Meyer Sound

Operating Instructions

SB-1

Parabolic Sound Beam



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Part Number 05.049.048.01 B

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.

Francais

- Pour réduire le risque d'électrocution, débranchez la prise principale de l'haut-parleur, avant d'installer le câble d'interface allant à l'audio. Ne rebranchez 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, conservez-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.

Espanol

- 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.

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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

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 Lines, 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

declares that the product:

Product Name: SB-1
Product Options: All

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:	30 g 11 msec half-sine on each of 6 sides
Vibration:	10 – 55 Hz (0.010 m peak-to-peak excursion)

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

UL LISTED 3K59 C UL
COMMERCIAL AUDIO SYSTEM

Product Summary

The **Meyer SB-1 Parabolic Sound Beam** is the first device that propagates sound waves with SPLs that decrease as little as 3 dB per doubling of distance for more than 300 ft, across a five-octave frequency range, with a consistent and narrow beam width.

The physical construction of the SB-1 consists of a fiberglass parabolic reflector dish with a bullet-shaped pod containing a 4" compression driver and an aspherical horn mounted over, and aimed at, the center of the dish. One 12" band-limited cone driver is embedded inside the center of the dish facing the pod to steer and focus the sound produced from the horn. The dish housing serves as the parabolic aiming mechanism and contains the amplification, signal processing, and control electronics for both drivers. The high frequency pod can be disassembled and packed for shipping inside the dish.

AC Power

The AC voltage operating ranges for the SB-1 are 85 – 134 V and 165 – 264 V, at 50 or 60 Hz. The SB-1 performs surge suppression for high voltage transients and can safely withstand voltages up to 275 VAC.

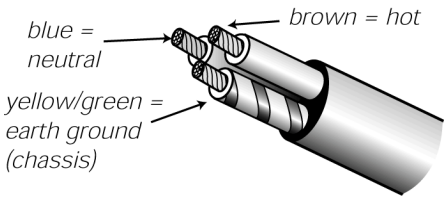
Continuous voltages above 275 VAC may damage the unit!

The Intelligent AC power supply protects the drivers and amplifier components when an AC source is applied to the SB-1 by

- auto-selecting the voltage;
- performing surge suppression and minimizing inrush current;
- filtering EMI.

After three seconds, the main power supply is slowly ramped on. The SB-1 uses a NEMA L6-20P or IEC 309 male power inlet and satisfies UL, CSA, and EC safety standards.

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).

Power Requirements

The SB-1 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 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

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

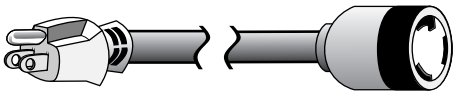
Use the table below as a guide to select cables and circuit breakers with appropriate ratings for your operating voltage.

SB-1 Current Ratings			
	115 V	**230 V**	**100 V**
Max. Continuous RMS	8 A_{RMS}	4 A_{RMS}	10 A_{RMS}
Max. Burst RMS	15 A_{RMS}	8 A_{RMS}	18 A_{RMS}
Max Peak During Burst	22 A_{PEAK}	11 A_{PEAK}	25 A_{PEAK}

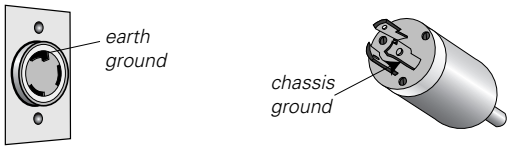
The minimum electrical service amperage required by a system of SB-1s is the sum of the **maximum continuous RMS current** for each speaker. We recommend allowing an additional 30% above the minimum amperage to prevent peak voltage drops at the service entry.

Safety Issues

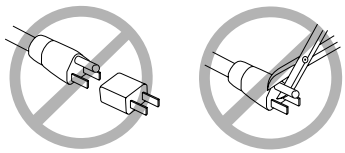
Pay close attention to these important electrical and safety issues.



Use a power cord adapter to drive the SB-1 from a standard 3-prong outlet (NEMA 5-15R; 125 V max).



The SB-1 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 SB-1 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 SB-1 presents a 10 kΩ 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.

Shorting an input connector pin to the case can form a ground loop and cause hum.

A single source can drive multiple SB-1s with a paralleled input loop, creating an unbuffered hardwired loop connection. Make certain that the source equipment can drive the total load impedance presented by the paralleled input circuit. For example, since the input impedance of a single SB-1 is 10 kΩ , cascading 20 SB-1s produces a balanced input impedance of 500 Ω . If a 150 Ω source is used, the 500 Ω load results in a 2.28 dB loss.

