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The Martin Experience

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Martin Audio – LE SERIES



This equipment conforms to the requirements of the EMC Directive 89/336/EEC, amended by 92/31/EEC and 93/68/EEC and the requirements of the Low Voltage Directive 73/23/EEC, amended by 93/68/EEC.

Standards Applied	EMC Emission	EN55103-1:1996
	Immunity	EN55103-2:1996
	Electrical Safety	EN60065:1993

1 INTRODUCTION

Thank you for purchasing a Martin Audio LE Series monitor. LE Series monitors have always set the industry standard for touring and stage applications. All monitors except the LE400C utilise differential dispersion horn technology to define a high frequency coverage footprint that is particularly useful for stage monitor applications.

2 UNPACKING

Each Martin Audio loudspeaker is built to the highest standard and thoroughly inspected before it leaves the factory. After unpacking the system, examine it carefully for any signs of transit damage and inform your dealer if any such damage is found. It is suggested that you retain the original packaging so that the system can be repacked at a future date if necessary.

Please note that Martin Audio and its distributors cannot accept any responsibility for damage to any returned product through the use of non-approved packaging.

3 OVERVIEW

The LE Series products covered in this guide include the LE350A, LE12J, LE400C and LE700A. All except the LE400C feature differential dispersion horn technology. A differential dispersion horn varies its horizontal dispersion from wide to narrow as a performer moves back from the monitor. This narrowing dispersion effectively changes the forward gain of the horn which enables the horn to throw further, increasing the operating range of the monitor and reducing excess spill.

For optimum performance, it is recommended that the LE Series monitors in active mode are used with the MX5 System Controller or an appropriate digital controller such as the Martin Audio DX1. Please refer to the appropriate controller user guide for information on connections and correct limiter settings.

3.1 LE350A

The LE350A is a low-profile monitor with differential dispersion horn technology and a 12" (305mm) bass driver. It is normally supplied as a passive system, available active to order. It can be configured as a left or right-handed monitor by unscrewing the baffle and moving the horn to the required end.

3.2 LE12J

Featuring differential dispersion horn technology, the LE12J utilises a high sensitivity 12" (305mm) bass driver and a 1.4" (35mm) exit titanium diaphragm compression driver. It is an active 2-way system and is supplied in either left or right-handed versions. It is capable of extremely high output levels for its small size and its horizontal coverage pattern of 100 degrees at close range and 50 degrees at distance is ideal for stage monitor situations.

3.3 LE400C

The LE400 has become the industry standard wedge monitor. The LE400C utilises a 15" (385mm) bass driver and a high frequency compression driver mounted on a 40 x 70 degree horn. It features a twin-angle enclosure design, a rotatable baffle to avoid the need for dedicated left and right-handed versions and a switchable active/passive crossover.

3.4 LE700A

The LE700A is an active 2-way monitor with a high power 15" (385mm) bass driver and a 1.4" (35mm) exit compression driver mounted on a differential dispersion horn. This horn design allows the artist to move freely over a large area without loss of information. For flexibility, the LE700A has a rotatable baffle to allow left or right-handed configurations.

4 SAFETY FIRST

It is important that loudspeaker systems are used in a safe manner. Please take some time to review the following points concerning safe use of LE Series loudspeakers.

Professional loudspeakers are capable of producing extremely high sound levels and should be used with care. Hearing loss is cumulative and can result from levels above 90dB if people are exposed for a long period. Never stand close to loudspeakers driven at high level.

5 AMPLIFICATION

LE Series monitors are designed to be used with professional power amplifiers capable of producing the following power outputs into 4 ohms:

LE350A	500-700W
LE12J	500-700W
LE400C	500-700W
LE700A	550-800W

Care should be taken to avoid amplifier clipping. It is important to understand that a low power amplifier driven into clipping is more likely to damage a loudspeaker than a higher power amplifier used within its ratings. This is because music signals have a high peak-to-average "crest" factor. When an amplifier is severely overdriven, its output waveform is clipped (its peaks are squared off) – reducing the crest factor. In extreme cases, the waveform can approach that of a square wave. An amplifier is normally capable of producing far more power under these conditions than its undistorted rated power output.

The use of very high power amplifiers with outputs greater than those recommended is discouraged.

Care should be taken to avoid switch-on surges, which can result in momentary power peaks in excess of specified ratings. When powering up a sound system it is important to switch on the amplifiers after the mixer and control electronics have stabilised. When powering down the system, reverse the sequence and switch off the amplifiers first.

6 CONNECTIONS

The LE350A and LE12J are fitted with two Neutrik Speakon NL4 connectors wired in parallel.

<u>LE350A Passive</u>	<u>LE12J Active</u>	<u>NL4</u>
Input -	LF -	-1
Input +	LF +	+1
N/C	HF -	-2
N/C	HF +	+2

The LE400C is fitted with two Neutrik Speakon NL4 connectors wired in parallel plus an XLR connector.

