



MVXA-2016
Speaker and Line Level Monitor Panel



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Important Safety Instructions



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



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 product.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this device near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other device (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the device. When a cart is used, use caution when moving the cart/device combination to avoid injury from tip-over.
13. Unplug this device during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled, or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. **WARNING:** To reduce the risk of fire or electric shock, this device should not be exposed to rain or moisture and objects filled with liquids, such as a vase, should not be placed on this device.
16. To completely disconnect this equipment from the mains, disconnect the power supply cord plug from the receptacle.
17. The mains plug of the power supply cord shall remain readily operable.



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WARNING When The Device Is In Use

- To prevent electric shock, do not remove the product cover as there are high voltage components inside. Refer all servicing to Atlas Sound.
- Should any of the following irregularities occur during use, immediately switch off the power, disconnect the power cord from the AC outlet and contact Atlas Sound. Do not attempt to continue operation with the product as this may cause fire or electric shock:
 - Smoke or strange smell coming from the unit.
 - If the product falls or the case is damaged.
 - If water or any metallic objects falls into the product.
 - If the power supply cord is damaged in any way.
 - If the unit is malfunctioning.
- Do not insert or drop metallic objects or flammable materials into the ventilation holes of the product's cover, as this may result in electric shock or fire.
- Do not place any containers with liquid or metallic objects on the top of the product. If any liquid spills into the unit, fire or electric shock may result.
- Never operate this product or touch the power supply cord during an electrical storm, electric shock may result.
- Never exceed the power rating on the product when connecting equipment. Fire and/or property damage may result.
- Operate the product only with the voltage specified on the unit. Fire and/or electric shock may result if a higher voltage is used.
- Do not modify, kink, or cut the power cord. Do not place the power cord in close proximity to heaters and do not place heavy objects on the power cord, including the product itself, doing so may result in fire or electrical shock.
- Ensure that the safety ground terminal is connected to a proper ground. Never connect the ground to a gas pipe as a catastrophic disaster may result.
- Be sure the installation of the product is stable, avoid slanted surfaces as the product may fall and cause injury or property damage.



CAUTION When Installing The Product

- Plugging in or unplugging the power cord with wet hands may result in electric shock.
- Never move the unit with the power cord plugged into the wall, as damage to the power cord may result.
- When unplugging the cord from the wall, grasp the plug, NOT the cord.
- Never install this product in humid or dusty locations, nor in direct sunlight, near sources of heat, or in areas where sooty smoke or steam are present. Fire and electric shock may result.
- Keep all sides of the unit at least 3½" away from objects that may obstruct air flow to prevent the unit's internal temperature rise.



CAUTION When The Product Is In Use

- Never place heavy objects on the product, causing it to fall and/or break, resulting in personal injury and property damage. In addition, the product itself may fall and cause injury and property damage.
- Contact Atlas Sound for instructions on cleaning the inside of the unit. Large accumulations of dust inside the unit may result in heat buildup and fire.
- Ensure that the power supply plug is securely plugged into the wall outlet. Never allow dust to accumulate on the power plug or inside the wall outlet.
- When cleaning the unit or the unit is not to be operated for an extended period, unplug the power cord from the wall.





Introduction

Congratulations and thank you for purchasing the Atlas Sound MVXA-2016 speaker and line level monitor panel. The MVXA-2016 is designed to monitor up to 16 individual audio channels, measuring levels from line level reference up to 100V amplified distribution audio system. Monitoring can be done by either audio selection or visual LED bar graph. All 16 channels can be visually monitored simultaneously, as each signal has its own ten segment LED bar graph on the front panel. The signal type of each channel can be individually set by selecting the proper channel DIP switch settings for monitoring any combination of 25V, 70V, 100V, or line level signal inputs. A calibration pot per channel has been incorporated for fine tuning of the bar graph. Audio monitoring includes an internal speaker, a headphone jack, a 1 watt speaker output for connection to an external speaker, and a line level output for connection to an amplifier.

