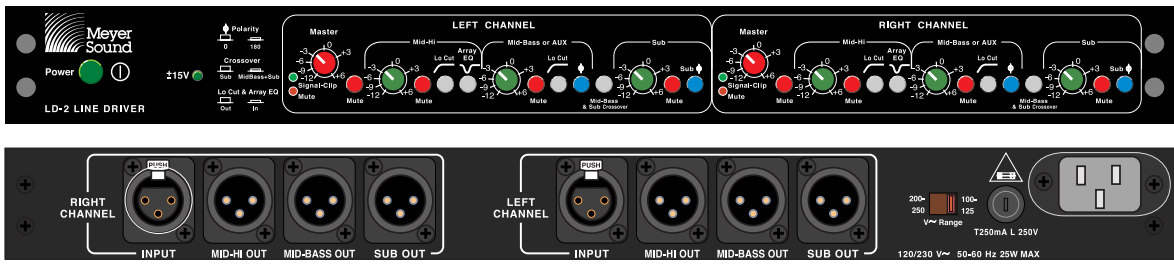


# LD-2 *Line Driver*

## OPERATING INSTRUCTIONS



*Superior  
engineering  
for the art  
and science  
of sound.*



*Keep these important operating instructions*

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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 indiquer important instructions	Masse, châssis	Terre de protection
Zu die gefahren von gefährliche spanning zeigen	Zu wichtige betriebs- anweisung und unter- haltsanweisung zeigen	Rahmen oder chassis	Die schutzerde
Para indicar azares provengo de peligroso voltajes	Para indicar importante funcionar y mantenimiento instrucciones	Armadura o chassis	Tierra proteccionista

## DECLARATION OF CONFORMITY ACCORDING TO ISO/IEC GUIDE AND EN 45014

The Manufacturer:

**MEYER SOUND LABORATORIES, INC.**  
2832 San Pablo Avenue  
Berkeley, California 94702-2204, USA

Declares that the product:

**LD-2**

Conforms to the following Product Specifications

Safety: EN60065: 1994  
EMC: EN55103-1 emission<sup>1</sup>  
EN55103-2 immunity<sup>2</sup>

This device complies with the requirements of the Low Voltage Directive 73 / 23 / EEC and the EMC Directive 89 / 336 / EEC. This device also complies with EN 55103-1 & -2. 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.

### ENVIRONMENTAL SPECIFICATIONS FOR MEYER SOUND ELECTRONICS PRODUCTS:

**Operating Temperature** 0° to + 45°  
**Nonoperating Temperature** <-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** 30g 11 msec half-sine on each  
of 6 sides  
**Vibration** 10Hz to 55Hz (0.010m  
peak-to-peak excursion)



Made by Meyer Sound Laboratories  
Berkeley, California USA  
European Office:  
Meyer Sound Lab. GmbH  
Carl Zeiss Strasse 13  
56751 Polch, Germany



Office of Quality Manager  
Berkeley, California USA August 31, 2000



## SAFETY SUMMARY



### ENGLISH

- To reduce the risk of electric shock, disconnect the unit from the AC mains before installing audio cable. Reconnect the power cord only after making all signal connections.
- Connect the unit 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 allow water or any foreign object to get inside the unit. Do not put objects containing liquid on, or near, the unit.
- To reduce the risk of overheating the unit, avoid exposing it to direct sunlight. Do not install the unit near heat-emitting appliances, such as a room heater or stove.
- This unit 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'appareil, avant d'installer le câble d'interface allant à l'audio. Ne rebrancher le bloc d'alimentation qu'après avoir effectué toutes les connexions.
- Branchez l'appareil 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 laisser de l'eau ou tout objet

pénétrer dans l'appareil. Ne pas placer de récipients contenant un liquide sur cet appareil, ni à proximité de celui-ci.

- Pour éviter une surchauffe de l'appareil, conservez-le à l'abri du soleil. Ne pas installer à proximité d'appareils dégagant de la chaleur tels que radiateurs ou appareils de chauffage.
- Ce appareil 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 Gerät vom Stromnetz trennen, bevor ggf. ein Audio-Schnittstellensignalkabel angeschlossen wird. Das Netzkabel erst nach Herstellung aller Signalverbindungen wieder einstecken.
- Der Gerät an eine geerdete zweipolige Dreiphasen-Netzsteckdose anschließen. Die Steckdose muß mit einem geeigneten Abzweigschutz (Sicherheit oder Leistungsschalter) verbunden sein. Der Anschluß der unterbrechungsfreien Stromversorgung an einen anderen Steckdosentyp kann zu Stromschlägen führen und gegen die örtlichen Vorschriften verstoßen.
- Darauf achten, daß weder Wasser noch Fremdkörper in das Innere des Gerät eindringen. Keine Objekte, die Flüssigkeit enthalten, auf oder neben die unterbrechungsfreie Stromversorgung stellen.
- Um ein Überhitzen des Gerät zu verhindern, das Gerät vor direkter Sonneneinstrahlung fernhalten und

nicht in der Nähe von wärmeabstrahlenden Haushaltsgeräten (z.B. Heizgerät oder Herd) aufstellen.

- Im Inneren dieses Gerät herrschen potentiell gefährliche Spannungen. Nicht versuchen, das Gerät zu öffnen. Es enthält keine vom Benutzer reparierbaren Teile. Reparaturen dürfen nur von ausgebildetem Kundendienstpersonal durchgeführt werden.

