



DIVERSE

USER MANUAL

1. Introduction

The OTECABLES **DI**Verse direct box is a product designed for all demanding musicians and audio professionals from live audio world or recording studio field. Thanks to the amazing quality and careful choice of components, the **DI**Verse is able to capture sound of any instrument with greatest clarity. Precisely optimized passive electronic design leads to unmatched signal to noise ratio and linear transmission without any degradation of the signal. When overdriven, the famous LUNDAHL transformers does not distort, instead they provides warm analog saturation with rich, pleasant harmonics. Blue and green mono models feature a 6,3 mm TRS jack output behind the transformer section. All the products in the **DI**Verse line are able to eliminate buzz or hum caused by ground loops in the signal chain. Heavy duty design of **DI**Verse DIboxes is ready to withstand the rough conditions on the road and to maintain performance stability for recording applications.

2. **DI**Verse models

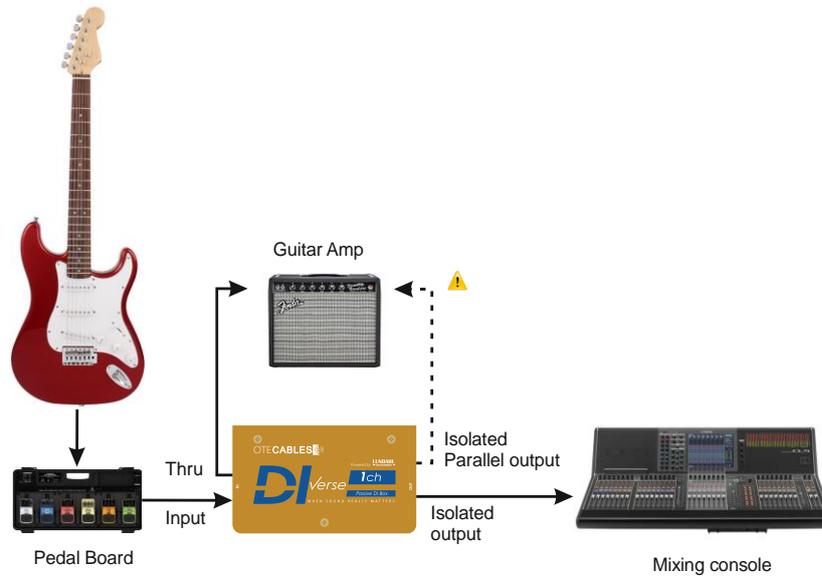
DIVerse BLUE is the universal live and recording tool specifically designed for low impedance audio sources, such as keyboards, synthesizers, guitars and basses with active pickups, audio interfaces, effect pedals or guitar amplifier outputs. It features the LUNDAHL general purpose LL1570 transformer. The input is transformed with 1:1 ratio (default setting), so the output signal is transferred at the original level with maximum clarity. In addition **DI**Verse BLUE offers an extra option of feeding an extremely long audio signal conduction from the DI's output. This is a big advantage in situations where, for example, analog vintage gear used at the Front Of House at a large stadium show. For these occasions the electronic unit of **DI**Verse products offers the possibility to internally reconfigure the circuit to provide extremely low impedance output of 150 Ohm with 2:1 conversion (thus with -6dB level correction). **DI**Verse BLUE is available in both mono and stereo version.

DIVerse GREEN HiZ model is a classic DI box tailored for high impedance audio sources, like basses and guitars with passive electronics or Hammond organ. It features the LUNDAHL LL1935, the DI designated transformer. The input is transformed with ratio 10:1 (internally switchable to 5:1) which allows to preserve the whole frequency spectrum of the signal without any loss of dynamic range over long output cable connections.

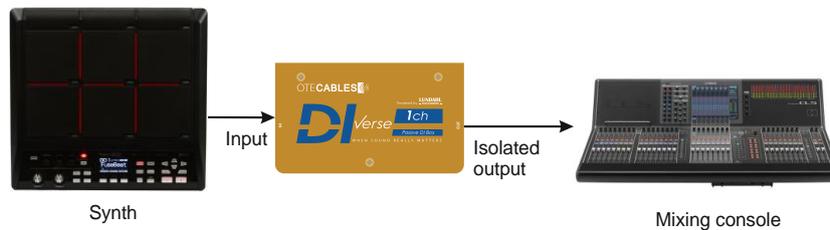
DIVerse RED ISO model is a stereo galvanic isolator. It features the very high-level LUNDAHL LL1588 transformers, which can operate at extremely high input levels without any kind of signal coloration. Compared to the BLUE model, the line level can be EIGHT times higher before any noticeable saturation of the signal occurs. This feature makes it most suitable for applications where you need to transport high levels of signal without compromising the lowest frequencies, for example when you need to interconnect line-level devices like mixing consoles, PA processors, amplifiers, DJ equipment, modular synths, recording and broadcasting units, distant PA delay zones, etc.

