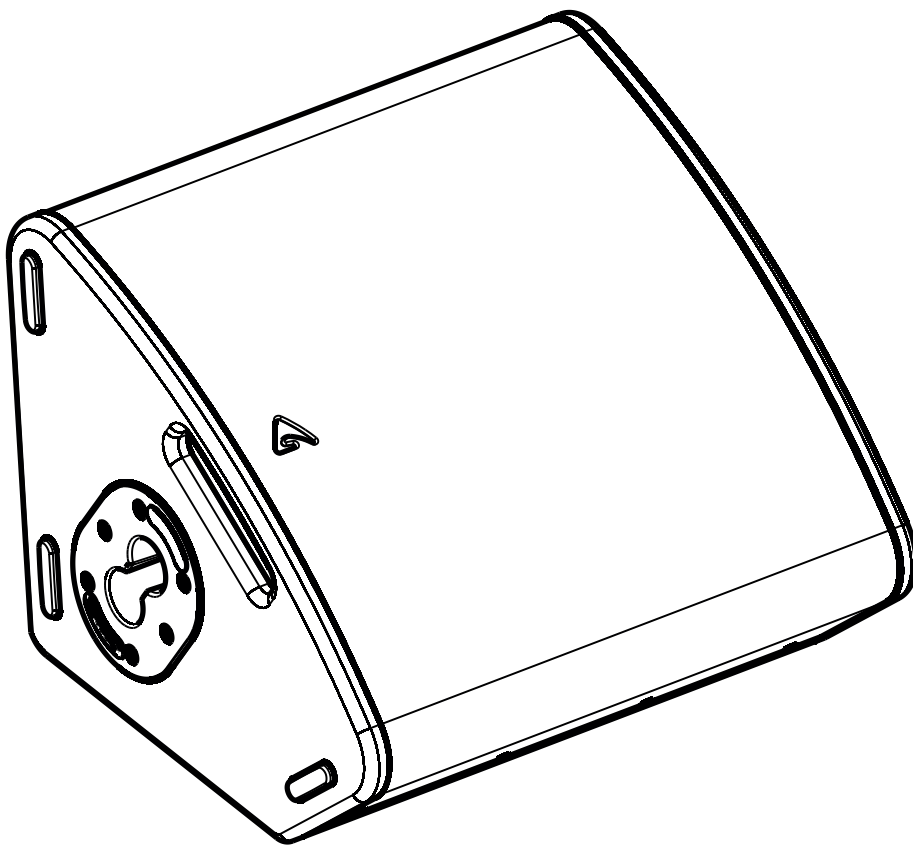




CXL12A

Powered Processed Stage Monitor



USER MANUAL

revision 2020-07-28





IMPORTANT SAFETY INSTRUCTIONS

Watch for these symbols:

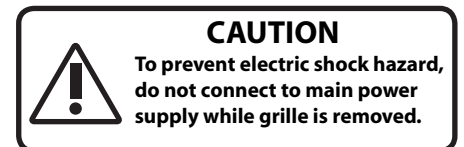


The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Warning: to reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
16. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.
17. To completely disconnect this apparatus from the ac mains, disconnect the power supply cord plug from the ac receptacle.
18. The mains plug of the power supply cord shall remain readily operable.
19. This apparatus contains potentially lethal voltages. To prevent electric shock or hazard, do not remove the chassis, input module or ac input covers. No user serviceable parts inside. Refer servicing to qualified service personnel.
20. The loudspeakers covered by this manual are not intended for high moisture outdoor environments. Moisture can damage the speaker cone and surround and cause corrosion of electrical contacts and metal parts. Avoid exposing the speakers to direct moisture.
21. Keep loudspeakers out of extended or intense direct sunlight. The driver suspension will prematurely dry out and finished surfaces may be degraded by long-term exposure to intense ultra-violet (UV) light.
22. The loudspeakers can generate considerable energy. When placed on a slippery surface such as polished wood or linoleum, the speaker may move due to its acoustical energy output.
23. Precautions should be taken to assure that the speaker does not fall off a stage or table on which it is placed.
24. The loudspeakers are easily capable of generating sound pressure levels (SPL) sufficient to cause permanent hearing damage to performers, production crew and audience members. Caution should be taken to avoid prolonged exposure to SPL in excess of 90 dB.



