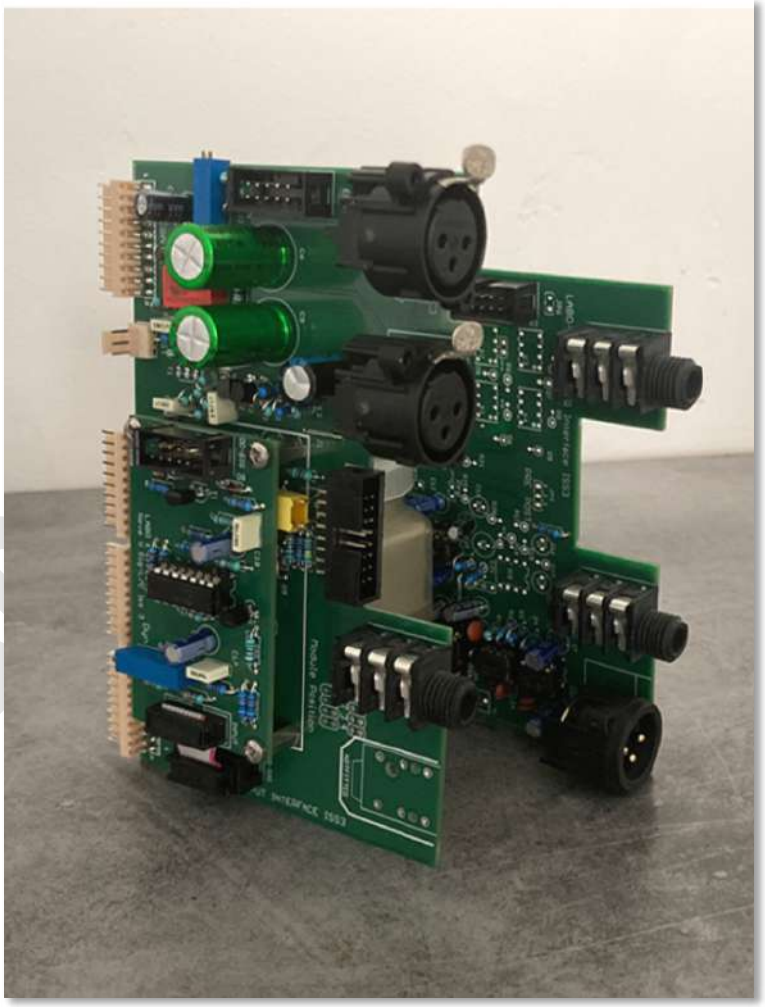
# LABO ★ K EFFECTS

## CONNECTION KIT FOR NEVE V SERIES PREAMP+EQUALIZER

ISS 3.2



# CONTENTS


*Introduction ..... 4*
*Positioning dynamics, EQualizer and insert ..... 5*
*Display options ..... 6*
*Kit overview ..... 7*
*agreements ..... 8*
*Options guide ..... 9*
*Input interface card assembly instructions part 1 ..... 10*
*Input interface card assembly instructions part 2 ..... 11*
*Installation instructions instrument input option part 1 ..... 12*
*Installation instructions instrument input option part 2 ..... 13*
*Installation instructions instrument input option part 3 ..... 14*
*Installation instructions signal overload option part 1 ..... 15*
*Installation instructions signal overload option part 2 ..... 16*
*Installation instructions signal overload option part 3 ..... 17*
*Assembly instructions sig/lc plug-in card part 1 ..... 18*
*Assembly instructions sig/lc plug-in card part 2 ..... 19*
*Assembly instructions sig/lc plug-in card part 3 ..... 20*
*Assembly instructions sig/lc plug-in card part 4 ..... 21*
*Assembly instructions sig/lc plug-in card part 5 ..... 22*
*DLX plugin board assembly instructions part 1 ..... 23*
*DLX plugin board assembly instructions part 2 ..... 24*
*DLX plugin board assembly instructions part 3 ..... 25*
*DLX plugin board assembly instructions part 4 ..... 26*
*DLX plugin board assembly instructions part 5 ..... 27*
*DLX plugin board assembly instructions part 6 ..... 28*
*EQ interface board assembly instructions part 1 ..... 29*
*EQ interface board assembly instructions part 2 ..... 30*
*EQ interface board assembly instructions part 3 ..... 31*
*EQ interface board assembly instructions part 4 ..... 32*
*Assembly instructions matrix insertion option ..... 33*
*Installation instructions LED meter part 1 ..... 34*
*Installation instructions LED meter part 2 ..... 35*
*Installation instructions LED meter part 3 ..... 36*
*Installation instructions LED meter part 4 dlx ..... 37*
*Analog vumetre assembly instructions part 1 ..... 38*
*Analog vumetre assembly instructions part 2 ..... 39*
*Analog vumetre assembly instructions part 3 ..... 40*


LABO ★ K EFFECTS

*Assembly instructions signalling options* ..... 41
*Making the connection cables* ..... 42
*Chain of dynamics* ..... 43
*wiring the elements part 1* ..... 44
*wiring the elements part 2* ..... 45
*Checks* ..... 46
*Settings and adjustments* ..... 47
*Input interface board components list part 1* ..... 48
*Input interface board components list part 2* ..... 49
*List of sig/lc plugin board components* ..... 50
*List of DLX plugin board components* ..... 51
*List of sig/lc led board components* ..... 52
*List of DLX led board components* ..... 53
*EQ interface board components* ..... 54
*Insert matrix components* ..... 55
*LED vumetre driver components* ..... 56
*Analog vumetre driver components* ..... 57
*Pinouts* ..... 58
*Drilling template* ..... 59
*Drilling template* ..... 60

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# INTRODUCTION

This kit allows to interconnect one NEVE V series preamp module and one equalizer module to put them into a Rack.
The kit also allows to connect inputs, outputs and power supply necessary for the use of the set.
The PSU bus system allows to connect up to 8 modules (4 preamp and EQ pairs) rather arranged vertically.
This bus also allows to wire the side chain function of the compressors / gates.
It connects the inputs, outputs and power supply needed to use the unit by minimizing the wiring perform.
Adding an optional High impedance Instrument input is provided to the kit.
The "plug and play" design of this kit is usefull to verify the proper operation of modules before moving on to the racking.

**Possibilities provided by this kit.**

- Configurable position of dynamics, equaliser and insertion.
- Provision for 2 LED and analogue VU meter drivers.
- Planned installation of a high-impedance instrument input following the path of the microphone preamp via its input transformer.
- Addition of a rotary fader

**Optional accessories**

| | |
|---|---|
| **Labo★K Effects Neve V PSU Kit**<br><br>Regulated PSU +48V, +/-16V,-15VLogic<br>(Kit or Built and tested)<br><br>*Transformer not supplied* |  |
| **Labo★K Effects Mounting clip**<br><br>Matching NEVE 51 and V series<br>Allow to fix module on front plate.<br>Matching with Input & Equalizer. |  |

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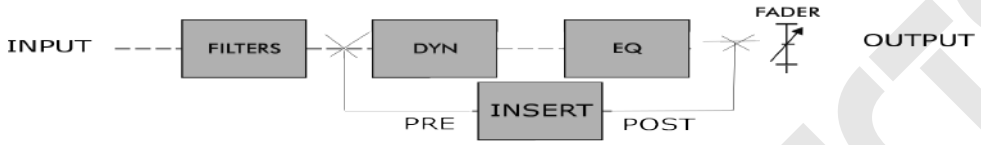


For proper operation of the unit, it is advisable to use modules in good conditions and with coupling capacitors that will have been replaced if necessary.
The poor condition of the capacitors can greatly affect the sound quality or even cut the signal. Similary, one will ensure that the various switches have been cleaned using a contact cleaner spray.

**4 modes for matrixing dynamics, Equalizer and Insertion:**

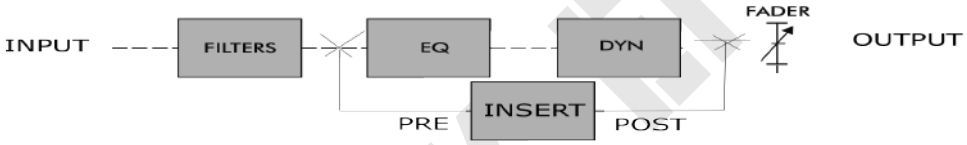
- **Standard**

The audio path passes through the dynamics, the equaliser and the insert.
The **PREQ** button on the equaliser module places the insert at the beginning of the chain.



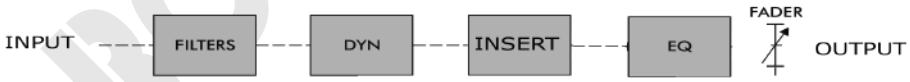

- **Swap**

This mode swaps the position of the dynamics and the equaliser.
The **PREQ** button on the equalizer module places the Insert at the start of the chain.



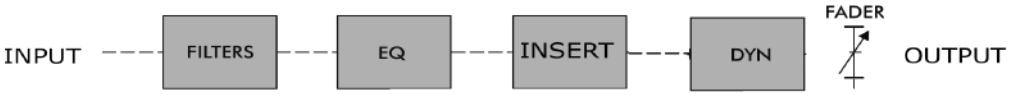

- **Mid**

This mode places the insert between the dynamics and the equaliser.
The **PREQ** button on the equaliser module is not used.




- **Mid** and **Swap** together

This mode places the insert between the equaliser and the dynamics.
The **PREQ** button on the equalizer module is not used.



# DISPLAY OPTIONS

**Various signal display options are available:**

- Display of input/output signal via LED meter.
- LED display to indicate presence of signal or overload.
- Display of input or output signal via analogue meter.
- Display of gain reduction via two-colour LED (Type V3 Sig/LC LED).
- 8 LED gain reduction display (VR DLX LED type)



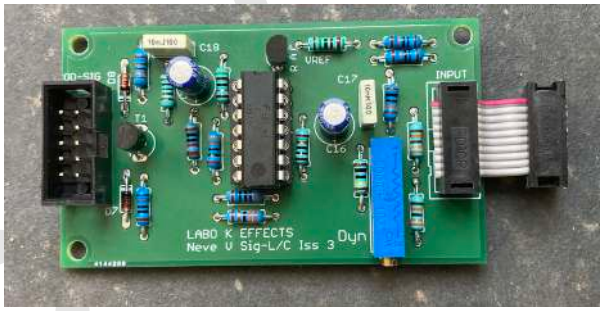
Standard LED



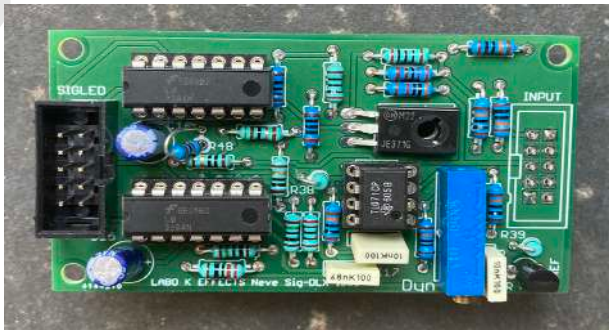
DLX LED

**<u>Optional features</u>**

- An adjustable threshold signal and overload detector on the Input card.
- An LED vumeter driver on the EQ board.
- An analogue vumeter driver on the EQ card.
- A gain reduction led bi-colour V3 measurement system (Sig/LC plug-in card).




- An 8-LED gain reduction measurement system VR type (DLX plug-in card).




- A high-impedance input with FET transistors on the Input card.
- Possibility of adding an output fader/potentiometer to the EQ card.

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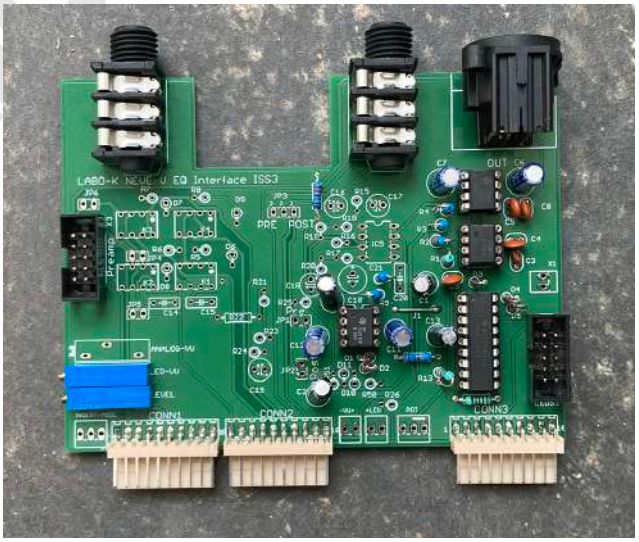
**A card (Input interface) to connect:**

- 1 Preamp/Dynamic module
- Micro, Line and Key inputs
- Signal indicators and gain reduction of the compressor. (optional)
- PSU Bus, Dynamic link
- 1 high impedance instrument input (option).



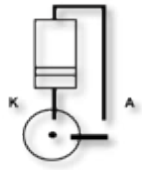

**A card (EQ interface) to connect:**

- 1 Equalizer Module
- PSU bus.
- Un vumètre à LED et/ou analogique (option)
- 1 +4db balanced output (stage fitted on the PCB)
- Insertion send balanced.
- Insertion return balanced.
- 1 volume fader (option)

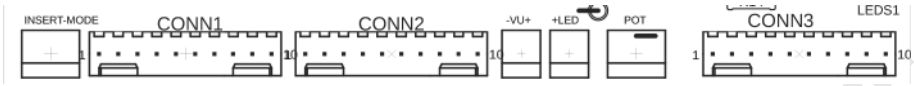


### Component layout

Vertical layout of diodes

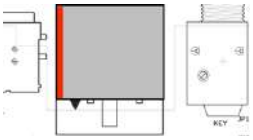



Straps are made using component tails.
The tabs of the Molex KK connectors is located on the edge of the board.




### Locating

Pin 1 of the Molex KK connectors is on the left.
Pin 1 of the IDC connectors is marked with a triangle.



### Wiring

Molex connectors
The various connections via male Molex KK connectors are made using soldered wires sleeved onto the pins.
It is of course possible to crimp the cables into female Molex KK connectors (not supplied) to make these connections.

KK female connectors to be used
Molex **KK254**
Crimps **08-50-0032**

IDC connectors
Only IDC connectors are supplied with the kit.
The ribbon cable to be used is 28 AWG pitch 1.27 with 16 strands.
For IDC 10 connectors, 6 strands must be removed from cable 16, keeping the red strand. The ribbons in the VU/Gain reduction section have 20 strands to be separated into 2 x 10 once the 20-pin connector has been crimped. This will form a Y with 2 10-pin connectors at the end of the 2 legs.

Shielded cables
The instrument input and potentiometer are wired using shielded pairs such as Mogami 3931-2 pairs, for example. 1 meter will be sufficient for 2 channels.

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building the Input interface card

| Basic version | |
|---|---|
| Pages Assembly instructions | Pages Components list |
| 10-11 | 46 |
| Instrument input | |
| 12-13-14 | 46 |
| V3 type LED meter display with gain reduction (Sig L/C) | |
| 15-16-17-18-19-20-21 | 47-48-50 |
| VR type LED meter with gain reduction (DLX) | |
| 15-16-17-22-23-24-25-26 | 47-49-51 |

.

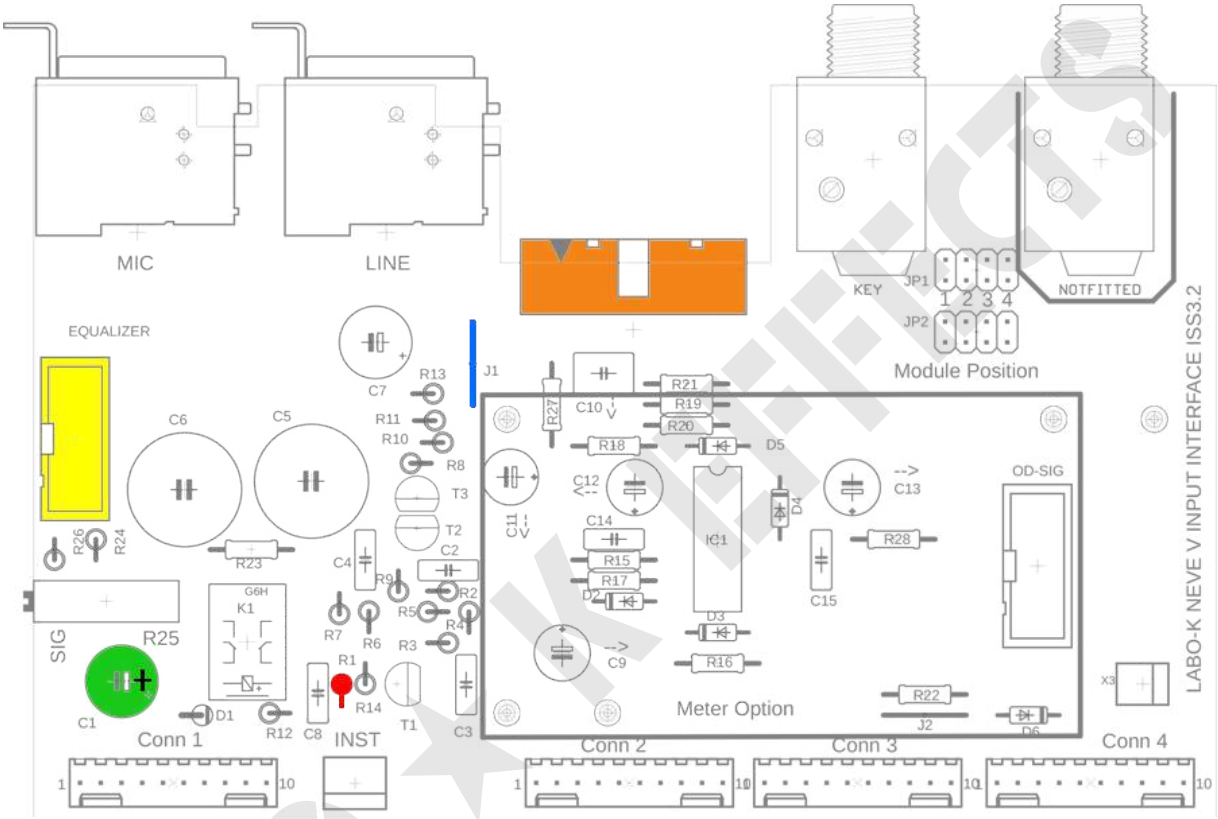
Réalisation de la carte EQ interface

| Basic version | |
|---|---|
| Pages Assembly instructions | Pages Components list |
| 27-28-29-30 | 52 |
| Insertion matrix | |
| 31 | 53 |
| V3 type LED meter display with gain reduction (Sig L/C) | |
| 32-33-34-39 | 54 |
| VR type LED meter with gain reduction (DLX) | |
| 32-33-34-35-39 | 54 |
| Analog Vumeter | |
| 36-37-38 39 | 55 |

