TRI-O SPL-D2 Sound-Level Display Unit User Manual

TRI-O SPL-D2 Sound-Level Display Unit

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Safety Instructions

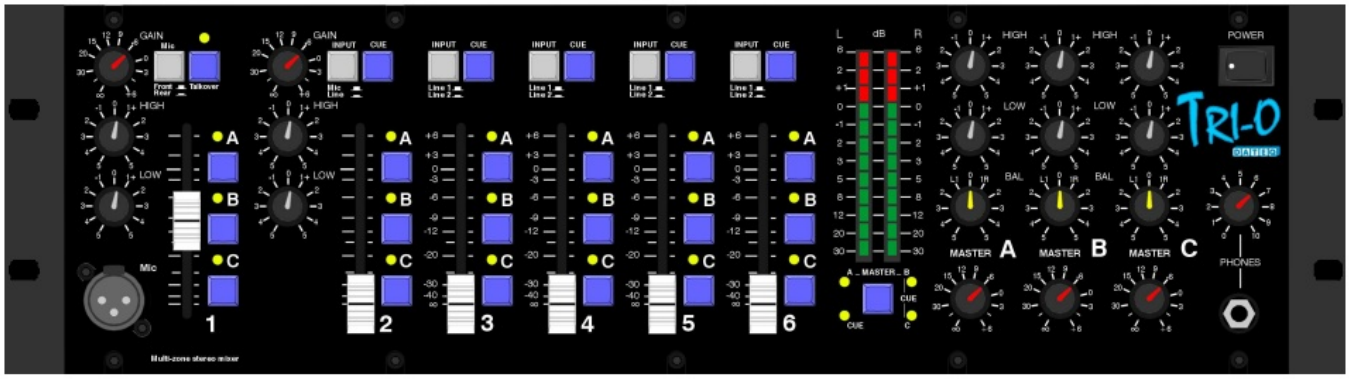
1. All safety instructions, warnings and operating instructions must be read first.
2. All warnings on the equipment must be heeded.
3. The operating instructions must be followed.
4. Keep the operating instructions for future reference.
5. The equipment may never be used in the immediate vicinity of water; make sure that waterand damp cannot get into the equipment.
6. The equipment may only be installed or fitted in accordance with the manufacturer’s recommendations.
7. The equipment must be installed or fitted such that good ventilation is not obstructed in anyway.
8. The equipment may never be installed in the immediate vicinity of sources of heat, such as parts of heating units, boilers, and other equipment which generates heat (including amplifiers).
9. Connect the equipment to a power supply of the correct voltage, using only the cables recommended by the manufacturer, as specified in the operating instructions and/or shown on the connection side of the equipment.
10. The equipment may only be connected to a legally approved earthed mains power supply.
11. The power cable or power cord must be positioned such that it cannot be walked on in normaluse, and objects which might damage the cable or cord cannot be placed on it or against it.Special attention must be paid to the point at which the cable is attached to the equipmentand where the cable is connected to the power supply.
12. Ensure that foreign objects and liquids cannot get into the equipment.
13. The equipment must be cleaned using the method recommended by the manufacturer.
14. If the equipment is not being used for a prolonged period, the power cable or power cordshould be disconnected from the power supply.
15. In all cases where there is a risk, following an incident, that the equipment could be unsafe, such as:
    · if the power cable or power cord has been damaged
    · if foreign objects or liquids (including water) have entered the equipment
    · if the equipment has suffered a fall or the casing has been damaged· if a change in the performance of the

equipment is noticed it must be checked by appropriately qualified technical staff.

16. The user may not carry out any work on the equipment other than that specified in the operating instructions.

Dateq TRI-O

The DATEQ is a s channel 19-inch mixer. It is highly suitable for use in pubs, dancing-TRI-O ix 3-zone schools, conference centers etc. The is equipped with three microphone inputs and TRI-O 8stereo-line inputs. The inputs can be routed to the 3 master outputs.
Channel 1 has a talk-over circuit to improve the speech intelligibility. This circuit, which is triggered by the microphone signal from channel 1 (i.e. it is voice activated), ensures that this signal overrides all others. The talk-over function can be disabled with the Talk Over switch on the front. By default output zones are available (master A and). These zones have a dual three , B C equalizer, balance and gain-control. In addition a maximum of four output modules (output zones)may be added. The volume of these additional zones is externally adjustable with a potentiometer CREWXOUT-W / CREWXOUT-B (not included) or an external regulation voltage.



