



USER GUIDE

LAm115

**High power asymmetric dispersion
Stage monitor**

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1. INTRODUCTION

Thank you for purchasing a **NEXT** LAm115 stage monitor. This manual will provide you with useful and important information about your LAm115 stage monitor system.

Please devote some time reading this manual. A better understanding of some specific features of the Lam115 (like the asymmetric directivity horn configuration) will help you to operate your system to its full potential.

2. UNPACKING

Each **NEXT** LAm115 stage monitor is built, in Europe (Portugal) by **NEXT-proaudio**, 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 Next-proaudio and its distributors cannot accept any responsibility for damage to any returned product through the use of non-approved packaging.

3. OVERVIEW

The Lam115 is a Bi-amp/ Full-Range 2-way monitor with a high power 15" (385mm) bass driver and a 1.4" (35mm) exit compression driver mounted on an asymmetric dispersion horn. This horn design allows the artist to move freely over a large area without loss of information.

The asymmetric 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.

When operated in Bi-Amp mode, the LAm115 is best used with the NSOUND DP240 Digital Controller to provide crossover, limiting and EQ functions. When operated in Full-Range mode the LAm115, may be used without a controller, but benefits from the EQ and limiting functions of the DP240. This also ensures that both Bi-Amp and Full-Range configurations will exhibit the same tonal balance when used together on stage.

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 the Lam115 monitors.

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 levels.

5. SYSTEM SETUP

The Lam115 is connected with Speakon NL4FC plugs (not supplied).

A wiring description is printed on the connections panels located on each side of the cabinet. The 4 pins of the 2 NL4 Speakon sockets (one on each side of the cabinet) identified in/out are wired in parallel within the enclosure.

Either connector can be used when connecting amplifiers and also to link to an additional Lam115 cabinet.

5.1 Full Range mode

On the LAm115 used in Full-Range mode (toggle switch on the Full-Range position), the NL4 connectors are wired as follows:

PIN 1+ - Full-Range input +
PIN 1 - - Full-Range input -
PIN 2+ - Not used
PIN 2 - - Not used

5.2 Bi-Amp mode

On the LAm115 used in Bi-Amp mode (toggle switch on the Bi-Amp position), the NL4 connectors are wired as follows:

PIN 1+ - Low frequency input +
PIN 1 - - Low frequency input -
PIN 2+ - High frequency input +
PIN 2 - - High frequency input -

6. Cable selecting

Selecting a cable consists of calculating the correct cable section (size) in relation to the load impedance and the required cable length. Too small a cable section would increase its serial resistance; which would induce power-loss and response variations (damping factor).

The following table indicates, for 3 common sizes, a cable length with a maximum serial resistance equal to 4% of the load impedance (damping factor = 25).

Cable Section	Maximum Length	
	Impedance = 8 Ohms	Impedance = 4 Ohms
1,5 mm ² [AWG # 14]	12 m [40 ft]	6 m [20 ft]
2,5 mm ² [AWG #12]	20 m [64 ft]	10 m [32 ft]
4 mm ² [AWG #10]	32 m [104 ft]	16 m [52 ft]

7. Amplification

LAm115 monitors are designed to be used with professional power amplifiers capable of producing the following power outputs into 8 ohms:

Full-Range: 800W/8 ohms to 1000W/8 ohms

Bi-Amp:

Low Frequency: 1200W/8 ohms to 2000W/8 ohms

High Frequency: 200W/8 ohms to 300W/8 ohms

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.

8. Troubleshooting

Simple troubleshooting does not require sophisticated measurement equipment and can be easily undertaken by users. The technique is to segment the problem by identifying the faulty system component: signal source, controller, amplifier, loudspeaker or cable? Most installations are multi-channel; it is often the case that one channel works and others do not. Trying different combinations of system elements can usually help to isolate and locate the fault.

Some cabinet faults can be quite easily located and corrected by the user. A simple sweep with a sine wave generator can be very helpful but it **MUST** be made at a fairly low level to prevent damage to the speakers: A sine wave sweep can help find:

- Vibrations due to loose screws.
- Air-leak noises: check that no screws are missing, particularly where the accessories attach to the cabinet.
- Vibrations due to a front grille badly positioned on the quick release fixings.

Some faults require opening the cabinet:

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- Foreign object that has fallen into the cabinet after repair or through the ports.
- Internal connection wires or absorbing material touching the loudspeaker diaphragm: check by removing the bass loudspeaker.
- Loudspeaker not connected or phase reversed following a previous inspection, test or repair.

9. TECHNICAL SPECIFICATIONS

LAm115 TECHNICAL SPECIFICATIONS	
Design	Bass-Reflex, asymmetrical Dispersion
Frequency Range (-6dB)	58Hz-19KHz
Dispersion (HxV)	60° to 100° x 60°
Sensitivity (1W/1m Full-Space) FR/LF/HF	100dB/101dB/109dB
Calc. Maximum SPL (1m Full-Space) FR/LF/HF	133dB/134dB/132dB
Low Frequency Driver	1 x 15" neodymium woofer (4"voice coil)
High Frequency Driver	1 x 1.4" neodymium compression driver
Crossover Frequency	1250Hz (L/R 24dB/Oct.)
Max. Amplifier Power (8 ohms) <i>Full Range</i>	1000Wrms
Max. Amplifier Power (8 ohms) <i>Low</i>	2000Wrms
Max. Amplifier Power (8 ohms) <i>High</i>	230Wrms
Dimensions (WxHxD)	746mm x 395mm x 532mm
Weight	31Kg

10. WARRANTY

NEXT products are warranted, by NEXT-proaudio, against manufacturing defects in materials or craftsmanship over a period of 5 years for the loudspeakers, and 2 years for the other components, counting from the date of original purchase. The original receipt of purchase is mandatory for warranty validation purposes, and the product must have been bought from a NEXT-proaudio authorized dealer. During the warranty period NEXT-proaudio will, at its own discretion, either repair or replace a product which prove to be defective provided that the product is returned in its original packaging, shipping prepaid, to an authorized NEXT-proaudio service agent or distributor.

NEXT-proaudio cannot be held responsible for defects caused by unauthorized 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 this manual and/or NEXT-proaudio. NEXT-proaudio 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.

11. CONTACTS

In case of any doubts or any information just:

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