Meyer Sound

Operating Instructions

PSW-6

Self-Powered Subwoofer System

BACK FRONT

Part # 05.073.012.01 Rev A

Keep these important operating instructions.

Contents

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 indequer 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:

Name: Meyer Sound Laboratories
Address: 2832 San Pablo Avenue
Berkeley, California 94702-2204, USA

declares that the product:

Product Name: PSW-6
Product Options: All

conforms to the following Product Specifications:

Safety:	EN 60065: 1994
EMC:	EN 55022: 1987 - Class A
	IEC 801-2: 1984 - 8 kV
	IEC 801-3: 1984 - 3 V/m
	IEC 801-4: 1984 - 0.5 kV Signal 1.0 kV Power Lines

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.

Office of Quality Manager
Berkeley, California USA
October 1, 1995

Made by:Meyer Sound,Berkeley,Ca. U.S.A.
European Office:
Meyer Sound Germany
Carl Zeiss Strasse 13
D-56751 Polch
Germany
CE

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

UL LISTED 3K59 C UL
COMMERCIAL AUDIO SYSTEM

Using the PSW-6

The PSW-6 exhibits a cardioid coverage pattern across two full octaves from 30 Hz to 125 Hz. The power bandwidth of the PSW-6 is designed to complement MSL-4 and MSL-6 systems.

The cardioid coverage pattern is created by a complex electronic and geometric relationship between the four drivers at the front of the cabinet and the two drivers at the back of the cabinet.

This coverage pattern is very stable in one or two cabinets and holds up in horizontal arc arrays and vertical line arrays, provided that the array is assembled and aligned according to the methods described in this manual. The horizontal and vertical response pattern of a single PSW-6 can be found on the PSW-6 data sheet.

Performance Verification

Meyer Sound's SIM® system II is recommended for performing the measurements described in this document.

To verify the performance of a PSW-6, place a single PSW-6 on the ground in a large open space* and position the measurement microphone as shown in the illustration below.

When the PSW-6 is placed on the ground, an image is created from the ground reflection. This ground reflection is represented by the dotted PSW-6 in the illustration below.

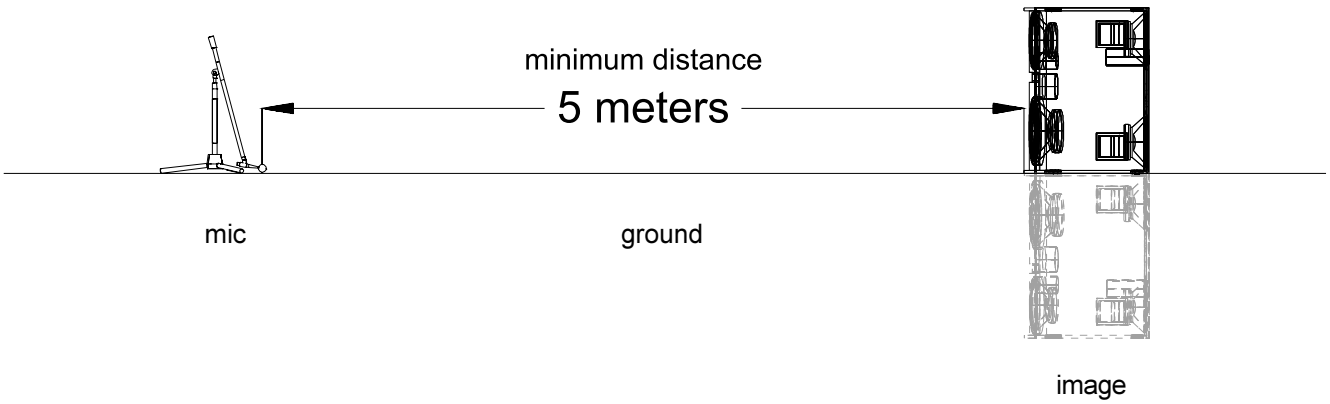
Note that an on axis ground plane measurement at a minimum distance of 5 meters is necessary for accurate low frequency measurement in this particular application.

As a general rule, the minimum distance of the measurement microphone from the front of the cabinet should be equal to the height of the array. A distance of at least three times the height of the array is ideal.

A single cabinet is roughly one meter high, but when considered with its ground reflection, the height of the array becomes two meters, or two cabinets in height. This necessitates a minimum distance of 2 meters between the front of the cabinet and the measurement microphone. In this example a 5 meter minimum distance is ideal as it is about three times the height of the array.

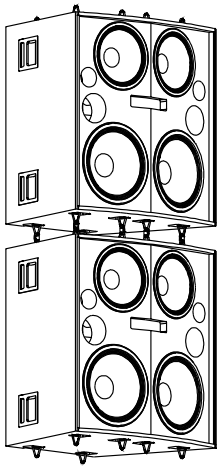
Perform and store an initial measurement at this position and then repeat the measurement at 5 meters behind the cabinet.

If the dB SPL measurement taken at the front of the cabinet is at least 15 dB greater than the measurement taken at the back of the cabinet, the PSW-6 is functioning properly. If the PSW-6 does not meet this basic performance verification specification contact Meyer Sound Technical Support for further assistance.



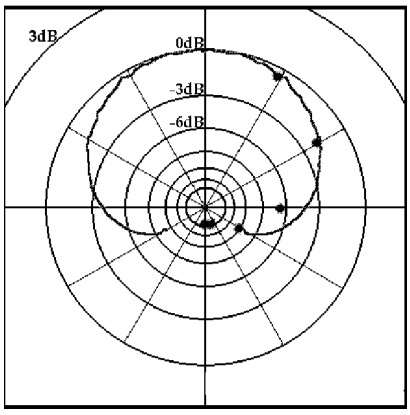
* The time record for low frequencies in SIM is 640 ms. In order to prevent reflection from corrupting this free-field measurement the PSW-6 should be at least 200 meters away from any large obstacle or boundary like walls or buildings. If the nearest obstacle is less than 200 meters away then the rear of the cabinet should face the closest large obstacle as this will minimize reflections during measurements.

