

WARM4

DJ MIXERS

Four Channel Analogue Rotary Mixer



USER MANUAL



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1. PRECAUTIONS

1.1 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: A device with Class I construction shall be connected to a mains socket-outlet with a protective earthing connection.



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



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.



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1.2 Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this device 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 device (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 device.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug the device during lightning sorts or when unused for long periods of time.
13. Refer all servicing to qualified personnel. Servicing is required when the device 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 device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Disconnecting from mains: When switching off the POWER switch, all the functions and light indicators of the unit will be stopped, but fully disconnecting the device from mains is done by unplugging the power cable from the mains input socket. For this reason, it always shall remain easily accessible.
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 the unit.
17. The device shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on device.

1.3 Cleaning



Clean the unit with a soft, dry clean cloth or slightly wet with water and neutral liquid soap only, then dry it with a clean cloth. Be careful that water never gets into the unit through any hole. Never use alcohol, benzine, solvents or abrasive substances to clean this unit. **We suggested removing all sweat stains after use.**

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.

**Thank you for choosing our device Ecler WARM4!
We appreciate your trust.**

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 authorised Technical Services.

Ecler WARM4 comes with a 5-year warranty.

2. PACKAGE CONTENTS

- 1x WARM4 Analogue Rotary Mixer Unit
- IEC Main Connector
- 8x RCA Protection Caps
- First Steps Guide
- Warranty card.

3. WARM4 and ECLER HISTORY

Although the origins of the company date from 1965, ECLER presented its first mixer back in the 70s: the A4, a simple 4 channel mixer oriented to Super 8 film sound edition. The company grew in the 70s with the boom of disco and tourism.

It was the era of the AM 4 and AC 4, the first mixers tailored to DJs. The AC 4 was a high-fidelity mixer designed to meet the most demanding sound requirements in discos, theatres, cinemas, recording studios, conference rooms... The electronic circuits and the extreme selection of all components and transistors used, made the AC 4 a professional high quality mixer.

Milestones as SCLAT modular mixers, MAC Series High Standard Club mixers, AC-6 High-End Installation mixer (recognize as a legendary mixer by Hispasonic), the HAK Series battle mixers Designed and manufactured with expert consultation from DMC and ITF champions all over the world, or the award-winning Eternal contactless magnetic crossfader are Ecler constant innovation examples.

Ecler DJ Division Pro Team selected artists with a diverse and deep music background to share its inputs looking for the perfect mixing devices. From minimal to deep house, from techno to hip hop, from breaks to electro... all of them share our passion for music and technology. Dj's



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like Michael Mayer, Pastaboys, Luciano, Antoine Clamaran, Funk D'Void, Dj Hell, Ricardo Villalobos, Savas Pascalidis (to name a few). When it comes to gear, they need the maximum quality, reliability and tools to express their creativity.

Ecler mixers was installed in prestigious clubs worldwide, such as Pacha (Marrakech) or Café del Mar (Ibiza).

WARM4 is Ecler's newest rotary analogue mixer, inspired by New York's Paradise Garage, described by François Kevorkian as the "temple of music" and whose influence has significantly shaped some of today's best clubs.

Designed and manufactured in our Barcelona facilities, WARM4 is a mixer that keeps in mind the classic Ecler mixers structure, with completely redesigned circuitry and mechanics. This goes from the new PCB board that further improves noise level and dynamic range, to the front-plate screw potentiometers, carefully hand-assembled by our production team.

Keeping alive its innovative spirit since the first A4 mixer in 1971, Ecler introduces a dj tool never included in a mixer before: an analogue subharmonic synthesizer. Inspired by the original device installed in the Paradise Garage booth, we have created our own circuit that allows the subharmonic generator to be tuned to different frequencies so that the dj can adapt it according to the recorded song and the features of the sound system.

In WARM4 you will also find the 4th order Isolator filter already included in WARM2, as well as 4 mixing channels, 3-band full EQ cut per channel and Alps metal shaft high quality potentiometers. Using your favourite external effects module has never been easier. WARM4 offers you the opportunity to send the PRE/POST fader signal, as well as regulate and pre-listening to the amount of effects return.

WARM4 is specially designed for sound systems capable of reproducing this type of subsonic frequencies, clubs, festivals and events where subwoofers are of vital importance. Bring to your audience an unprecedented experience on the dancefloor and a different way of feeling the music.



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4. DESCRIPTION & FEATURES

WARM4 is a professional four channel analogue rotary DJ mixer, designed and manufactured by ECLER in Barcelona. Featuring 4 phono/line channels, 2 MIC inputs, classic sharp filters and a 4th order Isolator. WARM4 includes an unique feature, an Analogue Subharmonic Synthesizer selectable per channel, specially designed to generate and reinforce ultra-low frequencies.

4.1 Main Features

- 4 Mixing channels.
- 4 PHONO inputs.
- 4 LINE inputs.
- 2 MICRO inputs.
- Master Output on XLR and RCA connectors.
- Booth Output on XLR and RCA connectors.
- Headphone Monitor Output on 6.3mm Jack and 3.5mm mini-jack.
- 3 band isolator full cut EQ.
- 3 band isolator (300Hz and 4KHz, -∞/+12dB, 4th order 24dB/oct).
- Analogue Subharmonic Synthesizer for sub-bass frequency reinforcement selectable per channel.
- Maximum Output without distortions: 21dBV (23dBu).
- FX Send control and Pre/Post fader selector per channel.
- FX Return control and PFL.
- Alps metal shaft high quality potentiometers.
- Mechanized from a solid block of aluminium knob, without visible screw. Ecler Unique design.
- Wooden side panels included.



