustment can solidify the frequency response curve.

FUNCTION 2:

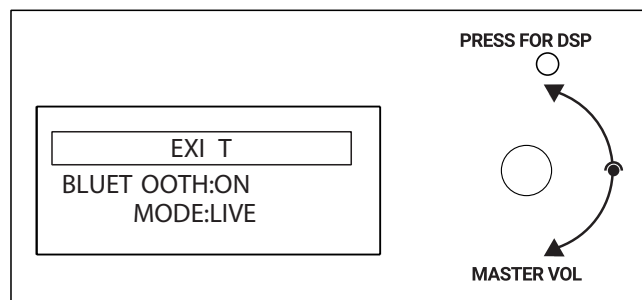
- After the power is turned on, the rotary encoder defaults to MASTER VOL, the display shows the dB value of MASTER VOL LEVEL, and the rotary encoder can adjust the dB value of LEVEL (adjustable range: -60dB - +10dB), when the encoder is rotated clockwise, the dB value of LEVEL increases in 1dB steps; when the encoder is rotated counterclockwise, the dB value of LEVEL decreases in 1dB steps. See the figure below:



FUNCTION 3:

- Press the encoder, to enter the DSP control menu window.

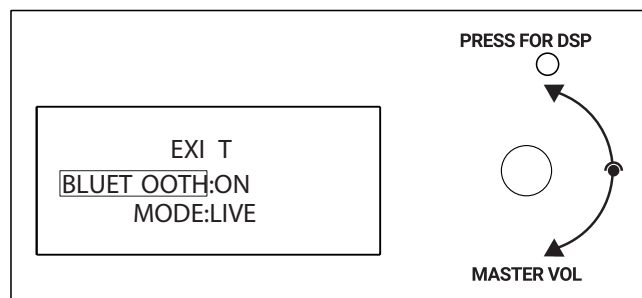
MENU PAGE 1:



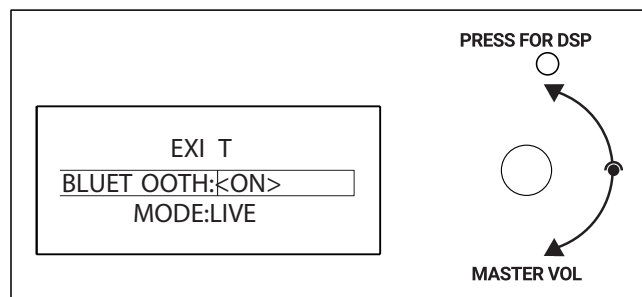
Rotate clockwise to move down or counterclockwise to move up when navigating in the menu. Press the button to enter the selected option setting mode.

EXAMPLE: SET BT TO TWS MODE

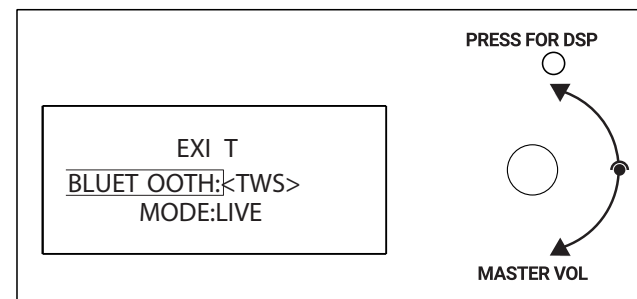
Step 1: First select the option in BLUETOOTH as shown below.



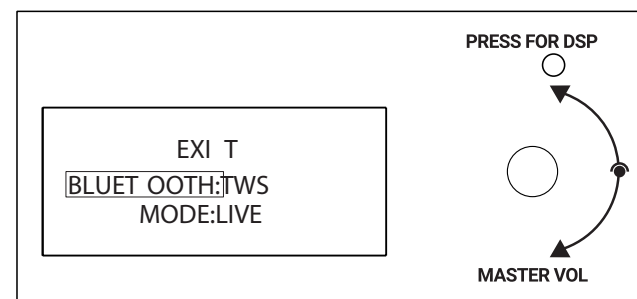
Step 2: Click on the encoder to enter the BLUETOOTH status setting option.