The master s are output electronically balanced on XLR and unbalanced on cinch connectors. The balanced output makes it possible to use long signal-cables so that the amplifiers can be placed near to the speakers. he optional output zones are equipped with unbalanced cinch connectors.

Channel 2 has a connection for a Music all local line input, MRA-2WW or MRA-2GG. (not included)

Product support

For questions about the , accessories and other products, please contact: TRI-O

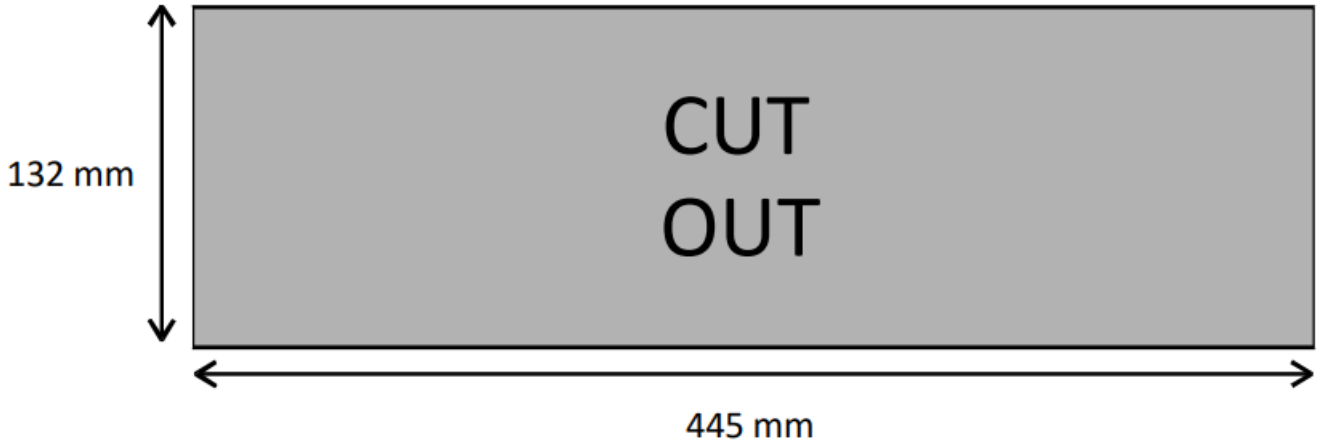
Dateq International BV

De Paal 37
1351 JG Almere The Netherlands

E-mail: info@dateq.nl
Phone: +31 36 54 72 222
Internet: www.dateq.nl

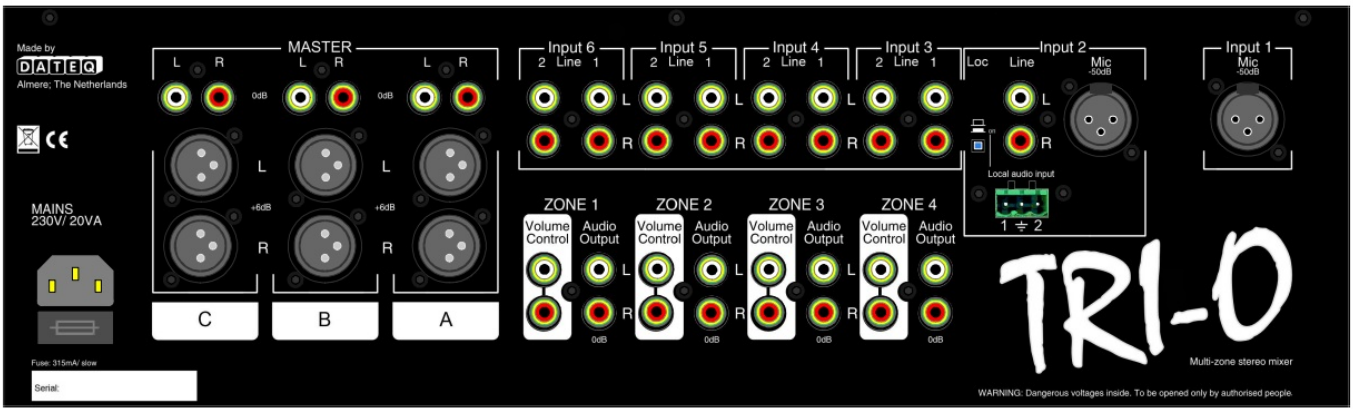
Installing the TRI-O

The is designed to be mounted in a 19-inch rack and is three units high. The cabinet fits into TRI-O an opening of 445 x 132 x 110 mm (W x H x D). See also the dimensioned drawings below.
The 19-inch mounting bracket is 2mm thick. When installing the mixer, remember to allow sufficient room for the connectors and plugs on the Crew’s rear!



