

LEOPARD™ Compact Linear Line Array Loudspeaker



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LEOPARD Operating Instructions, PN 05.243.005.01 B5

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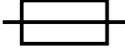
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IMPORTANT SAFETY INSTRUCTIONS

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

SYMBOLS USED

				
Dangerous voltages: risk of electric shock	Important operating instructions	Replaceable Fuse	Protective earth ground	Hot surface: do not touch
Gefährliche Spannungen: Stromschlaggefahr	Hinweis auf wichtige Punkte der Betriebsanleitung	Austauschbare Sicherung	Schutzerde	Heiße Oberfläche: nicht berühren
Pour indiquer les risques résultant de tensions dangereuses	Instructions d'utilisation importantes	Fusible remplaçable	Terre de protection	Surface chaude: ne pas toucher
Para indicar voltajes peligrosos	Instrucciones importantes de funcionamiento y/o Mantenimiento	Fusible reemplazable	Toma de tierra de protección	Superficie caliente: no tocar

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with Meyer Sound's installation instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
9. Do not defeat the safety purpose of the grounding-type plug. A grounding type plug has two blades and a third grounding prong. The third prong is 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 apparatus. The AC mains plug or appliance coupler shall remain readily accessible for operation.
11. Only use attachments/accessories specified by Meyer Sound.
12. Use only with the caster rails or rigging specified by Meyer Sound, or sold with the apparatus. Handles are for carrying only.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. If equipped with an external fuse holder, the replaceable fuse is the only user-serviceable item. When replacing the fuse, only use the same type and the same value.
15. Refer all other servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug has been damaged; liquid has been spilled or objects have fallen into the apparatus; rain or moisture has entered the apparatus; the apparatus has been dropped; or when for undetermined reasons the apparatus does not operate normally.

 **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. Do not install the apparatus in wet or humid locations without using weather protection equipment from Meyer Sound.

 **WARNING:** Class I apparatus shall be connected to a mains socket outlet with a protective earthing connection.

 **CAUTION:** Disconnect the mains plug before disconnecting the power cord from the loud-speaker.

English

- To reduce the risk of electric shock, disconnect the apparatus from the AC mains before installing audio cable. Reconnect the power cord only after making all signal connections.
- Connect the apparatus 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 apparatus 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 apparatus. Do not put objects containing liquid on or near the unit.
- To reduce the risk of overheating the apparatus, avoid exposing it to direct sunlight. Do not install the unit near heat-emitting appliances, such as a room heater or stove.
- If equipped with an external fuse holder, the replaceable fuse is the only item that can be serviced by the user. When replacing the fuse, only use the same type and value.
- This apparatus contains potentially hazardous voltages. Do not attempt to disassemble the unit. The only user-serviceable part is the fuse. All other repairs should be performed only by factory-trained service personnel.

Deutsch

- Zur Minimierung der Gefahr eines elektrischen Schlages trennen Sie das Produkt vor dem Anschluss von Audio- und/oder Steuerleitungen vom Stromnetz. Das Netzkabel darf erst nach Herstellung aller Signalverbindungen wieder eingesteckt werden.
- Das Produkt an eine vorschriftsgemäss installierte dreipolige Netzsteckdose (Phase, Neutraleiter, Schutzleiter) anschließen. Die Steckdose muss vorschriftsgemäß mit einer Sicherung oder einem Leitungsschutzschalter abgesichert sein. Das Anschließen des Produkts an eine anders ausgeführte Stromversorgung kann gegen Vorschriften verstossen und zu Stromunfällen führen.
- Das Produkt nicht an einem Ort aufstellen, an dem es direkter Wassereinwirkung oder übermäßig hoher Luftfeuchtigkeit ausgesetzt werden könnte, solange es sich nicht um ein Produkt handelt, dass mit der Meyer Sound Weather Protection Option ausgestattet ist.
- Vermeiden Sie das Eindringen von Wasser oder Fremdkörpern in das Innere des Produkts. Stellen Sie keine Objekte, die Flüssigkeit enthalten, auf oder neben dem Produkt ab.
- Um ein Überhitzen des Produkts zu verhindern, halten Sie das Gerät von direkter Sonneneinstrahlung fern und stellen Sie es nicht in der Nähe von wärmeabstrahlenden Geräten (z.B. Heizgerät oder Herd) auf.

- Bei Ausstattung mit einem externen Sicherungshalter ist die austauschbare Sicherung das einzige Gerät, das vom Benutzer gewartet werden kann. Verwenden Sie beim Austausch der Sicherung nur den gleichen Typ und Wert.
- Dieses Gerät enthält möglicherweise gefährliche Spannungen. Versuchen Sie nicht, das Gerät zu zerlegen. Der einzige vom Benutzer zu wartende Teil ist die Sicherung. Alle anderen Reparaturen dürfen nur von im Werk geschultem Servicepersonal ausgeführt werden.

Français

- Pour éviter tout risque d'électrocution, débranchez l'enceinte de la prise secteur avant de mettre en place le câble audio. Ne rebranchez le cordon secteur qu'après avoir procédé à toutes les connexions de signal audio
- Brancher l'appareil sur une prise secteur à trois fils et deux pôles avec mise à la terre. La prise doit être reliée à un fusible ou à un disjoncteur. Le branchement à tout autre type de prise présente un risque de choc électrique et peut enfreindre les codes locaux de l'électricité.
- N'installez pas l'enceinte dans des endroits humides ou en présence d'eau sans utiliser d'équipements de protection adéquats fournis par Meyer Sound.
- Ne laissez pas d'eau ou d'objet étranger, quel qu'il soit, pénétrer à l'intérieur de l'enceinte. Ne posez pas d'objet contenant du liquide sur ou à proximité de l'enceinte.
- Pour réduire les risques de surchauffe, évitez d'exposer directement l'enceinte aux rayons du soleil. Ne l'installez pas à proximité de sources de chaleur, radiateur ou four par exemple.
- S'il est équipé d'un porte-fusible externe, le fusible remplaçable est le seul élément qui peut être réparé par l'utilisateur. Lors du remplacement du fusible, n'utilisez que le même type et la même valeur.
- Cet appareil contient des tensions potentiellement dangereuses. N'essayez pas de démonter l'appareil. Le fusible est la seule pièce réparable par l'utilisateur. Toutes les autres réparations doivent être effectuées uniquement par du personnel de maintenance formé en usine.

Español

- Para reducir el riesgo de descarga eléctrica, desconecte el aparato de la red eléctrica antes de instalar el cable de audio. Vuelva a conectar el cable de alimentación sólo después de realizar todas las conexiones de señal.
- Conecte el aparato a una toma de corriente de tres hilos y dos polos con conexión a tierra. El receptáculo debe estar conectado a un fusible o disyuntor. La conexión a cualquier otro tipo de receptáculo representa un riesgo de descarga eléctrica y puede violar los códigos eléctricos locales.

- No instale el aparato en lugares húmedos o mojados sin usar el equipo de protección contra intemperie de Meyer Sound.
- No permita que penetre agua u otros objetos extraños en el interior del aparato. No coloque objetos que contengan líquido sobre o cerca de la unidad.
- Para reducir el riesgo de sobrecalentamiento del aparato, evite exponerlo a la luz solar directa. No instale la unidad cerca de aparatos que emitan calor, como un calefactor o una estufa.
- Si está equipado con un portafusibles externo, el fusible reemplazable es el único elemento que puede ser reparado por el usuario. Cuando reemplace el fusible, use solamente el mismo tipo y valor.
- Este aparato contiene voltajes potencialmente peligrosos. No intente desmontar la unidad. La única pieza que el usuario puede reparar es el fusible. Todas las demás reparaciones deben ser realizadas únicamente por personal de servicio capacitado de fábrica.

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CHAPTER 1: INTRODUCTION

HOW TO USE THIS MANUAL

Make sure to read these instructions in their entirety before configuring a Meyer Sound loudspeaker system. In particular, pay close attention to material related to safety issues.

As you read these instructions, you will encounter the following icons for notes, tips, and cautions:

 **NOTE:** A note identifies an important or useful piece of information relating to the topic under discussion.

 **TIP:** A tip offers a helpful tip relevant to the topic at hand.

 **CAUTION:** A caution gives notice that an action may have serious consequences and could cause harm to equipment or personnel, or could cause delays or other problems.

Information and specifications are subject to change. Updates and supplementary information are available at meyersound.com.

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- **Tel:** +1 510 486.1166
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- **Web:** meyersound.com/support

LEOPARD COMPACT LINEAR LINE ARRAY LOUSPEAKER

The LEOPARD™ compact linear line array loudspeakers reproduce audio faithfully with tremendous power, superior intelligibility, and extremely low distortion. Rounding out Meyer Sound's award-winning LEO® family of loudspeakers, LEOPARD loudspeakers deliver the same advantages of self-powered design, linear response, and precise directional control as their bigger siblings, LEO-M™ and LYON™.

LEOPARD, with its 110° coverage, breaks new ground in loudspeaker array performance, providing exceptional phase coherence and consistent coverage in a light, compact cabinet, making it extremely versatile. Its innovative amplifier, driver, and horn designs ensure that LEOPARD systems reproduce any sound source with linearity over a wide dynamic range, from speech and classical music to rock and EDM.

The LEOPARD-M80 model provides exceptional phase coherence and extremely accurate and consistent 80° coverage, adding greater flexibility and accuracy to LEOPARD systems. LEOPARD-M80 can be used wherever narrow, more controlled coverage is needed in LEOPARD arrays, such as at the top, or even as the full array in some outfill applications. Because LEOPARD-M80 matches the acoustical characteristics and vertical coverage of LEOPARD, transition is seamless.

Both LEOPARD models are acoustically compatible to LYON and can be used for downfill at the bottom of LYON arrays, and as supplemental sidefill and outfill arrays in bigger LYON systems using the Galileo GALAXY Network Platform's Product Integration settings.

LEOPARD loudspeakers offer Native Mode (see "Native Mode" on page 3), a configuration optimized to yield excellent system performance right out of the box with minimal external processing. A class D amplifier affords unprecedented efficiency to LEOPARD, significantly lowering distortion while reducing power consumption and operating temperature. A single, field-replaceable module contains the on-board amplifier and control circuitry.

LEOPARD loudspeakers are portable and easy to configure. Their low weight and narrow profile make them well-suited for small- to medium-sized touring acts and fixed installations, where scalability and ease of rigging are essential.

For low-frequency enhancement, LEOPARD loudspeakers pair with Meyer Sound's 900-LFC low-frequency control element, which can be flown as part of LEOPARD arrays without transition hardware. The 900-LFC shares with LEOPARD the advantages of excellent power-to-size ratio, improved efficiency, and versatility.



Figure 1: MG-LEOPARD/900 Multipurpose Grid with Mixed Array

In addition to working as a standalone system, LEOPARD can also be used as a supplemental fill loudspeaker in LEO-M and LYON systems. Applications that require more low-frequency headroom can use Meyer Sound's 1100-LFC, which also integrates with LEOPARD systems.

Meyer Sound recommends driving LEOPARD systems with the Galileo® GALAXY Network Platform, which provides 24 bit, 96 kHz audio, matrix routing, alignment, and processing for array components. To guarantee optimum performance, use Meyer Sound's MAPP™ System Design

Tool to design LEOPARD systems, as this tool effectively anticipates system SPL and coverage requirements, and also helps verify rigging load ratings.

LEOPARD and 900-LFC loudspeakers work with Meyer Sound's RMS™ remote monitoring system, which provides comprehensive monitoring of system parameters from a Mac® or Windows®-based computer.

LEOPARD loudspeakers include Meyer Sound's QuickFly® rigging with captive GuideALinks™ that facilitate easy setting of splay angles from 0.5° to 15°. Rigging options include the MG-LEOPARD/900 multipurpose grid (Figure 1), MCF-LEOPARD caster frame (Figure 2), PBF-LEOPARD pull-back frame, and MTF-LYON/LEOPARD transition frame.



Figure 2: MCF-LEOPARD Caster Frame with LEOPARD Stack

NATIVE MODE

LEOPARD and 900-LFC loudspeakers are optimized for use in certain flown and groundstacked configurations without any array compensation or other signal processing. This capability, called *Native mode*, allows LEOPARD/900-LFC systems to be deployed quickly with excellent results, without equalization, tuning, or use of presets.

To use LEOPARD and 900-LFC loudspeakers in Native mode, send an identical, unmodified signal to each element in the array. The simplest way to accomplish this task is by looping the same, unprocessed source signal through all array elements.

The following coplanar configurations can be used in Native mode (without any signal processing):

- Flown mixed arrays of LEOPARDS and 900-LFCs (Figure 3)
- Flown separate arrays of LEOPARDS and 900-LFCs (Figure 4)
- Mixed groundstacks of LEOPARDS and 900-LFCs (Figure 5)

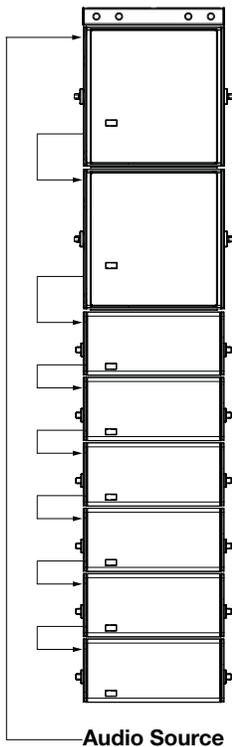


Figure 3: Flown Mixed Array

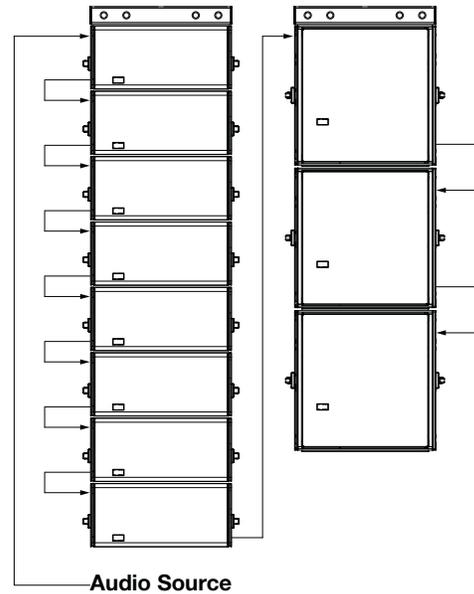


Figure 4: Flown Separate Arrays

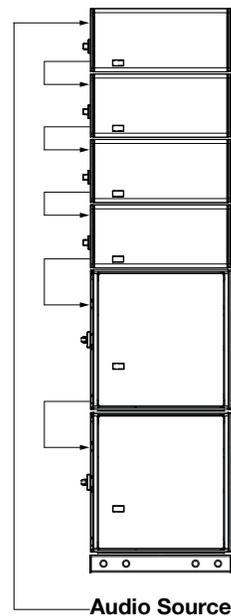


Figure 5: Mixed Groundstack

 **NOTE:** Native mode should not be used with more advanced configurations, such as those where 900-LFCs and LEOPARDS are not coplanar, or those requiring delay offsets to align subsystems or to create directional low-frequency control. These systems require additional processing.



NOTE: For Native mode to work properly, the source signal must be correctly configured with the appropriate gain structure.



CAUTION: Make sure that all cabling for looped loudspeakers is wired correctly (Pin 1 to Pin 1, Pin 2 to Pin 2, and so forth) to prevent the polarity from being reversed. If one or more loudspeakers in a system have reversed polarity, frequency response and coverage will be significantly degraded.

