

# WARM4

DJ MIXERS

Four Channel Analogue Rotary Mixer



## USER MANUAL



PRECAUTIONS

WARRANTY  
&  
ENVIRONMENT

PACKAGE  
CONTENTS

WARM4  
&  
ECLER HISTORY

DESCRIPTION  
&  
FEATURES

PANEL  
FUNCTIONS

SETUP

QUICK  
START

OPERATION

TECHNICAL  
DATA

# TABLE OF CONTENTS

<b>1. PRECAUTIONS</b> .....	<b>3</b>
1.1 Important Notice .....	3
1.2 Key Safety Directions .....	4
1.3 Cleaning Directions .....	4
<b>2. WARRANTY &amp; ENVIRONMENT</b> .....	<b>5</b>
<b>3. PACKAGE CONTENTS</b> .....	<b>5</b>
<b>4. WARM4 and ECLER HISTORY</b> .....	<b>6</b>
<b>5. DESCRIPTION &amp; FEATURES</b> .....	<b>7</b>
5.1 Main Features .....	7
<b>6. PANEL FUNCTIONS</b> .....	<b>8</b>
<b>7. SETUP</b> .....	<b>10</b>
7.1 Audio Input Connections .....	10
7.1.1 Phono Inputs .....	10
7.1.2 Line Inputs .....	11
7.1.3 Microphone Inputs .....	11
7.2 Audio Output Connections .....	11
7.2.1 HOUSE Output .....	11
7.2.2 BOOTH Output .....	12
7.2.3 Record output .....	12
7.2.4 FX Send/Return effects loop .....	12
7.2.5 Headphones .....	12
<b>8. QUICK START</b> .....	<b>13</b>
<b>9. OPERATION</b> .....	<b>15</b>
9.1 Start-up .....	15
9.2 Control Description .....	15
9.2.1 Input selector .....	15
9.2.2 Channel TRIM .....	15
9.2.3 Equalization .....	15
9.2.4 Isolator .....	16
9.2.5 Analogue Subharmonic Synthesizer .....	16
9.2.6 Monitoring System .....	18
9.2.7 Sending to external effects units FX Send/Return .....	19
9.2.8 Potentiometers .....	19
9.2.9 HOUSE and BOOTH output levels .....	19
9.3 Further Considerations .....	20
9.3.1 Ground loops .....	20
9.3.2 Background noise .....	20
9.3.3 Audio connections .....	20
<b>10. TECHNICAL DATA</b> .....	<b>21</b>
10.1 Technical Specifications .....	21
10.2 Mechanical Diagram .....	24
10.3 Configuration Diagram .....	25


PRECAUTIONS
WARRANTY & ENVIRONMENT
PACKAGE CONTENTS
WARM4 & ECLER HISTORY
DESCRIPTION & FEATURES
PANEL FUNCTIONS
SETUP
QUICK START
OPERATION
TECHNICAL DATA

## 1. PRECAUTIONS

### 1.1 Important Notice



**WARNING: SHOCK HAZARD - DO NOT OPEN**


**AVIS: RISQUE DE CHOC ÉLECTRIQUE - NE PAS OUVRIR**



The flashing light with an arrowhead symbol inside an equilateral triangle on it is intended to alert the user of the presence of non-insulated “dangerous voltage” within the enclosure, which might be of sufficient magnitude to pose a risk of electric shock to users.



The exclamation mark within an equilateral triangle is intended to alert the user of the requirement for important operating and maintenance (servicing), for which instructions may be found in the literature accompanying the appliance.

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

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

**WARNING:** A device with Class I manufacturing ought to be connected to a mains socket outlet with a protective earthing connection.



**WARNING:** Ecler products have a long lifetime of more than 10 years. This product must never be discarded as unsorted urban waste, but must be taken to the nearest electrical and electronic waste treatment centre.



**This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to part 15 of the FCC Rules.** Such 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 in radio communications. Operation of this equipment in a residential area might cause harmful interference, in which case, the user will be required to correct the interference at his own expense.



PRECAUTIONS

WARRANTY  
&  
ENVIRONMENT

PACKAGE  
&  
CONTENTS

WARM4  
&  
ECLER HISTORY

DESCRIPTION  
&  
FEATURES

PANEL  
FUNCTIONS

SETUP

QUICK  
START

OPERATION

TECHNICAL  
DATA

## 1.2 Key Safety Directions

1. Read the following directions.
2. Keep the following directions.
3. Heed all warnings.
4. Follow all directions.
5. Do not use this device in proximity to water.
6. Clean only with a 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 devices (including amplifiers) that may release heat.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades, being 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, contact a qualified electrician for a 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 of exit from the device.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug the device during lightening 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 damage, liquid spillage or objects onto the device, the device has been exposed to rain or humidity, 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, therefore, it should always remain easily accessible
15. Equipment is connected to a socket-outlet with an 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 liquids, and no liquid-filled objects, such as a filled up glass, shall be placed on top of the device.

