

# eLPA2-350

AMPLIFIERS

*Light Stereo Amplifier*



## USER MANUAL

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## 1. IMPORTANT REMARK




WARNING: SHOCK HAZARD - DO NOT OPEN  
AVIS: RISQUE DE CHOC ÉLECTRIQUE - NE PAS OUVRIR



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.

**WARNING (If applicable):** The terminals marked with symbol of “” may be of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by an instructed person or the use of ready-made leads or cords.

**WARNING:** To prevent fire or shock hazard, do not expose this equipment to rain or moisture.

**WARNING:** An apparatus with Class I construction shall be connected to a mains socket-outlet with a protective earthing connection.

## 2. IMPORTANT SAFETY INSTRUCTIONS

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 the plugs, convenience receptacles, and at the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug the apparatus during lightening sorts or when unused for long periods of time.
13. Refer all servicing to qualified 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.
14. Disconnecting from mains: Switching off the POWER switch all the functions and light indicators of the amplifier will be stopped, but fully disconnecting the device from mains is done unplugging the power cord from the mains input socket. For this reason, it always shall remain readily operable.
15. Equipment is connected to a socket-outlet with earthing connection by means of a power cord.
16. The marking information is located at the bottom of apparatus.
17. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on apparatus.

**NOTE:** *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 his own expense.*



**WARNING:** This product must not be discarded, under any circumstance, as unsorted urban waste. Take to the nearest electrical and electronic waste treatment centre.

**NEEC AUDIO BARCELONA, S.L.** accepts no liability for any damage that may be caused to people, animal or objects due to failure to comply with the warnings above.

### 3. IMPORTANT NOTE

Thank you for choosing our **Light Stereo Amplifier eLPA series!**

It is **VERY IMPORTANT** to carefully read this manual and to fully understand its contents before any connection in order to maximize your use and get the best performance from this equipment.

To ensure optimal operation of this device, we strongly recommend that its maintenance be carried out by our authorized Technical Services.

The Ecler **eLPA series** comes with a **3 years warranty**.

### 4. INTRODUCTION

The eLPA line of amplifiers offers the classic and recognized professional reliability of Ecler amplifiers under new aesthetics and at an affordable cost. It consists of 4 stereo models of 350, 650, 950 and 1400 WRMS per channel on 4Ω. All models take a 2 rack height units space and are mounted on a robust chassis. Thanks to its oversized power supply, the amplifier can work comfortably with loads of 4Ω.

The eLPA2-350 features two XLR3 balanced inputs, two 6.35mm TRS jack inputs and two unbalanced inputs with RCA connectors. Its outputs offer total versatility thanks to the double format used: safety terminal type connectors with standard distance, and Speakon® connectors. It also includes an electronic limiting system to avoid clipping due to signal saturation, and incorporates a practical switchable crossover filter, which allows a single amplifier to deliver the low and high signals of a two-way mono speaker system (one eLPA2-350 amplifier per channel-L and R- if a stereo configuration is desired).

#### 4.1. Features

- Effective progressive ventilation system, with flow adaptable to the internal temperature of the amplifier. It takes the air from the rear and is expelled from the front.
- Rotating controls for input attenuation in the frontal panel, easily accessible.
- Power ON, Signal Presence (SIGNAL), Clipping (CLIP), and Protection Activation (PROTECT) indicators.
- Effective system of protections against short circuit, overheating and presence of continuous signal, to avoid damage to the amplifier itself and/or the loudspeakers connected to it.
- Built-in anticlip circuit (signal clipping or saturation), always active.
- Working mode selector: STEREO, PARALLEL and BRIDGE.
- Input sensitivity selector.
- Cut filter selector (CROSSOVER)
- Symmetrical inputs through XLR3 connectors, plus 6.35 mm TRS jack inputs and unbalanced inputs with RCA connectors. The XLR3 inputs provide a copy to the jack and RCA connectors, which can act as LINK to another eLPA unit.
- Amplified outputs with terminal block connectors and Speakon® connectors.
- Operation at 8, and 4Ω, or 8Ω in bridge mode.
- Warranty: 3 years.