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.



FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

This device complies with Part 15 of the FCC rules. 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.

DECLARATION OF CONFORMITY

The product is in compliance with:

EMC Directive 2014/30/EU, LVD Directive 2014/35/EU, RoHS Directive 2011/65/EU and 2015/863/EU, WEEE Directive 2012/19/EU.

EN 55032 (CISPR 32) STATEMENT

Warning: This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference. Under the EM disturbance, the ratio of signal-noise will be changed above 10 dB.

LIMITED WARRANTY

Proel warrants all materials, workmanship and proper operation of this product for a period of two years from the original date of purchase. If any defects are found in the materials or workmanship or if the product fails to function properly during the applicable warranty period, the owner should inform about these defects the dealer or the distributor, providing receipt or invoice of date of purchase and defect detailed description. This warranty does not extend to damage resulting from improper installation, misuse, neglect or abuse. Proel S.p.A. will verify damage on returned units, and when the unit has been properly used and warranty is still valid, then the unit will be replaced or repaired. Proel S.p.A. is not responsible for any "direct damage" or "indirect damage" caused by product defectiveness.

- This unit package has been submitted to ISTA 1A integrity tests. We suggest you control the unit conditions immediately after unpacking it.
- If any damage is found, immediately advise the dealer. Keep all unit packaging parts to allow inspection.
- Proel is not responsible for any damage that occurs during shipment.
- Products are sold "delivered ex warehouse" and shipment is at charge and risk of the buyer.
- Possible damages to unit should be immediately notified to forwarder. Each complaint for package tampered with should be done within eight days from product receipt.

CONDITIONS OF USE

Proel do not accept any liability for damage caused to third parties due to improper installation, use of non-original spare parts, lack of maintenance, tampering or improper use of this product, including disregard of acceptable and applicable safety standards. Proel strongly recommends that this loudspeaker cabinet be suspended taking into consideration all current National, Federal, State and Local regulations. The product must be installed by qualified personal. Please contact the manufacturer for further information.



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INTRODUCTION

The CXL12A is a coaxial stage monitor designed specifically for live sound, although the very compact, low-profile enclosure also makes it suitable for theatre and television applications. The combination of a high-performance coaxial transducer, a carefully designed cabinet, and powerful electronics provides very high SPL before feedback and excellent intelligibility even at very high power.

The transducer’s coaxial design offers a very stable acoustical pattern in both the horizontal and vertical axes. The very compact, single magnet neodymium motor reduces the delay between the two sources, eliminating time and phase problems, and guarantees high performance with a consistent weight reduction.

The high frequency range is reproduced by a low-distortion compression driver equipped with a 1.7” aluminium voice coil and polyimide diaphragm. The custom designed horn provides a precise and controlled dispersion of 50° horizontal and 70° vertical, allowing an excellent performance at close listening distance and, at the same time, a consistent off-axis coverage.

The 12” woofer employed in the reproduction of the low frequency range is equipped with a 2.5” voice coil. Thanks to a special treatment process that makes the cone water repellent, the CXL12A is able to perform in adverse weather conditions and is therefore suitable for outdoor use.

The reduced size of the Baltic birch cabinet makes the CXL12A a very compact and lightweight stage monitors and makes it suitable for all applications where unobtrusive size is a must. The handles on both sides of the cabinet make it very easy to transport the monitor and to position it on stage. A convenient dual-angle pole holder allows the CXL12A to be mounted on a standard speaker stand to be used as a multipurpose front of house loudspeaker.

The system processing is based on the CORE LT DSP platform designed by the PROEL R&D Laboratories, featuring high-performance signal processing and high-definition 24bit converters, capable to deliver an outstanding sound definition and dynamic performance. The CXL12A is powered by a DA Series Class D power amplifier with SMPS. The innovative technology used for these amplifiers offers top-of-the-range performance, such as superior sound definition at any audio frequency, very high dynamics even for low level signals and very low distortion even at maximum power.