The Vertical Line Array

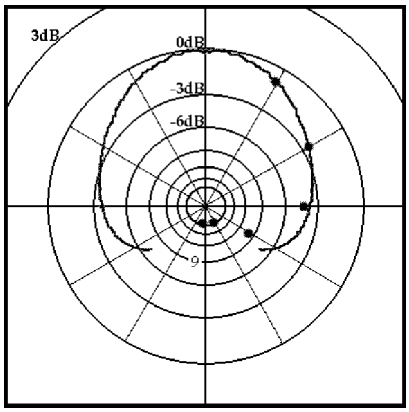


The PSW-6 should be vertically arrayed in a line with the drivers positioned as shown above.

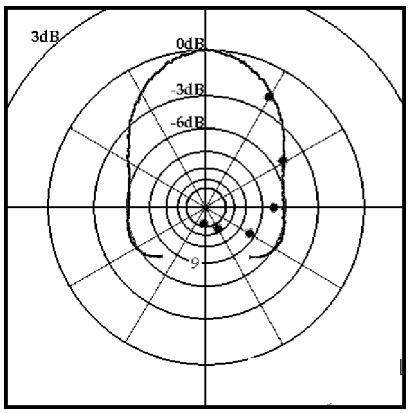
When the PSW-6 is flown high in the air, the ground image is nearly eliminated, so it takes two vertically stacked PSW-6s to achieve the same power output and directional control as a single PSW-6 on the ground (assuming the ground is a very hard smooth surface). Both the single cabinet on the ground and the array pictured above are examples of vertical line arrays and result in about a 6 dB SPL increase from a single cabinet in free space and exhibit the following polar response:



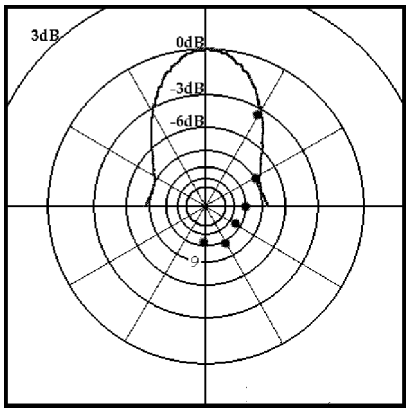
Two Vertical Line Arrayed PSW-6s @ 40 HZ*.



Two Vertical Line Arrayed PSW-6s @ 60 HZ.



Two Vertical Line Arrayed PSW-6s @ 100 HZ.



Two Vertical Line Arrayed PSW-6s @ 125 HZ.

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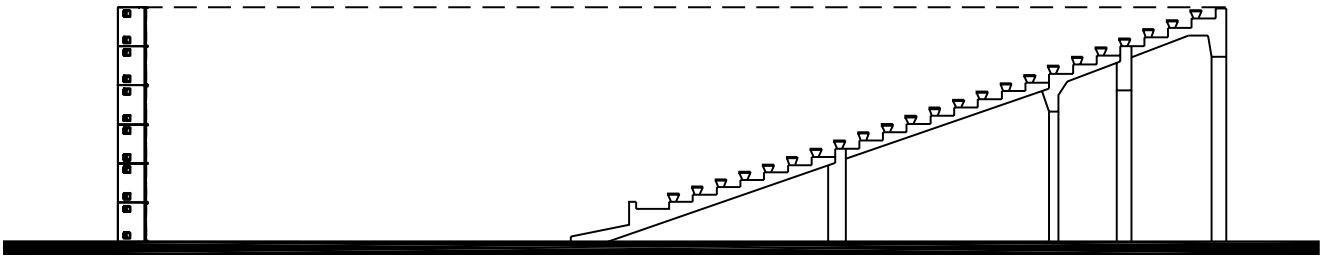
* Each small black dot on the polar plot represents a measurement taken outdoors in a free-field environment.



The PSW-6 is designed to be vertically arrayed in a line and not in an arch. Creating a vertical line array, or in other words, stacking PSW-6s in a column, narrows the vertical coverage of the system while maintaining its horizontal coverage. Adding more power to the system simply involves adding additional cabinets to the line array.

In this type of array, the vertical coverage will extend less than 5° from the top of the column. This dictates that the height of the vertical line array correspond directly to the maximum height at which low frequency coverage is required.