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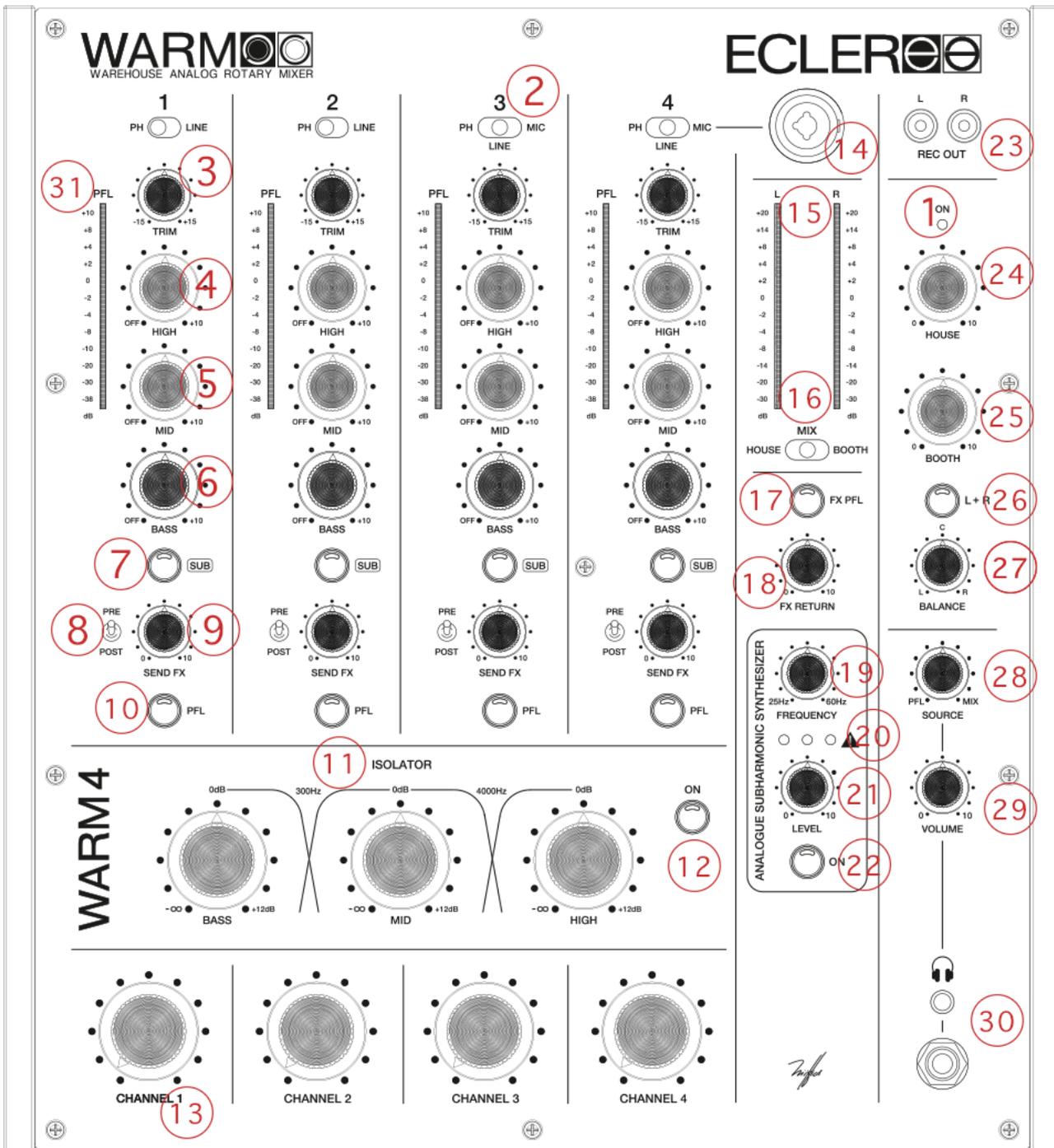
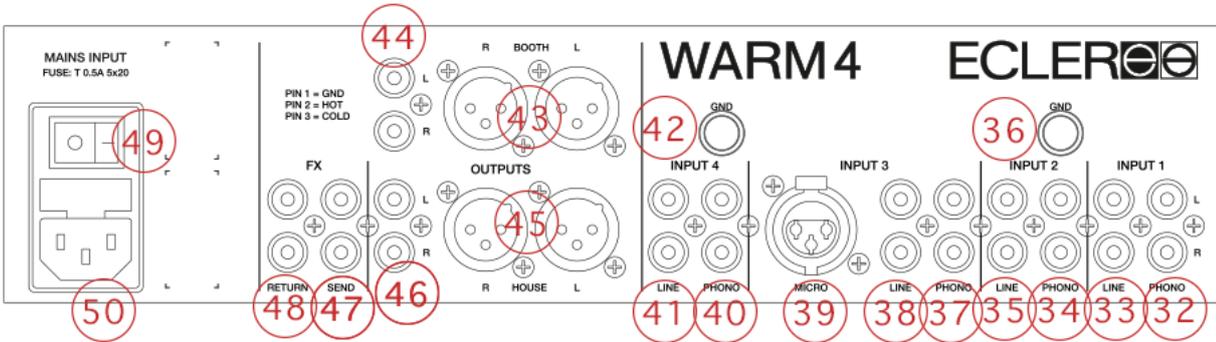
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|--|--|
| 1. LED indicator ON | 28. PFL/MIX monitoring control, SOURCE |
| 2. Input Selector (PHONO, LINE MIC) | 29. Monitor Headphones Volume control |
| 3. Input sensitivity adjust, TRIM | 30. Stereo Jack Headphones |
| 4. Treble control, HIGH | 31. LED VU meter Channel 1 |
| 5. Midrange control, MID | 32. Phono Input, PHONO 1 |
| 6. Bass control, BASS | 33. Line Input, LINE 1 |
| 7. Subharmonics activation button | 34. Phono Input, PHONO 2 |
| 8. Send switch to effect bus, PRE/POST | 35. Line Input, LINE 2 |
| 9. Effect Send controller, FX SEND | 36. Phono Ground Pin |
| 10. Pre-Fader listening control, PFL | 37. Phono Input, PHONO 3 |
| 11. Isolator control | 38. Line Input, LINE 3 |
| 12. Isolator activation button | 39. Microphone Balanced Input, MIC 3 |
| 13. Channel volume control | 40. Phono Input, PHONO 4 |
| 14. MIC Channel 4 balanced input | 41. Line Input, LINE 4 |
| 15. LED VU Meter Mix/House/Booth | 42. Phono Ground Pin |
| 16. LED VU Meter switch | 43. XLR Monitoring Balanced Output, BOOTH |
| 17. Pre-Fader FX listening control, PFL | 44. RCA Monitoring Unbalanced Output, BOOTH |
| 18. FX Return monitoring control | 45. XLR Master Balanced Output, HOUSE |
| 19. Subharmonic frequency selector | 46. RCA Master Unbalanced Output, HOUSE |
| 20. Subharmonic LED VU Meter | 47. External FX send Output, FX SEND |
| 21. Subharmonic level control | 48. External FX return Input, FX RETURN |
| 22. Subharmonic activation button | 49. Power Switch |
| 23. Unbalanced REC output | 50. Mains Socket |
| 24. Master volume control, HOUSE | |
| 25. Monitoring volume control, BOOTH | |
| 26. L+R Mono booth activation button | |
| 27. Booth balance PAN control | |

6. SETUP

WARM4 is conceived as club mixer to be placed between turntables or digital players.

