



# NERO **MAX12** | MULTIROOM AMPLIFIER



Six Source Six Zone Multi-Room Amp With iOS / Android App Control

Integrated App Control With Optional Keypad Control



## CAUTION

RISK OF ELECTRIC SHOCK

**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,  
DO NOT REMOVE COVER ( OR BACK )  
NO USER-SERVICEABLE PARTS INSIDE  
REFER SERVICE TO QUALIFIED SERVICE PERSONNEL**



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of nu-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## **WARNING TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

This product was designed and manufactured to meet strict quality and safety standards. There are, however, some installation and operation precautions, which you should be particularly aware of.

1. **Read Instructions** - All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** - The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** - All warnings on appliance and in the operating instructions should be adhered to.
4. **Follow instructions** - All operating and use instructions should be followed.
5. **Water and Moisture** - The appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. **Carts and Stands** - The appliance should be only with a cart or stand that is recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



537-050A

The NERO MAX12 is a functional, easy to install, highly compatible, expandable and user-friendly audio distribution system. It features six Analog Source Inputs and provides up to 80W @4-ohm from a Class D amplifier for six zones expandable to 12 or 18 zones which can be controlled by the either the OSD Control App (Free App that Duplicates the Keypads), Optional Keypads with IR Remote Control or RS-232.

## FEATURES

- 6x6 Audio Matrix Switch with 6 Bridgeable Zones and Six Source Inputs
- Expandable to 2/3 units, 12/18 zones of distributed Audio.
- Free iOS & Android App duplicates the Control Panels for each Zone/Room. Optional Control Pads/IR Remote are available as well.
- High Efficiency Class D Amplifier; 80 watts (4-ohms) and 40 watts (8-ohms)  
Each Zone can drive a single 4-ohm pair of speakers or two pair of 8-ohm speakers  
Stereo/Bridge Mono Output for combining zones 100 Watts at 8 ohm only
- 3 Stereo line-level Pre-AMP L&R RCA Outputs (Zones 1-3)
- 6 Stereo line-level L&R RCA Analog Source Inputs
- RS232 for transferring and receiving the serial data between two devices.
- 6 Individual Zone Status (3.5mm): Used to control external Zone Devices (12V triggers)
- 6 IR Emitter 3.5mm Mono RCA outputs + 1 IR Emitter/Blaster 3.5mm Mono All Output
- 1 PA Input jack to set all zones to Source 1 (12Vdc Trigger)
- External Mute In/Control Out (3.5mm Mono RCA connections/12Vdc)
- AGC (Automatic Gain Control): brings low input levels up to a preset-level
- Unit ID Selector Switch: Master/Slave 1/Slave 2( Expandable settings)
- Multi Voltage Selector 115V or 230V, AC Input connection with Fuse Receptable (CE Certified)

## SPECS

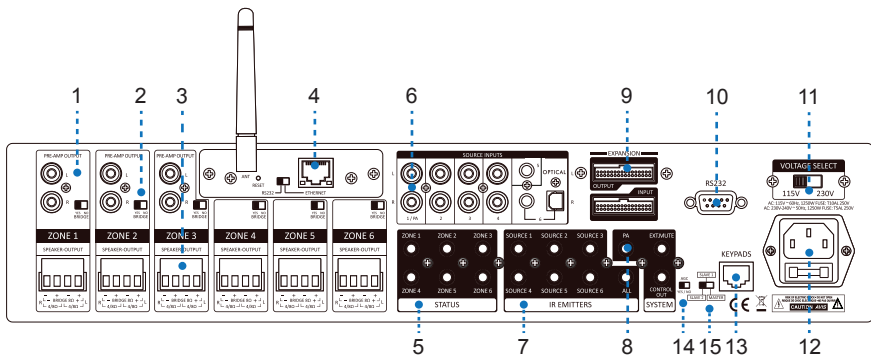
Power:	8 Ohm - 40W x 2 per zone 4 Ohm - 80W x 2 per zone
Bridgeable	
S/N:	>85dB A WTD
THD:	<0.1%
Freq Response:	20Hz-20KHz
Input Impedance:	>47 K Ohm
Input Sensitivity:	250mv
Protection:	Overload, Short Circuit, Temperature
System Voltage:	DC +12V
External Mute Voltage:	DC +12V
Power Supply:	AC 115V/60Hz - 230V/50Hz
Output Connection:	Terminal Block
Dimensions:	16.9"W x 3.5"H x 16.4"D
Weight:	25lbs