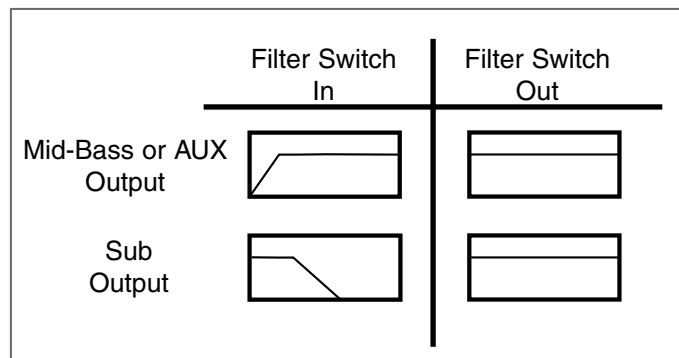
### ESPAÑOL

- Para reducir el riesgo de descarga eléctrica, desconecte de la red el aparato antes de instalar el cable de señalización de interfaz de la señal. Vuelva a conectar el conductor flexible de alimentación solamente una vez efectuadas todas las interconexiones de señalización.
- Conecte el aparato 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 deje que en el aparato 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 aparato contiene niveles de voltaje peligrosos en potencia. No intente desarmar la unidad, pues no contiene piezas que puedan ser reparadas por el usuario. Las reparaciones deben efectuarse únicamente por parte del personal de mantenimiento capacitado en la fábrica.

## THE LD-2 LINE DRIVER:INTRODUCTION

Thank you for purchasing the LD-2 Line Driver, one of the two line-level distribution systems offered by Meyer Sound for integrating and optimizing our self-powered loudspeakers. The LD-2 allows system designers and operators to configure and control Meyer Sound self-powered full range, mid-hi, mid-bass, downfill, and subwoofer loudspeakers and any combination of these devices that may be required for real-world sound reinforcement or playback applications. The LD-2 provides the same basic functions as those provided by the LD-1A, but in a more compact package for those sound system applications requiring fewer auxiliary or supplemental loudspeakers.

The LD-2 provides two discrete distribution channels (Left and Right) and each of these is equipped with a master gain control, a master mute switch, and LED indicators to show the presence of input signal, clipping and muting status. The gain and mute controls on each input affect their associated output channels. Additionally, each of the six output channels is equipped with an individual gain control, mute switch and application-specific switched filters. Each output may be utilized as a full-frequency distributed output with gain and muting control or may be configured as Mid-Hi, Mid-Bass, and Sub (woofer) outputs, with appropriate filters. The Mid-Hi output is equipped with a 160Hz Low Cut filter for applications utilizing Meyer Sound Mid-Bass loudspeakers (DS-2P or DS-4P). This output is also equipped with a switched Array EQ filter to minimize the increased low-mid frequency output resulting from combined adjacent loudspeakers such as horizontal arrays of MSL-4 loudspeakers. The Mid-Bass and Sub Crossover switch provides filters to the second and third outputs to facilitate employment of Meyer Sound mid-bass loudspeakers (DS-2P or DS-4P) and Meyer Sound subwoofers (650-P or PSW-2), or both (See Figure 1).



**Figure 1 Mid-Bass or AUX and Sub Crossover**

In applications where mid-hi loudspeakers are used in conjunction with subwoofers (with no supplemental mid-bass loudspeakers), the Mid-Bass/AUX output channels may be employed to feed auxiliary full range or downfill loudspeakers. The Low Cut filter on this output will further optimize the frequency response of mid-hi/full range cabinets connected to the Mid-Bass/AUX output channel.

The LD-2 occupies one rack space and is constructed with a 16-gauge steel chassis and 1/8" aluminum rack ears. This rugged design provides protection from physical wear and tear and immunity from EMI.

### **MEYER SOUND LOUDSPEAKER TYPES**

The following Meyer Sound self-powered loudspeakers are referenced in this document. Please note that the MSL-4 is normally employed as and considered to be a "full range" loudspeaker. As used in the loudspeaker applications described below (wherein there are supplemental "mid-bass" and/or "subwoofer" loudspeakers) the MSL-4 is referred to more accurately as a "mid-hi" loudspeaker.

- **MSL-4** mid-hi loudspeaker
- **CQ Series** full range loudspeaker
- **DS-2P/4P** mid-bass loudspeaker
- **DF-4** downfill loudspeaker
- **650-P** subwoofer
- **PSW-2** subwoofer

## AUDIO INPUT

The LD-2 presents a 10Ω balanced input impedance to a three-pin XLR connector wired with the following convention:

- Case — Earth (AC) ground and chassis
- Pin 1 — Earth (AC) ground and chassis
- Pin 2 — Signal
- Pin 3 — Signal

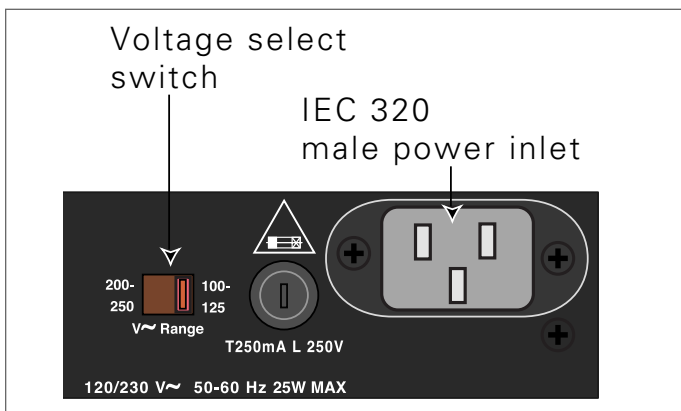
The LD-2 is balanced in and out, and consequently has no hot (+) pin. Pins 2 and 3 carry the input as a differential signal. Use standard audio cables with XLR connectors for balanced signal sources.

