LAX®

OWNER'S MANUAL

POWERED SPEAKER

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PRECAUTIONS
PLEASE READ CAREFULLY BEFORE PROCEEDING
Please keep this manual in a safe place for future reference。

⚠ WARNING

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical Shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

Power supply/Power cord

• Do not place the power cord near heat sources such as heaters or radiators, and do not excessively bend or otherwise damage the cord, place heavy objects on it, or place it in a position where anyone could walk on, trip over, or roll anything over it。
• Only use the voltage specified as correct for the device.
• Use only the supplied power cord/plug.
• Check the electric plug periodically and remove any dirt or dust which may have Accumulated on it.
• Be sure to connect to an appropriate outlet with a protective grounding Connection. Improper grounding can result in electrical shock.

Do not open

This device contains no user-serviceable parts. Do not open the device or attempt to disassemble the internal parts or modify them in any way. If it should appear to be malfunctioning, discontinue use immediately.

Fire warning

Do not put burning items, on the unit. A burning item may fall over and cause a fire.

If you notice any abnormality

• When one of the following problems occur, immediately turn off the power switch and disconnect the electric plug from the outlet.
−The power cord or plug becomes frayed or damaged.
- It emits unusual smells or smoke.
- Some object has been dropped into the instrument.
- There is a sudden loss of sound during use of the device.

⚠ CAUTION

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the device or other property. These precautions include, but are not limited to, the following:

Power supply/Power cord

• When removing the electric plug from the device or an outlet, always hold the plug itself and not the cord. Pulling by the cord can damage it.
• Remove the electric plug from the outlet when the device is not to be used for extended periods of time, or during electrical storms.

Location

Do not place the device in an unstable position where it might accidentally fall over.
• Unless the device is securely affixed, do not install it in a location where it might fall, even if the surface is level.
• Do not use the speaker's handles for suspended installation. Doing so can result in damage or injury.
• Before moving the device, remove all connected cables.
• Always consult qualified Yamaha service personnel if the device installation requires construction work, and make sure to observe the following precautions.
- Choose mounting hardware and an installation location that can support the weight of the device.
- Avoid locations that are exposed to constant vibration.
- Use the required tools to install the device.
- Inspect the device periodically.

Connections

• Before connecting the device to other devices, turn off the power for all devices.
• Before turning the power on or off for all devices, set all volume levels to minimum.

Maintenance

• Remove the power plug from the AC outlet when cleaning the device.

Handling caution

• Do not insert your fingers or hands in any gaps or openings on the device .
• Do not rest your weight on the device or place heavy objects on it, and avoid use excessive force on the buttons , switches or connectors.
• Do not use the device for a long period of time at a high or uncomfortable volume level, since this can cause permanent hearing loss. If you experience any hearing loss or ringing in the ears, consult a physician.
• Do not operate the device if the sound is distorting. Prolonged use in this condition could cause overheating and result in fire.
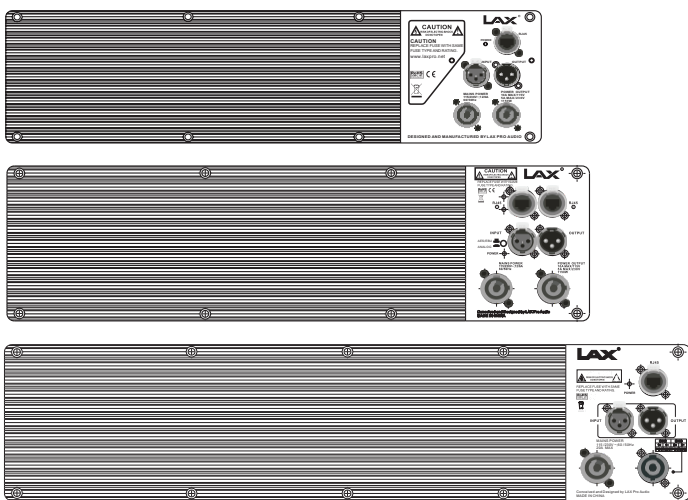
Introduction

Thank you for purchasing OP/M Series active speakers from LAX.