## CONTENTS

- NERO MAX12 Amp
- Expansion Ribbon Cable
- Rack Ears (Pre Installed on Amp)
- Speaker Terminal Blocks (Pre Installed on Amp)
- AC Power Cable
- Product Manual



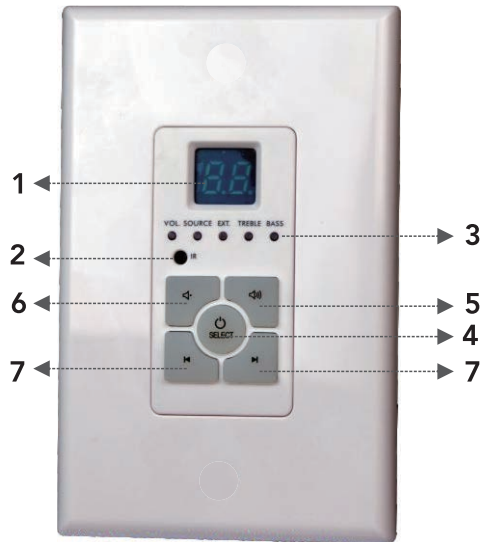
1. Power ON/OFF Switch
2. Standby/Zone ON LED- When this LED is BLUE this indicates a zone is in Standby mode. When this LED is WHITE it indicates that a zone is on.



1. Stereo line-level Pre-Amp outputs (Zones 1-3)
2. Mode Switch: Mono/Bridge
3. Speaker Outputs: 80w @ 4 Ohms-Stereo, 40w @ 8 Ohms-Stereo, 100w @ 8 Ohms-Bridge
4. Ethernet Port.
5. Zone Status: Used to control external Zone Devices
6. Source Inputs (Input 1/PA)
7. IR Outputs to control Sources
8. A) PA Trigger IN (Source 1)  
B) MUTE In/Control Out: This input can temporarily mute the system by connecting this unit to a relay closure switch on home automation system or phone system etc. When switch is on, it will short-circuit the input and mute the unit.
9. Expansion IN/OUT Port: Connects up to 3 units' total
10. RS232 Port
11. Voltage Selector (115v in US)
12. AC Input
13. Keypad Hub Input
14. AGC (Automatic Gain Control): brings low input levels up to a preset-level
15. Unit ID Switch

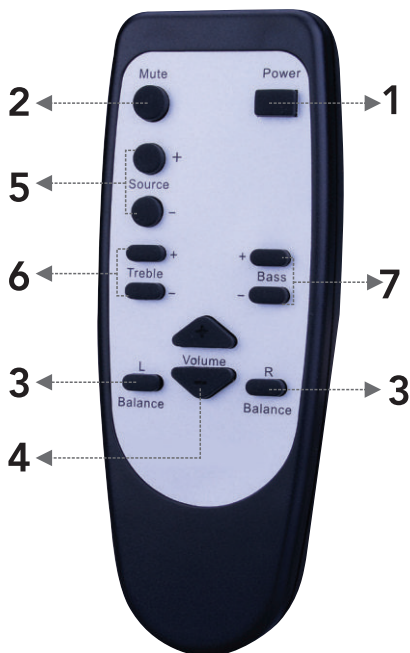


## OPTIONAL KEYPAD (Sold Separately NERO-MAX12KEYPAD kit)



1. Numeric LED Display
2. IR Receiver Target
3. Selection and Status LED's
4. Power/Status. Press and Hold to Turn Zone ON/OFF. When ON, Press to toggle through settings
5. Increase Volume, Treble or Bass
6. Decrease Volume, Treble or Bass
7. Source Select

## REMOTE CONTROL (Included with NERO-MAX12KEYPAD kit)



1. Power: switches power (On/Off) for the certain zone.
2. Mute: allows you to mute a certain zone.
3. BAL: These L & R buttons can adjust the balance of L/R channel in stereo mode.
4. VOL: Volume adjustment
5. Source: Used to select signal input.
6. Treble: This allows you to enhance or reduce Treble of signal in individual zone.
7. Bass: This allows you to adjust the Bass for the individual zone

