NUO4.0F

DJ MIXERS

Four Channel Analogue Mixer

USER MANUAL

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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.

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.

2. WARRANTY & ENVIRONMENT

Thank you for choosing our Ecler NUO4.0F!
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** 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_2 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 NUO4.0F Analogue Mixer Unit.
- IEC Main Connector.
- 8x RCA Protection Caps for unused phono inputs
- First Steps Guide.
- Warranty card.

4. NUO4.0F 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, John Acquaviva, Misstress Barbara, C-Rock... 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).

To mark its 60th anniversary and celebrate 20 years of the iconic NUO series (2005–2025), ECLER introduces the NUO4.0F — a professional analogue DJ mixer that fuses the brand's legacy sound with forward-thinking features tailored for today's most demanding DJs.

The NUO4.0F includes two analogue HP/LP VCF filters with variable resonance, assignable to any channel — including the effects return — offering DJs expanded creative control across all styles of club-oriented electronic music.

In response to the growing popularity of back-to-back DJ sets, the NUO4.0F features two fully independent PFL systems, enabling two DJs to pre-listen to any channel simultaneously, with split mode functionality for precise cueing.

Designed with turntablism and advanced scratching techniques in mind, it offers extensive fader and crossfader customization options. It also supports ETERNAL magnetic crossfader, engineered specifically for scratch performance.

Available in two finishes — classic black and vintage silver — the NUO4.0F's exterior design reflects its premium internal architecture, crafted by Domingo Melé, the legendary engineer behind many of Ecler's iconic mixers.

Proudly made in Barcelona, NUO4.0F celebrates six decades of audio innovation and the 20 anniversary of one of its most beloved product lines.

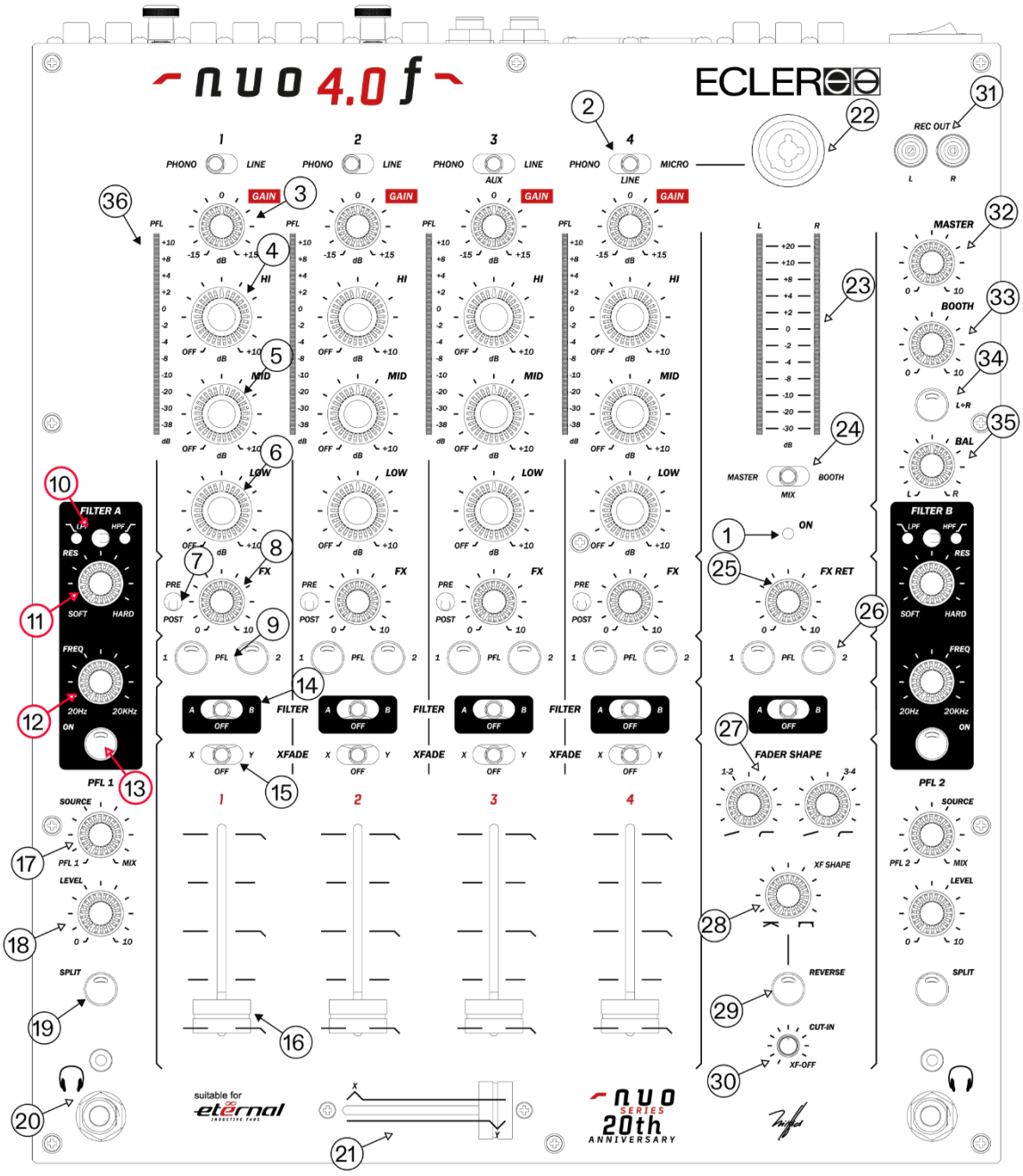
5. DESCRIPTION & FEATURES

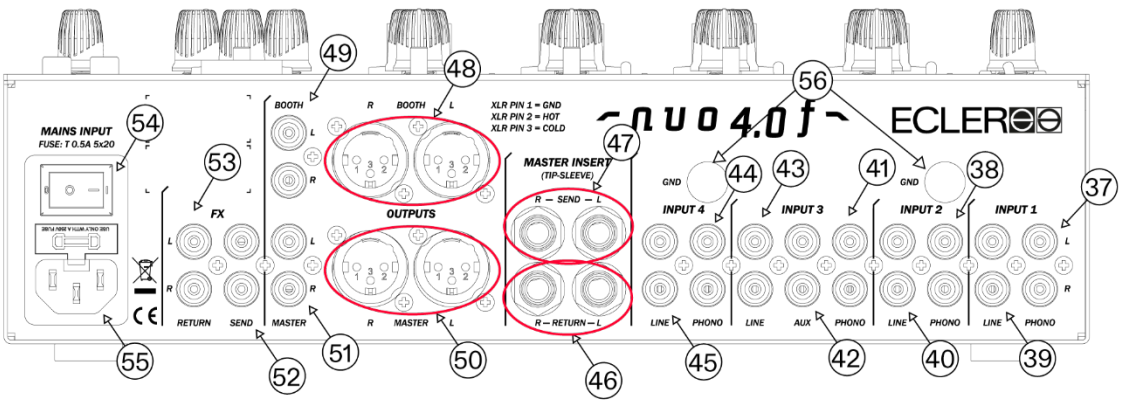
The NUO 4.0F is a 4 channels analogue mixer addressed to the professional DJ that includes two analog VCF filters, offering DJs expanded creative control across all styles of club-oriented electronic music. It also supports the ETERNAL magnetic crossfader.

