two.valve

&

four.valve

PRODUCT USER GUIDE

two.valve & ***four.valve*** User Guide Issue 1

To the best of our endeavors, we believe the information contained in this user guide to be true and accurate but we do not assume responsibility for inaccuracies or omissions, and reserve the right to make any changes deemed necessary.

This product has been designed to comply with the applicable standards, regulations, and directives for the countries where the product is marketed.

NOTE: Changes or modifications to this mixer, or its associated power supply, could negatively impact compliance and the user's authority to operate it.

Designed and manufactured in the United Kingdom by:

Union Audio Limited

Unit 4 Redruth Enterprise Park

Redruth

Cornwall

TR16 5EZ

UK

http://www.unionaudio.co.uk

Limited One -Year Manufacturer's Warranty

Union Audio warrants the product and accessories contained in the original packaging against defects in materials and workmanship when used in accordance with this user manual for a period of One (1) YEAR from the date of original purchase by the end-user purchaser ("**Warranty Period**").

Repair or replacement under the terms of the warranty does not provide right to extension or renewal of the warranty period. Repair or direct replacement of the product under the terms of this warranty may be fulfilled with functionally equivalent service exchange units.

This warranty is not transferable. This warranty will be the purchaser's sole and exclusive remedy and neither **Union Audio** nor any approved service centres shall be liable for any incidental or consequential damages or breach of any express or implied warranty of this product.

Conditions of Warranty

The equipment has not been subject to misuse either intended or accidental, neglect, or alteration other than approved by **Union Audio.** The warranty does not cover potentiometer wear and tear, nor cosmetic damage to paint or screenprint. Any necessary adjustment, alteration or repair has only been carried out by **Union Audio** or distributor or appointed service agent.

The defective unit is to be returned to the place of purchase, an authorised **Union Audio** distributor or agent with proof of purchase. Please discuss this with the distributor or the agent before shipping. Units returned should be packed in the original carton to avoid transit damage.

Check with your **Union Audio** distributor or agent for any additional warranty information which may apply. If further assistance is required please contact **support@unionaudio.co.uk**

Any changes or modifications to the equipment not approved by **Union Audio** could void the compliance of the product and therefore the users authority to operate it.

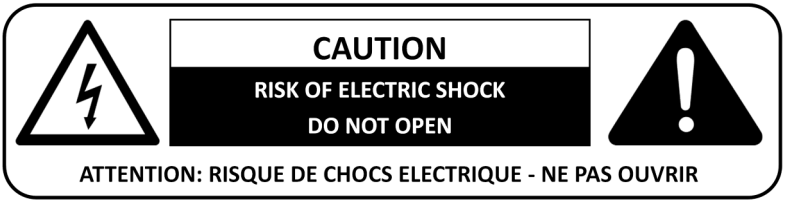
Safety Instructions

Please read and retain these instructions

- Only use the product for the purposes it is intended and heed all warnings.
- **WARNING** - To prevent the risk of fire or electric shock do not use this mixer near water, or in locations where it is likely to be exposed to rain or moisture.
- Always ensure that liquids cannot get spilt over the mixer or its power supply, and keep all objects filled with liquids, such as vases, drinks glasses, etc. well away from the apparatus.
- Ensure adequate ventilation and ensure all ventilation openings are not blocked or restricted.
- Do not connect the output of amplifiers to this apparatus. Always use the correct, high quality cables to connect the mixer to audio sources and power amplifier inputs.
- Do not install the mixer or power supply near any heat sources such as radiators, stoves, amplifiers or other apparatus that generates heat.
- Do not place sharp or heavy objects onto the mixer or power supply as these could damage the controls or cosmetics. Avoid rough handling and protect both units from vibration. Retain the original packing in order to protect the unit during shipping or transit.
- Refer all servicing to qualified personnel. Servicing is required if liquids are split onto the mixer or its power supply, objects have fallen into the apparatus, the unit has been dropped, or does not function normally.