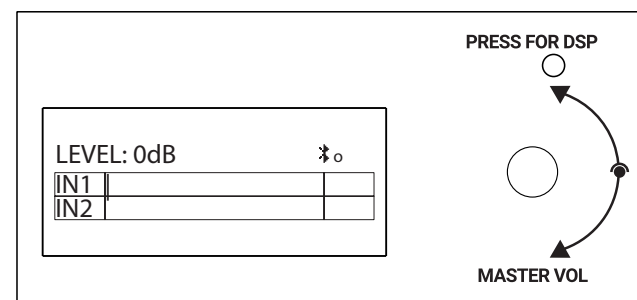
Step 3: When the encoder is rotated counterclockwise, the menu selection cursor moves up to TWS as shown in the next illustration.



Step 4: Click on the encoder to confirm and exit the setting item.

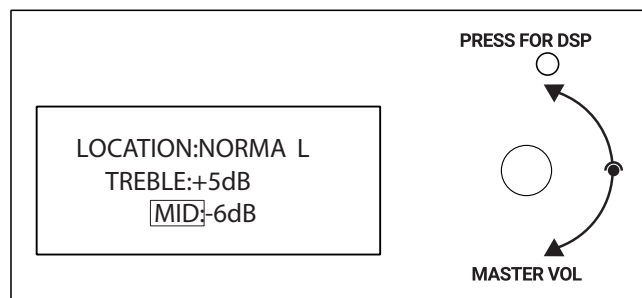


Step 5: Select the EXIT item, confirm and exit, BT is the TWS host, and the display shows.



EXIT
BLUETOOTH: OFF/ON/TWS
MODE: MAIN / LIVE / DJ / SPEECH

MENU PAGE 2:

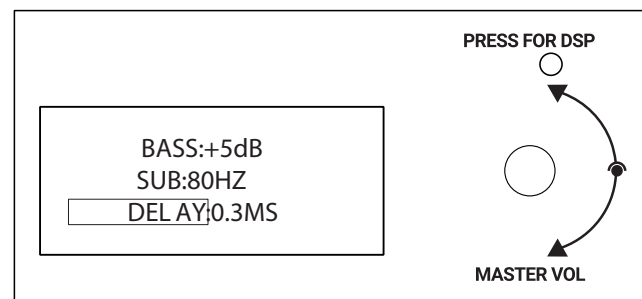


LOCATION: NORMAL/MONITOR

HIGH EQ: 0dB 10KHZ RANGE -10 TO +10dB

MID EQ: 0dB 1KHZ RANGE -10 TO +10dB

MENU PAGE 3:



BASS EQ: 0dB 100Hz RANGE -10 TO +10dB

SUB: OFF / 80Hz / 90Hz / 100Hz / 110Hz / 120Hz / 150Hz

DELAY: OFF

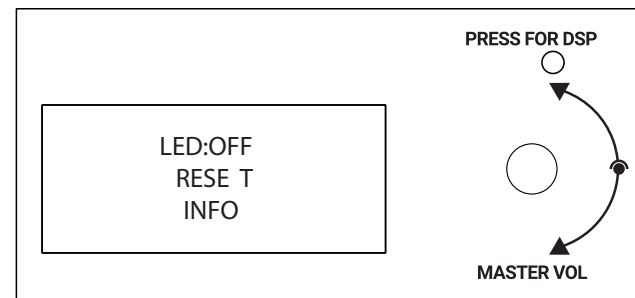
0.1ms

0.2ms

...

16ms (DEPENDING ON THE PROGRAM SIZE, THE ACTUAL EXTENSION TIME IS DISPLAYED)

MENU PAGE 4:



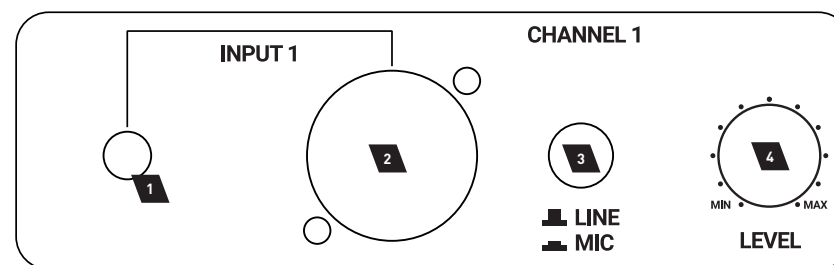
LED MODE: ON / OFF / LIMIT

RESET:

ARE YOU SURE?