AC Troubleshooting

If the **Active** lamp does not light after connection to an AC source for three seconds, the problem is probably in the power supply. In the unlikely case that the circuit breakers trip (the white center buttons pop out), the amplifier or power supply may be malfunctioning.



Do not reset the breakers! Contact Meyer Sound for repair information.

If abnormal noise (hum, hiss, popping) is produced from the loudspeaker, disconnect the audio source from the speaker. If the noise stops, then the problem is not within the loudspeaker; check your audio and AC power sources.

If problems persist, contact Meyer Sound. If repairs are necessary, the SB-1's modular components are easy to remove and ship.

Limiting and Protection Circuitry

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 power dissipation and voice coil temperature. TPL allows the speaker to deliver its highest SPL across its entire frequency range during limiting, eliminates long-term power compression when operated at high levels for extended periods, protects the drivers, and extends component lifetime.

HI Limit and **LO Limit** LEDs on the user panel indicate TPL activity for the high and low frequency drivers, respectively. The limiters for each driver function independently and *do not* affect the signal when the LEDs are inactive. Limiting begins when the driver temperature exceeds the maximum safe level and ceases when the temperature returns to normal.

The SB-1 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 the LEDs remain on for longer than three seconds, the SB-1 is **hard limiting** with these 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 frequency drivers alters the frequency response.
- Driver and amplifier components are subjected to maximum heat, which shortens their life- span.

Driver Troubleshooting with TPL

The TPL LEDs can indicate serious driver problems, if interpreted correctly. If one SB-1 in a system exhibits substantially more TPL activity than others receiving the same audio signal, then the driver corresponding to the excessively active LED may have a short circuit. This is a potentially dangerous condition for the electronics; shut the SB-1 down immediately.

The TPL circuit does not activate if there is no power dissipation in the driver, regardless of the input signal level. Therefore, if all SB-1s in a system receiving the same audio signal exhibit TPL activity except one, then that unit may have an open voice coil; disconnect it and contact Meyer Sound for repair information.

The TPL LEDS can indicate an imbalance in a configuration of speakers by functioning like a spectrum analyzer. If the speakers in a subwoofer, mid-bass, or mid-hi subsystem begin to limit before reaching the required operating level for the entire system, then that subsystem needs to be supplemented with additional speakers.

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 SB-1 uses a forced-air cooling system with two fans to prevent the amplifiers from overheating. A variable-speed primary fan runs continuously with an inaudible operating noise of 22 dBA at 1 m at its slowest speed. The speed of the primary fan begins increasing when the temperature of the heatsinks reaches 42°C. The fan reaches full speed at 62°C and is barely audible near the cabinet, even without an audio signal.

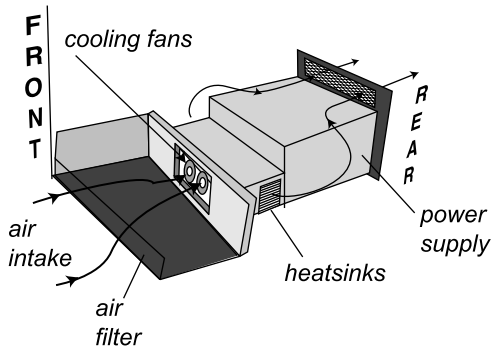
In the unusual event that the temperature reaches 74°C, the secondary fan turns on and is clearly audible. The secondary fan turns on in response to

- primary fan failure (check status immediately);
- high source levels for a prolonged period in hot temperatures or direct sunlight;
- driver failure.

The secondary fan turns off when the temperature decreases to 68°C.

In the highly unlikely event that the secondary fan does not keep the temperature below 85°C, the SB-1 automatically shuts down until AC power is removed and reapplied. If the SB-1 shuts down again after cooling and reapplying AC power, contact Meyer Sound for repair information.

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. Make sure that the air ducts are clear and that there is at least 6 inches clearance for exhaust behind the cabinet.



A foam insert filter, in combination with the entire front grill surface, acts as an air filter for the cooling system. 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, filter, and amplifier module and using compressed air to clear dust from the grill, filter, fans, and heatsinks.