3. Uses for your DIverse – Examples

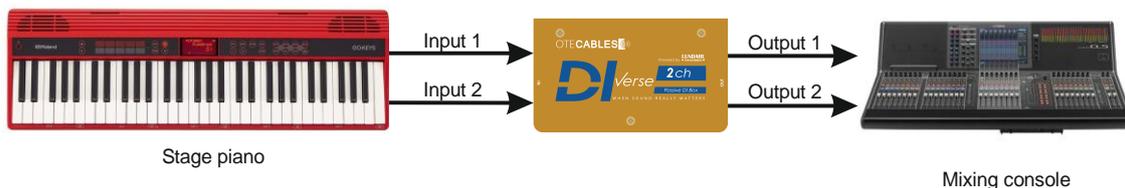
DIverse BLUE



Guitar Pedal Board with unbalanced or balanced line output. Guitar amp or monitor speaker can be connected to Thru connector on the input side (before the transformer) or optionally to Parallel output (after the transformer).



Electronic instruments with unbalanced or balanced line output

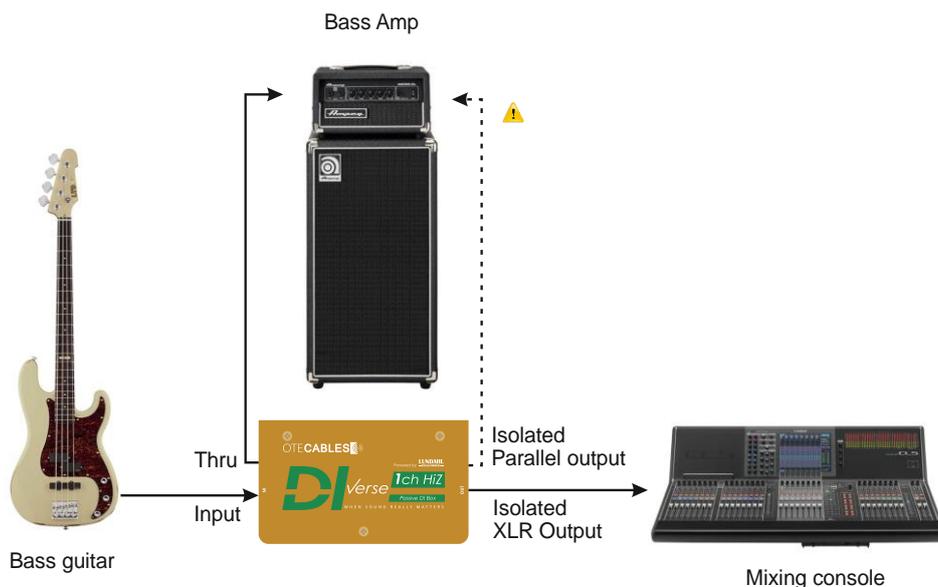


Stereo or dual channel electronic instruments with unbalanced or balanced line outputs

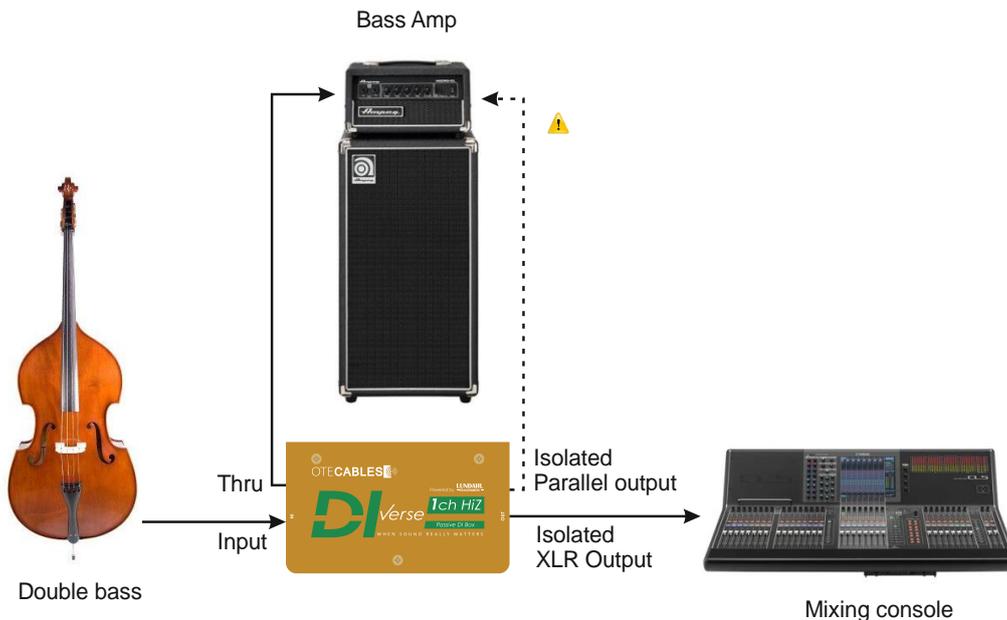


For the best results using isolated parallel output and isolated output in the same time, please connect the stage amp with balanced line. Some configurations when unbalanced TS connection to the stage amp is used along with the balanced XLR connection to the sound system can cause the degradation of the signal path resistance against the electromagnetic interference and ground loops. In case of the unwanted noise occurred, please use rather the standard Thru connector to feed your stage amp instead.