PRESS THE ENCODER TO ENTER MENU EXIT

INPUTS

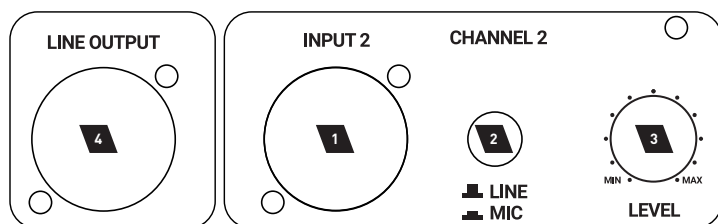


1: AUX IN: 3.5mm

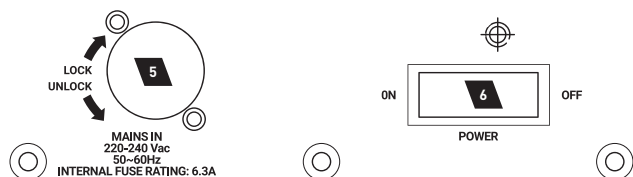
2: INPUT 1: 6.35mm JACK/XLR COMBO INPUT for MIC/LINE

3: MIC/LINE SWITCH: Select the type of input (MIC or LINE)

4: LEVEL: Volume adjustment for MIC/LINE input



- 1:** INPUT 2: 6.35MM JACK/XLR COMBO INPUT for MIC/LINE input
- 2:** MIC/LINE SWITCH: Select the type of input (MIC or LINE)
- 3:** LEVEL: Volume adjustment for MIC/LINE input
- 4:** LINE OUTPUT: XLR connector which gives you the option to connect another powered speaker.



- 5:** 230V voltage.
- 6:** Power switch: Turns the system on or off.

AC IN SOCKET: Connect the supplied AC power cord here. (First, connect the power cord to the device, then connect to the AC outlet).

SPECIFICATIONS: PA12DSP

System Type	2-Way Active Loudspeaker
Inputs	XLR - 6.35mm Jack / RCA - 3.5mm Jack
LINE Output	XLR
Output POWER (RMS)	400 W (LF) - 50 W (HF)
HF Dispersion (H x V)	90° x 60°
Amplification	CLASS D (LF), CLASS-AB (HF)
DSP Processing	24-bit / 48KHz AD / DA with LCD Display
DSP Preset	MAIN, LIVE, DJ and SPEECH
DSP EQ	Three Band EQ (HI, MID and BASS)
DSP HPF	80Hz, 90Hz, 100Hz, 110Hz, 120Hz AND 150Hz
Crossover	2KHz
Frequency Response	50Hz-20KHz (-10dB)
Max Output SPL	124dB
Impedance	4 Ω (LF) / 8Ω (HF)
Driver	PADSP-1.35-8 1.35" Compression Driver
Woofer	PA12DSP-4 Ferrite Custom 12" - Speaker (2.5"V.C)
Power Input	220-240V / 50~60Hz, 6.3 A
Cabinet	Polypropylene

NET WEIGHT: 17.5 kg

DIMENSIONS OF PRODUCT HxWxD: 48mm x 68mm x 42mm (W x H x D)

SPECIFICATIONS: PA15DSP

System type	2-way Active Loudspeaker
Inputs	XLR - 6.35mm Jack / RCA - 3.5mm Jack
LINE Output	XLR
Output POWER (RMS)	400 W (LF) - 50 W (HF)
HF Dispersion (H x V)	90° x 60°
Amplification	Class D (LF), Class-AB (HF)
DSP Processing	24-bit / 48KHz AD / DA with LCD Display
DSP Preset	MAIN, LIVE, DJ and SPEECH
DSP EQ	Three Band EQ (HI, MID and BASS)
DSP HPF	80Hz, 90Hz, 100Hz, 110Hz, 120Hz and 150Hz
Crossover	1.8KHz
Frequency Response	42Hz-20KHz (-10dB)
Max Output SPL	125dB
Impedance	4 Ω (LF) / 8 Ω (HF)
Driver	PADSP-1.35-8 1.35" Compression Driver
Woofer	PA15DSP-4 Ferrite Custom 15" Speaker (2.5"V.C)
Power Input	220-240V/W / 50-60Hz, 6.3 A
Cabinet	Polypropylene

NET WEIGHT: 20kg

DIMENSIONS OF PRODUCT HxWxD: 50.3mm x 77.7mm x 44.1mm (W x H x D)