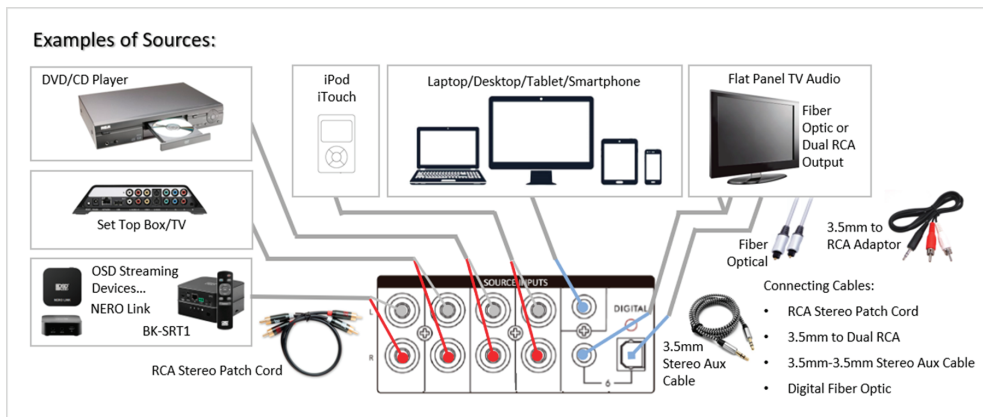
## CONNECT AND OPERATE

Before you begin to install the NERO MAX12, it is important to implement good installation practices:

1. Make sure that AC power is disconnected before making ANY connections to the main unit and attached devices.
2. Install in a well-ventilated environment
3. Ensure any vents are not blocked to allow for proper circulation
4. Do not install above or below sources of heat
5. Use good quality cabling
6. The NERO MAX 12 can be installed within a rack using the provided mounting rack ears

## CONNECTING THE SOURCES

Up to 6 dedicated sources can be connected to a single NERO MAX 12. Source 1-4 features Right and Left Female Unbalanced RCA Stereo Inputs (RCA Stereo Patch cords). Source 5 is 3.5mm Female input (Dual RCA to single Stereo 3.5mm adaptor cable or 3.5mm to 3.5mm Stereo Aux cable) to RCA and Source 6 offers a choice of 3.5mm Stereo Input or Digital Fiber Optic Input (Optical Fiber Cable).



**Note:** Input 1 can be used as a global input for all zones when a source is connected to input 1 and the 12VDC is applied to the PA-IN (tip is positive) then source 1 will broadcast to all zones. If no 12VDC is applied, then the first input will be operating under normal conditions

## CONNECTING THE SPEAKERS

The NERO MAX12 can work with speakers that are 4-8 Ohm. There are two modes that can be set for different setups: Stereo or Bridge. An 8 Ohm speaker can only be used when in Bridge mode. To choose between modes, use the mode switch to determine modes for each zone (Number 2 Panel Descriptions, page 5)

Once you have properly identified the desired mode, strip about ¼" of insulation and twist the copper strands. Connect the speaker wire to there screw down terminal as indicated on the amp. To loosen the terminal turn counterclockwise and to tighten the terminal turn clockwise. For better quality, we recommend used 12-14 AWG stranded copper speaker wire.



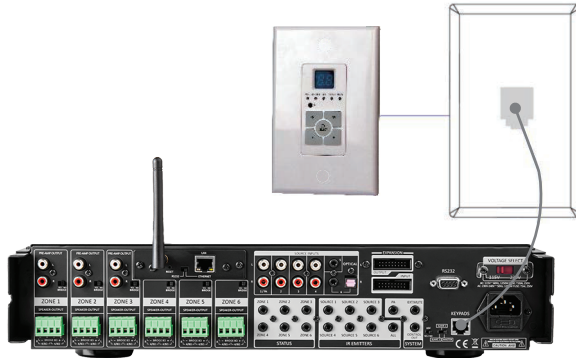
## USING THE PRE-AMP OUTPUTS

There are 3 unbalanced, line level Pre-Amp outputs that correspond to the first 3 Outputs. These can be used to connect an additional amplifier, expand zones, or to connect a powered subwoofer. The Pre-amp output levels are not fixed and are able to be controlled via IR, RS232, optional keypads and Wifi.

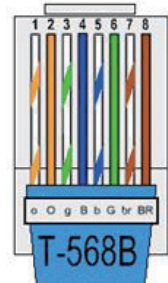


## CONNECTING THE OPTIONAL KEYPADS

The Keypad kit comes with 6 POE enabled keypads. This allows for source control from each specific zone as well as IR routing to the appropriate source devices once selected. The Keypad kit also comes with a hub that allows for all 6-keypads to be connected to the amp via Cat5e/6.



