TRI-O

USER MANUAL

DATEQ
audio technologies

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 water and 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 any way.

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 normal use, 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 equipment and 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 cord should 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:

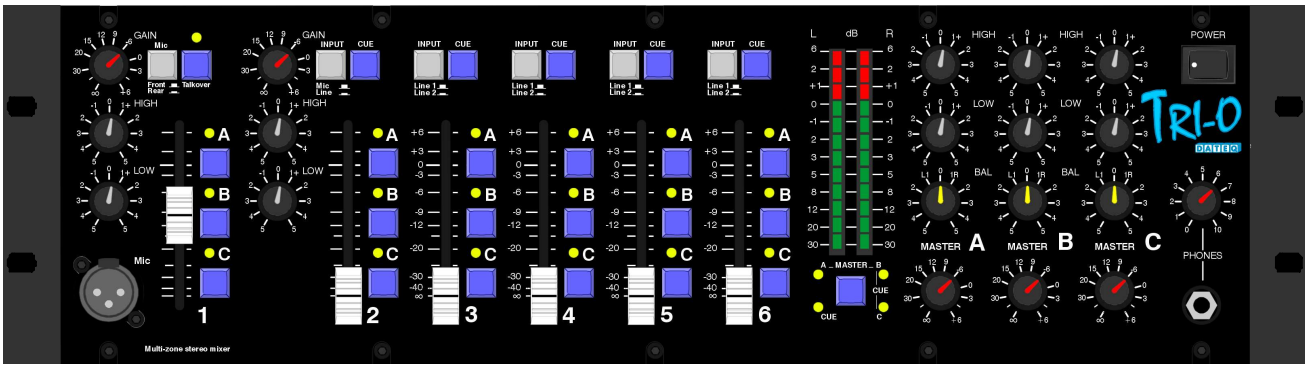
- if the power cable or power cord has been damaged
- if foreign objects or liquids (including water) have entered the equipment
- if the equipment has suffered a fall or the casing has been damaged
- if a change in the performance of the equipment is noticed

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 audio technologies

Dateq TRI-O



The DATEQ TRI-O is a six channel 19-inch 3-zone mixer. It is highly suitable for use in pubs, dancing-schools, conference centres etc. The TRI-O is equipped with three microphone inputs and 8 stereo-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 TalkOver switch on the front.

By default three output zones are available (master A, B and C). These zones have a dual equaliser, 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 outputs are 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. The optional output zones are equipped with unbalanced cinch connectors.

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

Product support

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

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De Paal 37
1351 JG Almere
The Netherlands

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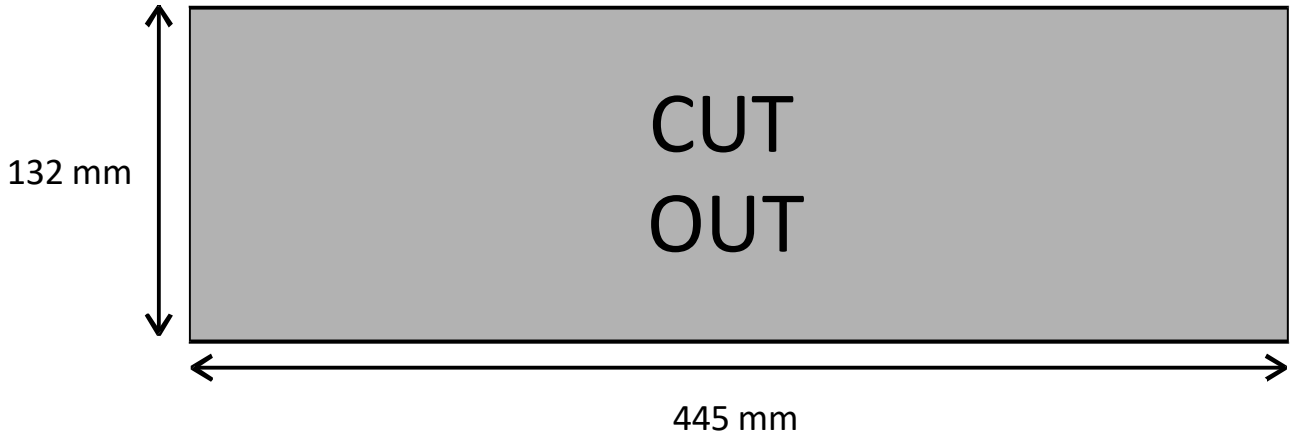
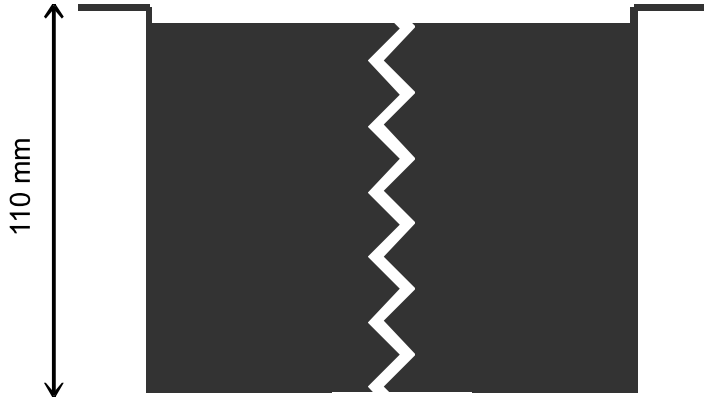
E-mail: info@dateq.nl
Internet: www.dateq.nl