TECHNICAL SPECIFICATION

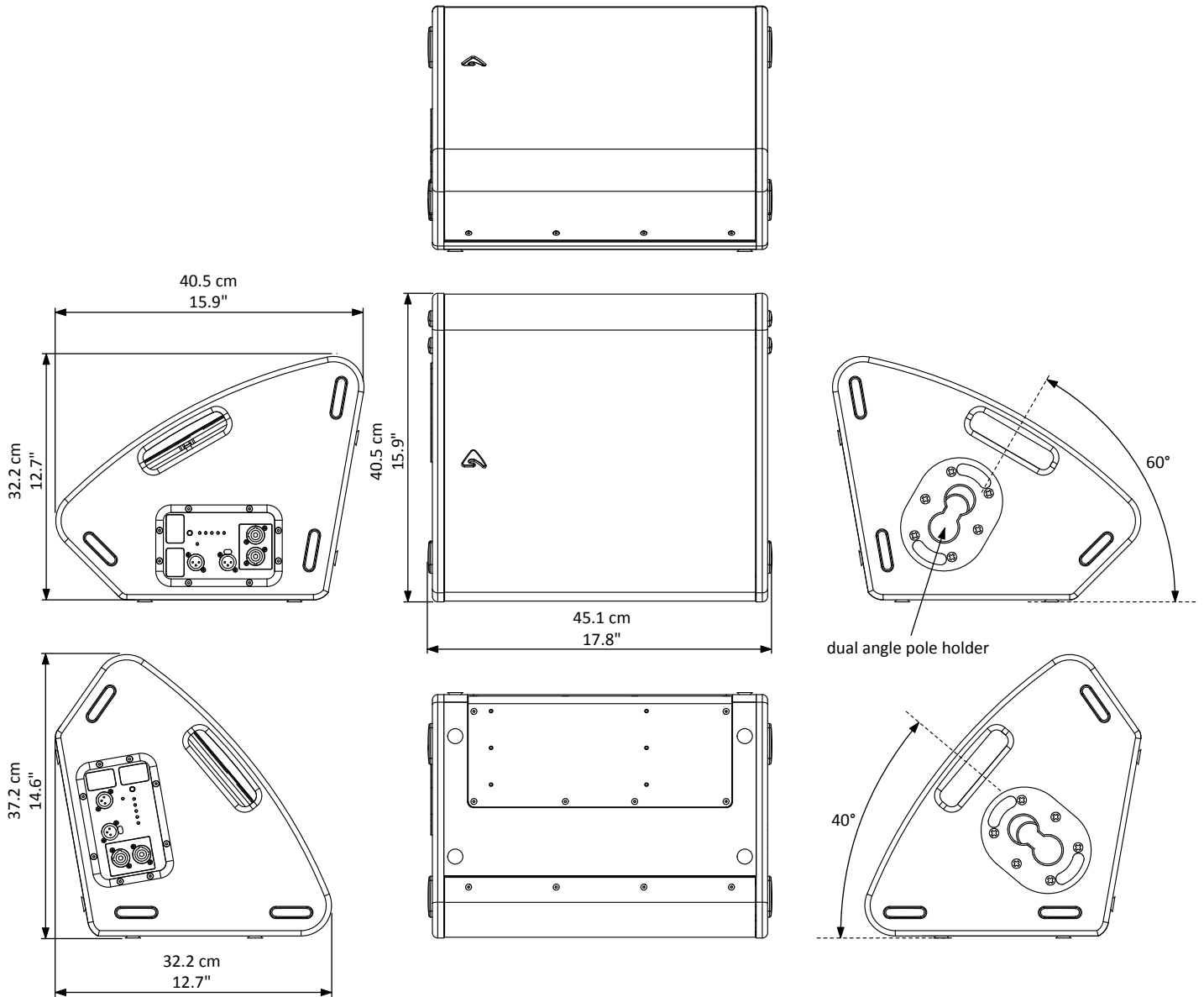
SYSTEM		Amplifier Type	Class D with SMPS
System’s Acoustic Principle	2-way coaxial vented enclosure	Output Power	900W + 300W
Frequency response (±3 dB)	75 Hz – 18 kHz (Processed)	Mains Voltage Range (Vac)	220-240 V~ or 100-120 V~ ±10% 50/60 Hz
Horizontal Coverage Angle	50° (-6 dB)	Consumption*	575 W (nominal) 1200 W (max)
Vertical Coverage Angle	70° (-6 dB)	Mains Connector	PowerCon® (NAC3MPA)
Maximum Peak Output	128 dB SPL @ 1m	Mains Link Connector	PowerCon® (NAC3MPB)
TRANSDUCERS		IN / OUT Connectors	Neutrik XLR-M / XLR-F
LF	One 12” (300mm), 2.5”(65mm) voice coil, waterproof cone	Cooling	Variable speed DC fan
HF	One 1” driver, 1.7” (44mm) aluminium voice coil, polyimide diaphragm	ENCLOSURE & CONSTRUCTION	
ELECTRICAL		Dimensions (W x H x D)	451mm x 322mm x 405mm
Input Impedance	20 kΩ balanced, 10kΩ unbalanced	Taper angle	40° or 60°
Input Sensitivity	+4 dBu / 1.25 V	Pole holder	One on the side, dual-angle
Signal Processing	CORE LT processing, 24 bit AD/DA converters	Enclosure Material	15 mm, reinforced Phenolic Birch
Direct access Controls	5 Presets (NORMAL WEDGE, COUPLED, LOW CUT, FOH, FOH LOW CUT)	Paint	Water-Based High Durability black paint
		Net Weight	15 Kg / 33 lbs