Key Features

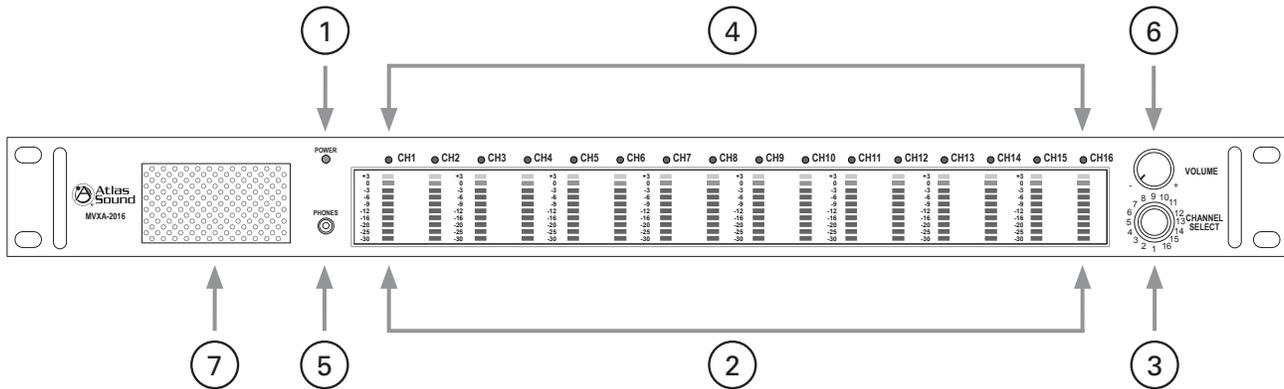
- 16-Channel Audible and Visual Monitoring
- Single Rack-Unit Design (1RU)
- Selectable Input References of 1Vrms, 25Vrms, 70.7Vrms, or 100Vrms
- Simultaneous Accurate Visual Monitoring of All Channels
- 10 Segment LED Display for Easy Identification of Referenced Signal Levels
- LED Meter with Calibration Control Per Channel
- Internal Speaker
- Headphone Jack
- Line Level Output
- External 1 Watt Speaker Output
- Global Power Supply 100V - 240V AC



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Front Panel



1. Power LED

Illuminates when the external 12V DC power supply is connected to both the unit and an AC source.

2. Level LEDs

10 LEDs per channel indicate the status of the signal level: Signal, -30dB, -25dB, -20dB, -16dB, -12dB, -9dB, -6dB, -3dB, -0dB, +3dB

3. Channel Select Switch

Only one channel can be audibly monitored at a time. Rotate the switch until the desired channel is selected. The channel LED at the top of the panel will illuminate indicating which channel is selected.

4. Channel Select LED

The channel LED will illuminate indicating which channel is selected for audio monitoring.

5. Headphone Jack

Audio monitoring can be accomplished by inserting a mini 1/8" stereo headphone plug into the socket. Select the proper channel for monitoring by using the Channel Select Switch. **Note:** Turn the volume control (#6, below) down prior to inserting a headphone. Internal speaker is automatically disengaged when headphone jack is connected.

6. Volume Control

The volume control potentiometer adjusts the level of the headphone jack, the internal speaker, and the external speaker output.