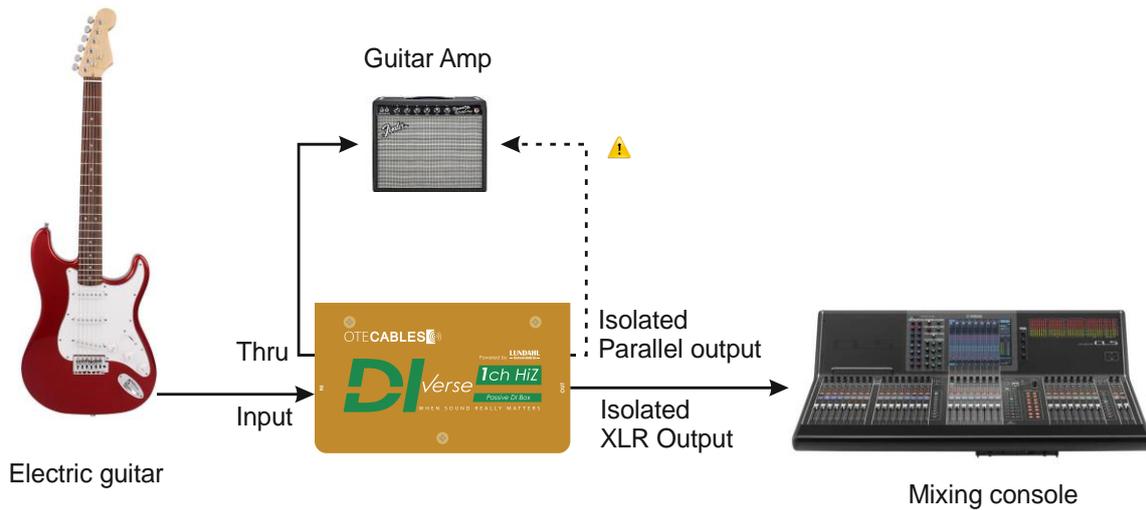
DIverse GREEN HiZ



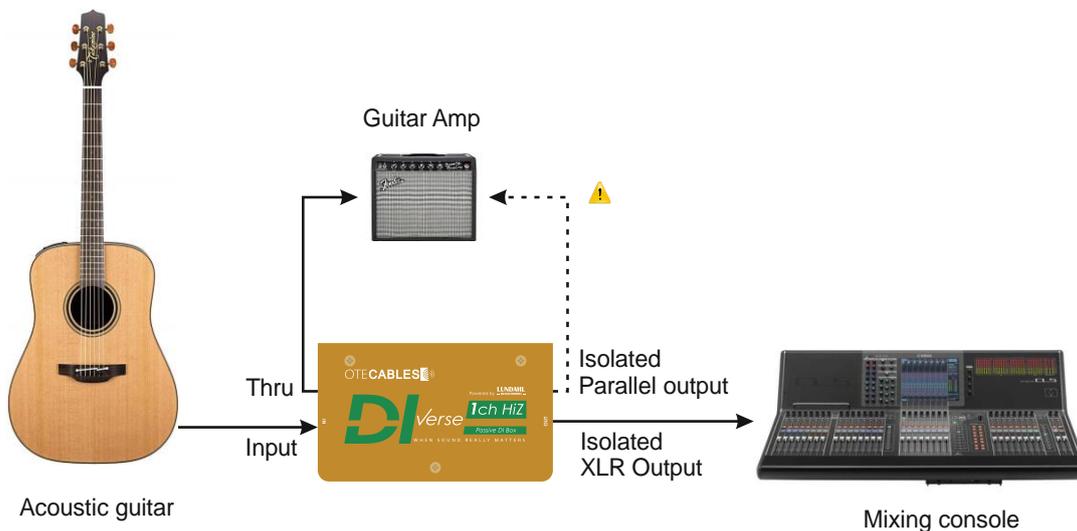
Bass guitar pickup with high impedance instrument output. Bass amp can be connected to Thru connector on the input side (before the transformer) or optionally to Parallel output (after the transformer).



Double bass pickup with high impedance instrument output. Bass amp can be connected to Thru connector on the input side (before the transformer) or optionally to Parallel output (after the transformer).



Electric guitar pickup with high impedance instrument output. Guitar amp can be connected to Thru connector on the input side (before the transformer) or optionally to Parallel output (after the transformer).



Acoustic guitar or other pickups with high impedance instrument output. Guitar amp can be connected to Thru connector on the input side (before the transformer) or optionally to Parallel output (after the transformer).