 **We recommend to place it in a comfortable position for the end user, without placing it in direct contact with the turntables to avoid transmitting shocks and vibrations during use.**

Because of the high gain of the PHONO and MICRO inputs, always try to place the mixer as far away as possible from noise sources (dimers, engines, etc.) and mains wires.

The WARM4 operates with a universal input power supply and can perfectly works without any internal modification from 90V to 264V – 47 to 63Hz. Ensure that the mains-wire is far away from the signal-cables in order to avoid any possible audio hum.

In order to protect the unit from an eventual electrical overload it carries a T 0.5A fuse. Should it ever blow up, unplug the unit from mains and replace it with an identical one. If the new fuse blows again contact immediately with our authorized technical service.

 **Never short-circuit the security path nor use a higher value fuse.**

 **Fuse substitutions have to be performed by a qualified technician.**

6.1 Audio Input Connections

INPUT 1	PHONO	Turntable
INPUT 1	LINE	CD or Digital Deck
INPUT 2	PHONO	Turntable
INPUT 2	LINE	CD or Digital Deck
INPUT 3	MICRO	Microphone
INPUT 3	PHONO	Turntable
INPUT 3	LINE	CD or Digital Deck
INPUT 4	MICRO	Microphone
INPUT 4	PHONO	Turntable
INPUT 4	LINE	CD or Digital Deck

6.1.1 Phono Inputs

Phono Turntables must be fitted with a magnetic cartridge with nominal output level between -55dBV and -25dBV (1.77 to 56mVrms). The WARM4 PHONO inputs (**32, 34, 37, 40**) have high headroom (margin before saturation) and they can handle higher output cartridges than usual. These inputs are supplied with a nominal input sensitivity of -40dBV (10mVrms). Use TRIM control in order to adjust the input sensitivity depending by the cartridges in use.



6.1.2 Line Inputs

The sensitivity of the inputs (**33, 35, 38, 41**) marked as LINE is 0dBV (1Vrms). You can connect sound sources such as CD or digital players, as well as keyboards, drum machines and other instruments.

6.1.3 Microphone Inputs

The MIC inputs (**39, 14**) are ready for a nominal input level of -50dBV (3.16 mVrms). The connection of balanced signals is as follows:

Hot or direct signal	>	Tip
Cold or inverted signal	>	Ring
Ground	>	Sleeve

Low impedance (200 to 600 ohm) monophonic microphones must be used. For non balanced microphones we recommend monophonic jack plugs although stereo ones are also suitable if the ring is short-circuited to the sleeve. The WARM4 includes 18V Phantom power for condenser microphones. An internal jumper allows disabling the phantom power. The WARM4 MICRO inputs is delivered with enabled phantom power by default (see the configuration diagram).

6.2 Audio Output Connections

HOUSE	Main Room power amplifier
BOOTH	Booth/Room2 power amplifier
REC	Recording
FX Send/Return	External effect devices (Input and Output)
Monitor	Headphones

6.2.1 HOUSE Output

This stereo output feeds the PA system through balanced XLR3 connectors (**45**) and an unbalanced RCA (**46**) connector. The nominal level of HOUSE output is set to 0dBV (1Vrms) by default, but it can be set to +12dBV (4Vrms) using an internal dip-switch (look at Configuration Diagram). The HOUSE output level is controlled by the HOUSE potentiometer and can be monitored through the HOUSE VU-Meter (**15**) when the VU-Meter switch (**16**) is set to HOUSE.



6.2.2 BOOTH Output

Commonly used as an independent local "Booth" output for the DJ. This stereo BOOTH has balanced XLR3 (**43**) and unbalanced RCA (**44**) connections and its level is set at 0dBV (1Vrms) but can be changed to +12dBV (4Vrms) through internal dip-switch (look at Configuration Diagram). The BOOTH level is controlled by the BOOTH potentiometer and can be monitored through the BOOTH VU-Meter (**15**) when the VU-Meter switch (**16**) is set to BOOTH.

6.2.3 Record output

This output pair uses RCA type connectors. REC is placed on the faceplate upper right corner (**23**). The nominal level of the REC output is 0dBV (1Vrms). This output is taken post-fader, before the MASTER signal.

6.2.4 FX Send/Return effects loop

The RCA connectors on the FX SEND output and the FX RETURN input allow creating a signal loop for external effects processors, samplers or sequencers. The nominal level for the SEND output, as well as for the RETURN input, is 0dBV (1Vrms).

The signal sent to the FX SEND output can be taken before or behind the fader using the PRE/POST switch and the send level can be set using the related potentiometer. The FX Return can be pre-listened with the FX PFL button, and the FX return signal level added can be set using the FX Return potentiometer.