7. Internal Speaker

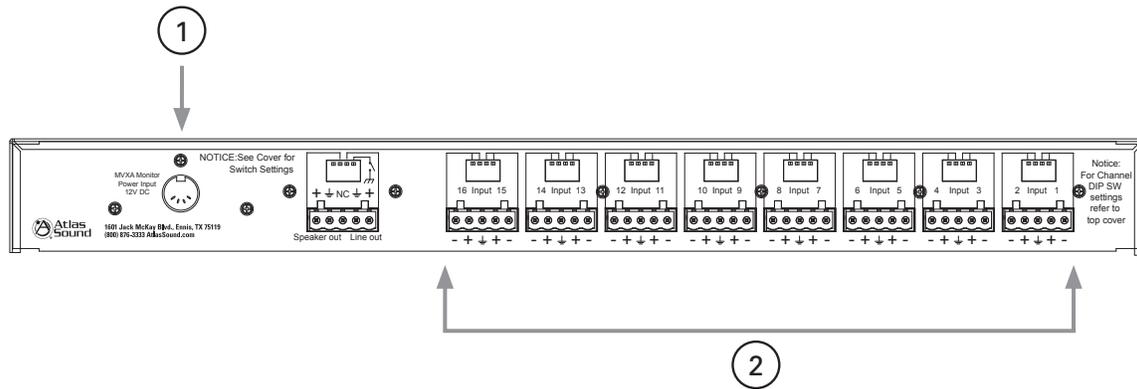
Audio monitoring can also be accomplished by using the internal speaker. Select the proper channel for monitoring by using the Channel Select Switch. **Note:** Turn the volume control down prior to making selection.



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Rear Panel



1. Power Supply Socket

An external UL rated 120V/220V power supply has been included with the MVXA-2016. Only use the provided power supply due to the specific DC voltages required to operate the unit.

2. Input Connectors

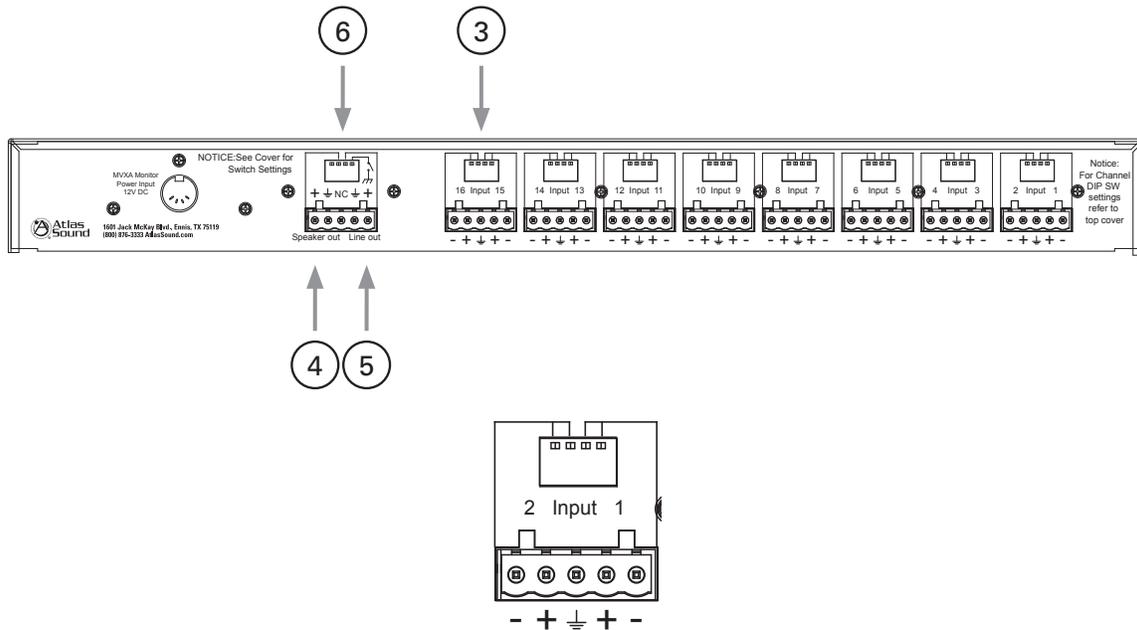
There are 8 removable 5 pin Phoenix type connectors for providing input signal to the unit. They can accept either a balanced or unbalanced line level signal. For balanced Line Level signals connect Ground to "GND Symbol", Positive signal to (+) and Negative signal to (-). For unbalanced Line Level signals connect the (-) to the "GND Symbol" together and the Positive to (+). For high level speaker signals connect the speaker positive to the (+) terminal and the speaker negative to the (-) terminal. **Note:** Prior to wiring refer to the top cover for input level switch setting. Make selection accordingly.