5.1 Main Features

- 4 Mixing channels.
- 4 PHONO/LINE inputs + 1 AUX input.
- 1 MICRO input on XLR/Jack combo connector.
- Master/Booth Output on XLR and RCA connectors.
- 2 independents headphone PFL outputs, specially designed for B2B.
- 2 HP/LP VCF Filters with variable resonance.
- Maximum Output without distortions: 21dBV (23dBu).
- FX Send control and Pre/Post fader selector per channel.
- FX Return control with PFL.
- Master Insert on 6.3mm Jacks.
- 60mm Ecler Faders with fading curve control.
- Suitable for Ecler ETERNAL crossfader.

6. PANEL FUNCTIONS





1. LED indicator ON
2. Input Selector (PHONO, LINE MIC)
3. Input sensitivity adjust, GAIN
4. Treble control, HIGH
5. Midrange control, MID
6. Bass control, BASS
7. Send switch to effect bus, PRE/POST
8. Effect Send controller, FX SEND
9. Pre-Fader listening control, PFL
10. Filter type
11. Filter resonance
12. Filter frequency
13. Filter activate button
14. Filter routing switch
15. Crossfader routing switch
16. Channel volume control
17. PFL/MIX monitoring control, SOURCE
18. Monitor Headphones Volume control
19. PFL Split
20. Stereo Jacks for Headphones
21. Crossfader
22. MIC Channel 4 balanced input
23. LED VU Meter Mix/House/Booth
24. LED VU Meter switch
25. Pre-Fader FX listening control, PFL
26. FX Return monitoring control
27. Fader curve control (Ch 1-2 and 3-4)
28. Crossfader curve control
29. Crossfader invert button
30. Cut-in Crossfader control
31. REC Output
32. Master volume control, MASTER
33. Monitoring volume control, BOOTH
34. L+R Mono booth activation button
35. Booth balance PAN control
36. LED VU meter Channel 1
37. Phono Input, PHONO 1
38. Line Input, LINE 1
39. Phono Input, PHONO 2
40. Line Input, LINE 2
41. Phono Input, PHONO 3
42. AUX Input, AUX 3
43. Line Input, LINE 3
44. Phono Input, PHONO 4
45. Line Input, LINE 4
46. Master Insert SEND
47. Master Insert RETURN
48. XLR Master Balanced Output: MASTER
49. RCA Master Unbalanced Output: MASTER
50. XLR Monitoring Balanced Output: BOOTH
51. RCA Monitoring Balanced Output: BOOTH
52. External FX send Output: FX SEND
53. External FX return Input: FX RETURN
54. Power Switch
55. Main Socket
56. Phono ground screw

7. SETUP

NUO4.0F 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 NUO4.0F 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	PHONO	Turntable
INPUT 3	AUX	CD or Digital Deck
INPUT 3	LINE	CD or Digital Deck
INPUT 4	PHONO	Turntable
INPUT 4	LINE	CD or Digital Deck
INPUT 4	MICRO	Microphone

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 NUO4.0F PHONO inputs (**37, 39, 41, 44**) 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 GAIN control in order to adjust the input sensitivity in accordance with the cartridges in use.

7.1.2 Line Inputs

The sensitivity of the inputs (**38, 40, 42, 43, 45**) 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 (**22**) 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 NUO4.0F includes 18V phantom power for condenser microphones. An internal jumper allows disabling the phantom power. The NUO4.0F MICRO inputs are delivered with enabled phantom power by default (**see the Configuration Diagrams**).

7.2 Audio Output Connections

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

7.2.1 MASTER Output

This stereo output feeds the PA system through balanced XLR3 connectors (**48**) and an unbalanced RCA (**49**) connector. The nominal level of MASTER 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 Diagrams**). The MASTER output level is controlled by the MASTER potentiometer and can be monitored through the MASTER VU-Meter (**23**) when the VU-Meter switch (**24**) is set to MASTER.

7.2.2 BOOTH Output

Commonly used as an independent local "Booth" output for the DJ. This stereo BOOTH has balanced XLR3 (**50**) and unbalanced RCA (**51**) 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 (**23**) when the VU-Meter switch (**24**) 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 (**31**). 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 **(52)** output and the FX RETURN **(53)** 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 (52) 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 **(53)** can be pre-listened to with the FX PFL button, and the FX return signal added level can be adjusted using the FX RETURN potentiometer.

7.2.5 FX Master Insert Send/Return

Provides INSERT points **(46-47)** for the MASTER outputs to connect any kind of external hardware for effects. It's important to maintain proper gain staging when sending and receiving signals through third-party equipment. The MASTER volume and the VU-Meters are right after the insert points.

⚠ **Keep in mind that inserting a ¼" jack into the master insert return will interrupt the signal path to the master bus. If no signal is returned, or if the external device is powered off or not passing audio, there will be no output to the master bus or meters.**