Please read this manual carefully to ensure you could use it in the best way for a long time.

Contents

Features :

This series of product integrated a high-quality 2-IN, 3-OUT DSP processor. Sampling rate at 96k Hz with Ethernet port and USB port. The dynamic range is 120dB (input) and 117dB (output) while the frequency range is 10Hz-40 kHz. Each of the input channels and output channels has 10 parameter filters and each of the filters could process Bell, Shelving, Notch and Allpass. The delay of each output channel is 5ms while input is 800ms.

This product employs Butterworth, Bessel, Linkwit-Riley filters, which bring high quality of sound and flat frequency response curve. Real time monitoring could be realized by using PC. Controller is displayed on integrated LCD.80 presets enable product extensions. Strong protection of the circuit ensures the safety of the speaker units, amplifiers and power supply units. Protection functions guarantee the performances and stability of each component, bringing no distortion under harsh environments.

Product technical parameters

(1 channels/2 channels/3 channels)			
Output power	8 Ω	1500W	1500W*+400W+400W	1000W(Bridge)
	4 Ω	2500W*/2000W	2500W*+800W+800W	----
Output Circuitry	UMAC™ Class D - full bandwith PWM modulator with ultra low distortion		
Output Voltage	LF: 160 Vp / 320 Vpp unloaded MF,HF: 80 Vp / 160 Vpp unloaded	Bridged 140 Vp / 280 Vp (unloaded)
Amplifier Gain	LF: 32 dB MF, HF: 26 dB	26dB
Signal To Noise-Ratio	> 120 dB (A-weighted, 20 Hz - 20 kHz, 8 Ω load)		
THD+N (typical)	< 0.05 % (20 Hz - 20 kHz, 8 Ω load, 3 dB below rated power)		
Frequency Response	20 Hz - 20 kHz ± 0.15 dB (8 Ω load, 1 dB below rated power)		
Damping Factor	> 1000 (8 Ω load, 1 kHz and below)		
Protection Circuits	Input limiter, short circuit protection, DC protection of output, under & over voltage protection, intelligent mains fuse protection, power stage overload protection, temperature protection of transformers and heat-sinks		
Readouts for DSP/Network	Protect/Disable (mute), Heatsink temperature, Clip (for each channel), Output voltage (for each channel), Output current (for each channel), SMPS Limit (power supply limiter)		
Power Supply	UREC™ universal & regulated switch mode power supply		
Operation Voltage	Universal Mains, 85-268V (dual voltage auto selection)		

Main Menu:
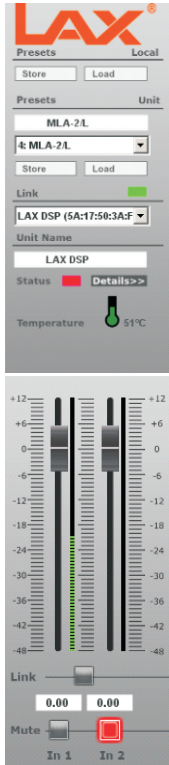
Presets Local: save setup in the PC and load the setup from the PC.

Presets Unit: save setup in the device and load the setup from the device.

Link: status light, green when connected, red when disconnected.

Unit Name: the name of the device. It can be displayed on the LCD screen of the device.

Status: status of the device.

Gain: fader to adjust the gain of input CH1/CH2.

Link: linkwork for input channels.

Gain Textbox: type numeric value, and then hit Enter.

Mute: mute button for input channel.

