



Operating Instructions

# ***UM-P Series***

***UM-1P and UM-100P***  
***Self-Powered Loudspeakers***

*(Serial Numbers 981000 and above)*



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## Contents

Introduction.....	3	Verifying Driver Polarity.....	8
AC Power .....	4	Troubleshooting .....	8
The Modular Rear Panel .....	5	Safety Summary .....	11
Amplification, Limiting, and Cooling System....	6	Rear Panel Connectors .....	12
Example Application .....	7	Dimensions .....	12

## Symbols Used

These symbols indicate important safety or operating features in this booklet and on the chassis.



Dangerous voltages: risk of electric shock	Important operating instructions	Frame or chassis	Protective earth ground
Pour indiquer les risques résultant de tensions dangereuses	Pour indiquer important instructions	Masse, châssis	Terre de protection
Zu die gefahren von gefährliche spanning zeigen	Zu wichtige betriebs- anweisung und unter- haltsanweisung zeigen	Rahmen oder chassis	Die schutzerde
Para indicar azares provengo de peligroso voltajes	Para indicar importante funcionar y mantenimiento instrucciones	Armadura o chassis	Tierra proteccionista

Declaration of Conformity According to ISO/IEC Guide and EN 45014

The Manufacturer:

<b>Name:</b>	Meyer Sound Laboratories, Inc.
<b>Address:</b>	2832 San Pablo Avenue Berkeley, California 94702-2204, USA

Conforms to the following Product Specifications:

Safety:	EN60065: 1994
EMC:	EN55103-1 emission EN55103-2 immunity
The product herewith complies with the requirements of the Low Voltage Directive 73 / 23 / EEC and the EMC Directive 89 / 336 / EEC.	
<b>Office of Quality Manager Berkeley, California USA December 23, 1997</b>	

Declares that the product:

<b>Product Name:</b> UM-1P, UM-100P
<b>Product Options:</b> All

Environmental Specifications for Meyer Sound Electronics Products:

Operating temperature:	0° to + 45°
Nonoperating temperature:	< -40° C or > +75° C
Humidity:	to 95% at 35
Operating Altitude:	to 4600 m (15,000 ft)
Nonoperating Altitude:	to 6300 m (25,000 ft)
Shock:	30g 11 msec half-sine on each of 6 sides
Vibration:	10 Hz to 55 Hz (0.010m peak-to-peak excursion)

Made by Meyer Sound Laboratories Berkeley, California USA European Office: Meyer Sound Lab. GmbH Carl Zeiss Strasse 13 56751 Polch, Germany	<b>CE</b>
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# Introduction

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## The Integrated Design

The Meyer UM-P Series (UM-100P, UM-1P) self-powered stage monitors are composed of:

- one 12-inch cone driver and one 3-inch diaphragm compression driver;
- phase-corrected, optimized control electronics;
- a two-channel amplifier (350 W<sub>rms</sub>/ch).

The drivers, control electronics, and amplifier are integrated into a compact enclosure. The UM-P Series is intended to be used as a stage monitor but can also be used as a mid-hi and musical instrument speaker.

The UM-1P horn's narrow beamwidth (45°H x 45°V) permits precise coverage with minimal interaction between neighboring monitors. The UM-100P horn's wide horizontal beamwidth (100°H x 40°V) addresses a larger coverage area with fewer speakers.

The UM-P Series, more than a powered version of the Meyer Ultra-monitor, implements these significant design improvements:

- The amplifier is optimized for the system, providing substantial power without endangering the drivers.
- The integrated design simplifies setup and installation, eliminates amp racks, and extends the durability and reliability of the loudspeaker.
- The gain structure between the control electronics and amplifier is perfectly matched.

The UM-P produces flat acoustical phase and amplitude response, full-range bandwidth, precise imaging, and exceptional system impulse response.

## The UM-P Horns: Constant-Q

In a recent research and development effort, Meyer Sound solved the most difficult problems associated with horn design. In order to appreciate the significance of this work, it is necessary to define an often misunderstood term: the **beamwidth** of a horn is the angle at which the sound pressure at a given frequency decreases to half (-6 dB) its on-axis amplitude. Specifying beamwidth using the -6 dB points has been proposed as the audio industry standard and Meyer Sound adheres to this definition.

NOTE: Unfortunately, beamwidth is often used to describe the angle at which the sound pressure decreased

10 dB from its on-axis amplitude because many listeners perceive this as a decrease to half the SPL. When reading a beamwidth specification, it is essential to determine whether it refers to the -6 or -10 dB points because they indicate very different results: the -10 dB points yield a wider angle.

Previous technologies produced horns whose beamwidth varied over the operating frequency range. These horns also displayed nonuniform frequency response within, and significant side lobe energy outside their beamwidth. Both undesirable characteristics, particularly prevalent for horns with a wide beamwidth, make array design extremely problematic

The UM-P was developed in Meyer Sound's anechoic chamber by measuring coverage patterns using angular and frequency resolutions of 1° and 1/36 octave, respectively. The UM-P horns exhibit *constant-Q*: the beamwidth remains consistent across the horn's operating frequency range in both the vertical and horizontal planes.