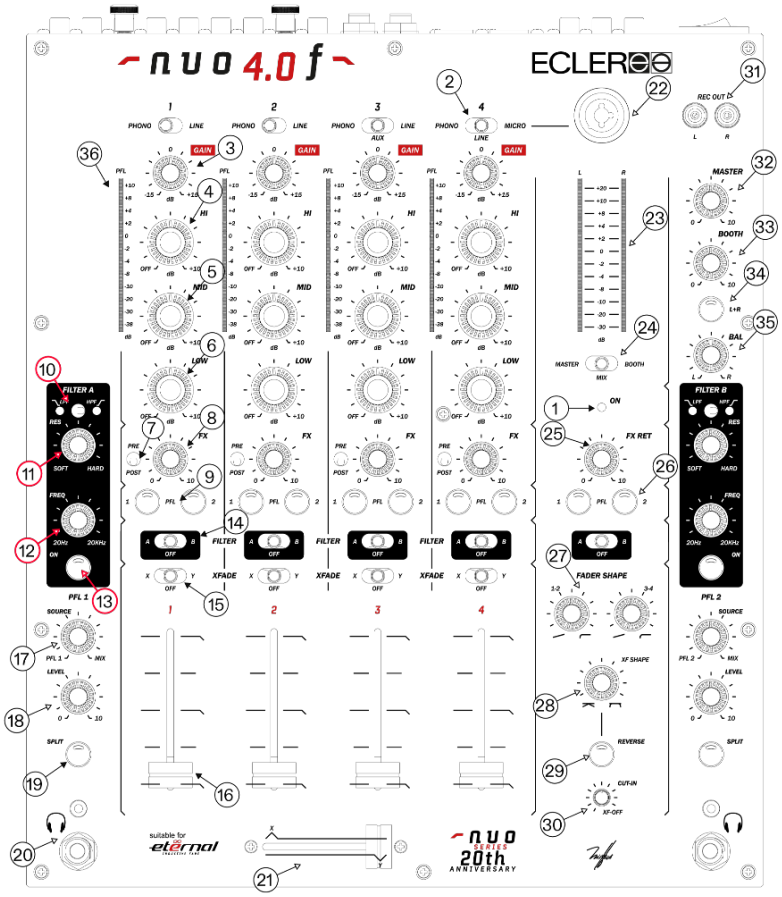
7.2.6 Headphones

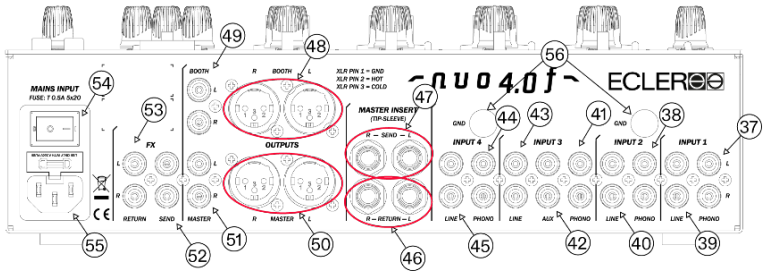
In order to obtain the best performance, headphones should be high impedance type (200-600ohm). Plug them into the MONITOR output (**20**) on the faceplate's lower right corner. 1/4" and 1/8" stereo jack are available for connection. Sleeve is Ground, Ring is Right Channel, and Tip is Left Channel.

8. QUICK START

Install and connect the NUO4.0F mixer as described in the **Setup chapter.**

This quick start guide offers a simple procedure towards the routing and headphone monitoring of a turntable.





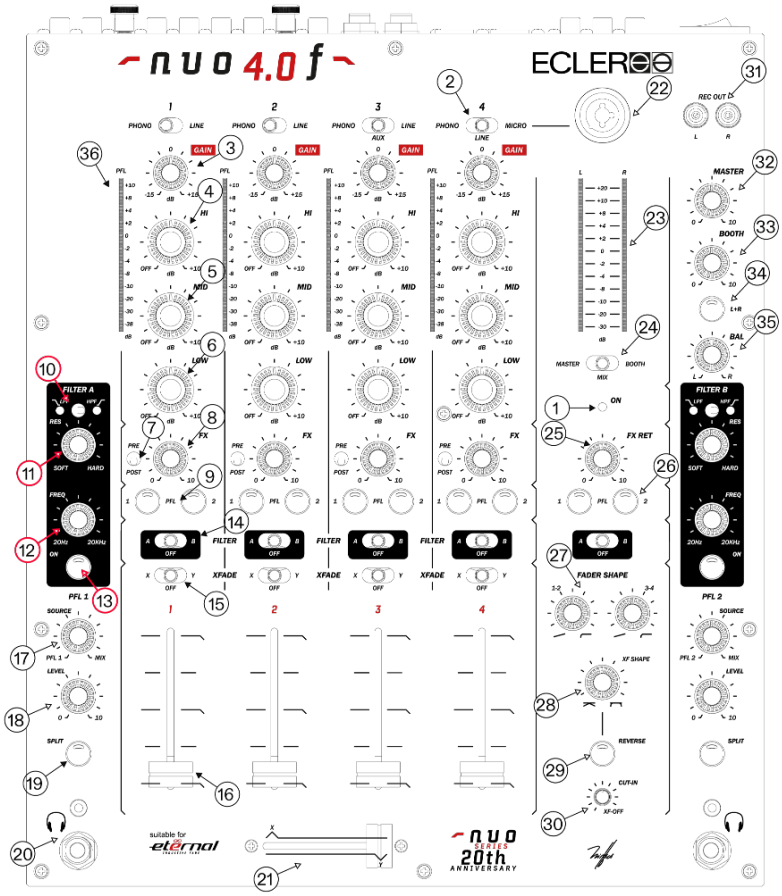
1. **Set the controllers to their initial position**
   Set Channel 1 GAIN, HIGH, MID and BASS (**3, 4, 5 and 6**) rotary controls to their central position. Set the channel fade (**16**) to zero.

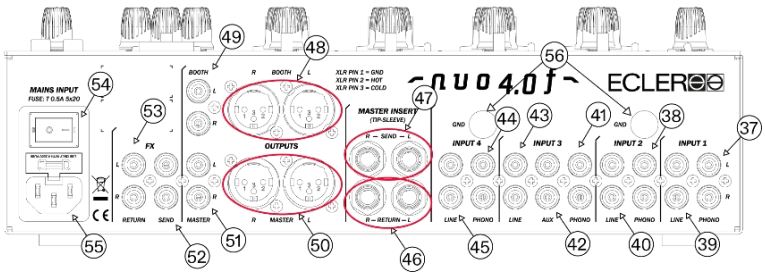
2. **Connect your turntable**
   Connect your turntable to the PHONO input on channel 1 (**37**). Select your favourite record and play it.

3. **Connect the headphones**
   Connect your headphones to the related output (**20**). Set the headphones' VOLUME controller (**18**) to its minimum level and move the SOURCE selector (**17**) to PFL position.

4. **Connect the main power cable**
   Connect the power cable to the power supply input **(55)** and turn it on using the MAINS INPUT switch (**54**). 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 (**9**). The PFL VU-meter (**36**) 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 GAIN (**3**) control until the VU-meter shows 0dB.

7. **Send the signal to the MASTER output**
   Lift up the channel fader (**13**) to its maximum level.