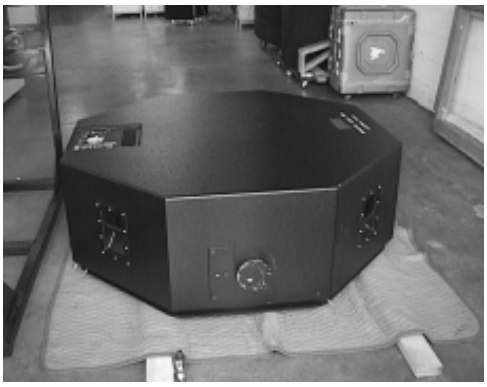
Yoke Installation and Removal

The floor method:

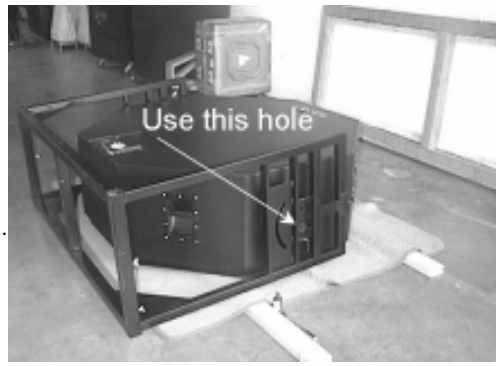
Lay two 2x4" boards, at least five feet in length, three feet apart and cover them with a heavy blanket or carpet.



With the protective cover over the dish lie the SB-1 down on the boards so that the rigging points are between the two boards and the amplifier is facing upwards.



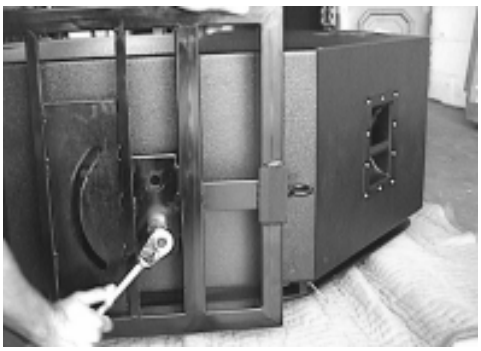
Lay the positioning yoke on the ground so that the hole closest to the front of the yoke is aligned with the 3/4" threaded rigging hole on both sides of the SB-1



Place the split washer on the 3/4" grade rigging bolt and then place the flat washer on top of split washer so that the split washer is closest to the bolt head. Hand thread the bolt-washer assembly through the yoke and into the 3/4" hole on both sides of the SB-1.



Use a $1^{1}/_{16}$ hex-socket wrench to tighten the bolt. Use approximately 40 to 60 foot pounds of torque to tighten to the bolts sufficiently so that the SB-1 will not shift on the yoke as it is lifted off the ground.



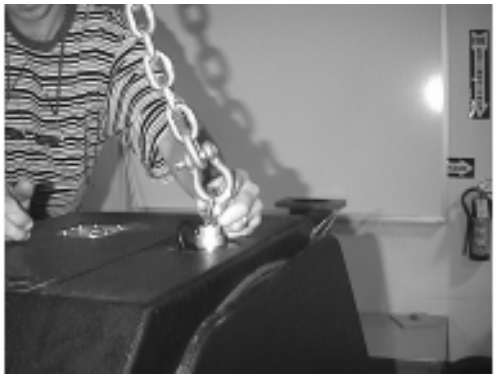
When the bolts are tight, stand the SB-1 on its yoke. To remove the positioning yoke, reverse this process.

The hanging method:

On the top of the SB-1 is a single rigging point which can be used to hang the SB-1 for easy yoke installation and removal.



Connect the rigging hardware to the rigging plate.



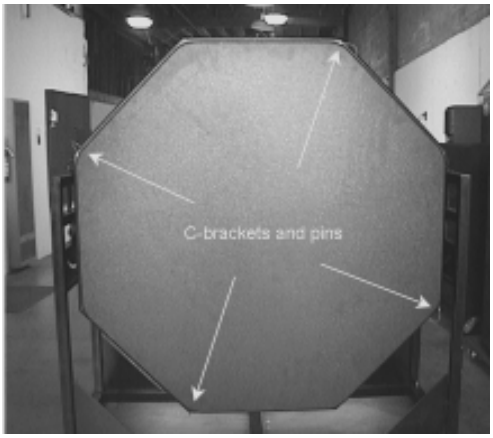
Hang the SB-1 so that the weight of the speaker is supported by the rigging hardware.



