

### EQM131 31 Band Graphic Equalizer

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**AtlasSound.com**

1601 JACK MCKAY BOULEVARD ENNIS, TEXAS 75119 U.S.A. • TELEPHONE: (800) 876-3333 • FAX: (800) 765-3435

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**IMPORTANT SAFETY INSTRUCTIONS**

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 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.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus 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 apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 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.
- Replace the protective cover over the speaker terminals after installation. Do not touch the 70V speaker terminals as electric shock may result.
- 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.

**WARNING** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture

**Message Conventions and Safety Symbols**

Before installing and operating this product, read this manual so you are fully aware of the potential safety hazards and understand the safety symbols and messages. The safety symbols and messages shown below are used in this manual to prevent bodily injury and property damage from mishandling.



The lightning flash with arrowhead within a triangle is intended to tell the user that parts inside the product are a risk of electric shock to persons.



The exclamation point within a triangle is intended to tell the user that important operating and servicing instructions are in the papers with the appliance.

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

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## INTRODUCTION

Thank for purchasing the Atlas Sound EQM131 equalizer. The EQM131 was design to meet professional quality standards. It can be used for live sound or permanent install applications. The EQM131 is a 1/3 octave 31 band mono graphic equalizer. This compact 1RU unit features 30mm faders with gain selection of 6dB or 12dB. The graphic filters feature a constant Q design to assure you filter interaction is minimal. The EQM offers a variety of input and output wiring configurations to make the installation easy. It is equipped with balanced I/O XLR and TRS connectors, along with unbalanced RCA jacks. Variable High and Low cut filters are also incorporated along an overload indicator.

## FEATURES

- Low Noise op amps
- Selectable boost/cut range 6dB/12dB
- Constant Q Filters
- Balanced I/O XLR
- Unbalanced I/O RCA
- Gain Control
- 30mm Faders
- EQ Bypass Switch
- Variable Low & High Cut Filters
- Balanced I/O ¼" Jack
- Overload Indicator
- Ground Lift

## APPLICATIONS

The Atlas Sound EQM131 was designed to be used in a variety of applications. It is designed and manufactured using the highest quality components available. This equalizer can be used for live sound, studio monitors, install room correction, or sound masking. It is ideal to use this model with the Atlas AA-SMG masking generator.

## SAFETY PRECAUTIONS



### 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 to 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 wattage on the product when connecting equipment. Fire and/or property damage may result.



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**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

- When powering the product up for the first time, ensure that the level control is turned down. Unexpected high sound pressure levels may be present at the speakers and result in hearing loss.
- 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.
- Never operate the product for extended periods with the sound in a distorted condition. This is an indication of a malfunction, which may result in excessive heat being generated and causing a fire.
- 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 time period, unplug the power cord from the wall.

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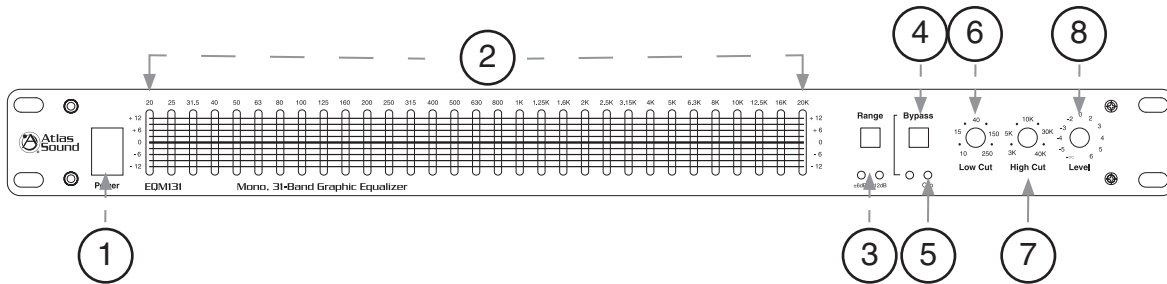
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FRONT PANEL DESCRIPTION



1. AC Mains Power Switch

This switch turns the EQM131 on or off. To prevent spikes or pops through the system, turn the EQ on with the system amplifiers off and turn the amps off before turning the EQ off.