The audio input signal should always be applied between pins 2 and 3. Pin 1 is connected to the chassis which also connects to earth ground through the AC cable. This allows interference (EMI and ESD) coupled to the shield of the audio cable to bleed back to earth ground. Therefore, pin 1 is a noisy ground and audio signals should not be connected to pin 1.

## AC POWER

### AC INLET AND VOLTAGE SELECT SWITCH

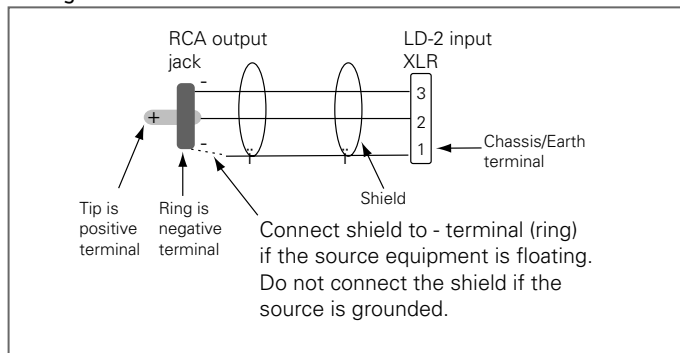
The LD-2 uses an international standard IEC 320 Mains AC inlet. This convenient rear panel receptacle accepts many power cord types for mains outlets used throughout the world. The LD-2 must have the correct power cord for the AC power in the area in which it will be used.



**Figure 3 The LD-2's dual voltage operation**

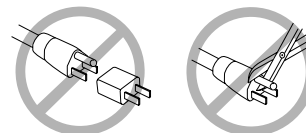
The LD-2 operates in two AC voltage ranges: 90 - 125V and 180 - 250V, at 50 or 60Hz. The voltage select switch on the rear panel must be set to the proper voltage before applying AC power. Connecting the LD-2 to a 225VAC source with the voltage select switch in the 90 - 125V position could blow the fuse. **Unplug the power cord before changing the voltage select switch!**

Most modern balanced audio sources (electronically balanced or transformer output) conform to the wiring convention previously described and interface correctly with the LD-2. However, an audio source may produce noise if it connects pin 1 to a quiet internal audio ground, and is then connected to pin 1 of the LD-2 (chassis/earth). To alleviate this noise, try disconnecting pin 1 (or the cable shield) of the audio source. To connect an unbalanced audio source to the LD-2, use the wiring connections shown below:



**Figure 2 Connecting the LD-2 to an unbalanced source**

The audio outputs are muted internally during normal power on and off, and in case of sudden loss of AC power or unstable line voltage. This precaution prevents noise transmission, and possible damage, to interconnected devices.



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



To avoid electrical shock and damage to the unit, use the power cord specified by Meyer Sound or an equivalent that satisfies the requirements of the local safety testing agency. Do not operate the unit if the power cables are frayed or broken.

### AC FUSE

Always disconnect the power cord before changing the fuse. To replace the fuse, insert a flat-blade screwdriver in the fuse cap and gently turn counterclockwise; the fuse springs from its socket. Replace only with a 5 x 20 mm, T 250 mA, 250 V, time-lag fuse that conforms to identical safety agency standards.

If the fuse blows again, contact Meyer Sound for repair information.

## LEFT AND RIGHT CHANNEL FUNCTIONS

Each channel is equipped to control a full range main system. Each has a Signal/Mute-Clip LED indicator; mute switch; gain control; Mid-Hi, Mid-Bass or AUX, and Sub output controls; and a male XLR output connector for each output. The Master gain control sets the channel's overall level. The Mute switch mutes the entire channel. The bicolor Signal/Mute-Clip LED indicates input signal presence and level with a variable intensity green color, and clipping or mute with red.

The Mid-Hi, Mid-Bass/Aux and Sub outputs each have a level control and mute switch. The level control modifies the level set by the channel's Master gain control; the mute switch affects the corresponding Mid-Hi, Mid-Bass/Aux, or Sub output only. For example, the Mid-Hi output could be muted without affecting the Sub or Mid-Bass/Aux outputs. Additional functions specific to each output are described in the following sections.

### MID-HI OUTPUT

The Mid-Hi output has two switch-activated, optimized filters. Pushing in the Lo Cut switch activates a high-pass filter (160 Hz,  $Q = 0.8$ , -12 dB/octave) that performs a crossover function for the Mid-Hi output. The filter is bypassed with the switch out (Figure 4). This filter compensates for the low frequency rise in the overlap region when MSL-4 and PSW-2 cabinets are arrayed together.