Installing the TRI-O

The TRI-O is designed to be mounted in a 19-inch rack and is three units high. The cabinet fits into an opening of 445 x 132 x 110 mm (W x H x D). See also the dimensioned drawings below.

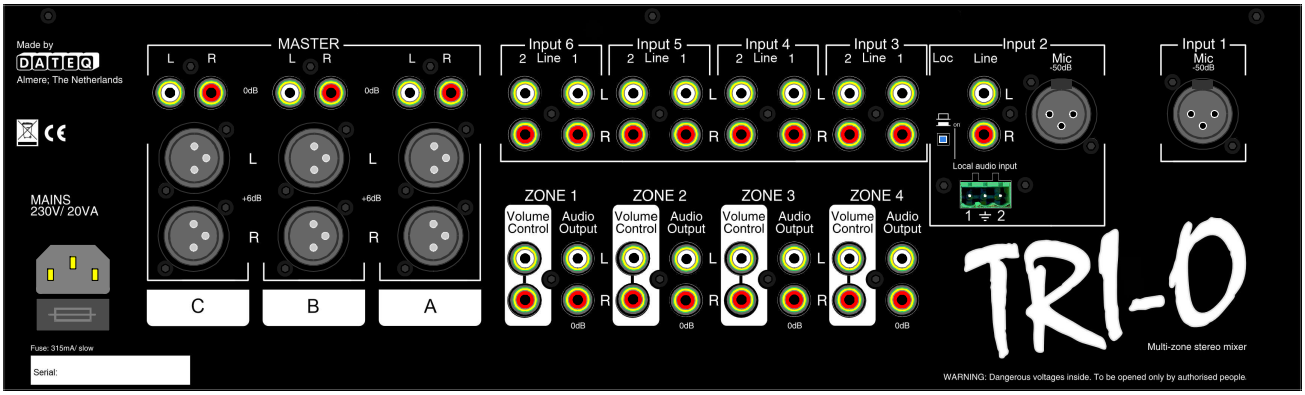
The 19-inch mounting bracket is 2mm thick. When installing the mixer, remember to allow sufficient room for the connectors and plugs on the Crew's rear!





TRI-O Connectorboard

At the rear all the audio in and outputs can be found, just as the euro-mains connector (with built in mains-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 right channels of master A. This type of output guarantees perfect signal transmission even if long audio cables are being used. These outputs are equipped with relays to prevent connected equipment from 'plopping' when the unit is being 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 prevent connected equipment from 'plopping' when the unit is being switched on and off.

ZONE 1...4 Audio out With these outputs additional zones with separate external volume control can 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. See page 7 for a more detailed explanation.

CHANNEL 7...3 Cinch connectors for the stereo line inputs. Each channel has two identical inputs (line 1 and line 2) for CD-players, keyboards, MD-players etc. With the input-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 (or local input) channel with a balanced microphone 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 Musicall MRA-2 to the 3 pin Phoenix connector using balanced microphone cable with a maximum lenght of 200m.