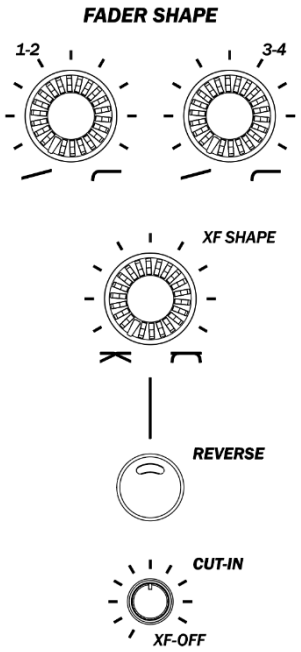
8. **Monitor output through your headphones**
   Adjust the VOLUME controller (**18**) to obtain a comfortable monitoring volume. You should now be able to hear the music through your headphones. Turn the SOURCE controller (**17**) clockwise to crossfade from the PFL signal to the MIX signal. Once this 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 VCF filters.

10. **Check the crossfader operation**
    Verify the crossfader settings. Each channel can be assigned to the crossfader using the X/OFF/Y switch (15). The crossfader allows melting the signals assigned to its sides. If the switch is in position X or Y, the channel is assigned to one or the other side of the crossfader. The OFF position disables the crossfader function for this channel.

11. Adjust the fader and crossfader curve

The XFADER SHAPE control (28) allows you to precisely adjust the skew angle of the crossfader's curve. Turning the controller completely to the left, the two songs will be blend softly. The crossfader's curve raises when turning the controller to the right. Moving the controller completely to the right, the signal will enter suddenly with just a short movement of the crossfader, which is a very suitable feature for scratching techniques. The REVERSE button (29) allows to invert the X and the Y assignment while the CUT-IN potentiometer (30) allows to adjust the cut point just in the case that the ETERNAL crossfader is installed. These features are suitable for scratching techniques. In the same way, the faders 1-2 and the faders 3-4 curves can be adjusted (27), and this feature is suitable for "Back-to-back" performances where each DJ can adjust the fader curve as they prefer.



9. OPERATION

9.1 Start-up

Turn the mixer on by using the switch (54) 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 NUO4.0F, 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, 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. AUX is an additional LINE input.

9.2.2 Channel Gain

All the NUO4.0F input channels have an accessible GAIN 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 (**36**). The standard level reference used to mix audio signals is 0dBV.

9.2.3 Equalization

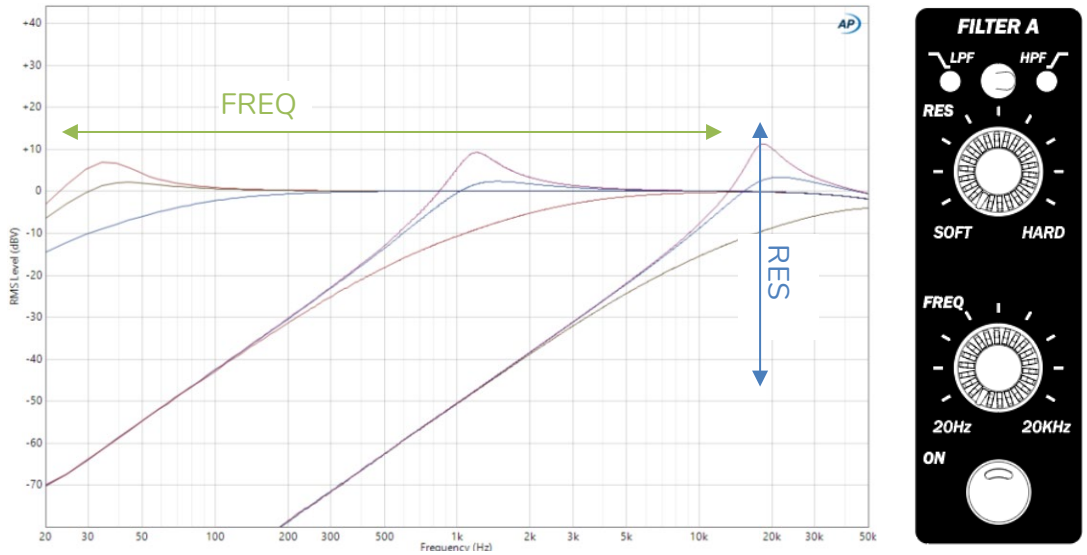
The rotary tone controls for each channel provide a +10/-30dB boost/cut at high (**4**) and low frequencies (**6**), and +10/-25dB at mid range (**5**). This control allows for the equalizing of the track in use, though it may also be employed in endless creative ways.

9.2.4 VCF Filters

In addition to the channel EQ, each channel features two powerful VCF filters. These filters allow their parameters to be adjusted via continuous voltage, enabling precise control of the filter's frequency (**12**) and resonance (**11**).

After routing the signal from each channel or the effects return and activating the filter using its ON button (**13**), you can create an infinite variety of equalization effects by adjusting the filter parameters. The HPF/LPF selector (**10**) lets you choose the type of filter to work with, removing either low or high frequencies.

The frequency (FREQ) and resonance (RES) parameters allow you to achieve different tonal characteristics. The frequency knob sweeps from 20 Hz to 20 kHz, while the resonance control determines how pronounced (up to 12 dB) and "tight" the filter sounds, enabling a wide range of effects. The graph below illustrates an example of a high-pass filter with different frequency and resonance settings.



Since NUO4.0F is a completely analogue device, in the presence of a musical signal and when switching HPF to LPF, clicking sounds may occur, therefore we suggest not making this change live during a performance. This is a normal behaviour in analogue devices and is strong related to the type of the signal and the moment when the filter is applied. The same problem would also arise in routing the channels to the filter and in activating and deactivating the filter, but special circuits have been implemented by Ecler to minimise this issue.

Use both equalization and filters with great care. By over-boosting the low or the high 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 Monitoring System

The NUO4.0F is equipped with two flexible and user-friendly monitoring systems that allow performers to finely adjust PFL (Pre-Fader Listening) and mix levels for each input using the channel VU meter (**36**) and the headphones. Having two pre-fader listening channels (**9**) makes it easier to select, monitor, and mix tracks when two DJs are using the NUO4.0F mixer simultaneously. This eliminates the need to share a single pair of headphones, as each DJ has their own monitoring channel, streamlining back-to-back performances.

Each channel can be visually monitored and pre-listened to by pressing the dedicated PFL (**9**) button for each headphone output.

For headphone monitoring, the SOURCE rotary control (**17**) allows you to blend the selected PFL signal with the main mix program, while the VOLUME rotary control (**18**) adjusts the headphone output level.