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# INPUT INTERFACE CARD ASSEMBLY INSTRUCTIONS PART 1

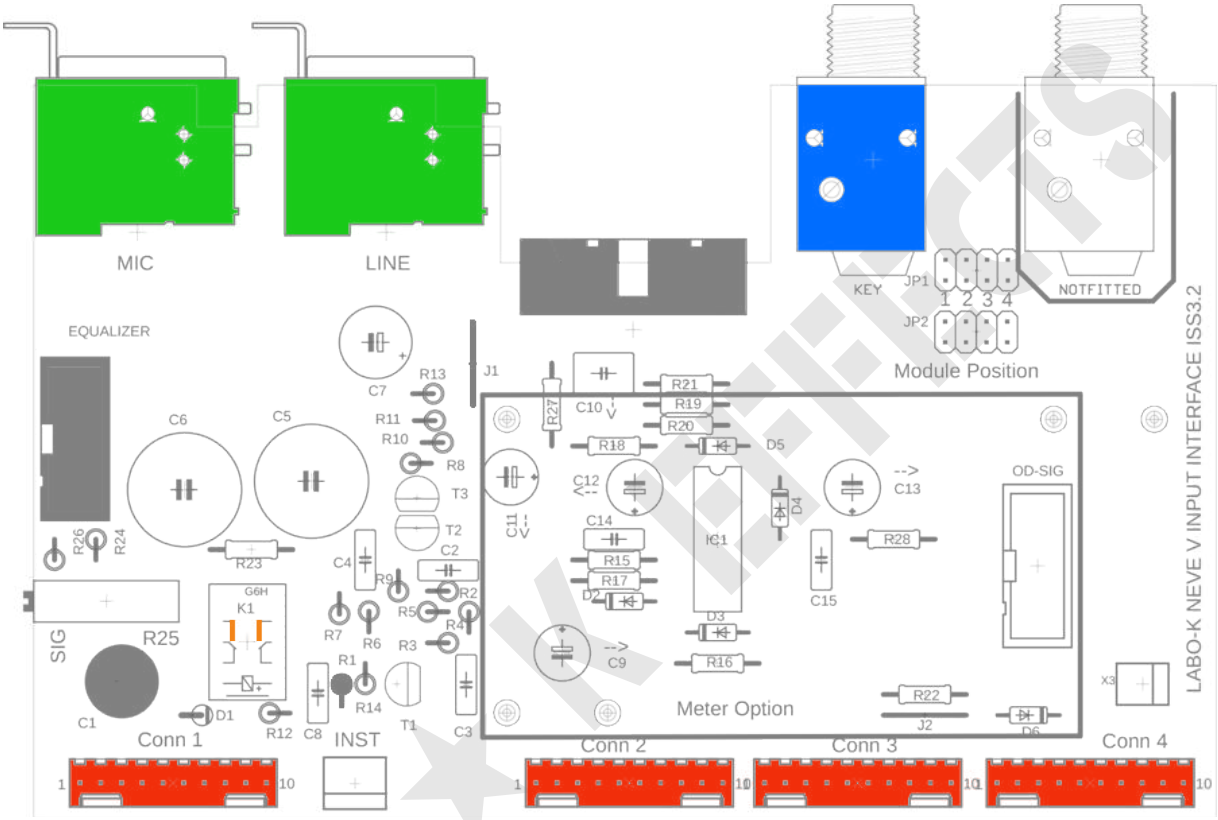
| | | | |
|---|---|---|---|
| | 100R | R1 | 1 |
| | 47u63V | C1 | 1 |
| | J1 | Strap (component tail) | 1 |
| | IDC 16 | PSU BUS | 1 |
| | IDC 10 | Equalizer | 1 |




| **Pay attention to :** |
|---|
| |
| The + side of the polarised capacitor (generally the longer leg) |
| |
| IDC 10 connector notch |
| |

# INPUT INTERFACE CARD ASSEMBLY INSTRUCTIONS PART 2

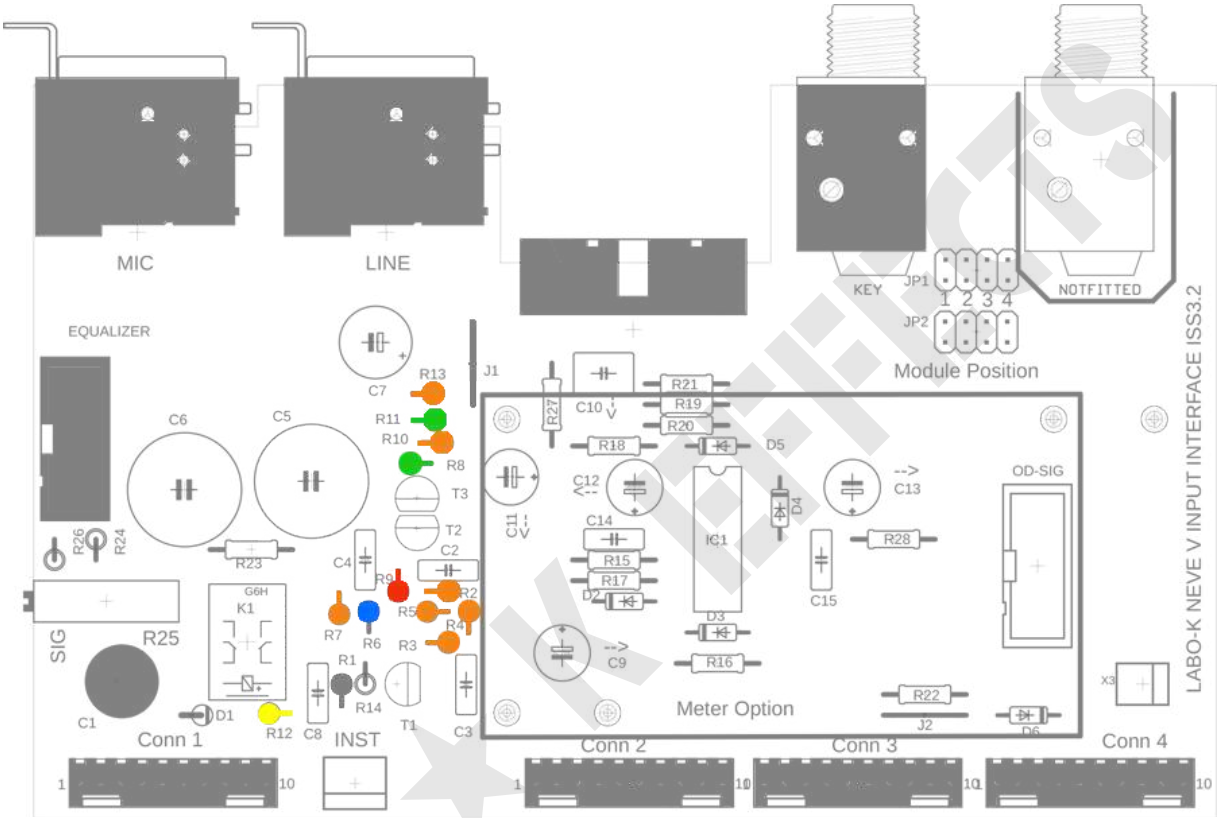
| | | | |
|---|---|---|---|
| | KK 10 connector | Conn1 – Conn4 | 4 |
| | XLR F | MIC, LINE | 2 |
| | TRS Jack | KEY | 1 |
| | Strap | **Only if Di input is not used** | 2 |
| | | | |




| **Pay attention to :** |
|---|
| |
| KK10 connector orientation |
| |
| |
| |

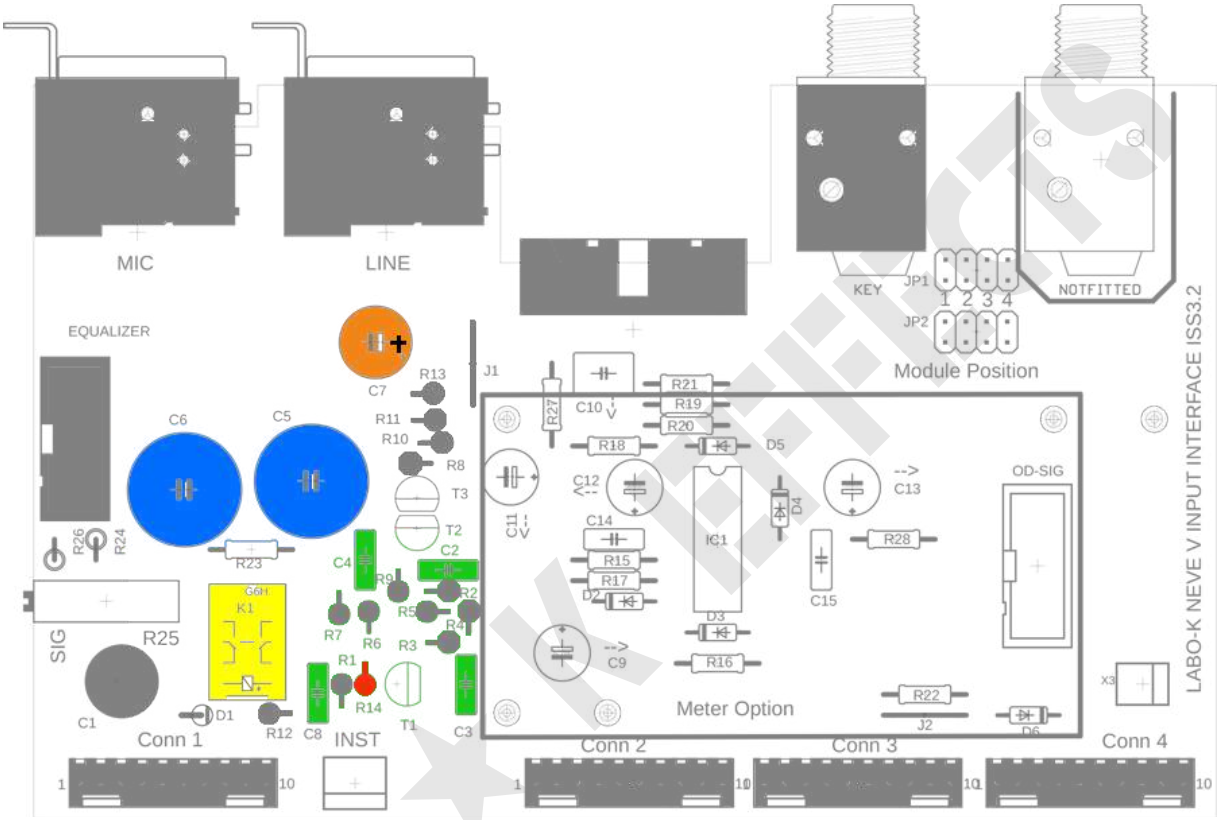
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| | | | |
|---|---|---|---|
| | 22R | R9 | 1 |
| | 100R | R8, R11 | 2 |
| | 470R | R6 | 1 |
| | 2M2 | R2, R3, R4, R5, R7, R10, R13 | 7 |
| | 360R | R12 | 1 |




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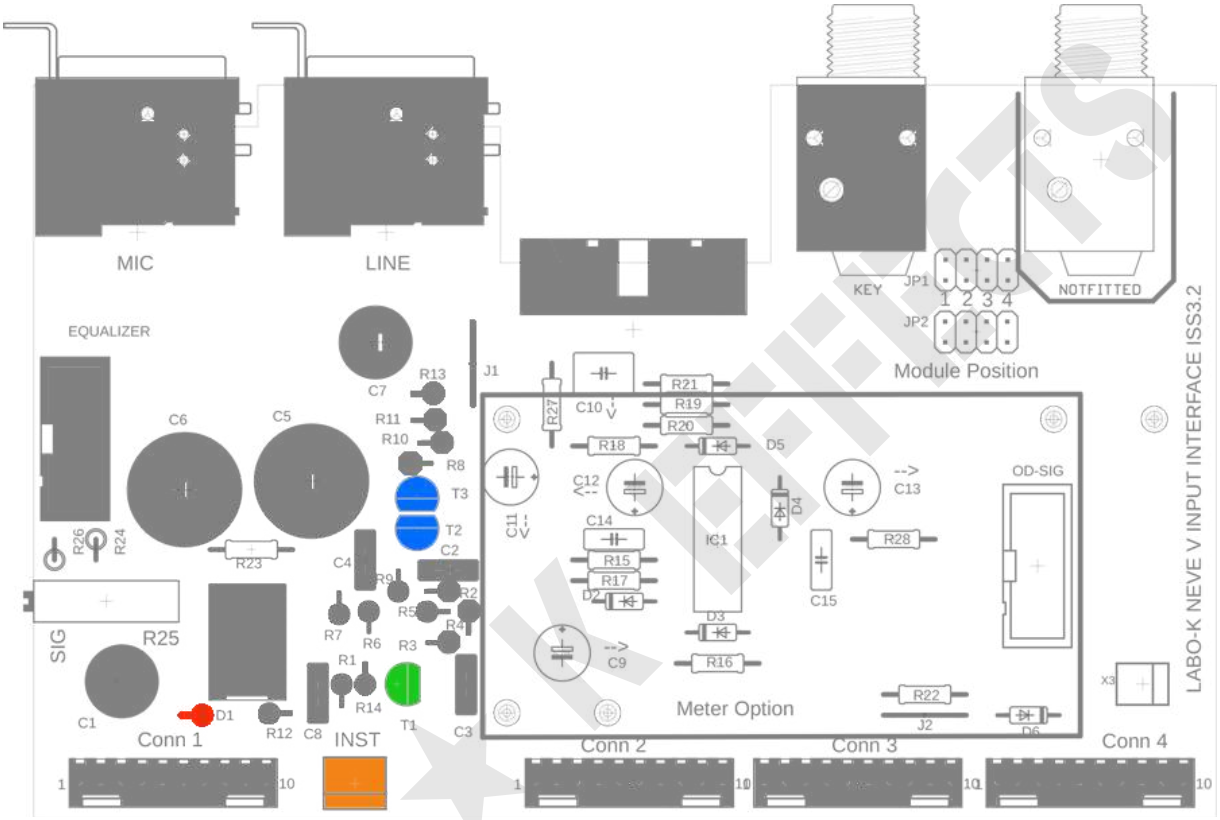
| | | | |
|---|---|---|---|
| | 10K | R14 | 1 |
| | 100n Film | C2, C3, C4, C8 | 4 |
| | 100u63V BP | C5, C6 | 2 |
| | 100u63V | C7 | 1 |
| | Relay | K1 | 1 |




| **Pay attention to :** |
|---|
| |
| Relay positioning |
| |
| |
| |

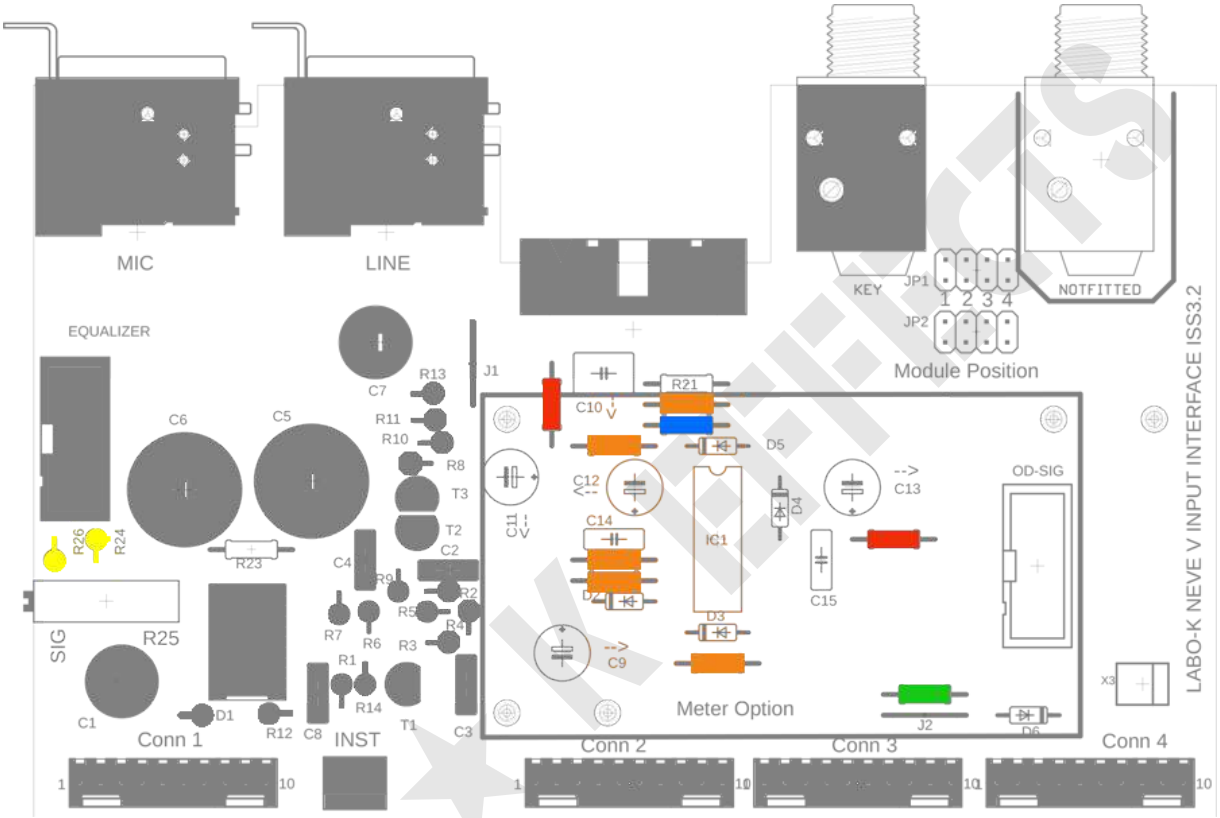
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| | | |
|---|---|---|
| | 1N4148 | D1 |
| | 2N3904 | T1 |
| | K170 BL | T2, T3 |
| | KK 3 | INST |
| | | |




| **Pay attention to :** |
|---|
| |
| Diode polarity |
| Transistor orientation |
| KK3 connector orientation |
| |