Both horns share the following remarkable attributes:

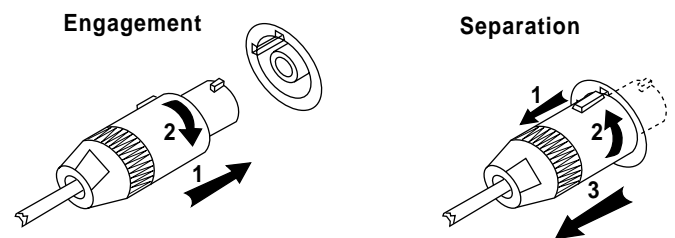
- uniform frequency response within the beamwidth
- rapid and uniform amplitude attenuation for all frequencies outside the beamwidth
- minimal side lobes

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## AC Power

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The UM-P uses a PowerCon locking 3-pole AC mains connector that prevents inadvertent disconnection. The unit must have the correct power cord for the AC power in the area in which it will be used.



When AC power is applied to the UM-P, an **Intelligent AC<sup>™</sup>** supply automatically selects the correct operating voltage, allowing the UM-P to be used internationally without manually setting voltage switches. The Intelligent AC supply performs the following protective functions

to compensate for hostile conditions on the AC mains:

- suppresses high voltage transients up to several kilovolts
- filters EMI (radio frequencies and noise present on the AC line)
- sustains operation during low-voltage periods, which minimizes audio discontinuity
- provides soft-start power-up, which eliminates high inrush current

The UM-P can withstand continuous voltages up to 264V and allows any combination of voltage to GND (i.e. Neutral-Hot-GND, Hot-Hot-GND). Continuous voltages higher than 264V may damage the unit.

## Voltage Requirements

The UM-P operates safely and without audio discontinuity if the AC voltage stays within the range 88–264V, 47–63 Hz. After applying AC power, the system is muted while the circuitry charges up and stabilizes. After two seconds, the **On/Temp.** LED on the user panel illuminates green, the system unmutes and is ready to pass audio signals. If the On/Temp. LED does not illuminate or the system does not respond to audio input after ten seconds, consult the Troubleshooting section.

The UM-P's power supply uses stored energy to continue functioning for about 10 AC cycles if the voltage decreases below 88V (a condition known as *brownout*). The precise length of time the unit functions during brownout depends on the operating level and how low the voltage drops. The unit turns off if the voltage does not increase above 88V before the storage circuits are depleted. If the UM-P shuts down due to brownout, the power supply automatically turns on after three seconds if the voltage returns to the normal operating range. If the UM-P does not turn back on after ten seconds, consult the Troubleshooting section.

NOTE: We recommend that the supply be operated at least a few volts away from the upper and lower bounds of the operating range to avoid possible shutdown.

## Current Requirements

Each UM-P requires approximately 3A<sub>arms</sub> @115V (1.5A<sub>arms</sub>@230V) for proper operation, allowing up to five UM-Ps to be powered from one 15A circuit. However, we recommend powering no more than three UM-Ps per 15A branch to allow a 30% margin for peak voltages. The UM-P presents a dynamic load to the AC mains which causes the amount of current to fluctuate between quiet and loud operating levels. This affects the number of UM-Ps that can be used for a given breaker type. Since different types of cables and circuit breakers heat up and trip at varying rates, it is essential to understand the types of current ratings and how they correspond to circuit breaker and cable specifications.

The **maximum continuous RMS** current is the maximum RMS current over a duration of at least 10 seconds. It is used to calculate the temperature increase in cables, which is used to select cables that conform to electrical code standards. It is also used to select the rating for slow-reacting thermal breakers.

The **maximum burst RMS** current is the maximum RMS current over a one second duration. It is used to select the rating for most magnetic breakers.

The **maximum instantaneous peak current during burst** is used to select the rating for fast-reacting magnetic breakers and to calculate the peak voltage drop in long AC cables according to the formula

$$V_{pk\_drop} = I_{pk} \times R_{total\ cable}$$

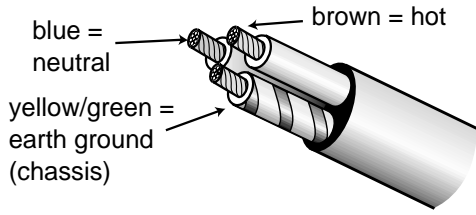
Use the table below as a guide to select cables and circuit breakers with appropriate ratings for your operating voltage.