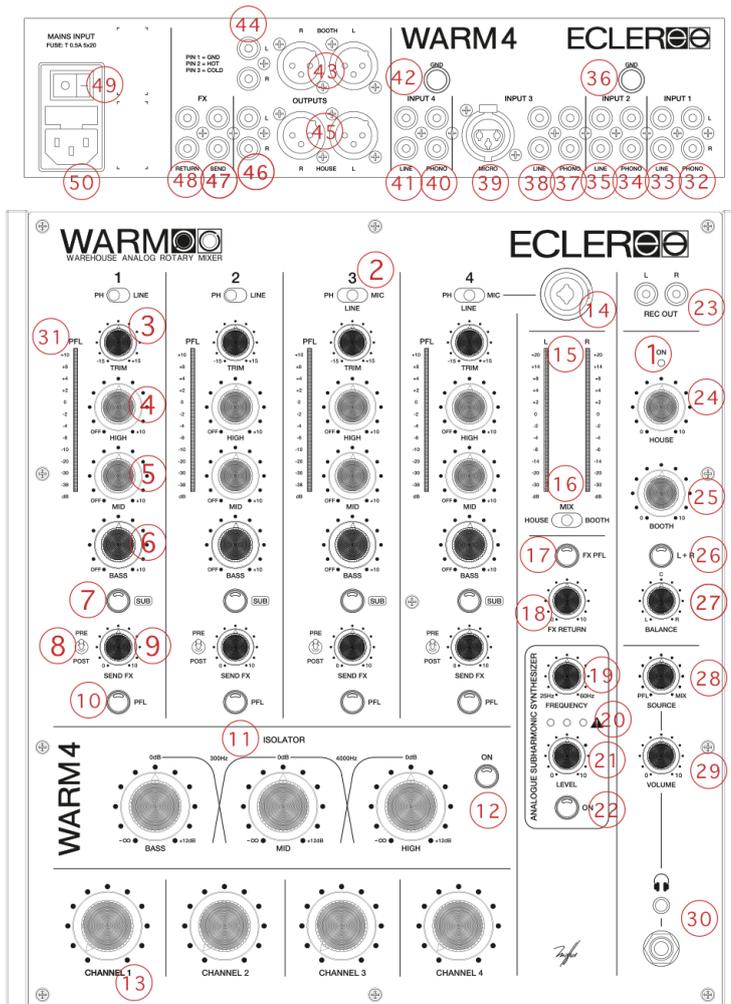
6.2.5 Headphones

In order to obtain the best performances, Headphones should be high impedance type (200-600ohm). Plug them in the MONITOR output (30) on the faceplate down right corner: 1/4" and 1/8" stereo jack are available for connection. Sleeve is Ground, Ring is Right Channel and Tip is Left Channel.

7. QUICK START

Install and connect the WARM4 mixer as described in [Setup chapter](#).

 This Quick Start guide explains a simple procedure to route and headphone monitoring a turntable.



1. Set the controllers to their initial position

Set Channel 1 TRIM, HIGH, MID and BASS (3, 4, 5 and 6) rotary controls to their central position. Set the channel potentiometer (13) to zero rotating it counter clockwise.

2. Connect your turntable

Connect your turntable to the PHONO input on channel 1 (32), choose your favourite record and start to play it.

3. Connect the headphones

Connect your headphones to the related output (30). Set the headphones VOLUME controller (29) to minimum level and move the SOURCE selector (28) to PFL position.

4. Connect the main power cable

Connect the power cable to the power supply input (50) and turn it on using the MAINS INPUT switch (49). Both elements are located on the mixer backside.

5. Select the input source

Make sure that the channel 1 input switch is placed in PHONO position and press the PFL button (10). The PFL VU-meter (31) should start to work. If this doesn't happen, verify that the turntable is correctly connected and that the record is playing.





6. Adjust the input level

Move the TRIM (3) control until the VU-meter shows 0dB.

7. Send the signal to the HOUSE

Rotate the channel 1 potentiometer (13) clockwise at its maximum.

8. Monitor the output with your headphones

Adjust the VOLUME controller (29) to obtain a comfortable monitoring volume. Now you should hear music with your headphones. Turn the SOURCE controller (28) clockwise to crossfade from the PFL signal to the MIX signal. When this controller is completely turned to the right, only the MIX signal will be monitored. In this case the PFL and the MIX signal are both referred to channel 1 so you will listen the same signal in both positions.

9. Check the EQ operation

Adjust the EQ of the track with the 3-way stereo equaliser (4, 5, 6) and unleash your creativity with the powerful 3-way isolator (11). Activate the Isolator with the ON button (12). This 4th order tone control has been designed for a creative sound edition: each way can be individually isolated and boosted using the big and ergonomic rotary controllers.

8. OPERATION

8.1 Start-up

Switch on the mixer using the switch (49) located in the mixer back panel. Now the LED ON (1) indicator will be lit in green. Even if the typical bump noise of audio devices during the start-up is minimized in the WARM4 thanks to the internal anti-bump circuits, **it is always recommendable to turn on the devices using the following sequence:**

1. Sound sources
2. Mixer, sound processors, effects
3. Finally, power amplifiers or active loudspeakers

The shut-down routine should be done by following the exact reverse sequence in order to avoid any possible damage to the loudspeakers.

8.2 Control Description

8.2.1 Input selector

Each channel provides an input toggle switch selector (2) that allows selecting the PHONO or LINE inputs for the first and second channels and PHONO, LINE or MIC inputs for the third and fourth channel.

8.2.2 Channel TRIM

All the WARM4 input channels have an accessible TRIM input sensitivity control (3). These controls adjust the input level of each channel in order to compensate the level of different sources connected to the mixer, or different phono cartridges in case of turntables.

The gain adjustments should be done with great care, using the channel VU-meter (31). The standard level reference used to mix audio signals is 0dBV.

8.2.3 Equalization

The rotary tone controls for each channel provide a +10/-30dB boost/cut at high (4) and low frequencies (6) and +10/-25dB at the mid range (5). This control allows equalizing the track in use or it can be used in all the creative ways possible.



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8.2.4 Isolator

In addition to the channel EQ, a powerful 3-way Isolator (**11**) is available on the main output. It provides a +12/-70dB boost/cut at high and low frequencies and +12/-40 dB at the mid range. This great attenuation and boost range is specially designed for creative live performance.

The isolator can be switched on and off at will via the ON button. When the LED is lit, the isolator is active. The by-pass of this function is a true by-pass with relays and is designed as a function not to be used live. With true by-pass, the signal does not pass through the isolator filters and there is less phase distortion, resulting in a more faithful sound.



Being completely analogue, in the presence of a musical signal and when switching the isolator on and off, clicks can occur, and this is the reason for NOT using it live.