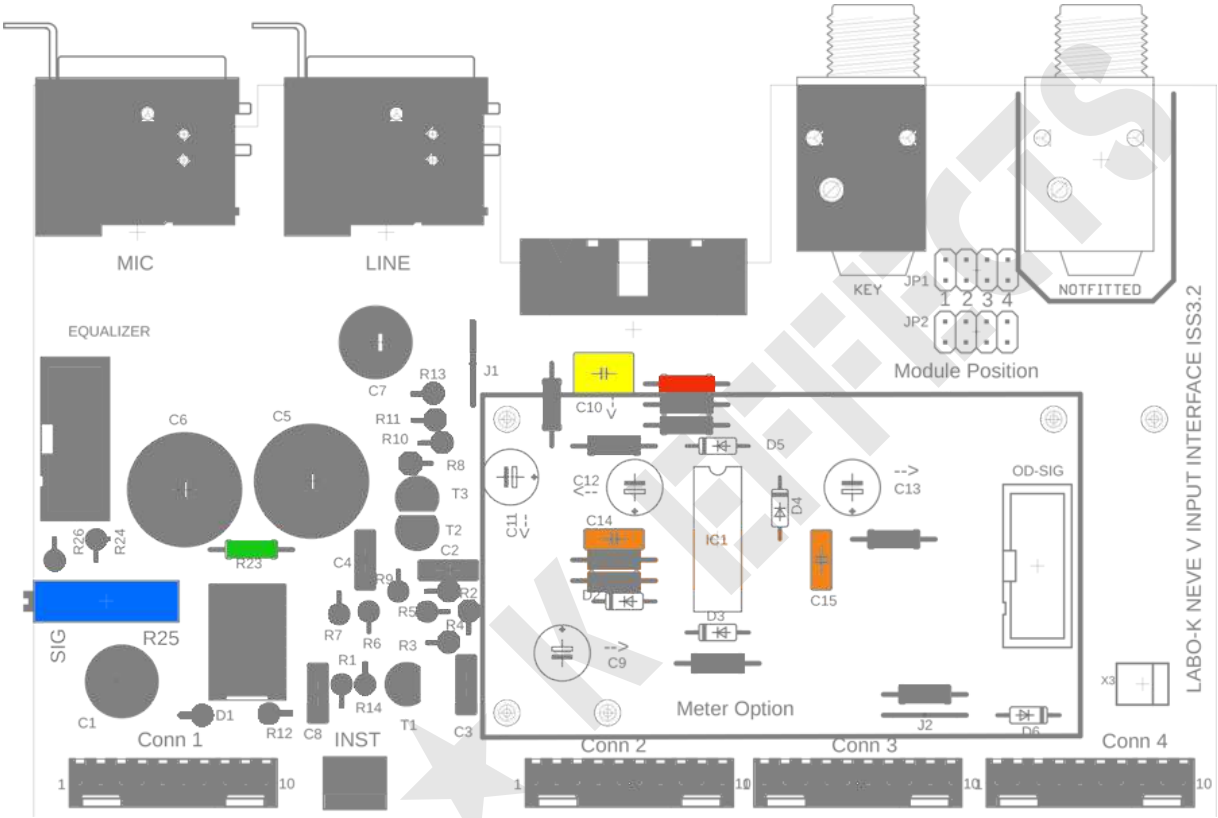
| | | | |
|---|---|---|---|
| | 51R | R27, R28 | 2 |
| | 1K3 | R22 | 1 |
| | 3K3 | R20 | 1 |
| | 10K | R15, R16, R17, R18, R19 | 5 |
| | 68K | R24, R26 | 2 |




| **Pay attention to :** |
|---|
| |
| KK10 connector orientation |
| |
| |
| |

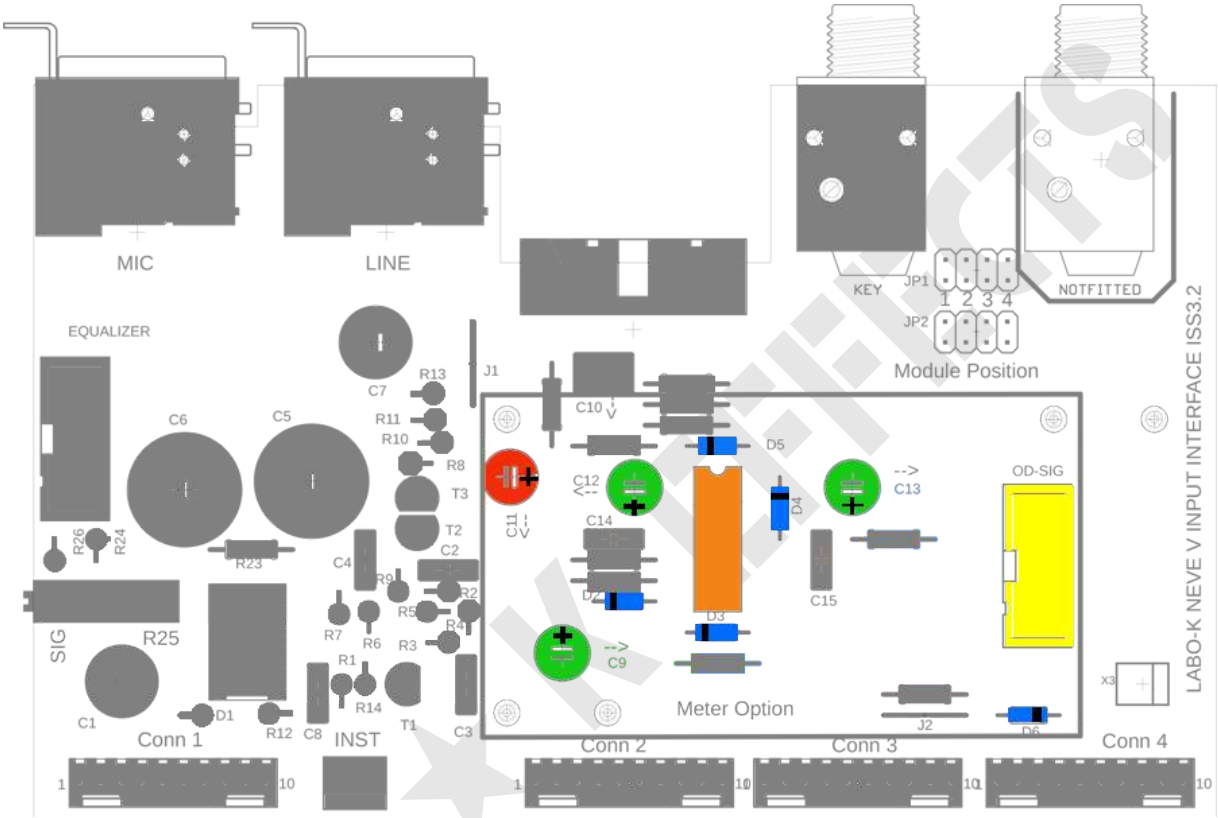
Note: J2 jumper not fitted

| | | | |
|---|---|---|---|
| | 2M2 | R21 | 1 |
| | 560K | R23 | 1 |
| | Trimmer 10K | R25 SIG | 1 |
| | 22n Film | C14, C15 | 2 |
| | 680n Film | C10 | 1 |




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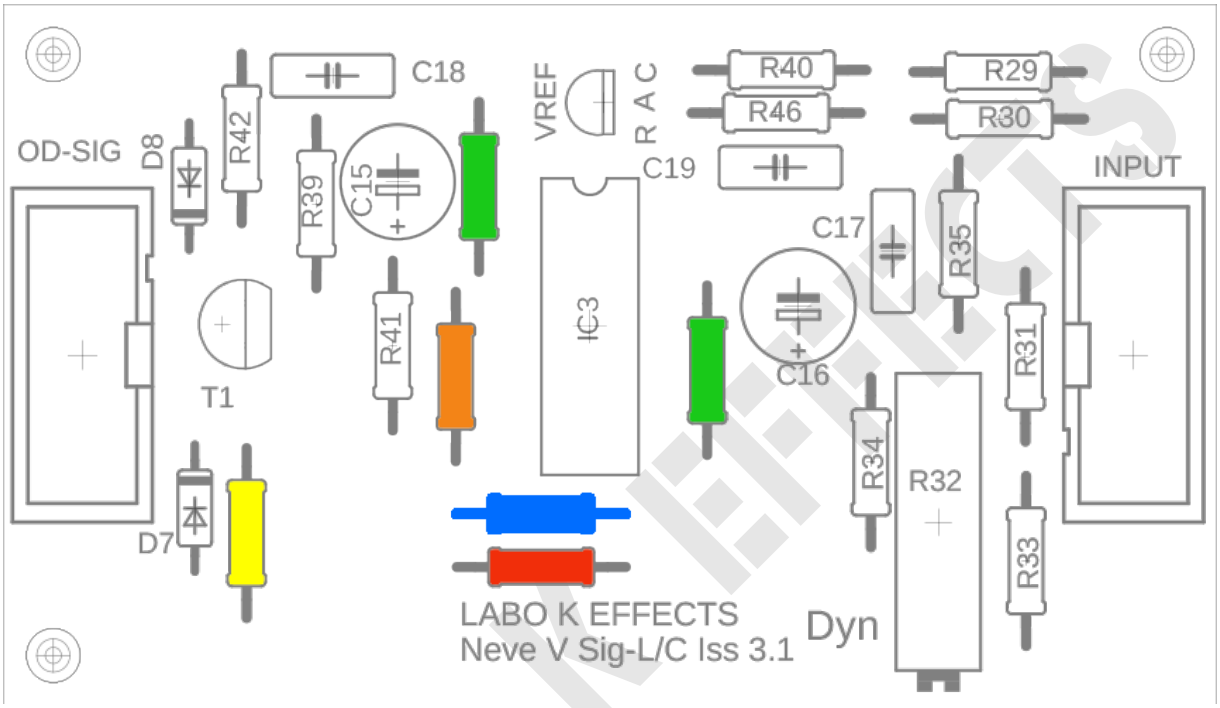
| | | | |
|---|---|---|---|
| | 2u2/63V | C11 | 1 |
| | 22u25V | C9, C12, C13 | 3 |
| | 1N4148 | D2, D3, D4, D5, D6 | 5 |
| | TL064 | IC1+DIL14 socket | 1 |
| | IDC 10 | OD-SIG | 1 |




| **Pay attention to :** |
|---|
| |
| Diode orientation |
| Orientation of polarised capacitors |
| Orientation of the OD-SIG IDC connector |
| |

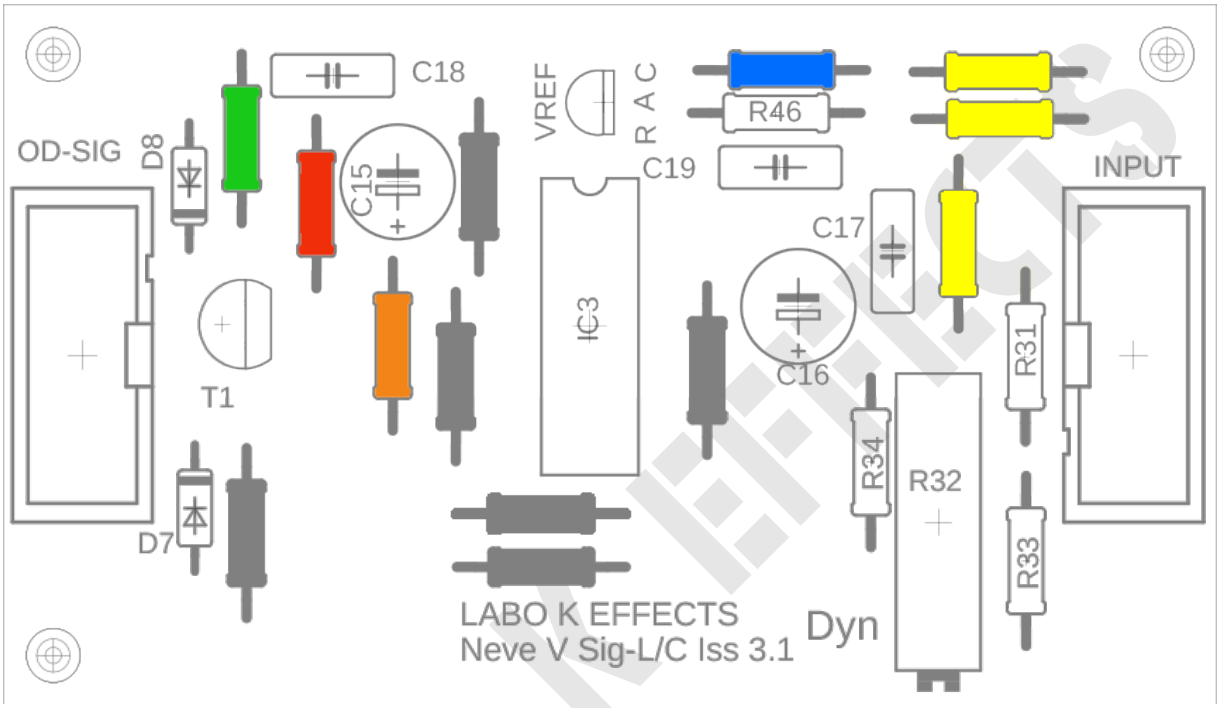
Capacitors with an arrow next to their name should be placed in the direction of the arrow. This will make it easier to install the optional plug-in.

| | | | |
|---|---|---|---|
| | 33R | R36 | 1 |
| | 51R | R44, R45 | 2 |
| | 300R | R37 | 1 |
| | 330R | R38 | 1 |
| | 680R | R43 | 1 |



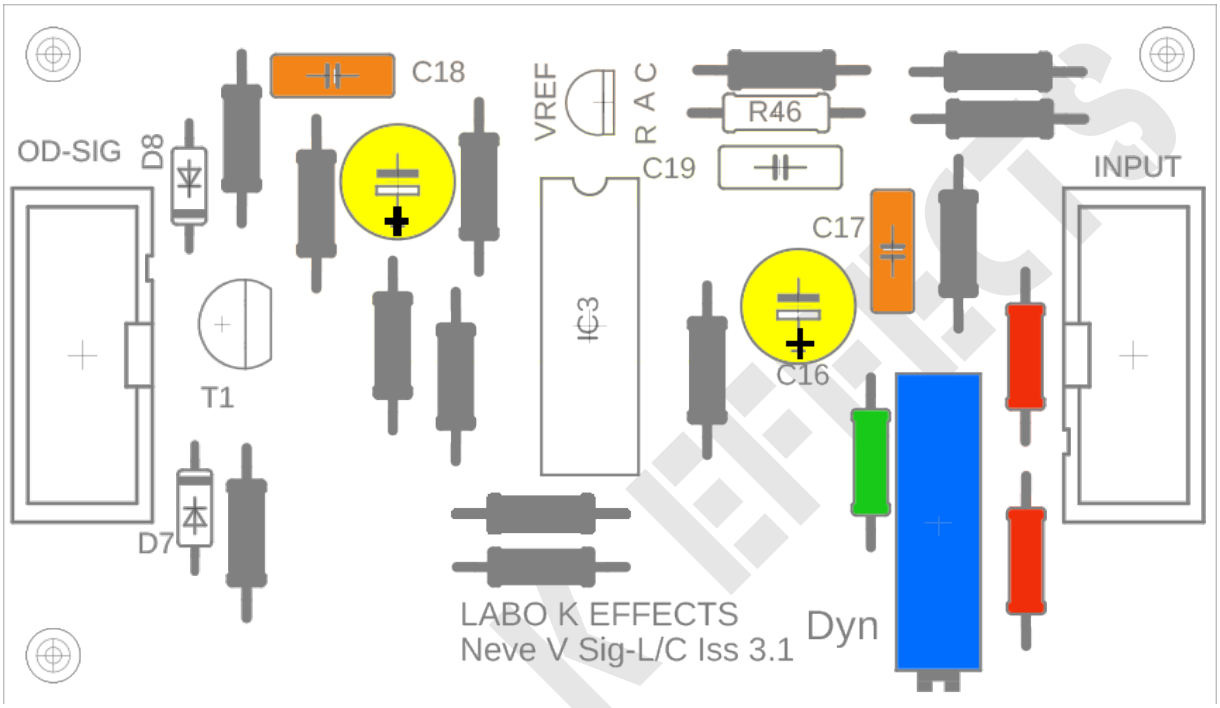

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| | | | |
|---|---|---|---|
| | 1K | R39 | 1 |
| | 1K3 | R42 | 1 |
| | 1K5 | R40 | 1 |
| | 10K | R41 | 1 |
| | 100K | R29, R30, R35 | 3 |



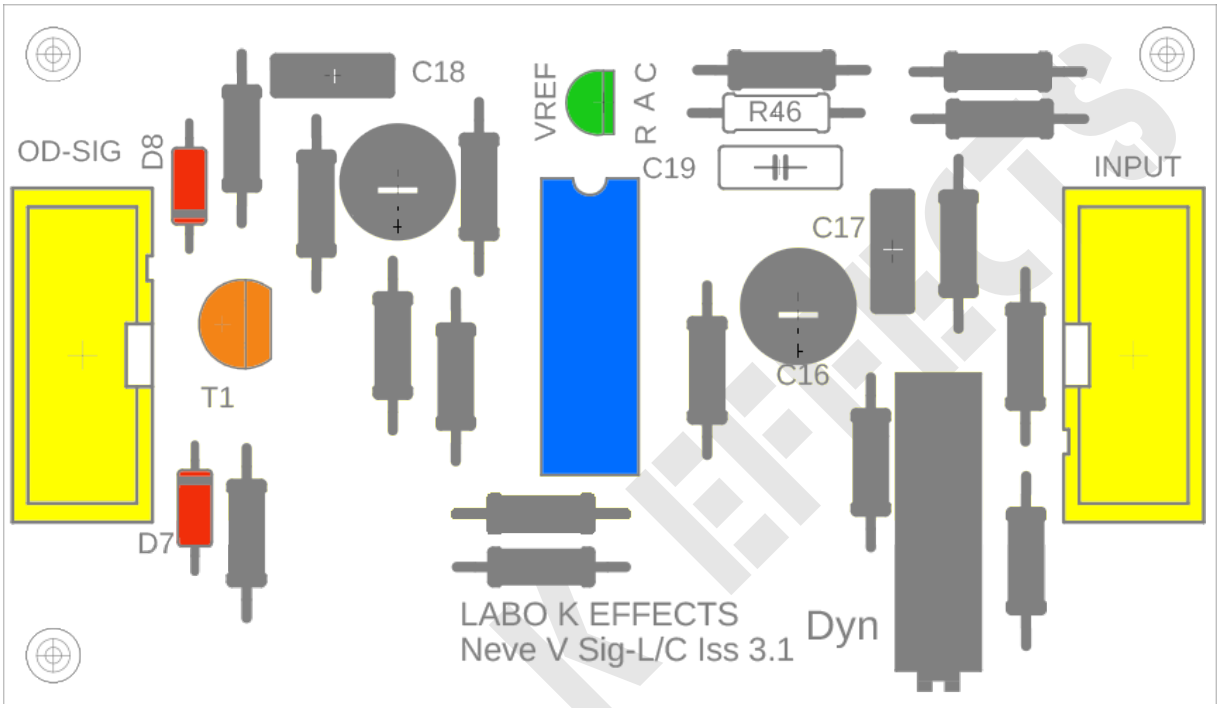

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| | | | |
|---|---|---|---|
| | 330K | R31, R33 | 2 |
| | 1M | R34 | 1 |
| | Trimmer 10K | R32 DYN | 1 |
| | 10n Film | C 17, C18 | 2 |
| | 22u25V | C15, C16 | 2 |



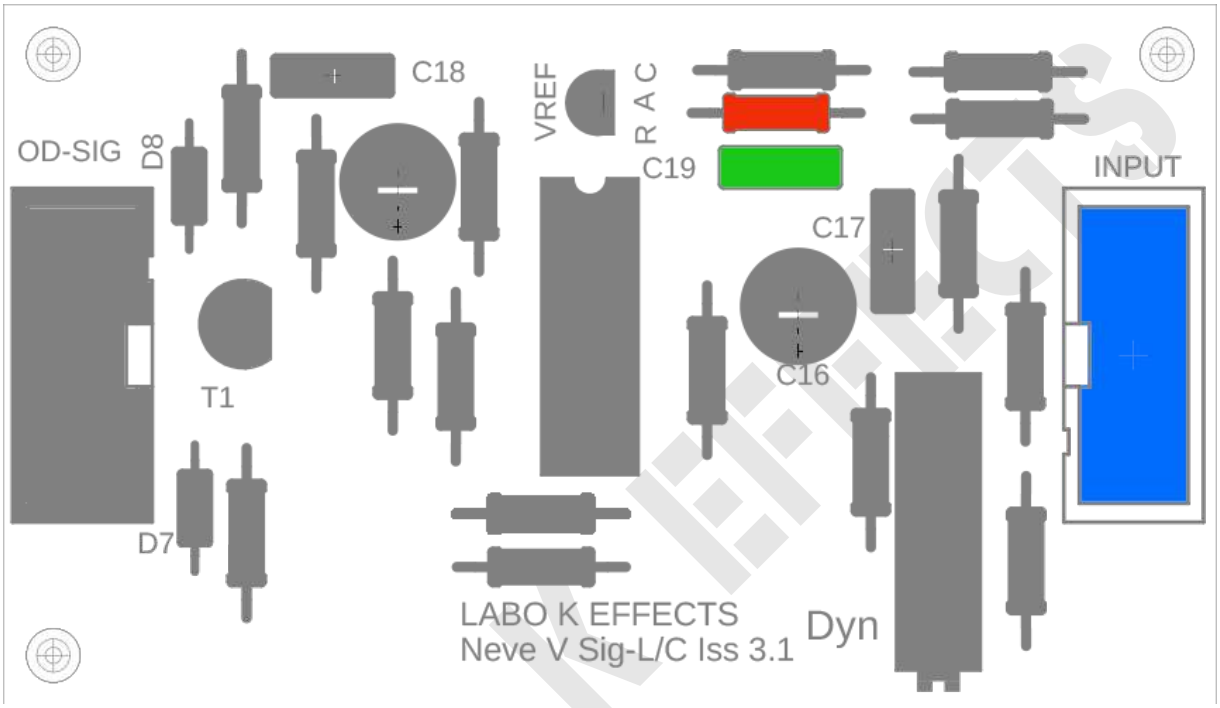

| **Pay attention to :** |
|---|
| |
| Orientation of polarised capacitors |
| |
| |
| |

| | | | |
|---|---|---|---|
| | 1N4148 | D7, D8 | 2 |
| | TL431 | VREF | 1 |
| | LM339 | IC3 +DIL14 Socket | 1 |
| | 2N2222 | T1 | 1 |
| | IDC 10 Male | OD-SIG (See note for INPUT) | 2 |