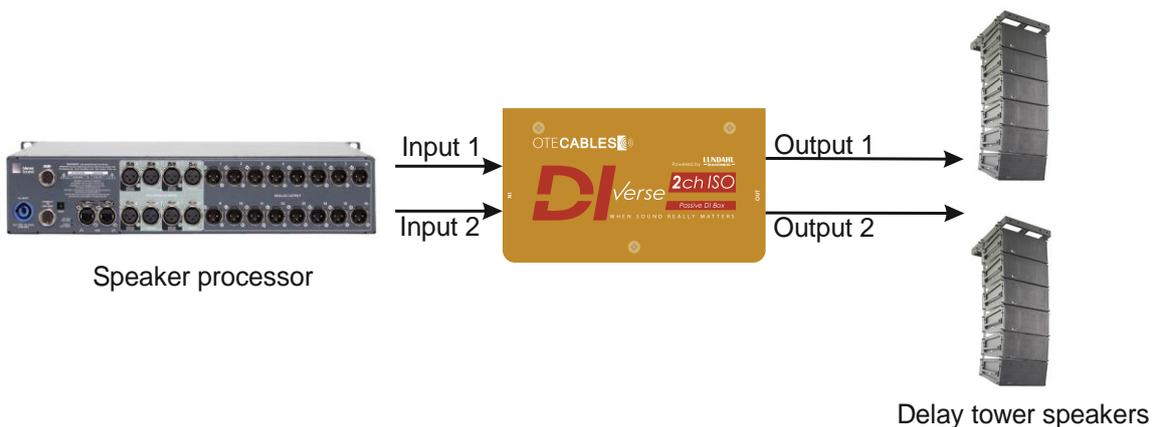


For the best results using isolated parallel output and isolated output in the same time, please connect the stage amp with balanced line. Some configurations when unbalanced TS connection to the stage amp is used along with the balanced XLR connection to the sound system can cause the degradation of the signal path resistance against the electromagnetic interference and ground loops. In case of the unwanted noise occurred, please use rather the standard Thru connector to feed your stage amp instead.

DIverse RED ISO



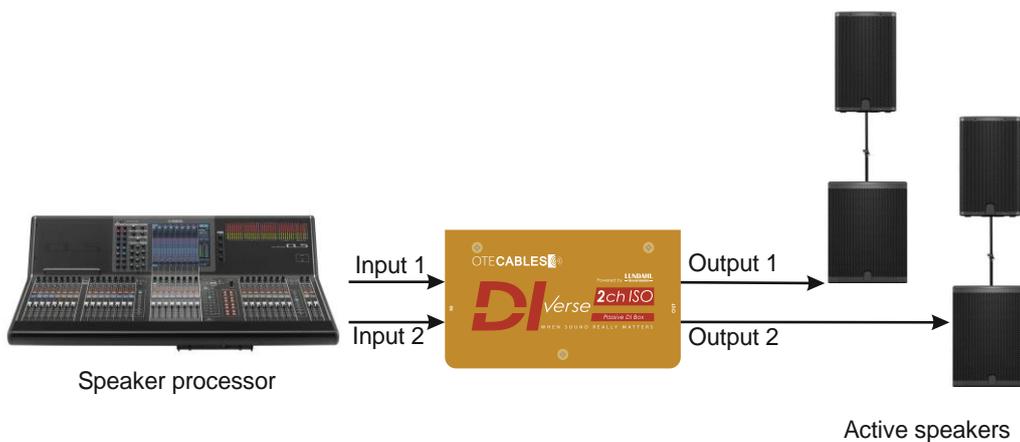
Interconnecting (galvanic separation) of a speaker processors.



Speaker processor

Delay tower speakers

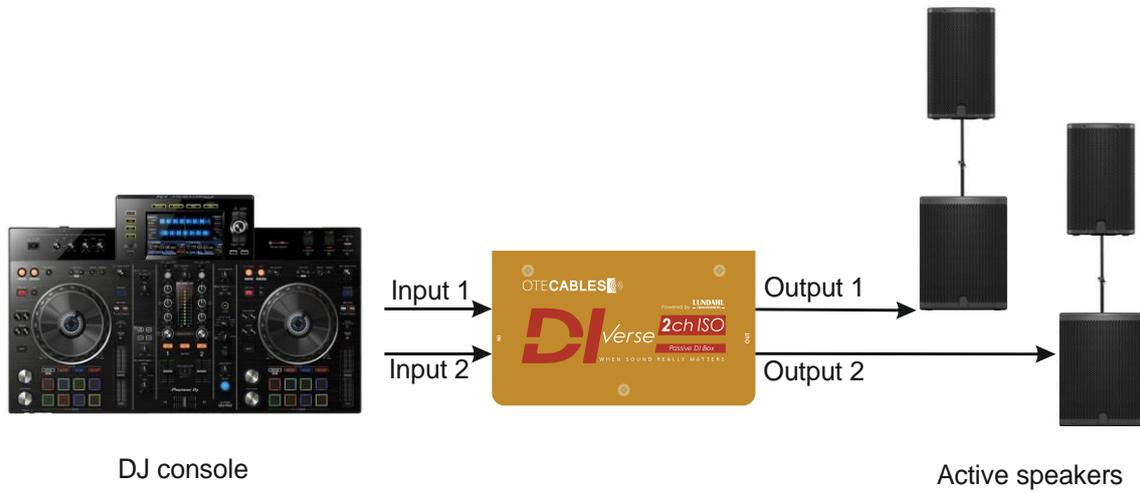
Interconnecting (galvanic separation) speaker processor with Delay tower speakers.



Speaker processor

Active speakers

Interconnecting (galvanic separation) mixing console with active speakers.