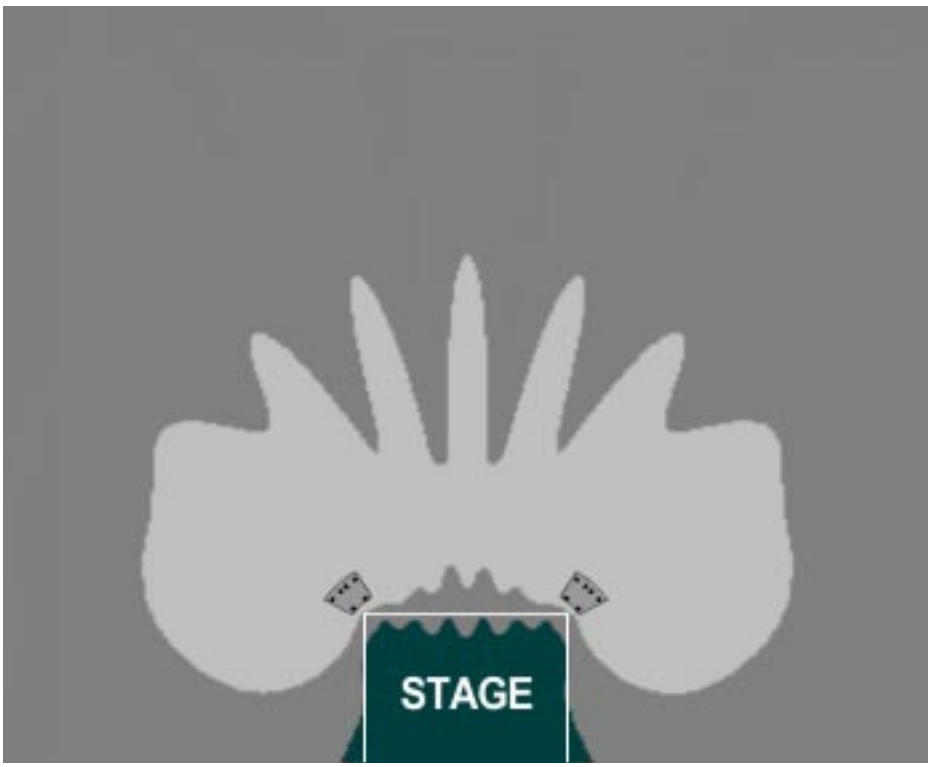
Creating a Quiet Area

When two PSW-6s are placed ten to thirty meters apart at a 90° horizontal angle a quiet area develops behind the speakers. In this area the SPL is at least 15 dB below the level within the coverage area.

In the following MAPP™ (Multipurpose Acoustical Prediction Program) predictions the lightest color represents the highest SPL.

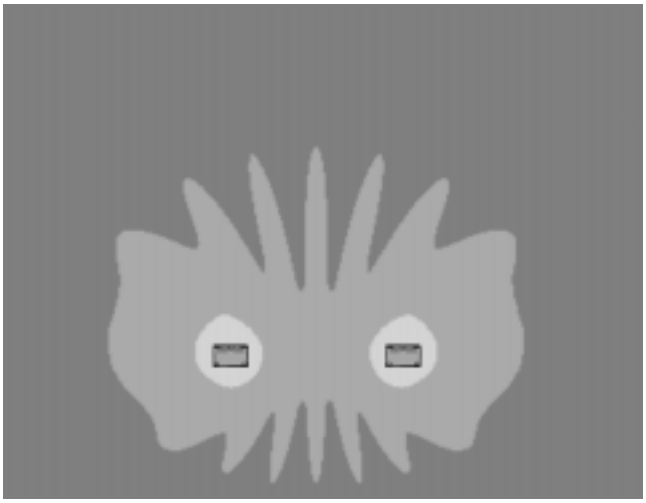
Note that the fingers in the coverage pattern are caused when a mono signal of equal amplitude is sent to two spaced speakers. Amplitude or phase panning will minimize the interference pattern and smooth the polar response.

The advantages of creating a quiet zone around the stage would include less system leakage into open microphones, reduced interference between the house and monitor systems, and reduced exposure to high SPL for those within the quiet area.

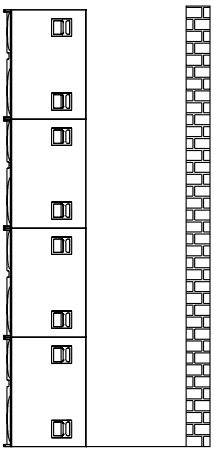


2 PSW-6s at 20 meters splayed 90º with a mono singal of equal level.

In comparison, the following MAPP prediction shows two USWs at a 20 meter distance. Note the absence of a quiet zone.

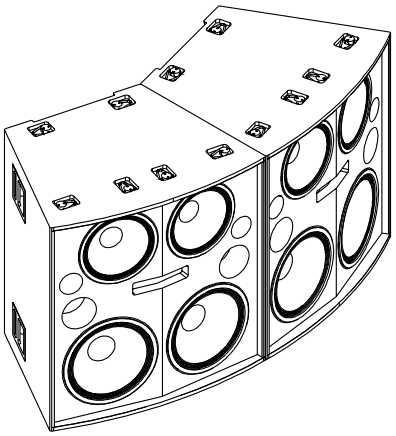


Walls and Boundaries

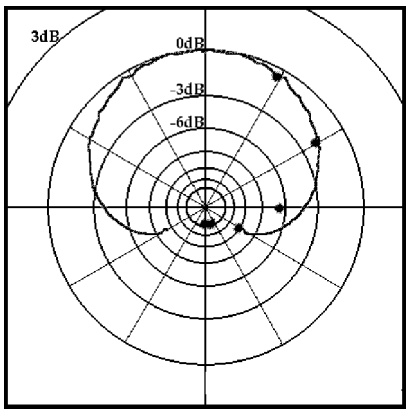


An additional advantage of the PSW-6 is that it can be placed as close as 1 meter to a boundary without being subject to the massive cancelation caused by traditional subwoofers in near boundary conditions. This makes the PSW-6 ideal for situations where there is a wall in close proximity to the back of the stage.

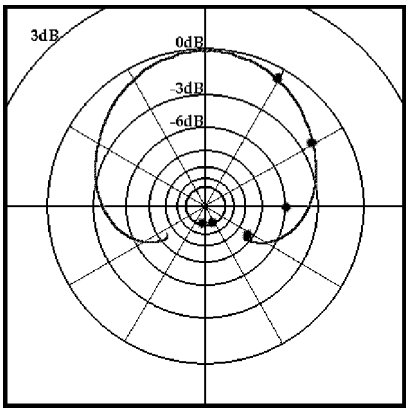
The Horizontal Arch Array



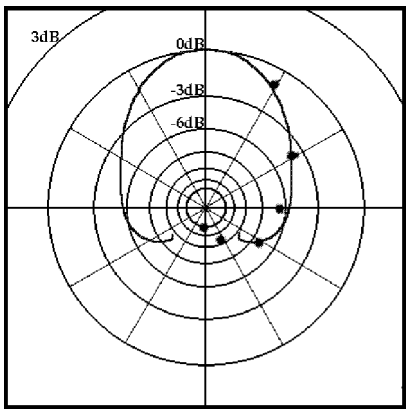
The PSW-6 is designed to be horizontally arrayed in an arc in groups of two as pictured above. Arraying two PSW-6s horizontally increases the power within the coverage area and creates a tighter horizontal response pattern as illustrated in the following polar plots:



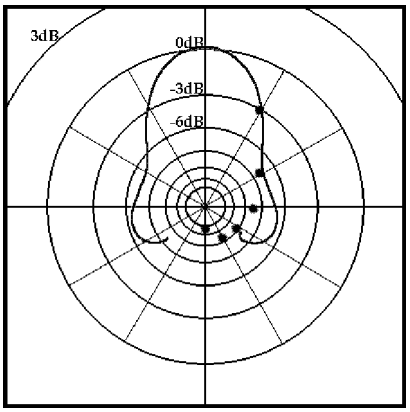
Two Horizontally Arrayed PSW-6s @ 40 HZ.