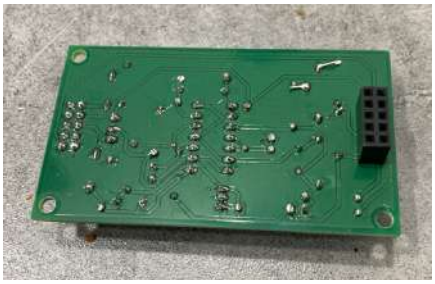



| **Pay attention to :** |
|---|
| |
| Diode orientation |
| Orientation of IDC 10 connectors |
| |
| |

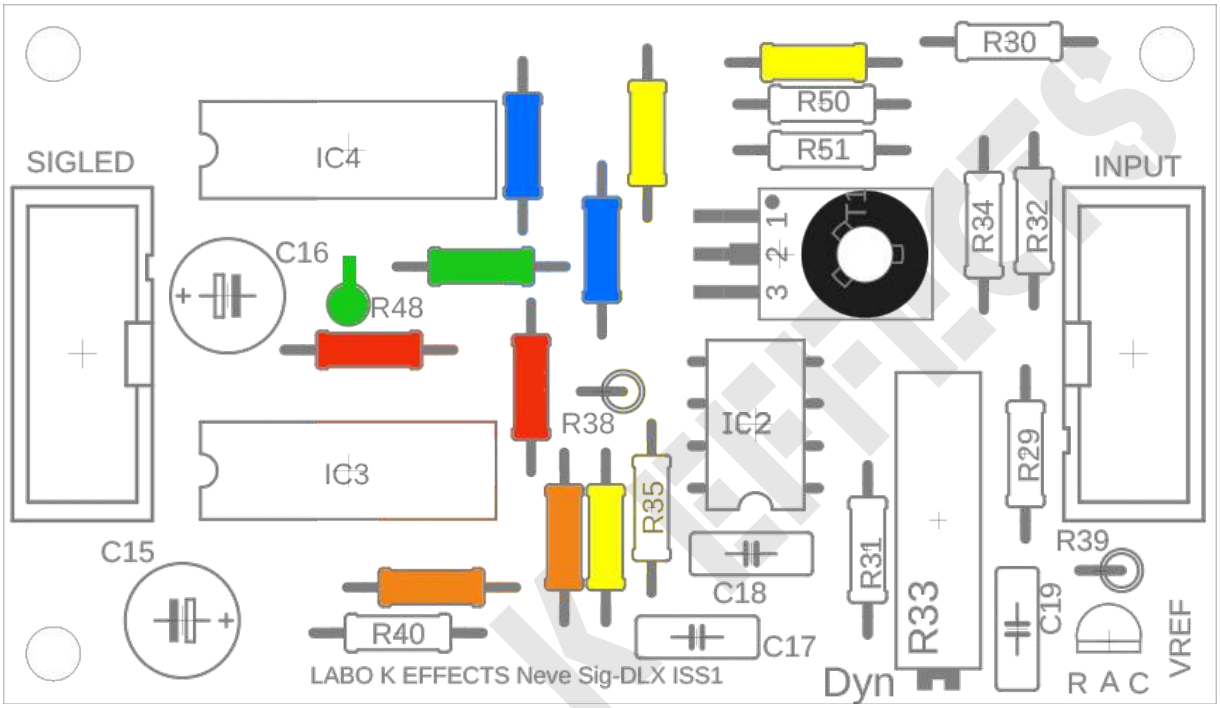
| | | | |
|---|---|---|---|
| | 15 K | R48 | 1 |
| | 22nF | C19 | 1 |
| | 10way plug F | Input | 1 |
| | | | |
| | | | |




| **Pay attention to :** |
|---|
| |
| |
| The input connector is soldered to the underside of the PCB (see below). |
| |
| |

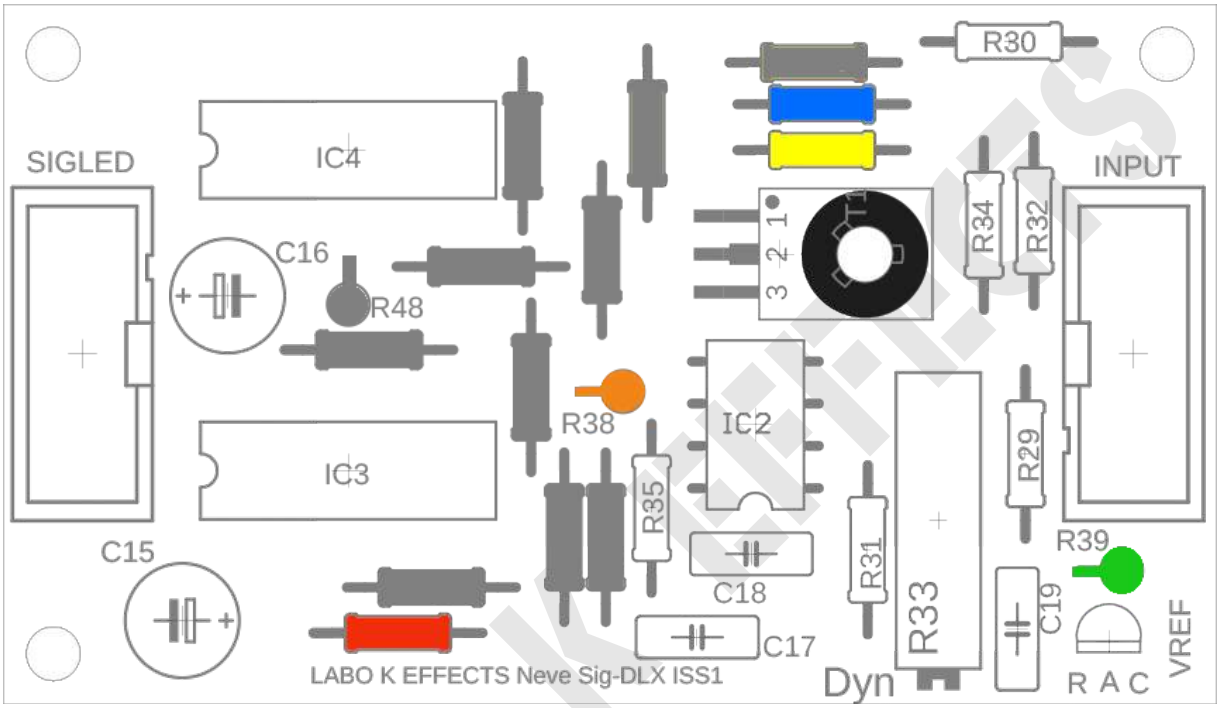


| | | | |
|---|---|---|---|
| | 10R | R36, R37 | 2 |
| | 51R | R47, R48 | 2 |
| | 100R | R44, R46 | 2 |
| | 150R | R42, R43 | 2 |
| | 200R | R41, R45, R49 | 3 |

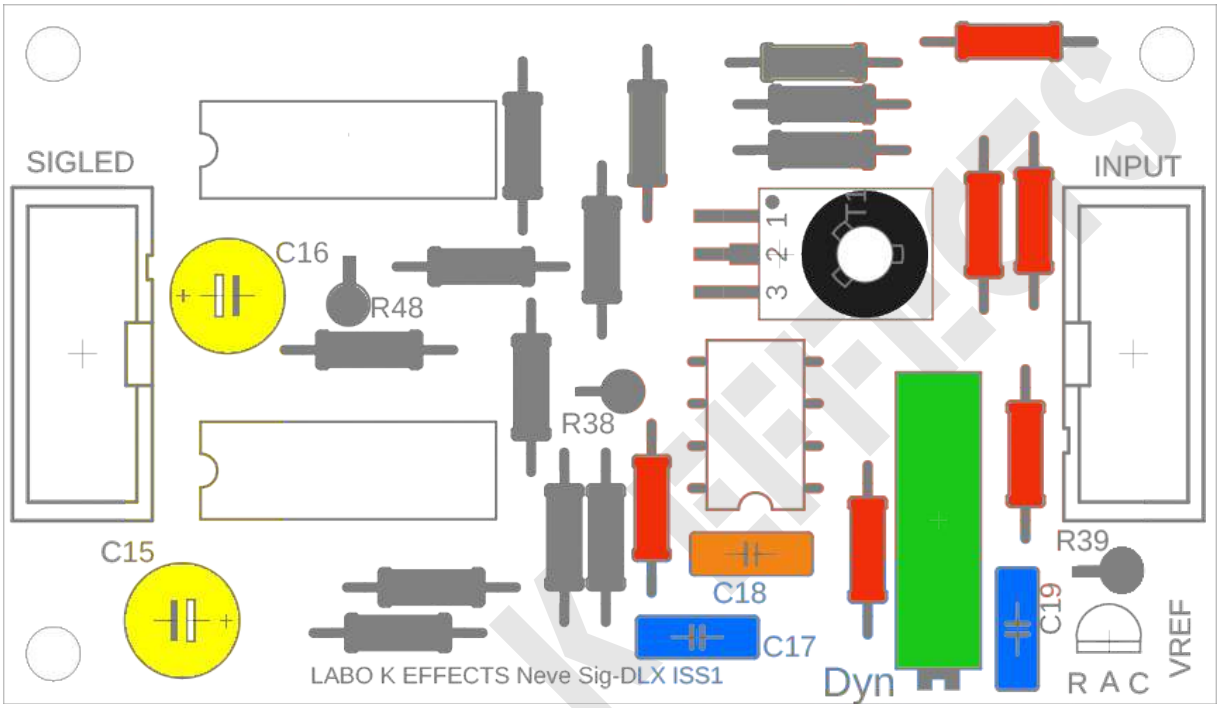



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| | | | |
|---|---|---|---|
| | 220R | R40 | 1 |
| | 1K5 | R39 | 1 |
| | 2K7 | R50 | 1 |
| | 15K | R38 | 1 |
| | 30K | R51 | 1 |

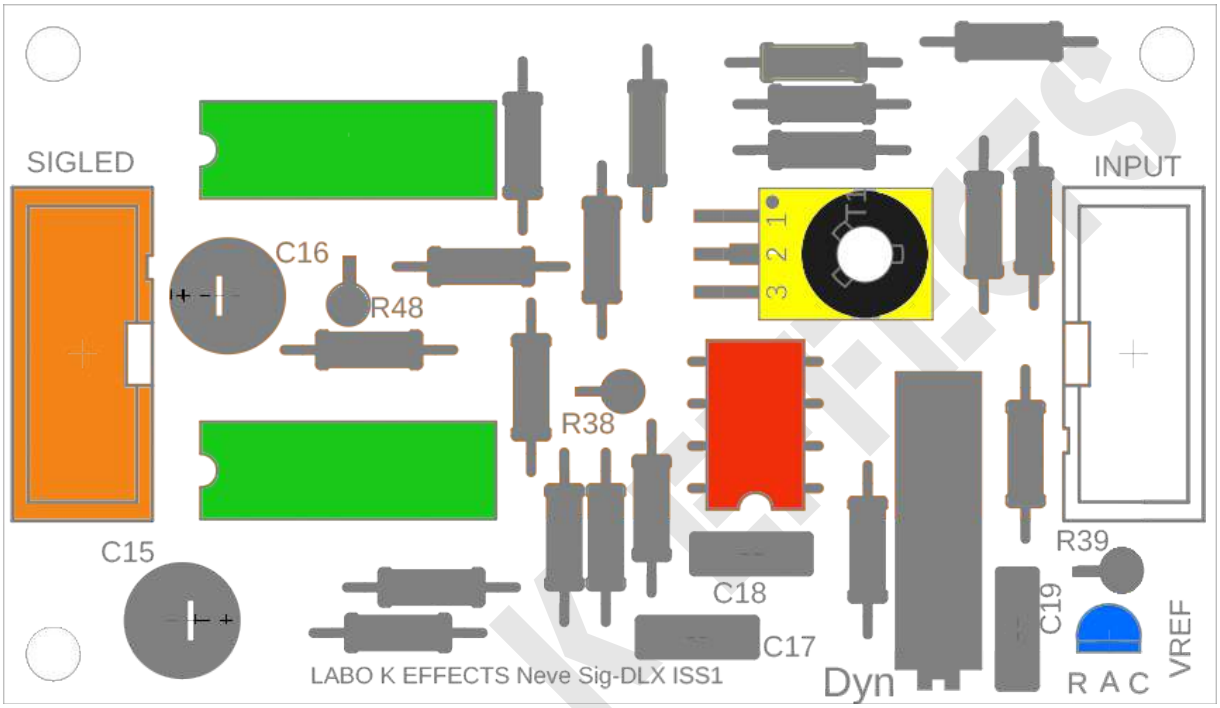


| | | | |
|---|---|---|---|
| | 100K | R29, R30, R31, R32, R34, R35 | 6 |
| | Trimmer 10K | R33-DYN | 1 |
| | 10n Film | C17, C19 | 2 |
| | 22n Film | C18 | 1 |
| | 22u25V | C15, C16 | 2 |



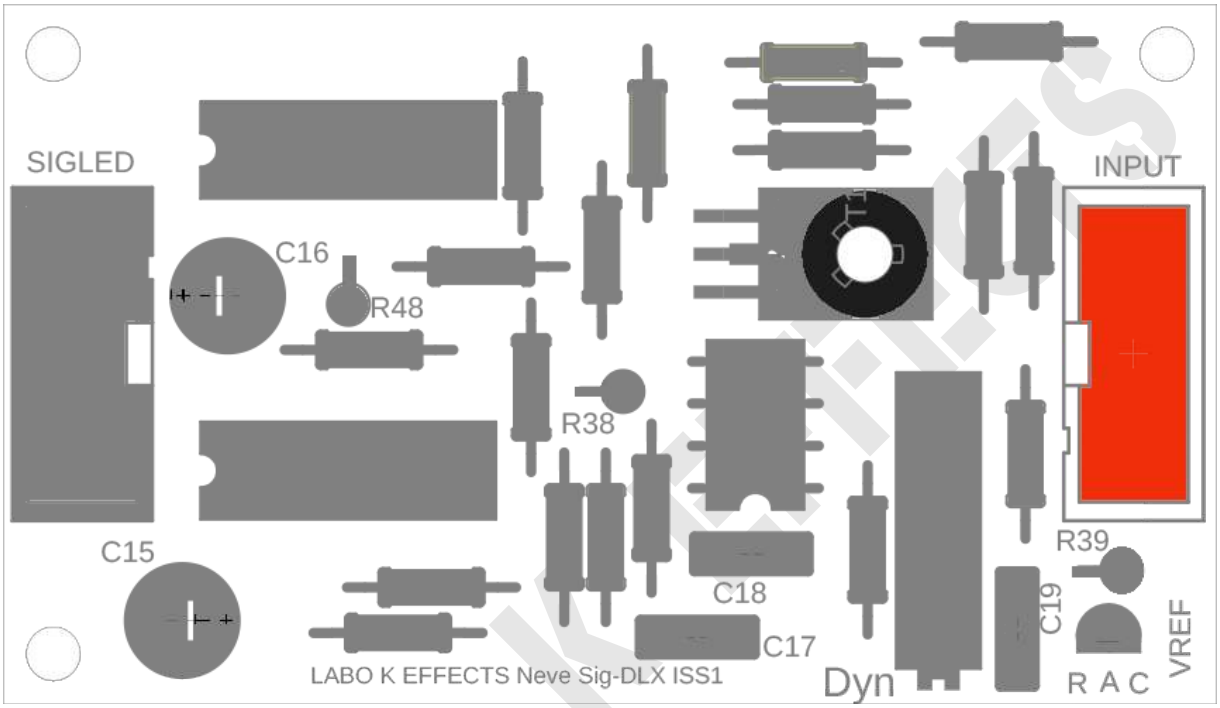

| **Pay attention to :** |
|---|
| |
| Orientation of polarised capacitors |
| |
| |
| |

| | | | |
|---|---|---|---|
| | TL071 | IC2+Support | 1 |
| | LM339 | IC3, IC4+ DIL14 Sockets | 2 |
| | TL431 | VREF | 1 |
| | IDC 10 | SIGLED | 1 |
| | MJE371 | T1 | 1 |

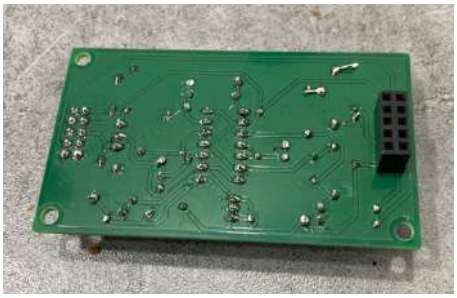



| **Pay attention to :** |
|---|
| |
| Orientation of IDC 10 connector |
| Positioning of transistor T1 (visible mark) |
| |
| |

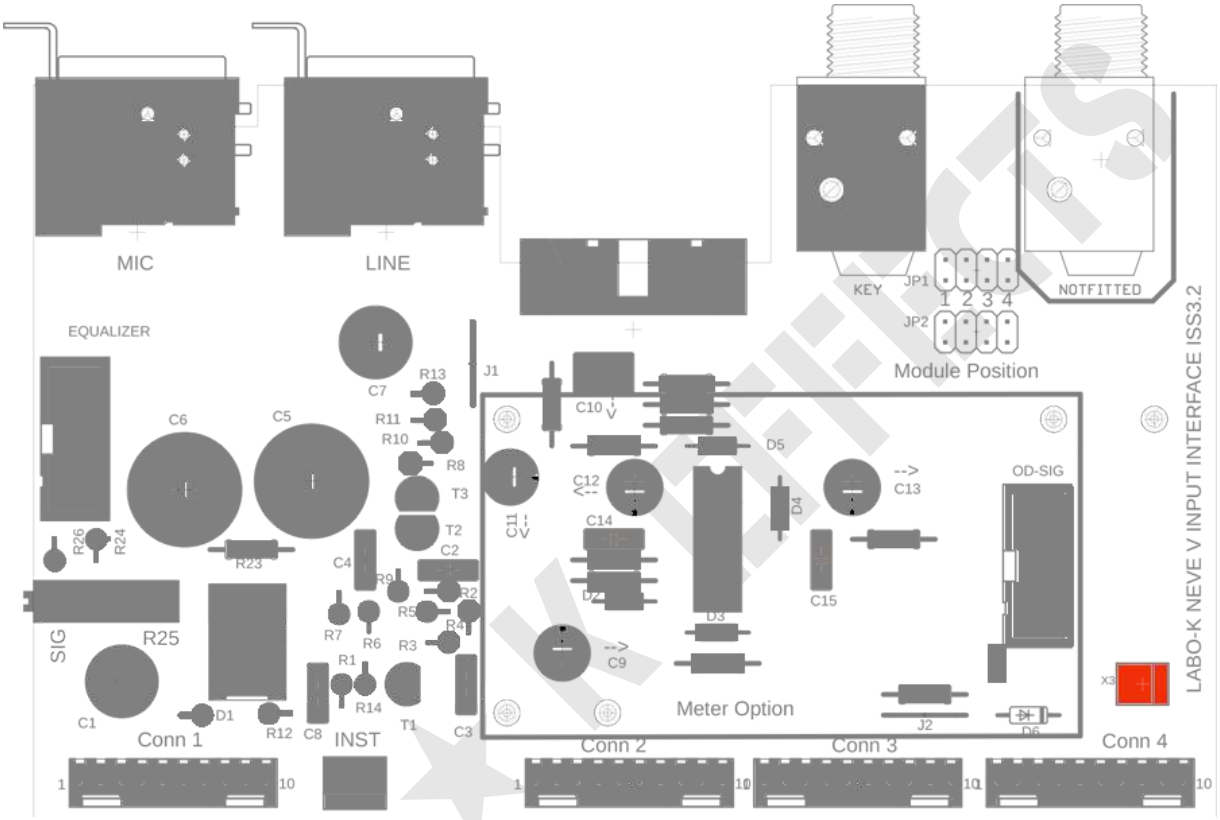
| | | | |
|---|---|---|---|
| | 10Way F | Input | 1 |
| | | | |
| | | | |
| | | | |
| | | | |




| **Faire attention à :** |
|---|
| |
| |
| The input connector is soldered to the underside of the PCB (see below). |
| |
| |