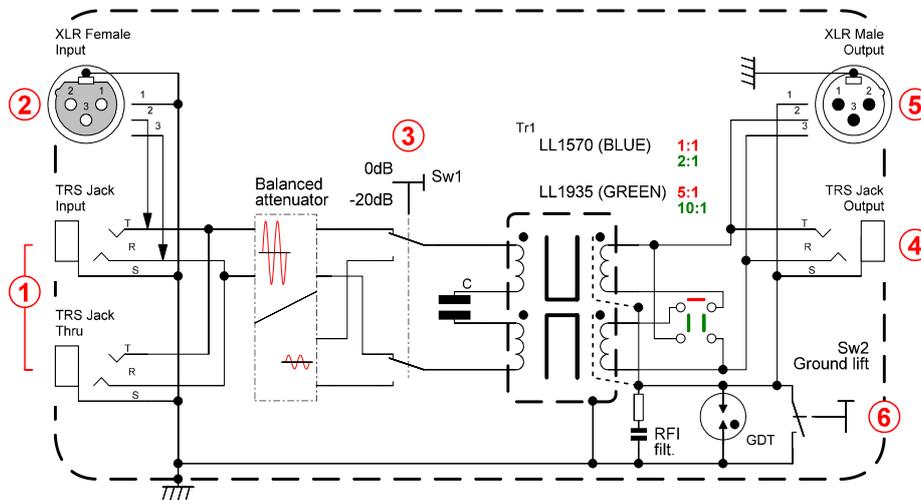


Interconnecting (galvanic separation) DJ console with active PA system or speaker amps.

4. Features

DIverse BLUE and GREEN 1 channel version

Block Wiring Diagram



Controls

Input panel



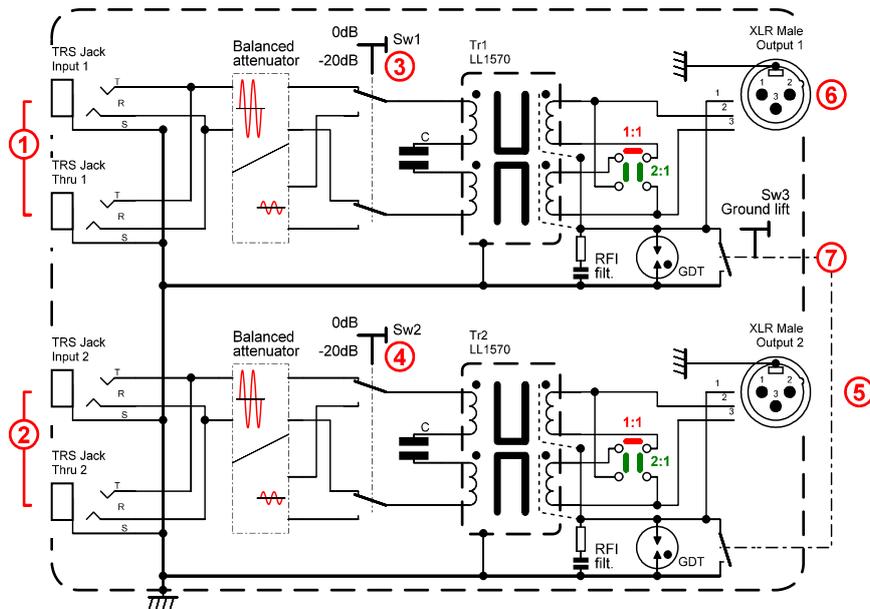
Output panel



- 1 Input/Thru connectors TRS 6,3mm (balanced/unbalanced)
- 2 Input connector XLR (balanced)
(1 and 2 are connected in parallel)
- 3 "Pad" switch -20dB
- 4 Output connector TRS 6,3mm (balanced/unbalanced)
- 5 Output connector XLR (balanced)
(4 and 5 are connected in parallel)
- 6 "Lift" switch - lifts the XLR pin-1 ground at the output

DIverse BLUE 2 channel (stereo) version

Block Wiring Diagram



Controls

Input panel



Output panel



- 1 Channel 1 Input/Thru connectors TRS 6,3mm (balanced/unbalanced)
- 2 Channel 2 Input/Thru connectors TRS 6,3mm (balanced/unbalanced)
- 3 Channel 1 "Pad" switch -20dB
- 4 Channel 2 "Pad" switch -20dB

- 5 Channel 2 output connector XLR (balanced)
- 6 Channel 1 output connector XLR (balanced)
- 7 "Lift" switch - lifts the XLR pin-1 ground at both output

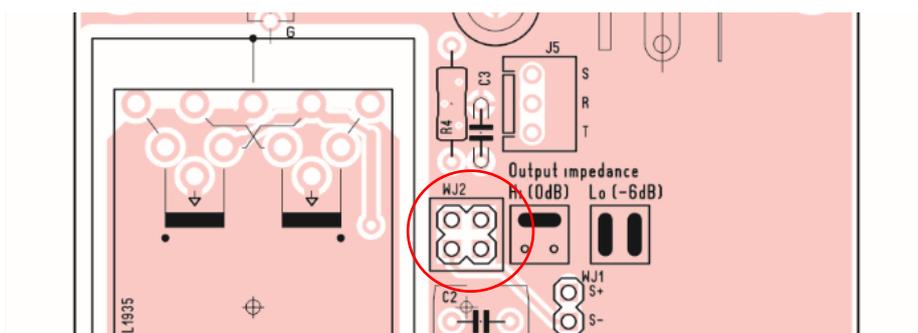
Internal output impedance switch (BLUE and GREEN versions)

In order to drive an extremely long line or to connect to a low impedance input, the Di-Box can be internally switched to half "Lo" output impedance with a corresponding additional attenuation of -6dB (resulting 10:1 conversion ratio for GREEN, 2:1 for BLUE).