TRI-O Connector board

At the rear all the audio in and outputs can be found, just as the euro-mains connector (with built inmains-fuse) and the optional zone outputs with the volume control inputs.



Master stereo outputs (Cinch female)

Pin	Function	Type
Tip	Audio +	Out
Shield	Ground	A-GND

L/ R balanced Master Outputs (XLR 3-pins male)

Pin	Function	Type
1	Ground	A-GND
2	Audio +	Out
3	Audio –	Out

Tape stereo output (Cinch female)

Pin	Function	Type
Tip	Audio +	Out
Shield	Ground	A-GND

Zone volume input (Cinch female)

Pin	Function	Type
Tip	Volume control (See page 7)	In
Shield	Ground	A-GND

Line/ Line 1/ Line 2 Stereo inputs (Cinch female)

Pin	Function	Type
Tip	Audio +	In
Shield	Ground	A-GND

Mic/ Mic Front/ Mic Rear balanced inputs (XLR 3-pins female)

Pin	Function	Type
1	Ground	A-GND
2	Audio +	In
3	Audio –	In

Phones output (TRS Jack 3p, front)

Pin	Function	Type
Tip	Left	Out
Ring	Right	Out
Sleeve	Ground	A-GND

Connections

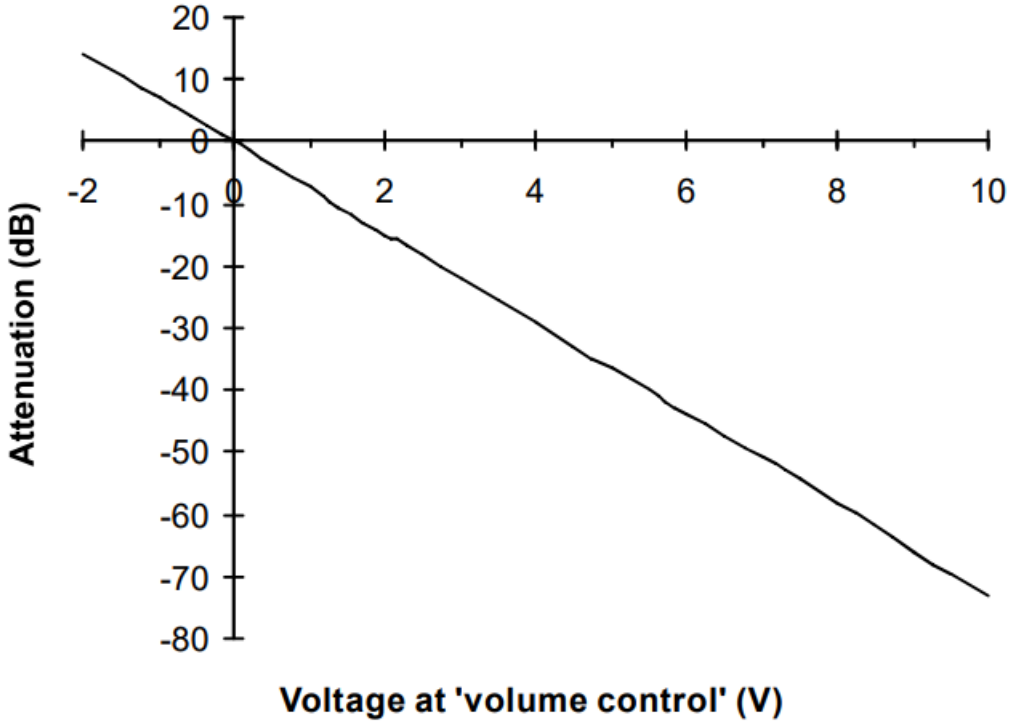
BALANCED MASTER L/ R	Electronically balanced master outputs on XLR connectors for the left and righ t channels of master A. This type of output guarantees perfect signal transmis sion even if long audio cables are being used. These outputs are equipped wi th relays to prevent connected equipment from ‘plopping’ when the unit is bei ng switched on and off.
UNBALANCED MASTER	Unbalanced outputs on cinch connectors. These can be used to connect the Crew to an amplifier or recorder. These outputs are equipped with relays to pr event connected equipment from ‘plopping’ when the unit is being switched o n and off.
ZONE 1…4 Audio ou	With these outputs additional zones with separate external volume control ca n be created. These outputs can be used to connect external amplifiers.
ZONE 1…4 Volume	This input controls the volume of the additional zone. Between the tip and the shield a potentiometer or an external control voltage can be supplied. for a mo re detailed explanation
CHANNEL 7…3	Cinch connectors for the stereo line inputs. Each channel has two identical in puts (line 1 and line 2) for CD-players, keyboards, MD-players etc. With the in put-selector on the front on of the two inputs can be activated. Each input has it’s own gain-trimmer at the rear.
CHANNEL 2	Combined mono mic/ stereo line channel with a balanced (or local input) micr ophone input on a XLR-connector and a stereo line input on a cinch connector. When using an unbalanced microphone pin 1 and pin 3 must be connected to the shielding of the cable. To use a local zone input connect a M usic all MRA-2 to the 3 pin Phoenix connector using balanced microphone ca ble with a maximum length of 200m.
CHANNEL 1	This channel has two electronically balanced microphone inputs on XLR conn ectors (Mic Front and Mic Rear). When using an unbalanced microphone pin 1 and pin 3 must be connected to the shielding of the cable.
MAINS/ FUSE	Euro mains-input. The operates at 230V/ 50Hz. Fuse: 5x20mmTRI-O (small), 315mA slow.