Pushing the Array EQ switch in activates a filter (6 dB cut at 220 Hz, 0.6 octave bandwidth) to equalize the low-mid rise produced by three to five horizontally arrayed MSL-4s. The filter is bypassed with the switch out. (Figure 4)

**NOTE:** The Array EQ filter compensates for MSL-4 array characteristics in free-space. We recommend using the Meyer Sound **SIM<sup>®</sup> System II Sound Analyzer<sup>1</sup>** and **CP-10 Parametric Equalizer<sup>2</sup>** to measure and correct problems caused by the acoustical environment.

It is important to note that the Mid-Hi output produces a full-range signal when both the Array EQ and Lo-Cut filters are out (bypassed).

### MID-BASS/AUX AND SUB OUTPUTS

The Mid-Bass/Aux & Sub Crossover network, optimized for the DS-2P or DS-4P and 650-P or PSW-2 is composed of a low-pass and an elliptical filter. Pushing the switch in activates the two-way crossover, sending frequencies below 80 Hz to the Sub output and above 80 Hz to the Mid-Bass/Aux output.

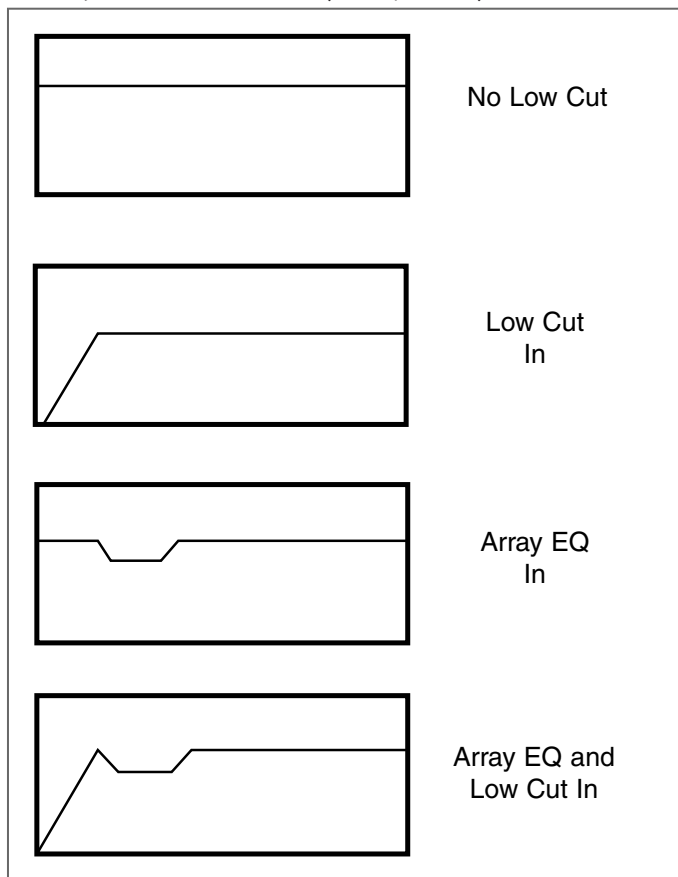
With the switch out, a full-range signal is sent to both the Mid-Bass/Aux and Sub outputs. When a DS-2P or DS-4P is used alone as a subwoofer, or is not included in the system, the

switch should be out.

**NOTE:** Meyer Sound's self-powered subwoofers are equipped with internal active processing that provides carefully derived low and high pass filters. Therefore, these loudspeakers may be fed with full range signals directly from the system source or with low-pass filtered signals from Meyer Sound LD-1A or LD-2 processors. We do not recommend feeding these subwoofers with low-pass signals from third-party external crossovers due to the uncertainty of the resulting phase response from these filters.

The Mid-Bass/Aux and Sub outputs each have a polarity switch ( $\phi$  and Sub  $\phi$ , respectively). With the switch out, the polarity is set to  $0^\circ$ . Pushing the switch in inverts the polarity  $180^\circ$  with respect to the out position.

In applications where only the Mid-Hi and Sub output sections are used for the main system, the Mid-Bass/AUX sections on both channels may be used for driving auxiliary systems such as fill loudspeakers. When mid-high or full range cabinets (MSL-4, CQ-1/2) are connected to the Mid-Bass or AUX output as auxiliary systems, a Low Cut filter is provided which rolls off frequencies below 160Hz (-12dB/octave).



**Figure 4** The LD-2's Mid-Hi Output Filters

1. The Meyer Sound SIM II is a computer-based dual channel FFT analysis system optimized for electroacoustic measurement.

2. The CP-10 is a dual-channel, complimentary phase, precision analog equalizer with five bands of parametric equalization and two bands of shelving filters.

## EXAMPLE CONFIGURATIONS

This section demonstrates the flexibility and utility of the LD-2 with four sample applications.

### LOUDSPEAKER PLACEMENT AND POLARITY

The loudspeakers in the following configurations are in a close-proximity coplanar orientation, unless otherwise stated. In general practice, placing adjacent loudspeakers more than 5 feet apart may require setting them to opposite polarities to compensate for the propagation delay between these loudspeakers.