2. Fader Boost/Cut 1/3 Octave Level Control

The 31 faders have 31mm of travel along with a center detent indicating the zero position. From the center point, moving the fader up will boost the signal at the indicated frequency, and moving the fader down will cut the signal at that frequency.

3. Range switch 6dB/12dB & Indicators

This switch allow you global gain selection of the 31 30mm faders. The selection is 6dB or 12dB of fader boost or cut. An indicator light will illuminate indicating the selection.

4. EQ Bypass Switch & Indicator

This switch allows you to bypass the EQ. When in Bypass mode a red LED will illuminate. **Note:** When selecting between bypass and active mode a level variance will occur if the master level is not set to match the incoming level.

5. Clip Indicator

This LED will illuminate if the input level exceeds +22dBm. If this occurs, turn down the signal coming into the EQ.

6. Variable Low Cut Filter

The variable 12dB per octave filter operates from 10Hz to 250Hz. The Low Cut filter allows frequencies above the selected filter to pass through the system. **Note:** This filter affects the 30mm filters.

7. Variable High Cut Filter

The variable 12dB per octave filter operates from 3kHz to 40kHz. The High Cut filter allows frequencies below the selected filter to pass through the system. **Note:** This filter affects the 30mm filters.

8. Level

This control is the master output level control. The potentiometer has a center detent which is unity gain when the system is wired for balanced operation. If the system is wired for unbalanced operation, it may be necessary to increase the gain to +6dB.



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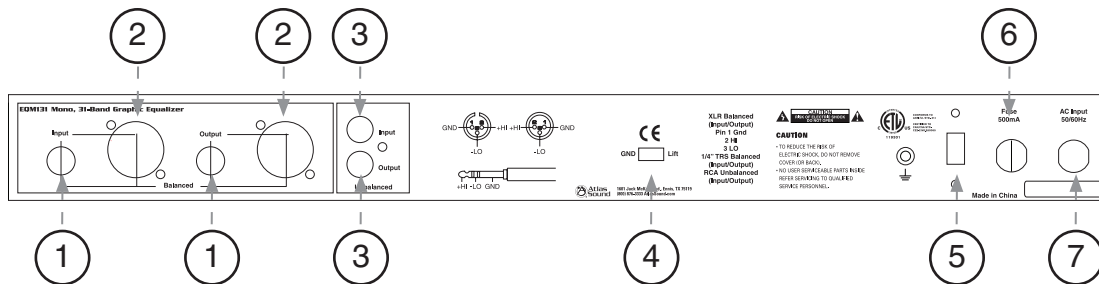
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## REAR PANEL DESCRIPTION



## 1. TRS 1/4" Input &amp; Output Connections

Balanced signals can be accomplished by wiring the 1/4" as follows: Tip (+), Ring (-) & Sleeve (GND) plug  
Unbalanced 1/4" signals can be accomplished by connecting the Ring and Sleeve together.

## 2. XLR Input &amp; Output Connections

Balanced signals can be accomplished by wiring the XLR Male and Female connectors as Pin 2 (+), Pin 3 (-) and Pin 1 (GND). For unbalanced signals, connect Pins 1 & 3 together.

## 3. RCA Input &amp; Output Connectors

Unbalanced signals are only available when using the RCA connectors.

## 4. Ground Lift Switch

This switch breaks or makes the electrical connection between circuit ground and chassis ground. If hum is audible, select the setting that eliminates the hum.

## 5. AC Mains Line Voltage select switch

Match the AC mains select switch to the AC source available. **Note:** Make voltage selection prior to plugging in the unit.

## 6. AC Mains Fuse

Only replace fuse with 500mA 250V fuse.

## 7. AC Mains Power cord

Plug unit into AC source. **Note:** Make voltage selection prior to plugging in the unit.