## 5. INSTALLATION

**Non-compliance with the instructions or neglecting warnings may cause malfunction or even damage the unit:**

1. Avoid turning on the device without the speakers connected to its outputs and without having previously set the volume/gain controls to minimum level.
2. Always use shielded cables to make connections between devices.
3. In an amplifier, avoid placing the speaker output cables close to other signal cables (micro, line...). This may cause the system to oscillate, damaging the amplifier and speakers.

#### 5.1. Location, mounting, ventilation.

The eLPA amplifiers come in 19" rack format with two height units.

It is very important that, as a heat generator element, the amplifier is not completely enclosed or exposed to extreme temperatures. The forced ventilation system that they incorporate takes the air from the rear, directing it directly to the power modules and

diverting a part to the transformer and condensers, forcing it to exit through the cooling tunnel by the front of the amplifier. Therefore, the passage of fresh air through the forced ventilation tunnel should be favored, avoiding in the case of rack mounting an excessive accumulation of heat inside the rack that would increase the probability of premature failure of any of its electronic components. Likewise, it is advisable not to place the power amplifiers under other devices, but on top of them, in order to favour the thermal dissipation of the whole.

## 5.2. Network connection

The eLPA2-350 model has a power supply that accepts mains voltage 230 V, 47 to 63 Hz. All models feature fuses to protect against possible overloads. If one of these fuses blows, it must be replaced by another of identical characteristics. If the fuse is blown again immediately after replacement, consult our Technical Service. **A HIGHER VALUE FUSE MUST NOT BE USED UNDER ANY CIRCUMSTANCES.**

Do not allow the network cable to run into the shielded cables carrying the audio signal, as this may cause humming and induction of unwanted audible noises.

## 5.3. Signal input connections

The eLPA2-350 amplifier has 3 types of input connections: XLR3, 6,35mm TRS jack and RCA.

The balanced signal input connectors are of the XLR-3 and JACK TRS, type. The assignment is as follows:

	XLR-3	JACK
Live or direct signal	> Terminal 2	Tip
Cold or inverted signal	> Terminal 3	Centre ring
Ground	> Terminal 1	Base

For Unbalanced connections, short-circuit terminal 3 of the XLR or the ring on the JACK to ground.

The XLR3 inputs deliver a copy to their respective TRS and RCA jack plugs, which can act as LINK (output) to another eLPA unit. If two different input signals are connected to two different connectors, the signals will add up (i.e. connect one input signal to the

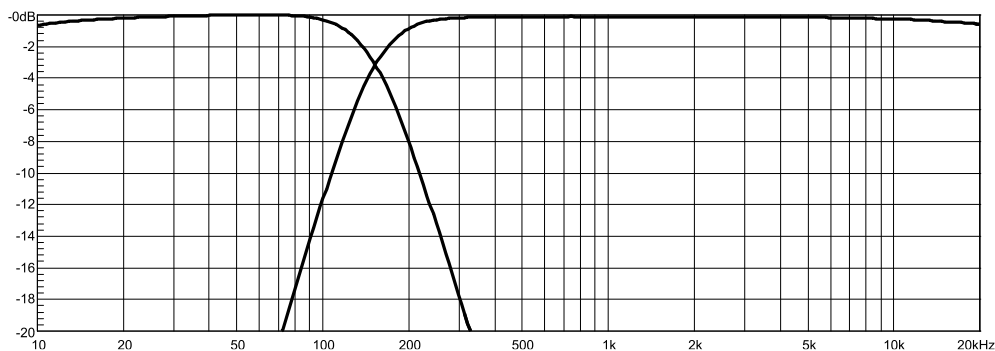
XLR3 connector and another to the RCA) resulting in unwanted behaviour of the device, and may even damage it.

The input impedance in balanced mode is  $20k\Omega$  ( $10k\Omega$  unbalanced), allowing you to connect a large number of stages in parallel without compromising sound quality. The sensitivity is selectable via a switch on the rear panel between 26 and 32dB.