<i>UM-P Current Ratings</i>			
	115 V	230 V	100 V
Idle RMS	0.25 A <sub>RMS</sub>	0.13 A <sub>RMS</sub>	0.3 A <sub>RMS</sub>
Max. Continuous RMS	2.8 A <sub>RMS</sub>	1.4 A <sub>RMS</sub>	3.2 A <sub>RMS</sub>
Max. Burst RMS	3.2 A <sub>RMS</sub>	1.6 A <sub>RMS</sub>	3.7 A <sub>RMS</sub>
Max. Peak During Burst	5.0 A <sub>PEAK</sub>	2.5 A <sub>PEAK</sub>	5.8 A <sub>PEAK</sub>

To determine the minimum total service power required by a system of UM-P, or other Meyer self-powered speakers, add their **maximum continuous RMS** currents together. We recommend allowing an additional 30% above the minimum amperage to prevent peak voltage drops at the service entry and nuisance tripping.

## Power Connector Wiring

Use the following AC cable wiring diagram to create international or special-purpose power connectors:

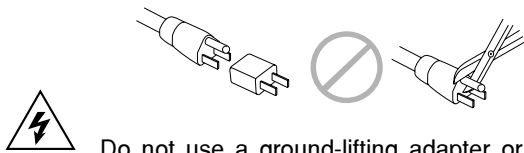


AC cable color code

If the colors referred to in the diagram don't correspond to the terminals in your plug, use the following guidelines:

- Connect the blue wire to the terminal marked with an *N* or colored black.
- Connect the brown wire to the terminal marked with an *L* or colored red.
- Connect the green and yellow wire to the terminal marked with an *E* (or  $\oplus$ ) or colored green (or green and yellow).

## Safety Issues



Do not use a ground-lifting adapter or cut the AC cable ground pin.



Keep all liquids away from the UM-P to avoid hazards from electrical shock.

Do not operate the unit with worn or frayed cables; replace them immediately.

If the UM-P will be installed outdoors contact Meyer Sound for information about the rain hood and weather protection for the drivers and electronics.

While a single UM-P can be hung by its handle bars, do not hang any additional weight from the cabinet. UM-P handle bars are not designed to support heavy rigging loads.

## The Modular Rear Panel

The rear panel of the UM-P has two slots for processor modules. The top slot contains the **Audio Input and Control Module**; the bottom slot contains the optional **Remote Monitoring System™ (RMS) Module**. A blank plate covers the bottom slot if RMS is not installed. For drawings of these modules, see page 13.

### Audio Input

There are three, interchangeable Audio Input and Control Modules with optimized connectors and controls for different applications. Each module has a 24V Fan connector to power an optional fan (see page 7).

Each module uses a three-pin, female XLR audio input connector with a 10 k $\Omega$  balanced input impedance wired with the following convention:

**Pin 1** — 220 k $\Omega$  to chassis and earth ground (ESD clamped)

**Pin 2** — Signal

**Pin 3** — Signal

**Case** — Earth (AC) ground and chassis

Pins 2 and 3 carry the input as a differential signal. Use standard audio cables with XLR connectors for balanced signal sources. A single audio source can drive multiple UM-Ps with a paralleled input loop, creating an unbuffered hardwired loop connection, with negligible loss in signal level. For example, since the input impedance of one UM-P is 10 k $\Omega$ , looping 20 UM-Ps produces a balanced input impedance of 500 $\Omega$ . With a 150 $\Omega$  audio source, the 500 $\Omega$  load results in only a 2.28 dB loss.

### Looping Audio Input Module

This standard module uses a balanced, female XLR connector for audio input and a male XLR loop connector to interconnect multiple speakers. The audio input connector is hardwired with pin 2 hot to comply with audio industry standards. The loop connector, wired in parallel to the audio input, transmits the input signal if the UM-P is turned off for any reason.

### Summing Audio Input Module

This module has a balanced, female XLR connector for audio input but has, instead of a loop connector, a second female XLR connector that functions as a summing input. Applying a signal to one of the inputs results in a normal signal level. Utilizing both summing inputs creates a correctly summed mono signal with each input 6 dB below the level of a single input. This is an effective method for distributing both sides of a stereo signal to a single UM-P without requiring external level control.

## **Looping, Polarity, and Attenuating Audio Input Module**

This module has a balanced, female XLR audio input connector, a male XLR loop connector, an input polarity switch, and a level attenuator knob. With the input polarity switch in the up (+) position, pin 2 is hot relative to pin 3, resulting in a positive pressure wave when a positive signal is applied to pin 2. With the switch down (-), pin 3 is hot relative to pin 2, resulting in a negative pressure wave when a positive signal is applied to pin 2. The level attenuator knob operates between 0 dB (no level attenuation) in a fully clockwise position to -12 dB in a fully counter-clockwise position.

## **Remote Monitoring System**

The UM-P can be equipped to operate with the **Remote Monitoring System (RMS)** network and software application. RMS displays signal and power levels, driver and cooling fan status, limiter activity, the state of the polarity switch, attenuator level, and amplifier temperature for all speakers in the network on a Windows-based PC. RMS is an excellent field-diagnostic tool that removes the guesswork from troubleshooting during a performance. All Meyer RMS-compatible speakers use the same RMS module so they can be easily exchanged between speakers (depicted on back page). Installing an RMS module requires only a Phillips screwdriver. Contact Meyer Sound for more information about RMS.