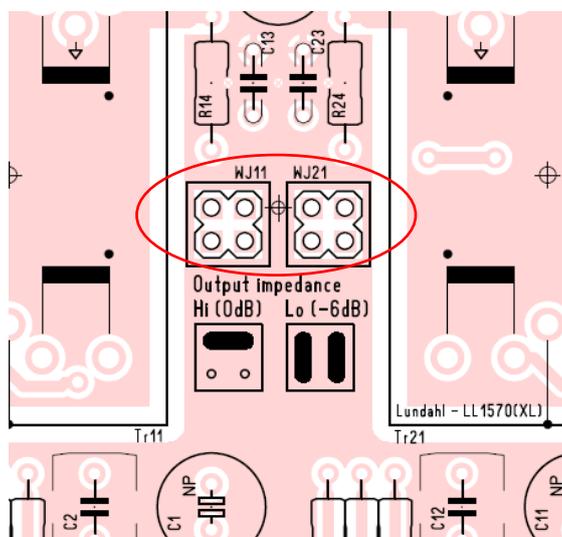
Default settings:

DIverse BLUE – Hi (0dB), 1:1 ratio

DIverse GREEN – Lo (-6dB), 10:1 ratio



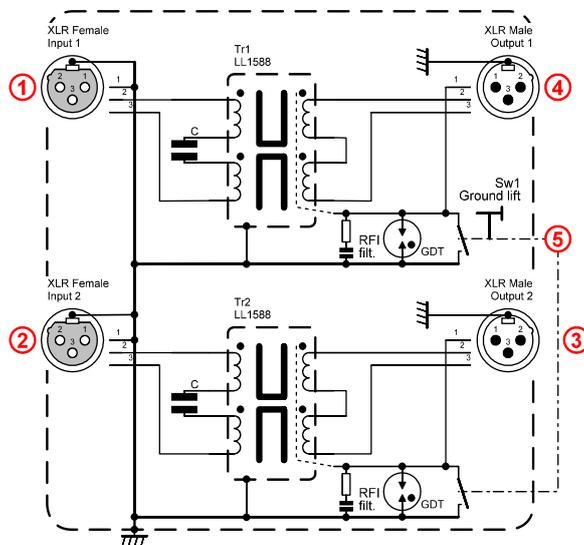
1 channel version



2 channel version

DIVerse RED ISO

Block Wiring Diagram



Controls

Input panel



Output panel



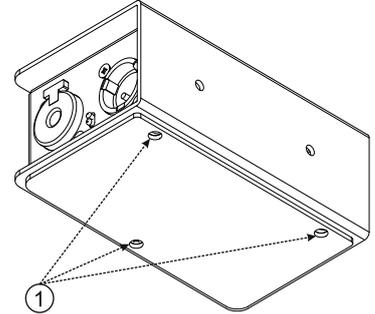
- 1 Channel 1 Input connector XLR balanced
- 2 Channel 2 Input connector XLR balanced

- 3 Channel 2 Output connector XLR (balanced)
- 4 Channel 1 Output connector XLR (balanced)
- 5 "Lift" switch - lifts the XLR pin-1 ground at both output

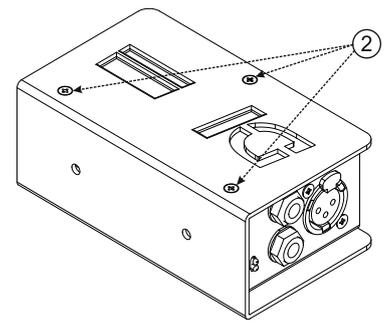
5. Disassembly

To switch the output impedance or using rack mount kit, it is necessary to remove the cover. Use the following procedure for disassembly:

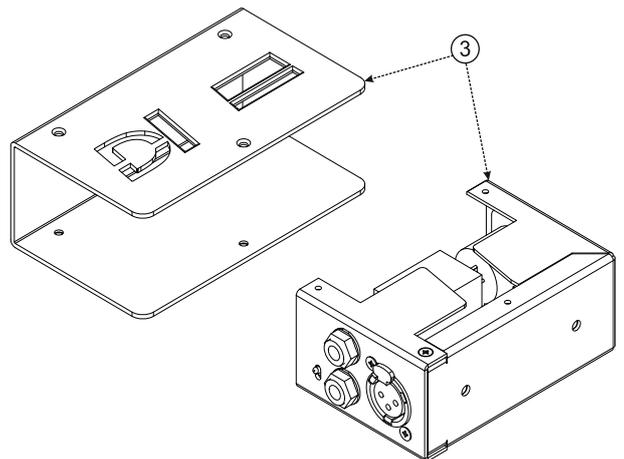
1 - Remove the three black screws (M3x5 DIN965) on the bottom side



2 - Remove the three golden screws (M3x5 DIN965) on the top side



3 - Remove the cover



For assembly proceed in the opposite way.

6. Rack mount kit

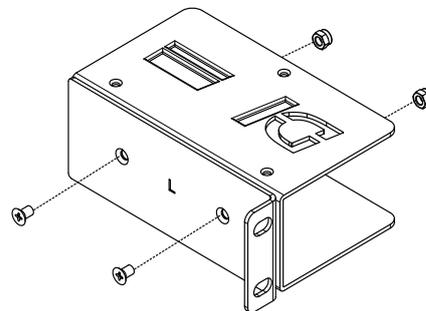
Using the Rack mount kit, six of any type of **DI**verse can be assembled together and fitted into a 19" rack.