#### 5.4. Cut-off filter or Crossover

The built-in cut-off filter divides the input signal into two frequency bands. When the CROSSOVER switch is activated, channel 1 receives and amplifies the frequency band between 20 Hz and 150 Hz, while channel 2 receives and amplifies the frequency band between 150 Hz and 20 kHz. The slope of the cut-off filter between the two bands, at 150Hz, is 18 dB / octave.

This function is useful for connecting a two-way speaker system to a single eLPA2-350 amplifier. If it is a stereo reproduction, it will be necessary to use an eLPA amplifier for the left signal and another one for the right signal, each of them working with the low frequencies in channel 1 and the high frequencies in channel 2.



#### 5.5. Limiting circuit

This is an extra protection, always active in the eLPA series amplifiers. This "ANTICLIP" circuit constantly analyzes the harmonic distortion produced by excessive trimming of the signal at the amplifier output, automatically reducing the input level to keep the distortion level below approximately 0.5%.

The advantage of this system over classical compressors is that the dynamic behaviour of the signal is hardly altered, since it acts only when the defined distortion threshold is exceeded.



## 5.6. Output connections

The OUTPUT section of the rear panel is equipped with Speakon® connectors and screwable terminals.

If STEREO mode is used, the channel 1 input signal will be output from channel 1 via terminals 1+ and 1-, and the channel 2 input signal will be output from channel 2 similarly. Bear in mind that if you want to work in stereo, when activating the crossover filter, you will need two eLPA-350 amplifiers, one for the left signal (L) and the other for the right signal (R), each of them working with low frequencies in channel 1 and high frequencies in channel 2.