## 1.3 Cleaning Directions



**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 suggest 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.



PRECAUTIONS

WARRANTY  
&  
ENVIRONMENT

PACKAGE  
&  
CONTENTS

WARM4  
&  
ECLER HISTORY

DESCRIPTION  
&  
FEATURES

PANEL  
FUNCTIONS

SETUP

QUICK  
START

OPERATION

TECHNICAL  
DATA

## 2. WARRANTY & ENVIRONMENT

**Thank you for choosing our Ecler WARM4!**

**We greatly value your trust.**

It is **VERY IMPORTANT** to carefully read this manual and to fully understand its contents before any connecting takes place in order to make the best use of this equipment, as well as to get the best performance from it.

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

**All ECLER products are covered by warranty**, please refer to [www.eclerdj.com](http://www.eclerdj.com) or the warranty card included with this product for the period of validity and conditions.



**Ecler is truly committed with the environment and planet sustainability, energy saving and CO<sub>2</sub> emission reduction.** Recycling materials and using non-contaminant components are also top priorities in our green crusade.

**Ecler has deeply evaluated and analyzed the environmental impacts of all the processes involved in the production of this product, including packaging, and has alleviated, reduced and/or compensated for them.**

## 3. PACKAGE CONTENTS

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



PRECAUTIONS

WARRANTY & ENVIRONMENT

PACKAGE CONTENTS

WARM4 & ECLER HISTORY

DESCRIPTION & FEATURES

PANEL FUNCTIONS

SETUP

QUICK START

OPERATION

TECHNICAL DATA

## 4. WARM4 and ECLER HISTORY

Although the origins of the company date from 1965, ECLER launched its first mixer back in the 1970s: the A4, a simple 4 channel mixer oriented to Super 8 film sound edition. The company grew throughout the 70s with the boom of Disco music and the increase of tourism.

It was the era of the AM 4 and AC 4: the first mixers tailored for DJs. The AC 4 was a high-fidelity mixer designed to meet the most demanding sound requirements in discotheques, theatres, cinemas, recording studios, conference rooms... Its electronic circuits and a meticulous selection of all components and transistors used, made of 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 (branded as 'legendary' by Hispasonic), the HAK Series battle mixer, designed and manufactured following 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 wise music background to share our inputs in the quest for the perfect mixing devices. DJs who, playing from Minimal to Deep House, from Techno to Hip-hop, Breaks to Electro... all share our passion for music and technology. Djs the like of Michael Mayer, Pastaboys, Luciano, Antoine Clamaran, Funk D'Void, Dj Hell, Ricardo Villalobos, Savas Pascalidis, to name a few, need top quality, reliability and tools to express their creativity when it comes to gear

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

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

**Designed and manufactured in our Barcelona facilities, WARM4 is a mixer that preserves the classic Ecler mixers' structure**, though its circuitry and mechanics have been completely redesigned, ranging from the new PCB board that further improves noise levels and dynamic range, to the front-plate screw potentiometers, carefully hand-assembled by our production team.

Keeping its innovative spirit alive since the first A4 mixer launched in 1971, Ecler introduces a DJ tool never included in a mixer before: the 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, both to the recorded song, and to the features of the sound system.



PRECAUTIONS

WARRANTY  
&  
ENVIRONMENT

PACKAGE  
&  
CONTENTS

WARM4  
&  
ECLER HISTORY

DESCRIPTION  
&  
FEATURES

PANEL  
FUNCTIONS

SETUP

QUICK  
START

OPERATION

TECHNICAL  
DATA

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 to regulate and pre-listen to the amount of the effects return.

WARM4 is specially designed for those sound systems capable of reproducing this type of subsonic frequencies, such as clubs, festivals and events where subwoofers are of vital importance. It will allow you to deliver your audience with an unprecedented experience on the dance floor and an overall remarkable way to experience music.