9.2.6 Sending to external effects units

FX Send/Return loop (RCA)

All 4 channels of NUO4.0F are equipped with rotating potentiometers (**8**) 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 (**52**) ought to be connected to the effects processor's input, and its output, to the RETURN input (**53**) or to any input LINE. FX Return can be pre-listened to with the FX PFL button (**26**), and the signal level may be adjusted via the FX Return potentiometer (**25**).

The signal sent can be arranged, either PRE or POST fader, operating the PRE/POST toggle switch (**7**).

This effects loop is designed for use with effects that are not time sensitive. When using external digital effects, depending on the type of effect applied, the analog-to-digital and digital-to-analog conversion of the signal sent to the external device, when combined with the original signal, can cause phase cancellations and other undesirable results.

To handle this type of effects, an FX insertion point has been implemented in the master section, as described in the following paragraph.

FX Master Insert Send/Return (Stereo Jacks)

Provides INSERT points for the MASTER outputs to connect any kind of external hardware effects. The SEND outputs (**47**) are connected to the inputs of the external stereo device, and the processed signal is then routed back to the mixer via the RETURN inputs (**46**) of the NUO 4.0F insert. It's important to maintain proper gain staging when sending and receiving signals through third-party equipment.

Keep in mind that inserting a ¼" jack into the master insert RETURN (46) will interrupt the signal path to the master bus. If no signal is returned, or if the external device is powered off or not passing audio, there will be no output to the master bus or VU-meters.

Connections

INSERT SND (**46**): Unbalanced (MONO) ¼"Jack; Tip=Hot [+], Sleeve=Ground.

INSERT RTN (**47**): Unbalanced (MONO) ¼"Jack; Tip=Hot [+], Sleeve=Ground.

9.2.7 Potentiometers, faders and crossfader

Potentiometers

The NUO4.0F is equipped with original Japanese ALPS RK09L metal shaft potentiometers, which offers extremely precise EQ control.

Faders

The NUO4.0F is equipped with the new generation of ECLER 60mm faders (**16**) which are precise, extremely soft and their features withstand over 4.000.000 manipulations, thanks to the ECLER VCA system (VCA: Voltage Controlled Amplifier) The usage of VCA technology allows the modification of the fader's behaviour. On the frontal panel you will find the FADER SHAPE potentiometer (**27**), which allows adjusting the fader's curve so that the volume is proportionally distributed on the fader's range or that it appears suddenly.

Crossfader

Each channel can be assigned to the crossfader (**21**) using the X/OFF/Y switch (**15**). The crossfader allows blending the signals assigned to its sides. If the switch is in position X or Y, the channel is assigned to one or the other side of the crossfader. The OFF position disables the crossfader function for this channel.

The NUO4.0F's crossfader includes a range of controls which allow adjusting its behaviour and make it a really accurate tool. The XFADER SHAPE control (**28**) allows you to precisely adjust the skew angle of the crossfader's curve. Turning the controller completely to the left, the two songs will be melt softly. The crossfader's curve raises when turning the controller to the right. Moving the controller completely to the right, the signal will be introduced abruptly with just a short movement of the crossfader, which is a very suitable feature for scratching techniques.

The REVERSE switch (**29**) inverts the crossfader's direction. Depending on the selected direction, it is possible to perform "cuts" as well as "transforms" moving the crossfader into the same direction.

The electronically correction for the CUT IN (**30**) is only effective if the NUO4.0F has been equipped with the optional ETERNAL crossfader. If it only wears the standard crossfader, the CUT IN potentiometer must remain in the OFF position.

The CUT IN is the existing distance between the physical end of the crossfader and the entering point of the signal. The position with the shortest CUT IN provides a nearly instantaneous signal cut. To find this position the fader has to be set to an end and the CUT IN potentiometer must be turned rightwards until a musical signal can be heard.

To enlarge the CUT IN time, turn the potentiometer to the left. If you want to extend the lifetime of your crossfader, the NUO4.0F allows the installation of the awarded ETERNAL crossfader. This inductive crossfader technology is based on a magnetic control system and is completely contact free. The combination of this technology with an exclusive, mechanical

sliding system provides a soft handling and one of the most precise crossfaders available these days.

The inductive ETERNAL crossfader has been specially designed to execute extreme turntablism techniques, which require an extremely soft and fast movement of the crossfader.

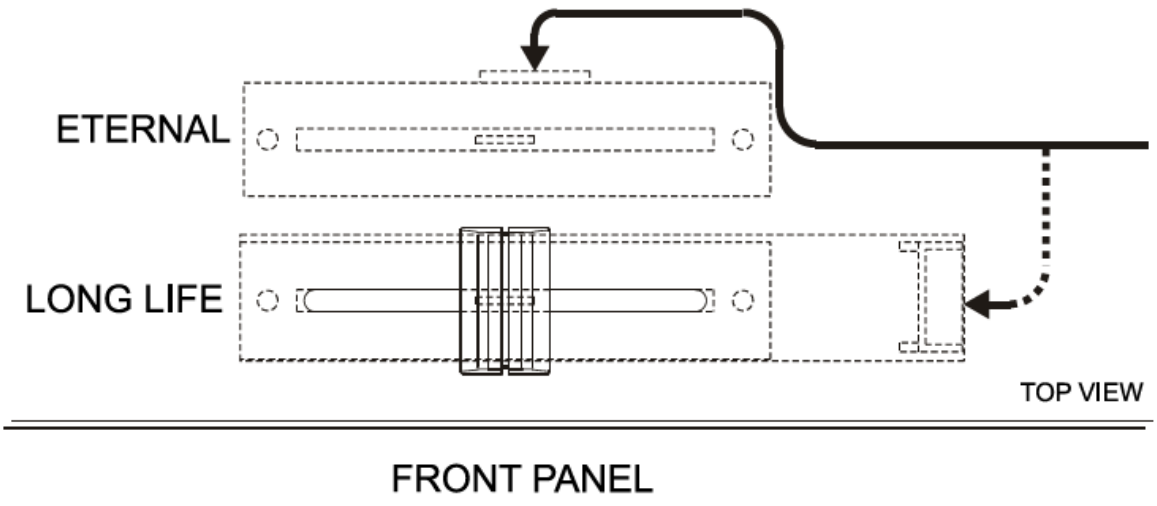
9.2.8 ETERNAL crossfader installation

If you wish to install the ETERNAL crossfader, please accomplish the following instructions:

1. Remove the buttons from the sliding and rotating potentiometers of the mixer surface.
2. Unscrew the outer screws holding the mixer control plate in place and remove it.
3. Remove the two screws holding the crossfader in place and remove it.
4. Carefully disconnect the multipin connector.
5. Replace the crossfader with the ETERNAL crossfader.
6. Connect the multipin connector you disconnected before.
7. Fix it with the two screws. Make sure the orientation is the one described on the drawing.
8. Put the control plate back in place and screw it tight.
9. Put the potentiometer buttons back in place.