With the speaker suspended the yoke can be easily removed or installed on the speaker.

Cover Removal and Installation

The Dish cover is held in place by four sets of C-brackets and locking pins as shown below.



It is easier to remove the dish cover if the pins and brackets are not supporting the entire weight of the cover. To ease the stress on the pins, loosen the $^{3}/_{4}$″ grade rigging bolt on the positioning yoke and angle the SB-1 so that the cover is facing upwards.



While pressing down on the cover, push the button at the top of the pin in, while pulling the pin out of the C-bracket.

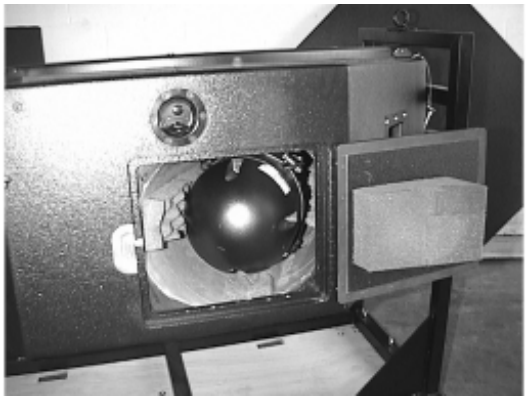


Once each of the pins are removed, the cover can be easily lifted off the SB-1.

To install the cover, reverse these steps.

High Frequency Pod Installation and Removal.

The High Frequency Pod is stored inside the SB-1 during transportation. To install the Pod onto the dish first loosen the 3/4" grade bolts on the yoke so that the dish is pointing upwards. The pod assembly is stored in an internal compartment at the top of the dish.



Note that the legs of the pod assembly rest between the foam inserts. Firmly grasp the pod and slowly slide it out of the internal compartment. Be careful not to twist the pod assembly during removal as you may damage the legs.

When the pod assembly is removed, carefully set it down away from the dish, close the compartment, and reposition the dish so the compartment opening is facing upward.

The high frequency pod will be attached to the SB-1 using the same c-brackets and locking pins which held the dish cover in place

With the pod assembly in hand, position yourself in front of the dish and angle the legs so that they are approximately aligned with the c-brackets. Make sure that the leg with the EP-4 pin connector is matched up with the bracket closest to the EP-4 pin connector on the dish.



While keeping a firm grip on the pod insert one of the legs into a c-bracket so that the holes in the legs are aligned with the holes in the c-bracket. Then insert a pin through the holes while pressing down on its button head. When the first pin is in position attach the leg opposite to the first one. Repeat this process until all four legs are attached.

Plug and lock the multipin connector; the SB-1 is now ready for operation.

When removing the high frequency pod be careful not to let the weight of the pod bend any of the brackets as this will skew the position of the pod and damage the SB-1.

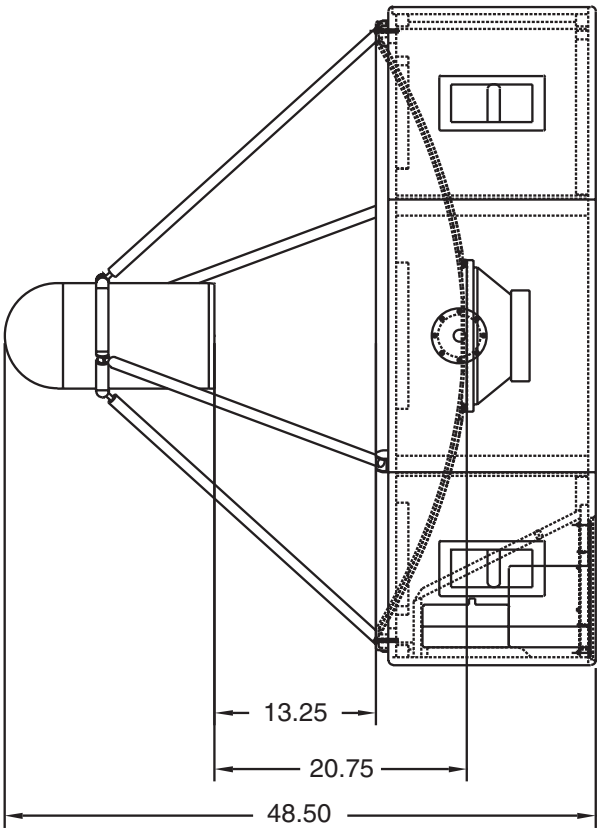
When placing the pod back in the internal compartment remember to position the legs between the foam inserts.