CHAPTER 2: POWER REQUIREMENTS

LEOPARD combines advanced loudspeaker technology with equally advanced power capabilities. Understanding power distribution, voltage and current requirements, and electrical safety guidelines is critical to the safe operation of LEOPARD.

AC POWER DISTRIBUTION

All components in an audio system (self-powered loudspeakers, mixing consoles, and processors) must be properly connected to an AC power distribution system, ensuring that AC line polarity is preserved and that all grounding points are connected to a single node or common point using the same cable gauge (or larger) as the neutral and line cables.

CAUTION: Make sure the voltage received by LEOPARD remains within its 90–264 V AC operating range. In addition, the ground line must always be used for safety reasons and the line-to-ground voltage should never exceed 250 V AC (typically 120 V AC from line to ground).

CAUTION: Before applying AC power to any Meyer Sound self-powered loudspeaker, make sure that the voltage potential difference between the neutral and earth-ground lines is less than 5 V AC when using single-phase AC wiring.

NOTE: Improper grounding of connections between loudspeakers and the rest of the audio system may produce noise or hum, or cause serious damage to the input and output stages of the system’s electronic components.

120 V AC, 3-Phase Wye System (Single Line)

Line-Neutral-Earth/Ground

Figure 6 illustrates a basic 120 V AC, 3-phase Wye distribution system with the loudspeaker load distributed across all three phases, with each loudspeaker connected to a single line and common neutral and earth/ground lines. This system delivers 120 V AC to each loudspeaker.

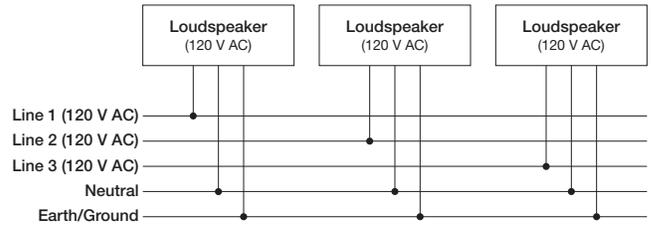


Figure 6: 120 V AC, 3-Phase Wye System (Single Line to Loudspeakers)

120 V AC, 3-Phase Wye System (Two Lines)

Line-Line-Earth/Ground

Figure 7 illustrates a 120 V AC, 3-phase Wye distribution system with each loudspeaker connected to two lines and a common earth/ground line. This configuration is possible because LEOPARD tolerates elevated voltages from the ground line and does not require a neutral line. This system delivers 208 V AC to each loudspeaker.

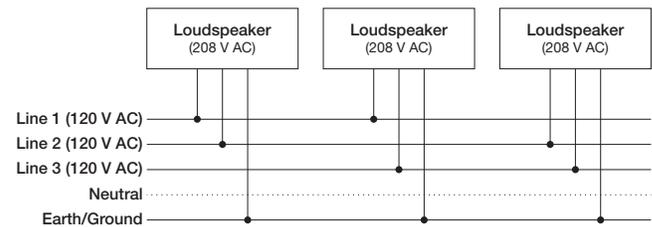


Figure 7: 120 V AC, 3-Phase Wye System (Two Lines to Loudspeakers)

TIP: The 120 V AC, 3-phase Wye system with two lines is recommended because it allows loudspeakers to draw less current than with single-line systems, thereby reducing voltage drop due to cable resistance. It also excludes the potential of varying ground to neutral voltages producing an audible hum.

230 V AC, 3-Phase Wye System (Single Line)

Line-Neutral-Earth/Ground

Figure 8 illustrates a basic 230 V AC, 3-phase Wye distribution system with the loudspeaker load distributed across all three phases, with each loudspeaker connected to a single line and common neutral and earth/ground lines. This system delivers 230 V AC to each loudspeaker.

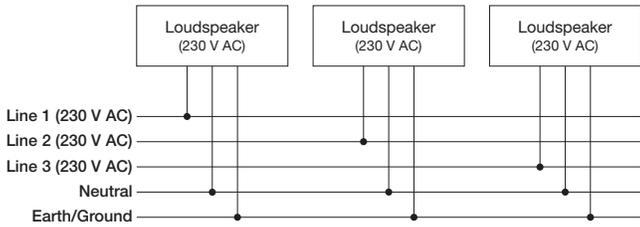


Figure 8: 230 V AC, 3-Phase Wye System (Single Line to Loudspeakers)

CAUTION: For 230 V AC, 3-phase Wye systems, never connect two lines to the AC input of LEOPARD, as the resulting voltage would exceed the upper voltage limit (275 V AC) and will damage the loudspeaker.

AC CONNECTORS

The LEOPARD user panel includes two powerCON 20 connectors (Figure 9), one for AC Input (blue) and one for AC Loop Output (gray).

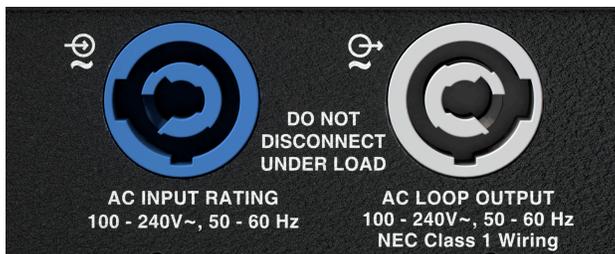


Figure 9: AC Input (Left) and AC Loop Output (Right) Connectors

AC Input (Blue)

The blue AC Input connector supplies power to LEOPARD. The 3-conductor powerCON 20 is rated at 20 A and uses a locking connector that prevents accidental disconnections. A 10-foot AC power cable, rated at 15 A, is included with each loudspeaker. If you replace the included AC power cable, make sure to use a cable with the appropriate power plug (on the other end) for the area in which you will operate the loudspeaker. LEOPARD requires a grounded outlet. To operate safely and effectively, it is extremely important that the entire system be properly grounded.

The AC Input connector also supplies power to any additional loudspeakers connected to the loudspeaker’s gray Loop Output connector.

CAUTION: When looping AC power for loudspeakers, do not exceed the current capability of the AC Input connector (20 A) or the included AC power cable (15 A). Consider the total

current draw for all loudspeakers on the circuit, including the first loudspeaker (Table 1).

AC Loop Output (Gray)

The gray AC Loop Output connector allows multiple LEOPARDS to be looped and powered from a single power source. The 3-conductor powerCON 20 is rated at 20 A and uses a locking connector that prevents accidental disconnections. For applications that require multiple LEOPARDS, connect the AC Loop Output of the first loudspeaker to the AC Input of the second loudspeaker, and so forth.

The maximum number of loudspeakers that can be looped from the AC Loop Output connector is determined by the voltage of the power source, the current draw of the looped loudspeakers, the circuit breaker rating, and the rating of the AC power cable connected to the first LEOPARD loudspeaker (Table 1).

Table 1: Maximum LEOPARDS that Can Be Looped with AC Power

Circuit Breaker/ Connector Rating	115 V AC	230 V AC	100 V AC
15 A / 16 A	4 looped (5 total)	9 looped (10 total)	3 looped (4 total)
20 A	5 looped (6 total)	12 looped (13 total)	4 looped (5 total)

NOTE: Current draw for LEOPARD is dynamic and fluctuates as operating levels change. The indicated number of loudspeakers that can be looped assumes that operating levels are normal and not such that loudspeakers are constantly limiting.

LEOPARD ships with a gray powerCON 20 cable mount connector, rated at 20 A, for assembling AC looping cables. Assembled AC looping cables are also available from Meyer Sound.

CAUTION: When looping AC power for loudspeakers, do not exceed the current capability of the AC Input connector (20 A) or the included AC power cable (15 A). Consider the total current draw for all loudspeakers on the circuit, including the first loudspeaker (Table 1).

WIRING AC POWER CABLES

LEOPARD ships with a gray powerCON 20 cable mount connector (Figure 10), rated at 20 A, for assembling AC looping cables. The pins on the powerCON 20 cable mount connector are labeled as follows:

- L (Line)
- N (Neutral)
- PE (Protective Earth or Ground)

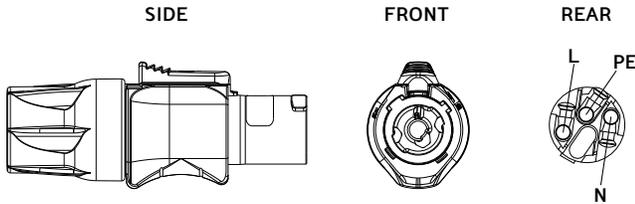


Figure 10: powerCON 20 Cable Mount Connector

How AC power cables are wired is determined by the type of AC power distribution system used (“AC Power Distribution” on page 5). When wiring AC power cables for single-line systems, use one of the wiring schemes described in Table 2 and illustrated in Figure 11:

Table 2: AC Wiring Scheme

Wire Color		Attach to the Following Terminal
U.S. / Canada 60 Hz	European 50 Hz	
Black	Brown	Hot or live (L)
White	Blue	Neutral (N)
Green	Green and Yellow	Protective earth / ground (E or PE)

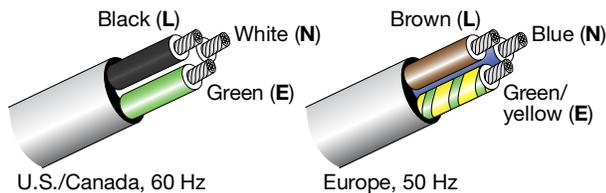


Figure 11: AC Wiring Scheme, illustrated

CAUTION: When wiring AC power cables and distribution systems, it is important to preserve AC line polarity and connect the earth ground on both ends of the cable. LEOPARD requires a grounded connection. Always use a grounded outlet and plug. It is extremely important that the system be properly grounded to operate safely and properly. Do not ground-lift the AC cable.

LEOPARD VOLTAGE REQUIREMENTS

LEOPARD operates as intended when receiving AC voltage within the following range:

- 90–264 V AC, 50–60 Hz

If the voltage drops below 90 V, the loudspeaker uses stored power to continue operating temporarily; the loudspeaker powers off if the voltage does not return to its operating range.

If the voltage rises above 275 V, the power supply could become damaged.

CAUTION: The power source for LEOPARD should always operate within the required operating range, at least a few volts from the upper and lower limits. This ensures that AC voltage variations from the service entry—or peak voltage drops due to cable runs—will not cause the loudspeaker’s amplifier to cycle on and off or cause damage to the power supply.

LEOPARD CURRENT REQUIREMENTS

Current draw for loudspeakers is dynamic and fluctuates as operating levels change. Because different cables and circuit breakers heat up at varying rates, it is important to understand the following types of current ratings and how they affect circuit breaker and cable specifications.

- **Idle Current** — The maximum rms current during idle periods.
- **Maximum Long-Term Continuous Current** — The maximum rms current during a period of at least 10 seconds. The maximum long-term continuous current is used to calculate temperature increases for cables to ensure that the size and gauge of the cables conform to electrical code standards. The current rating is also used to select appropriately rated, slow-reacting thermal breakers, which are recommended for loudspeaker power distribution. In addition, the maximum long-term continuous current can be used to calculate the AC looping capability for LEOPARD loudspeakers.
- **Burst Current** — The maximum rms current during a period of around 1 second. The burst current is used as a rating for magnetic breakers. It is also used for calculating the peak voltage drop in long AC cable runs according to the following formula:

$$V_{pk}(\text{drop}) = I_{pk} \times R(\text{cable total})$$
- **Maximum Instantaneous Peak Current** — A rating for fast-reacting magnetic breakers.

Use the information provided in Table 3 as a guide for selecting the gauge of cables and the circuit breaker ratings for the system’s operating voltage.

Table 3: LEOPARD Current Draw

Current Draw	115 V AC	230 V AC	100 V AC
Idle	0.46 A rms	0.35 A rms	0.49 A rms
Maximum Long-Term Continuous	3.0 A rms	1.5 A rms	3.4 A rms
Burst	4.4 A rms	2.3 A rms	5.5 A rms
Maximum Instantaneous Peak	12.6 A peak	6.3 A peak	14.5 A peak

The minimum electrical service amperage required by a loudspeaker system is the sum of the maximum long-term continuous current for all loudspeakers. An additional 30 percent above the combined Maximum Long-Term Continuous amperages is recommended to prevent peak voltage drops at the service entry.

NOTE: For best performance, the AC cable voltage drop should not exceed 10 V (10 percent at 115 V and 5 percent at 230 V). This ensures that the AC voltage variations from the service entry—or peak voltage drops due to longer cable runs—do not cause the amplifier to cycle on and off.

INTELLIGENT AC POWER SUPPLY

LEOPARD’s Intelligent AC™ power supply automatically selects the correct operating voltage (allowing the loudspeaker to be used internationally without manually setting voltage switches), eliminates high inrush currents with soft-start power up, suppresses high-voltage transients up to several kilovolts, filters common mode and differential mode radio frequencies (EMI), and sustains operation temporarily during low-voltage periods.

Powering on LEOPARD

When powering on LEOPARD, the following startup events take place over several seconds.

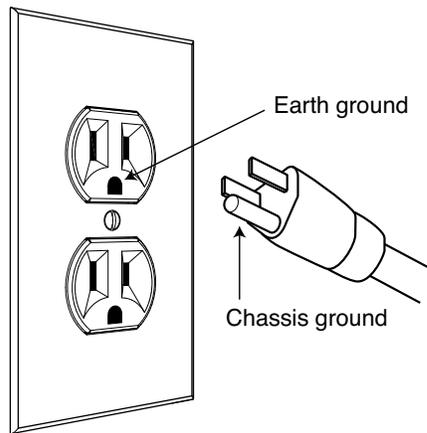
1. Audio output is muted.
2. Voltage is detected and the power supply mode is automatically adjusted as necessary.
3. The power supply ramps up.
4. On the user panel, the Active/Status LED flashes multiple colors successively.
5. The Active/Status LED turns solid green, indicating the loudspeaker is unmuted and ready to output audio.

CAUTION: If the Active/Status LED does not turn solid green, or LEOPARD does not output audio after 10 seconds, remove AC power immediately and verify that the voltage is within the required range. If the problem persists, contact Meyer Sound Technical Support.

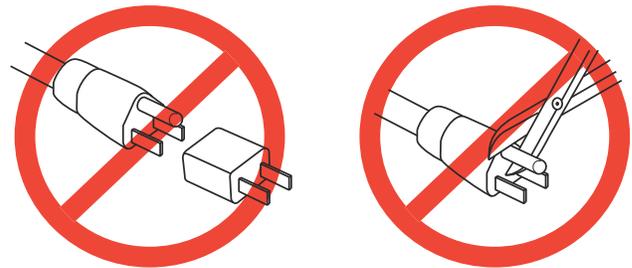
ELECTRICAL SAFETY GUIDELINES

Make sure to observe the following important electrical and safety guidelines.

- The powerCON 20 connector should not be engaged or disengaged when under load or energized. Either de-energize or disconnect the other end of the cable.
- LEOPARD requires a grounded outlet. Always use a grounded outlet and plug.



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



- Do not exceed the current capability of the 20 A AC Input connector for the loudspeaker. When looping loudspeakers, consider the total current draw for all loudspeakers on the circuit, including the first loudspeaker.
- Make sure the AC power cable for the loudspeaker has the appropriate power plug (on the other end) for the area in which you will operate the loudspeaker. In addition, the AC

power cable must be rated for the total current draw of all loudspeakers looped from the power source.