Safety Instructions

- Do not remove any covers, either on the mixer or the power supply.
- Install only in accordance with the manufacturer's instructions.
- Always use a power adaptor appropriate to your local mains supply, and ensure the power supply is correctly specified for the local mains voltage.
- Protect the DC lead from being walked on, pinched, or stretched.
- Unplug the power supply and mixer during electrical storms.
- Do not leave the apparatus unattended for long periods when powered on.



To prevent the risk of electrical shock do not open the mixer or power supply or remove any covers. no user serviceable parts inside. Refer servicing to qualified service personnel only.

These symbols are internationally accepted symbols to warn of potential hazards with electrical products.

This symbol indicates that a dangerous voltage constituting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this product.

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About *two.valve* **/** *four.valve*

Overview

The Union Audio ***two/ four.valve*** analogue DJ mixers are designed for professionals and audiophiles who value the rich, warm sound of valve (tube) technology. Combining exceptional audio performance, traditional craftsmanship, and the distinctive sonic characteristics of valves, the ***two/ four.valve*** mixers offers an unparalleled mixing experience.

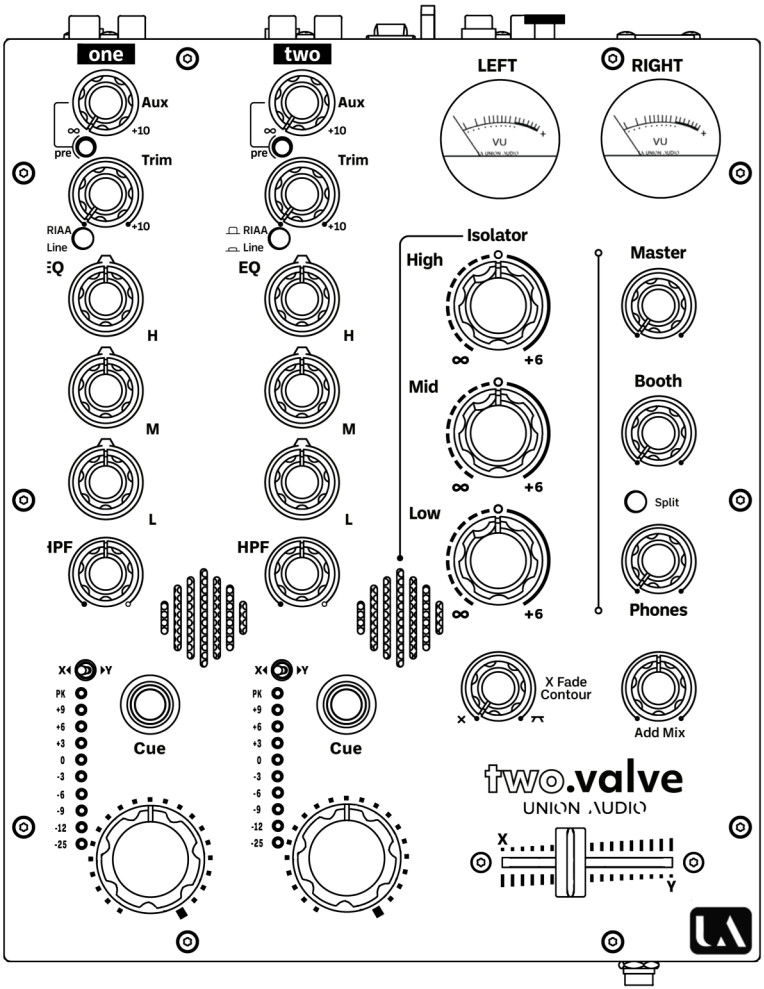
Product Description

The Union Audio ***two/ four.valve*** mixers are built to deliver a premium DJing experience, with each channel feature high-quality phono and line inputs for seamless transitions between audio sources, smooth rotary faders, an Innofader crossfader, three-band EQ, and an intuitive interface that allows you to effortlessly craft dynamic and engaging mixes.