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## **Amplification, Limiting, and Cooling System**

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### **Amplification and Limiting**

Each driver in the UM-P is powered by one channel of a proprietary Meyer Sound amplifier utilizing complementary power MOSFET output stages (class AB, bridged, 350 Wrms/ch). Each channel has a limiter that prevents driver over-exursion and regulates the temperature of the voice coil. The limiters protect the drivers without the glaring compression effects imposed by typical limiters, allowing high SPLs across each driver's entire frequency range. Limiter activity for the high and low channels is indicated by two yellow Limit LEDs on the rear panel (the high limit is above the low limit LED).

The UM-P performs within its acoustical specifications and operates at a normal temperature if the limit LEDs

are on for no longer than two seconds, and off for at least one second. If either LED remains on for longer than three seconds, that channel incurs these negative consequences:

- Increasing the input level will not increase the volume.
- The system distorts due to clipping and nonlinear driver operation.

While the UM-P limiters fully protect the system under overload conditions and exhibits smooth sonic characteristics, we recommend that you do not intentionally drive the UM-P into continuous limiting to attain compression effects.

For applications where large amounts of compression are required, we recommend using an outboard compressor/limiter for greater control of limit and compressor effects.

### **Amplifier Natural Convection Cooling System**

**The UM-P employs a natural convection cooling system that depends on air flow from below the cabinet over the heatsink. Allow for proper ventilation of fresh air when using the speaker.**

If the temperature of the heatsink reaches 85°C (185°F), the On/Temp. LED on the rear panel turns from green (On) to red (Temp.) and the limiter threshold is lowered to a *safe* level to prevent the amplifiers from overheating. Under high temperature conditions the limiter threshold is reduced to 6 dB. When the heatsink temperature decreases to 75°C (167°F), the On/Temp. LED changes from red to green and the limiter threshold returns to normal.



The heatsink gets too hot to touch during normal operation. Use extreme caution when approaching the rear of the cabinet.

### **Fan Assembly Kit**

While convection cooling is adequate for most applications, driving the UM-P into frequent limiting under severe temperature conditions, or where ventilation is restricted, an optional fan kit is available to maintain a safe operating temperature:

The easy-to-install fan, powered by the **24V Fan** rear panel connector, blows air directly onto the heatsink. The fan speed increases as the heatsink temperature rises, which maintains a safe operating temperature with minimal fan noise. Contact Meyer Sound to order the fan kit.

## Power Supply Fan

The power supply is cooled by a single small internal fan that turns on low when the unit is first powered up. The fan doubles its speed as the system is driven with audio. Since the fan draws air in from, and exhausts it out the side of the cabinet, there must be at least six inches on the amplifier's side of the cabinet and adequate air flow.

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## UM-P Applications

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In half-space loading condition, the UM-P will typically produce a maximum SPL of 135 dB at 1 meter with a frequency response down to 60Hz, which is perfect for vocals and most instruments. When using the UM-P in most applications that require SPL in the sub harmonic frequencies, such as monitoring drums and bass, the UM-P should be supplemented with a subwoofer such as the Meyer **USW-1P** or **650-P** depending on the needs of the end user. For ideas on integrating the UM-P with other Meyer Sound products contact Meyer Sound Technical Support.

The Constant Q design of the horn allows frequencies outside of the coverage area of the speaker to attenuate quickly. This is excellent for monitoring where several different monitors are used in close proximity. When placing the monitor carefully consider the coverage pattern of the UM-P and UM-100P.

The UM-1P's coverage area is:

-6 dB points: 45° H x 45° V

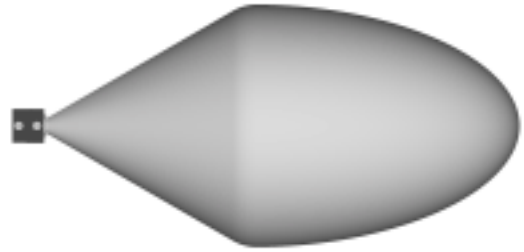
-10 dB points: 65° H x 65° V

The UM-100P's coverage area is:

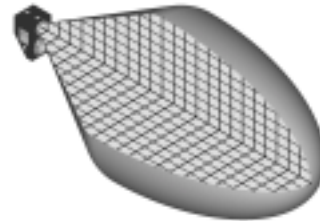
-6 dB points: 100° H x 40° V

-10 dB points: 120° H x 60° V

The following drawings illustrate the coverage area of each horn from three different perspectives in order to depict the three dimensional coverage pattern.