- Do not operate the loudspeaker if the power cable is frayed or broken.
- Keep all liquids away from LEOPARD loudspeakers to avoid hazards from electrical shock.

CHAPTER 3: AMPLIFICATION AND AUDIO

LEOPARD's drivers are powered by a proprietary three-channel, open-loop, class D amplifier. The audio signal is processed with an electronic crossover plus correction filters for flat phase and frequency responses, and by driver protection circuitry. Each channel has peak and rms limiters that prevent driver over-excursion and regulate voice coil temperatures.

The LEOPARD user panel (Figure 12) includes Input and Loop output connectors for audio, Limit and Active LEDs, and RMS connectors and controls (see Chapter 5, "RMS Remote Monitoring System").

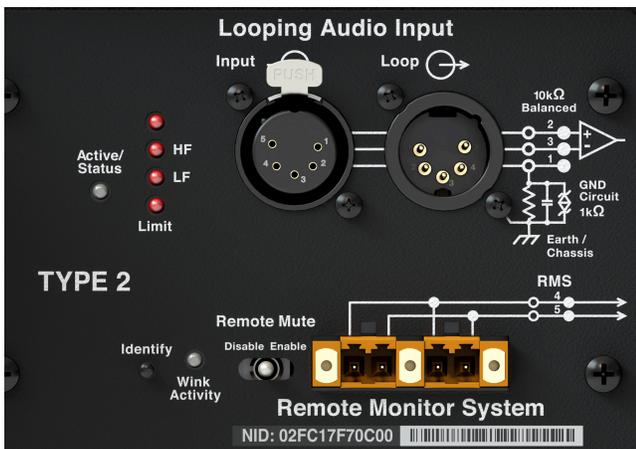


Figure 12: LEOPARD User Panel

AUDIO CONNECTORS

LEOPARD is available with XLR 5-pin or 3-pin connectors for audio Input and audio Loop output (Figure 13 and Figure 14, respectively). XLR 5-pin connectors accommodate both balanced audio and RMS signals.



Figure 13: XLR 5-Pin Audio Connectors, Input and Loop Output



Figure 14: XLR 3-Pin Audio Connectors, Input and Loop Output

Audio Input (XLR 3-Pin or 5-Pin Female)

The XLR 3-pin or 5-pin female Input connector accepts balanced audio signals with an input impedance of 10 kOhm. The connector uses the following wiring scheme:

- **Pin 1** – 1 kOhm to chassis and earth ground (ESD clamped)
- **Pin 2** – Signal (+)
- **Pin 3** – Signal (-)
- **Pin 4** – RMS (polarity insensitive)
- **Pin 5** – RMS (polarity insensitive)
- **Case** – Earth (AC) ground and chassis

 **NOTE:** Pins 4 and 5 (RMS) are included only with XLR 5-pin connectors.

Pins 2 and 3 carry the input as a differential signal. Pin 1 is connected to earth through a 1 kOhm, 1000 pF, 15 V clamped network. This circuitry provides virtual ground lift for audio frequencies while allowing unwanted signals to bleed to ground. Make sure to use balanced XLR audio cables with pins 1–3 connected on both ends. Telescopic grounding is not recommended and shorting an input connector pin to the case may cause a ground loop, resulting in hum.

 **TIP:** If unwanted noise or hiss is produced by the loudspeaker, disconnect its input cable. If the noise stops, there is most likely nothing wrong with the loudspeaker. To locate the source of the noise, check the audio cable, source audio, AC power, and electrical ground.

Audio Loop Output (XLR 3-Pin or 5-Pin Male)

The XLR 3-pin or 5-pin male Loop output connector allows multiple loudspeakers to be looped from a single audio source. The Loop output connector uses the same wiring scheme as the Input connector (see “Audio Input (XLR 3-Pin or 5-Pin Female)” on page 11). For applications that require multiple LEOPARDS, connect the Loop output of the first loudspeaker to the Input of the second loudspeaker, and so forth.

 **NOTE:** The Loop output connector is wired in parallel to the Input connector and transmits the unbuffered source signal even when the loudspeaker is powered off.

Calculating Load Impedance for Looped Audio Signals

To avoid distortion when looping multiple loudspeakers, make sure the source device can drive the total load impedance of the looped loudspeakers. In addition, the source device must be capable of delivering approximately 20 dBV (10 V rms into 600 ohms) to yield the maximum SPL over the operating bandwidth of the loudspeakers.

To calculate the load impedance for the looped loudspeakers, divide 10 kOhms (the input impedance for a single loudspeaker) by the number of looped loudspeakers. For example, the load impedance for ten LEOPARDS is 1000 ohms (10 kOhms / 10). To drive this number of looped loudspeakers, the source device should have an output impedance of 100 ohms or less. This same rule applies when looping LEOPARDS with other Meyer Sound self-powered loudspeakers.

 **NOTE:** Most source devices are capable of driving loads no less than 10 times their output impedance.

 **TIP:** Audio outputs from Meyer Sound’s Galileo GALAXY Network Platform have an output impedance of 50 ohms. Each output can drive up to 20 Meyer Sound (10 kOhm) loudspeakers without distortion.

 **CAUTION:** Make sure that all cabling for looped loudspeakers is wired correctly (Pin 1 to Pin 1, Pin 2 to Pin 2, and so forth) to prevent the polarity from being reversed. If one or more loudspeakers in a system have reversed polarity, frequency response and coverage will be significantly degraded.

TRUPOWER LIMITING

LEOPARD employs Meyer Sound’s advanced TruPower® limiting. Conventional limiters assume a constant loudspeaker impedance and set the limiting threshold by measuring voltage alone. This method is inaccurate because loudspeaker impedances change as frequency content in the source material changes, and as thermal values for the loudspeaker’s voice coil and magnet vary. Consequently, conventional limiters often begin limiting prematurely, which reduces system headroom and dynamic range.

In contrast, TruPower limiting anticipates varying loudspeaker impedances by measuring both current and voltage to compute the actual power dissipation in the voice coil. This approach improves performance, both before and during limiting, by allowing the driver to produce the maximum SPL across its entire frequency range, while also retaining signal peaks. TruPower limiting also eliminates power compression at high levels over lengthy periods, which helps regulate voice coil temperatures, thereby extending the life of the driver.

HF and LF Limit LEDs

The low- and high-frequency drivers for LEOPARD are powered by separate amplifier channels, each with their own limiter. Limiting activity is indicated with two Limit LEDs on the user panel (Figure 15). The HF Limit LED indicates limiting for the high-frequency channel and the LF Limit LED indicates limiting for the low-frequency channel.

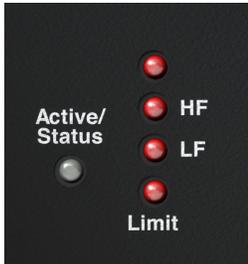


Figure 15: LEOPARD Limit LEDs

When engaged, the limiters not only protect the drivers but also prevent signal peaks from causing excessive distortion in the amplifier channels, thereby preserving headroom and maintaining smooth frequency response at high levels. When levels return to normal, below the limiter thresholds, limiting ceases.

LEOPARD performs within its acoustical specifications at normal temperatures when the Limit LEDs are unlit, or when the LEDs are lit for 2 seconds or less and then turn off for at least 1 second. If the LEDs remain lit for longer than 3 seconds, the loudspeaker enters hard limiting where:

- Increases to the input level have no effect
- Distortion increases due to clipping
- Drivers are subjected to excessive heat and excursion, thereby compromising their lifespan

 **CAUTION:** The Limit LEDs indicate when a safe, optimum level is exceeded. If a LEOPARD loudspeaker system begins to limit before reaching the desired SPL, consider adding more loudspeakers to the system.

AMPLIFIER COOLING SYSTEM

LEOPARD is convection cooled. The amplifier's heat sink provides natural convection cooling from the air flowing near its fins. When exposed to high ambient temperatures or when driven continuously at high output levels, a variable-speed fan circulates air internally to ensure that LEOPARD remains operational.

 **CAUTION:** To keep LEOPARD from overheating, allow at least 6 inches behind the cabinet for proper ventilation.

 **CAUTION:** LEOPARD's heat sink can reach temperatures up to 80 °C (176 °F) during extreme operation. Wait 15 minutes for the loudspeaker to cool before touching.

ACTIVE/STATUS LED

During normal operation, when LEOPARD is powered on, the Active/Status LED is solid green. If the loudspeaker encounters a hardware fault, or the loudspeaker begins to overheat, the LED flashes red. In some instances, the loudspeaker will continue to output audio while the LED flashes red, though with a reduction in the limiter threshold and acoustic output to protect the loudspeaker.

If a loudspeaker is overheating (for RMS-equipped loudspeakers, you can verify this situation in Compass RMS), a reduction in SPL may be necessary. If, after a reduction in SPL and an appropriate cooling period, the Active/Status LED continues to flash red (does not return to solid green), contact Meyer Sound Technical Support.

If the Active/Status LED flashes red and the loudspeaker does not output audio, contact Meyer Sound Technical Support immediately.

 **CAUTION:** If a LEOPARD loudspeaker system consistently overheats before reaching the desired SPL, consider adding more loudspeakers to the system.

 **NOTE:** During startup, the Active/Status LED flashes multiple colors successively. For more information about the power on sequence, see "Intelligent AC Power Supply" on page 8.

 **TIP:** When LEOPARD is connected to an RMS network, the Compass RMS software provides additional feedback on the loudspeaker's hardware status and operating temperature. For more information, see Chapter 5, "RMS Remote Monitoring System."

CHAPTER 4: QUICKFLY RIGGING

IMPORTANT SAFETY CONSIDERATIONS!

When installing Meyer Sound loudspeakers and subwoofers, the following precautions should always be observed:

- All Meyer Sound products must be used in accordance with local, state, federal, and industry regulations. It is the owner's and user's responsibility to evaluate the reliability of any rigging method for their application. Rigging should only be carried out by experienced professionals.
- Use mounting and rigging hardware that has been rated to meet or exceed the weight being hung.
- Make sure to attach mounting hardware to the building's structural components (roof truss), and not just to the wall surface.
- Make sure bolts and eyebolts are tightened securely. Meyer Sound recommends using Loctite® on all threaded fasteners.
- Inspect mounting and rigging hardware regularly. Immediately replace any worn or damaged components.

LEOPARD RIGGING OPTIONS

Table 4 summarizes the available rigging options for LEOPARD. For complete information about rigging hardware, including dimensions, weight, configuration, and load ratings, refer to the MG-LEOPARD/900 Assembly Guide (PN 05.243.080.01) available at meyersound.com/documents.

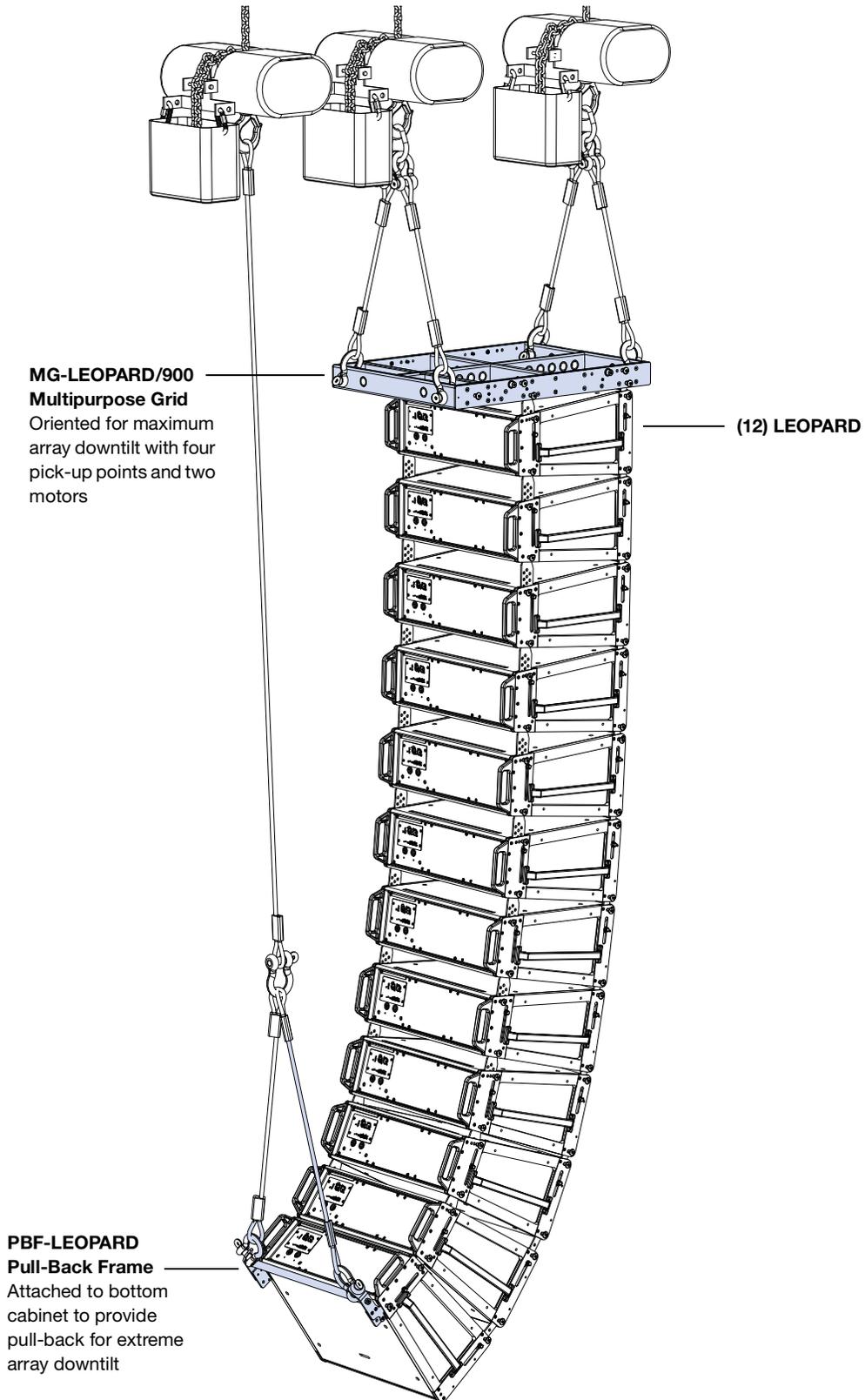
Table 4: LEOPARD Rigging Options

Model	Weight	Features	Required Quick-Release Pins	Required Shackles
MG-LEOPARD/900 multipurpose grid (PN 40.243.080.01)	60.5 lb (27.5 kg)	With some restrictions, flies up to 23 LEOPARDS at a 5:1 safety factor; supports mixed arrays of LEOPARDS and 900-LFCs without transition hardware; accommodates a variety of pickup configurations with four corner and 13 center pickup points; includes attachment points to accommodate brackets and adapters for lasers and inclinometers; can also be used for groundstacking	5/16 in x 7/8 in (red button), PN 134.025, qty 10 included	5/8-inch or 3/4-inch
GROUNDSTACK DOWNTILT KIT: MG-LEOPARD/900 (PN 40.243.163.01)	2 lb (0.9 kg)	Includes two angle feet that attach to the rear of the MG-LEOPARD/900 grid that add from 3-8 degrees of tilt to groundstacks	5/16 in x 7/8 in (red button), PN 134.025, qty 0 included	—
MVP motor Vee plate (PN 40.215.184.01)	20 lb (9.1 kg)	Fine tunes the horizontal aim of arrays; compatible with MTG-LEO-M, MTG-LYON, MTG-1100, and MG-LEOPARD/900 grids	—	3/4-inch or 7/8-inch
MTF-LYON/LEOPARD transition frame (PN 40.232.140.01)	71 lbs (32.2 kg)	With some restrictions, flies up to ten LEOPARDS at a 5:1 safety factor below LYON arrays for downfill; includes rear attachment points for pull-back; collapsible for easy transport on top of LEOPARD stacks	7/16 in x 9/10 in (black button), PN 134.050, qty 0 included	1/2-inch or 5/8-inch
			5/16 in x 7/8 in, red button, PN 134.025, qty 8 included	
PBF-LEOPARD pull-back frame (PN 40.243.185.01)	4.9 lb (2.2 kg)	Attaches to bottom of LEOPARD and 900-LFC arrays (to the bottom cabinet) and provides pull-back for extreme array downtilt; can also be used to add tilt to LEOPARDS groundstacked on the 900-LFC	5/16 in x 5/8 in (black button), PN 134.024, qty 2 included	1/2-inch
MCF-LEOPARD caster frame (PN 40.243.130.01)	37 lbs (16.8 kg)	Safely transports up to four LEOPARD cabinets, making it easy to assemble and disassemble arrays in blocks of four cabinets	5/16 in x 5/8 in (black button), PN 134.024, qty 0 included	—