### MEASUREMENT AND CORRECTION

Measurement and correction tools are required to optimize any professional sound system. This is all the more necessary and complicated for applications requiring large numbers of loudspeakers, loudspeakers in complex acoustic spaces (in which there will be multiple interactions between the loudspeakers and the architectural/acoustic surfaces) and/or when multiple loudspeaker positions or zones are required. We recommend using the **Meyer SIM System II Sound Analyzer** and **CP-10 Parametric Equalizers** to assist in the process of choosing and configuring loudspeaker positions. **SIM-II** is perfectly suited to measure propagation delays between subsystems, to set the correct polarity and signal delay, to measure and to equalize the frequency response resulting from the acoustical environment and the interaction between loudspeakers. Contact Meyer Sound for assistance with your application.

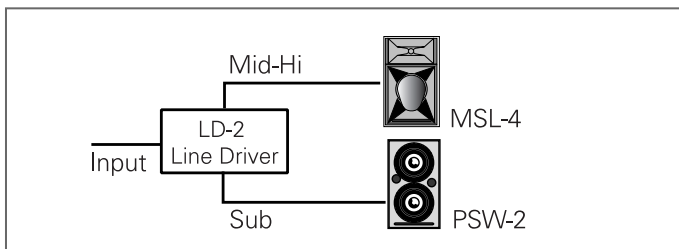


Figure 5 The LD-2 with an MSL-4 and PSW-2

### MSL-4 AND PSW-2

The MSL-4 and PSW-2 form a compatible full-range system. However, due to an overlap in the low frequency range between the two adjacent loudspeakers there will be increased acoustic output over the 65-120Hz frequency range when these loudspeakers are combined. Note that the loudspeakers are in phase in this region. The combined frequency response may be optimized by activating the Lo Cut filter on the Mid-Hi output of the LD-2. Ensure that the polarity switches for the output channels feeding the MSL-4 and PSW-2 loudspeakers are not inverted. In most applications, the ratio of MSL-4's to PSW-2's is 2:1, but the Sub and Mid-Hi gain controls in the LD-2 allow for variations in this ratio while maintaining the spectral balance of the system. The 650-P may be used interchangeably with the PSW-2 but the 650-P's

larger size does preclude tight-packing configurations with the MSL-4. The 650-P also lacks rigging hardware.

### MSL-4, DS-2P/DS-4P, AND 650-P

Adding the DS-2P or a DS-4P to an MSL-4/650-P system enhances LF power and clarity. With the Mid-Bass or AUX and Sub Crossover switches in, the Mid-Bass and Sub outputs are sent signals optimized for the frequency response capabilities of the DS-2P/4P and 650-P.

The MSL-4 is driven from the Mid-Hi output with the Lo Cut filter switched in for the purpose of minimizing overlap that would otherwise alter the frequency response when combined with the DS-2P/4P and 650-P. Invert the polarity of the 650-P versus that of the MSL-4 and DS-2P/4P.

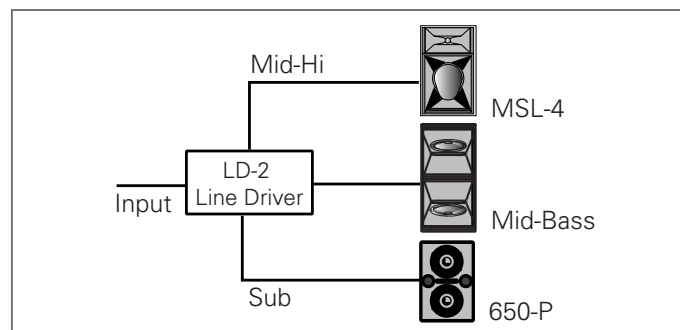


Figure 6 The LD-2 with an MSL-4, DS-2P/4P, and 650-P

### PSW-2 FLOWN WITH MSL-4; 650-P ON THE FLOOR

Positioning subwoofers in a flown cluster (along with the other loudspeaker components) is preferred by some designers because in doing so the low and mid-hi frequencies are produced and aurally localized (perceptually) to a single or centralized source. The identical dimensions of the PSW-2 and MSL-4 allow them to be easily flown together. The Mid-Hi output drives the MSL-4 with the Lo Cut filter in. The Sub and Mid-Bass outputs drive the 650-Ps and PSW-2s with the Mid-Bass and Sub Crossover switches out, sending a full-range signal to each loudspeaker and providing independently adjustable level control.

Set the MSL-4 and PSW-2 to the same polarity. The polarity of the 650-P depends on the height and distance of the measurement position from the subwoofers and flown cluster.

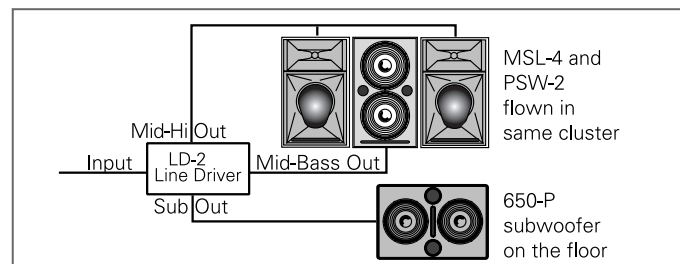
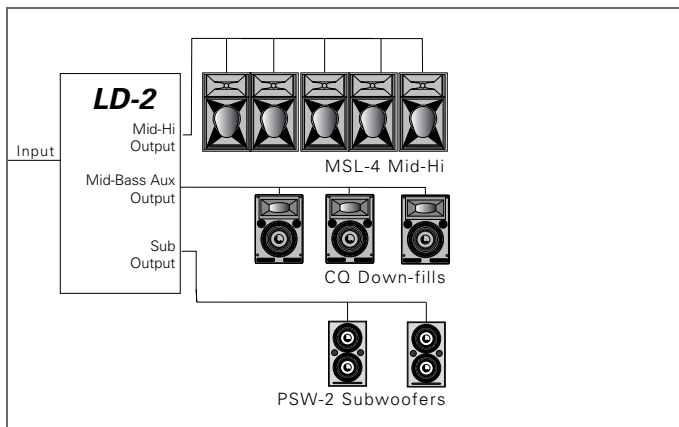