Zone Volume control

By means of this input the volume of an external zone can be adjusted. The volume control can be connected in two different ways:

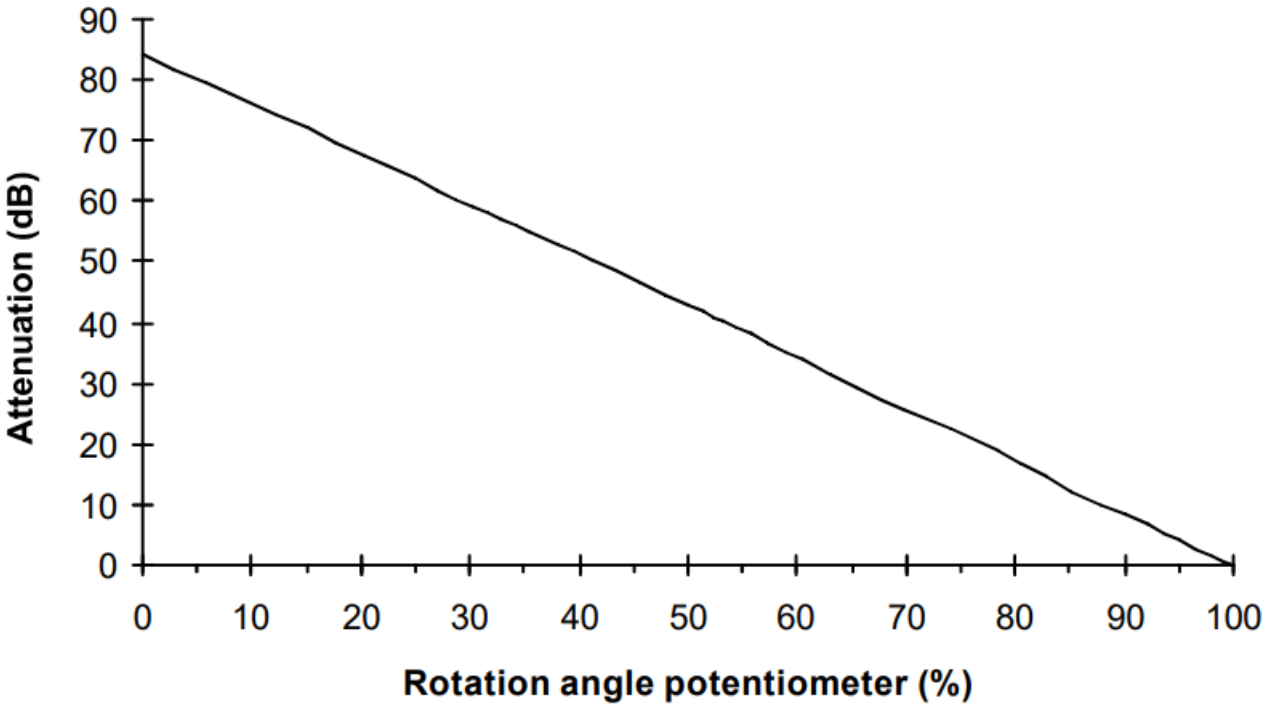
Supplying an external voltage

When a voltage is supplied between the tip and the shielding of one of the cinch connectors the volume will be attenuated (for both the left and the right channel). When a negative voltage is supplied the signal will be amplified. The amplification ranges from +14…-80dB. The graph below shows the amplification as function of the applied voltage:



Connecting a potentiometer

It is also possible to connect a potentiometer between the tip and the shielding to one of the cinch connectors. The attenuation ranges from 0…-80dB. A 10kOhm logarithmically potentiometer gives the best results. The next graph shows the attenuation as function of the angle of rotation:



When an adjustable attenuation is not necessary a cinch connector with a short-circuit between the tip and shield must be connected. When the input is left open the volume will be fully attenuated.