Rack mount kit contains:

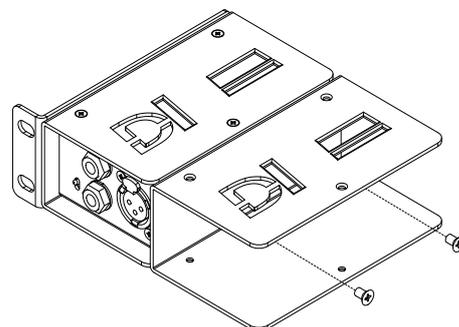
- 1pc Left rack handle
- 1pc Right rack handle
- 2pcs M4 nuts
- 14pcs – M4x8 screws

Use the following procedure for disassembly:

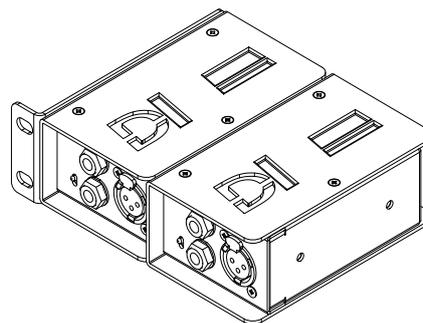
1 – Mount left rack handle to the cover using M4 screws and nuts



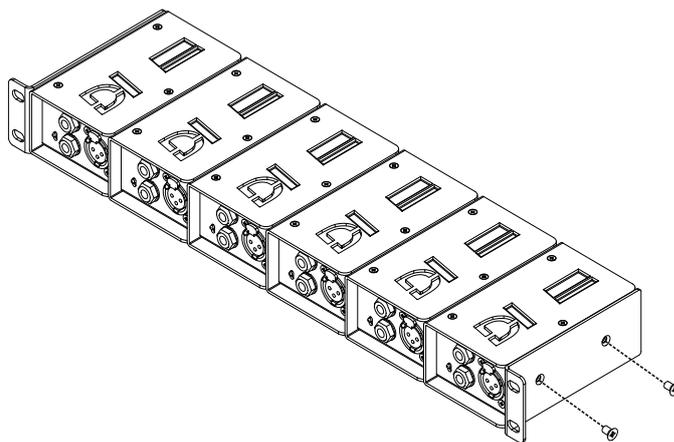
2- Assemble 1st **DI**verse and mount next cover using M4 screws



3 - Continue with others



4 – Finish mounting with right rack handle



7. Technical parameters

DIverse BLUE

| | |
|---------------------------------|--|
| Dimensions | 128 x75 x 52 mm |
| Weight | 0,8 kg (1ch version), 0,85 kg (2ch version) |
| Nominal input/output impedances | 600/600 Ohm (Pad =0dB; 1:1) 10k/600 Ohm (Pad -20dB; 1:1) |
| Static DC resistance | 100 Ohm |
| Recommended load impedance | >2,4kOhm (internal "Hi" 1:1 =0dB) >600 Ohm (for configuration "Lo Output" 2:1 / -6dB) |
| Frequency response | 20Hz - 40kHz @ +0 / -0,2dB |
| Maximum input level | +6dBu (THD<0,1% @ 50Hz) +16dBu (THD<1% @ 50Hz) |

DIverse GREEN HiZ

| | |
|---|---|
| Dimensions | 128 x75 x 52 mm |
| Weight | 0,8 kg |
| Nominal impedance | >100 kOhm (Pad =0dB; ratio 10:1, load impedance > 2kOhm) |
| Static DC resistance primary/secondary | 1,3k Ohm / 35 Ohm |
| Recommended load impedance | >2,4kOhm |
| Frequency response (depend on source impedance) | 20Hz - 40kHz @ 0 dB/ -0,5dB, source impedance 10kOhm, load impedance 600Ohm 20Hz - 20kHz @ 0 dB/ -1dB, source impedance 100kOhm, load impedance 600Ohm |
| Maximum input level | +14dBu (THD<0,1% @ 50Hz) +26dBu (THD<1% @ 50Hz) |

DIverse RED ISO

| | |
|---------------------------------|--|
| Dimensions | 128 x75 x 52 mm |
| Weight | 0,9 kg |
| Nominal input/output impedances | 600/600 Ohm |
| Static DC resistance | 122 Ohm |
| Recommended load impedance | >2,4 kOhm |
| Frequency response | 20Hz - 40kHz @ +0 / -0,5dB |
| Maximum input level | +25dBu (THD<0,1% @ 50Hz) +28dBu (THD<1% @ 50Hz) |

ENVIRONMENTAL

| | |
|---------------------------|--|
| Operating Temperature | 0° C to +45° C |
| Non Operating Temperature | <-40° C or >+75° C |
| Humidity | To 95% at 35° C |
| Operating Altitude | To 4600 m (15,000 ft) |
| Shock | 30 g 11 msec half-sine on each of 6 sides |
| Vibration | 10 Hz – 55 Hz (0.010 m peak-to-peak excursion) |



8. Warranty

All OTECABLES products are designed in cooperation with top sound engineers to meet their specific requirements and tested in real-world conditions. Every product is assembled and individually checked during the proper output quality control. This Manufacturer's Warranty Policy shall help you to obtain a help in the unlikely case your unit has failed to perform.