## 5. DESCRIPTION & FEATURES

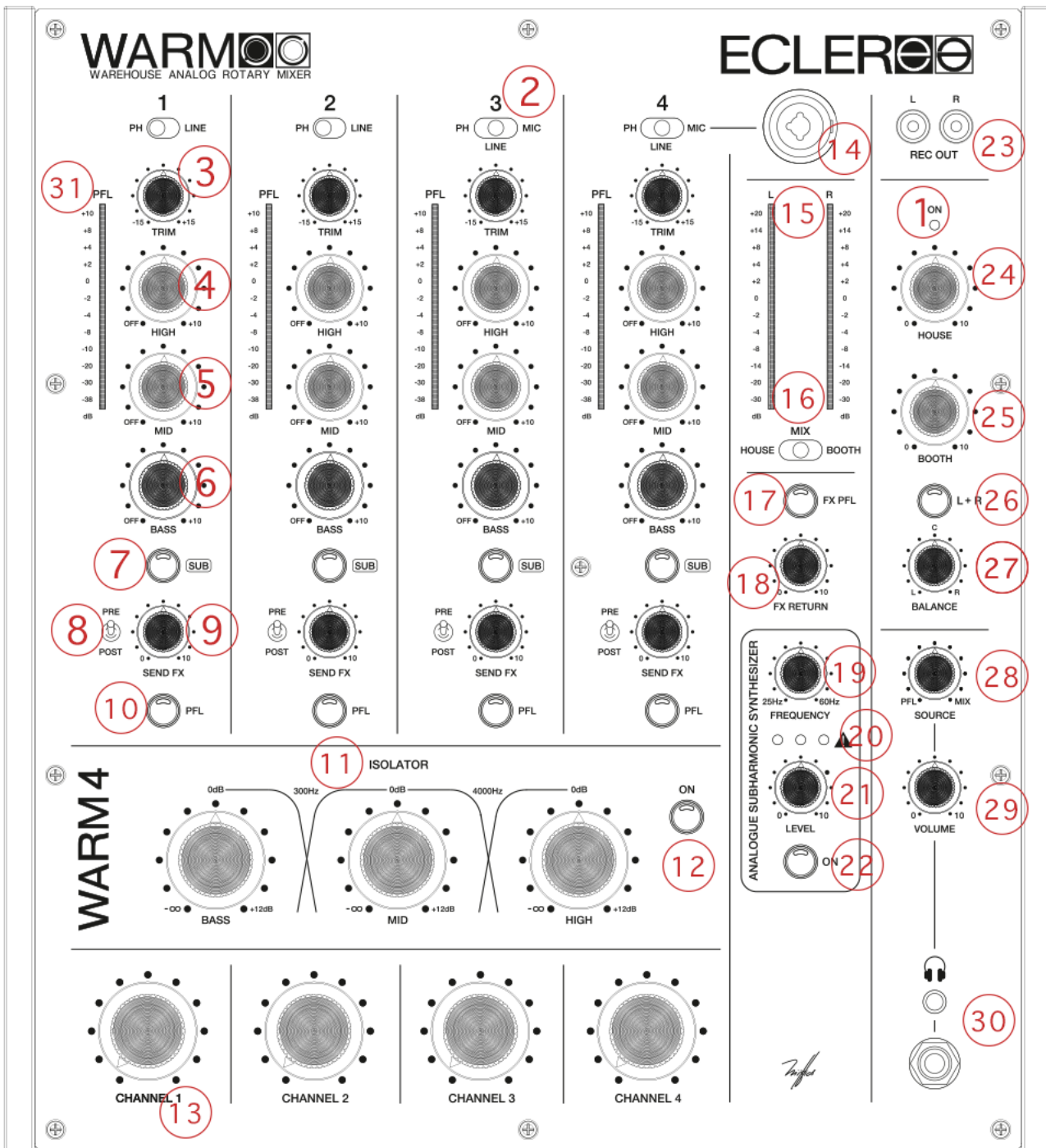
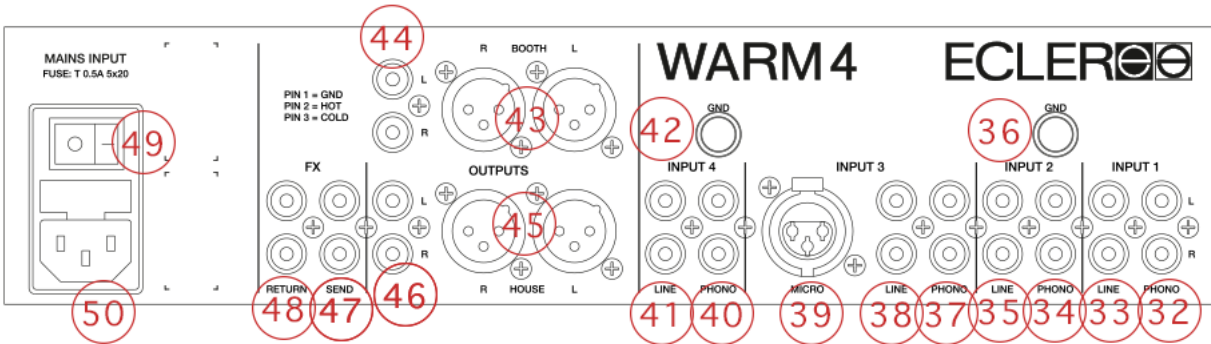
WARM4 is a professional four channel analogue rotary DJ mixer, designed and manufactured by ECLER in Barcelona. Featuring 4 phono/line channels, 2 MIC inputs, classic sharp filters and a 4th-order Isolator. WARM4 includes a unique feature: an Analogue Subharmonic Synthesizer selectable per channel and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

### 5.1 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 connectors.
- 3 band isolator full cut EQ.
- 3 band isolator (300Hz and 4KHz,  $-\infty/+12\text{dB}$ , 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.
- Ecler's unique design includes a mechanized knob produced from a solid block of aluminium and free of any visible screws.
- Wooden side panels included.



6. PANEL FUNCTIONS




- PRECAUTIONS
- WARRANTY & ENVIRONMENT
- PACKAGE CONTENTS
- WARM4 & ECLER HISTORY
- DESCRIPTION & FEATURES
- PANEL FUNCTIONS
- SETUP
- QUICK START
- OPERATION
- TECHNICAL DATA

- |   |   |
|---|---|
| 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 activate 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 activate 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           |   |

## 7. SETUP

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


 **We recommend placing it in a comfortable position for the user and in no direct contact with the turntables in order to avoid the transfer of impacts and vibration during use.**

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

The WARM4 operates with a universal input power supply and works flawlessly without any internal modification from 90V to 264V – 47 to 63Hz. Make sure the mains' wire is far-off from the signal cables, so as to avoid any possible audio hum.