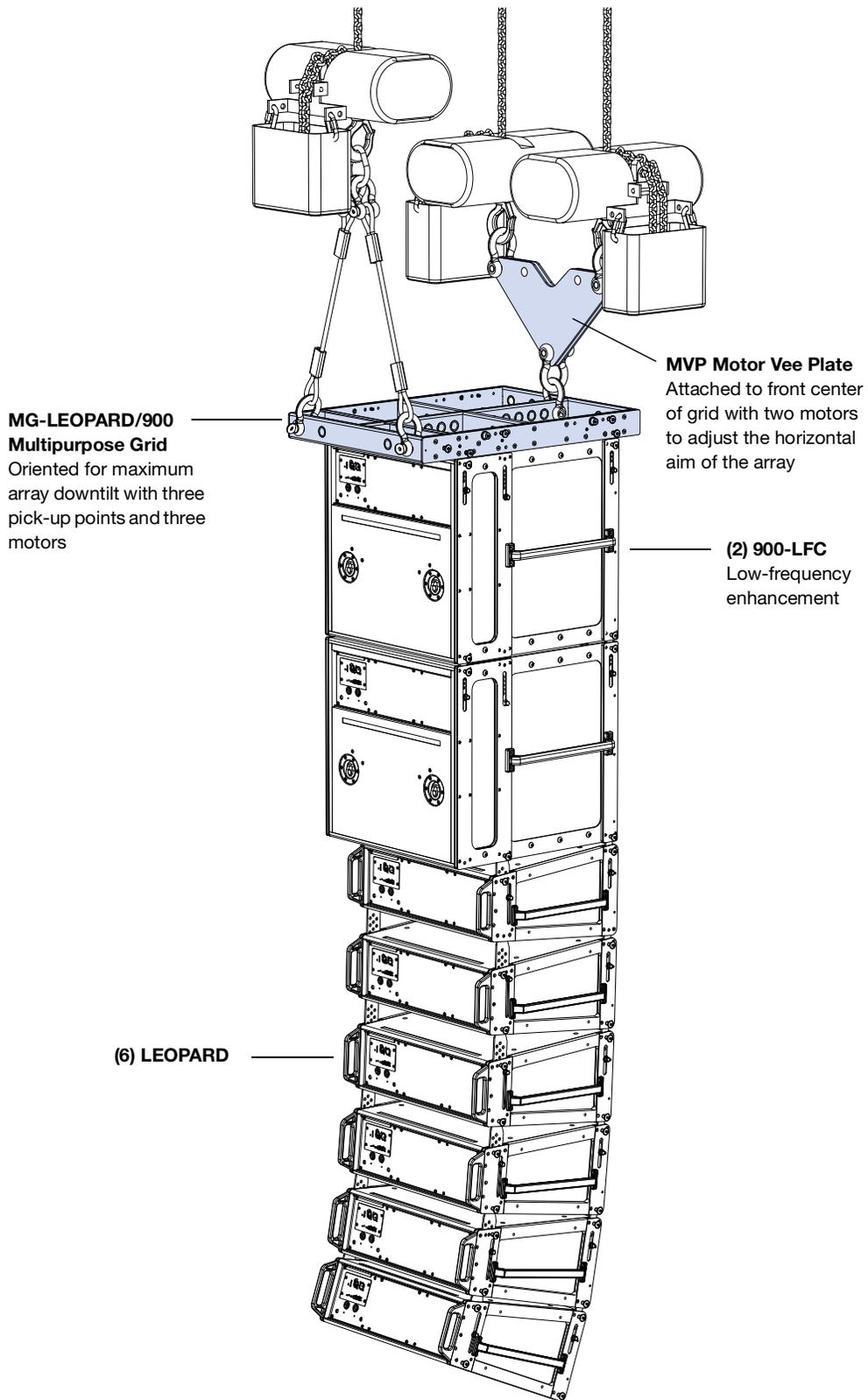


NOTE: The MCF-LEOPARD caster frame does not include quick-release pins because it is secured with the quick-release pins included with the loudspeaker. The GROUNDSTACK DOWNTILT KIT: MG-LEOPARD/900 does not include quick-release pins because the angle feet are secured with the quick-release pins included with the grid.

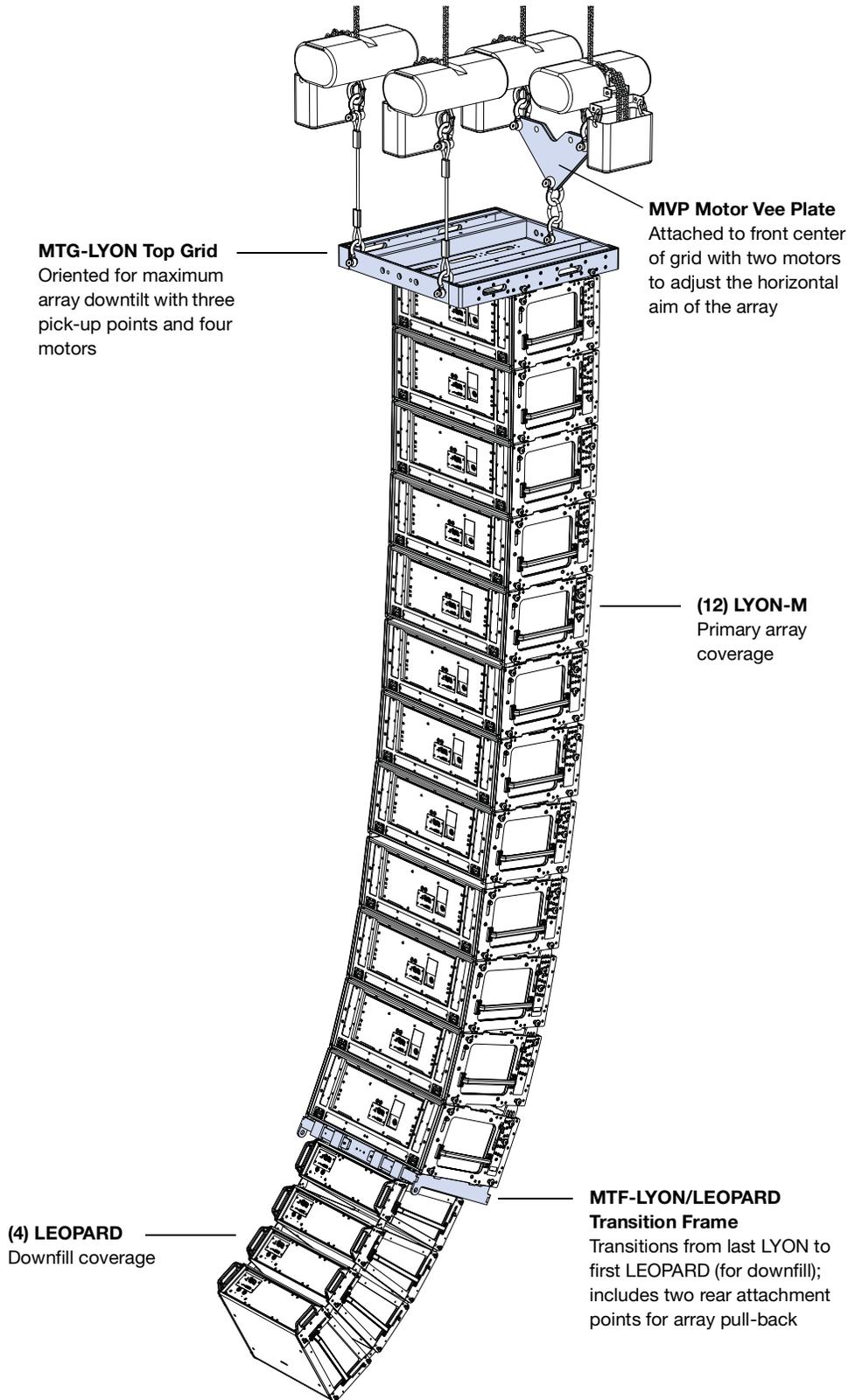
Rigging Example, LEOPARD Array with Pull-Back



Rigging Example, Mixed Array with 900-LFCs and LEOPARDS



Rigging Example, LYON Array with LEOPARD Downfill



LEOPARD GUIDEALINKS

LEOPARD is equipped with four captive GuideALinks and four mating links slots that link to adjacent LEOPARDS or 900-LFCs in flown and groundstacked arrays. Located at the top corners of the cabinet, GuideALinks extend up and into the link slots of the cabinet above it (Figure 16 and Figure 17), or into the link slots of the MG-LEOPARD/900 grid or MTF-LYON/LEOPARD transition frame. GuideALinks extend and retract with knobs and are secured with two quick-release pins: one each in the top and bottom cabinets. Each LEOPARD loudspeaker ships with eight 5/16 x 0.063-inch quick-release pins (black button) (PN 134.024).

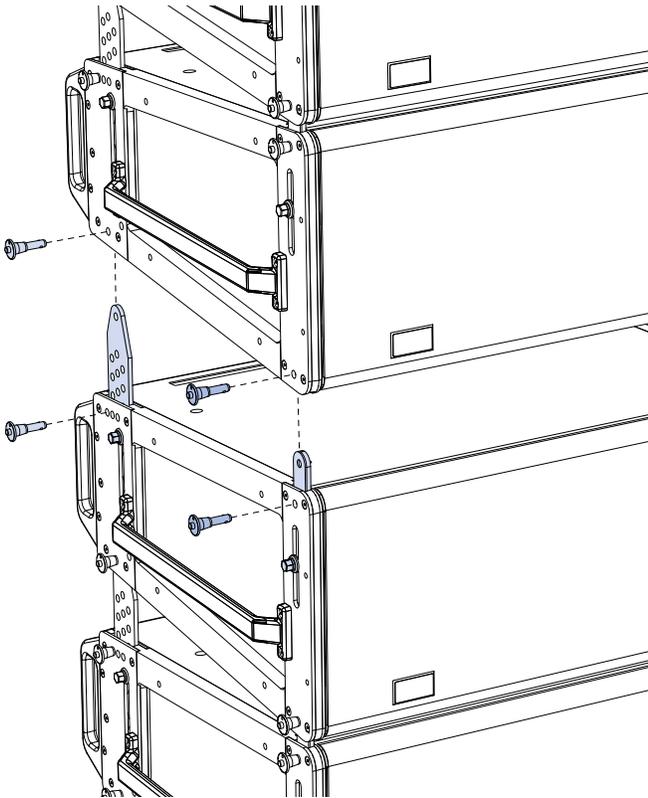


Figure 16: LEOPARD GuideALinks with Quick-Release Pins, Exploded View

CAUTION: GuideALinks must be secured with the included quick-release pins. At no time should the weight of the loudspeaker rest on the GuideALink knobs when the links are fully extended (without the pins inserted). GuideALink knobs are for extending and retracting the links only.

LEOPARD Splay Angles

Front GuideALinks attach at splay angles of 0 or +5 degrees. However, the front GuideALinks should almost always be attached at 0 degrees, to ensure that coverage between

linked cabinets is continuous. When attached at 0 degrees, the front GuideALinks act as a pivot point between the linked LEOPARDS, with the splay angle between the units determined by the rear GuideALink positions. When attached at +5 degrees, the front GuideALinks add 5 degrees to the splay angle configured with the rear GuideALinks, making it possible to achieve splay angles of 11 to 15 degrees. To stow the front GuideALinks, move them all the way down to STOW and pin them.

TIP: Wide splay angles of 11 to 15 degrees should only be used for downfill coverage, or for steering coverage away from structures like balconies.

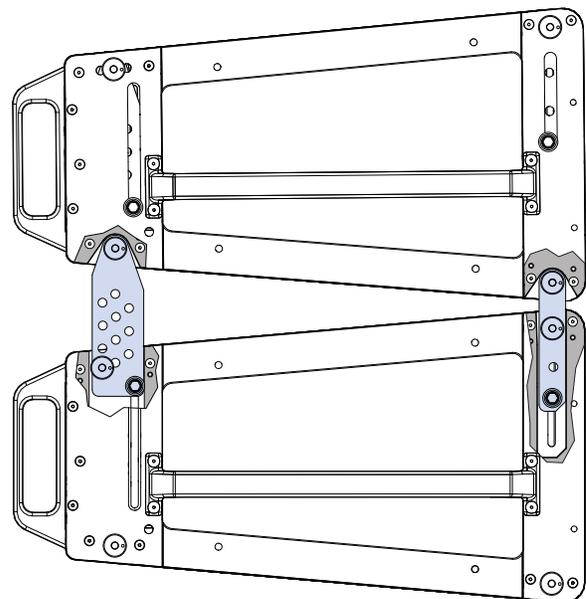


Figure 17: LEOPARD GuideALinks (Exposed) Attached at 0.5 Degrees

Rear GuideALinks attach at splay angles of 0.5 to 10 degrees. The labels next to the rear GuideALinks indicate the splay angle between cabinets and provide a guide for which of the three pinning positions to use to secure the links (Figure 18). As the links are moved down, the splay angle increases. To stow the rear GuideALinks, move them all the way down to STOW and pin them to the center pin position.

NOTE: The splay angles listed on the GuideALink labels are for relative angles between the center axes of the linked units. For example, setting the GuideALinks to 5 degrees yields a 5-degree downtilt of the lower unit to the upper unit. How the loudspeakers relate to the floor, stage, and seating angles in the venue depends on the orientation of the grid, the angles of the loudspeakers in the array above them, and other factors. MAPP prediction

software should be used to calculate optimum splay angles for loudspeakers and to predict coverage patterns for arrays.

the top cabinet with the GuideALink configurations listed in Table 5.