Microphone with Talk Over (1)

A microphone can be connected to this channel (at the front, or at the rear). The channel has again control, a dual equalizer and an input-selector.

- **GAIN**

  Volume preset for both the Mic Front and the Mic Rear input.
- **HIGH**

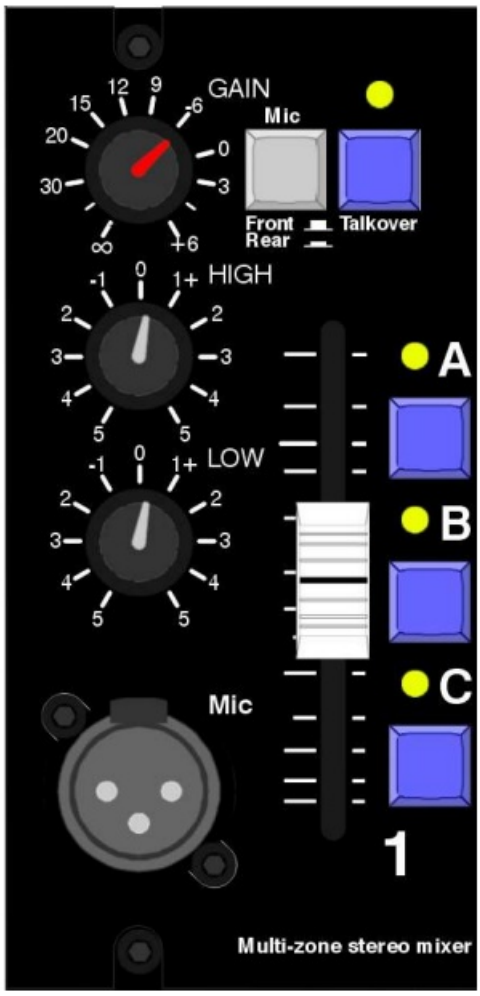
  High tone control.
- **Mic Front/Rear**

  Input selector.
- **TALKOVER**

  Enables or disables the Talk Over circuit. When the button is pressed the LED lights up green and the Talk Over function is enabled. When you speak in the microphone all the other channels will be attenuated and the LED will light up red to indicate voice-over activity.
- **Fader**

  60mm fader which can be used to control the volume of this channel.
- **A, B, C**

  Select the outputs where you want to use this channel.



Combined microphone/ line channel (2)

This channel can be used to connect a microphone or a stereo line-signal. The channel has a gain control, input selector and pre-fader listening (CUE).