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

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

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

### 7.1 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

#### 7.1.1 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 (allowance 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 in accordance with the cartridges in use.



PRECAUTIONS

WARRANTY  
&  
ENVIRONMENT

PACKAGE  
&  
CONTENTS

WARM4  
&  
ECLER HISTORY

DESCRIPTION  
&  
FEATURES

PANEL  
FUNCTIONS

SETUP

QUICK  
START

OPERATION

TECHNICAL  
DATA

## 7.1.2 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 and drum machines, amongst other instruments.

## 7.1.3 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:

<b>Hot</b> or direct signal	→	Tip
<b>Cold</b> or inverted signal	→	Ring
<b>Ground</b>	→	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 are delivered with enabled phantom power by default (see the configuration diagram).

## 7.2 Audio Output Connections

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

### 7.2.1 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) by using an internal DIP switch (check the 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.



## 7.2.2 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 (check the 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.

## 7.2.3 Record output

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

## 7.2.4 FX Send/Return effects loop

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


The reception of the signal sent to the FX SEND output may occur, either prior, or succeeding the effect of the fader when using the PRE/POST switch. The issuing level can be set by using the related potentiometer. The FX Return can be pre-listened to with the FX PFL button, and the FX return signal added level can be set using the FX Return potentiometer.

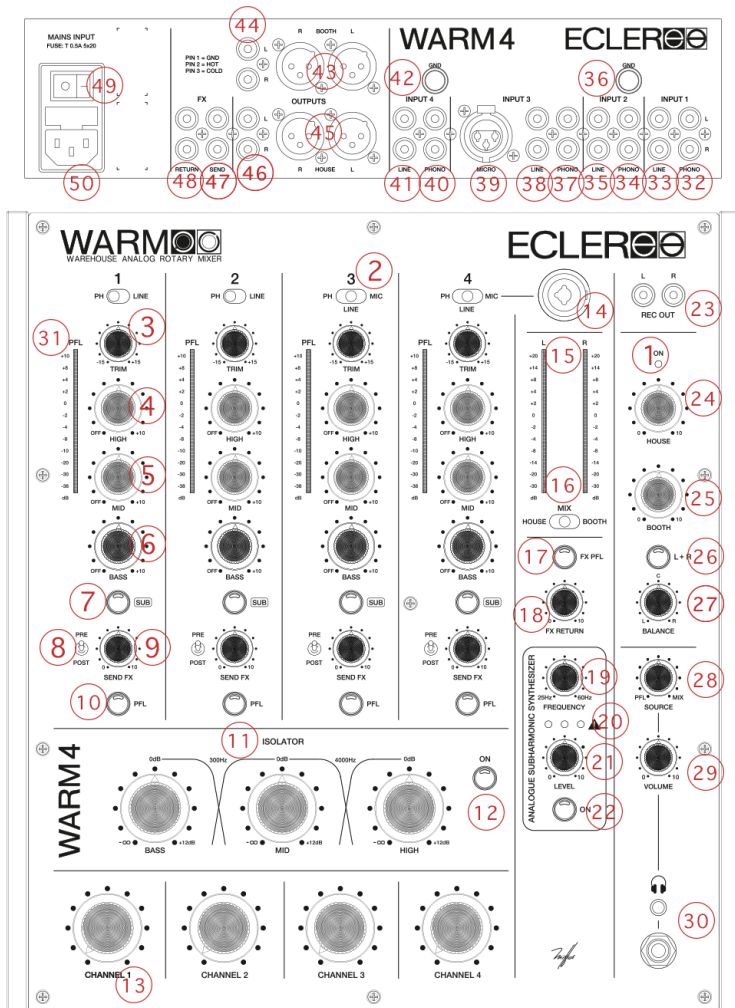
## 7.2.5 Headphones

In order to obtain the best performance, headphones should be high impedance type (200-600ohm). Plug them into the MONITOR output (30) on the faceplate's lower 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.

## 8. QUICK START

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

 This quick start guide offers a simple procedure towards the routing and headphone monitoring of 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 by rotating counter-clockwise.