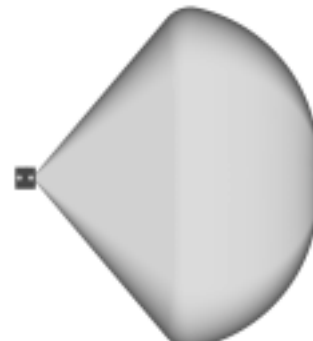
UM-1P (Top View)



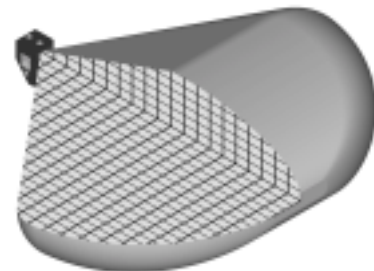
UM-1P (Front View)



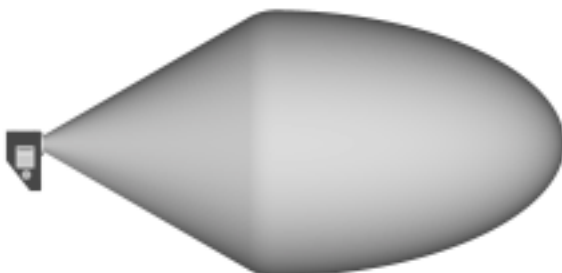
UM-100P (Side View)



UM-100P (Top View)



UM-100P (Front View)



UM-1P (Side View)

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## Verifying Polarity

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Incorrect driver polarity impairs system performance and may damage the drivers. All Meyer Sound loudspeakers are shipped with the drivers in correct alignment.

If the driver or circuit wiring has been removed or disassembled it is essential to check the polarity between adjacent monitors and between drivers and between adjacent loudspeakers.

### Polarity in Adjacent Loudspeakers

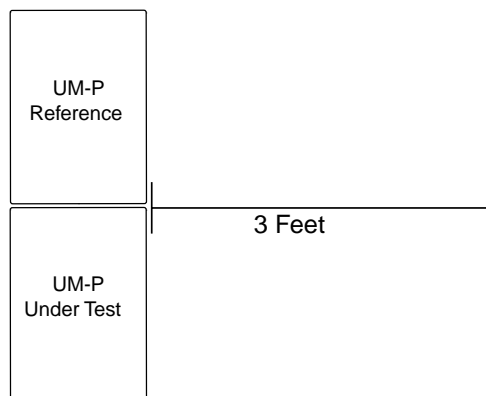
Use the following test procedure to verify the polarity between two adjacent loudspeakers *of the same type*:

1. Position two loudspeakers adjacent to each other.
2. Place a measurement microphone 3ft. from the speakers and 3 to 4 feet above the UM-1Ps, on the axis between the speakers.
3. Connect a signal source to one speaker and note the frequency response and overall level.
4. Apply the same signal to the second speaker with the first speaker still connected.

The polarity is correct if the frequency response remains constant with a 5-6 dB SPL increase in amplitude. Broadband cancellation (decreased overall level) indicates polarity reversal.



Since polarity reversal causes excessive driver excursion at high source levels, use moderate levels when conducting these tests.



### Driver Polarity in the Same UM-P

Use the following test procedure to verify polarity between drivers in the same loudspeaker:

1. Place a monitoring microphone 1 meter from the front of the loudspeaker at the midway point between the high and low frequency drivers.
2. Connect a full range signal to the loudspeaker and note the frequency response.

The polarity is correct if the frequency response is smooth through the crossover region (800Hz to 1.5kHz). Cancellation of 6dB or more in this region indicates polarity reversal.

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## Troubleshooting

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This section suggests several possible solutions to some common problems encountered by UM-P users and is not intended to be a thorough troubleshooting guide. Qualified electronics technicians with access to a test bench can request the following documents from Meyer Sound: Troubleshooting Guide, The Low Frequency Driver Replacement Procedure, and The High Frequency Driver Replacement Procedure for the UM-1P/100P.

### ***The On/Temp. LED does not illuminate, there is no audio, and the power supply fan is off.***

1. Make sure the AC power cable is the correct type for the regional voltage and that it is securely connected to the AC inlet then unplug and reconnect the AC cable.
2. Use an AC voltmeter to verify that the AC voltage is within the ranges 88–264V, 47–63 Hz.
3. Call Meyer Sound Technical Support.

### ***The On/Temp. LED is illuminated but there is no sound.***

1. Verify that the audio source (mixer, EQ, delay) is sending a valid signal.
2. Make sure the XLR cable is securely fastened to the XLR audio input connector.
3. Verify that the XLR cable is functioning by substituting another cable or by using the cable in question in a working system.



4. Send the audio signal to another speaker to insure signal presence and that the level is within the proper range. Turn the source level down before reconnecting the audio input and increase the level slowly to avoid a sudden blast of sound.
5. If possible, monitor the audio source with headphones.