* Nominal consumption is measured with pink noise with a crest factor of 12 dB, this can be considered a standard music program.





MECHANICAL DRAWING



OPTIONAL ACCESSORIES

CASECXL12	Carrying Case for 2 box unit	NC3MXXBAG	Neutrik XLR-M
COVERCXL12	Cover for CXL12A	NC3FXXBAG	Neutrik XLR-F
NAC3FCA	Neutrik Powercon® BLUE PLUG		
NAC3FCB	Neutrik Powercon® WHITE PLUG		

see <http://www.axiomproaudio.com/> for detailed description and other available accessories.

SPARE PARTS

NAC3MPA	Neutrik Powercon® BLUE SOCKET
NAC3MPB	Neutrik Powercon® WHITE SOCKET
98CXN12W48	Coaxial Loudspeaker 12" woofer - 1" driver
98Z009396P-FI	Polyimide diaphragm for 1" driver
95MET300143	Loudspeaker protection metal grid
91DA900B	DA900B Power amplifier module
91DSPKT12	DSP PCBA Input PCBA and Control PCBA



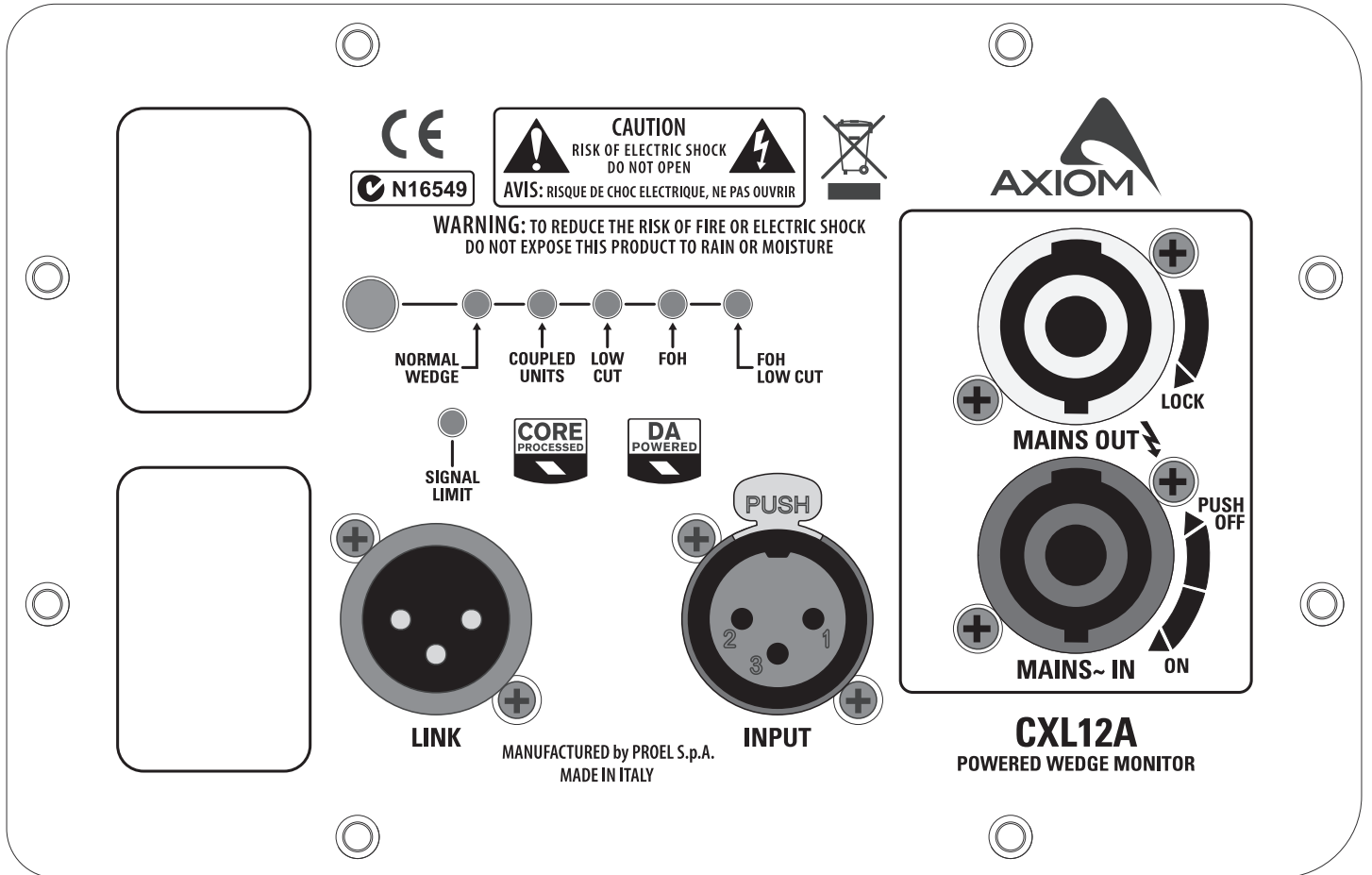


I/O AND CONTROL OPERATIONS

MAINS IN - Powercon® NAC3FCA power input connector (blue). To switch the amplifier on, insert the Powercon® connector and turn it clockwise into the ON position. To switch the amplifier off, pull back the switch on the connector and turn it counter-clockwise into the POWER OFF position.



WARNING: In the case of product failure or fuse replacement, disconnect the unit completely from the mains power. The power cable must only be connected to a socket corresponding to the specifications indicated on the amplifier unit. The power supply must be protected by a suitably rated thermo-magnetic breaker. Preferably use a suitable switch to power on the whole audio system leaving the Powercon® always connected to each speaker, this simple trick extend the life of the Powercon® connectors.



MAINS OUT - Powercon® NAC3FCB power output connector (grey). This is connected in parallel with the MAINS ~ / IN. The maximum load applicable depends on the mains voltage. With 230V~ we suggest to link a maximum of 4 CXL12A loudspeakers, with 120V~ we suggest to link a maximum of 2 CXL12A loudspeaker.

INPUT - Audio signal input with locking XLR connector. It has a fully electronically balanced circuitry including AD conversion for the best S/N ratio and input headroom.

LINK - A direct connection from the input connector to link other speakers with same audio signal.