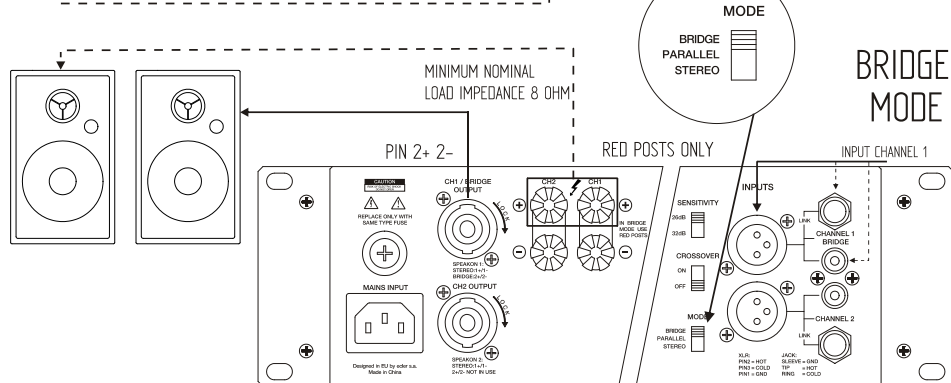
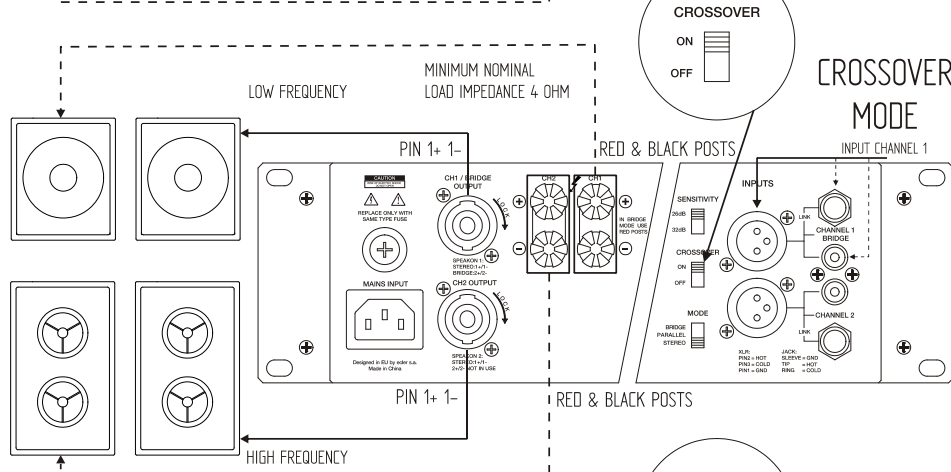
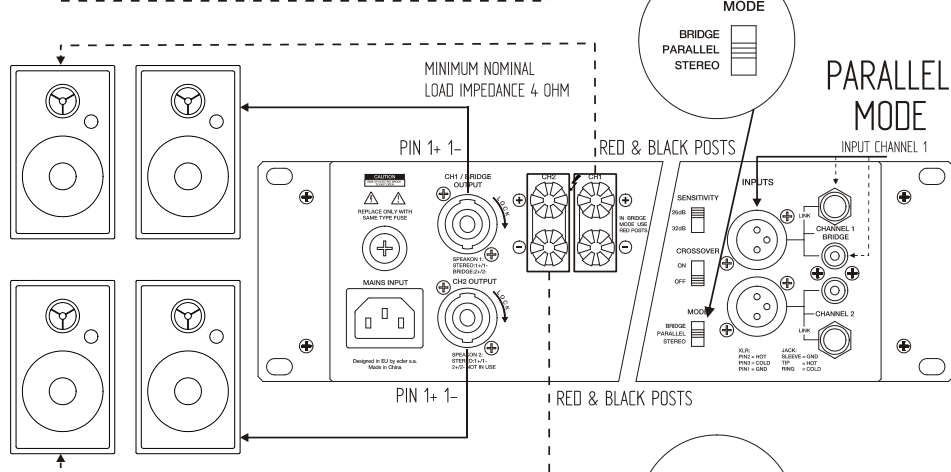
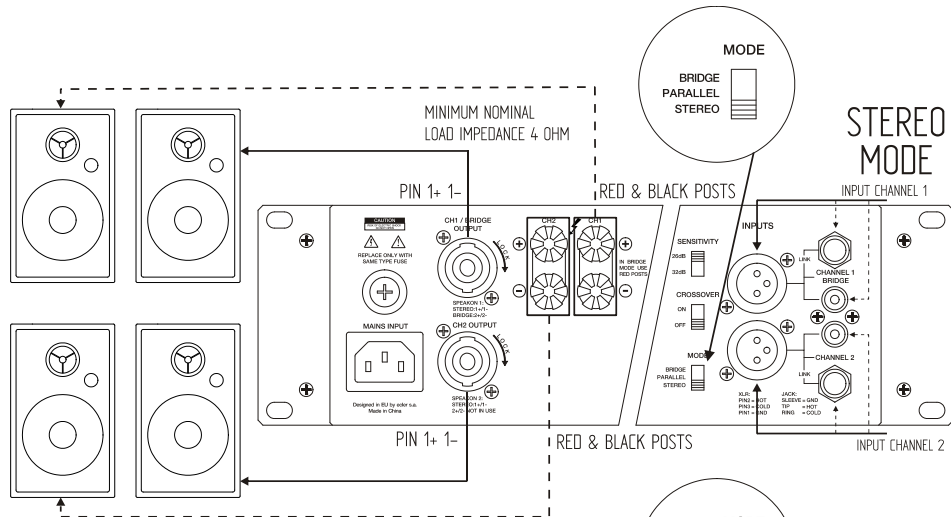
PARALLEL mode delivers the same input signal to both output channels. If the crossover filter is activated, channel 1 will work with low frequencies, and channel 2 with high frequencies.

When you want to use the amplifier in bridge mode (BRIDGE), you must set the "MODE" switch to BRIDGE. The input signal connection will be made through the channel 1 connector and the output to the loudspeaker via terminals 2+ and 2- of the Speakon® "CH1" connector or the red CH1+, CH2+ screwable terminals. Bridge mode bypasses the crossover filter, so it will not affect the signal.

Before starting up the amplifier, make sure that the overall impedance of the set of the loudspeakers connected to the amplifier (working in BRIDGE mode) is not less than  $8\Omega$ .

The connecting cable between the amplifier outputs and the loudspeakers should be of high quality, of sufficient cross-section and of the shortest possible length. This is especially important when the distances to be covered are large: up to 10 meters a section of not less than  $2.5\text{ mm}^2$  is recommended and not less than  $4\text{ mm}^2$  for longer distances.