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Rear Panel



Set Each Channel's 0dB Reference level	25V				70V(Default Setting)				100V				Line Level				WARNING Adjust switches only as shown in these diagrams before applying power!
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Switch Setting	CH2	CH1			CH2	CH1			CH2	CH1			CH2	CH1			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
	Off	On	Off	On	On	Off	On	Off	Off	Off	Off	Off	On	On	On	On	
Reference Voltage	25 Vrms				70 Vrms				100 Vrms				1 Vrms				
Power Ref.into 8 ohms	78 Watts				613 Watts				1250 Watts				0.13 Watts				
Power Ref.into 4 ohms	156 Watts				1225 Watts				2500 Watts				0.25 Watts				

3. Input Level Settings

Each channel has 2 DIP switches that configure the level settings to meet the monitoring requirements. **Note:** Prior to wiring refer to the top cover for input level switch setting. Make selection accordingly. Failure to make proper settings will affect the LED meter's accuracy.

4. Speaker Output

There are 2 terminals provided for an external speaker connector. The amplifier output is 1 watt into an 8Ω load. You must select between using the internal or external. Refer to the top cover for the proper switch selection. **Note:** the speaker output is "Post" the front panel volume control.

5. Line Level Output

There are two terminals for an Unbalanced Line Level output. **Note:** This output is "Pre" front panel volume control. Refer to top cover for proper wiring instructions.

6. Ground Lift Switch

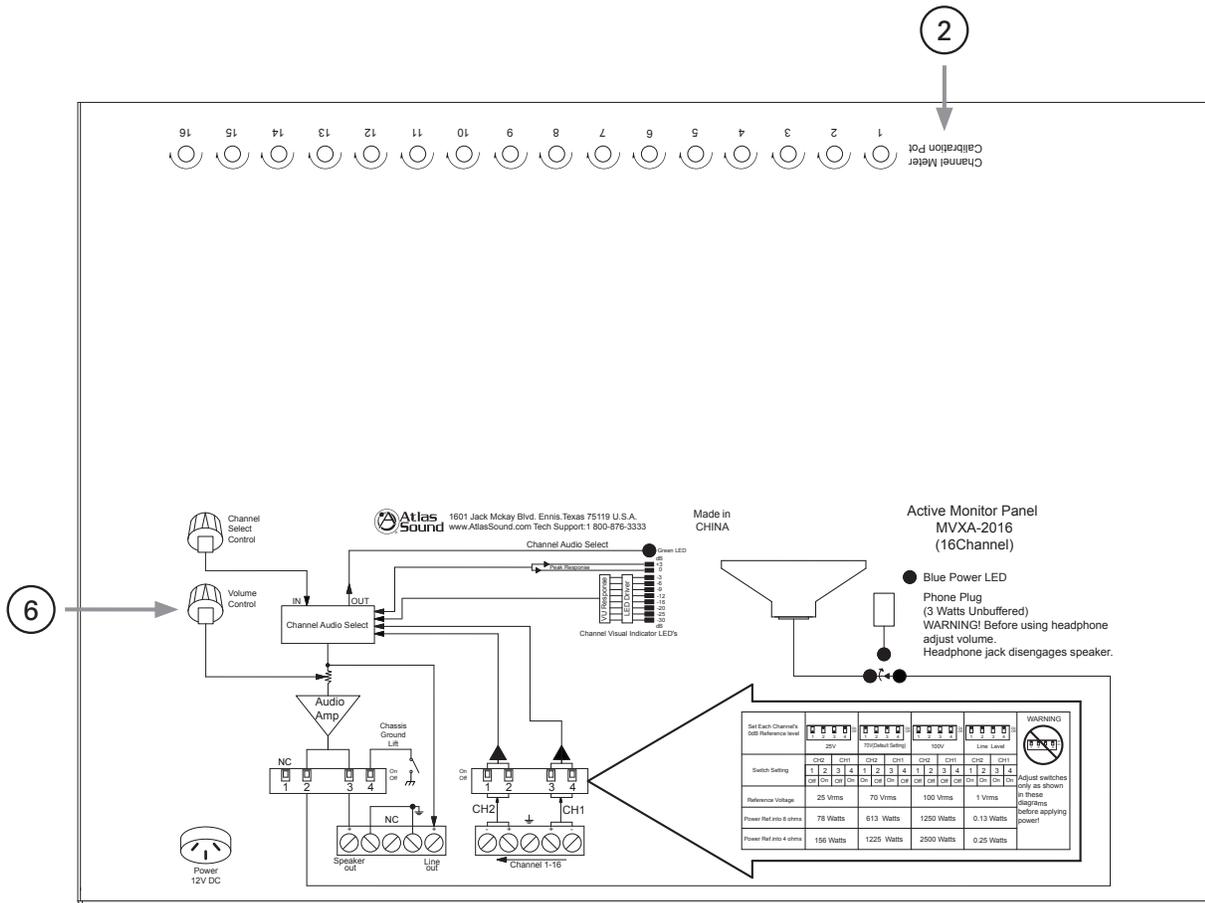
A "circuit to earth" ground lift switch has been incorporated and can be used in instances where ground noise issues occur. Refer to the top cover for the proper switch selection.