The Master Section features extensive monitoring, with large backlit VU meters, a separate Booth output, and a sophisticated Cue system with both Split-Cue and Add-Mix controls

Central to the ***two/ four.valve*** mixer's unique sound is the per channel valve (tube) circuitry, which imparts a unique warmth and richness, enhancing the musicality of every mix.

These mixers are constructed with carefully selected components for pristine sound reproduction and dependable performance, while the robust metal chassis provides strength and durability.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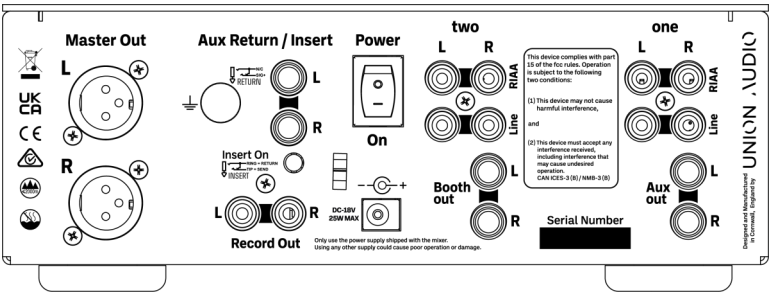
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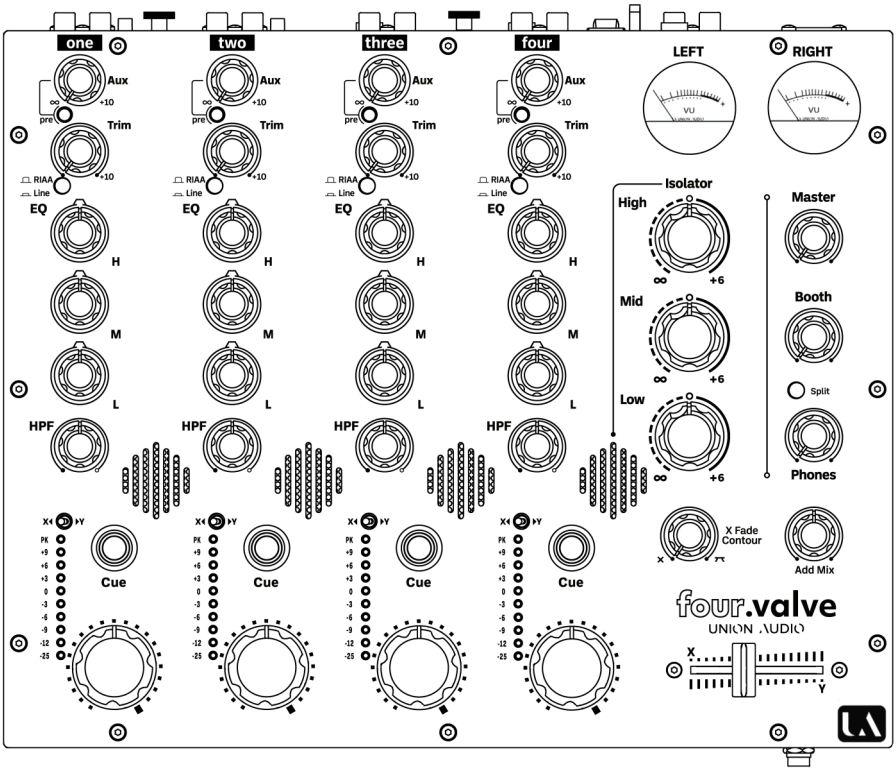
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Contour
Add Mix
four.valve
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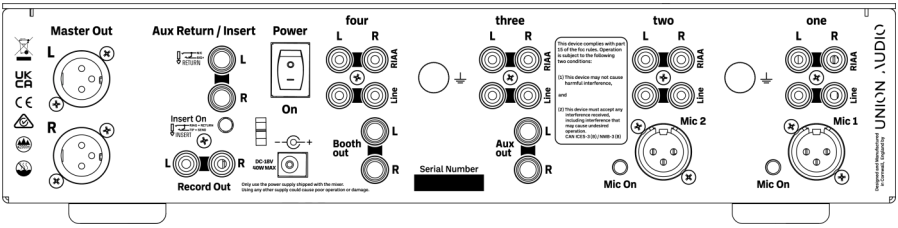
Master Out
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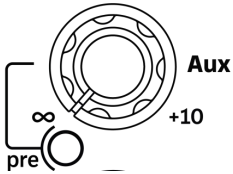
Insert On
Record Out
Booth out
Aux out
Serial Number
Mic 1
Mic 2
Mic On
four
three
two
one
UNION AUDIO