Manufacturer's WARRANTY POLICY

This warranty extends to OTECABLES **DIVERse** products listed below:

DIVERse BLUE 1ch

DIVERse BLUE 2ch

DIVERse GREEN HiZ 1ch

DIVERse RED ISO 2ch

Above mentioned products must be purchased from OteSound, s.r.o. or its authorized dealers.

OTECABLES branded products are manufactured by

OteSound, s.r.o.

Klatovska 424/22

602 00 Brno, Czech Republic / Europe

sales@otecables.cz

TRANSFERABILITY

This warranty applies only to the original purchaser/end-user of the OTECABLES **DIVERse** products and is not transferable. This warranty is valid only for OTECABLES **DIVERse** products purchased from OteSound, s.r.o. or its authorized dealers.

WARRANTY PERIOD

OteSound, s.r.o. declares OTECABLES **DIVERse** products, if used under normal operating conditions, to be free from defects in materials and workmanship for a period of three (3) year from the date of purchase. This Manufacturer's Warranty subjects to the online registration of purchased product within sixty (60) days of retail purchase.

You can qualify for 3 years Manufacturer's Warranty by clicking www.otecables.cz/contact-us

Your original, dated bill of sale is presented whenever applied for warranty service during the Manufacturer's Warranty period.

The statutory warranty rights against the vendor shall not be affected by this warranty. Regarding respective warranty period in your country please contact your retailer from whom you have purchased OTECABLES **DIVERse** products.

WARRANTY COVER

This warranty covers defects in materials and workmanship if:

(1) you purchased this product from OteSound, s.r.o. or its authorized dealers.

(2) your original, dated bill of sale is presented whenever applied for warranty service during the Manufacturer's Warranty period

(3) you purchased this product in brand new condition

This warranty does not cover damage or loss:

covered under any other insurance policy, coverage or warranty; the device have had its serial number removed or damaged; device failed as a result of an accident (including force majeure or natural forces); caused by inappropriate or abusive use; of the device that was not used in correct compliance with the instructions in User's Manual; due to failure to perform recommended periodic or routine maintenance; resulting from not authorized repairs; to the

decorative surface of this product; caused by using this product for other than its intended purpose; occurring during shipment (even when OteSound, s.r.o. has arranged or paid for shipping); caused by the product itself or the failure of the product, including any lost profits or savings or special, incidental, or consequential damages.

WARRANTY SERVICE

In the unlikely situation your product has a defect and you have chosen to apply for Manufacturer's Warranty, OteSound, s.r.o. will, at its option, either:

- (1) repair this product at no charge to you
- (2) replace this product with the same or a comparable product of at least the same performance
- (3) refund the purchase price of the product

Under the terms of this warranty, all the replaced or removed components become the property of OteSound, s.r.o.

HOW TO obtain A WARRANTY SERVICE

To request warranty service for OTECABLES DIVERse product, contact authorized dealer / retailer from which you purchased the product. In case direct contact with manufacturer is needed please contact us here:

OteSound, s.r.o.
Klatovska 424/22
602 00 Brno, Czech Republic / Europe
sales@otecables.cz

To make a request or claim under Manufacturer's Warranty, the product must be returned prepaid in the original shipping container (or equivalent). A copy of the original invoice showing date of purchase and the dealer name must accompany any request. In case you are unable to proceed through your local retailer you can use our form www.otecables.cz/contact-us. Please do not send us your product without prior agreement.

If your claim is accepted, we will proceed with Warranty Service. Repaired or new product will be (if not agreed differently) sent to the authorized dealer / retailer from which you purchased the product.

OteSound, s.r.o. reserves the right to choose the mode, the carrier and the timing of such return shipping (if OteSound, s.r.o. finds that there are no defects covered by this warranty, then you shall be responsible for all shipping charges).

GENERAL CONDITIONS

This Manufacturer's Warranty and remedies set forth above are exclusive and in lieu of all other warranties, remedies and conditions, whether oral or written, express or implied.

OteSound, s.r.o. specifically disclaims any and all implied warranties, including, without limitation, warranties of merchantability and a fitness for a particular purpose. If OteSound, s.r.o. cannot lawfully disclaim implied warranties under this Manufacturer's Warranty, all such warranties, including warranties of merchantability and fitness for a particular purpose are limited in duration to the duration of this Manufacturer's Warranty.

OteSound, s.r.o. is not responsible for direct, indirect, special, incidental or consequential damages resulting from any breach of warranty or condition, or under any other legal theory, including but not limited to lost profits, downtime, goodwill, damage to or replacement of any equipment or property, any costs or recovering, reprogramming, or reproducing any program or data stored in or used with OteSound's products. OteSound's total liability is limited to the repair or replacement of this product pursuant to the terms of this Manufacturer's Warranty.

No action or claim to enforce this warranty shall be commenced after the expiration of the Manufacturer's Warranty period.

9. Protecting the environment

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling.

This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE). Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country.