Pod Alignment

Note: Only attempt re-alignment of the SB-1 if it is *absolutely necessary****. Recalibrating the pod can drastically affect the performance of your SB-1. We have developed a pod calibration tool to aid in alignment; contact Meyer Sound for pricing and availability.***

All SB-1s are shipped from the factory with their HF pod pre-aligned to the dish, however should the configured pod move out of alignment, we strongly recommend purchasing a pod calibrator to re-align the arms and return the SB-1 to proper alignment. You can verify the dimension of the pod's relative distance to the dish by referring to the following side view drawing. All four legs should be equal in length, resulting in the pod sitting absolutely centered and flat to the dish. Check the tightness of the c-brackets at the base of each leg; a loose bracket can affect the performance of your SB-1.

SB-1 legs can be easily adjusted by removing the legs one at a time from their pined position on the dish. Loosen the set nut on the leg and rotate the legs in 180 degree increments until the pod is returned to its proper alignment. The pod calibrator allows the HF pod to remain in its proper centered and relative distance from the dish during arm adjustment. Once adjusted, apply a drop of Locktite™ 290 (or any light industrial adhesive guaranteed to "penetrate assembled parts") onto the leg's threads and re-seat the locking nut down onto the point that the threaded rod enters the legs--be careful not to rotate the leg section that pins into the c-bracket.



High Frequency Tranducer Pod Setup Dimensions

Driver Polarity Verification

All Meyer Sound Speakers leave the factory wired for proper polarity. However, if you suspect that the wiring may have been altered due to service performed by anyone other than certified Meyer personnel follow the steps listed below.

To verify driver polarity you will need a EP-4 pin polarity reverser, a noise generator, and a frequency specific SPL measurement system. While a SIM-2201 would be ideal for this application, any analyzer capable of accurate measurements at 500 Hz is acceptable.

A lobe measurement is necessary as the primary function of the MS-12 is to cancel the low frequencies outside of the primary 10 degree coverage angle. When the phase of one of the drivers is reversed the MS-12 is no longer canceling lobe energy but increasing it.

Set up the SB-1 so that it is powered and reproducing the noise from the generator. The dish should be facing straight ahead so that the pod assembly is level.

Place the measurement microphone 75° off the soundbeam axis and 5' from the high frequency pod. Generate noise and measure the sound pressure level at 500 Hz. Without altering the level of signal, insert the EP-4 pin polarity-reverser between the EP-4 pin connectors. Measure the sound pressure level at 500 Hz. If second measurement is greater than the first, then the drivers are wired for proper polarity. If the first measurement is greater than the second either the high driver is miswired in the high frequency pod or the MS-12 in the center of the dish is miswired.

Keep in mind that this increase in energy is not desirable since the affected space is outside of the coverage angle.