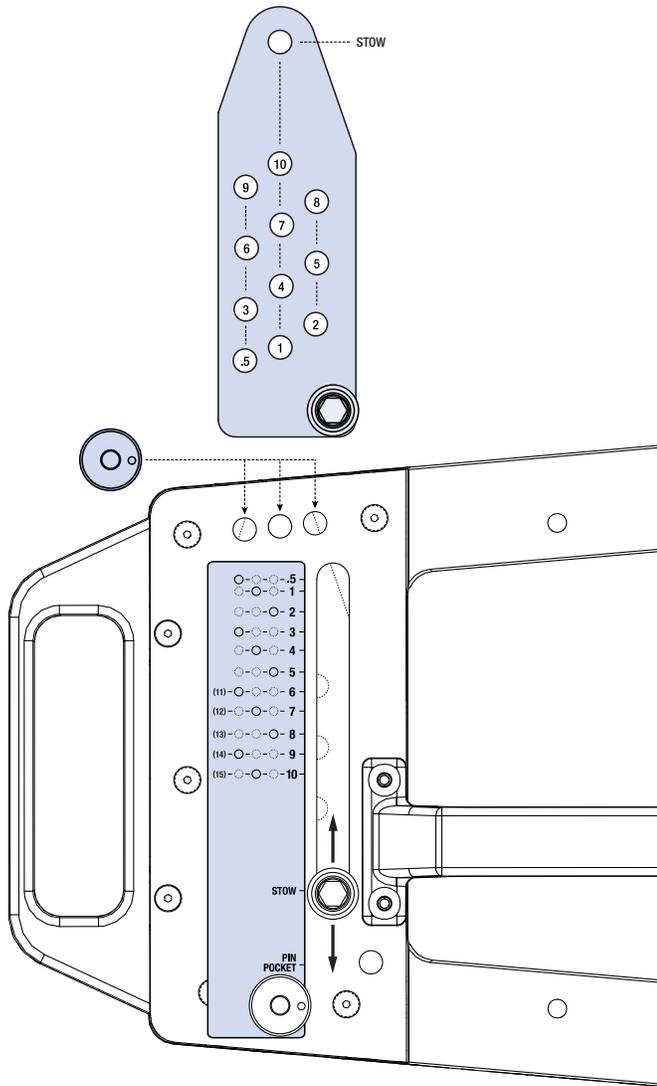


Figure 18: LEOPARD Rear GuideALinks Label

NOTE: For more information on GuideALink configurations, refer to the MG-LEOPARD/900 Assembly Guide (PN 05.243.080.01) available at meyersound.com/documents.

Table 5: LEOPARD (Top Cabinet) GuideALink Configurations

Rear GuideALinks Set To	Front GuideALinks Set To	Resulting Angle of Attachment
.5°	0°	-4.5°
1°	0°	-4°
2°	0°	-3°
3°	0°	-2°
4°	0°	-1°
5°	0°	0°
6°	0°	1°
7°	0°	2°
8°	0°	3°
9°	0°	4°
10°	0°	5°
6°	+5°	6°
7°	+5°	7°
8°	+5°	8°
9°	+5°	9°
10°	+5°	10°

NOTE: When flying LEOPARDS from the MG-LEOPARD/900 grid, a splay angle of 0 degrees is recommended for the top cabinet (rear GuideALinks set to 5, front GuideALinks set to 0) to ensure that the cabinet aligns with any lasers or inclinometers mounted on the grid. To add tilt to the top cabinet, the actual grid should instead be tilted with motors attached to the front and rear of the grid. If just one motor is available, you can attach it to one of the 13 center pickup points offset from the center of the grid to achieve the desired tilt.

LEOPARD Splay Angles for Top Flown Cabinets

When flying LEOPARDS below the 900-LFC, MG-LEOPARD/900 grid, or MTF-LYON/LEOPARD transition frame, splay angles of -4.5 to +10 degrees are possible for

CHAPTER 5: RMS REMOTE MONITORING SYSTEM

LEOPARD includes an RMS remote monitoring system module, allowing the loudspeaker to be connected to an RMS network. RMS reports, in real time, the status and power usage of multiple Meyer Sound loudspeakers from a Mac or Windows-based computer. The RMS host computer communicates with Meyer Sound loudspeakers (equipped with RMS modules) via RMsServer™, a compact, Ethernet-based hardware unit with two FT-10 RMS dataports. RMsServer stores system configurations internally, eliminating most manual data entry. Systems can be monitored from a computer at front-of-house or backstage, or from a laptop anywhere within the venue over WiFi.

 **NOTE:** For the latest RMS system requirements, visit the Meyer Sound website (meyersound.com/products).

 **NOTE:** RMS does not control AC power.

COMPASS RMS SOFTWARE

Compass RMS™ software provides extensive system status and performance data for each loudspeaker, including amplifier voltage, limiting activity, power output, fan and driver status, as well as mute and solo capability. Loudspeakers are added to the RMS network and assigned a node name during a one-time discovery procedure. After loudspeakers are identified on the RMS network, they appear in Compass RMS as icons that can be customized to suit your needs (Figure 19).



Figure 19: Compass RMS Window

Individual loudspeakers can be physically identified with the Wink option in RMS, which lights the Wink LED on the RMS module of that particular loudspeaker. Conversely, a loudspeaker can be identified in Compass RMS by pressing the Identify button on the loudspeaker's RMS module.

Loudspeaker icons can be arranged in Compass RMS and saved as pages to represent how the loudspeakers have been deployed in the system. Multiple pages can be saved and recalled for specific performances and venues.

RMS MODULE

The LEOPARD RMS user panel includes an Identify button, Remote Mute switch, Wink/Activity LED, and two Network connectors (Figure 20).

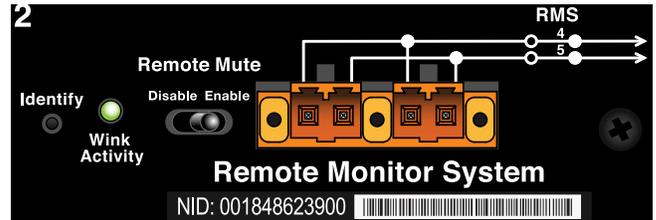


Figure 20: LEOPARD RMS Module

 **NOTE:** The Identify button and Wink/Activity LED on the RMS user panel are used exclusively by RMS and have no effect on the acoustical or electrical activity of the loudspeaker.

Identify Button

The Identify button serves the following functions:

- If the loudspeaker has not yet been discovered on the RMS network (Wink/Activity LED not lit), press the Identify button to discover it.
- To remove the loudspeaker from the RMS network, press and hold the Identify button during startup (see “Resetting the RMS Module” on page 22).
- To *wink* a discovered loudspeaker, press the Identify button. The Wink LED on the loudspeaker icon in Compass RMS lights up and the Wink/Activity LED on the loudspeaker's RMS user panel turns solid green. Press the Identify button again to unwink the loudspeaker.

 **TIP:** The Wink function is useful for identifying the physical loudspeaker corresponding to a loudspeaker icon in Compass RMS.

Wink/Activity LED (Green)

The green Wink/Activity LED indicates the status of the loudspeaker:

- During startup, the LED flashes green 10 times.
- If the loudspeaker has not yet been discovered on the RMS network, the LED is not lit after startup.
- If the loudspeaker has been successfully discovered on the RMS network, the LED flashes green continuously and flashes more rapidly with increased data activity.
- When the loudspeaker is winked, either by clicking the Wink button in Compass RMS or by pressing the Identify button on the RMS user panel, the LED is solid green. The LED remains solid green until the loudspeaker is unwinked.



TIP: The loudspeaker can also be winked by clicking the Wink button on the loudspeaker icon in Compass RMS.

Remote Mute Switch

The recessed Remote Mute switch (Figure 21) on the LEOPARD RMS module determines whether Compass RMS can control muting and soloing of the loudspeaker. LEOPARD ships from the factory with the switch enabled.



Figure 21: Remote Mute Switch

- **Disable:** When the Remote Mute switch is set to Disable (to the left), the loudspeaker cannot be muted or soloed from Compass RMS.
- **Enable:** When the Remote Mute switch is set to Enable (to the right), the loudspeaker can be muted and soloed from Compass RMS.



NOTE: Compass RMS also allows you to disable Mute and Solo functions to eliminate any possibility of accidentally muting loudspeakers.

RMS Network Connectors

The Weidmuller 2-conductor, locking connectors transfer data to and from the RMS network. Two connectors are provided to allow for easy connection of multiple (daisy-

chained) loudspeakers on the network. Included with each RMS-equipped loudspeaker are RMS cable connectors and mounting blocks for constructing RMS cables. The RMS blocks allow the Weidmuller connectors to be securely attached to the RMS module with screws.

NEURON ID FOR RMS MODULE

Each RMS module has a unique 12-character Neuron ID (NID) that identifies the loudspeaker on the network. The NID is automatically detected by RMServer but can also be entered manually, if necessary, when configuring RMS systems in Compass RMS without loudspeakers present. The NID label is located on the RMS user panel near the orange Network connectors.

RESETTING THE RMS MODULE

Use the Identify button to reset the LEOPARD RMS module when powering on the loudspeaker. This action will cause the module to be removed from the RMS network.

To reset the RMS module:

1. Power down the loudspeaker.
2. Press and hold the Identify button.
3. While continuing to hold down the Identify button, power on the loudspeaker.
4. After the Wink/Status LED flashes on and off, release the Identify button. The RMS module is reset and the loudspeaker is removed from the RMS network.

CHAPTER 6: SYSTEM DESIGN AND INTEGRATION TOOLS

This chapter introduces MAPP, Meyer Sound's patented system design tool and the Galileo GALAXY Network Platform.

MAPP SYSTEM DESIGN TOOL

The MAPP System Design Tool (Figure 22) is a powerful, cross-platform application for accurately predicting the coverage pattern, frequency response, phase response, impulse response, and SPL capability of individual or arrayed Meyer Sound loudspeakers.

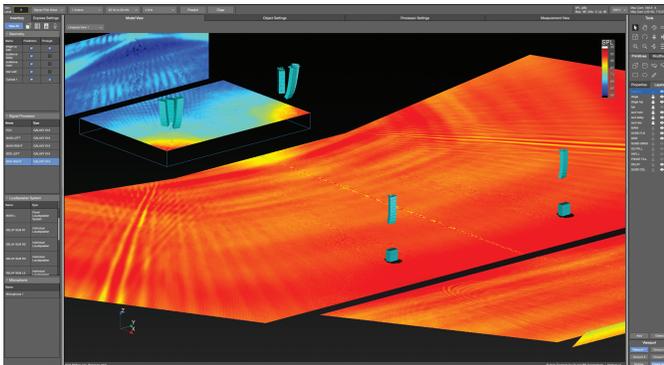


Figure 22: MAPP System Design Tool

Whether planning for fixed installations or for tours with multiple venues, use MAPP to accurately predict the appropriate loudspeaker deployment for each job, complete with coverage data, system delay and equalization settings, rigging information, and detailed design illustrations. MAPP's accurate, high-resolution predictions ensure that systems will perform as intended, thereby eliminating unexpected coverage problems and minimizing onsite adjustments.

The key to the accuracy of MAPP's predictions is Meyer Sound's exhaustive database of loudspeaker measurements. Performance predictions for each loudspeaker are based on 3-dimensional, 65,000+ 1/48th-octave-band measurements taken in the Meyer Sound anechoic chamber. The extraordinary consistency between Meyer Sound loudspeakers guarantees that predictions from MAPP will closely match their actual performance.

MAPP software allows for configuration of Meyer Sound loudspeaker systems and definition of the environment in which they operate, including air temperature, pressure, humidity, and the location of prediction surfaces. Importing both CAD (.DXF) and Sketchup (.SKP) files containing detailed venue information to act as an anchor model to the prediction surfaces and a visual aid to facilitate prediction data interpretation is also possible.



TIP: See meyersound.com/products or more information about and support for MAPP.

MAPP Capabilities

With MAPP, the user can:

- Simulate different loudspeaker configurations to refine system designs and determine the best coverage for intended audience areas
- Model loudspeaker interactions to locate constructive and destructive interferences so that loudspeakers can be re-aimed and repositioned as necessary
- Place microphones anywhere in the Model View space and predict loudspeaker frequency response, phase response, and sound pressure levels at each microphone position
- Determine delay settings for fill loudspeakers using the Inverse Fast Fourier Transform and phase response feature
- Preview the results of signal processing to determine optimum settings for the best system response
- Automatically calculate load information for arrays to determine necessary minimum rigging capacity, front-to-back weight distribution, and center of gravity location
- Generate and export system images and system PDF reports for client presentations
- Synchronize GALAXY processor output channel settings in real time with virtual or real GALAXY units, allowing in-the-field changes to be predicted during system alignments.

GALILEO GALAXY NETWORK PLATFORM

The Galileo GALAXY Network Platform is a sophisticated loudspeaker management tool for controlling all Meyer Sound speaker types. The GALAXY loudspeaker processor extends a high level of audio control in driving and aligning loudspeaker systems with multiple zones. It provides a powerful tool set for corrective equalization (EQ) and creative fine-tuning for a full range of applications from touring to cinema.

Users can readily program the GALAXY processor using Compass software running on a host computer or via the Compass Go application for the iPad. Connecting MAPP to the GALAXY processor will also allow the user to push output channel settings created in MAPP as a starting point. Compass Control Software includes custom-designed settings for each family of speakers, as well as to integrate families together. For example, the Product Integration feature matches the phase characteristics between Meyer speaker families to ensure the most coherent summation.

Processing tools for inputs and outputs include delay, parametric EQ and U-Shaping EQ. Output processing also includes polarity reversal, Low-Mid Beam Control (LMBC), atmospheric correction, and All Pass filters.

The built-in summing and delay matrices allow a user to easily assign gain and delay values, respectively, at each cross point. This capability greatly facilitates using one loudspeaker to satisfy multiple purposes.

Front panel controls let a user intuitively and quickly operate a GALAXY processor without a computer during live use.

The GALAXY 408, GALAXY 816 and GALAXY 816-AES3 processor versions have the same audio processing capability with different I/O. See www.meyersound.com to locate their datasheets for more information.

APPENDIX A: MEYER SOUND WEATHER PROTECTION

The Weather Protection option from Meyer Sound is intended to increase the useful life of Meyer Sound loudspeakers when they are installed outdoors and exposed to different and often harsh weather conditions. Our Weather Protection includes a penetrating treatment to raw wood, use of special primers, and plating on all steel parts used (or alternatively, the use of stainless steel hardware). Weather Protection is designed to prevent malfunctions caused by harsh operating environments and slows the accelerated wear and tear that occurs in outdoor environments.

When Is Weather Protection Advisable?

Weather Protection is strongly recommended for all permanent outdoor installations where loudspeakers are directly exposed to the elements. This includes desert and semi-arid climates, where protection against dust and sand is important, and where infrequent rainstorms can contribute to deterioration of loudspeaker components.

Weather Protection is also recommended when the loudspeakers are sheltered from direct exposure to precipitation but are nevertheless exposed to prolonged high humidity, fog or mist. Examples would be installations on covered outdoor terraces or pavilions.

Weather Protection is further advisable for portable or touring systems when any significant outdoor use is anticipated. Even though standard procedures may call for using external protective measures, these are often not implemented in time to prevent moisture intrusions that could lead to premature performance degradation of the loudspeaker.

Climate Variation and Owner Maintenance

The wear and tear on a loudspeaker will vary significantly with different climatic conditions. For example, a weather-protected loudspeaker installed in a sunlight-exposed location on an ocean pier will experience much harsher conditions than a loudspeaker in a similar installation that is shaded by trees and exposed only to rainfall. The constant exposure to direct UV radiation and salt air environment will cause a loudspeaker to wear more quickly than one with partial UV shielding and exposed only to freshwater moisture.