Figure 7 The LD-2 with an MSL-4, PSW-2, and 650-P

### MSL-4 AND PSW-2 WITH CQ DOWN-FILL<sup>3</sup>

This example shows the LD-2 used to integrate a system of self-powered loudspeakers for a larger venue.



**Figure 8** The LD-2 with an MSL-4, PSW-2, and CQ downfill

### MSL-4 FLOWN FOR MAINS, CQ DOWN FILL, AND 650-P

Figure 9 shows half of the system using the Left channel; identical connections can be used for the Right channel to create the other half. The MSL-4 and CQ arrays are flown; the 650-Ps are on the floor.

The Mid-Hi output drives the MSL-4 flown array. Array EQ switches should be in, to minimize the additional low-mid energy from the combined CQ's and MSL-4's. The Lo Cut filter should be switched out, as there is no significant overlap between the MSL-4s and the 650-P with this physical arrangement. The Left channel's Mid-Bass/Aux output controls the CQ down-fill system. Because the primary section of this array will have greater acoustic output than that of the down-fill system, there will be audible and measurable low frequency energy from the primary loudspeakers into the downfill coverage area. To insure that these loudspeakers combine properly in this intersecting downfill coverage area:

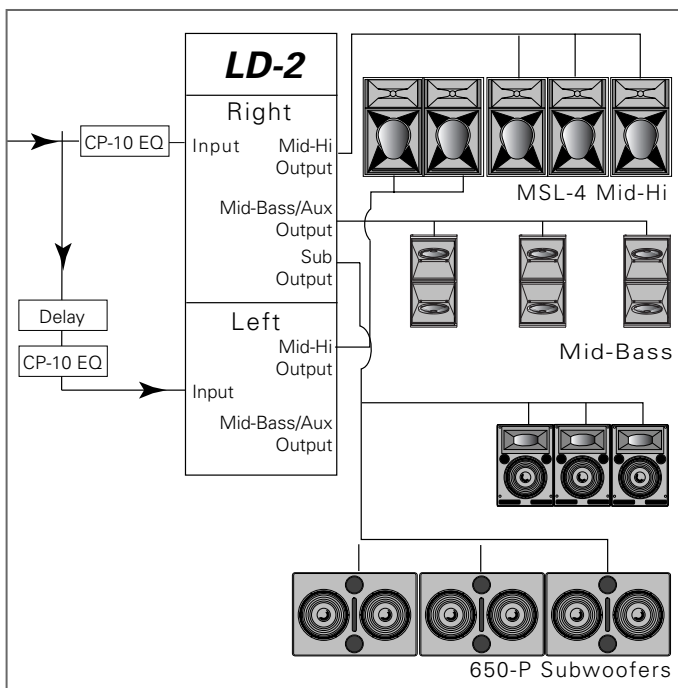
- Invert the polarity to the CQ's in order to align them to the high frequency output of the MSL-4's and to reduce combining in the low frequency range.
- Use the Mid-Bass/Aux Lo Cut filter to eliminate the LF rise caused by the overlap in frequency response with the 650-P
- Delay the down-fill to compensate for the propagation delay between the down-fill and primary loudspeakers in the intersecting coverage area.
- The Mid-Bass and Sub crossover switch should be out.

3. This arrangement will work with any suitable loudspeaker system, e.g. DF-4, UPA-1P/2P, etc.

The correct polarity for the 650-P subwoofers is dependent on the height and distance of the measurement position relative to the subwoofers and the flown loudspeakers.

We recommend that the entire system be measured, phase-aligned, and equalized using the **SIM System II Sound Analyzer** and **CP-10 Parametric Equalizer**.

Set the MSL-4 and 650-P to the same polarity; reverse the polarity of the CQ. The polarity of the 650-P depends on the distance of the measurement position from the subwoofer and flown systems.



**Figure 9** The LD-2 with an MSL-4, Mid-Bass loudspeakers (the DS-4P is shown), CQ, and 650-P

### DIFFERENTIAL INPUTS

1. 0 dBV = 1 V<sub>rms</sub>; 0 dBu = 0.775 V<sub>rms</sub>; 0 dBm = 1 mW<sub>rms</sub>
2. Ratio of maximum sinewave to A-weighted noise floor.
3. Level set to unity gain (0 dB).
4. 0 dBV, 1 kHz sinewave input. Gain at +12 dB main channel, +6 dB auxiliary channel.