⚠ **Always use original ECLER replacement parts.**

⚠ **The replacement of the crossfader must be done by a qualified technician**.



9.2.9 MASTER and BOOTH output levels

NUO4.0F features two main output level controls: MASTER and BOOTH. The master level is controlled by the MASTER **(32)** level knob. The BOOTH level is controlled by the BOOTH **(33)** level knob. For greater monitoring flexibility, it is possible to adjust the BOOTH BALANCE **(35)** in case the two speakers are positioned at different distances. If only one monitor is used, mono summing can be activated using the L+R button **(34).**

Check the Configuration Diagrams chapter to adjust the output level to be adapted to your amplifiers or amplified speakers. Use the MASTER/MIX/BOOTH VU-meter (23) in order to have a real perception of the signal output. Select the signal you want to monitor with the switch (24) below the VU-Meter (House-MIX-Booth).

MASTER output is electronically balanced; therefore, the unbalanced level always matches the balanced level.

NUO4.0F 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 NUO4.0F 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 MASTER 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.

10. TECHNICAL DATA

10.1 Technical Specifications

NUO4.0F

AUDIO PERFORMANCES

Inputs

Number of Inputs	LINE	5 Stereo Unbalanced Inputs
	PHONO	4 Stereo Unbalanced Inputs
	MICRO	1 Mono Balanced Inputs
	FX RETURN	1 Stereo Unbalanced Input
Connectors type	LINE 1-2-3-4	RCA STEREO
	PHONO 1-2-3-4	RCA STEREO
	AUX	RCA STEREO
	MICRO 4	Combo XLR3F-6.3mm TRS BAL
	FX RETURN	RCA STEREO
Inputs Sensitivity nom/Impedance	LINE	0dBV/50kΩ
	PHONO	-40dBV/50kΩ
	MICRO	-50dBV/>1kΩ
	FX RETURN	0dBV/>6kΩ

Performances

Frequency Response	LINE	10Hz÷30kHz -1dB
	MICRO	10Hz÷25kHz -1dB
	PHONO	RIAA ±0.5dB
	FX RETURN	10Hz÷50kHz -1dB
THD+N	LINE	<0.03%
	MICRO	<0.08%
	PHONO	<0.08%
	FX RETURN	<0.003%
CMMR	MICRO	>75dB @ 1kHz
Signal Noise Ratio	LINE	>103dB
	MICRO	>85dB
	PHONO	>90dB
	FX RETURN	>110dB
Trim control	INPUTS 1-2-3-4	± 15dB
Tone control Inputs 1-2-3-4	BASS	+10/-30dB
	MID	+10/-25dB
	TREBLE	+10/-30dB
Tone cut frequency at -6dB (slope 12 dB/oct)	BASS	200Hz
	MID	200Hz÷6.8kHz
	TREBLE	6.8kHz
VCF Filters	Frequency	20Hz÷20kHz
	Max Resonance	+12dB

Outputs		
Number of Outputs	HOUSE	1 Stereo Balanced Outputs
		1 Stereo Unbalanced Outputs
	BOOTH	1 Stereo Balanced Outputs
		1 Stereo Unbalanced Outputs
	HEADPHONE	4 Stereo Unbalanced
		Outputs (2 independents
		PFL)
	FX SEND	1 Stereo Unbalanced
	REC	1 Stereo Unbalanced
Connectors Type	HOUSE	XLR3-M STEREO
		RCA STEREO
	BOOTH	XLR3-M STEREO
		RCA STEREO
	HEADPHONE	2 Jack Stereo 6.3mm
		2 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	200mΩ/200Ω THD 1%
	FX SEND	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	60mm long faders by Ecler
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)

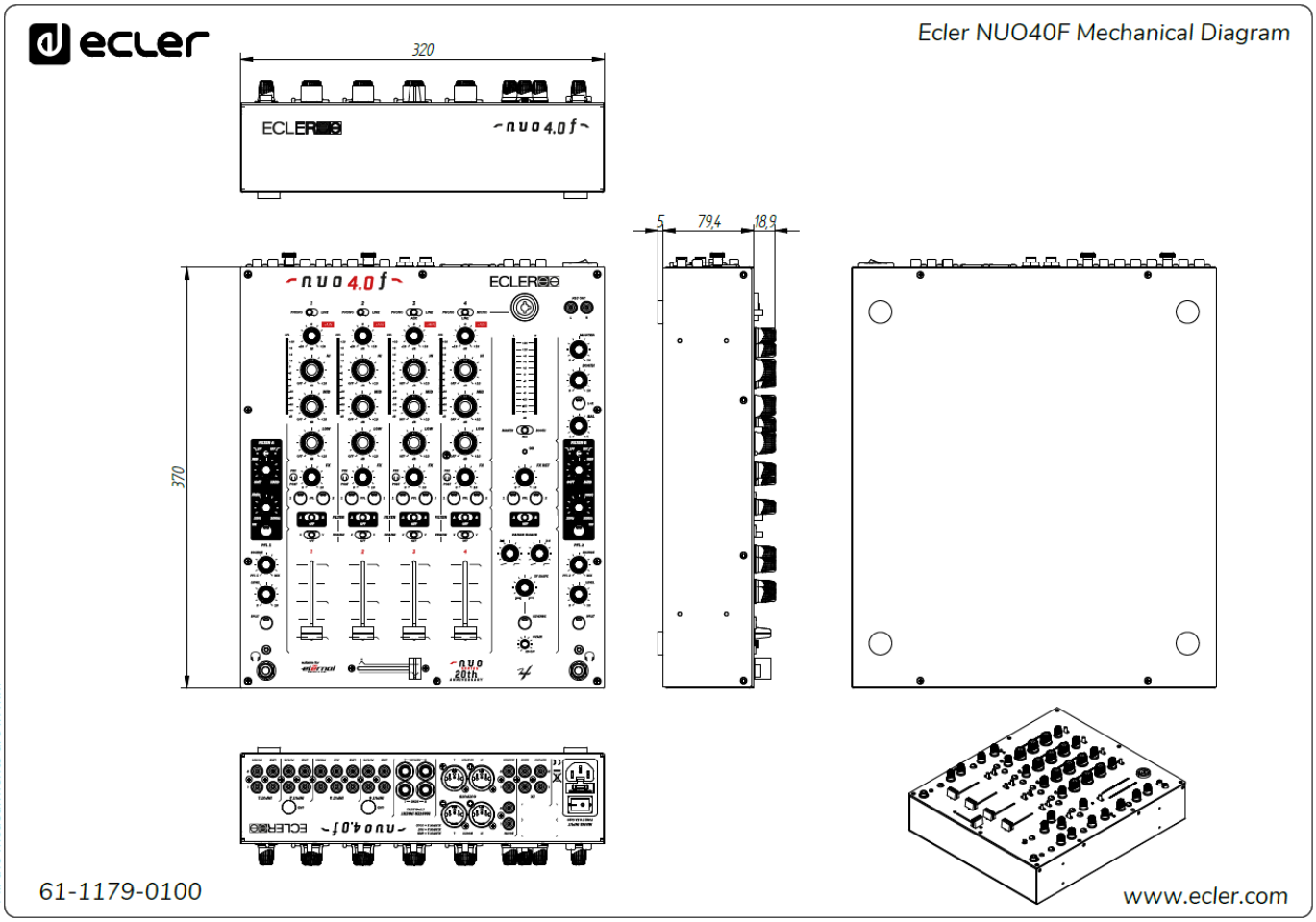
ELECTRICAL	
Power Supply	Internal
AC Mains Voltage	90-264VAC 47-63Hz
AC Main Connector	15A IEC inlet connector
Rated power consumption	37 VA