***Hum or noise is produced by the speaker.***

1. Disconnect the audio input. If the hum ceases, the noise originates somewhere earlier in the signal path. If the noise persists, the problem is within the UM-P. In this case return the unit to the factory or nearest authorized service center.
2. Make sure the XLR cable is securely fastened to the XLR audio input connector.
3. Send the audio signal to another speaker to insure signal presence and that the level is within the proper range. Turn the source level down before reconnecting the audio input and increase the level slowly to avoid a sudden blast of sound.
5. Hum or noise can be produced by a ground loop. Since the UM-P is effectively *ground-lifted*, this should not occur unless grounds are extremely different voltages.

***The audio produced by the speaker is distorted or compressed but the limit light is not illuminated.***

1. Make sure the XLR cable is securely fastened to the XLR audio input connector.
2. Send the audio signal to another speaker to insure that the level is within the proper range. Turn the source level down before reconnecting the audio input and increase the level slowly to avoid a sudden blast of sound.
3. Monitor the audio source with headphones.

***The audio produced by the speaker is highly compressed and the limit light is constantly yellow.***

1. Turn down the level of the input signal to the speaker system.

***Only the high or low driver seems to produce sound.***

1. Make sure the audio signal is full-range and has not been filtered in a previous stage of the signal chain. If possible, monitor the audio source with high-quality headphones.
2. Send the audio signal to another speaker to insure that the signal is full-range. Turn the source level down before reconnecting the audio input and increase the level slowly to avoid a sudden blast of sound.
3. Use a sine wave and/or pink noise generator to send a variety of frequencies to the speaker.

***There is some sound but the On/Temp. LED turns from green to red.***

This occurs when the heatsink temperature reaches 85°C (185°F), indicating that the amplifier is thermally overloaded. The limiter threshold has dropped to a safe level, so the audio level is probably reduced.

1. Make sure there is enough clearance above, below, and behind the unit.
2. Make sure there is sufficient air flow around the unit.
3. Avoid exposing the heatsink to direct sunlight if the ambient temperature is high.
4. If the ambient temperature is greater than 30°C and this condition occurs frequently, contact Meyer Sound to order the optional Fan Kit.

See the section ***Amplification, Limiting, and Cooling System*** on page 6 for a complete discussion about the cooling system.

***There is no sound, the On/Temp. LED is dim or off, and the power supply fan is on high speed.***

This extremely rare event occurs when the power supply overheats, causing a 1-2 minute interruption in operation. The unit turns on again when the power supply has cooled sufficiently.

1. Make sure there is at least six inches clearance behind the unit.
2. Make sure there is sufficient air flow around the unit.
3. Avoid exposing the unit to direct sunlight in high ambient temperature.

See the section ***Amplification, Limiting, and Cooling System*** on page 6 for a more information about the power supply's internal fan and cooling system.



## Safety Summary



### English

- To reduce the risk of electric shock, disconnect the loudspeaker from the AC mains before installing audio cable. Reconnect the power cord only after making all signal connections.
- Connect the loudspeaker to a two-pole, three wire grounding mains receptacle. The receptacle must be connected to a fuse or circuit breaker. Connection to any other type of receptacle poses a shock hazard and may violate local electrical codes.
- Do not install the loudspeaker in wet or humid locations without using weather protection equipment from Meyer Sound.
- Do not allow water or any foreign object to get inside the loudspeaker. Do not put objects containing liquid on, or near, the unit.
- To reduce the risk of overheating the loudspeaker, avoid exposing it to direct sunlight. Do not install the unit near heat emitting appliances, such as a room heater or stove.
- This loudspeaker contains potentially hazardous voltages. Do not attempt to disassemble the unit. The unit contains no user serviceable parts. Repairs should be performed only by factory trained service personnel.

### Français

- Pour réduire le risque d'électrocution, débrancher la prise principale de l'haut-parleur, avant d'installer le câble d'interface allant à l'audio. Ne rebrancher le bloc d'alimentation qu'après avoir effectué toutes les connexions.
- Branchez l'haut-parleur dans une prise de courant à 3 dérivations (deux pôles et la terre). Cette prise doit être munie d'une protection adéquate (fusible ou coupe-circuit). Le branchement dans tout autre genre de prise pourrait entraîner un risque d'électrocution et peut constituer une infraction à la réglementation locale concernant les installations électriques.
- Ne pas installer l'haut-parleur dans un endroit où il y a de l'eau ou une humidité excessive.
- Ne pas laisser de l'eau ou tout objet pénétrer dans l'haut-parleur. Ne pas placer de récipients contenant un liquide sur cet appareil, ni à proximité de celui-ci.
- Pour éviter une surchauffe de l'haut-parleur, conserver-la à l'abri du soleil. Ne pas installer à proximité d'appareils dégageant de la chaleur tels que radiateurs ou appareils de chauffage.
- Ce haut-parleur contient des circuits haute tension présentant un danger. Ne jamais essayer de le démonter. Il n'y a aucun composant qui puisse être réparé par l'utilisateur. Toutes les réparations doivent être effectuées par du personnel qualifié et agréé par le constructeur.