CHANNEL 1 This channel has two electronically balanced microphone inputs on XLR-connectors (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 TRI-O operates at 230V/ 50Hz. Fuse: 5x20mm (small), 315mA slow.

For all audio cinch connectors:

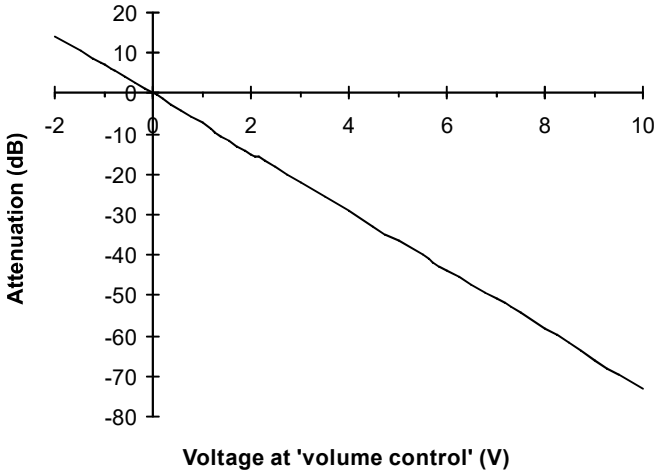
White = Left, Red = Right

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:

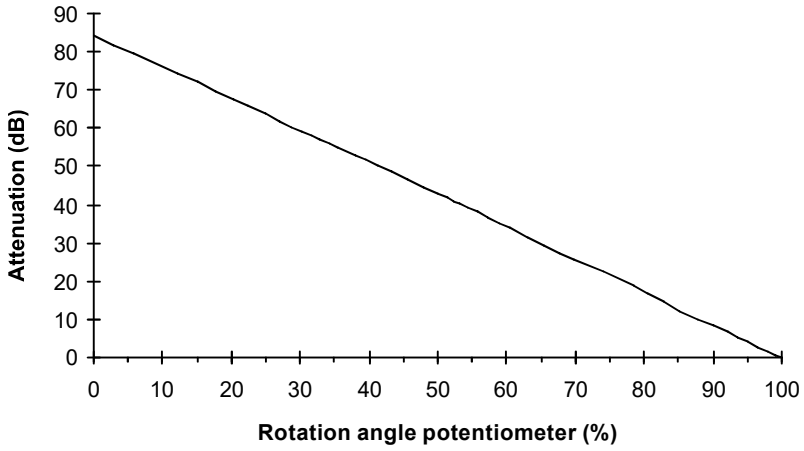
Supplying an external voltage

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:

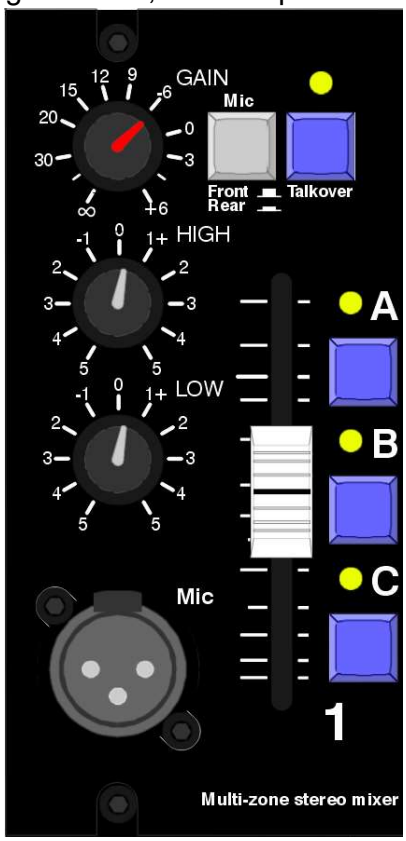


As a maximum four additional output zones can be connected.