# LD-2 SPECIFICATIONS

## Architecture<sup>1</sup>

Master Left and Right Gain Controls	-12 to +6 dB
Mid-Hi, Mid-Bass/Aux, Sub Gain Controls	-12 to +6 dB
Low-cut Filter for Mid-High & Mid-Bass/Aux Output	160 Hz high-pass, -12 dB/octave, Q = 0.8
Array EQ Filter for Mid-Hi Output	6 dB cut at 220 Hz, 0.6 octave bandwidth
Mute	Mute switches for Master, Mid-Hi, Mid-Bass or AUX, and Sub outputs
Polarity	Toggles for Sub and Mid-Bass/Aux outputs

## Audio Inputs

Connector	1 female XLR per channel
Type	Differential balanced input circuit
Impedance	10 k $\Omega$ differential (between pins 2 and 3)
Wiring	Pin 1: chassis/earth ground; Pin 2: signal; Pin 3: signal
RF Filter	Common Mode: 425 kHz low-pass; Differential Mode: 142 kHz low-pass
Common Mode Rejection Ratio	> 80 dB (typically 90 dB); measured in the range 50 Hz - 1 kHz
Signal Presence/clip LED	(Variable intensity; monitored at the input for each channel)
LED Threshold	-26 dBV (50 mVrms) pink noise or sinewave
LED Full Intensity	-10 dBV (300 mVrms) pink noise or sinewave

## Audio Outputs

Type	Balanced, cross-coupled simulated transformer topology
Impedance	10 $\Omega$ balanced (between pins 2 and 3)
RF Filter	Pins 2 and 3 shunted to chassis via 500 pF capacitance
CONNECTORS	Main 1 female XLR/channel
Wiring	Pin 1: chassis/earth ground; Pin 2: signal; Pin 3: signal
DRIVE CAPABILITY	Maximum Voltage 1600 $\Omega$ Load: +/-22.5 Vpk (+24 dBV, +26.2 dBu sinewave) No Load: +/-25.0 Vpk (+25 dBV, +27.2 dBu sinewave)
Maximum Current	+/-70 mApk (10 Vrms into 200 $\Omega$ )
Cables and Load	Drives > 100,000 pF (> 1000 ft cable) without instability or distortion

## AC Power

Connector	IEC 320 (line, neutral/line, earth)
Operating Voltage	90 - 125 VAC / 180 - 250 VAC (selectable with rear panel switch); 50/60 Hz
Maximum Power	25 Watts; Fuse: 5 x 20 mm, T 250 mA, 250 V, time-lag

## Audio Performance

Frequency Response	< +/-0.2 dB 20 Hz - 20 kHz
Bandwidth	DC to 60 kHz (-3dB)
Phase Response	< +/-3 $^\circ$ from pure 3 $\mu$ sec delay (DC - 20 kHz)
Dynamic Range <sup>2</sup>	> 120 dB
Noise Floor <sup>3</sup>	> -95 dBV A-weighted; > -90 dBV un-weighted
THD + N <sup>4</sup>	< 0.005% (typically 0.002%)
Gain Accuracy	< +/-0.15 dB at +6 dB gain; < +/-0.25 dB at 0 dB gain
Mute Attenuation	> 80 dB
GAIN RANGE	Each Channel -12 to +6 dB