Two Horizontally Arrayed PSW-6s @ 60 HZ.



Two Horizontally Arrayed PSW-6s @ 100 HZ.



Two Horizontally Arrayed PSW-6s @ 125 HZ.

Creating Large Horizontal Arrays

When creating a horizontal arch of more than two cabinets additional electronics (beyond the standard LD-1A) are required to help steer the system. Otherwise there will be a significant decrease in the front to back SPL ratio and excessive narrowing of the front polar pattern at higher frequencies. For further information on creating a large horizontal array contact Meyer Sound Technical Support.

Set the Master, Mid-High and Sub gains on the LD-1A

Full Range System Integration

The PSW-6 was designed to couple with the MSL-6 using the phase and amplitude response characteristics of the low cut filter of the LD-1A.

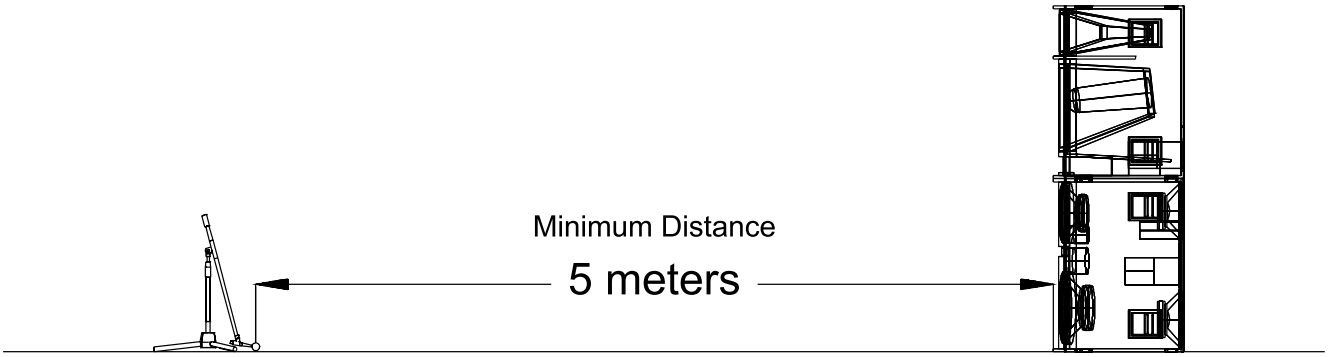
Combining the MSL-6s with the PSW-6 requires a specific external crossover function to prevent the MSL-6s from operating below 125 Hz and deteriorating the cardioid pattern of the combined system. The LD-1A low cut function inserted into the MSL-6 signal path achieves this specific roll-off response.

The following example illustrates the method of establishing a cross over point between the PSW-6 and the mid-high cabinets in a full range system.

While this example specifically addresses aligning a single PSW-6 on the ground with an MSL-6, it outlines the basic techniques for integrating the PSW-6 into any full range system. For array information on other Meyer Sound products please refer to the product specific operating instructions.

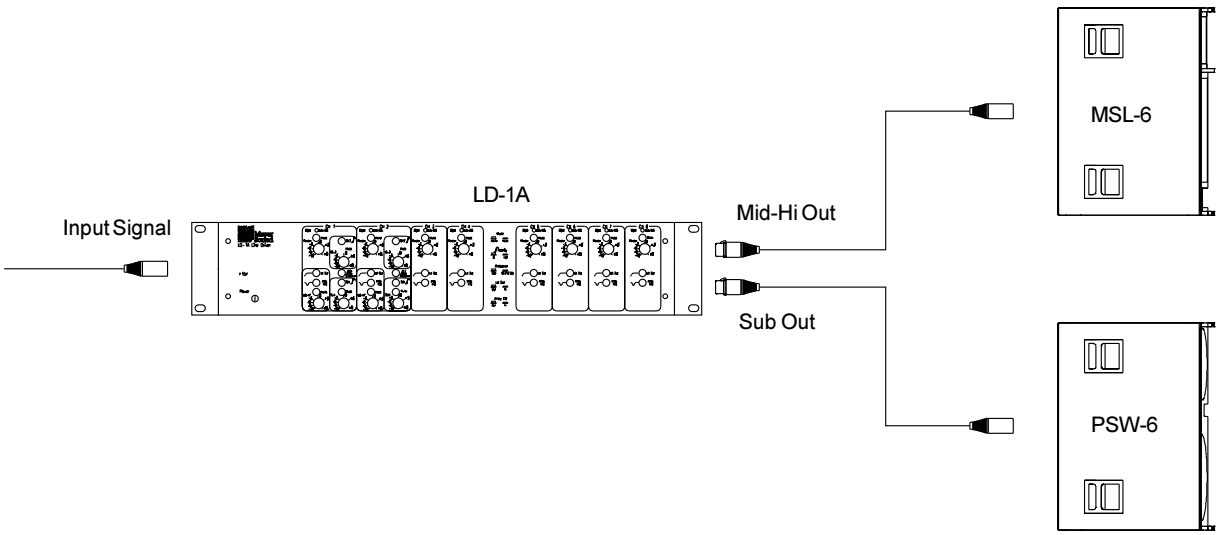
Position the speakers as shown in the illustration below.

Note that for this measurement the microphone position must be on axis at least 5 meters from the PSW-6 and very close to the ground. In general, ground plane measurements are undesirable as there is poor data above 5 kHz. However, in this a case ground plane measurement is used just to set the proper low frequency cross over point. Ground plane measurements tend to eliminate low frequency ground reflections which can cause a perceived but illusionary reversal in phase. Do not attempt to EQ the combined system from this microphone position as it is off axis from the MSL-6 high horn.