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 TalkOver (1)

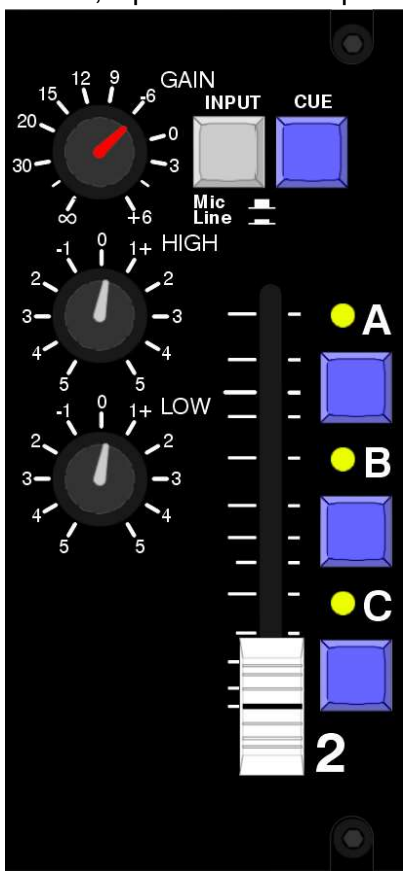
A microphone can be connected to this channel (at the front, or at the rear). The channel has a gaincontrol, a dual equaliser and an input-selector.



GAIN	Volume preset for both the Mic Front and the Mic Rear input.
HIGH	High tone control.
LOW	Low tone control.
Mic Front/Rear	Input selector.
TALKOVER	Enables or disables the TalkOver circuit. When the button is pressed the LED lights up green and the TalkOver 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)

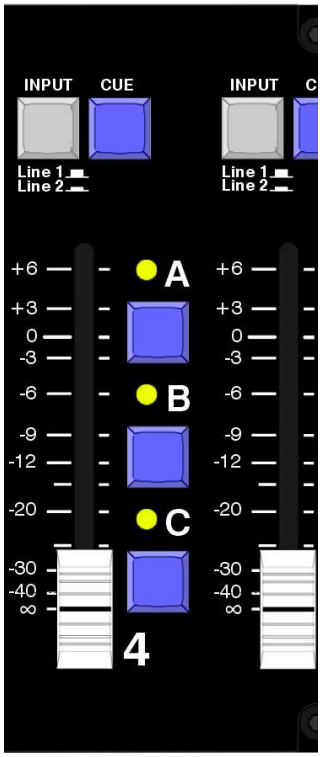
This channel can be used to connect a microphone or a stereo line-signal. The channel has a gain-control, inputselector and pre-fader listening (CUE).



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 turn off.
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 connectorboard.



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.

Mastersection (A, B and C)

The TRI-O has 3 identical mastersections (A,B and C). Each section has a dual equaliser, balance 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 Gaincontrol for the unbalanced stereo outputs (master A and Master B) and the balanced stereo output (master A only)

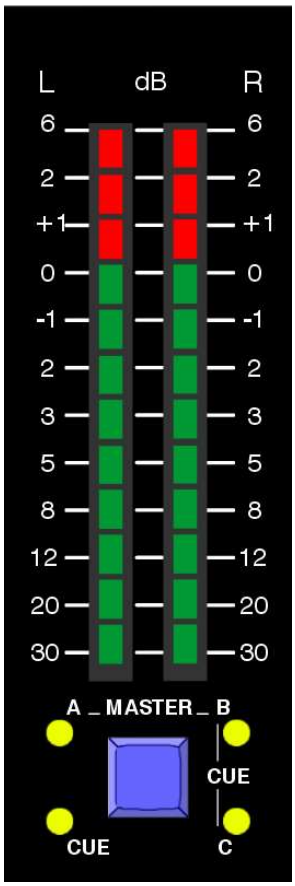
MASTER CUE Switches the headphone source between master A and master B. The LED indicates the source (master A or master B). When the CUE function of an input-channel is activated both master-CUE LEDs will be switched off, and the input-channel will be selected as headphone source.

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, master C or the CUE signal).
An operating level of approximately 0dB is nominal.

Technical Specifications

MONO INPUT

MIC (channel 1 and 2)..... XLR-3 female, electronically balanced
- Signal 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...250 VAC / 50 Hz
- Power consumption..... 10 VA

SIZE AND WEIGHT
- Front..... 483 x 132 mm (W x H) = 19”, 3HE
- Cutout ..... 445 x 132 mm (W x H)
- Cabinet depth..... 110 mm without connectors
- Weight..... 3.5 kg Net.