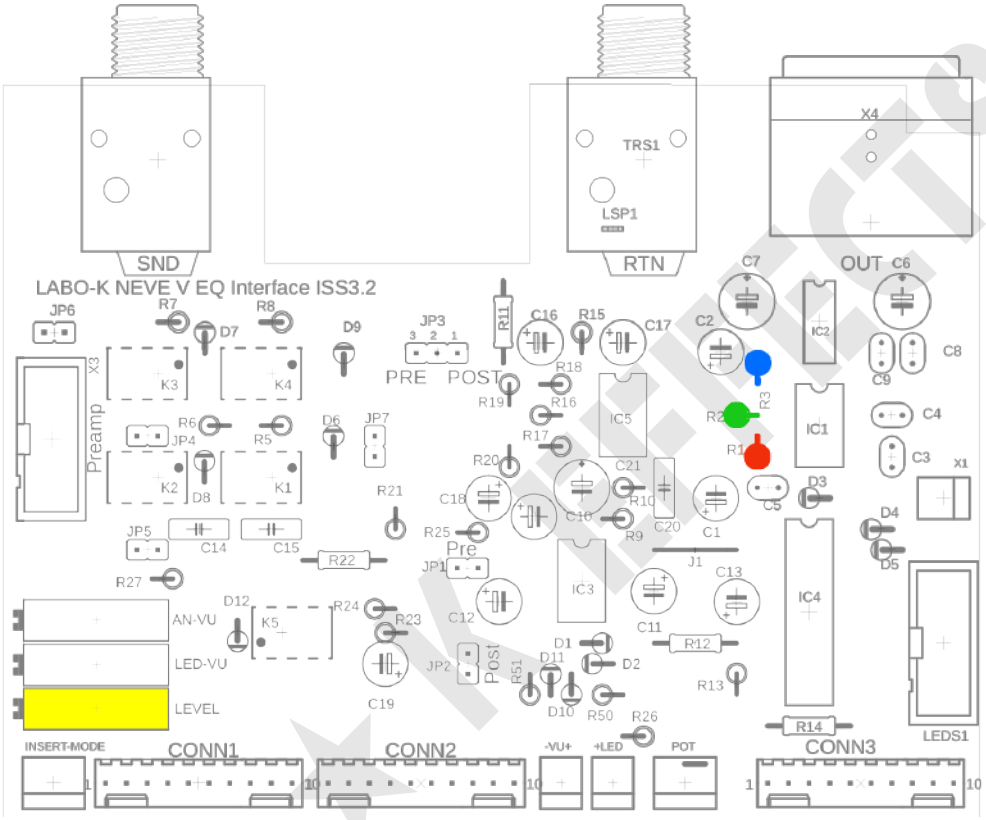


| | | | |
|---|---|---|---|
| | KK2 | X1 | 1 |
| | | | |
| | | | |
| | | | |
| | | | |



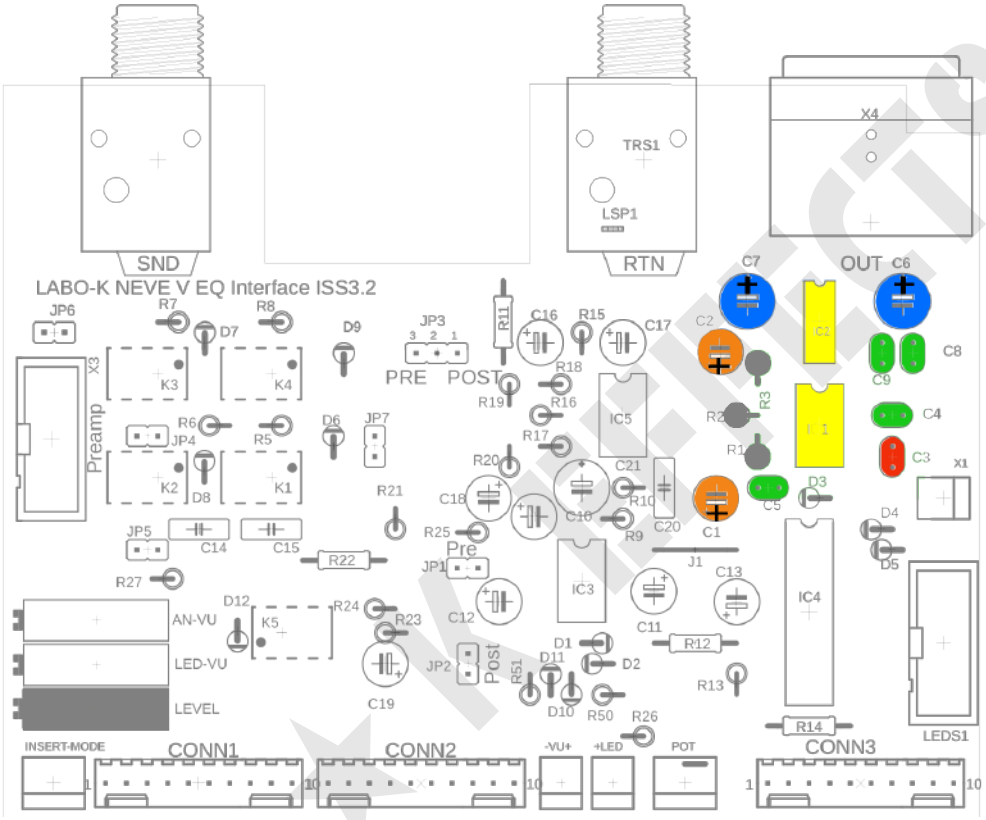

| **Pay attention to :** |
|---|
| |
| KK2 connector orientation |
| |
| |
| |

| | | | |
|---|---|---|---|
| | 18K | R1 | 1 |
| | 1K2 | R2 | 1 |
| | 3K6 | R3 | 1 |
| | | | |
| | Trimmer 10K | LEVEL | 1 |



# EQ INTERFACE BOARD ASSEMBLY INSTRUCTIONS PART 2

| | | | |
|---|---|---|---|
| | 22p Céramique | C3 | 1 |
| | 100n Céramique | C4, C5, C8, C9 | 4 |
| | 22u25V | C6, C7 | 2 |
| | 100u10V | C1, C2 | 2 |
| | DIL 8 socket | IC1, IC2 | 2 |

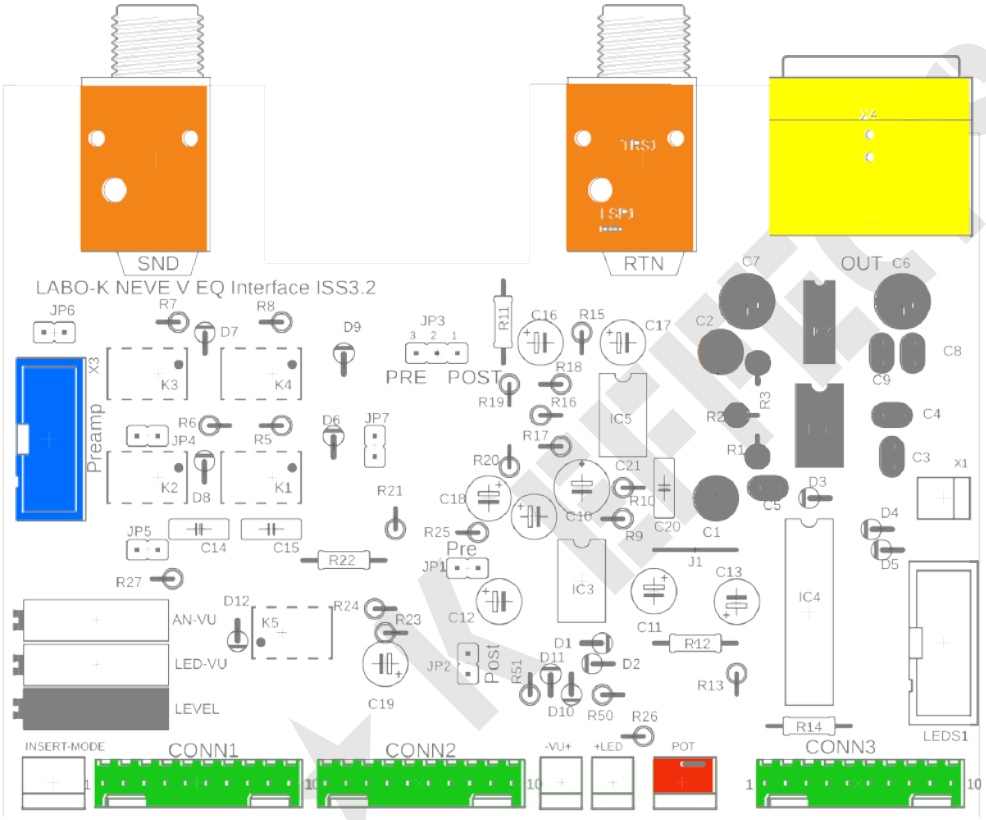



| **Pay attention to :** |
|---|
| |
| Orientation of polarised capacitors |
| |
| |
| |

LABO ★ K EFFECTS

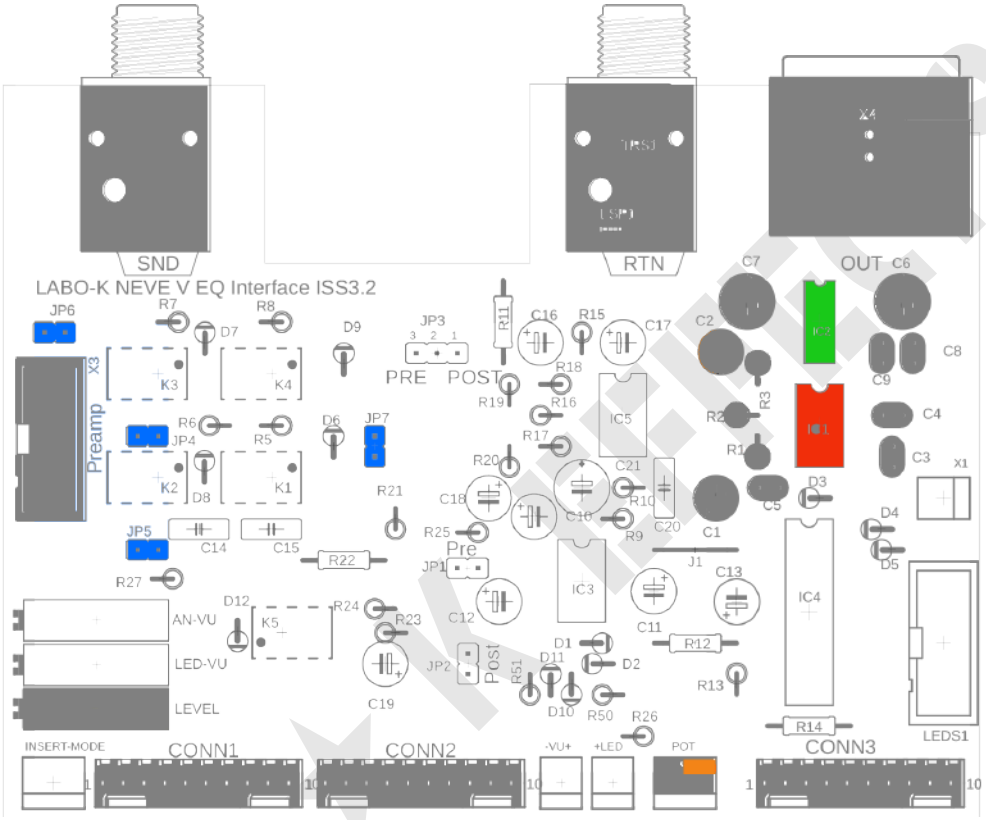
# EQ INTERFACE BOARD ASSEMBLY INSTRUCTIONS PART 3

| | | | |
|---|---|---|---|
| | KK 3 connector | Pot | 1 |
| | KK 10 connector | CONN1-CONN 3 | 3 |
| | IDC 10 male | Preamp | 1 |
| | TRS Jack | SND, RTN | 2 |
| | XLR 3 Male | OUT | 1 |



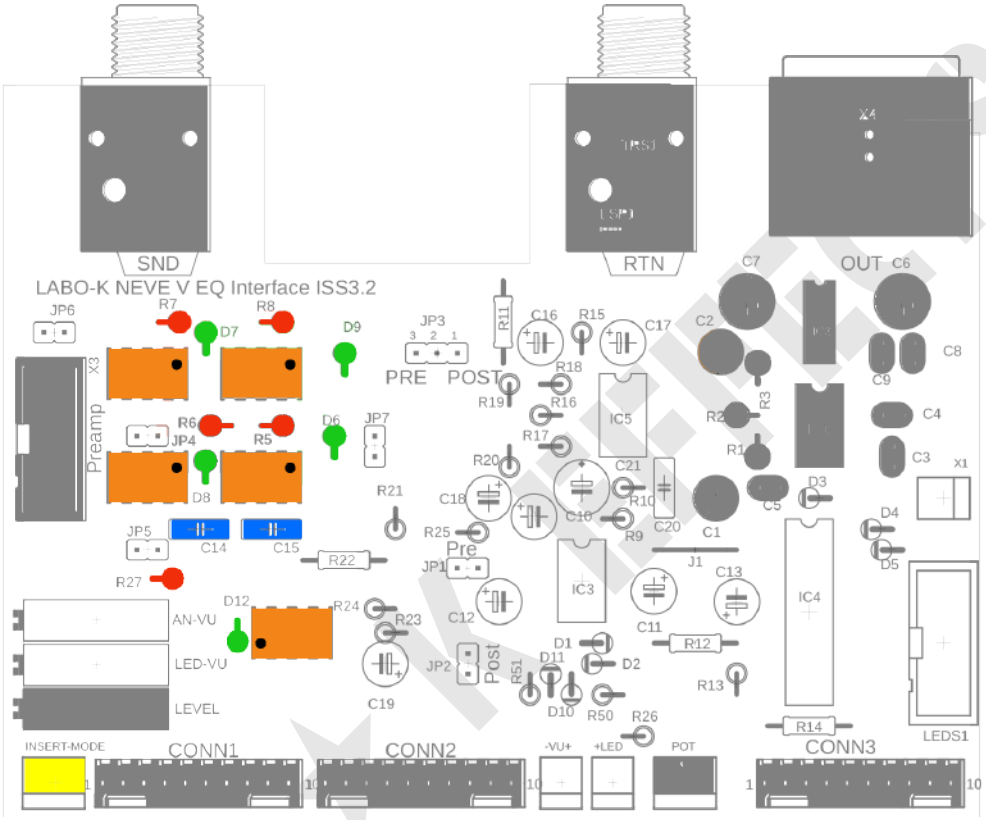

| **Pay attention to :** |
|---|
| |
| Orientation of KK and IDC connectors |
| |
| |
| |

| | | | |
|---|---|---|---|
| | NE5534 | IC1 | 1 |
| | THAT1646 | IC2 | 1 |
| | STRAPS | **JP4, 5, 6, 7 (If matrix option not used)** | |
| | Jumper | Pot (do not fit if Fader option) | 2 |
| | | | 1 |



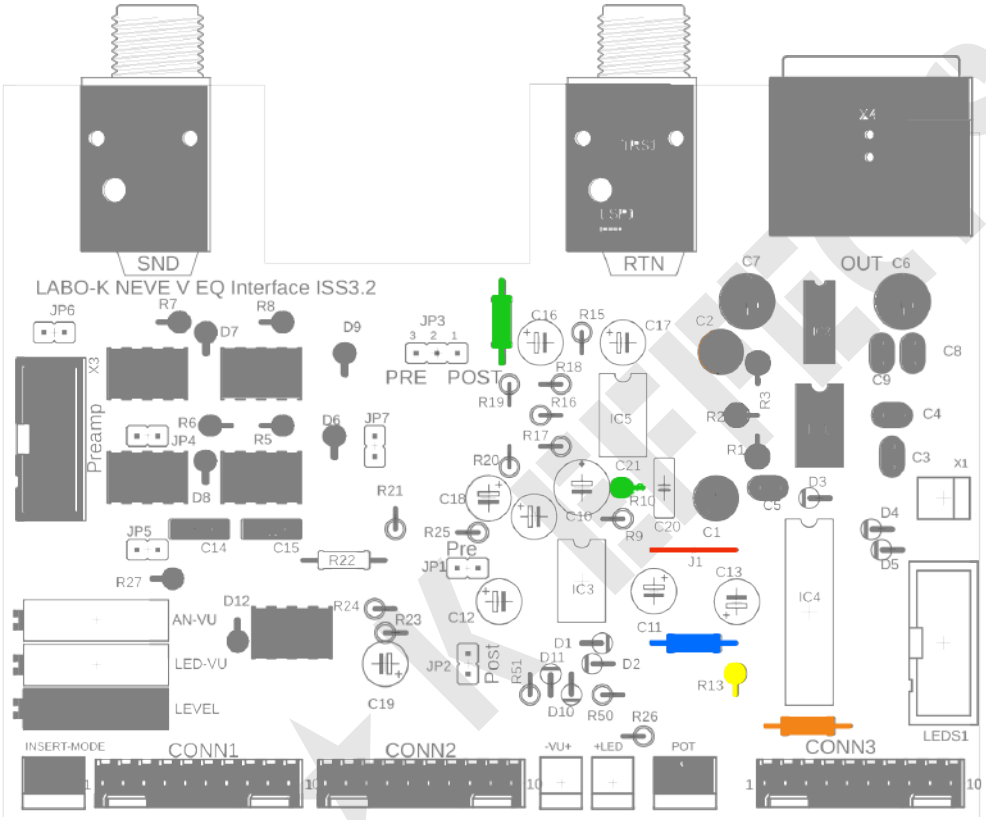

| **Pay attention to :** |
|---|
| |
| Orientation of KK and IDC connectors |
| |
| If the Matrix option is not used |
| Place staps in JMP 4 to 7 |

| | | | |
|---|---|---|---|
| | 680R | R5, R6, R7, R8, R27 | 5 |
| | 1N4148 | D6, D7, D8, D9, D12 | 5 |
| | 100n Film | C14, C15 | 2 |
| | G6K 12 | K1, K2, K3, K4, K5 (Relays) | 5 |
| | Molex KK3 | INSERT MODE | 1 |