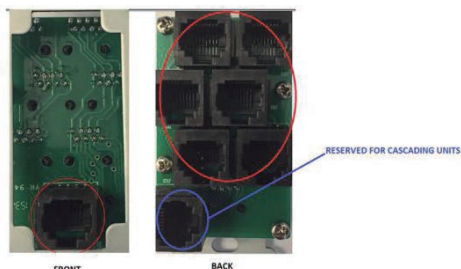
Without power being connected, connect a Cat5e/6 cable to the RJ45 port labeled KEYPADS on the back of the NERO MAX12. We recommend terminating the Cat5e/6 using the 568B standard.



At this point it is also important to address your keypads. Refer to the chart below which is also found on the PCB board of the back of the keypad to set the dip switches according to the zone you would like it to control.

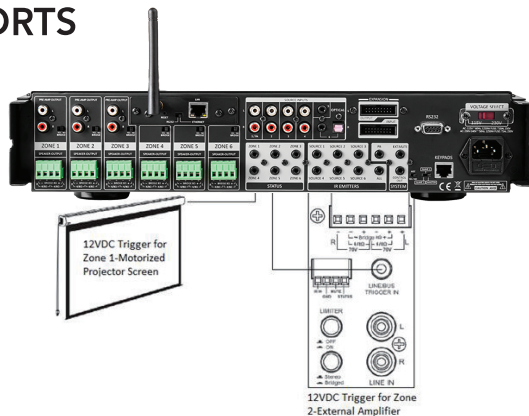
ZONE-1			ZONE-2			ZONE-3		
ON	ON	OFF	ON	OFF	ON	ON	OFF	OFF
1	2	3	1	2	3	1	2	3
ZONE-4			ZONE-5			ZONE-6		
OFF	ON	ON	OFF	ON	OFF	OFF	OFF	ON
1	2	3	1	2	3	1	2	3

Connect the other end of the Cat5e/6 to the lone RJ45 port found on the front side of the Keypad Hub. The front is what fits into the provide decora plate. Note that the Cat5e/6 between the unit and the hub should only be between 7-10ft. The RJ45 ports on the back of the Keypad Hub are not assigned but the single RJ45 port isolated on the bottom of the hub is reserved for cascading units.



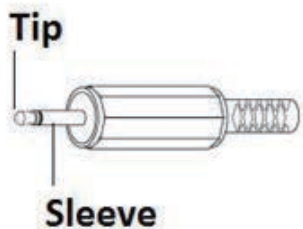
Connect the other end of the terminated Cat5e/6 to the RJ 45 port on the back of the assigned keypad and installation is complete. Complete zone and source control as well as IR and power are provided through the single Cat5e/6.

## CONNECTING AND USING THE ZONE STATUS PORTS



There are six 12Vdc trigger outputs which correspond to the six output zones. When a zone is powered ON by the NERO MAX12 keypad, the corresponding zone sends 12Vdc to the trigger output jack. The triggers can be used to automatically switch peripheral equipment ON or OFF.

WIRING: 3.5mm Mono



Plug: Tip is Positive (+)

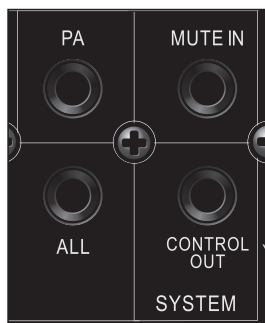
Trigger Outputs for Zones 1 - 6: Zone ON; 12Vdc applied to the TRIGGER OUTPUT, Zone OFF; 12Vdc removed from the TRIGGER OUTPUT.

CONTROL: When any zone is on, 12Vdc applied to the CONTROL OUT. When All zones are OFF, 12Vdc removed from the CONTROL OUT

Trigger Inputs:

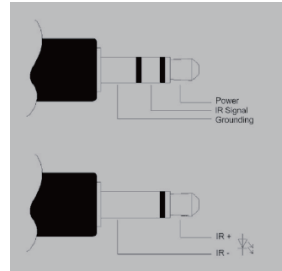
PA- IN: Apply 12Vdc for input #1 override on all six zones.

MUTE - IN: Apply 12Vdc to mute all zones.