<u>LE400C Passive</u>	<u>LE400C Active</u>	<u>NL4</u>	<u>XLR</u>
Input -	LF -	-1	1
Input +	LF +	+1	2
N/C	HF -	-2	
N/C	HF +	+2	

The LE700A is fitted with two Neutrik Speakon NL4 connectors wired in parallel plus an EP8 connector.

<u>LE700A Active</u>	<u>NL4</u>	<u>EP8</u>
LF -	-1	1 & 3
LF +	+1	2 & 4
HF -	-2	5 & 7
HF +	+2	6 & 8

7 CABLE LENGTHS

When connecting loudspeaker systems to an amplifier, it is recommended that the return resistance of the cable used is less than one tenth of the nominal impedance of the system or systems in parallel. The table below gives an indication of the maximum permissible cable runs for various conductor cross-sectional areas.

<u>Conductor CSA</u>	<u>Maximum Cable Run</u>		
	4 ohms	8 ohms	16 ohms
1.0mm ²	11m	22m	44m
1.5mm ²	17m	34m	68m
2.0mm ²	22m	44m	88m
2.5mm ²	29m	58m	116m
4.0mm ²	44m	88m	176m
6.0mm ²	66m	132m	264m

8 WARRANTY

Martin Audio LE Series products are warranted against manufacturing defects in materials or craftsmanship over a period of 5 years from the date of original purchase. During the warranty period Martin Audio will, at its discretion, either repair or replace products which prove to be defective provided that the product is returned in its original packaging, shipping prepaid, to an authorised Martin Audio service agent or distributor.

Martin Audio Ltd. cannot be held responsible for defects caused by unauthorised modifications, improper use, negligence, exposure to inclement weather conditions, act of God or accident, or any use of this product that is not in accordance with the instructions provided by Martin Audio.

Martin Audio is not liable for consequential damages.

This warranty is exclusive and no other warranty is expressed or implied.

This warranty does not affect your statutory rights.

9 TECHNICAL SPECIFICATIONS

LE350A

TYPE	Passive monitor
BANDWIDTH	70Hz-18kHz \pm 3dB
DRIVERS	12" (305mm) dia., 3" (75mm) voice coil 1" (25mm) exit compression driver
RATED POWER	300W AES, 1200W peak.
RECOMMENDED AMPLIFIER	500-700W into 4 ohms
SENSITIVITY	97dB
MAXIMUM SPL	119dB continuous, 125dB peak
IMPEDANCE	8 ohms nominal
CROSSOVER	1500Hz
DISPERSION	50-100 degs horizontal (differential dispersion), 70 degs vertical
ENCLOSURE	36 litres
CONNECTORS	2 x Speakon
DIMENSIONS	(W) 607mm x (H) 318mm x (D) 428mm (W) 23.9ins x (H) 12.5ins x (D) 16.9ins
WEIGHT	23.2kg (51lbs)
SHIPPING DIMENSIONS	(W) 710mm x (H) 420mm x (D) 510mm (W) 28ins x (H) 16.5ins x (D) 20.1ins
SHIPPING WEIGHT	16kg (35.3lbs)

LE12J

TYPE	Two way active monitor
BANDWIDTH	65Hz-18kHz \pm 3dB
DRIVERS	12" (305mm) dia. 3" (75mm) voice coil 1.4" (35mm) exit compression driver
RATED POWER	LF: 300W AES, 1200W peak. HF: 75W AES, 300W peak.
RECOMMENDED AMPLIFIER	500-700W into 4 ohms
SENSITIVITY	LF: 98dB / HF: 106dB LF: 121dB continuous, 127dB peak HF: 124dB continuous 130 dB peak
IMPEDANCE	LF: 8 ohms nominal HF: 16 ohms nominal
CROSSOVER	1300Hz
DISPERSION	50-100 degs horizontal (differential dispersion), 70 degs vertical
ENCLOSURE	38 litres
CONNECTORS	2 x Speakon
DIMENSIONS	(W) 607mm x (H) 343mm x (D) 434mm (W) 23.9ins x (H) 13.5ins x (D) 17.1ins
WEIGHT	25.7kg (57lbs)
SHIPPING DIMENSIONS	(W) 710mm x (H) 420mm x (D) 510mm (W) 28ins x (H) 16.5ins x (D) 20.1ins
SHIPPING WEIGHT	28kg (61.7lbs)