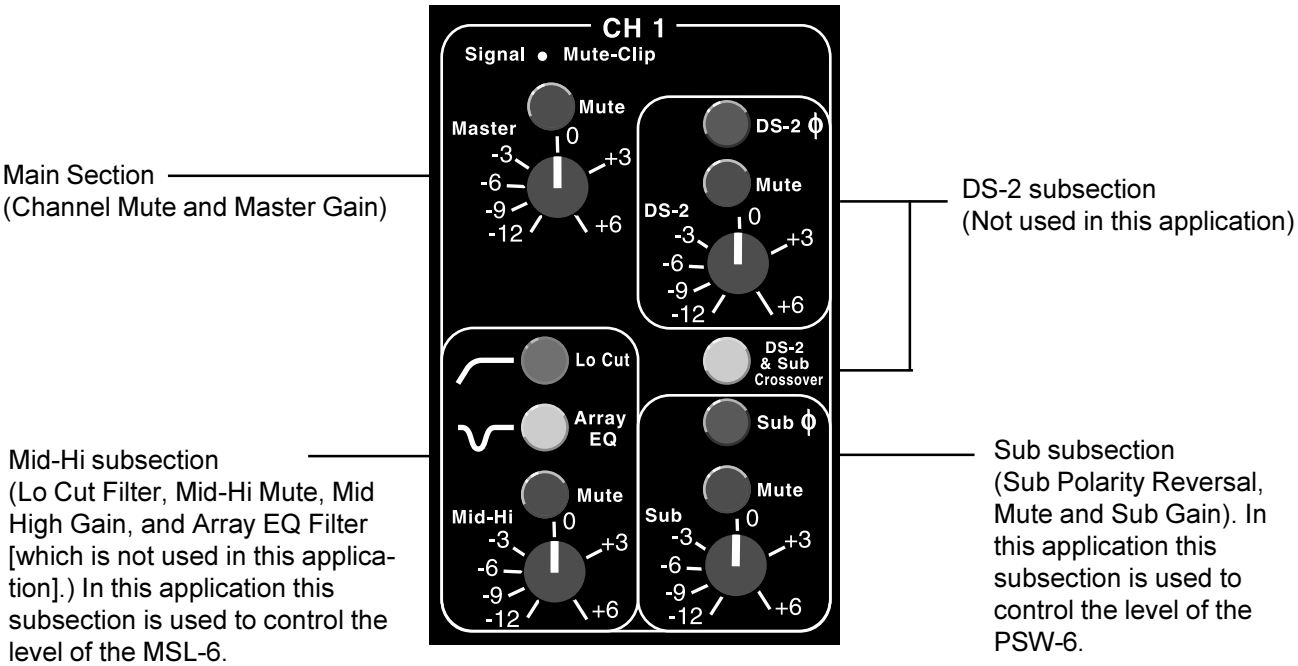


Setting the Crossover Frequency between the MSL-6 and the PSW-6 .

Use channel 1 (CH-1) of the LD-1A to distribute the generator signal from SIM to the speakers. As pictured in the block diagram below.



Channel 1 of the LD-1A is divided into four sections:



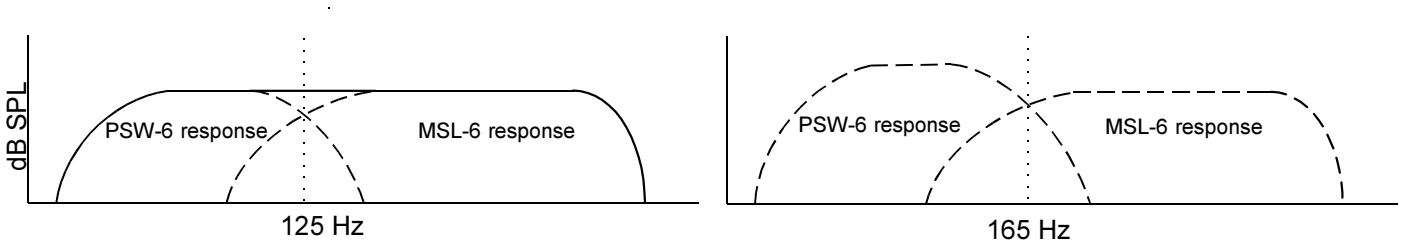
to 0dB. Push in the low-cut filter and make sure all of the other buttons in channel 1 are out . Remember only channel 1 is in use so the settings on the other channels are irrelevant.

Mute the signal to the subs on the LD-1A. Measure and set the delay and response of the speaker. When a stable trace appears pause the measurement and turn off the generator. Store and recall this trace.

Next, use the LD-1A to mute the signal to the MSL-6 and unmute the PSW-6. Use the delay established with the MSL-6 measurement. Turn on the generator and measure the response of the PSW-6.

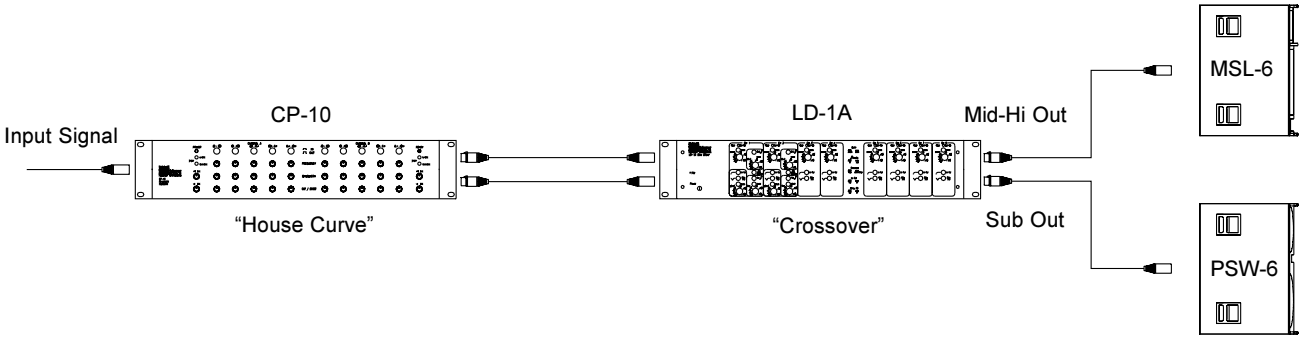
By looking at the relationship between these two traces you can see the acoustical crossover point between the PSW-6 and the MSL-6.