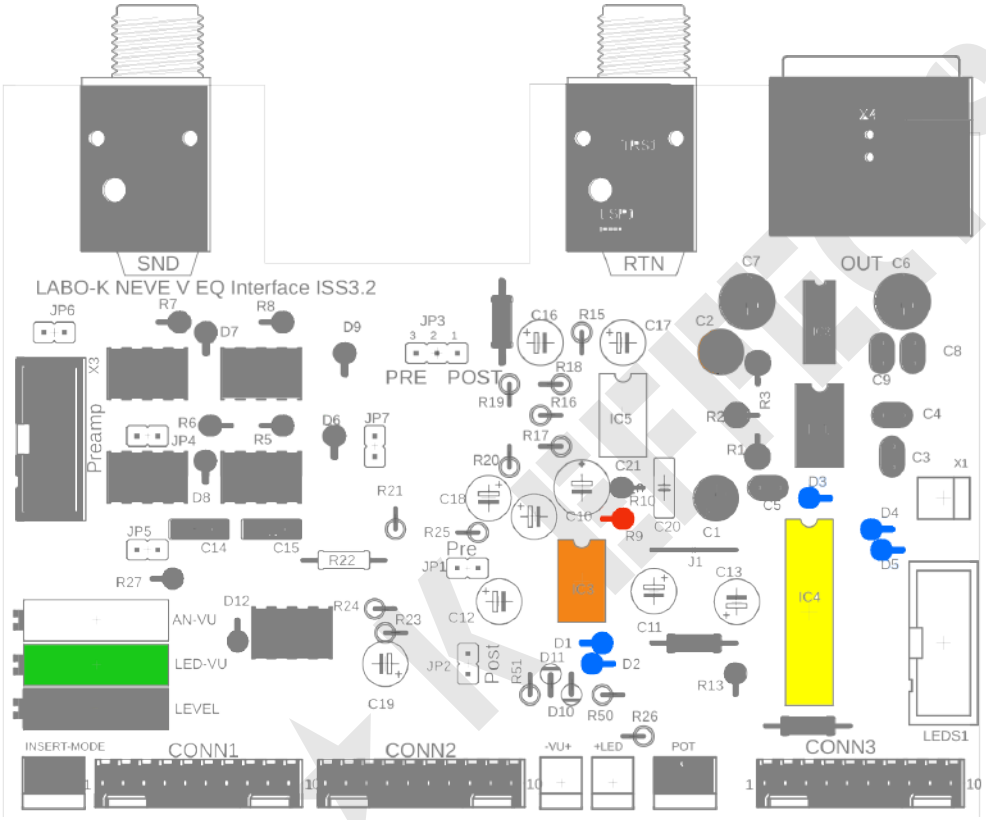



| **Pay attention to :** |
|---|
| |
| Relay orientation |
| KK3 connector orientation |
| |
| |

| | | | |
|---|---|---|---|
| | Jumper | J1 | 1 |
| | 100R | R10, R11 | 2 |
| | 180R | R12 | 1 |
| | 1K | R14 | 1 |
| | 3K3 | R13 | 1 |

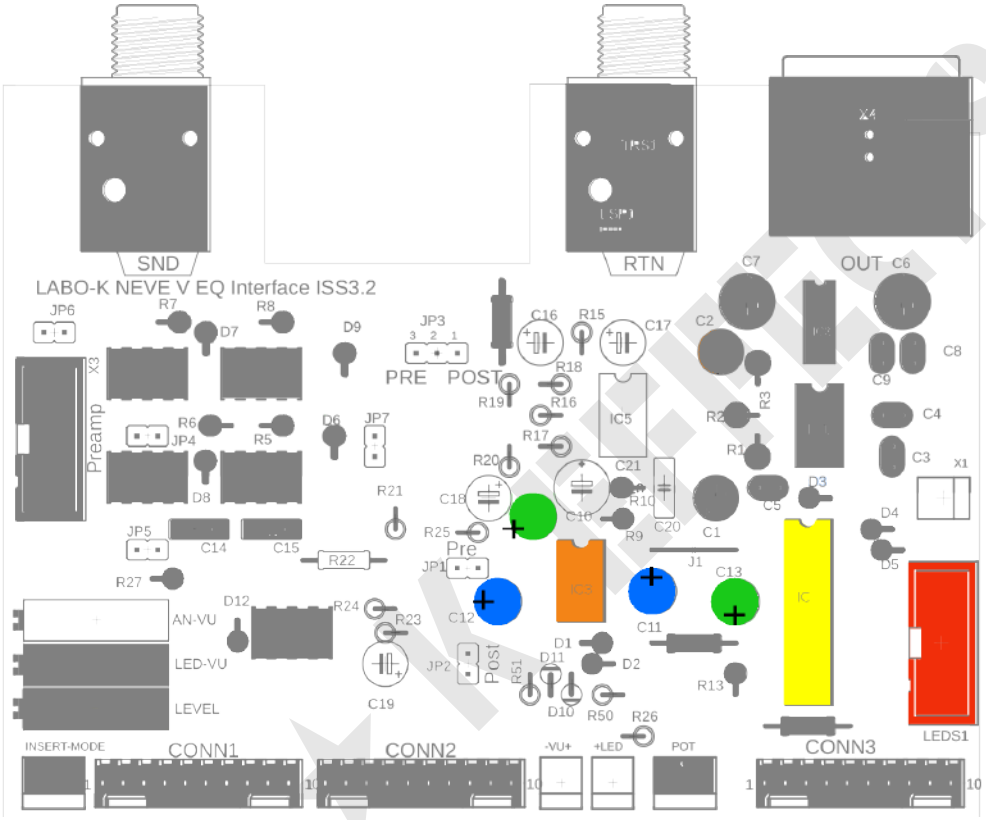


| | | | |
|---|---|---|---|
| | 47K | R9 | 1 |
| | Trimmer 200K | LED VU | 1 |
| | 1N4148 | D1-D5 | 5 |
| | DIL 8 socket | IC3 | 1 |
| | DIL 18 socket | IC4 | 1 |



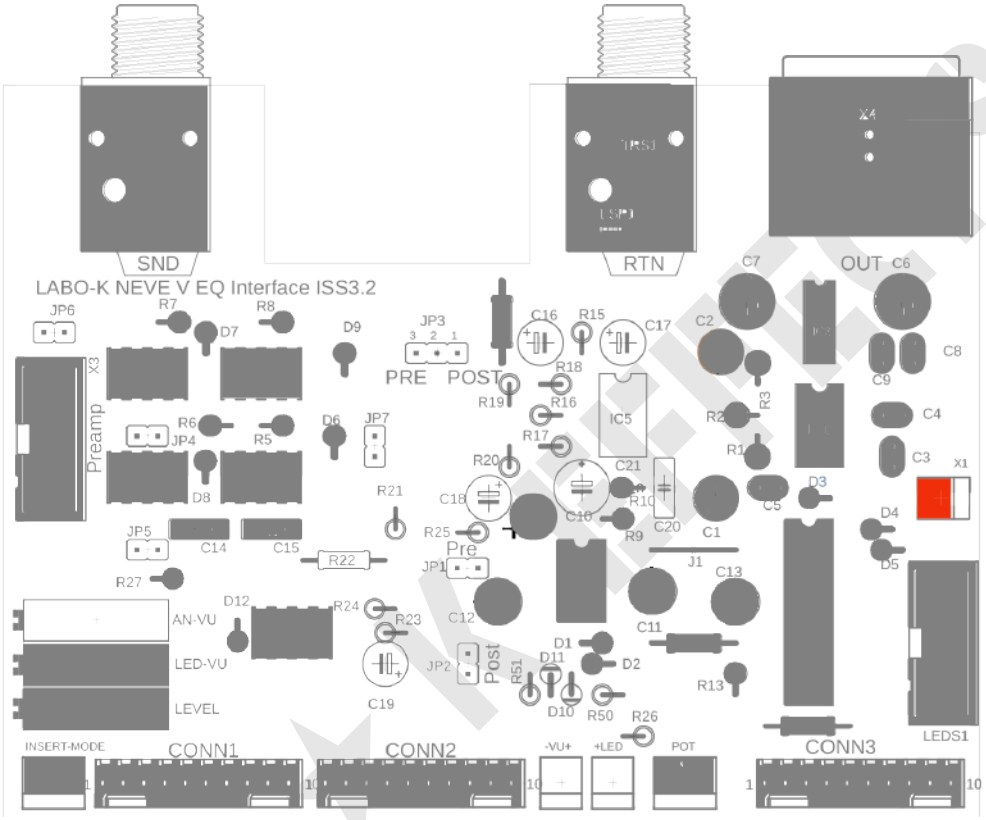

| **Pay attention to :** |
|---|
| |
| Diode layout |
| |
| |

| | | | |
|---|---|---|---|
| | IDC 10 | LEDS1 | 1 |
| | 1u63V | C10, C13 | 2 |
| | 22u25V | C11, C12 | 2 |
| | TL071 | IC3 | 1 |
| | LM3915 | IC4 | 1 |



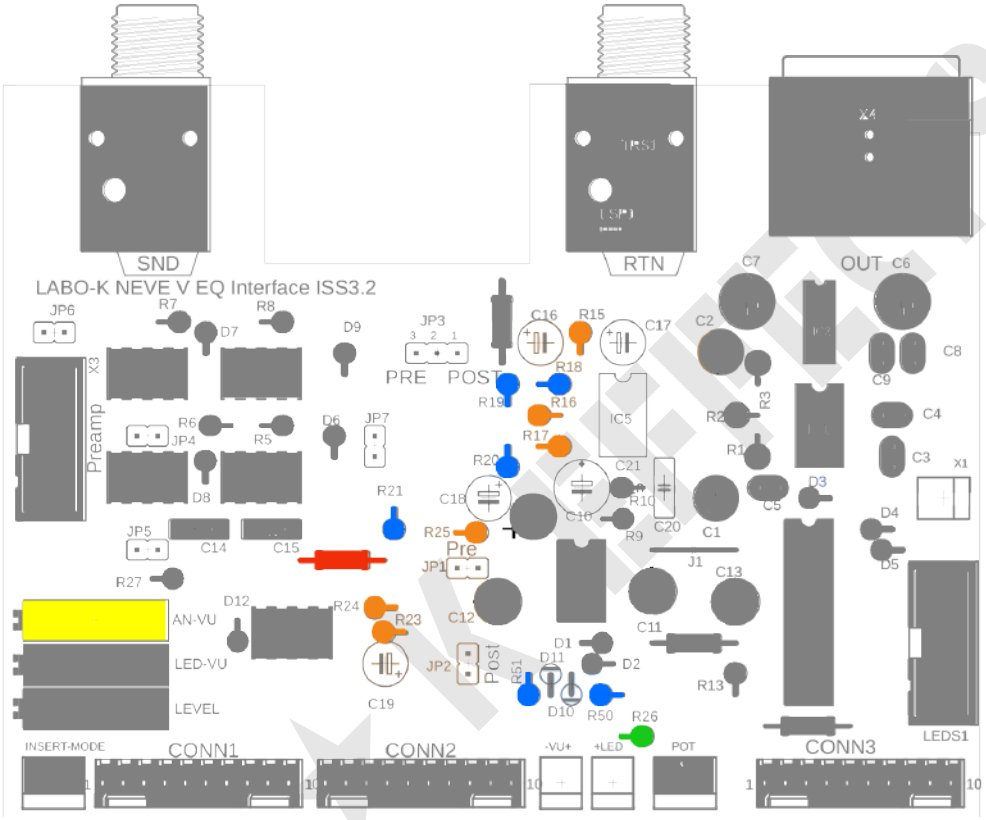

| **Pay attention to :** |
|---|
| |
| Diode layout |
| |
| |

| | | | |
|---|---|---|---|
| | Molex KK2 | X1 | 1 |
| | | | |
| | | | |
| | | | |
| | | | |



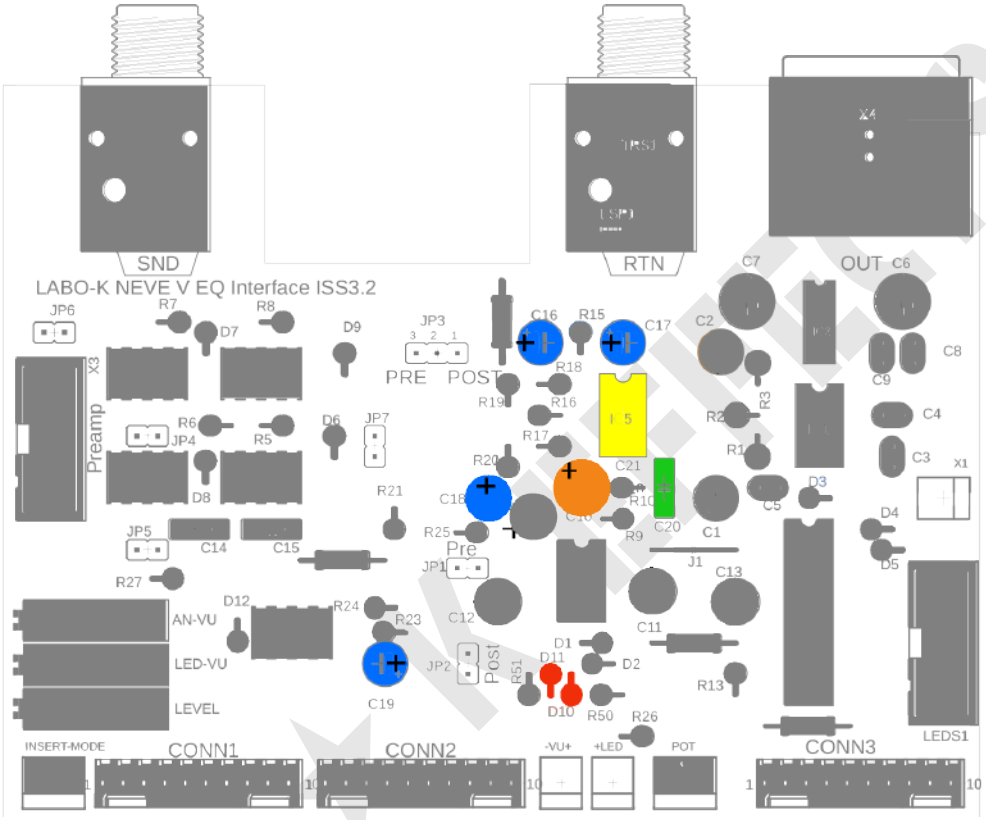

| **Pay attention to :** |
|---|
| |
| KK2 connector orientation |
| |
| |

| | | | |
|---|---|---|---|
| | 100R | R22 | 1 |
| | 1K5 | R26 vumeter lrd resistor | 1 |
| | 3K3 | R18, R19, R20, R21, R50, R51 | 6 |
| | 47K | R15, R16, R17, 23, R24, R25 | 6 |
| | Trimmer 10K | AN VU | 1 |



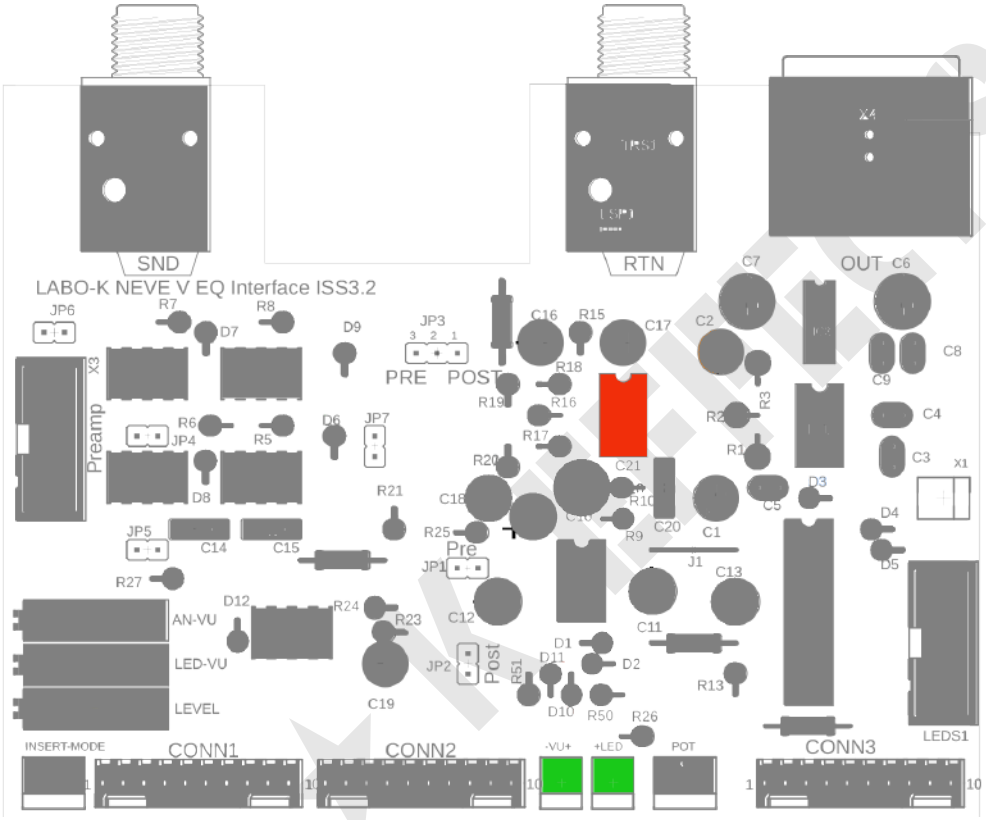

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| | | | |
|---|---|---|---|
| | BAT85 | D1, D2 | 2 |
| | 22n Film | C20 | 1 |
| | 10u63V | C16, C17, C18, C19 | 4 |
| | 22u25V | C21 | 1 |
| | DIL 8 Socket | IC1 | 1 |



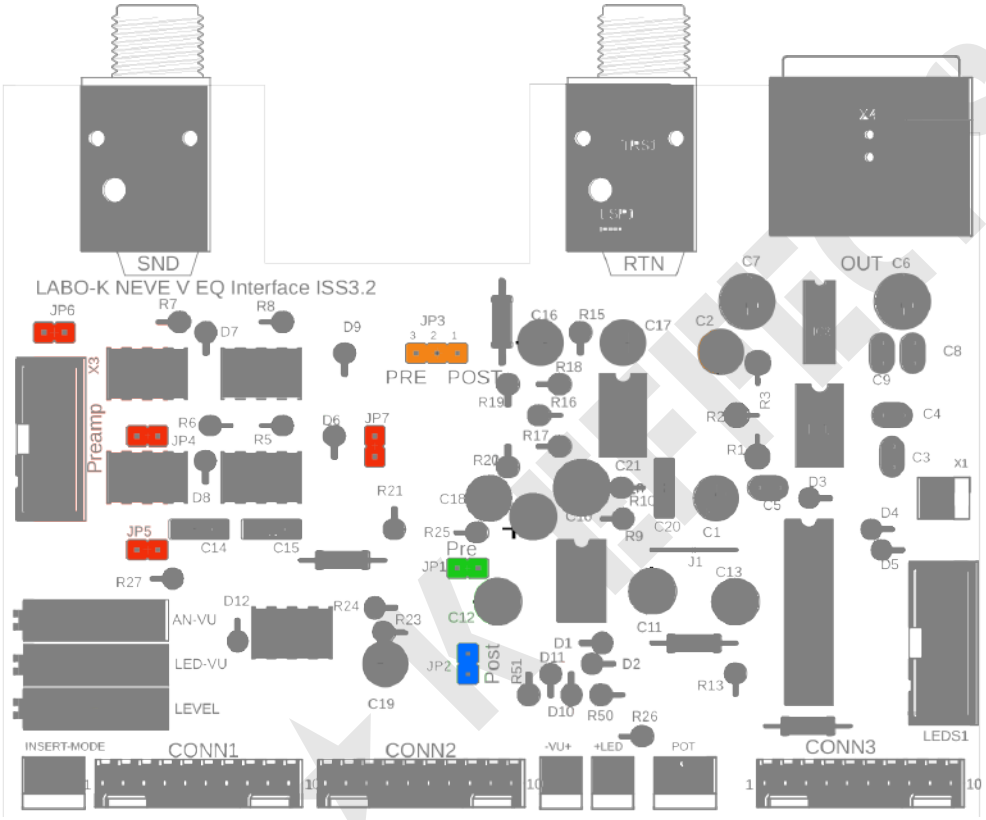

| **Pay attention to :** |
|---|
| |
| Diode layout |
| Positioning polarised capacitors |
| |

| | | | |
|---|---|---|---|
| | TL071 | IC1 | 1 |
| | Molex KK2 | VU, LED | 2 |
| | | | |
| | | | |
| | | | |




| **Pay attention to :** |
|---|
| |
| Orientation of KK2 connectors |
| |
| |

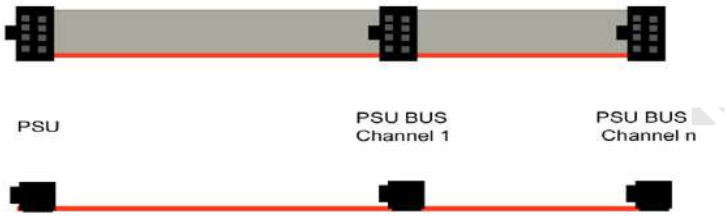
| | | | |
|---|---|---|---|
| | JP4, JP5, JP6, JP7 | Implant if the Matrix Insertion option is not used | |
| | JP1 | VU-LED Input | |
| | JP2 | VU-LED Output | |
| | JP3 | In-out selection of analog vumeter | |
| | | | |




| **Placement of Jumpers vu led and vu analog :** |
|---|
| |
| The LED meter will display the input level if the jumper is set to JP1. |
| The LED meter will display the output level if the jumper is set to JP2. |
| The vumeter must be calibrated according to the option chosen |
| |
| The analog meter will display the input level if JP3 is in the PRE position (3-2). |
| The analog meter will display the output level if JP3 is in position POST (1-2). |
| The vumeter must be calibrated according to the option chosen |

**It goes without saying that only one position per jumper is planned.**

The PSU ribbon connects the 51/V PSU power supply to the Input interface card. This ribbon also carries the dynamics chain loop when several preamps are connected.
Once the components have been positioned in the rack, you need to measure the length required to connect the cards and the power supply, then cut a ribbon to the required length. Use a marker to mark the position of the connectors on the ribbon. Finally, crimp the female connectors to the previously marked positions. It is very important to observe the mark on pin 1 (triangle) and to place the red wire of the ribbon on this side.