### 2. Connect your turntable

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

### 3. Connect the headphones

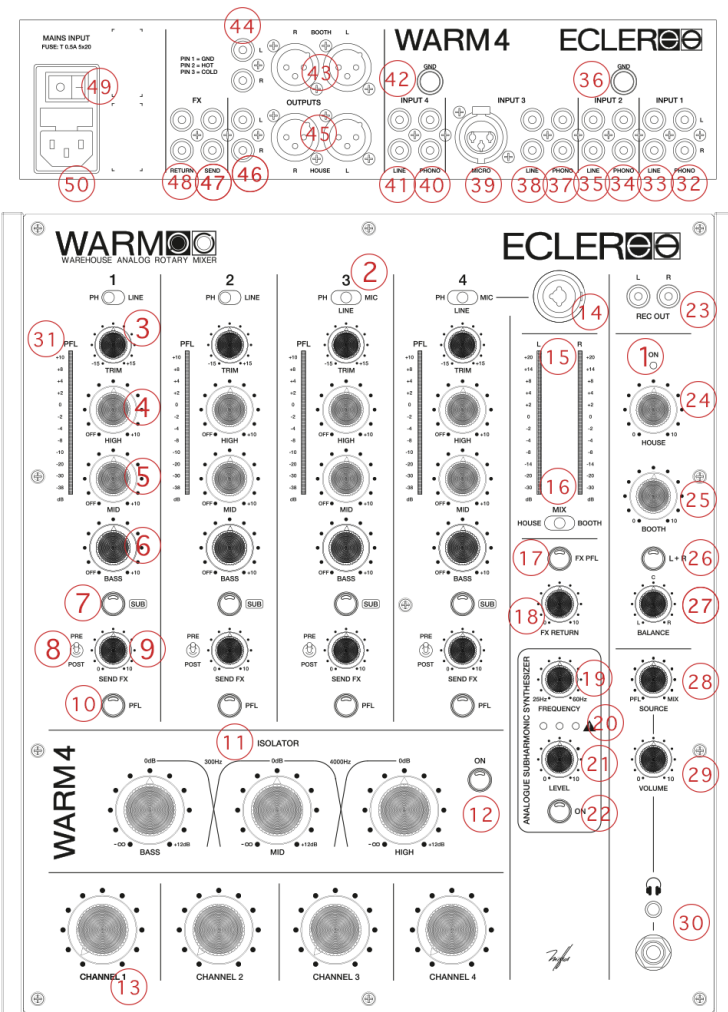
Connect your headphones to the related output (30). Set the headphones' VOLUME controller (29) to its minimum level and move the SOURCE selector (28) to PFL position.

### 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 at the back of the mixer.

### 5. Select the input source

Make sure the channel 1 input switch is placed in PHONO position and press the PFL button (10). The PFL VU-meter (31) should start working. If this is not the case, verify the turntable is connected correctly and the record set to be properly played.



**6. Adjust the input level**

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

**7. Send the signal to the HOUSE output**

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

**8. Monitor output through your headphones**

Adjust the VOLUME controller (29) to obtain a comfortable monitoring volume. You should now be able to hear the music through your headphones. Turn the SOURCE controller (28) clockwise to crossfade from the PFL signal to the MIX signal. Once this controller is turned entirely to the right, only the MIX signal will be monitored, in which case, the PFL and the MIX signal are both referred to channel 1, and you will listen to 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-band Isolator (11). Activate the Isolator with the ON button (12). This 4th-order tone control has been designed for creative sound edition: each band can be individually isolated and may be boosted using large ergonomic rotary controllers.

## 9. OPERATION

### 9.1 Start-up

Turn the mixer on by using the switch (49) located at the mixer's back panel. The LED ON (1) indicator light will turn green. Even though the typical bump noise of audio devices when started is minimized in the WARM4, resulting from the internal anti-bump circuits, **it is always recommended to turn devices on according to the following sequence:**

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

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

### 9.2 Control Description

#### 9.2.1 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 channels.

#### 9.2.2 Channel TRIM

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

The gain adjustments should be made with great care through the diligent usage of the channel VU-meter (31). The standard level reference used to mix audio signals is 0dBV.

#### 9.2.3 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 mid range (5). This control allows for the equalizing of the track in use, though it may also be employed in endless creative ways.



PRECAUTIONS

WARRANTY  
&  
ENVIRONMENT

PACKAGE  
&  
CONTENTS

WARM4  
&  
ECLER HISTORY

DESCRIPTION  
&  
FEATURES

PANEL  
FUNCTIONS

SETUP

QUICK  
START

OPERATION

TECHNICAL  
DATA

## 9.2.4 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 mid range. This exceptional attenuation and boost range is specially designed for creative live performances.

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 an actual relaying device, and it is not intended for its usage in live performances. Being a true by-pass, the signal does not pass through the isolator filters, so there is a lesser degree of phase distortion, resulting in a more faithful sound.



**Since WARM4 is a completely analogue device, in the presence of a musical signal and when switching the Isolator on and off, clicking sounds may occur, this being the reason NOT to use it in live performances.**



**Use both equalization and the Isolator with great care. By over-boosting the low frequency range, an excessive displacement of the loudspeakers' membrane may occur. Ecler shall not be held liable for the failure of third-party devices due to improper use of this functionality.**

## 9.2.5 Analogue Subharmonic Synthesizer

In the article “State-of-the-Art Discotheque Sound Systems-System Design and Acoustical Measurement” of AES (Audio Engineering Society) from 1980, Richard Long and Alan Fierstein, 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 wants to dedicate the WARM4 model to him, adding a very powerful DJ-controlled feature, which was a component of the Paradise Garage sound system, and has never been included in a DJ mixer before: the Analogue Subharmonic Synthesizer.

**Ecler Analogue Subharmonic Synthesizer enables the DJ, to “colour” the lower mixer response in a unique fashion and, consequently, to enhance the tracks’ feeling** by providing more punch to the kicks and bass lines. This is the perfect manner to, for instance, confer a vinyl record from the 1970s lacking low frequencies with a newfound vitality to it.