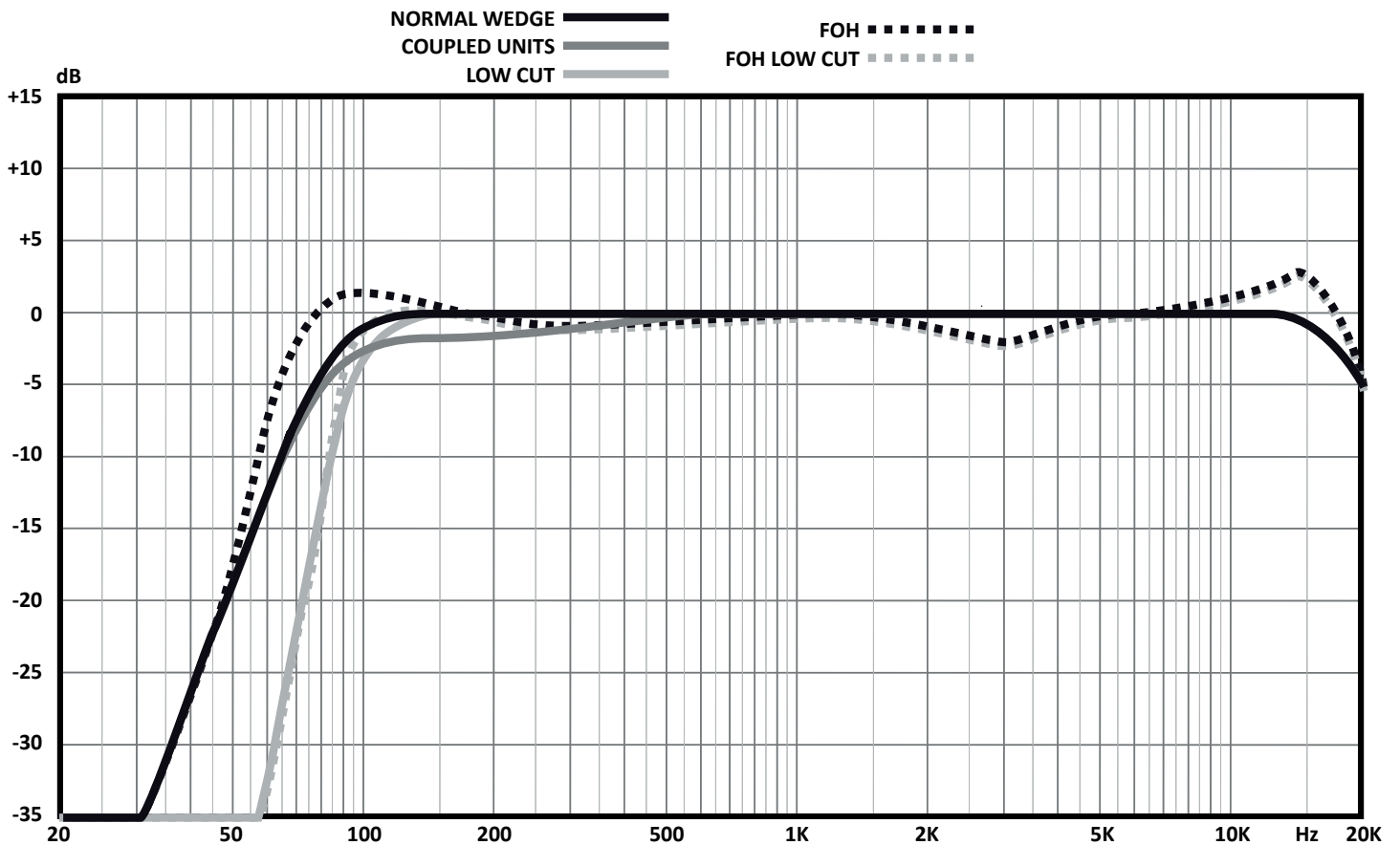
SIGN/LIMIT - This LED lights in green to indicate the presence of the signal and lights in red when an internal limiter reduces the input level.



PRESET BUTTON - Pressing it you can select the DSP PRESET. The selected PRESET is indicated by the corresponding LED:

- NORMAL WEDGE** This PRESET is suitable for typical stage monitor applications.
- COUPLED UNITS** This preset provides the correct EQ when two CXL12A monitors, fed with the same audio signal, are placed at no more than 0,6 m (2 feet) one to the other. To be used for double stage monitoring for singers or other musicians.
- LOW CUT** This PRESET is the same as NORMAL WEDGE but with a low cut at 110 Hz 48 dB/oct. To be selected when a CXL12A is used in combination with a subwoofer to form a DRUM FILL or a SIDE FILL system. It can be used also in case you need to cut drastically the monitor LF response.
- FOH** This preset provides the correct response when the CXL12A is used as main system on a pole.
- FOH LOW CUT** This PRESET is the same as FOH but with a low cut at 110 Hz 48 dB/oct. To be selected when a CXL12A is used in combination with a subwoofer to form a main system or as FRONT FILL system. It can be used also in case you need to cut drastically the LF response.

CXL12A PRESET RESPONSE





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