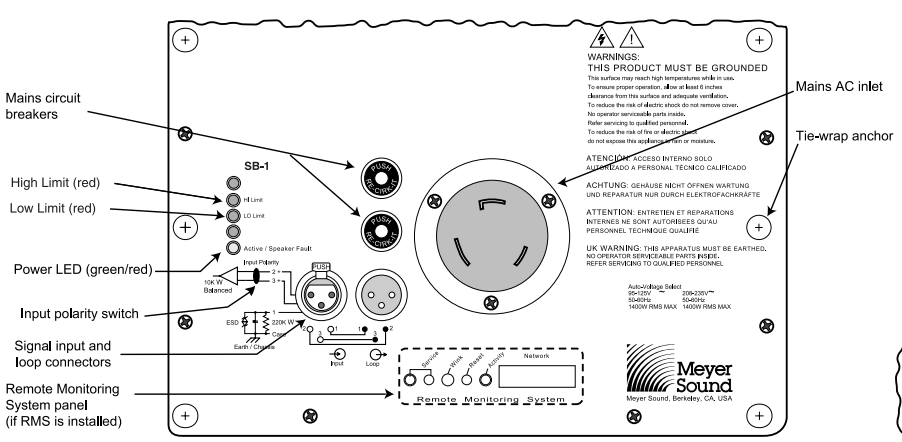
Specifications

Acoustical[1]	
Frequency Response	+/- 4Db 500Hz - 15kHz at 100m
Maximum SPL	110Db @ 100m
Dynamic Range	>110Db
Coverage	(-6Db points) 10^0 H; 10^0 V
Transducers	
Low Frequency	12" diameter MS-12 cone (3" voice coil)
High Frequency	2" throat, 4" diaphragm MS-2001A Compression Driver
HF DC Protection	20 mf capacitor
Amplifiers	
Type	Complementary Power MOSFET output stages class AB/H
Burst Capability	1240 Watts (620 Watts/channel)
THD, IM TIM	< .02%
Audio Input	
Type	10 Ohms impedance, electronically balanced
Connector	XLR (A-3) male and female
Nominal Input Level	+4dBU (1.23 Vrms)
AC Power	
Connector	250V NEMA L6-20P (Twistlock) Plug
Automatic Voltage Selection	80-135 VAC and 160-250 VAC; 50/60Hz
Max Cont. RMS Current (>10 sec)	@115V: 8A @230V: 4A @100V: 10A
Burst RMS Current (>1 sec)	@115V: 15A @230V: 8A @100V: 18A
Max Peak Current During Burst	@115V: 22Apk @230V: 11Apk @100V: 25Apk
Soft Current Turn-on	Inrush current <12A@115V
Physical	
Dimensions	54" (1371.6mm) H x 54" (1371.6mm) W x 48.5" (1231.9mm) W
Weight	293 lb (133 kg); SB-1 with yoke: 392 lb (178 kg)
Finish/Enclosure	black/fiberglass
Rigging	Rigging yoke mounts a single SB-1; allows horizontal and vertical angle adjustments

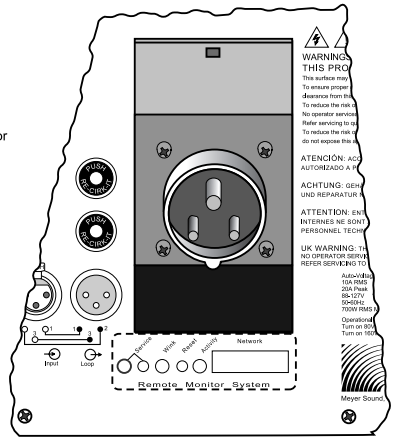
Note

1. Measured at 5 m non-axis, free field conditions, pink noise input, in thrid-octave bands.

Controls and Connectors

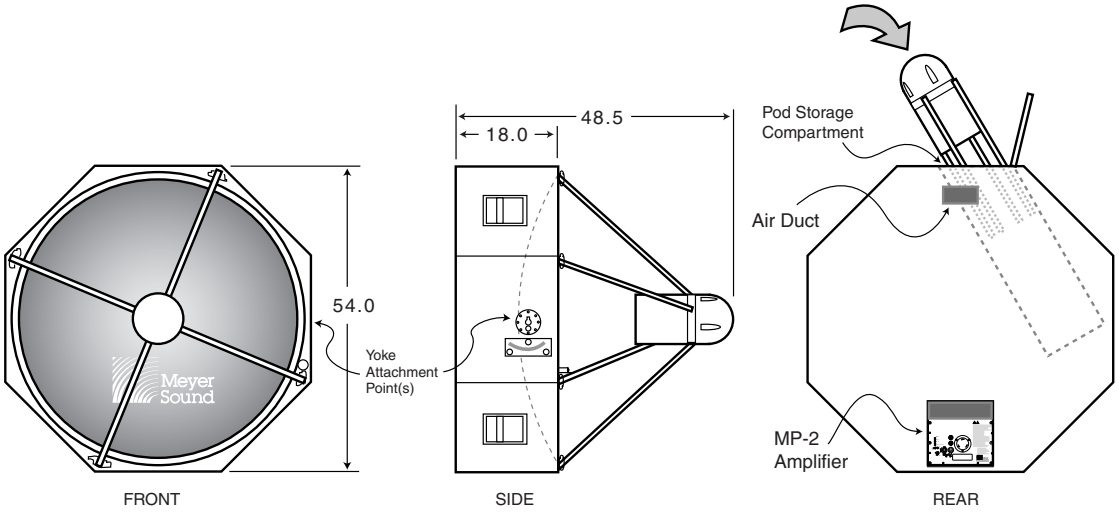


Rear User Panel shown with the optional Remote Monitoring System (RMS) panel



European Rear User Panel with IEC 309 connector

Physical Dimensions



Weight: SB-1: 293 lb (133 kg); SB-1 with yoke: 392 lb (178 kg)

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