Wear can eventually affect the performance of the loudspeaker. It also affects aesthetics. For example, in salt

air environments, the exterior grille can quickly show signs of oxidation, causing unsightly discoloration.

Apart from selecting suitable weather protection, the progress of wear and tear on the loudspeaker can be slowed by a regular schedule of inspection and cleaning. This maintenance is particularly necessary in harsh environments. Inspection and cleaning should include routine removal of any visible oxidation or environmental particulates, as these can accelerate metal corrosion or decay of the cabinet. If installed loudspeakers are not in use for an extended period, exterior protection or temporary removal and storage of the loudspeakers should be considered.

Benefits of Weather Protection

There are several benefits to selecting the Meyer Sound Weather Protection option:

Functionality - Weather Protection prolongs the service life of the loudspeaker by preventing premature degradation of internal components.

Safety - Weather Protection lessens the chance of electrical malfunctions or structural failures.

 **WARNING:** IT IS THE RESPONSIBILITY OF PURCHASERS/USERS/OPERATORS TO SELECT WEATHER PROTECTION WHEN APPROPRIATE FOR THEIR USE AND TO PERIODICALLY INSPECT THEIR LOUDSPEAKER INSTALLATIONS FOR ANY DETERIORATION THAT MAY LEAD TO SAFETY CONCERNS.

Aesthetics - Weather Protection slows wear and tear on the exterior of the loudspeaker in harsh conditions. Early signs of wear and tear on the exterior of the loudspeaker indicate over-exposure to the elements.

Standards Compliance - Weather Protection helps in meeting IP ratings for loudspeakers. IP ratings are an internationally recognized standard often used in installations involving our products. A further explanation of IP ratings is given in the "IP Ratings Definition Chart" Section on page 27.

WEATHER PROTECTION COMPONENTS

Standard Weather Protection

Meyer Sound designs toward an IP rating of IPX4 (see “IP Ratings Definition Chart” on page 27) for Standard Weather Protection, which includes the following components:

- Wood treatment—Prior to cabinet manufacturing, the raw wood receives a special treatment that penetrates and stabilizes the wood fibers to withstand a wide range of temperatures and exposure to extreme humidity.
- Cabinet finishing—The assembled cabinets receive a highly impervious finish that includes a sealing primer and a finishing topcoat. The coatings are applied on both surfaces, with one coat on the interior and two on the exterior. The final step is a two-part modified acrylic urethane similar to that used in military applications.
- Driver treatment—All cone drivers are coated with a water-resistant sealant.
- Exterior protection—Grille frames are coated to resist corrosion, and all components that mount to the cabinet use custom gaskets and stainless steel fasteners.
- Removable rain hood—The rain hood is designed to shield connectors even in wind-driven rain.

Ultra Weather Protection

For installations in extremely harsh environments, Meyer Sound offers an Ultra Weather Protection option on a limited number of loudspeaker models. (For a list of products offered with this option, please contact Meyer Sound.) Meyer Sound designs toward an IP rating of IPX5 for Ultra Weather Protection, which includes all of the components of standard Weather Protection, plus the following:

- Extended cabinet finishing with extra thick proprietary coatings
- Special printed circuit board treatments
- Use of corrosion-resistant hardware

Ultra Weather Protection is recommended for applications where loudspeakers will experience exposure to a salt air environment or chemicals, that have no sheltering from corrosive spray or UV exposure, and that cannot be covered or removed during their service life. Examples would include cruise ship exterior areas, ocean-side visitor attractions, swimming pool areas, and themed attractions with wind-carried water spray.

INSTALLATION PRACTICES

Meyer Sound assumes normal and accepted installation practices are used when installing Meyer Sound Loudspeakers outdoors. Deviation from such practices may cause weather protection to be ineffective and void the warranty for the loudspeaker.

Examples of unacceptable and acceptable installation practices include:

- Loudspeakers installed outdoors should not face upward.
- Loudspeakers with a rain hood should be installed in such a way that the rain hood opening is not facing any direction but down.
- Meyer Sound-supplied rigging components should not be modified (for example, by drilling additional holes in a MUB for mounting to a wall). When an installer/integrator modifies a Meyer Sound supplied rigging component to support their installation method, it is considered compromised and out of warranty.
- All loudspeaker cabling must be installed with a "drip-loop" or equivalent method to ensure that rain/water is NOT wicked toward the loudspeaker.

If in doubt about an installation method, contact Meyer Sound Technical Support for assistance.

Always discuss the environmental conditions of your Meyer Sound installation with your Sales Manager, and verify the availability of Weather Protection for your selected loudspeaker models. The Sales Manager, together with Technical Support, will verify the appropriate level of weather protection for the loudspeakers and related rigging hardware.

IP RATINGS

IP stands for "Ingress Protection." The current format for expressing an IP rating is a 2-digit code. The first digit of an IP rating represents protection from solid objects. The second digit of an IP rating represents protection from water or moisture. Table 6 provides a chart of IP ratings and the corresponding definitions of the rating.



NOTE: IP ratings only apply to the "ENCLOSURE." A loudspeaker is considered an enclosure and as such we can apply an IP rating to it. Rigging hardware is not an enclosure and therefore IP ratings do not apply. Also, cable and cable-mount connectors used to connect to the loudspeaker are NOT part of the enclosure and therefore not part of the IP rating. Only the chassis-mounted part of the connector is considered part of the enclosure.

Table 6: IP Ratings Definition Chart

First Digit (Protection against solid objects)	Definition	Second Digit (Protection against liquids)	Definition
X	Characteristic numeral is not required to be specified.	X	Characteristic numeral is not required to be specified.
0	No protection	0	No protection
1	Protected against solid objects over 50mm.	1	Protected against vertically falling drops of water.
2	Protected against solid objects over 12 mm.	2	Protected against direct sprays up to 15° from the vertical.
3	Protected against solid objects over 2.5mm.	3	Protected against direct sprays up to 60° from the vertical
4	Protected against solid objects over 1 mm.	4	Protected against direct sprays from all directions. Limited ingress permitted
5	Protected against dust. Limited ingress permitted.	5	Protected against low-pressure jets of water from all directions. Limited ingress permitted.
6	Totally protected against dust.	6	Protected against strong jets of water from all directions. Limited ingress permitted.
		7	Protected against the effect of temporary immersion between 15cm and 1m.
		8	Protected against the effect of long-term submersion of 1m or more.

APPENDIX B: LEOPARD RAIN HOODS

LEOPARD QUICK-CLIP RIGID RAIN HOOD

Weather-protected LEOPARDS include a quick-clip removable rain hood for indoor/outdoor touring and sheltered outdoor installations.

The LEOPARD quick-clip removable rain hood (Figure 24) is easily attached and removed with its two winghead studs.

To attach the LEOPARD quick-clip rain hood:

1. Connect any required cables to the LEOPARD loudspeaker.
2. Attach the rain hood to the user panel, slipping it under the rain hood retainer flange at the top of the user panel and securing it to the center of the panel with its two winghead studs.

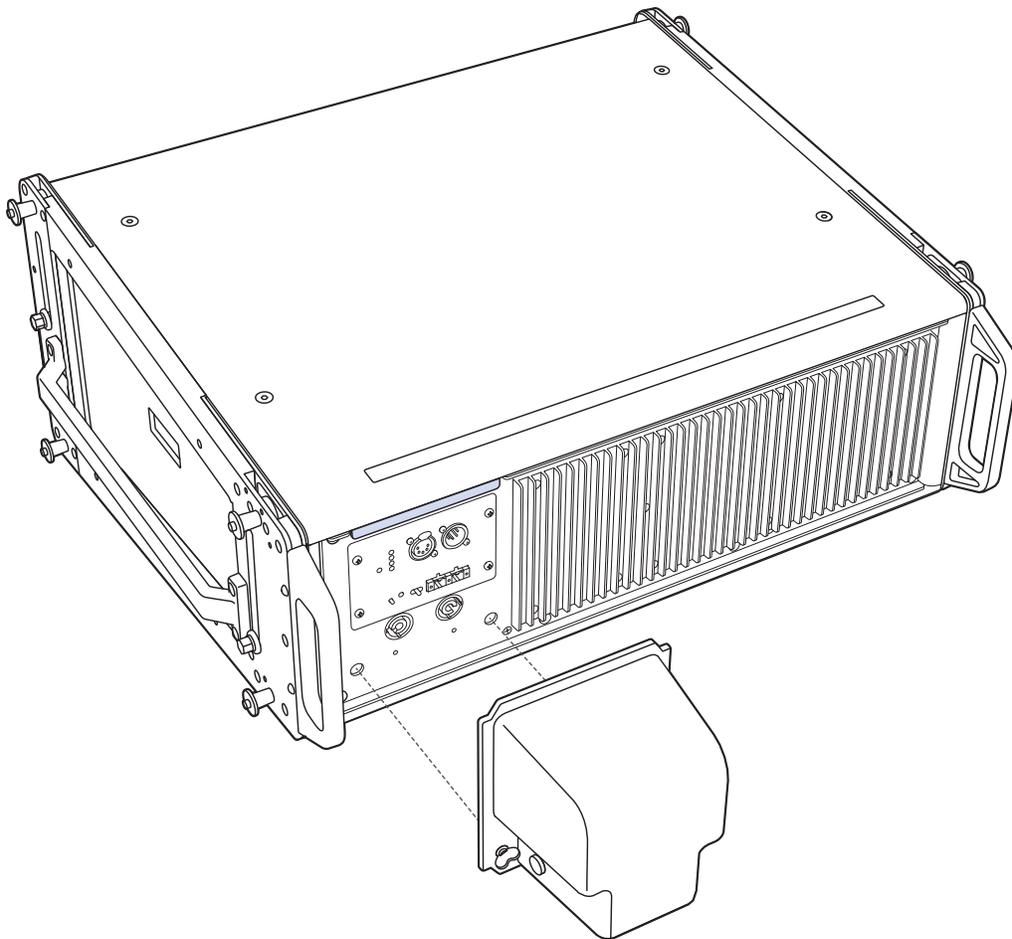


Figure 23: LEOPARD with Quick-Clip Rain Hood

3. Make sure to tighten the winghead studs one quarter turn so they fully lock.

LEOPARD COLLAPSIBLE RAIN HOOD

Another option for weather-protected LEOPARDS is the collapsible rain hood.

The LEOPARD collapsible rain hood (Figure 24) is easily attached and removed with its two screws.

To attach the LEOPARD collapsible rain hood:

1. Slip the rain hood under the rain hood retainer flange at the top of the user panel.
2. Secure the rain hood at the bottom of the panel with the two provided 6-32 x 0.75-inch stainless steel screws.
3. Make sure to tighten the screws to create a good seal against the user panel. The recommended torque value for rain hood screws is

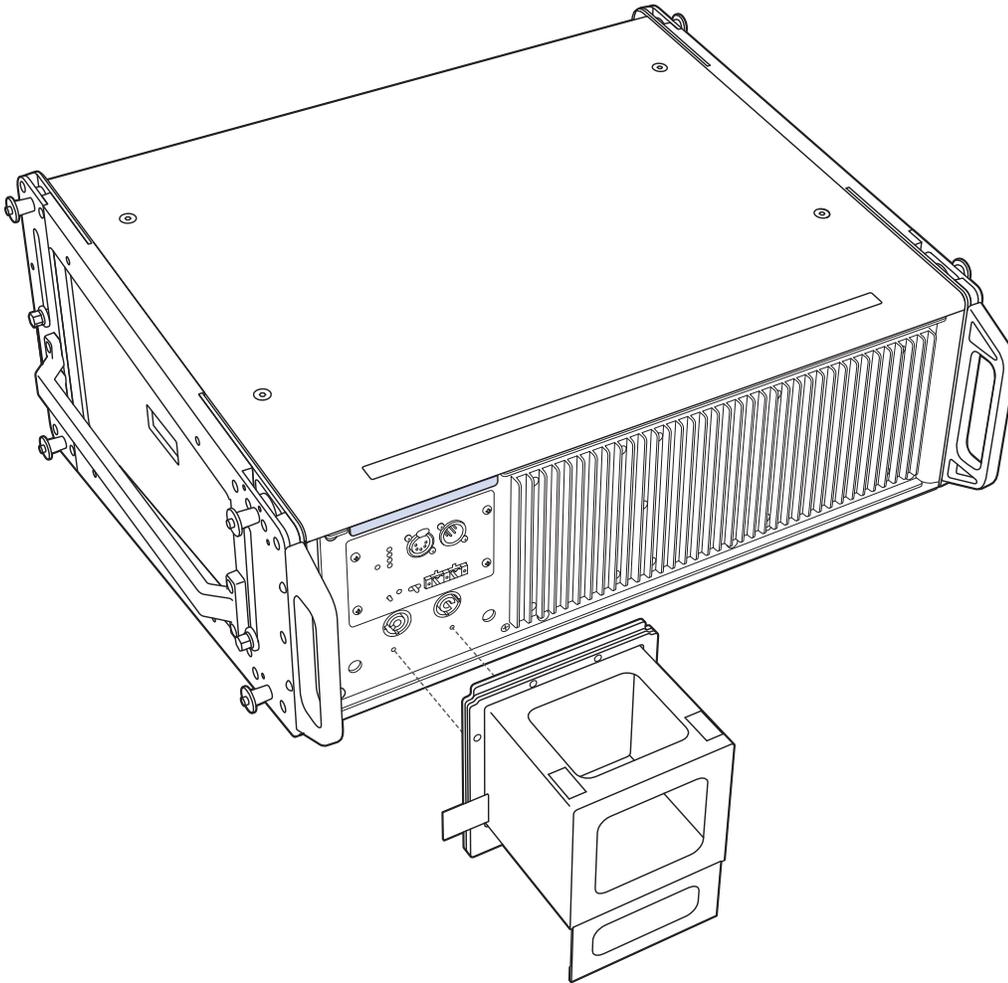


Figure 24: LEOPARD with Collapsible Rain Hood

To use the LEOPARD collapsible rain hood:

1. Detach the Velcro straps and extend the rain hood.
2. Extend the lower flap for splash protection.
3. Attach any required cables to the LEOPARD.

The clear windows let you easily locate the connectors on the user panel.

4. To stow the rain hood, reverse the steps.



CAUTION: There is only one proper loudspeaker orientation once the rainhood is installed. The loudspeaker must be oriented so that all cabling exits from the bottom of the rain hood.



CAUTION: The weather-protected LEOPARD must be mounted with a 0° tilt, or preferably with a slight down-tilt. This angle shields the driver from the elements and does not allow water to accumulate. Do not tilt the cabinet up, as the drivers and cabinet will accumulate water.



NOTE: Weather Protected units using either of the LEOPARD/900-LFC Rain Hoods are rated IP44 for water intrusion.

APPENDIX C: ULTRA WEATHER PROTECTION VERSION

Ultra Weather Protection is recommended for applications where loudspeakers will experience exposure to a salt air environment or chemicals, that have no sheltering from corrosive spray or UV exposure, and that cannot be covered or removed during their service life. Examples would include cruise ship exterior areas, ocean-side visitor attractions, swimming pool areas, and themed attractions with wind-carried water spray.

For installations in extremely harsh environments, Meyer Sound offers an IPX5-rated, Ultra Weather Protection version of the LEOPARD loudspeaker, which includes all of the components of standard Weather Protection, plus the following:

- Extended cabinet finishing with extra thick proprietary coatings
- Special printed circuit board treatments
- Improved corrosion-resistant coatings and materials on select metallic components
- Rigging changes for improved corrosion resistance
- Rain hood splash guard for improved water resistance

Table 7 provides a list of the accessories and user-accessible hardware component differences for LEOPARD loudspeakers that ship from the factory as Ultra Weather Protection versions.