Below is the connection diagram of the eLPA2-350 amplifier depending on the operating MODE: STEREO, PARALLEL and BRIDGE.



## 6. FUNCTIONING

### 6.1. Start-up

When the power-on switch is pressed, the blue LED "ON" and the two red LEDs "PROTECT" (4) light up. About 10 seconds later, all the voltages have stabilized and the amplifier is operational, and the "PROTECT" indicators go out.

In a complete audio installation it is important to start the equipment according to the following sequence: sound sources, mixer, equalizers, active filters and finally the power amplifiers. To stop them, the sequence must be followed in reverse.

### 6.2. Input attenuators

These devices are governed from the two rotary controls located on the front panel (3).

Their function is to adjust the intensity of the signal received by the amplifier from an external signal source connected to INPUT 1 / INPUT 2, adapting it to the maximum level of listening desired and/or supported by the system's loudspeakers.

### 6.3. Indicators

The eLPA amplifiers provide a simple and effective indication system:

- **Indicators "PROTECT"**: They signal the absence of a power signal on the amplifier's speaker output. They can be activated for different reasons:
  1. In the start-up interval, from the moment the power button is pressed until the end of the starting time necessary to stabilize the amplifier's internal voltages (approximately 10 seconds).
  2. Due to the presence of a short circuit in the output terminals of the amplifier (crossed cable, damaged loudspeaker, etc.).

3. If the amplifier is delivering a continuous or very low frequency signal that could damage the loudspeakers.

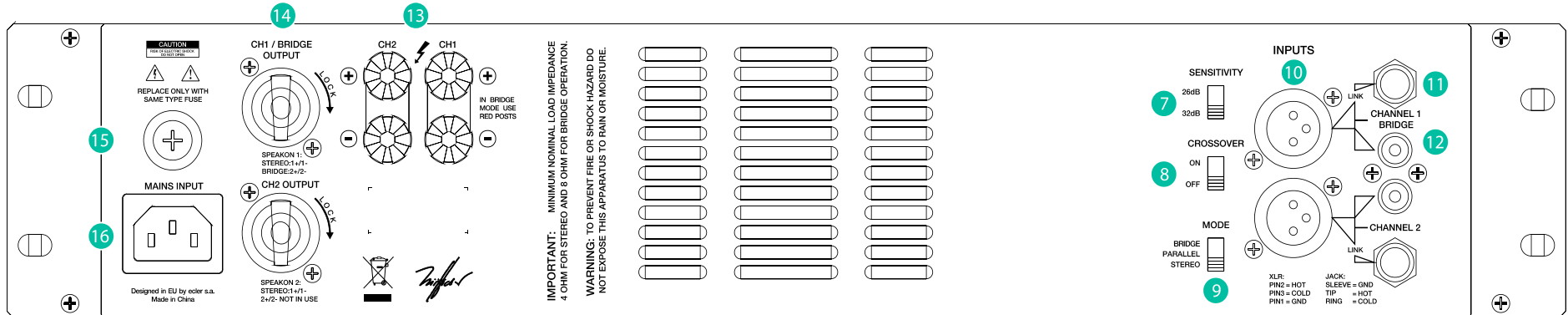
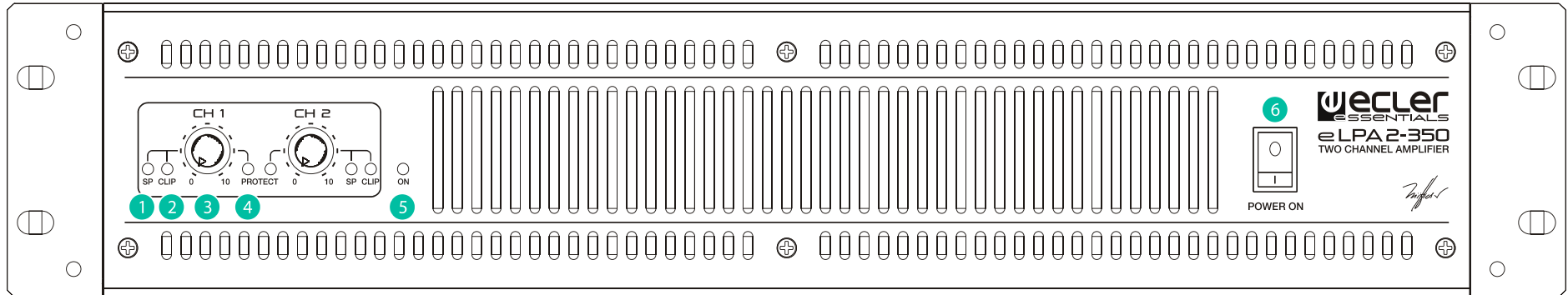
**WARNING: If these indicators are permanently lit, even if all signal input and output cables have been disconnected from the amplifier, this could be a malfunction symptom that should be analysed by the official Ecler service centre.**