We are not referring to basic shelf or resonant filters: the Analogue Subharmonic Synthesizer generates sound waves at half the frequency of fundamentals (which oscillate between 120Hz and 50Hz) in a fairly selective way, generating copies in the range of 60Hz-25Hz. The same principle used to be applied during the golden era of Hi-Fi to reconstruct the very low frequencies, lost during the vinyl record press process or during tape recordings. Due to a number of assorted physical reasons, these frequencies were not compatible with the aforementioned physical audio formats.

Very low frequencies require dedicated loudspeakers, such as subwoofers, to be appreciated. Using this functionality with speakers unable to reproduce this specific range of frequencies, may be counterproductive or even detrimental to the speakers.

 **Please do not use the Subharmonic Synthesizer feature with small near-field studio monitors that cannot reproduce frequencies from 25 to 60Hz. Ecler will not be held responsible for its misuse.**

Most recent digital audio formats allow for the recording of the whole audible spectrum and, in certain recordings, the final effect of the Analogue Subharmonic Synthesizer may 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 in each track.



PRECAUTIONS

WARRANTY  
&  
ENVIRONMENT

PACKAGE  
CONTENTS

WARM4  
&  
ECLER HISTORY

DESCRIPTION  
&  
FEATURES

PANEL  
FUNCTIONS

SETUP

QUICK  
START

OPERATION

TECHNICAL  
DATA

## Operation:

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, by means of the subharmonic level control (21), it is possible to choose the amount of low frequency signals to be added to the original content, which can be monitored with 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 on the original content, the low end spectrum level can be increased to up to +12dBV.
- The ON button (22) switches on the harmonic generation circuit and it acts as a general activation button for the function.

**!** Make use of the Analogue Subharmonic Synthesizer with extreme care and always check the Subharmonic VU-meter level before activating the ON button. By over-boosting the low frequency range, you might induce an excessive displacement of the loudspeakers membrane. The combined use of the Isolator and the Subharmonic Synthesizer functions, if not done properly, can result in damage to the loudspeakers. Ecler will not be liable for the failure of third-party devices due to improper use of this functionality.

The subharmonic function does not change the spectrum of musical content outside the indicated frequencies. Additionally, WARM4 includes an HP anti-rumble filter at 20Hz that ensures the mitigation of resonance coupling problems with turntable needles.

### 9.2.6 Monitoring System

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

For HEADPHONES monitoring, the SOURCE rotary potentiometer (28) allows the blending of a selected PFL alongside the main MIX Program. The VOLUME rotary potentiometer (29) controls the level of headphones output.



PRECAUTIONS

WARRANTY  
&  
ENVIRONMENT

PACKAGE  
&  
CONTENTS

WARM4  
&  
ECLER HISTORY

DESCRIPTION  
&  
FEATURES

PANEL  
FUNCTIONS

SETUP

QUICK  
START

OPERATION

TECHNICAL  
DATA

### 9.2.7 Sending to external effects units FX Send/Return

All 4 channels of WARM4 are equipped with rotating potentiometers (9) which allow for the signal to be sent to an external effects unit, sampler, etc. These potentiometers enable to accurately adjust the signal level sent from each channel.

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


The signal sent can be arranged, either PRE or POST fader, operating the PRE/POST toggle switch (8).

### 9.2.8 Potentiometers

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

### 9.2.9 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.

 Check the [Configuration Diagram](#) chapter to adjust the output level to be adapted 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, therefore, the unbalanced level always matches the balanced level.


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

 **Protect devices connected to the mixer outputs by checking the VU-meters and please, try to avoid the red-light zone!**

## 9.3 Further Considerations

### 9.3.1 Ground loops

Avoid sources connected to the mixer and devices connected to its output having their ground reference interconnected. This will result in the ground reference never having two or more different paths, thus hums and noise shall not affect the sound quality.

 **To avoid ground loops, make sure the sheadings of cables, if connected to the chassis, are never in contact with one another.**

### 9.3.2 Background noise

Depending on what the configuration is, the use of active circuitry can generate a significant noise level. The WARM4 has been specifically designed to include a very reduced noise figure. However, noise levels will always depend on the correct use and installation of the mixer, as well as on the correct gain chain. Setting the channel potentiometer up at "2" and the HOUSE level at "10" is very different to doing it contrariwise. 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 to "2". As a result, the background noise will be greater in the first case.

### 9.3.3 Audio connections

As a general guideline, make the signal connections as short as possible and use the best connectors and cables available. Cables and connectors are frequently looked down upon, overlooking the fact that a bad connection might result in poor sound quality.