Changing the relative levels of the PSW-6 and the MSL-6 will effect this acoustical crossover point. Ideally, this acoustical crossover should occur close to 125 Hz, as this will provide the best frequency and phase addition between cabinets.



An increase in the relative level of the PSW-6 to the MSL-6 will result in an increase in crossover frequency.

The second example above is undesirable as it will reduce the level of pattern control in the system. In systems where a boost in low frequency energy is desired , we strongly recommend properly aligning the system so that the cross over point and level between the MSL-6 and PSW-6 is close to 125 Hz. A CP-10 can then be inserted into the signal path in front of the LD-1A and adjusted for the desired “house curve”.



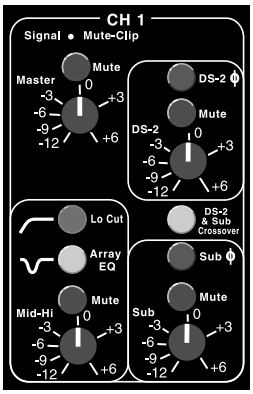
Unmute the subs and employ the low cut filter on the appropriate channel of the LD-1A. Measure the PSW-6 and the MSL-6 together. The frequency response should look flat through the crossover. A noticeable reduction of SPL at 125Hz is caused by one of two problems. The first is that the microphone is positioned too close to the near-field of the speaker which can be solved by moving the microphone further away from the speaker. The other probable cause of the cancelation is a reversal in phase somewhere in the signal path.

To test for a phase reversal, use the polarity reversal button on the Sub section of the LD-1A channel 1. If this causes the response to become smooth through the cross over region, there is a phase reversal in the signal path check the wiring and input polarity switches of all components in the system. While not good practice, in an emergency the polarity reversal switch can be used throughout the performance.

Adjust the gain of the Mid-High cabinet and Sub cabinet using the LD-1A to optimize the phase and frequency response so that the acoustical crossover point is close to 125Hz.

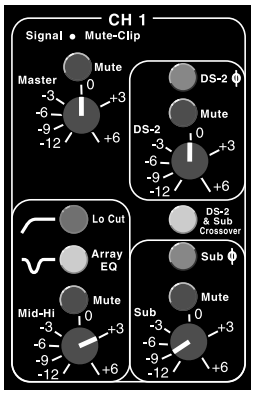
The illustrations shown below represent general guidelines for appropriate LD-1A settings for various combinations of PSW-6s and MSL-6s.

1 PSW-6 on the ground
for each MSL-6 in the air.



Note that the Lo-Cut filter is engaged and all the other buttons are out. The Sub output gain is set to 0 dB and the Mid-Hi output gain is set to 0 dB.

4 PSW-6s on the ground
for each MSL-6 in the air.



Note that the Lo-Cut filter is engaged and all the other buttons are out. The Sub output gain is set to -9 dB and the Mid-Hi output gain is set to +3 dB, resulting in a relative Sub to Mid-High gain difference of 12 dB.

AC Power

When AC power is applied to the PSW-6, the **Intelligent AC™** supply automatically selects the correct operating voltage, allowing the PSW-6 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 common mode and deference mode radio frequencies (EMI)
- sustains operation during low voltage periods
- provides soft-start power-up, which eliminates high inrush current

The PSW-6 can withstand continuous voltages up to 275 V and allows any combination of voltage to GND (i.e. Neutral-Hot-GND, Hot-Hot-GND). Continuous voltages higher than 275 V may damage the unit.

The PSW-6 uses a NEMA L6-20P or IEC 309 male power inlet and satisfies UL, CSA, and EC safety standards.

Voltage Requirements

The PSW-6 operates safely and without audio discontinuity if the AC voltage stays within either of two operating windows: 85–134 V or 165–264 V, at 50 or 60 Hz. After applying AC power, the proper operating voltage is automatically selected, but the system is muted. During the next three seconds, the primary fans turn on, the main power supply slowly ramps on, the green **Active** LED on the user panel illuminates, and the system is enabled to pass audio signals.

TROUBLESHOOTING NOTE: If the Active LED does not illuminate or the system does not respond to audio input after ten seconds, remove AC power. Electronics technicians with access to a test bench can contact Meyer Sound to receive The Meyer Sound Self-Powered Series MP-2 and MP-4 Field Verification Procedure (part # 17.022.066.01). This service document contains a series of tests to verify that the power supply and amplifier are functioning properly. Other users should contact Meyer Sound or an authorized service center.

The PSW-6'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 for 1 to 5 seconds. If the PSW-6 shuts down due to brownout, the power supply automatically turns on if the voltage returns to the normal operating range. If the PSW-6 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

The PSW-6 presents a dynamic load to the AC mains which causes the amount of current to fluctuate between quiet and loud operating levels. Since different types of cables and circuit breakers heat up 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 in a period 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 in a period of approximately 1 second. 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

$$\mathbf{V}pk_{drop} = \mathbf{I}pk \times \mathbf{R}total\ cable$$

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

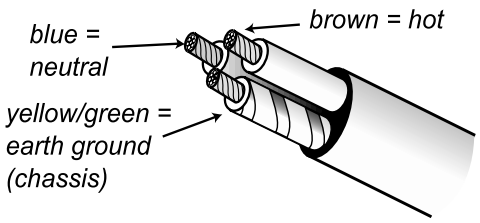
	115 V	230 V	100 V
Max. Continuous RMS	14 A_{RMS}	7 A_{RMS}	16 A_{RMS}
Max. Burst RMS	26 A_{RMS}	13 A_{RMS}	30 A_{RMS}
Max. Peak During Burst	38 A_{PEAK}	18 A_{PEAK}	42 A_{PEAK}

The minimum electrical service amperage required by a system of PSW-6s is the sum of their **maximum continuous RMS current**. We recommend allowing an additional 30% above the minimum amperage to prevent peak voltage drops at the service entry.