The **Intercard** ribbon links the Input Interface card to the EQ Interface card. It supplies it with signals and power supplies. (Figure 1)

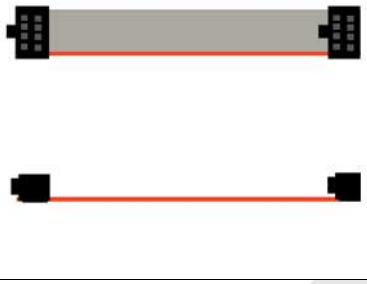


Figure 1



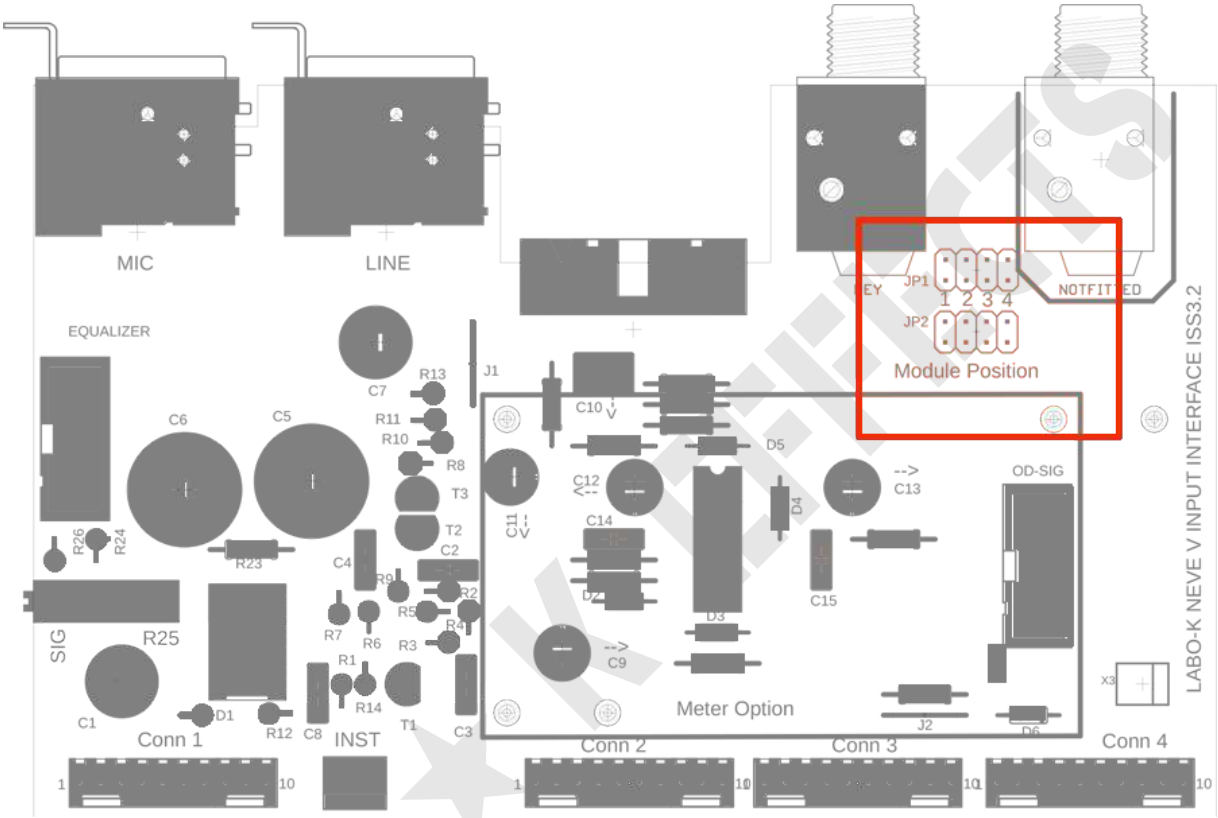
Figure 2

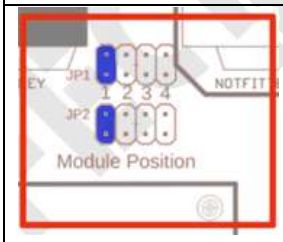
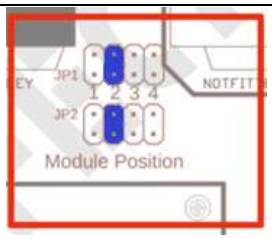
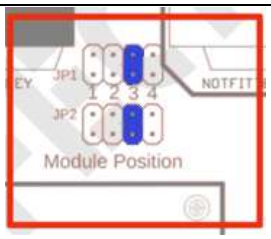
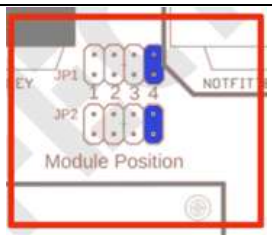
The **DI** cable links the jack connector to the instrument input on the Input Interface card. A shielded pair must be used. One wire of the cables carries the signal from the instrument, while the second one controls the DI activation relay depending on whether or not a jack is inserted in the connector on the front panel. (Figure 2)

Vu-Gain Reduction LED section ribbon

This ribbon is made from a 20-strand ribbon.
Once the 20-pin IDC connector has been crimped, the ribbon is split into 2 x 10 strands. Then a 10-pin connector is crimped to each branch of the Y formed in this way.

| |
|---|
| 2 jumpers are used to define the position of the module in the chain |
| |
| 2 jumpers will be placed in JP1 and JP2 opposite the position number in the chain |
| |
| |

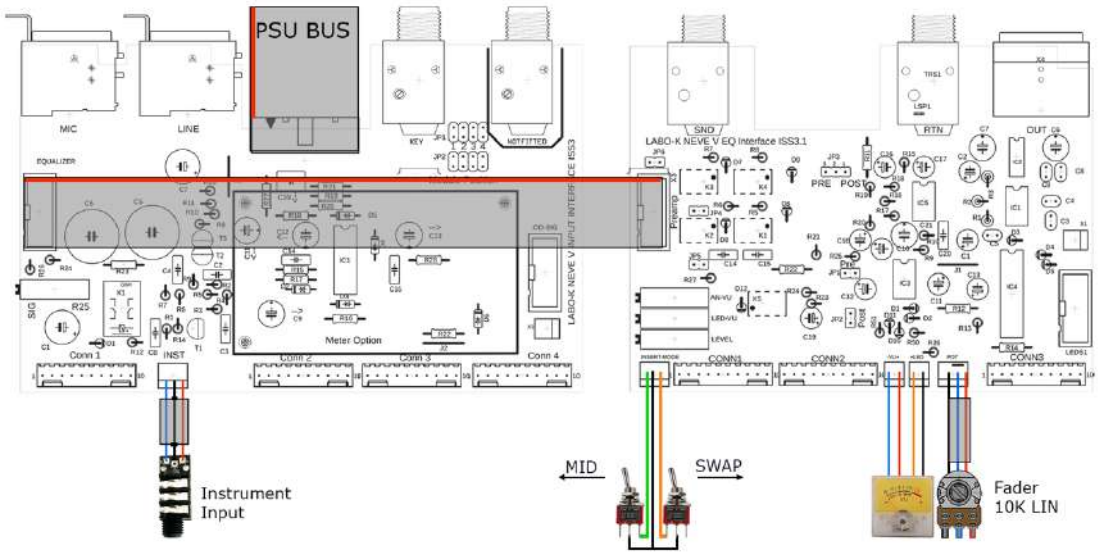



| Placement of the Dynamics link jumpers | | | |
|---|---|---|---|
| Module 1 | Module 2 | Module 3 | Module 4 |
|  |  |  |  |

# WIRING THE ELEMENTS PART 1

For greater clarity, the Input and EQ interfaces are laid out flat on the diagrams.
It is of course possible to arrange these cards vertically, in which case the length of the ribbons will have to be adapted accordingly.

PSU BUS and Intercard ribbons
Instrument input wiring (INST)
Wiring of the Insertion Matrix command (INSERT MODE)
Wiring of the analog Vu meter and its LED (VU and LED)
Wiring of an output volume potentiometer (POT)

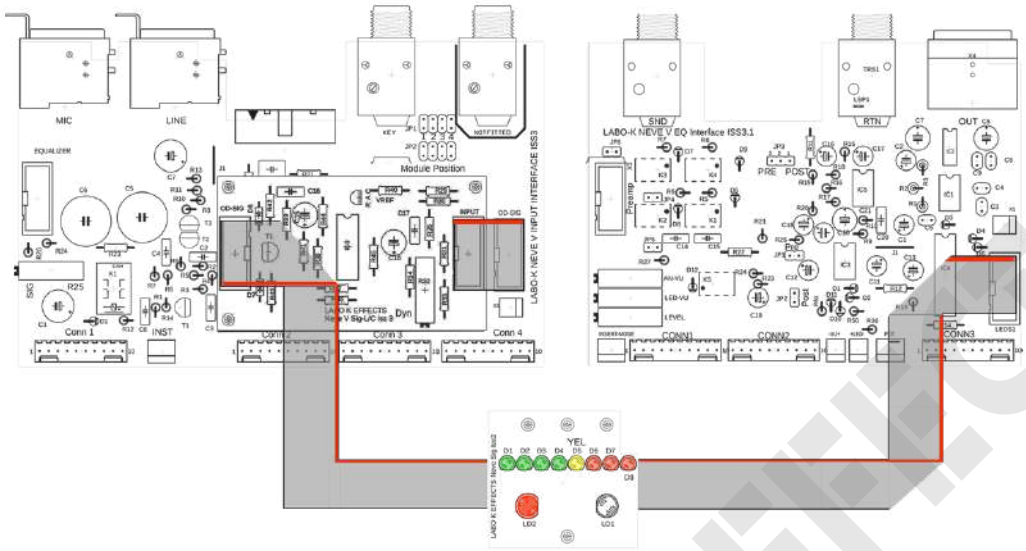



The ribbons will be made with AWG28 pitch 1.27 flat cable for the connectors supplied.
The various cables will be soldered and sleeved onto the corresponding pins of the KK male connectors.

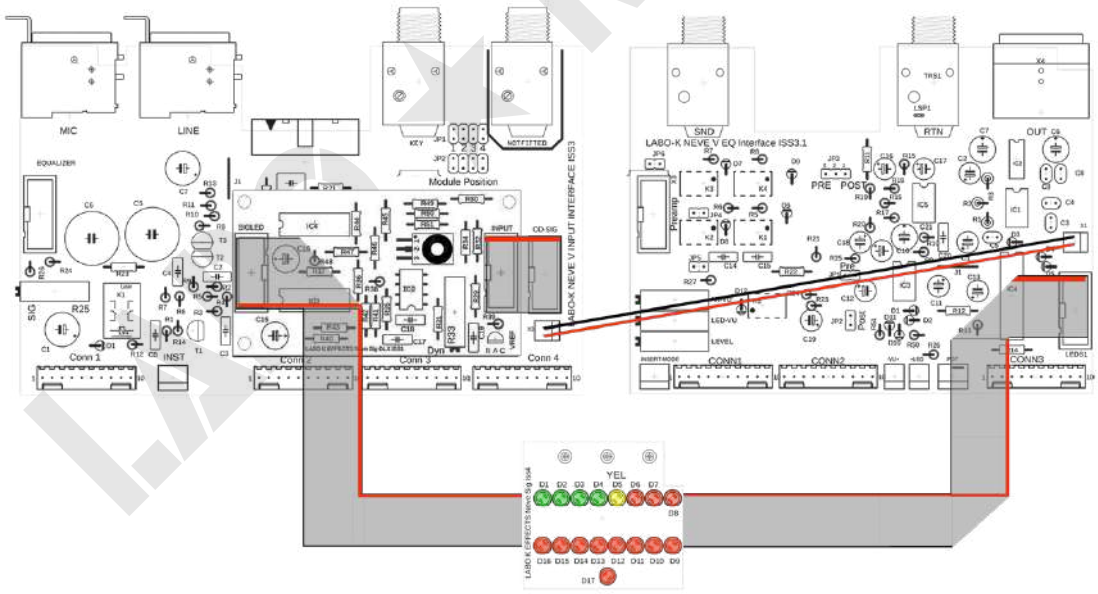
However, corresponding female connectors can be crimped.
Molex KK254 2-pin connectors
Molex KK254 3-pin connectors
Crimps: 08-50-0032

Two switches (not supplied) are used for Mid and Swap modes.
One 10K linear potentiometer (not supplied) is used for master volume.

Connection of the Vu, Overload and Gain Reduction V3 signalling board




Connection of the Vu, Overload and Gain Reduction VR signalling board



# CHECKS

A good practice is to test the interface cards before connecting the modules.
Start by testing the power connections before powering up.
Use a beep to check that the supply voltage rails arrive at the correct points.
Start with the Input card alone.
The 0V should arrive at pin 10 of the CONN3 Molex connector.
The +16V rail must be connected to pin 5 of the CONN3 Molex connector
The -16V rail must be connected to pin 8 of the Molex CONN3 connector
The -15V rail must be connected to pin 7 of the Molex CONN4 connector
The +48V rail must be connected to pin 5 of the CONN3 Molex connector

Check that there are no shorts between these pins.

You can now connect the EQ interface board using the intercard ribbon.
Check that the above test pins are connected to the following Molex connectors on the EQ interface board.

Rail 0V Pin 10 of CONN3 (Input) to Pin 10 of CONN3 (EQ)
Rail +16V Pin 5 of CONN3 (Input) to Pin 5 of CONN3 (EQ)
Rail -16V Pin 8 of CONN3 (Input) to Pin 7 of CONN3 (EQ)
Rail -15V Pin 7 of CONN3 (Input) to Pin 6 of CONN3 (EQ)

Check that there are no shorts between these pins.

You can now power the boards and measure the voltages.
Switch off the power supply and connect the modules using their connector tabs.
The interface connectors are opposite the corresponding module ribbons.
Check that no mismatch has occurred when connecting the ribbon cables.
Switch on the power and check that the module LEDs can lit.

Enter audio in the input module. You should have audio output.

LABO ★ K EFFECTS

To make the following settings, the following conditions must be met.
Audio input will be via the LINE input.
Set the gain trimmer to 0.
Check that the filters, equaliser and Dynamics are not engaged.
Apply a sinusoidal signal of frequency 1khz and amplitude 0dBm to the line input of the input module.

**Output level adjustment**

Connect a dB meter to the SND output of the EQ interface card.
The dB meter should read 0dBm. If not, it is likely that the link capacitors on the modules are not in optimum condition. (recapping required).
Connect a dB meter to the Out output of the EQ interface card.
Set the volume control potentiometer to the maximum position if fitted.
Adjust the LEVEL trimmer on the EQ card to read 0dBm at the output.
If you want more headroom, set the master volume knob to the number 7 out of 10 on the scale, for example, and assume that this is 0dB.
Adjust the LEVEL trimmer on the EQ card to read 0dBm at the output.
You should be able to read +4dB or so by turning the knob all the way up.

**LED vumeter calibration**

Reading the preamp input level (Jumper PRE) :
Adjust the LED-VU trimmer on the EQ board to light up the yellow LED on the vumeter.
Output level reading (Jumper POST):
Adjust the master volume to read 0dB on the dB meter connected to the output.
Adjust the LED-VU trimmer on the EQ card to light up the yellow LED on the vumeter.

**Analog vumeter calibration**

Reading the preamp input level (Jumper PRE) :
Adjust the AN-VU trimmer on the EQ board to set the needle of the vumeter to 0dB.
Reading the +4dB output level (Jumper POST):
Adjust the master volume to read +4dB on the dB meter connected to the output.
Adjust the AN-VU trimmer on the EQ card to set the meter pointer to 0dB.

**Overload signal calibration**

Adjust the SIG trimmer on the EQ card to start lighting up the signal LED.
Check that the LED goes out when you lower the input signal level slightly.
You can choose to display the presence of a signal below 0dB.
Inject this value at the input and adjust the trimmer in the same way.

**Dyn trimmer adjustment**

Adjust the Dyn trimmer on the SIG or DLX plugin boards so as to measure 0V +/- 10mV between the slider on this trimmer and 0V.