Table 7: LEOPARD Ultra Weather Protection Version Accessory and Part Differences

LEOPARD Accessory/Part	UW LEOPARD Accessory/Part	Comment
MG-LEOPARD/900-LFC Grid (PN 40.243.080.01)	MG-LEOPARD/900-LFC UW Grid, white (PN 40.243.180.05) or MG-LEOPARD/900-LFC UW Grid, black (PN 40.243.180.06)	See entries on “Grid to Loudspeaker Fasteners” and “Blanking Screws” in the UW LEOPARD Accessory/Part Column. NOTE: UW grids require the GROUNDSTACK KIT UW (40.243.163.05 or 40.243.163.06) in order to be usable for ground-stacking.
Not applicable	MG-LEOPARD/900-LFC Blanking Screws 8-32 x 0.5-inch pan head Phillips stainless steel screw (PN 101.167), qty 12	Two of these “blanking screws” are inserted around each grid pin hole location to prevent corrosion at unused pin locations. Those at locations where the speaker links will be attached must be removed before attaching a speaker to the grid (Figure 25). NOTE: For the LEOPARD loudspeaker, the front and middle blanking screws must be removed. For the 900-LFC loudspeaker, the front and rear blanking screws must be removed.

Table 7: LEOPARD Ultra Weather Protection Version Accessory and Part Differences

LEOPARD Accessory/Part	UW LEOPARD Accessory/Part	Comment
<p>MG-LEOPARD/900-LFC Grid to Loudspeaker Quick-release pins (with lanyard) Red 5/16 in x 0.875 in with 6-inch lanyard (PN 134.025), qty 10</p>	<p>MG-LEOPARD/900-LFC Grid to Loudspeaker Fasteners UW lock pin clamp, 5/16-inch with gasket, qty 4 (PN 45.010.506.05), white OR (PN 45.010.506.06), black</p> <p>Hex head screw with washer 8-32 x 3/4-inch, qty 12 (PN 45.010.934.05), white OR (PN 45.010.934.06), black</p> <p> CAUTION: These screws have a pre-applied thread-locking patch and cannot be reused.</p> <p>UW lock pin 5/16-in x 0.63-inch (PN 61.010.504.01), qty 4</p>	<p>The clamps, screws, and lock pin replace the quick-release pins (with lanyard). Torque screws to 12 in-lb (1.36 N·m).</p>
<p>LEOPARD Loudspeaker to Loudspeaker quick-release pins Black 5/16 in x 0.63 in (PN 134.024), qty 8</p>	<p>LEOPARD Loudspeaker to Loudspeaker Fasteners UW lock pin clamp, 5/16-inch with gasket, qty 8 (PN 45.010.506.05), white OR (PN 45.010.506.06), black</p> <p>Hex head screw with washer 8-32 x 3/4-inch, qty 20 (PN 45.010.934.05), white OR (PN 45.010.934.06), black</p> <p>UW lock pin 5/16-in x 0.63-inch (PN 61.010.504.01), qty 8</p>	<p>The clamps, screws, and lock pin replace the quick-release pins (with lanyard). See Figure 26. Torque screws to 12 in-lb (1.36 N·m).</p>
<p>GROUNDSTACK KIT: MG-LEOPARD/900-LFC (PN 40.243.163.01) (Kit does not include quick-release pins because the angle feet are secured with the quick-release pins included with the grid.)</p>	<p>GROUNDSTACK KIT: MG-LEOPARD/900-LFC UW, white (PN 40.243.163.05) or MG-LEOPARD/900-LFC UW, black (PN 40.243.163.06)</p>	<p>These UW kits include: MG-LEOPARD/900-LFC Grid Tilt Assembly (PN 45.243.163.05 or 45.243.163.06), qty 2 LEOPARD UW/900-LFC UW Grid Links, (PN 61.243.191.05 OR 61.243.191.06), qty 4. Shoulder bolts 5/16x1-inch with 1/4-20 thread (PN 101.529), qty 10 Hex Nut, 1/4-20 thread, self-locking (PN 109.107), qty 10. The shoulder bolts and hex nuts replace the grid quick-release pins.</p>

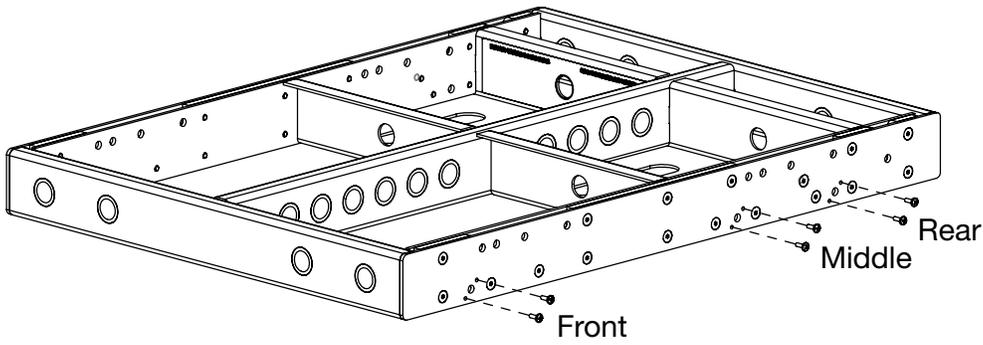


Figure 25: Blanking Screws (6 per side) to Prevent Corrosion at Unused Pin Locations for Ultra Weather Protection Grid

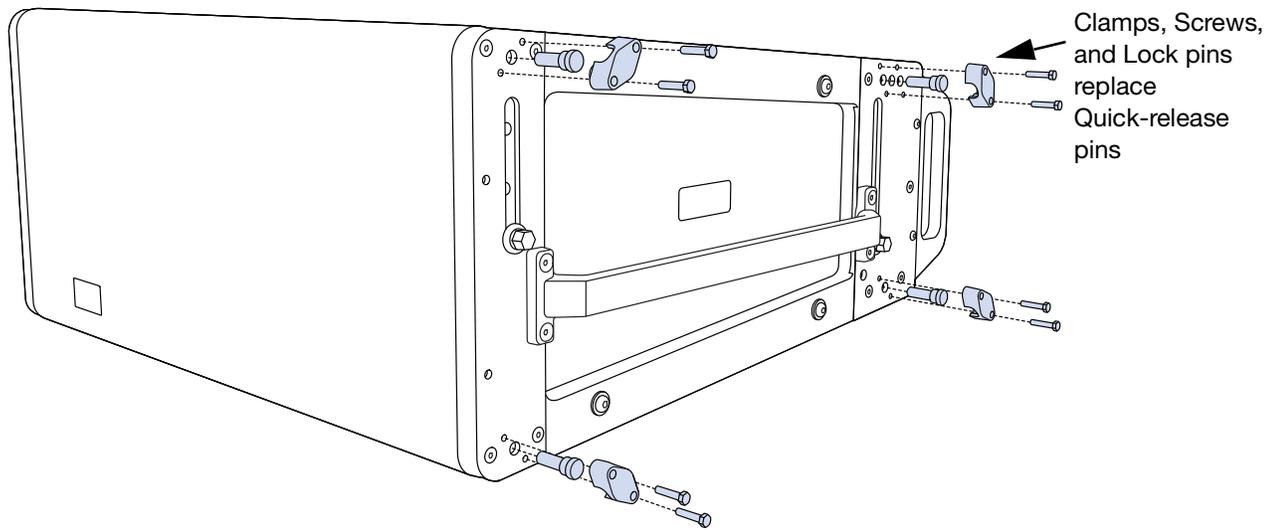


Figure 26: Ultra Weather Protection LEOPARD Loudspeaker Version has Clamps, Screws, and Lock pins that replace standard version quick-release pins

CAUTION: The use of corrosion resistant material reduces the strength of the LEOPARD UW loudspeaker compared to the standard or weather-protected versions. LEOPARD UW loudspeaker versions should not be rigged together with LEOPARD standard or weather-protected loudspeaker versions. Contact Meyer Sound for guidance on loading limitations.

ULTRA WEATHER LEOPARD/900-LFC RAIN HOOD KIT

The ULTRA-weather-protected LEOPARD/900-LFC kit includes a quick-clip removable rain hood.

The Ultra Weather Protection LEOPARD/900-LFC Rain Hood Kit includes the following parts:

- LEOPARD/900-LFC Quick Clip Rain Hood with Splash Shield Assembly (PN 45.243.241.01)
- LEOPARD Rain Hood Baffle (PN 64.243.104.01)
- 2 pan head Phillips 6-32 x 0.25-inch 316 stainless-steel screws (PN 101.405)

Rain Hood Baffle Installation

1. Gather the LEOPARD/900-LFC Rain Hood Baffle (PN 64.243.104.01) and the two pan head Phillips 6-32 x 0.25-inch stainless steel screws (PN 101.405).
2. Turn the loudspeaker so that the rear is accessible.
3. Locate the two screw holes beneath the powerCON connectors on the user panel (left side of the loudspeaker).
4. Attach the Baffle in the orientation shown in Figure 27 using the two provided screws. The recommended torque value for both screws is 10–12 in-lbs (1.1–1.4 N·m).

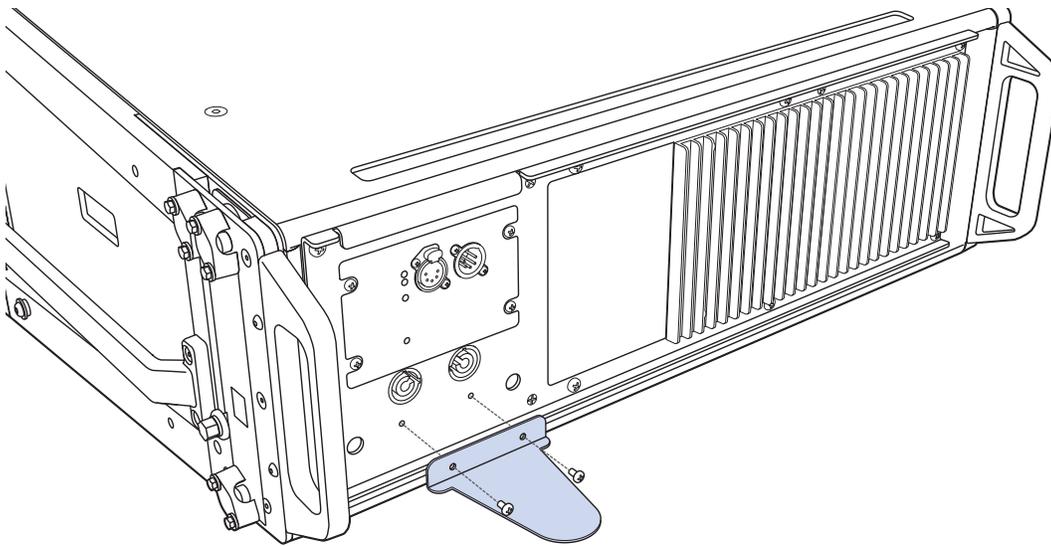


Figure 27: Attaching Rain Hood Baffle to LEOPARD Loudspeaker User Panel

Routing Cables and Attaching Rain hood

1. After installing the baffle, install the necessary audio and power cables.
2. Attach the rain hood to the user panel, slipping it under the rain hood retainer flange at the top of the user panel.
3. Route the cables through the rain hood on either side of the baffle and through the bottom of the rain hood.
4. Push the rain hood flush against the loudspeaker.
5. Secure it to the loudspeaker by giving the two captive wing-head stud fasteners on either side of the rain hood a quarter turn, so they fully lock.

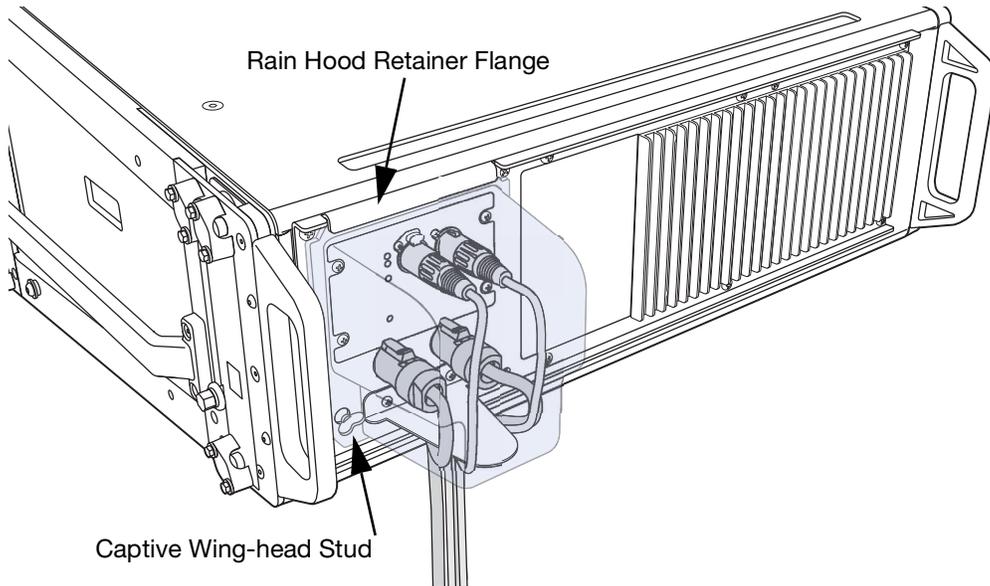


Figure 28: Routing Signal and Power Cables Through Rain Hood and Around Baffle



NOTE: Ultra Weather Protected units using the LEOPARD/900-LFC UW Rain Hood are rated IPX5 for water intrusion.

APPENDIX D: SPECIFICATIONS



NOTE: Loudspeaker system predictions for coverage and SPL are available in Meyer Sound's MAPP prediction software.