TROUBLESHOOTING NOTE: In the unlikely case that the circuit breakers trip (the white center buttons pop out), do not reset the breakers! Contact Meyer Sound for repair information.

Power Connector Wiring Conventions

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



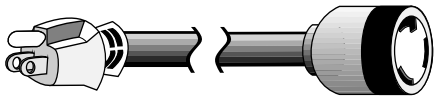
AC cable color code

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

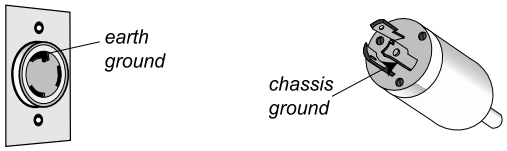
- Connect the blue wire to the terminal marked with an *N* or colored black.
- Connect the brown wire to the terminal marked with an *L* or colored red.
- Connect the green and yellow wire to the terminal marked with an *E* (or ⏚) or colored green (or green and yellow).

Safety Issues

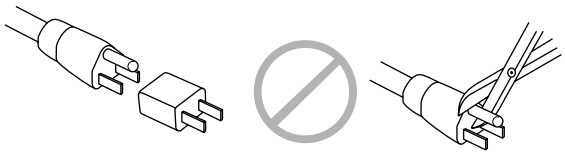
Pay close attention to these important electrical and safety issues.



Use a power cord adapter to drive the PSW-6 from a standard 3-prong outlet (NEMA 5-15R;125 V max).



The PSW-6 requires a grounded outlet. Always use a grounding adapter when connecting to ungrounded outlets.



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

Keep all liquids away from the PSW-6 to avoid hazards from electrical shock.

Do not operate the unit if the power cables are frayed or broken.

Tie-wrap anchors on the amplifier chassis provide strain relief for the power and signal cables. Insert the plastic tie-wraps through the anchors and wrap them around the cables.

Audio Input

The PSW-6 uses a 10 kΩ balanced input impedance to a three-pin XLR connector wired with the following convention:

Pin 1 — 220 kΩ to chassis and earth ground (ESD clamped)

Pin 2 — Signal ┐
Pin 3 — Signal ┘ Differential Inputs

Case — Earth (AC) ground and chassis

Pins 2 and 3 carry the input as a differential signal; their polarity can be reversed with the **input polarity switch** on the user panel. If the switch is 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. Use standard audio cables with XLR connectors for balanced signal sources.

TROUBLESHOOTING NOTE: Shorting an input connector pin to the case can form a ground loop and cause hum. If other abnormal noises (hiss, popping) are produced from the loudspeaker, disconnect the audio source from the speaker. If the noise stops, then the problem is not within the loudspeaker; check the audio input and AC power.

A single source can drive multiple PSW-6s with a paralleled input loop, creating an unbuffered hardwired loop connection. Make certain that the source device can drive the total load impedance presented by the paralleled input circuit. For example, since the input impedance of a single PSW-6 is 10 kΩ, cascading 20 units produces a balanced input impedance of 500Ω. If a 150Ω source is used, the 500Ω load results in a 2.28 dB loss.

Amplification and Protection Circuitry

The PSW-6 is powered by the Meyer MP-4, a four-channel 2480 Watt amplifier (620 W/ch) utilizing complementary power MOSFET output stages (class AB/H). The following sections discuss the MP-4's limiting circuitry and four-fan cooling system.

The TruPower™ Limiting System

Conventional limiters assume that the resistance of a speaker remains constant and set the limiting threshold by measuring voltage only. This method is inaccurate because the speaker's resistance changes in response to the frequency content of the source material and thermal variations in the speaker's voice coil and magnet. Conventional limiters begin limiting prematurely, which underutilizes system headroom and deprives the speaker of its full dynamic range.

The TruPower Limiting (TPL) system accounts for varying speaker impedance by measuring current, in addition to voltage, to compute the actual power dissipation in the voice coil. TPL

- improves performance before and during limiting by allowing each driver to produce its maximum SPL across its entire frequency range;
- protects the drivers by controlling the temperature of the voice coil;
- eliminates long-term power compression when the system is operated at high levels for extended periods.

The PSW-6 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 is *hard limiting* with the following negative consequences:

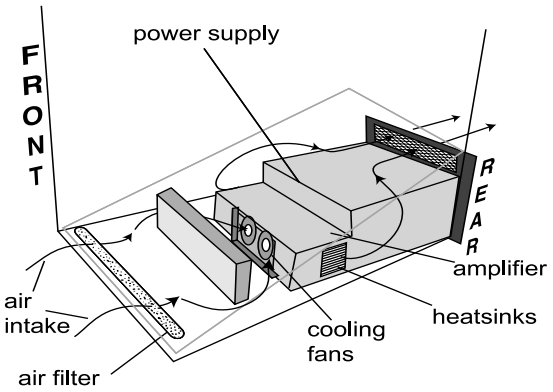
- Increasing the input level will not increase the volume.
- The system distorts due to clipping and nonlinear driver operation.
- Unequal limiting between the low and high channels alters the frequency response.
- The life-span of the drivers is reduced because they are subjected to excessive heat.
- Serious degradation of the cardioid response pattern.

NOTE: Although the TPL limiters exhibit smooth sonic characteristics, we do not recommend using them for intentional compression effects. Use an outboard compressor/limiter to compress a mixed signal.