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Top Panel



1. Top Cover Settings and Wiring Info

The top cover has the MVXA switch setting and wiring diagrams.

2. Channel Level Calibration Potentiometers

After each channel's switch settings have been properly set and if further visual meter calibration is necessary, adjust the channel's potentiometer for desired viewing level. **Note:** Once adjusted, the meters may not match the dB front panel settings.



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Potential Audio Crosstalk Issues

Please note, crosstalk can occur between adjacent channels when monitoring amplifier outputs that are using non-grounded amplifier designs.

Today, many manufactures use circuit designs where the (-) speaker terminal of the amplifier is not referenced to a chassis/circuit ground. This is known as a "Floating Output or Bridged Output". When connected to the MVXA-2016, these types of amplifiers can induce a high amount of audio signal into the Ground of the MVXA-2016, causing high levels of crosstalk in the monitoring circuits.

If you are unsure as to whether your amplifier is using this topology, you can check the amp by using a DVM. First, make sure the amplifier is unplugged from the AC power source. Using the low Ohms scale, measure between the amplifier chassis ground (we suggest the ground pin of the AC Power cord for a good ground point) and the speaker output (-) terminal.

- A. If it is floating type, then the DVM will read open or a very high resistance above 1K Ω .
- B. If it is a ground reference amplifier, the measurement between the chassis ground and the (-) terminal will be less than 100 Ω or a dead short.

Wiring guidelines for an amplifier to the MVXA-2016 are listed below. If you are unsure or do not have a DVM to test the amplifier, we suggest wiring using the "Floating Output" method.

Wiring the MVXA-2016 to a Ground Reference Amplifier

1. Connect the (+) Input terminal on the back of the MVXA-2016 to the (+) Output on your amplifier.
2. Connect the (-) Input terminal on the back of the MVXA-2016 to the amplifier (-) Output on your amp.

Note: Ensure wire polarity is correct or high levels of channel crosstalk will occur.

Wiring the MVXA-2016 to a Floating Amplifier output

1. Connect the (+) Input terminal on the back of the MVXA-2016 to the (+) Output on your amplifier.
2. Connect the (-) Input terminal on the back of the MVXA-2016 to chassis ground on your amplifier. Do not connect this to the amplifier (-) Output on your amplifier.
3. In this configuration the MVXA-2016 "sees" only half of the amplifier's output voltage and approximately 6dB of meter reader level loss will need to be added for that channel. Use the trim pot on the top of the MVXA-2016 for calibration.