LEOPARD Specifications

ACOUSTICAL	LEOPARD	LEOPARD-80
Operating Frequency Range	55 Hz – 18 kHz Note: Recommended maximum operating frequency range. Response depends on loading conditions and room acoustics.	55 Hz – 18 kHz Note: Recommended maximum operating frequency range. Response depends on loading conditions and room acoustics.
Phase Response	92 Hz – 18 kHz ± 30 degrees	92 Hz – 18 kHz ± 30 degrees
Linear Peak SPL	133.5 dB with 18 dB crest factor (M-noise) , 130 dB (Pink Noise), 134.5 dB (B-noise) Note: Linear Peak SPL is measured in free-field at 4 m referred to 1 m. Loudspeaker SPL compression measured with M-noise at the onset of limiting, 2-hour duration, and 50-degree C ambient temperature is < 2 dB. M-noise is a full bandwidth (10 Hz–22.5 kHz) test signal developed by Meyer Sound to better measure the loudspeaker's music performance. It has a constant instantaneous peak level in octave bands, a crest factor that increases with frequency, and a full bandwidth Peak to RMS ratio of 18 dB. Pink noise is a full bandwidth test signal with Peak to RMS ratio of 12.5 dB. B-noise is a Meyer Sound test signal used to ensure measurements reflect system behavior when reproducing the most common input spectrum, and to verify there is still headroom over pink noise.	135 dB with 19 dB crest factor (M-noise) , 132 dB (Pink Noise), 136.5 dB (B-noise)
COVERAGE		
Horizontal Coverage	110°	80°
Vertical Coverage	Varies, depending on array length and configuration	
TRANSDUCERS		
Low Frequency	Two 9-inch long-excursion cone drivers; 2 Ω nominal impedance	
High Frequency	One 3-inch diaphragm compression driver coupled to a constant-directivity horn through a patented REM [®] manifold; 4 Ω nominal impedance.	
AUDIO INPUT		
Type	Differential, electronically balanced	
Maximum Common Mode Range	± 15 V DC, clamped to earth for voltage transient protection	
Connectors	XLR 5-pin female with male loop output; XLR 3-pin female connectors available to accommodate only balanced audio (no RMS signals)	
Input Impedance	10 k Ω differential between pins 2 and 3	
Wiring	Pin 1: Chassis/earth through 1 k Ω , 1000 pF, 15 V clamped network to provide virtual ground lift at audio frequencies Pin 2: Signal (+) Pin 3: Signal (-) Pin 4: RMS (polarity insensitive) Pin 5: RMS (polarity insensitive) Case: Earth ground and chassis Note: Pins 4 and 5 (RMS) included only with XLR 5-pin connector that accommodates both balanced audio and RMS signals.	
Nominal Input Sensitivity	6.0 dBV (2.0 V rms) continuous is typically the onset of limiting for noise and music	
Input Level	Audio source must be capable of producing +20 dBV (10 V rms) into 600 Ω to produce the maximum peak SPL over the operating bandwidth of the loudspeaker	

LEOPARD Specifications

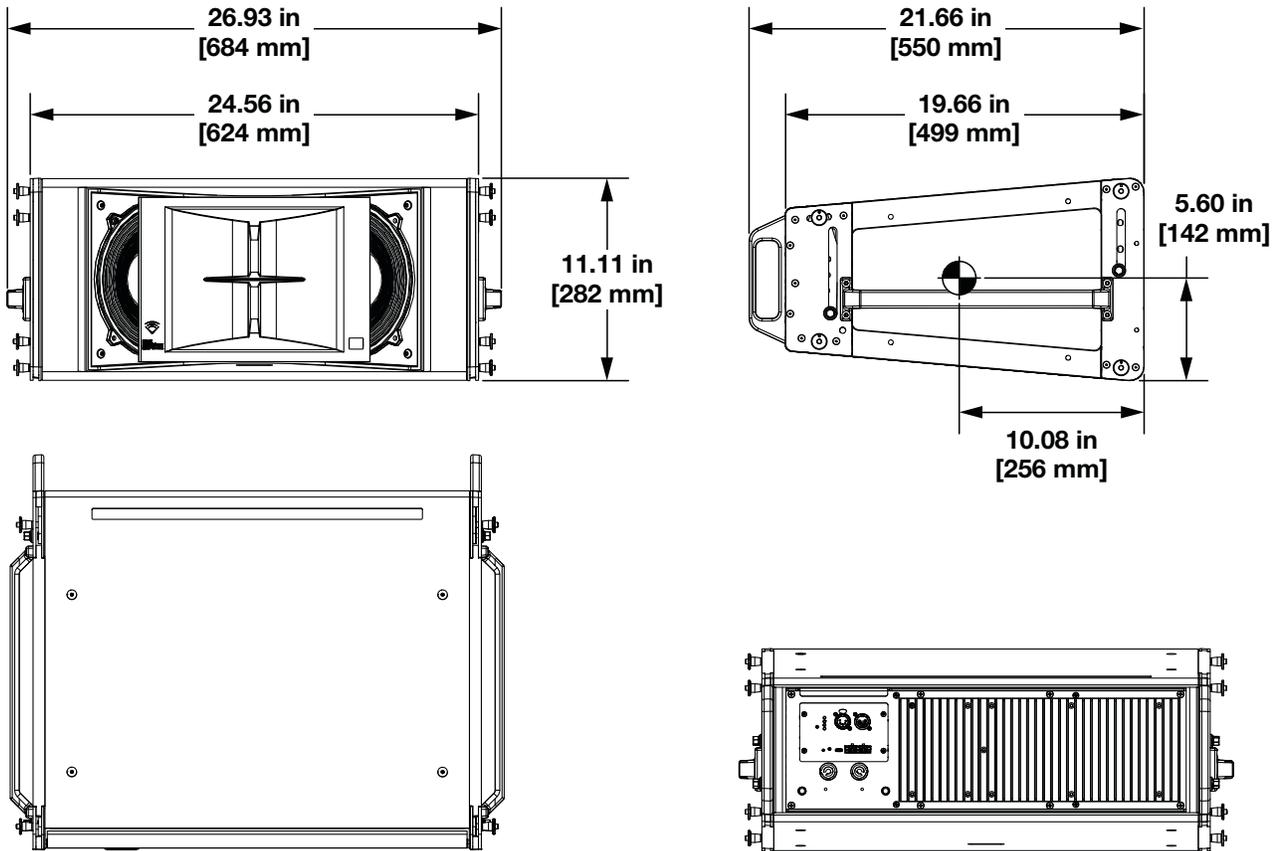
AMPLIFIER	
Type	3-channel, open-loop, class D
Total Output Power	3900 W peak Note: Peak power based on the maximum unclipped voltage the amplifier will produce into the nominal load impedance.
THD, IM, TIM	< 0.02%
Cooling	Convection
AC POWER	
Connectors	powerCON 20 input with loop output
Automatic Voltage Selection	90–265 V AC
Safety Agency Rated Voltage Range	100–240 V AC, 50–60 Hz
Turn-on/off Points	Turn-on: 90 V AC; Turn-off: none; internal fuse protection above 265 V AC
CURRENT DRAW	
Idle	0.46 A rms (115 V AC); 0.35 A rms (230 V AC) ; 0.49 A rms (100 V AC)
Maximum Long-Term Continuous (> 10 sec)	3.0 A rms (115 V AC); 1.5 A rms (230 V AC); 3.4 A rms (100 V AC)
Burst (< 1 sec)	4.4 A rms (115 V AC); 2.3 A rms (230 V AC); 5.5 A rms (100 V AC) Note: AC power cabling must be of sufficient gauge so that under burst rms current conditions, cable transmission losses do not cause the loudspeaker's voltage to drop below the specified operating range.
Maximum Instantaneous Peak	12.6 A peak (115 V AC); 6.3 A peak (230 V AC); 14.5 A peak (100 V AC)
Inrush	< 20 A peak
RMS NETWORK	
	Equipped with two-conductor twisted-pair network that reports all operating parameters of amplifiers to system operator's host computer.
PHYSICAL	
Enclosure	Premium multi-ply birch with slightly textured black finish
Protective Grille	Powder-coated, hex-stamped steel with acoustical black mesh
Rigging	End frames with captive GuideALinks secured with 5/16-inch x 5/8-inch quick-release pins that allow 0.5° to 15.0° splay angles; detachable side and rear handles
Load Ratings	MG-LEOPARD/900 multipurpose grid flies 23 LEOPARDS at a 5:1 safety factor, with some restrictions
Dimensions	W: 26.93 in (684 mm) x H: 11.11 in (282 mm) x D: 21.66 in (550 mm)
Dimensions with Rain Hood	W: 26.93 in (684 mm) x H: 11.11 in (282 mm) x D: 23.34 in (593 mm)
Weight	75 lb (34.0 kg) standard and weather-protected versions 78 lb (35.4 kg) ultra weather-protected version

LEOPARD Specifications

ENVIRONMENTAL	
Operating Temperature	0 °C to +45 °C
Non Operating Temperature	-40 °C to +75 °C
Humidity	To 95% at 45 °C (non-condensing)
Operating Altitude	To 5,000 m (16,404 ft)
Non Operating Altitude	To 12,000 m (39,000 ft)
Shock	30 g 11 msec half-sine on each of 6 sides
Vibration	10 Hz – 55 Hz (0.010 m peak-to-peak excursion)
IP Rating	<p>IP44 for weather-protected version with properly installed rain hood (see “LEOPARD Rain Hoods” on page 29).</p> <p>IPX5 for UW version with properly installed UW rain hood (see “ULTRA Weather Protection Version” on page 33).</p> <p>NOTE: See “Meyer Sound Weather Protection” on page 25 for more details.</p>

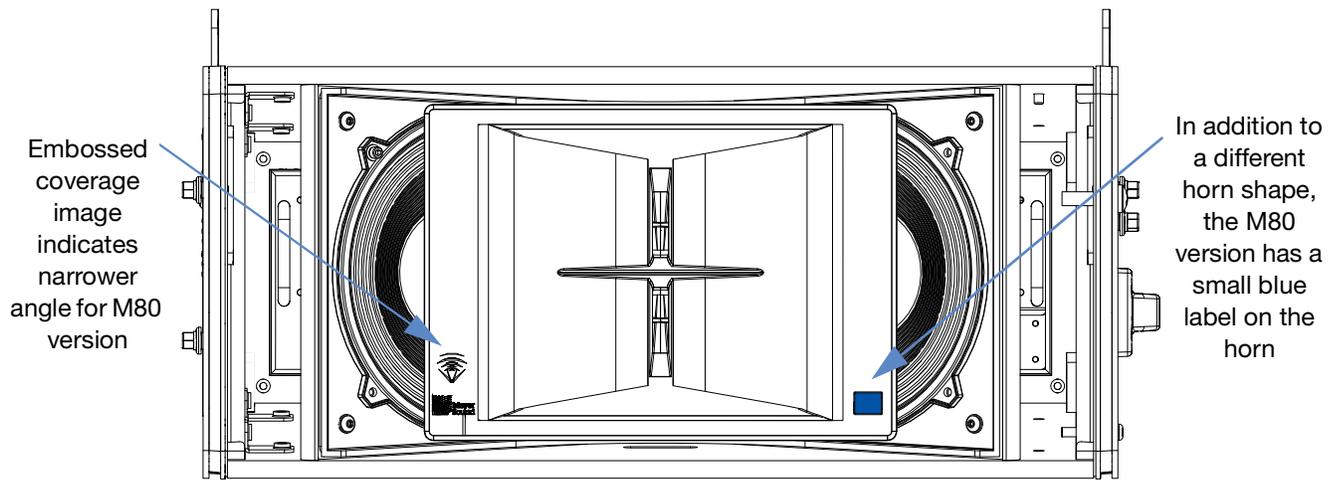


LEOPARD DIMENSIONS

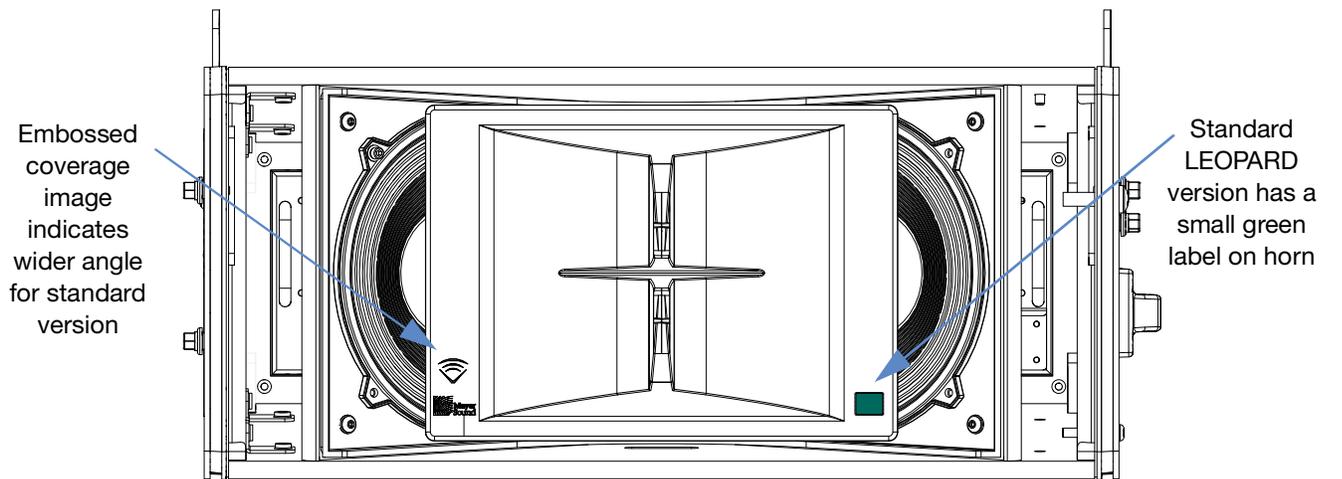


 **NOTE:** For dimensions and weight for the MG-LEOPARD top grid and MCF-LEOPARD caster frame, refer to the MG-LEOPARD/900 Assembly Guide (PN 05.243.080.01) available at meyersound.com/documents.

LEOPARD AND LEOPARD-M80 HORN VISUAL DIFFERENCES

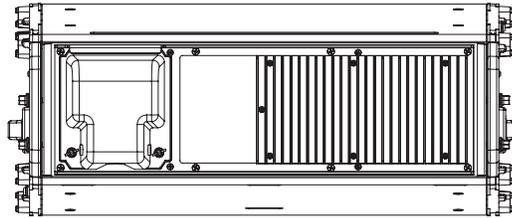
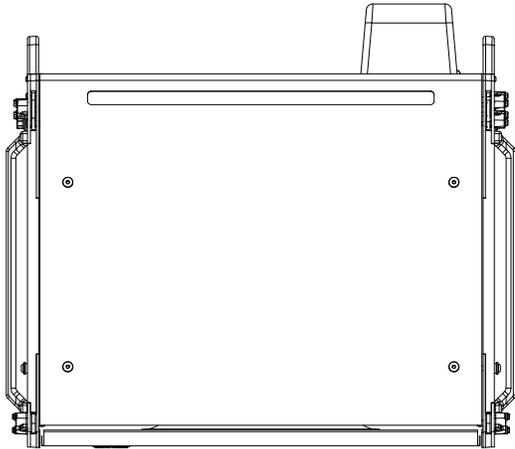
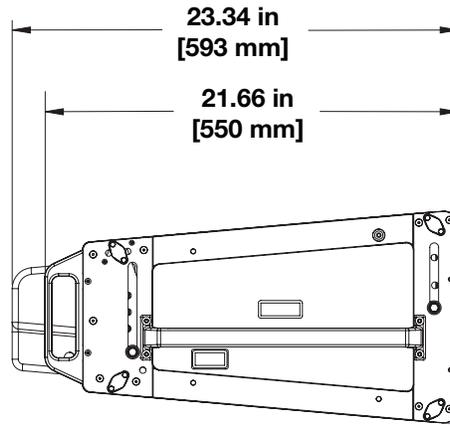
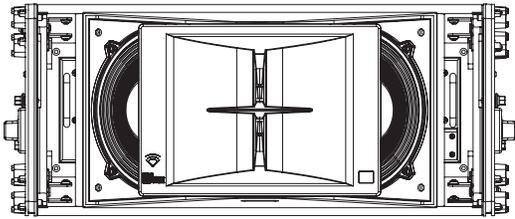


LEOPARD-M80



Standard LEOPARD

ULTRA WEATHER PROTECTION LEOPARD WITH RAIN HOOD DIMENSIONS



FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

INDUSTRY CANADA COMPLIANCE STATEMENT

This Class A digital apparatus complies with Canadian ICES-003.

AVIS DE CONFORMITÉ À LA RÉGLEMENTATION D'INDUSTRIE CANADA

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

EN 55032 (CISPR 32) STATEMENT

Warning: This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.



THINKING SOUND

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LEOPARD Operating Instructions
PN 05.243.005.01 B5