Fans and Cooling System

The PSW-6 uses a forced-air cooling system with four fans to prevent the amplifiers from overheating. The fans draw air in through ducts on the front of the cabinet, over the heatsinks, and out the rear of the cabinet. Since dust does not accumulate in the amplifier circuitry, its life-span is increased significantly.

The front grill surface acts as an air filter for the cooling system and should always be in place during operation. Despite the filtering, extensive use or a dusty operating environment can allow dust to accumulate along the path of the airflow, preventing normal cooling. We recommend periodically removing the grill and amplifier module and using a vacuum cleaner to clear dust from the grill, fans, and heatsinks. Make sure that the air ducts are clear and that there is at least six inches clearance for exhaust behind the cabinet.



Two variable-speed primary fans run continuously with an inaudible operating noise of 22 dBA at 1 m at their slowest speed. The primary fans begin increasing speed when either of the two heatsinks reaches 42°C. The fans reach full speed at 62°C and are barely audible near the cabinet, even without an audio signal.

In the unusual event that the heatsink temperature reaches 74°C, the secondary fans turn on and are clearly audible. The secondary fans turn on in response to

- primary fan failure (check status immediately);
- high source levels for a prolonged period in hot temperatures or direct sunlight;
- accumulation of dust along the cooling path;
- driver failure.

The secondary fans turn off when the temperature decreases to 68°C.

TROUBLESHOOTING NOTE: In the highly unlikely event that the secondary fans do not keep the temperature below 85°C, the PSW-6 automatically shuts down until AC power is removed and reapplied. If the PSW-6 shuts down again after cooling and reapplying AC power, contact Meyer Sound for repair information.

Rigging

A single PSW-6 weighs 442 lb (201 kg) and has twelve pivoting lift rings (six on top, six on bottom), each with a maximum working load capacity of 1500 lb (5:1 safety factor).

Rigging load ratings assume a straight tensile pull and that the cabinet is in new condition. If these conditions are not met, the load ratings can be reduced significantly. Load ratings can also be reduced by age, wear, and damage. It is important to inspect the rigging hardware regularly and replace worn or damaged components immediately.

The cabinet, exposed electronic circuitry, and drivers can receive protective treatment that permits safe use in wet conditions. Additionally, a rain hood can be fitted to shield cables and electronics. *Do not install a unit outdoors without weather protection!* Contact Meyer Sound for more information.

NOTE: All Meyer Sound products must be used in accordance with local, state, federal, and industry regulations. It is the owner's and/or user's responsibility to evaluate the reliability of any rigging method for their application. Rigging should be done only by experienced professionals.

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 connections.
- 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 r´cipients 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.

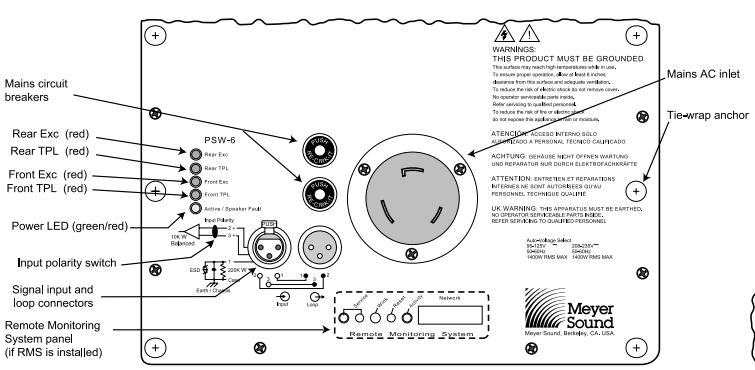
Deutsch

- 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 Kundenienstpersonal durchgeführt werden.

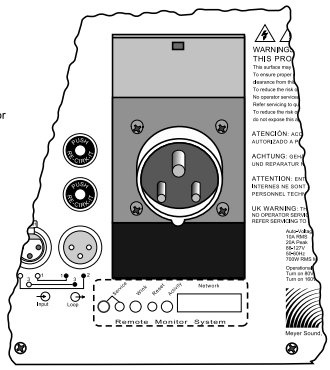
Español

- 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 señalizatción.
- 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 repardas por el usuario. Las reparaciones deben efectuarse únicamente por parte del personal de mantenimiento capacitado en la fábrica.

Controls and Connectors



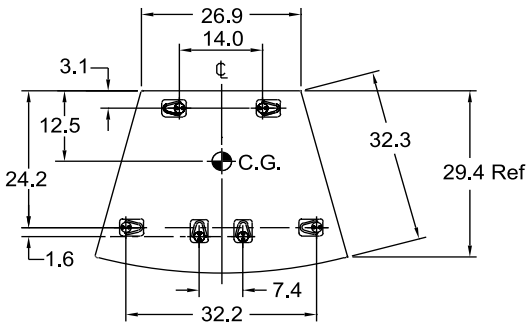
Rear User Panel shown with the optional Remote Monitoring System (RMS) panel



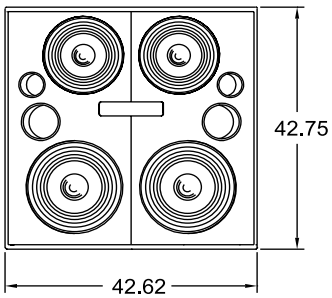
European Rear User Panel with IEC 309 connector

Dimensions

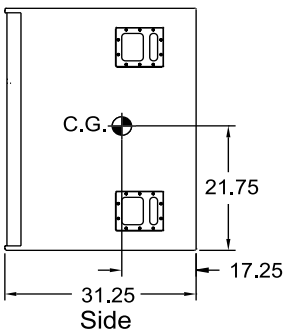
All units in inches



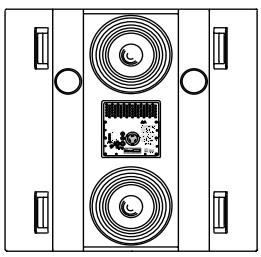
Top
(Rigging Typical, both ends)



Front
(Without Grille Frame)



Side



Rear
(Without Grille Frames)

Contact Information

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