- **Indicators “CLIP”:** They are lit when the amplified signal present at the amplifier output is just below the clipping or saturation point. This system always provides a true indication, regardless of variations in mains voltage. It is normal for the CLIP indicators to light up briefly at high power levels at the rhythm of low frequencies, as these are the frequencies with the highest energy input in the audible spectrum. Care should be taken to ensure that these indicators are not permanently lit during normal operation of the amplifier.
- **Indicators “SIGNAL”:** They warn of the presence of signal at the amplifier inputs. These indicators illuminate when the signal present at the input exceeds a threshold of -40 dB.

## 7. CLEANING

The cover should not be cleaned with solvents or abrasive substances as there is a risk of damage to the screen printing. To clean it, use a cloth dampened with water and a neutral liquid detergent and then dry it with a clean cloth. Under no circumstances should water be allowed to enter through any of the holes in the appliance.

## 8. FUNCTION DIAGRAM



## 9. FUNCTION LIST

1. Indicator of the presence of signal at the input, SIGNAL
2. Clipping indicator, CLIP
3. Input attenuator
4. Protective function indicator, PROTECT
5. Indicator light, ON
6. Start-up switch
7. Input level selector, SENSITIVITY
8. Filter toggle, CROSSOVER
9. Mode selector, MODE
10. XLR input connector
11. JACK ¼" input connector
12. RCA input connector
13. Screwable terminals for connection to the loudspeakers
14. "Speakon" connector for connection to speakers
15. Fuse holder
16. Network base

## 10. TECHNICAL CHARACTERISTICS

<b>eLPA2-350</b>	
<b>POWER 20-20kHz 1% THD</b>	
<b>1 Channel @ 4Ω</b>	345 WRMS
<b>1 Channel @ 8Ω</b>	200 WRMS
<b>All Channels @ 4Ω</b>	280 WRMS
<b>Bridge@8Ω</b>	560 WRMS
<b>Input connectors</b>	XLR3, RCA, 6.25mm jack
<b>Signal present indicator</b>	-40dB
<b>Gain</b>	26dB/32dB
<b>Frequency response (-1dB, -3dB)</b>	10Hz – 58kHz
<b>THD+N @ 1kHz Full PWR</b>	<0.05%
<b>S+N/N 20Hz-20kHz@1W/4Ω</b>	>85dB
<b>CMRR</b>	>55dB
<b>Output connectors</b>	Speakon & binding posts
<b>Mains Voltage</b>	230 VAC
<b>Power consumption (1/8 power @ 4Ω)</b>	38.4 W
<b>Power consumption (1/3 power @ 4Ω)</b>	98.6 W
<b>Power consumption (Idle)</b>	270.5 W
<b>Dimensions WxDxH (Handle excluded)</b>	482.6x266x88mm
<b>Weight</b>	5.50Kg



All product characteristics are subject to variation due to production tolerances. **NEEC AUDIO BARCELONA S.L.** reserves the right to make changes or improvements in the design or manufacturing that may affect these product specifications.

For technical queries contact your supplier, distributor or complete the contact form on our website, in [Support / Technical requests](#).

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