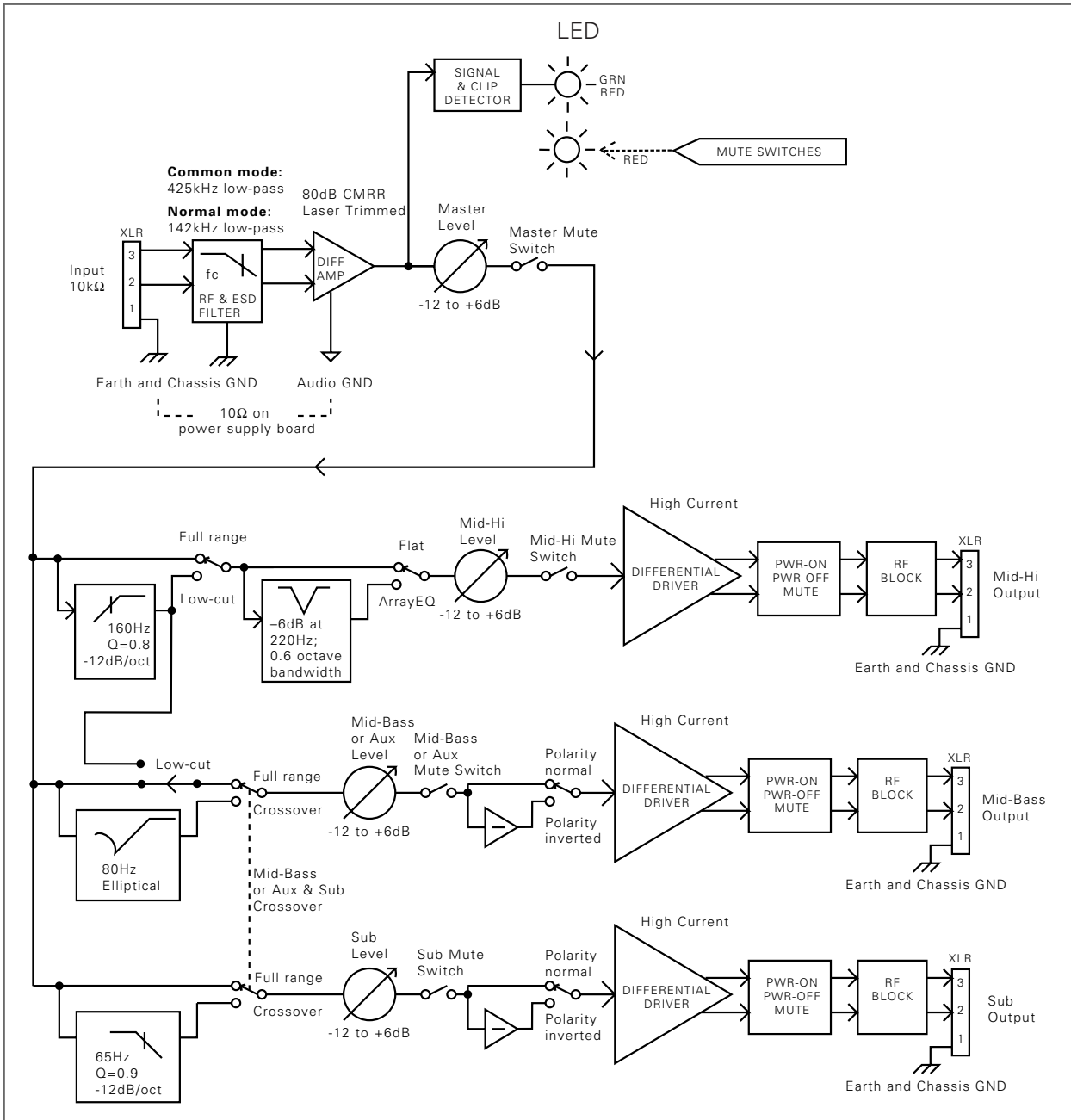
## Physical

Dimensions	Height: 1.75" (1 rack space); Width: 16.75"; Depth: 6.96"
Weight	13.5 lb (6.1 kg); shipping: 15 lb (6.8 kg)
Enclosure/Finish	Black 16-gauge steel chassis; 1/8" aluminum rack ears

## Notes

- 0 dBV = 1Vrms; 0 dBu = 0.775 Vrms; 0dBm = 1 mWrms
- Ratio of maximum sinewave to A-weighted noise floor
- Level set to unity gain (0 dB)
- 0 dBV, 1 kHz sinewave input. Gain at +12 dB main channel

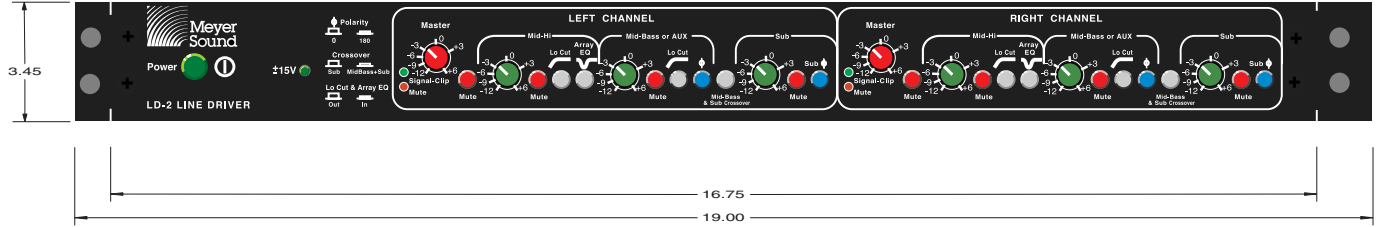
# LD-2 SIGNAL FLOW DIAGRAM



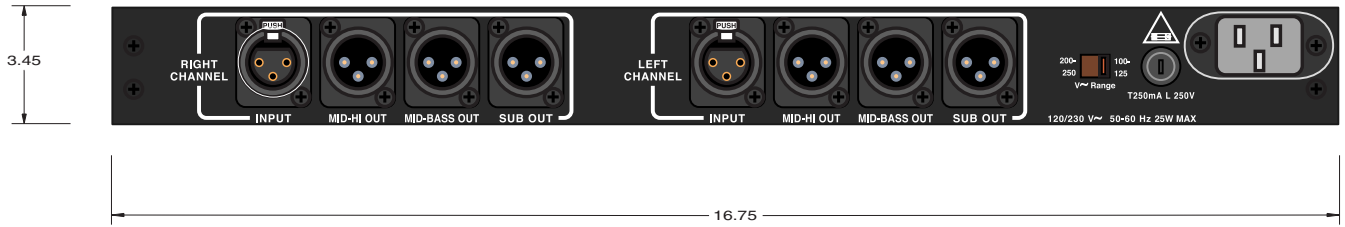
**Both channels of the LD-2 are identical.**

# FRONT AND REAR PANEL DETAIL, PHYSICAL DIMENSIONS

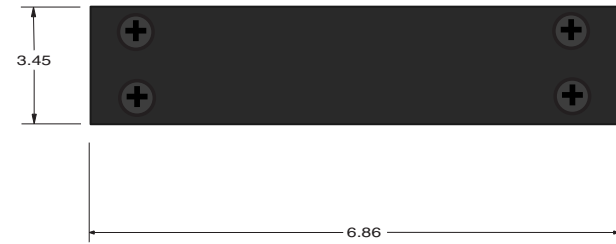
All units in inches



The front of the LD-2, showing rack ears and corresponding space requirements



Rear



Side



## CONTACT INFORMATION

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