PRECAUTIONS

WARRANTY  
&  
ENVIRONMENTPACKAGE  
&  
CONTENTSWARM4  
&  
ECLER HISTORYDESCRIPTION  
&  
FEATURESPANEL  
FUNCTIONS

SETUP

QUICK  
START

OPERATION

TECHNICAL  
DATA

10. TECHNICAL DATA

10.1 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

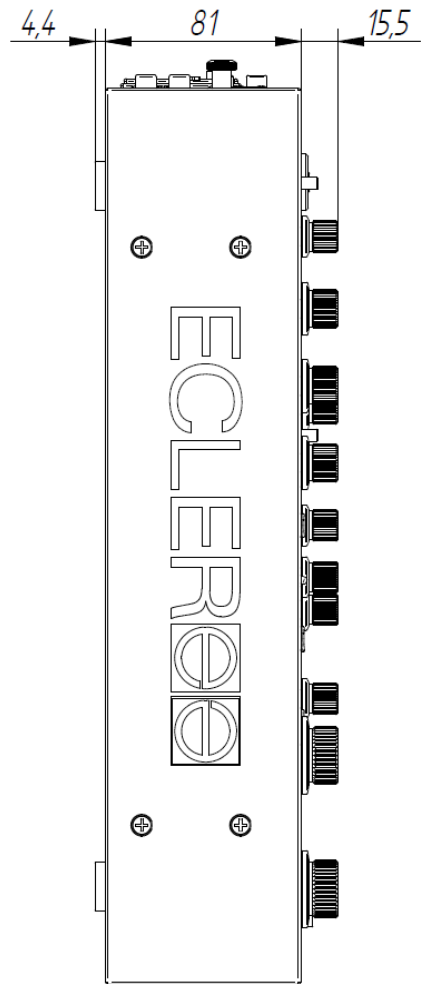
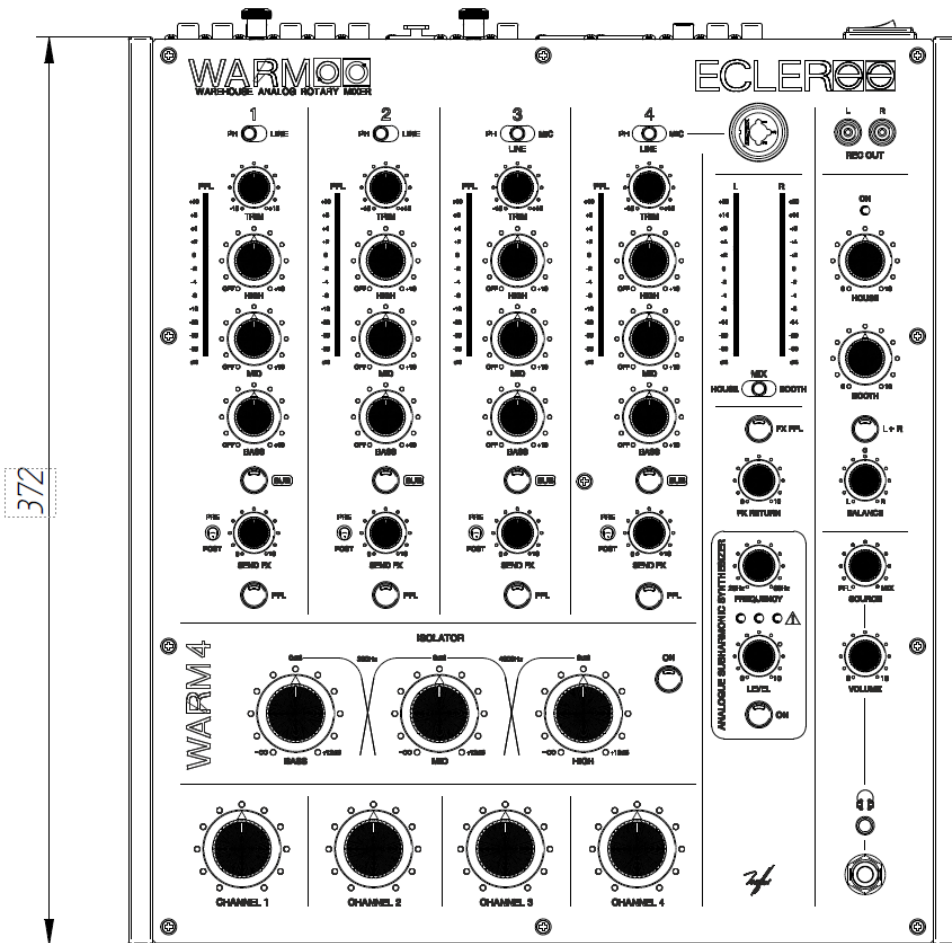
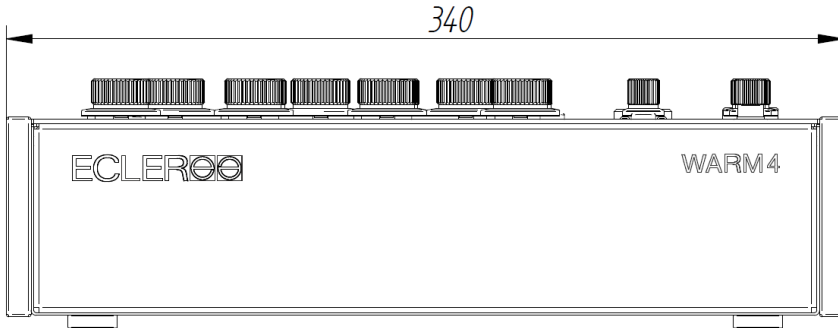
PRECAUTIONS  
WARRANTY & ENVIRONMENT  
PACKAGE CONTENTS  
WARM4 & ECLER HISTORY  
DESCRIPTION & FEATURES  
PANEL FUNCTIONS  
SETUP  
QUICK START  
OPERATION  
TECHNICAL DATA

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
<b>Outputs</b>		
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

## 10.2 Mechanical Diagram

All measurements are in mm.