- **GAIN**

  Volume preset for both the microphone and the stereo-line input.
- **HIGH**

  High tone control.
- **LOW**

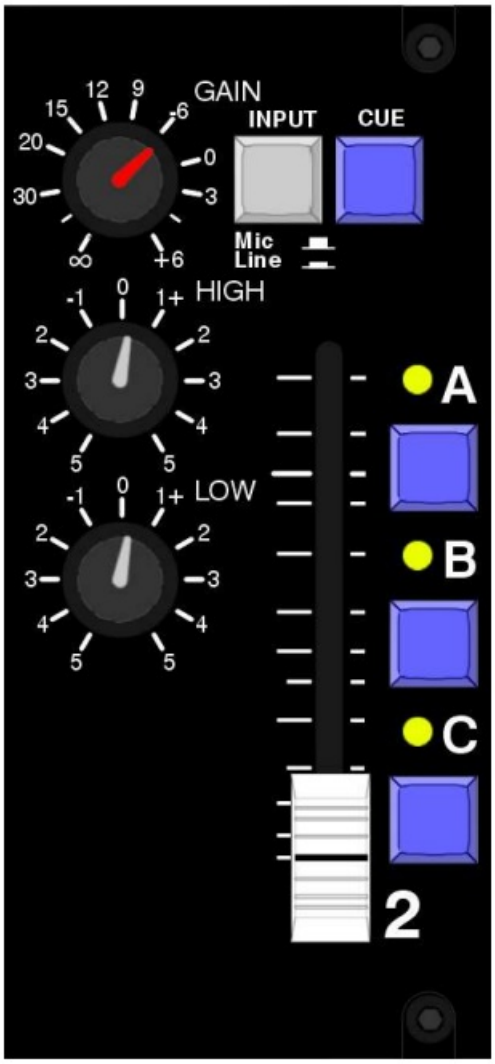
  Low tone control.
- **Mic/ Line**

  Input selector.
- **CUE**

  Enables/ disabled pre-fader listening. When the button is pressed the signal on this channel can be heard on the headphones and is showed on the VU meters. The master CUE LEDs will turnoff.
- **Fader**

  60mm fader which can be used to control the volume of this channel.
- **A, B, C**

  Select the outputs where you want to use this channel.



Stereo line input (3 …) 6

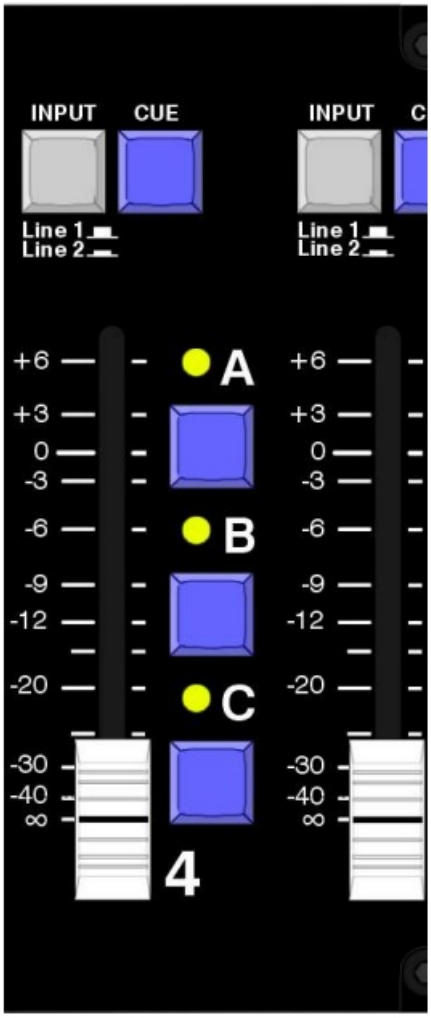
Two stereo line inputs can be connected to this channel. Each channel has an input-selector, pre-fader listening and a gain-trimmer on the connector board.

- **Line 1/ Line 2**

  Input selector
- **CUE**

  Enables/ disabled pre-fader listening. When the button is pressed the signal on this channel can be heard on the headphones and is showed on the VU-meters. The master CUE LEDs will turn off.
- **Fader**

  60mm fader which can be used to control the volume of this channel.



Master section (A B) on , and C

The has identical TRI-O 3 master sections (A B). Each section has a dual equaliser, balance, and C and gain control and an after-fader-listen function.