IN 1、IN2：

IN1/IN2: edit the parameters such as Gain, EQ with 10 optional degrees, HPF, LPF, Delay, Limiter and Mute of Input channels

Main Operational Keys & Functions

Rear Panel
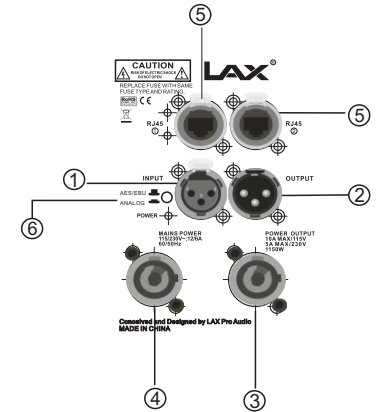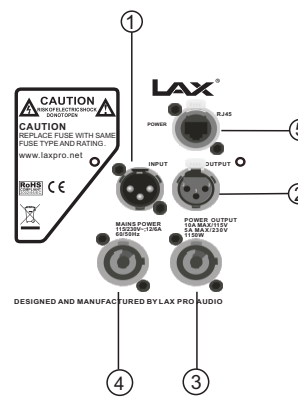
1.XLR Signal Input Socket 1

2.XLR Signal output Socket 1

3.Power Input Socket

4.Power Output Socket

5.Ethernet Port:connect with PC via the router

6.AES/EBU and Analog Signal Input Switch

1.Indications of Connection

Network cable:
Both PC and DSP amplifier module should be linked to the same router through a network cable (PC could be linked to the router through WLAN); choose "Automatic access to IP address" (as shown below).
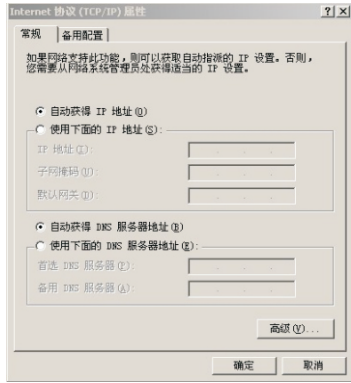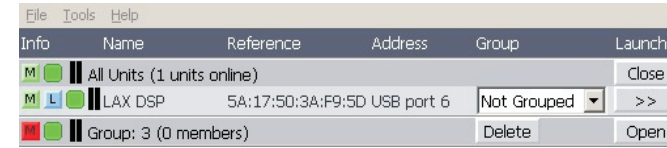

Run the software when the setup is complete. The software will automatically assign an IP address to the amplifier module. When it is connected, the IP address will be displayed on Address bar.
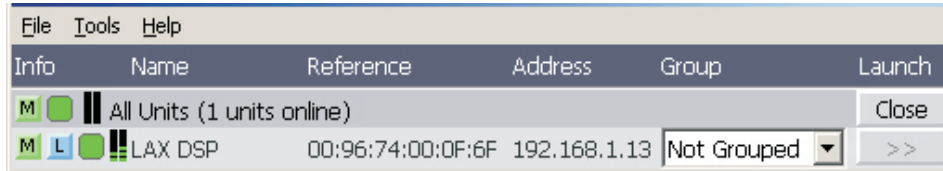
2. Control Center

The menu for Control Center is shown as below:

其中：

M   : Mute

     : Status light, green when connected; yellow when disconnected.

Not Grouped   : Group buttons

>>   : press to enter Parameter Mode. When the button is grey, please select "Enable Update" under "Tools".

Tools Menu:
Under "Tools", we could select：
<1>.Set Software Password
<2>.New Group (when the devices are in different groups, we could mute them in Control Center)
<3>.Enter Demo Mode
<4>.Enable Update(select this option when the module is connected to the PC without access to Parameter Mode)
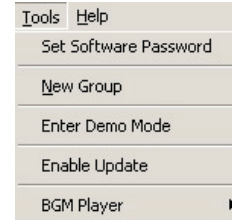
3. Parameter Mode

Parameter Menu is shown as below:

On left side is the submenu with "Main","X-over","In1","In2","Out1","Out2","Out3" bars. Select related bar to get access to edit the parameters.
We could edit Presets Local, Presets Unit, Link, Unit Name, Link and Mute in In1/In2 under Main menu.