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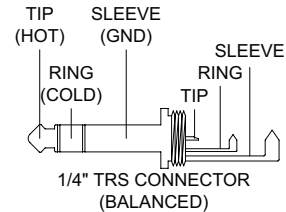
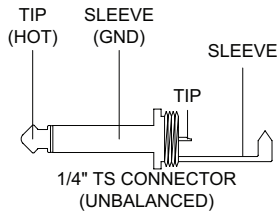
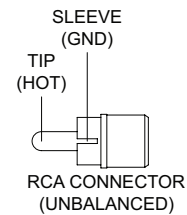
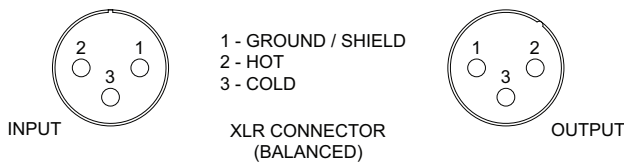
**INSTALLATION CONSIDERATIONS**

**Hook-ups and Cabling:** The EQM131 Equalizer is designed for nominal +4dBu levels.

The equalizer can be used with either balanced or unbalanced sources, and the outputs can be used with either balanced or unbalanced loads, provided the proper cabling is used. A balanced line is defined as two-conductor shielded cable with the two center conductors carrying the same signal but of opposite polarity when referenced to ground. An unbalanced line is generally a single-conductor shielded cable with the center conductor carrying the signal and the shield at ground potential.

**Input Cable Configurations:** The equalizer has an input impedance of 20kΩ balanced and 15kΩ unbalanced. This makes the EQM131 Equalizer's audio inputs suitable for use with virtually any low source impedance (under 2kΩ).

**Output Cable Configurations:** The equalizer's output is capable of driving a 2kΩ load to +18dBu. For maximum hum rejection with a balanced source, avoid common grounding at the equalizer's inputs and outputs. Most balanced (3-conductor) cables have the shield connected at both ends. This can result in ground loops which cause hum. If hum persists try disconnecting the shield on one or more of the cables in the system, preferably at the input of a device, not at the output.



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### CONNECTING THE EQM131

The EQM131 have balanced inputs and impedance balanced outputs that can be used with any balanced or unbalanced line-level device. To connect the equalizer to your sound system, refer to the following steps:

1. Turn off all equipment before making connections.
2. Mount equalizer in a standard-width 19" rack. It can be mounted above or below anything that does not generate excessive heat. Ambient temperatures should not exceed 113° F (45°C) when equipment is in use. Although the unit's chassis is shielded against radio frequency and electromagnetic interference, extremely high fields of RF and EMI should be avoided.
3. Make audio connections via XLR, ¼" TRS, or RCA jacks (according to application needs). Three types of connectors for the inputs and outputs can be used for balanced or unbalanced connections. The use of more than one connector at a time for the inputs could unbalance balanced lines, cause phase cancellation, short a conductor to ground, or cause damage to other equipment connected to the equalizer. More than one output may be used simultaneously as long as the combined parallel load is greater than 2kΩ.
4. Select the operating range with the BOOST/CUT RANGE SELECTION switch. **Note:** Be sure to reduce audio levels at the power amplifiers when changing the setting of this switch as it may generate an audible transient.
5. Apply power to the equalizer. Connect the AC power cord to the AC power receptacle on the back of the equalizer. Route the AC power cord to a convenient power outlet away from audio lines. The unit may be turned on and off from the front panel power switch or a master equipment power switch. Since the EQM131 equalizer consumes a relatively small amount of power, the unit may be left on continuously.

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## SPECIFICATIONS

<b>EQ TYPE</b>
Mono 1/3 Octave
<b>BANDS (FILTERS)</b>
31
<b>FILTER TYPE</b>
Constant Q
<b>INPUT IMPEDANCE</b>
20kHz Balanced, 15kHz Unbalanced
<b>MAXIMUM INPUT LEVEL</b>
+22dBm
<b>OUTPUT IMPEDANCE</b>
150Ω
<b>MAXIMUM OUTPUT LEVEL</b>
+22dBm Balanced, +18dBm Unbalanced
<b>SIGNAL TO NOISE LEVEL</b>
94dB
<b>THD</b>
.01%
<b>FREQUENCY RESPONSE</b>
20Hz – 20kHz ±5dB
<b>POWER REQUIRMENT</b>
115/230V 50/60Hz
<b>FUSE</b>
100-120V use T500mA/250V 200-240V use T250mA/250V
<b>DIMENSIONS</b>
1.75" x 19" x 8.5" (4.45cm x 48.3cm x 21.6cm)
<b>WEIGHT</b>
4.9 lbs (2.4kg) (Shipping)

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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 EQM131 Equalizer 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](http://www.AtlasSound.com) to see other Atlas products.

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