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 / 8 RCA caps for unused phono inputs.
Optional Accessories	Ecler ETERNAL crossfader
Dimensions (WxHxD)	320 x 79.4 x 372 mm / 12.60 x 3.13 x 14.65 in
Weight	4.72 Kg / 10.41 lb
Shipping Dimensions (WxHxD)	495 x 175 x 435 mm / 19.49 x 6.89 x 17.13 in
Shipping Weight	6.14 Kg / 13.54 lb

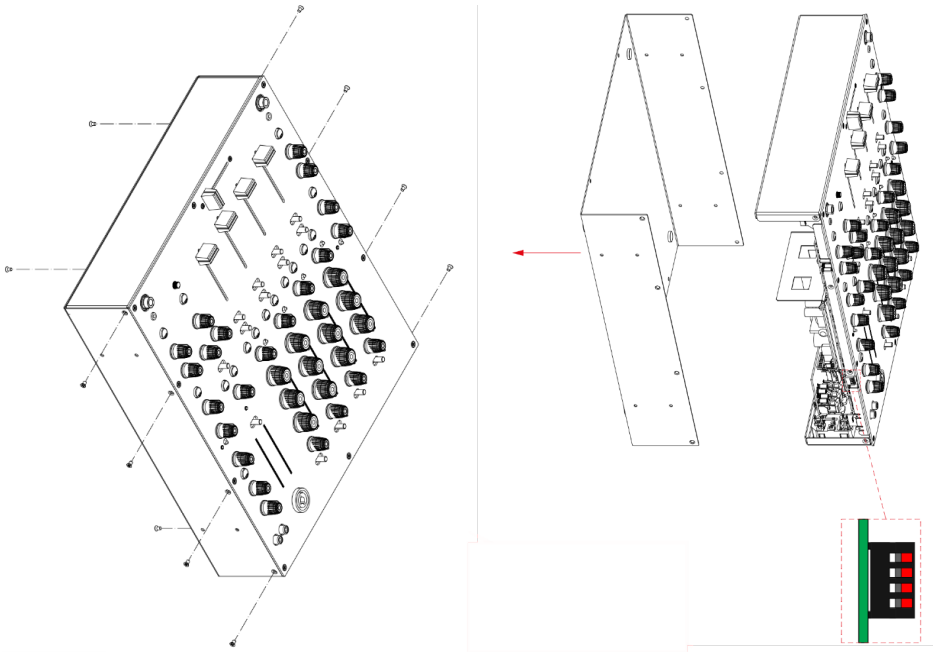
10.2 Mechanical Diagram

All measurements are in mm.



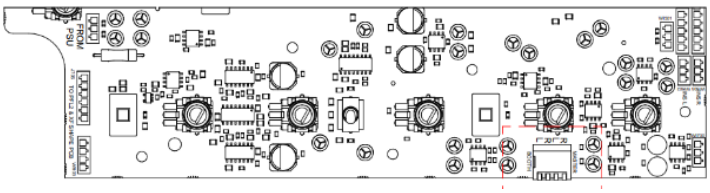
10.3 Configuration Diagrams

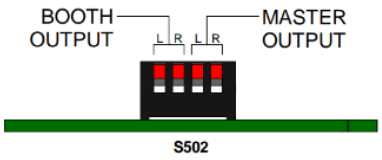
Based on the requirements of the devices connected to the mixer outputs, it is possible to change the output level by increasing it by 12dB and it is possible to disable the phantom power that is enabled by default.