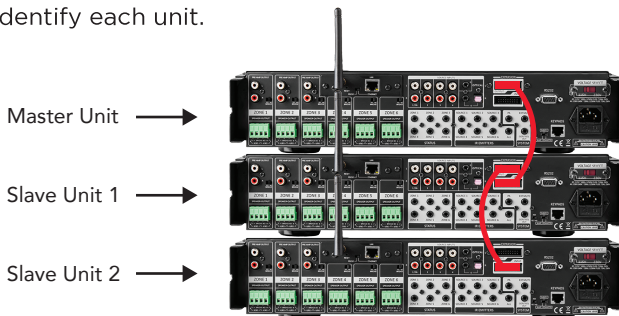
## IR EMITTERS

When being used with keypads, the NERO MAX12 can receive IR signals from each zone, and routed back through the Cat5e/6 and Keypad up to the Amplifier to control the selected source. For example, if Source 2-DVD is selected in Zone 1, the user will be able to control the DVD player to power the device on/off, change settings ect. Since the amplifier has discreet routing, ONLY the Source that is selected on each zone can be controlled. This prevents other sources from accidentally be controlled when selected on other zones.



## CASCADING SOURCES INTO ADDITIONAL ZONES

The NERO MAX12 can allow 6 sources to be distributed to up to 18 zones on 3 different units using the provided ribbon cable to connect between units. To do this first each unit needs to be addressed according using the MASTER/SLAVE switch. There are 3 positions for this, Master, Slave 1, and Slave 2 which help identify each unit.



Once each unit is correctly addressed, use the provided ribbon cables to connect the OUTPUT of the original MASTER unit into the INPUT of Slave 1. To cascade the sources into a third unit, using the provided expansion ribbon cable, go out of the OUTPUT port from the device addressed as SLAVE 1 into the INPUT port of the device addressed as SLAVE 2.



## CONFIGURING WIRELESS CONTROL VIA OUR APP

We recommend using a wired ethernet connection to the internet/LAN. The IOS or Android App provides wireless control of the audio system from a connected tablet or smartphone. Basically, the App duplicates the Control keypad normally located in each zone/room to control the Multi Zone/Multi Source Receiver. The Control Keypads and corresponding IR Remote are available as an option for those who do not have an internet connection or prefer the convenience of having the physical keypad and IR remote for each local zone.



The App allows you to duplicate the features of the NERO MAX12 Control Keypad

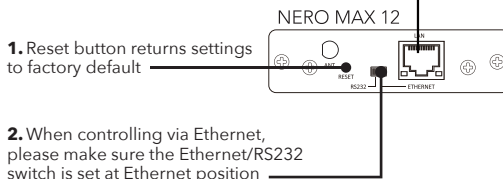


## ETHERNET/WI-FI CONNECTION

After downloading and installing the OSD Control App, open the App to start linking your wireless device to the NERO MAX12.

### ETHERNET CONNECTION - Recommended

There is an RJ-45 jack on the rear panel of this amplifier for the connection to Ethernet. Please use quality Cat5E/Cat6 cable, and then follow the connection diagram.



**NOTE:**  
**YOUR WIRELESS DEVICE MUST BE ON THE SAME NETWORK YOU INTEND ON USING AFTER SETUP.**

Connect the LAN port on the rear panel of the local Wi-Fi Router. The Ethernet connection is mainly for Wi-Fi control via APP or other control devices.

### WIFI CONNECTION - Not Recommended

Because of the high stability and ease of setup, connecting to the Ethernet via Cat5e/Cat6 cable is always recommended.

**NOTE:** If you have a 32-bit Android phone you might not be able to find the OSD Control App in the App Store, if so please - **Download the Android App by following this link.**

<https://drive.google.com/file/d/1Z5sbdSP-rWpmVaPAoqIFM7uPDmPhtMPw/view?usp=sharing>

Once the OSD Control app is opened, click the link icon in the lower left corner image #1 Home Screen , press Auto in center left of # 2 wait until processing within the app is complete.