LABO ★ K EFFECTS

# INPUT INTERFACE BOARD COMPONENTS LIST PART 1

| | Basic version | | |
|---|---|---|---|
| | | | |
| NAME | VALUE | VISUAL | REFERENCE |
| R1 | 100R |  | |
| J1 | Strap | | |
| C1 | 47u63V | | |
| PSU BUS | IDC 16 connector | | 3M D2516-5002-AR |
| Equalizer | IDC 10 connector | | 3M N2510-6002-RB |
| Conn1 | KK10 connector | | Molex 22-23-2101 |
| Conn2 | KK10 connector | | Molex 22-23-2101 |
| Conn3 | KK10 connector | | Molex 22-23-2101 |
| Conn4 | KK10 connector | | Molex 22-23-2101 |
| MIC | XLR 3 F | | Neutrik NC3FAHR2 |
| LINE | XLR 3 F | | Neutrik NC3FAHR2 |
| KEY | TRS Jack | | Neutrik NRJ6HF-1 |

| | Hi Z Instrument Input Option | | |
|---|---|---|---|
| | | | |
| NAME | VALUE | VISUAL | REFERENCE |
| R2 | 2M2 |  | |
| R3 | 2M2 |  | |
| R4 | 2M2 |  | |
| R5 | 2M2 |  | |
| R6 | 470R |  | |
| R7 | 2M2 |  | |
| R8 | 100R |  | |
| R9 | 22R |  | |
| R10 | 2M2 |  | |
| R11 | 100R |  | |
| R12 | 360R |  | |
| R13 | 2M2 |  | |
| R14 | 10K |  | |
| C2 | 100n Film | | |
| C3 | 100n Film | | |
| C4 | 100n Film | | |
| C5 | 100u BP | | |
| C6 | 100u BP | | |
| C7 | 100u63V | | |
| C8 | 100n Film | | |
| D1 | 1N4148 | | |
| T1 | 2N3904 | | |
| T2 | K170 BL | | |
| T3 | K170 BL | | |
| K1 | | Relais 12V | EA2-12NU |
| INST | KK 3 connector | | Molex 22-23-2031 |

LABO ★ K EFFECTS

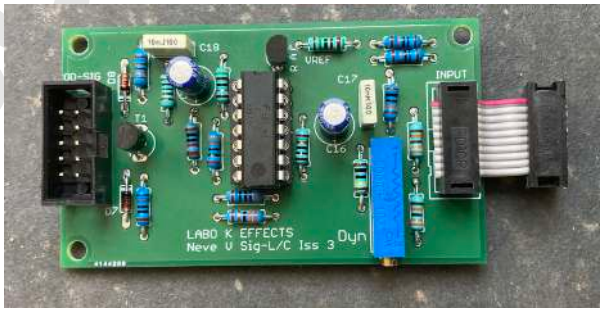
# INPUT INTERFACE BOARD COMPONENTS LIST PART 2

| | LED Vumeter option | | |
|---|---|---|---|
| | Section overload | | |
| NAME | VALUE | VISUAL | REFERENCE |
| R15 | 10K |  | |
| R16 | 10K |  | |
| R17 | 10K |  | |
| R18 | 10K |  | |
| R19 | 10K |  | |
| R20 | 3K3 |  | |
| R21 | 2M2 |  | |
| R22 | 1K3 |  | |
| R23 | 560K |  | |
| R24 | 68K |  | |
| R25 | Trimmer 10K | | 3006P-1-103Z-LF |
| R26 | 68K |  | |
| R27 | 51R |  | |
| R28 | 51R |  | |
| C9 | 22u25V | | |
| C10 | 680n | | |
| C11 | 2u2 | | |
| C12 | 22u25V | | |
| C13 | 22u25V | | |
| C14 | 22n Film | | |
| C15 | 22n Film | | |
| D2 | 1N4148 | | |
| D3 | 1N4148 | | |
| D4 | 1N4148 | | |
| D5 | 1N4148 | | |
| D6 | 1N4148 | | |
| IC1 | TL064 | + socket DIL 14 | |
| OD-SIG | IDC 10 connector | | 3M N2510-6002-RB |

LABO ★ K EFFECTS

# LIST OF SIG/LC PLUGIN BOARD COMPONENTS

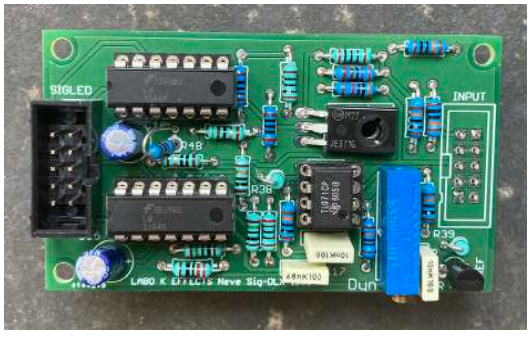
| | Gain reduction meter option | | |
|---|---|---|---|
| | | | |
| NAME | VALUE | VISUAL | REFERENCE |
| R29 | 100K | | |
| R30 | 100K | | |
| R31 | 330K | | |
| R32 | Trimmer 10K | | 3006P-1-103Z-LF |
| R33 | 330K | | |
| R34 | 1M | | |
| R35 | 100K | | |
| R36 | 33R | | |
| R37 | 300R | | |
| R38 | 330R | | |
| R39 | 1K | | |
| R40 | 1K5 | | |
| R41 | 10K | | |
| R42 | 1K3 | | |
| R43 | 680R | | |
| R44 | 51R | | |
| R45 | 51R | | |
| C15 | 22u25V | | |
| C16 | 22u25V | | |
| C17 | 10n Film | | |
| C18 | 10n Film | | |
| D7 | 1N4148 | | |
| D8 | 1N4148 | | |
| VREF | TL431 | | |
| INPUT | 10 Way connector F | | |
| OD-SIG | IDC 10 connector | | 3M N2510-6002-RB |
| IC3 | LM339 | + DIL14 socket | |




LABO K EFFECTS

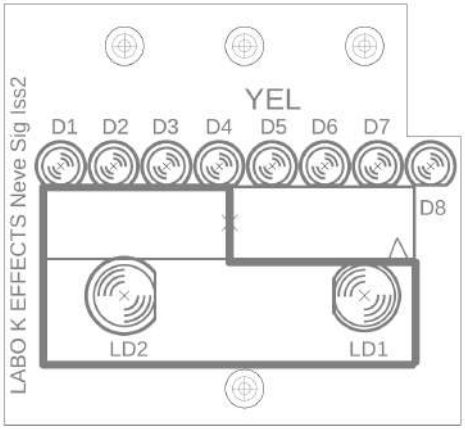
# LIST OF DLX PLUGIN BOARD COMPONENTS

| | DLX Meter section option | | |
|---|---|---|---|
| | | | |
| NAME | VALUE | VISUAL | REFERENCE |
| R29 | 100K | | |
| R30 | 100K | | |
| R31 | 100K | | |
| R32 | 100K | | |
| R33 | Trimmer 10K | | 3006P-1-103Z-LF |
| R34 | 100K | | |
| R35 | 100K | | |
| R36 | 10R | | |
| R37 | 10R | | |
| R38 | 15K | | |
| R39 | 1K5 | | |
| R40 | 220R | | |
| R41 | 200R | | |
| R42 | 150R | | |
| R43 | 150R | | |
| R44 | 100R | | |
| R45 | 200R | | |
| R46 | 100R | | |
| R47 | 51R | | |
| R48 | 51R | | |
| R49 | 200R | | |
| R50 | 2K7 | | |
| R51 | 30K | | |
| C15 | 22u25V | | |
| C16 | 22u25V | | |
| C17 | 10n Film | | |
| C18 | 10n Film | | |
| C19 | 10n Film | | |
| T1 | MJE171 | | |
| INPUT | 10 Way connector F | | |
| OD-SIG | IDC 10 connector | | 3M N2510-6002-RB |
| IC2 | TL071 | + DIL8 socket | |
| IC3 | LM339 | + DIL14 socket | |
| IC4 | LM339 | + DIL14 socket | |
| VREF | TL431 | | |



## LIST OF SIG/LC LED BOARD COMPONENTS

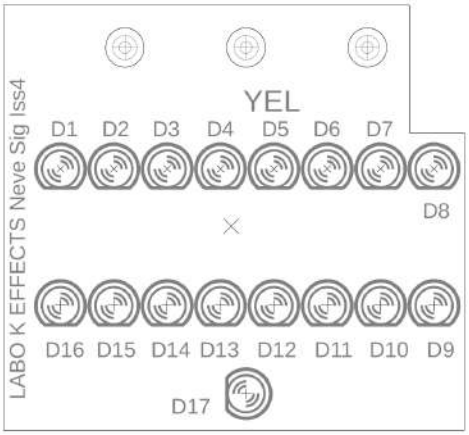
| | Gain reduction meter option | | |
|---|---|---|---|
| | | | |
| NAME | VALUE | VISUAL | REFERENCE |
| D1 | LED 3mm | Green | |
| D2 | LED 3mm | Green | |
| D3 | LED 3mm | Green | |
| D4 | LED 3mm | Green | |
| D5 | LED 3mm | Yellow | |
| D6 | LED 3mm | Red | |
| D7 | LED 3mm | Red | |
| D8 | LED 3mm | Red | |
| LD1 | LED 5mm | Bicolour | |
| LD2 | LED 5mm | Red | |
| Conn1 | IDC 20 | | AWLP-20 |



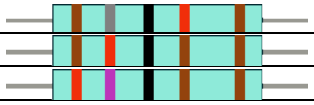

LABO K EFFECTS

# LIST OF DLX LED BOARD COMPONENTS

| | DLX Meter section option | | |
|---|---|---|---|
| | | | |
| NAME | VALUE | VISUAL | REFERENCE |
| D1 | LED 3mm | Green | Vu metre |
| D2 | LED 3mm | Green | Vu metre |
| D3 | LED 3mm | Green | Vu metre |
| D4 | LED 3mm | Green | Vu metre |
| D5 | LED 3mm | Jaune | Vu metre |
| D6 | LED 3mm | Red | Vu metre |
| D7 | LED 3mm | Red | Vu metre |
| D8 | LED 3mm | Red | Vu metre |
| D9 | LED 3mm | Red | Gain Reduction |
| D10 | LED 3mm | Red | Gain Reduction |
| D11 | LED 3mm | Red | Gain Reduction |
| D12 | LED 3mm | Red | Gain Reduction |
| D13 | LED 3mm | Red | Gain Reduction |
| D14 | LED 3mm | Red | Gain Reduction |
| D15 | LED 3mm | Red | Gain Reduction |
| D16 | LED 3mm | Red | Gain Reduction |
| D17 | LED 3mm | Red | Signal-Overload |
| Conn1 | IDC 20 | | AWLP-20 |

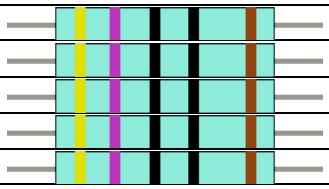


# EQ INTERFACE BOARD COMPONENTS

| | Basic option | | |
|---|---|---|---|
| | | | |
| NAME | VALUE | VISUAL | REFERENCE |
| R1 | 18K |  | |
| R2 | 1K2 | | |
| R3 | 3K6 | | |
| C1 | 100u10V | | |
| C2 | 100u10V | | |
| C3 | 22p Ceramic | | |
| C4 | 100n Ceramic | | |
| C5 | 100n Ceramic | | |
| C6 | 22u25V | | |
| C7 | 22u25V | | |
| C8 | 100n Ceramic | | |
| C9 | 100n Ceramic | | |
| IC1 | NE5534 | + DIL8 socket | |
| IC2 | THAT1646 | + DIL8 socket | |
| LEVEL | Trimmer 10K | | 3006P-1-103Z-LF |
| X3 | IDC 10 connector | Preamp | 3M N2510-6002RB |
| Conn1 | KK 10 connector | | Molex 22-23-2101 |
| Conn2 | KK 10 connector | | Molex 22-23-2101 |
| Conn3 | KK 10 connector | | Molex 22-23-2101 |
| SND | TRS Jack | Insertion Send | Neutrik NRJ6HF-1 |
| RTN | TRS Jack | Insertion Return | Neutrik NRJ6HF-1 |
| OUT | XLR 3 F | Output | Neutrik NC3MAHR |

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# INSERT MATRIX COMPONENTS

| | Matrix | | |
|---|---|---|---|
| | | | |
| NAME | VALUE | VISUAL | REFERENCE |
| R5 | 470R |  | |
| R6 | 470R | | |
| R7 | 470R | | |
| R8 | 470R | | |
| R27 | 470R | | |
| C14 | 100n Film | | |
| C15 | 100n Film | | |
| D6 | 1N4148 | | |
| D7 | 1N4148 | | |
| D8 | 1N4148 | | |
| D9 | 1N4148 | | |
| D12 | 1N4148 | | |
| K1 | 12V relay | | G6K-2P 12V |
| K2 | 12V relay | | G6K-2P 12V |
| K3 | 12V relay | | G6K-2P 12V |
| K4 | 12V relay | | G6K-2P 12V |
| K5 | 12V relay | | G6K-2P 12V |
| INS Mod | KK 3 connector | Matrix | Molex 22-23-2031 |

LABO ★ K EFFECTS

# LED VUMETRE DRIVER COMPONENTS

| | Option Vu mètre à LEDS | | |
|---|---|---|---|
| | | | |
| NAME | VALUE | VISUAL | REFERENCE |
| J1 | Jumper | | |
| R9 | 47K |  | |
| R10 | 100R | | |
| R11 | 100R | | |
| R12 | 180R | | |
| R13 | 3K3 | | |
| R14 | 1K | | |
| C10 | 1u63V | | |
| C11 | 22u25V | | |
| C12 | 22u25V | | |
| C13 | 1u63V | | |
| LED-VU | Trimmer 200K | | |
| D1 | 1N4148 | | |
| D2 | 1N4148 | | |
| D3 | 1N4148 | | |
| D4 | 1N4148 | | |
| D5 | 1N4148 | | |
| IC3 | TL071 | + DIL8 socket | |
| IC4 | LM3915 | + DIL18 socket | |
| LEDS1 | IDC 10 connector | | 3M N2510-6002RB |

LABO ★ K EFFECTS

# ANALOG VUMETRE DRIVER COMPONENTS

| | Analogue Vumeter Option | | |
|---|---|---|---|
| | | | |
| NAME | VALUE | VISUAL | REFERENCE |
| R15 | 47K |  | |
| R16 | 47K | | |
| R17 | 47K | | |
| R18 | 3K3 | | |
| R19 | 3K3 | | |
| R20 | 3K3 | | |
| R21 | 3K3 | | |
| R22 | 100R | | |
| R23 | 47K | | |
| R24 | 47K | | |
| R25 | 47K | | |
| R26 | 1K5 | | |
| R50 | 3K3 | | |
| R51 | 3K3 | | |
| C16 | 10u63V | | |
| C17 | 10u63V | | |
| C18 | 10u63V | | |
| C19 | 10u63V | | |
| C20 | 22n Film | | |
| C21 | 22u25V | | |
| ANA-VU | Trimmer 10K | ANALOG VU | 3006P-1-103Z-LF |
| D1 | BAT85 | | |
| D2 | BAT85 | | |
| IC1 | TL071 | | |
| VU | Connecteur KK 2 | Vumeter | Molex 22-27-2021 |
| LED | Connecteur KK 2 | Vumeter LED | Molex 22-27-2021 |

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# PINOUTS

Input Interface

| PSU BUS | |
|---|---|
| 1 | +48V |
| 2 | +48V |
| 3 | GND |
| 4 | GND |
| 5 | GND |
| 6 | GND |
| 7 | +16V |
| 8 | +16V |
| 9 | +16V |
| 10 | +16V |
| 11 | -15V |
| 12 | -15V |
| 13 | -16V |
| 14 | -16V |
| 15 | Loop Out |
| 16 | Loop In |

| INST | |
|---|---|
| 1 | Input |
| 2 | GND |
| 3 | Remote |

EQ Interface

| INSERT MODE | |
|---|---|
| 1 | Mid control |
| 2 | GND |
| 3 | Swap control |

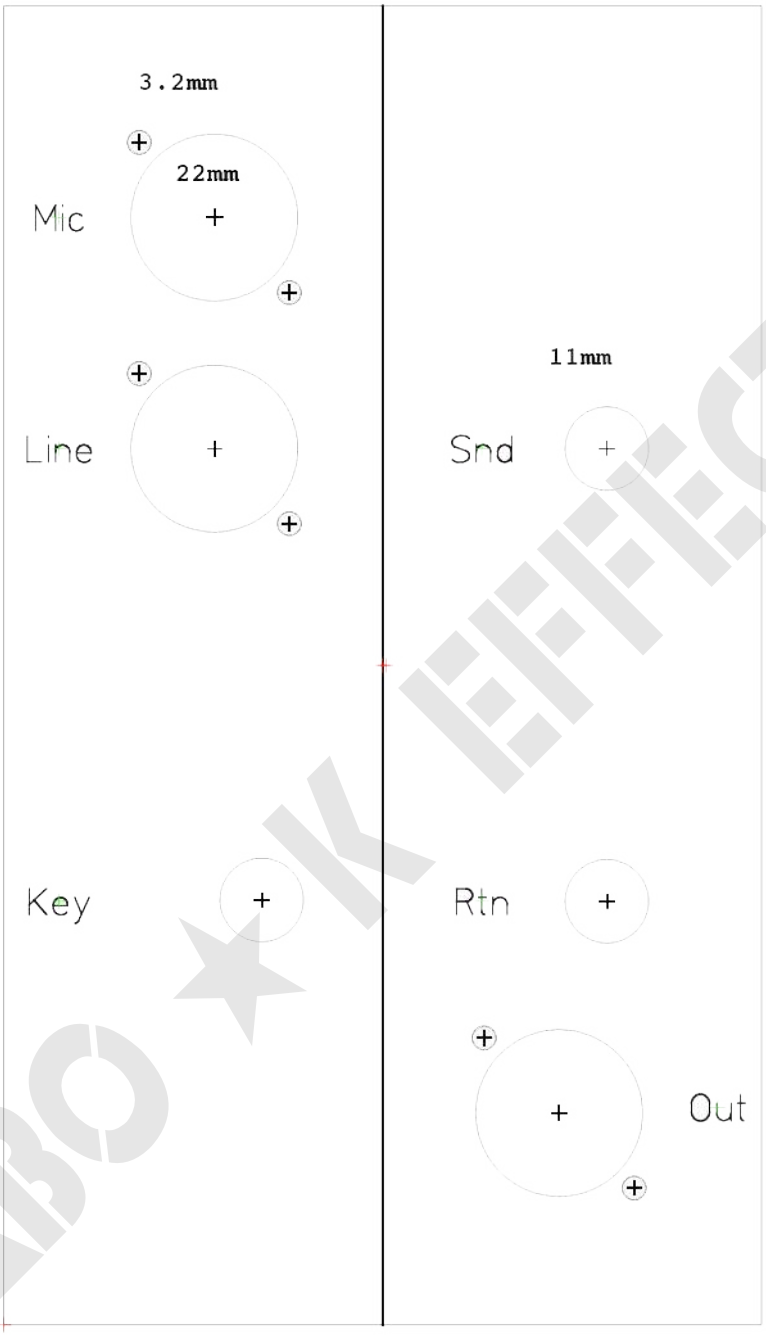
| VU | |
|---|---|
| 1 | + |
| 2 | - |

| LED | |
|---|---|
| 1 | +Anode |
| 2 | -Cathode |

| POT | |
|---|---|
| 1 | GND |
| 2 | Wiper |
| 3 | Input |

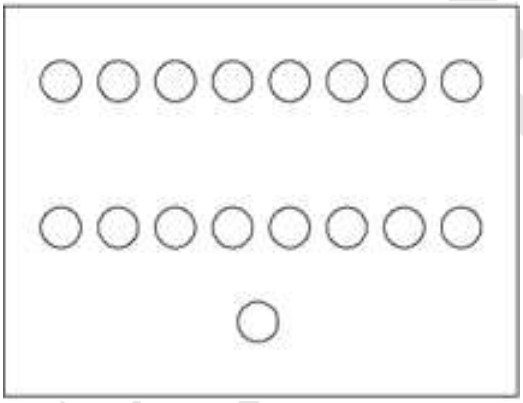
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# DRILLING TEMPLATE




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## DRILLING TEMPLATE



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