Use equalization and isolator carefully; by boosting too much the low frequency range, you can induce an excessive displacement of the loudspeakers membrane. Ecler is not liable for any failure of third-party devices due to improper use of this functionality.

8.2.5 Analogue Subharmonic Synthesizer

In the article “State-of-the-Art Discotheque Sound Systems-System Design and Acoustical Measurement” of AES (Audio Engineering Society) of 1980, Richard Long and Alan Fierstein, the iconic sound system designers of Paradise Garage, wrote:

“The initial reaction of most audio engineers to the idea of a non-technical person such as a DJ controlling the frequency response of a very sophisticated sound system is complete shock and disbelief. In order to explain our concept of a disco system, let us give this analogy; in a discotheque the sound system can be considered to be the orchestra while the DJ is the conductor. The conductor’s job is to stimulate and entertain the audience; the DJ must entertain the dancers. The DJ is not reproducing the works of Bach or Brahms as performed in a symphony hall but is instead playing music which was created in a multi-track studio under artificial conditions and mixed by an engineer also attempting to create the most exciting sound possible.

There can be no doubt that many people, especially those trained in music and the audio sciences, have been at one time or another to a disco and been totally offended by the sound. One’s first reaction was probably that the music was too loud, but of course this is not the whole answer. The quality of the components, particularly speakers is one potential source of offensive sound, but even more important is the relative loudness of the various frequency ranges. For example, sub-bass in the range below 100Hz when played at 110dB SPL is not annoying at all whereas upper mid-range from 2k to 4kHz at 110dB is extremely

offensive. A prominent mid-range around 500 Hz with a lack of mid bass around 100 to 200 Hz can be very annoying.

In other words, the frequency response must be tailored to be smooth with no prominent peaks or dips while at the same time de-accentuating certain frequency ranges which can be offensive at the high sound pressure levels found in most discotheques. When properly done, the result will be a pleasing and exciting sound with no offensiveness or listener fatigue even at continuous high sound pressure levels. For this same reason, by giving the DJ control over the extreme low and the extreme high end but not allowing him any control over the main full frequency range, he is allowed to create extremely exciting sound effects without affecting the overall balance.”

Larry Levan was the best conductor of the Paradise Garage orchestra, and Ecler want to dedicate WARM4 to him, adding a very powerful feature that was part of the Paradise Garage sound system under the control of the DJ, and that has never been included in a DJ mixer before: the Analogue Subharmonic Synthesizer.

With Ecler Analogue Subharmonic Synthesizer the dj can colour the lower mixer response and consequently the tracks feeling, giving more punch to the kicks and to the bass lines, in a very unusual way. This is perfect, for example, to give new life to a vinyl record from the 1970s that lacks low frequencies.

Yes, because this is not a simple shelf filter or a resonant filter. The Analogue Subharmonic Synthesizer generates sound waves at half of the frequency of fundamentals between 120Hz and 50Hz, in a quite selective way, generating copies in the range of 60Hz-25Hz. This same principle has been used during the golden age of Hi-Fi to reconstruct the very low frequencies lost during the vinyls press process or during tape recordings that, for different physical reasons, are not supported in these physical audio supports.

Very low frequencies require dedicated loudspeakers, such as subwoofers, to be appreciated. Using this functionality with speakers that are not capable of reproducing these range, may be counterproductive or even detrimental to the speakers.

⚠ Please do not use the subharmonic synthesizer with small near-field studio monitors that cannot reproduce frequencies from 25 to 60Hz. Ecler is not responsible for the misuse of this feature.

In the most recent digital audio supports, the whole audible spectrum can be recorded and the final effect of the Analogue Subharmonic Synthesizer , depending by the recording, in some cases can be imperceptible or even annoying. The mastering of each track is unique and the use of the Analogue Subharmonic Synthesizer leads to a different result for each track.



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The Analogue Subharmonic Synthesizer function uses a separate bus and can be activated on each channel using the SUB buttons (7). Once the function is activated in one of the channels, using the subharmonic level control (21) it is possible to choose the amount of low frequency signals to add to the original content and it can be monitored using the subharmonic VU-Meter (20).

- The first LED (Green) indicates an average value of -18dBV and it acts as a signal present LED.
- The second LED (Yellow) indicates an average value of 0dBV.
- The third LED (Red) starts to blink with an average value of +4dBV. Depending by the original content, it is possible to increase the low end spectrum level up to +12dBV.
- The ON button (22) allows to switch on the harmonic generation circuit and it acts as a general activation button of the function.

! Use the Analogue Subharmonic Synthesizer very carefully; Please check the Subharmonic VU-meter level before activating the ON button. By boosting too much the low frequency range, you can induce an excessive displacement of the loudspeakers membrane. The combined use of Isolator and subharmonic synthesizer, if not used properly, can be very dangerous for the loudspeakers. Ecler is not liable for any failure of third-party devices due to improper use of this functionality.

In any case, the subharmonic function does not change the spectrum of musical content outside the indicated frequencies. In addition, WARM4 includes an HP anti-rumble filter at 20Hz that makes sure to reduce resonance coupling problems with turntable needles.

8.2.6 Monitoring System

WARM4 is equipped with a flexible and easy monitoring system that will allow the performers to finely tune PFL (Pre-fader listening) and Mix levels of each input through the channel VU-METER (31) and the HEADPHONES. Each channel can be monitored visually and pre-listened pressing the dedicated PFL (10) button.

For HEADPHONES monitoring, the SOURCE rotary potentiometer (28) allows you to blend a selected PFL together with the main MIX Program. The VOLUME rotary potentiometer (29) controls the level of headphones output.



8.2.7 Sending to external effects units FX Send/Return

The 4 channels of WARM4 are equipped with rotating potentiometers (9) that allow sending the signal to an external effects unit, sampler, etc. These potentiometers allow to precisely adjusting the signal level sent from each channel.

The FX SEND output (47) has to be connected to the effects processor's input and its output to the RETURN input (48) or any LINE input. FX Return can be pre-listened with the FX PFL button (17) and the signal level can be adjusted with the FX Return potentiometer (18).

This signal send can be configured either PRE or POST fader with the PRE/POST toggle switch (8).