### Deutsch

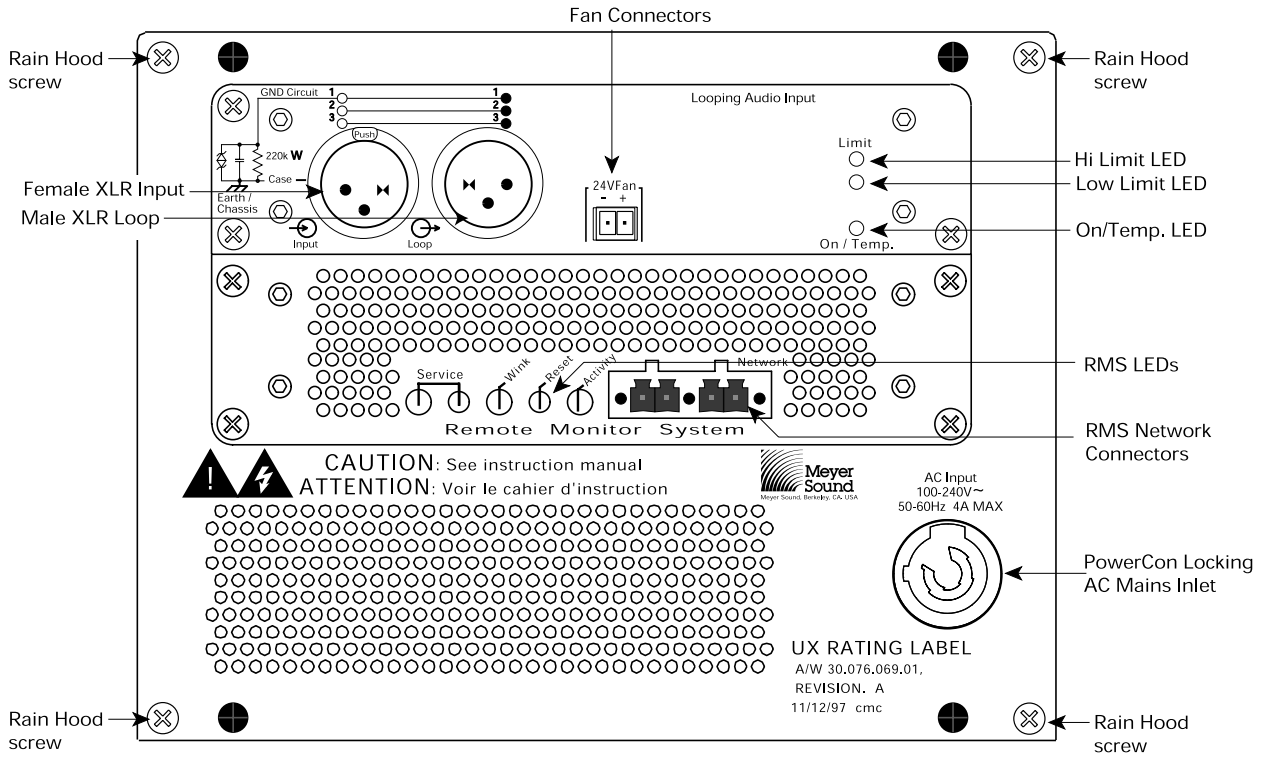
- Um die Gefahr eines elektrischen Schlages auf ein Minimum zu reduzieren, den Lautsprecher vom Stromnetz trennen, bevor ggf. ein Audio-Schnittstellensignalkabel angeschlossen wird. Das Netzkabel erst nach Herstellung aller Signalverbindungen wieder einstecken.
- Der Lautsprecher an eine geerdete zweipolige Dreiphasen-Netzsteckdose anschließen. Die Steckdose muß mit einem geeigneten Abzweigschutz (Sicherung oder Leistungsschalter) verbunden sein. Der Anschluß der unterbrechungsfreien Stromversorgung an einen anderen Steckdosentyp kann zu Stromschlägen führen und gegen die örtlichen Vorschriften verstoßen.
- Der Lautsprecher nicht an einem Ort aufstellen, an dem sie mit Wasser oder übermäßig hoher Luftfeuchtigkeit in Berührung kommen könnte.
- Darauf achten, daß weder Wasser noch Fremdkörper in das Innere den Lautsprecher eindringen. Keine Objekte, die Flüssigkeit enthalten, auf oder neben die unterbrechungsfreie Stromversorgung stellen.
- Um ein Überhitzen dem Lautsprecher zu verhindern, das Gerät vor direkter Sonneneinstrahlung fernhalten und nicht in der Nähe von wärmeabstrahlenden Haushaltsgeräten (z.B. Heizgerät oder Herd) aufstellen.
- Im Inneren diesem Lautsprecher herrschen potentiell gefährliche Spannungen. Nicht versuchen, das Gerät zu öffnen. Es enthält keine vom Benutzer reparierbaren Teile. Reparaturen dürfen nur von ausgebildetem Kundendienstpersonal durchgeführt werden.