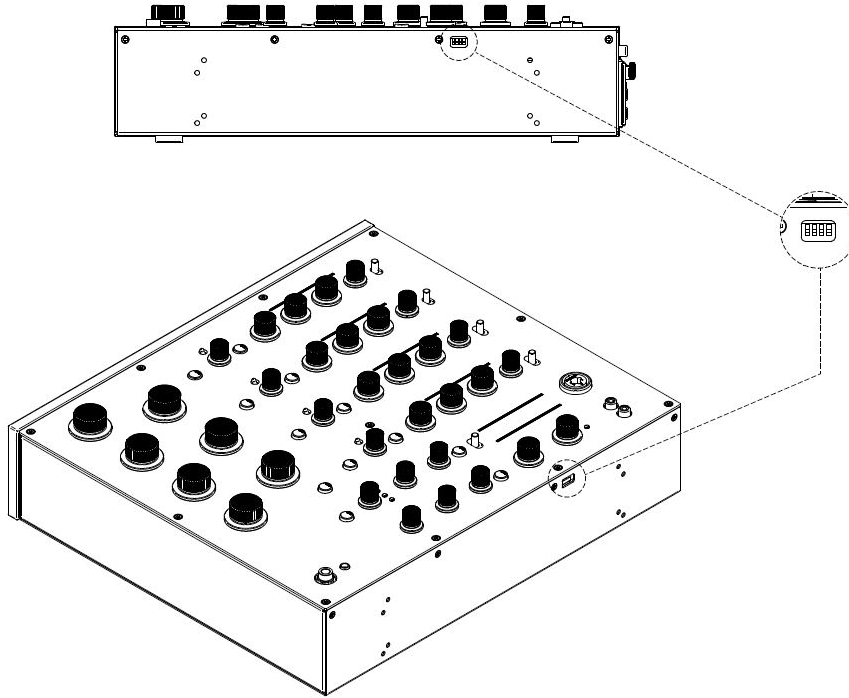


- PRECAUTIONS
- WARRANTY & ENVIRONMENT
- PACKAGE CONTENTS
- WARM4 & ECLER HISTORY
- DESCRIPTION & FEATURES
- PANEL FUNCTIONS
- SETUP
- QUICK START
- OPERATION
- TECHNICAL DATA

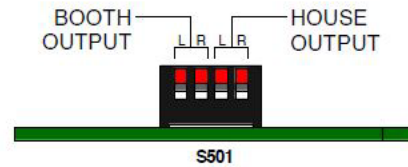
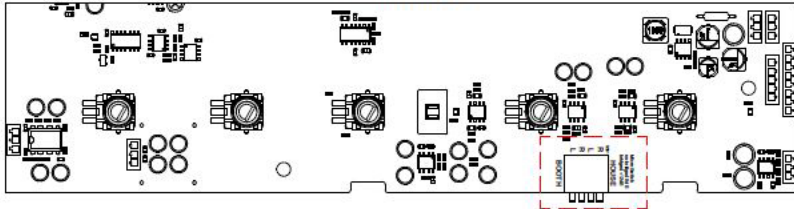
### 10.3 Configuration Diagram

Based 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.

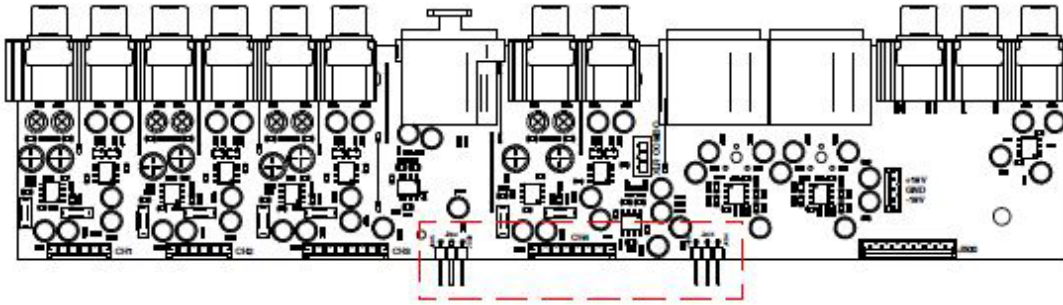


Base circuit  
11.1753.02.00  
FCCI01753000



Outputs 1 circuit

11.1753.02.00  
FCCI01753000



PHANTOM  
FACTORY  
DEFAULT



- PRECAUTIONS
- WARRANTY & ENVIRONMENT
- PACKAGE CONTENTS
- WARM4 & ECLER HISTORY
- DESCRIPTION & FEATURES
- PANEL FUNCTIONS
- SETUP
- QUICK START
- OPERATION
- TECHNICAL DATA

- PRECAUTIONS
- WARRANTY & ENVIRONMENT
- PACKAGE CONTENTS
- WARM4 & ECLER HISTORY
- DESCRIPTION & FEATURES
- PANEL FUNCTIONS
- SETUP
- QUICK START
- OPERATION
- TECHNICAL DATA



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