IMAGE 1

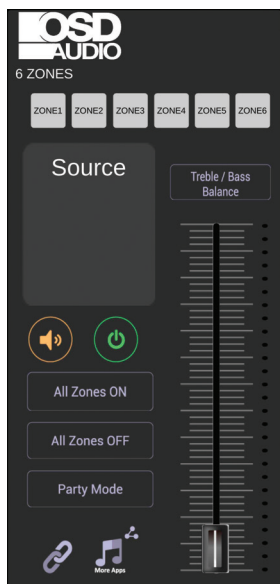


IMAGE 2



IMAGE 3

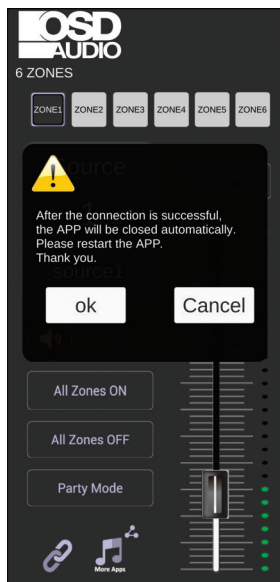
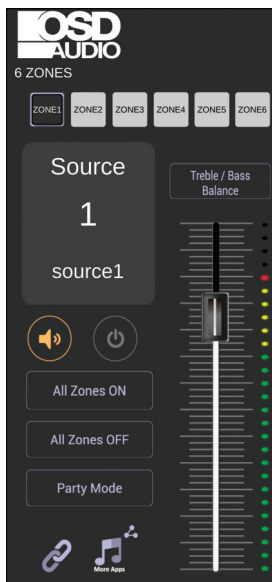


IMAGE 4

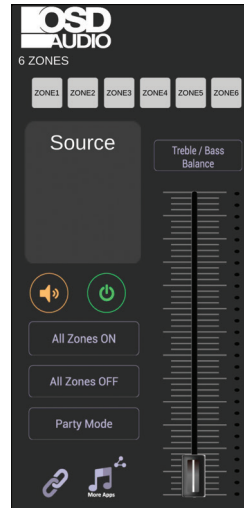


## USING THE CONTROL APP

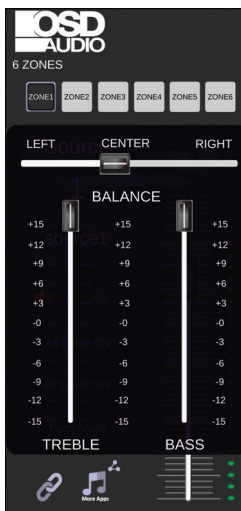
Now that the MAX12 has been added to the network you can control it using the OSD Control App.

### KEY FEATURES

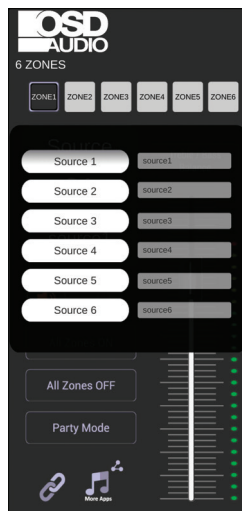
1. Zones 1-6: Touch to select and control.
2. Name of current zone selected.
3. Volume Control: Touch to control Vol +/-
4. Treble Adjust +/-
5. Bass Adjust +/-
6. Balance Adjust L/R
7. Source Select
8. All Zones On: Turn On all zones.
9. All Zones Off: Shuts Off all zones.
10. Party Mode: All zones ON
11. Source Name: Name of selected source.
12. Zone Off: turns current selected zone Off.
13. Mute: Mute the current zone.



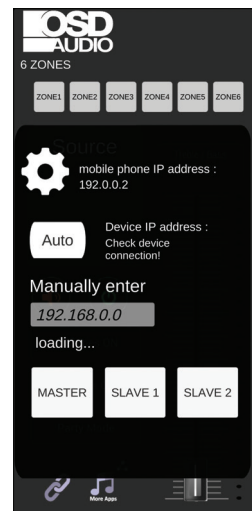
Home Screen



Balance, Bass, Treble



Source Select



Device Connection

## WARRANTY

All OSD AUDIO electronics have (2) year Limited Warranty against defects in materials and workmanship. Proof of purchase must accompany all claims. During the warranty period OSD AUDIO will replace any defective part and correct any defect in workmanship without charge for either parts or labor.

OSD AUDIO may replace returned electronics with a product of equal value and performance. In such cases, some modifications to the mounting may be necessary and are not OSD AUDIO's responsibility.

Damage to or destruction of components due to application of excessive power voids the warranty on those parts. In these cases, repairs will be made on the basis of the retail value of the parts and labor. To return for repairs, you must email customer service at [RMA@audiogear-group.com](mailto:RMA@audiogear-group.com) for a Returned Merchandise Authorization (RMA) number then the unit must be shipped to OSD AUDIO at the owner's expense, along with a note explaining the nature of service required. Be sure to pack the product(s) in a corrugated container with at least 3 inches of resilient material to protect the unit from damage in transit.

**This Warranty Does Not Cover:** Damage caused by abuse, accident, misuse, negligence, or improper operation (installation). Any products that have been altered or modified. Any product whose identifying number of decal, serial #, etc. has been altered, defaced or removed. Normal wear and maintenance.