### Español

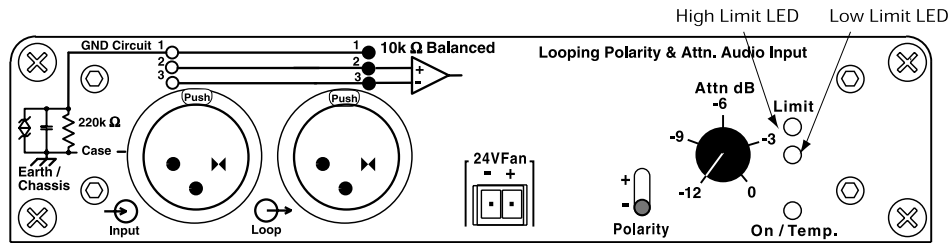
- Para reducir el riesgo de descarga eléctrica, desconecte de la red el altoparlante antes de instalar el cable de señalización de interfaz de la segnale. Vuelva a conectar el conductor flexible de alimentación solamente una vez efectuadas todas las interconexiones de señalización.
- Conecte el altoparlante a un tomacorriente bipolar y trifilar con neutro de puesta a tierra. El tomacorriente debe estar conectado a la protección de derivación apropiada (ya sea un fusible o un disyuntor). La conexión a cualquier otro tipo de tomacorriente puede constituir peligro de descarga eléctrica y violar los códigos eléctricos locales.
- No instale el altoparlante en lugares donde haya agua o humedad excesiva.
- No deje que en el altoparlante entre agua ni ningún objeto extraño. No ponga objetos con líquidos encima de la unidad ni cerca de ella.
- Para reducir el riesgo de sobrecalentamiento, no exponga la unidad a los rayos directos del sol ni la instale cerca de artefactos que emiten calor, como estufas o cocinas.
- Este altoparlante contiene niveles de voltaje peligrosos en potencia. No intente desarmar la unidad, pues no contiene piezas que puedan ser reparadas por el usuario. Las reparaciones deben efectuarse únicamente por parte del personal de mantenimiento capacitado en la fábrica.

# Rear Panel and Optional Modules

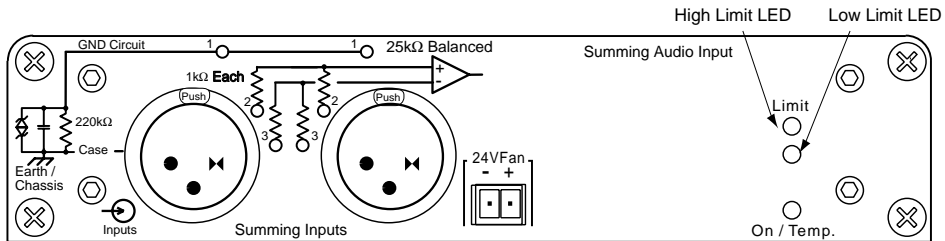
The user panel and optional modules are described on page 5 of this guide.



User Panel with RMS option and standard Looping Audio Input Module.



Looping, Polarity, and Attenuating Input Module.

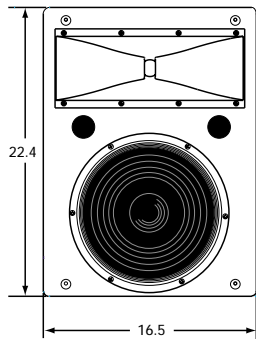


Summing Audio Input Module

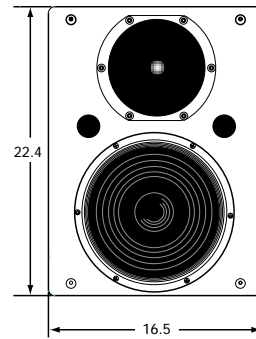
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## **Dimensions**

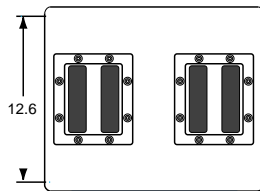
(in inches)



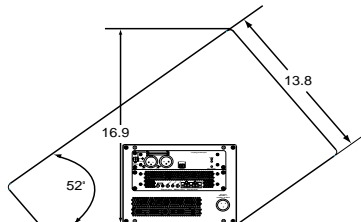
UM-100P Front



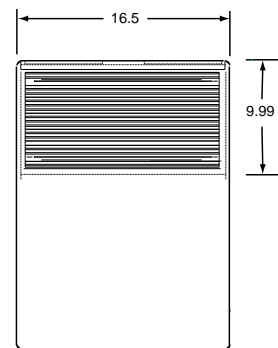
UM-1P Front



UM-P Top



UM-P Side



UM-P Back



### **Contact Information**

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