LE400C

TYPE	Active/passive monitor
BANDWIDTH	50Hz-18kHz \pm 3dB
DRIVERS	15" (385mm) dia. 3" (75mm) voice coil 1" (25mm) exit compression driver
RATED POWER	LF/FR: 300W AES, 1200W peak. HF: 60W AES, 240W peak
RECOMMENDED AMPLIFIER	500-700W into 4 ohms
SENSITIVITY	LF/FR: 98dB / HF: 106dB
MAXIMUM SPL	LF/FR: 121dB continuous, 127dB peak HF: 123dB continuous 129dB peak
IMPEDANCE	LF/FR: 8 ohms nominal HF: 8 ohms nominal
CROSSOVER	1200Hz
DISPERSION	40 degs horizontal, 70 degs vertical
ENCLOSURE	70 litres
CONNECTORS	2 x Speakon
DIMENSIONS	(W) 660mm x (H) 470mm x (D) 554mm (W) 26.0ins x (H) 18.5ins x (D) 21.8ins
WEIGHT	32.5kg (72lbs)
SHIPPING DIMENSIONS	(W) 760mm x (H) 500mm x (D) 594mm (W) 29.9ins x (H) 19.7ins x (D) 23.8ins
SHIPPING WEIGHT	38kg (83.8lbs)

LE700A

TYPE	Two way active monitor
BANDWIDTH	60Hz-18kHz \pm 3dB
DRIVERS	15" (385mm) dia. 4" (100mm) voice coil 1.4" (35mm) exit compression driver
RATED POWER	LF: 400W AES, 1600W peak HF: 75W AES, 300W peak
RECOMMENDED AMPLIFIER	550-800W into 4 ohms
SENSITIVITY	LF: 98dB / HF: 106dB
MAXIMUM SPL	LF: 123dB continuous, 129dB peak HF: 125dB continuous, 131 dB peak
IMPEDANCE	LF: 8 ohms nominal HF: 16 ohms nominal
CROSSOVER	1000Hz
DISPERSION	50-100 degs horizontal (differential dispersion), 70 degs vertical
ENCLOSURE	80 litres
CONNECTORS	2 x Speakon
DIMENSIONS	(W) 710mm x (H) 470mm x (D) 554mm (W) 27.9ins x (H) 18.5ins x (D) 21.8ins
WEIGHT	44kg (97lbs)
SHIPPING DIMENSIONS	(W) 820mm x (H) 520mm x (D) 570mm (W) 32.3ins x (H) 20.5ins x (D) 22.4ins
SHIPPING WEIGHT	46kg (101.4lbs)

NOTES (LE Series)

Sensitivity measured in half-space conditions at 1 metre with 1 watt input, using band limited pink noise.

SPL measured at 1 metre using band limited pink noise.

Finish: Black textured paint.

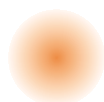
Protective grilles: Perforated steel black with 48% free air flow.

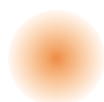
Cabinet construction: Birch ply.

Due to our policy of continuous improvement all specifications are subject to change without notice.

LE Series

LE350A/LE12J/LE400C/LE700A

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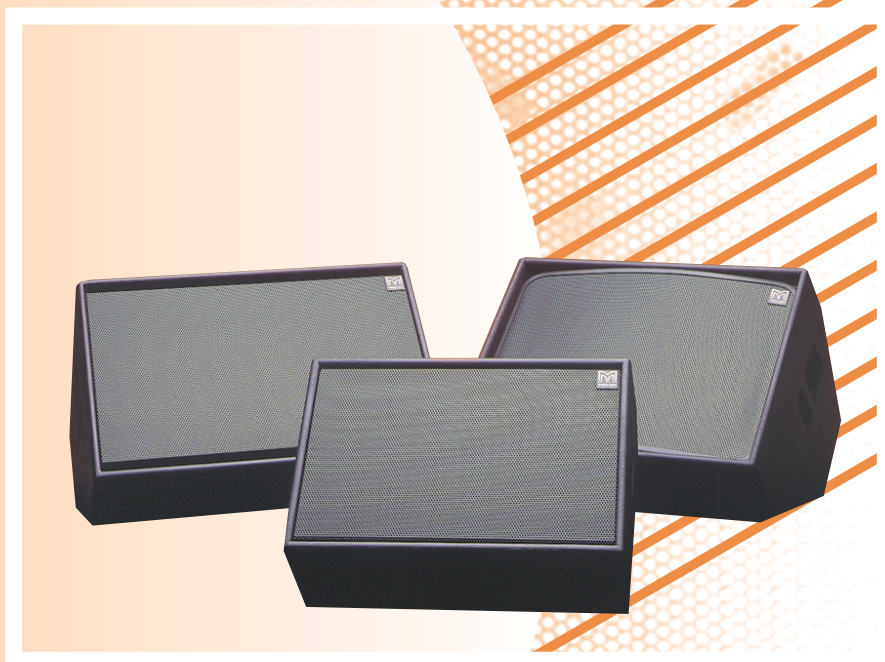
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LE Series

LE350A/LE12J/LE400C/LE700A

User's Guide



ENGLISH



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