8.2.8 Potentiometers

The WARM4 is equipped with original Japanese ALPS blue velvet and RK09L metal shaft potentiometers that offer extremely soft and smooth transitions both for channels and isolator controls.

8.2.9 HOUSE and BOOTH output levels

WARM4 features two main output level controls: HOUSE and BOOTH. The master level is controlled by the HOUSE (24) level knob. The BOOTH level is controlled by the BOOTH (25) level knob.



Look at [Configuration Diagram](#) chapter to adjust the output level to adapt output levels to your amplifiers or amplified speakers. Use the HOUSE/MIX/BOOTH VU-meter (15), in order to have a real perception of the signal output. Select the signal you want to monitor with the switch (16 Front Panel) below the VU-Meter (House-MIX-Booth).

HOUSE output is electronically balanced so the unbalanced level always matches with the balanced level.

WARM4 has extended headroom: its maximum output without distortion can reach 21dBV (23dBu)!



Take care of the devices connected to the mixer outputs checking the VU-meters and please try to stay away from the red-light zone!

8.3 Further Considerations

8.3.1 Ground loops

Avoid that the sources connected to the mixer and the devices connected to its output have their ground reference interconnected; it means that the ground reference should never have two or more different paths, because hums and noise can appear influencing the sound quality. In order to avoid ground loops, ensure that the shielding of cables, if connected to the chassis, are never connected with each other.

8.3.2 Background noise

The use of active circuitry can yield, depending on the configuration, to a significant noise level. The WARM4 have been specifically designed with a very reduced noise figure. Anyway, the noise level will always depend by the correct use and installation of the mixer and by the correct gain chain. It is not the same setting up the channel potentiometer at "2" and the HOUSE level at "10" that vice versa. In the first case you get a poor signal to noise ratio that will be fully amplified by the master output while on the second we have a good signal to noise ratio only amplified by "2". As a result, the background noise is greater in the first case than in the second one.

8.3.3 Audio connections

As a general rule of thumb, make the signal connections as short as possible and use the best connectors and cable available. Cables and connectors are frequently held cheap, forgetting that a bad connection can result in a poor sound quality.



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9.1 Technical Specifications

WARM4

AUDIO PERFORMANCES

Inputs		
Number of Inputs	LINE PHONO MICRO FX RETURN	4 Stereo Unbalanced Inputs 4 Stereo Unbalanced Inputs 2 Mono Balanced Inputs 1 Stereo Unbalanced Input
Connectors type	LINE 1-2-3-4 PHONO 1-2-3-4 MICRO 3 MICRO 4 FX RETURN	RCA STEREO RCA STEREO XLR3-F Combo XLR3F-6.3mm TRS BAL RCA STEREO
Inputs Sensitivity nom/Impedance	LINE PHONO MICRO FX RETURN	0dBV/50kΩ -40dBV/50kΩ -50dBV/>1kΩ 0dBV/>6kΩ
Performances		
Frequency Response	LINE MICRO PHONO FX RETURN	10Hz÷30kHz -1dB 10Hz÷25kHz -1dB RIAA ±0.5dB 10Hz÷50kHz -1dB
THD+N	LINE MICRO PHONO FX RETURN	<0.004% <0.7% <0.06% <0.001%
CMMR	MICRO	>75dB @ 1kHz
Signal Noise Ratio	LINE MICRO PHONO FX RETURN	>105dB >90dB >100dB >110dB
Trim control	INPUTS 1-2-3-4	± 15dB
Tone control Inputs 1-2-3-4	BASS MID TREBLE	+10/-30dB +10/-25dB +10/-30dB
Tone control Isolator	BASS MID TREBLE	+12/-70dB +12/-40dB +12/-70dB