Atlas Sound Amplifiers with Floating Output Design

- MA40G/MA60G
- PA40G/PA60G
- PA1001G
- PA702
- F6-MF with FM250-70
- TSD-PA122G
- TSD-PA252G

Atlas Sound Amplifiers with Ground Reference Design

- CP400
- CP700
- F6-MF with FM250-4





Specifications

Type Analog 16 Channel Audio/Visual Monitor

Front Panel

- Level Meters, 10 Segment LED Per Channel
- Mini Headphone Jack 1/8" Stereo
- Power LED
- Internal Speaker Output
- Speaker / Headphone Volume Control
- Channel Audio Monitor Selection Switch

Rear Panel

- Phoenix Input Connectors Line And Speaker Level
- Level Setting Selection Switches
- Phoenix Speaker Connectors
- Speaker Monitor Selection Switch
- Line Out Phoenix Connectors
- Ground Lift Switch
- DC Power Receptacle

Top Panel

- 16 Channel Level Calibration Potentiometers
- Top Cover Settings and Wiring Information

Technical Data

Input Impedance	600Ω
Line Output Impedance	600Ω
Speaker Out	Minimum Load 8Ω, 1 Watt
Internal Speaker	3 Watts
Meter Sensitivity	-30dB to +3dB
Input Level Range	1Vrms, 25Vrms, 70.7Vrms, 100Vrms
Frequency Response	35Hz – 20kHz (±3dB)
Floor Noise	-50dB
Distortion	<2%
Power Supply	External Global 100V - 240V AC 50/60Hz, UL, CE

Mechanical

Chassis Finish	Black
Height	1.75" (44mm)
Width	19" (483mm)
Depth	13.2" (335mm)
Weight	9.9 lbs (4.5kg)



**Atlas
Sound**

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Limited Warranty

All products manufactured by Atlas Sound are warranted to the original dealer/installer, industrial or commercial purchaser to be free from defects in material and workmanship and to be in compliance with our published specifications, if any. This warranty shall extend from the date of purchase for a period of three years on all Atlas Sound products, including SOUNDOLIER brand, and ATLAS SOUND brand products except as follows: one year on electronics and control systems; one year on replacement parts; and one year on Musician Series stands and related accessories. Additionally, fuses and lamps carry no warranty. Atlas Sound will solely at its discretion, replace at no charge or repair free of charge defective parts or products when the product has been applied and used in accordance with our published operation and installation instructions. We will not be responsible for defects caused by improper storage, misuse (including failure to provide reasonable and necessary maintenance), accident, abnormal atmospheres, water immersion, lightning discharge, or malfunctions when products have been modified or operated in excess of rated power, altered, serviced or installed in other than a workman like manner. The original sales invoice should be retained as evidence of purchase under the terms of this warranty. All warranty returns must comply with our returns policy set forth below. When products returned to Atlas Sound do not qualify for repair or replacement under our warranty, repairs may be performed at prevailing costs for material and labor unless there is included with the returned product(s) a written request for an estimate of repair costs before any nonwarranty work is performed. In the event of replacement or upon completion of repairs, return shipment will be made with the transportation charges collect.

EXCEPT TO THE EXTENT THAT APPLICABLE LAW PREVENTS THE LIMITATION OF CONSEQUENTIAL DAMAGES FOR PERSONAL INJURY, ATLAS SOUND SHALL NOT BE LIABLE IN TORT OR CONTRACT FOR ANY DIRECT, CONSEQUENTIAL OR INCIDENTAL LOSS OR DAMAGE ARISING OUT OF THE INSTALLATION, USE OR INABILITY TO USE THE PRODUCTS. THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Atlas Sound does not assume, or does it authorize any other person to assume or extend on its behalf, any other warranty, obligation, or liability. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Service

Should your MVXA-2016 require service, please contact the Atlas Sound warranty department at 1-877-689-8055, ext. 277 to obtain an RA number.

Atlas Sound Tech Support can be reached at 1-800-876-3333.

Visit our website at www.AtlasSound.com to see other Atlas products.

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