- **HIGH**

  High tone control.
- **LOW**

  Low tone control.
- **BAL**

  Determines the balance between the left and the right channel. When in mid position, the left and right channel can be heard evenly loud.
- **MASTER**

  Gain control for the unbalanced stereo outputs (master A and Master B) and the balanced stereo output

(master A only)

- **MASTER** CUE

  Switches the headphone source between master A and master B. The LED indicates the source (master A or master B). When the CUE function of an input channel is activated both master-CUE LEDs will be switched off, and the input-channel will be selected as headphone source.

Various

- **POWER**

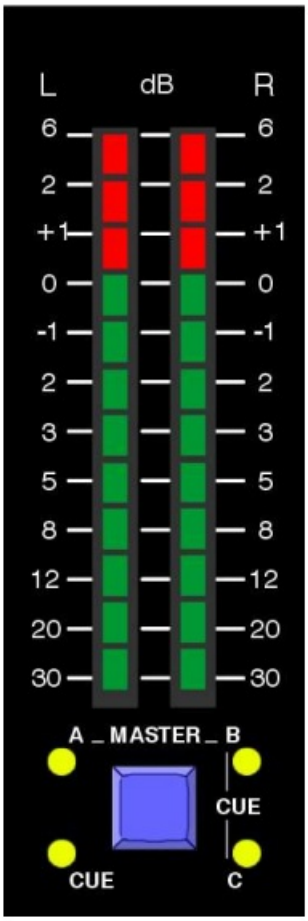
  Mains switch.

- **PHONES**

  Headphones volume control with a stereo headphones connector. The selected CUE signal can be heard with the headphones(master A, master B or the inputs with the CUE function enabled).

Meters

This is an easy-to-read 2- x 12-segment LED display. The signal on the VU-meters is the signal on the headphones output (master A, master B or the CUE signal). , master C An operating level of approximately 0dB is nominal.



Technical Specifications

- **MONO INPUT**

  MIC (channel 1 and 2)……XLR-3 female, electronically balancedSignal level……..-50 dB @ 600 Ohm variable

  Impedance……..3 kOhm nominal

  Input noise……< -100 dB (IHF-A)

  Headroom……22 dB

- **STEREO INPUTS**

  LINE (channel 2)……Cinch

  Signal level……..0 dB @ 600 Ohm variable

  Input impedance ……..12 kOhm nominal

  Input noise……< -70 dB (IHF-A)

  Channel separation…….> 65 dB @ 1 kHz

  LINE 1/ 2 (channel 3..) 6 …….Cinch

  Signal level……..0 dB @ 600 Ohm variable

  Input impedance ……..7 kOhm nominal

  Input noise……< -74 dB (IHF-A)

  Channel separation…….> 65 dB @ 1 kHz

- **TONE CONTROL**

  EQUALISER CHANNEL 1 AND CHANNEL 2

  High…….10 kHz ±12 dB, Shelving

  Low……. 30 Hz ±18 dB, Shelving

  EQUALISER MASTER

  High…….12 kHz ±12 dB, Shelving

  Low……. 30 Hz ±18 dB, Shelving

- **OUTPUTS**

  BALANCED MASTER (XLR)……..+6 dB balanced/ 600 Ohm/ variable

  UNBALANCED MASTER OUT (Cinch) ……0 dB unbalanced/ 600 Ohm/ variable

  ZONE1…4…….0 dB unbalanced/ 600 Ohm/ variable

  PHONES (6,3 mm TRS Jack)……..0,3 W @ 4 Ohm/ Impedance 4..32 Ohm

- **FREQUENCY RESPONSE**

  MIC TO MASTER…….15 Hz…25 kHz -1 dB

  ALL OTHER INPUTS TO MASTER……10 Hz…30 kHz -1 dB

  THD + N……0,01 % nominal

- **GENERAL**

  BUILT-IN POWER SUPPLY

  Mains voltage…….90 5 …2 0 VAC / 50 Hz

  Power consumption……10 VA

  SIZE AND WEIGHT

  Front……483 x 132 mm (W x H) = 19”, 3HECutout

  ……445 x 132 mm (W x H)

  Cabinet depth…….110 mm without connectors

  Weight……3.5 kg Net.

TRI-O

Documents / Resources

	TRI-O SPL-D2 Sound-Level Display Unit [pdf] User Manual SPL-D2 Sound-Level Display Unit, SPL-D2, Sound-Level Display Unit, Level Display Unit, Display Unit

References

- DATEQ – Dateq Audio Technologies