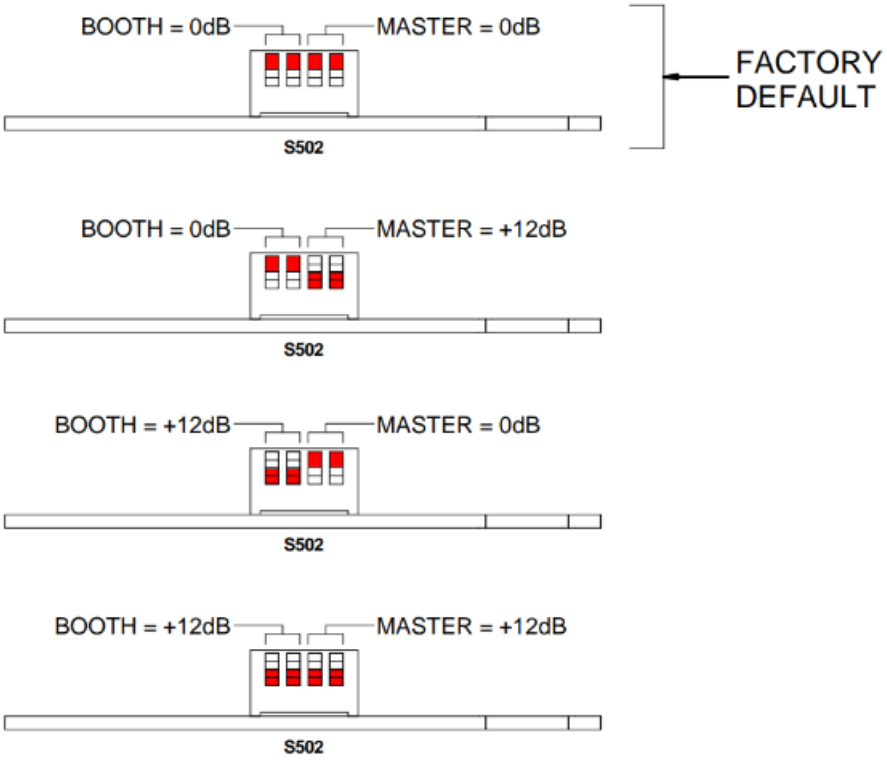


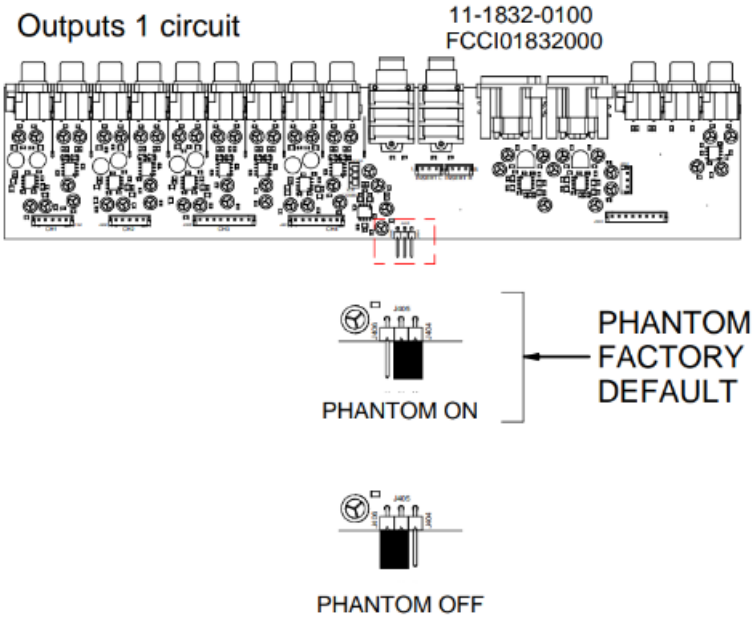
Base circuit

11-1815-0100
FCCI01815000

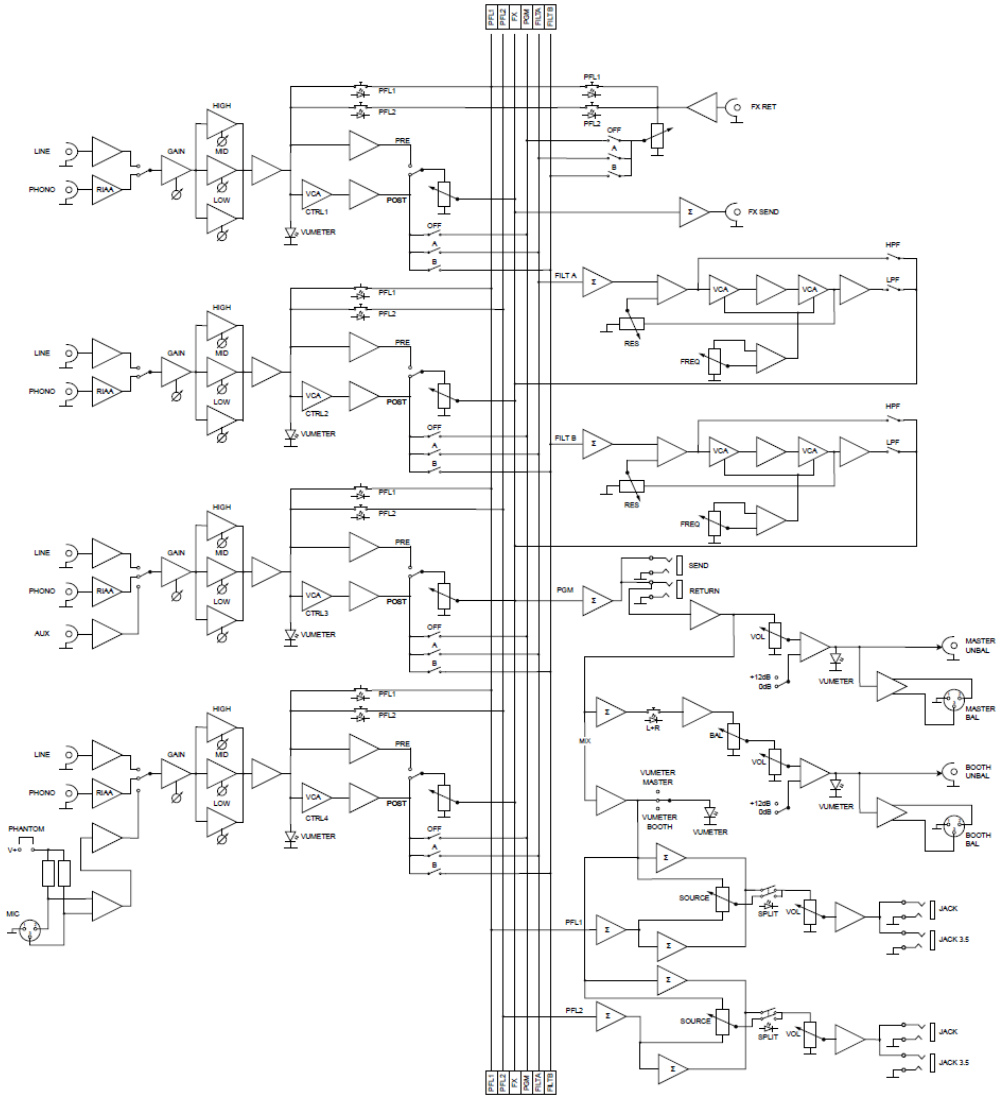


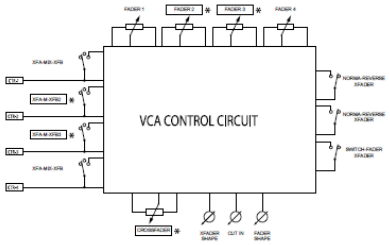



BOOTH = 0dB
MASTER = 0dB
FACTORY DEFAULT
S502
BOOTH = 0dB
MASTER = +12dB
S502
BOOTH = +12dB
MASTER = 0dB
S502
BOOTH = +12dB
MASTER = +12dB
S502


Outputs 1 circuit
11-1832-0100
FCCI01832000
PHANTOM FACTORY DEFAULT
PHANTOM ON
PHANTOM OFF

10.4 Blocks Diagram





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