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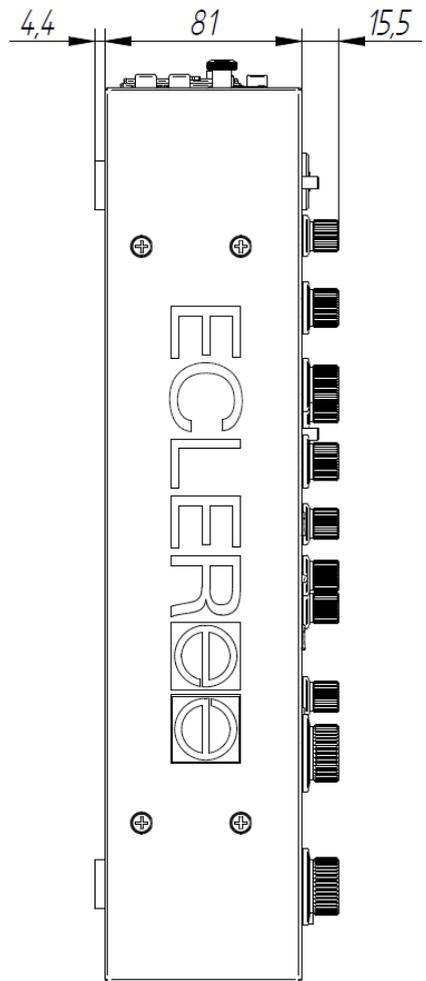
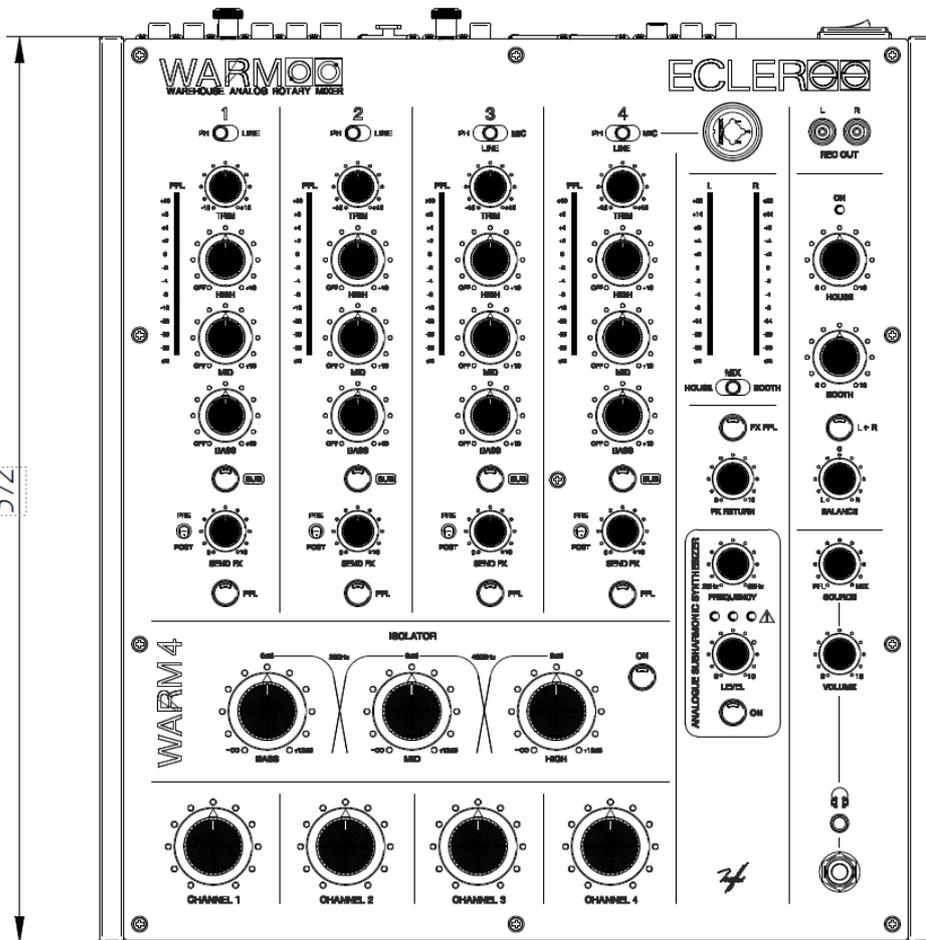
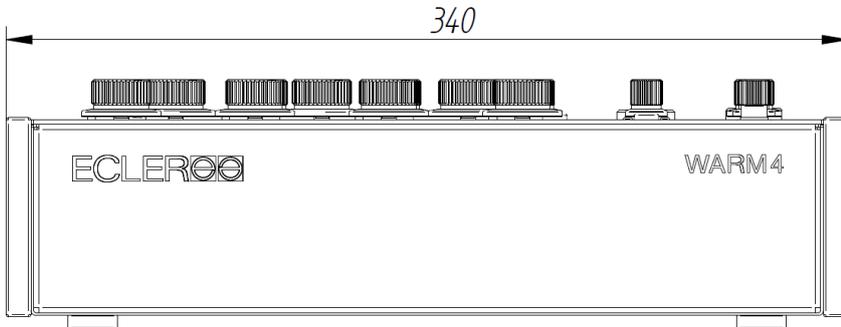
Tone Filter cut frequency at -6dB (slope 12dB/oct)	BASS MID TREBLE	200Hz 200Hz÷6.8kHz 6.8kHz
Isolator cut frequency at -6dB (slope 24dB/oct)	BASS MID TREBLE	300Hz 300Hz÷4kHz 4kHz
Analogue Subharmonic Synthesizer	Input selective filter Harmonics synthesis Max Output level	50÷120Hz 25÷60Hz +12dBV

Outputs		
Number of Outputs	HOUSE	1 Stereo Balanced Outputs 1 Stereo Unbalanced Outputs
	BOOTH	1 Stereo Balanced Outputs 1 Stereo Unbalanced Outputs
	HEADPHONE	2 Stereo Unbalanced Outputs
	FX SEND	1 Stereo Unbalanced
	REC	1 Stereo Unbalanced
Connectors Type	HOUSE	XLR3-M STEREO RCA STEREO
	BOOTH	XLR3-M STEREO RCA STEREO
	HEADPHONE	Jack Stereo 6.3mm Jack Stereo 3.5mm
	FX SEND	RCA STEREO
	REC	RCA STEREO
Outputs Level/Minimum Load	HOUSE (BAL)	0dBV/600Ω 1V *(+12dB 4V)
	HOUSE (UNBAL)	0dBV/2.2kΩ 1V *(+12dB 4V)
	BOOTH (BAL)	0dBV/2.2kΩ 1V *(+12dB 4V)
	BOOTH (UNBAL)	0dBV/2.2kΩ 1V *(+12dB 4V)
	REC	0dBV/10kΩ
	HEADPHONES FX SEND	200mΩ/200Ω THD 1% 0dBV/2.2kΩ
Max Undistorted Output Level	HOUSE (Electr.BAL)	21dBV (23dBu)
	BOOTH (Electr.BAL)	21dBV (23dBu)
	HOUSE (UNBAL)	21dBV (23dBu)
	BOOTH (UNBAL)	21dBV (23dBu)

MISCELLANEOUS	
Control Mode	Rotary with Alps Blue Velvet Potentiometers and Alps RK09L potentiometers
Phantom Voltage	18VDC/5mA Max (Default ON)
Input VU-Meter	LED 12 segments (-38dBV ÷ +10dBV)
House-Mix-Booth VU-Meter	LED 12 segments (-30dBV ÷ +20dBV)
Subharmonic Output VU-Meter	LED 3 Segments (-20dBV / 0dBV / +4dBV)
ELECTRICAL	
Power Supply	Internal
AC Mains Voltage	90-264VAC 47-63Hz
AC Main Connector	15A IEC inlet connector
Rated power consumption	39 VA
PHYSICAL	
Operating Temperature	Min: -5°C; 23°F / Max: 45°C; 113°F
Operating Humidity	20 - 90% RH (no condensation)
Storage Temperature	Min: -10°C; 14°F / Max: 50°C; 122°F
Storage Humidity	<90% RH (no condensation)
Installation Options	Desktop or Rack mount with optional accessories
Included Accessories	IEC Cable EU
Dimensions (WxHxD)	340 x 81 x 372 mm / 13.39 x 3.19 x 14.65 in
Weight	5.32 Kg / 11.73 lb
Shipping Dimensions (WxHxD)	495 x 175 x 435 mm / 19.49 x 6.89 x 17.13 in
Shipping Weight	6.74 Kg / 14.86 lb

9.2 Mechanical Diagram

All measurements are in mm.



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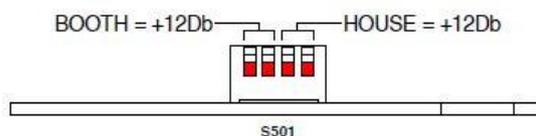
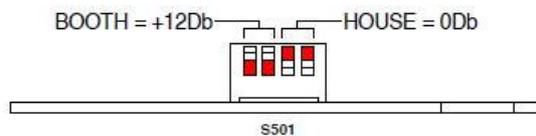
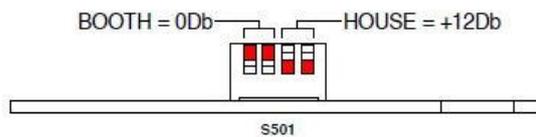
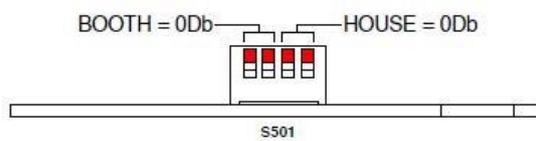
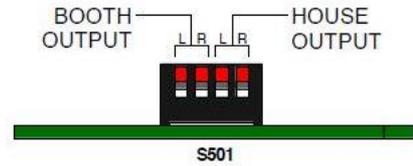
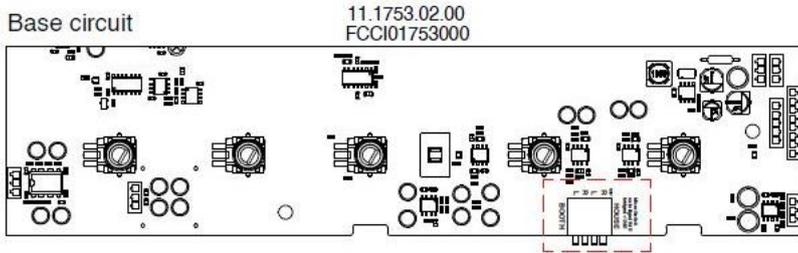
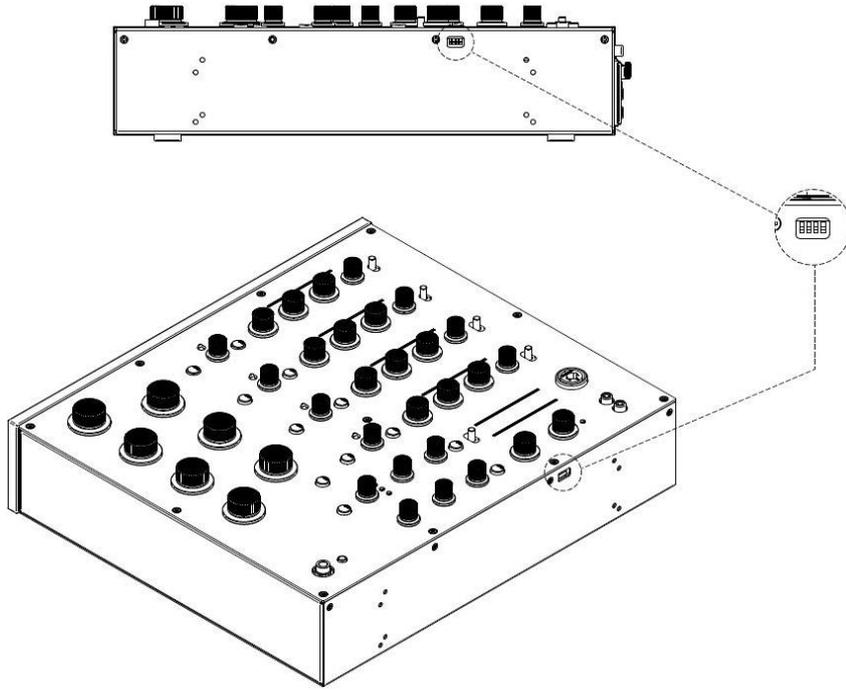
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9.3 Configuration Diagram

Depending on the requirements of the devices connected to the mixer outputs, it is possible to change the output level by increasing it by 12dB.

To do this, remove the right wooden panel and follow the instructions below.





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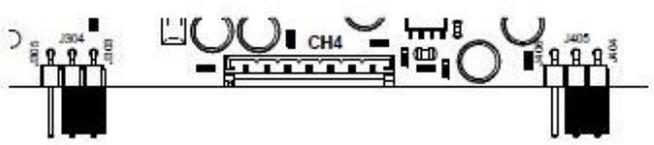
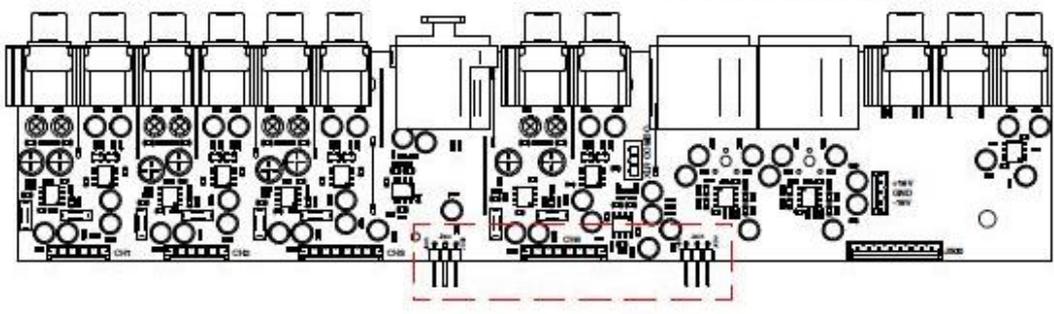
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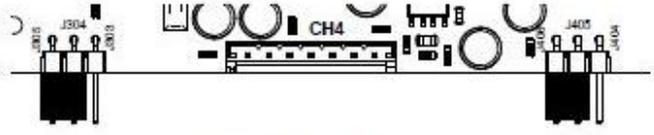
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PHANTOM ON

PHANTOM
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PHANTOM OFF



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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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