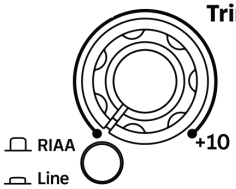
Channel Controls

The ***two.valve*** features two audio channels, while the ***four.valve*** offers four. Each channel on both models includes RIAA preamplifier stages and dual stereo inputs. Additionally, the ***four.valve*** provides microphone inputs on channels one and two.



Aux – The auxiliary send (Aux) allows you to send individual channel audio signal to an external effects processor. The level of this signal can be adjusted with the Aux control knob.

Pre – The auxiliary send can be configured as either pre-fader (down) or post-fader (up), determining when in the signal path the send takes place, and how it interacts with the channel's fader level. Pre-fader sends are useful when you need to send a consistent signal for monitoring or external processing purposes, while post-fader sends are beneficial for adding effects relative to the channel's level in the main mix.



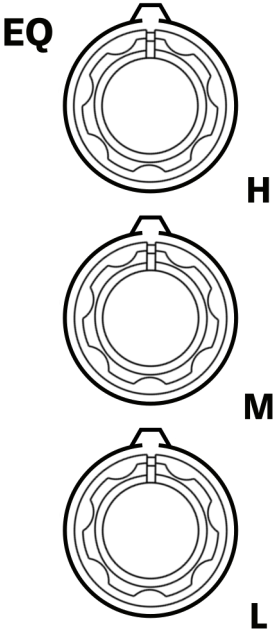
Trim – The channel input trim adjusts the level of the audio signal coming into that specific channel. It is important to set the input trim at an appropriate level to get the best audio quality.

RIAA/Line select – The Input selection switch can be used to select between turntable or Line on each channel.

The RIAA phono input is for use with a turntable and provides accurate frequency equalization corresponding to the RIAA equalization curve.

The Line input is designed to accept line-level audio signals, which are relatively strong and standardized audio signals. Line will be selected when the button is pressed in and illuminated.

Channel Controls Continued



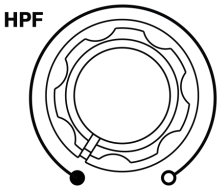
EQ – The three-band Channel EQ adjusts three specific frequency ranges of the audio signal.

H (High) is fixed at 2kHz.

M (Mid) is fixed at 1kHz

L (Low) is fixed at 150Hz,

Each control gives -20dB of cut and +6dB of boost.



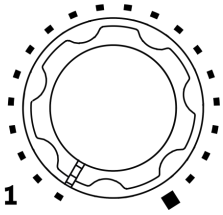
HPF – The channel High Pass Filter adjusts the low frequency cut-off of the channel signal and features a Variable-Q with a two-pole response with a swept frequency range from 15Hz to 1.5kHz.

The Variable-Q automatically adjusts the filter resonance to reduce excessive lower frequency amplification, while maintaining the classic high resonance filter sound.

Channel Controls Continued

Cue – The Cue button illuminates red when active, and routes the pre-fader channel signal to the headphone monitor for auditioning. The button has a toggle function and will turn on/off with each press. Each channel cue is independent and will not be overridden when pressing other channel cue buttons.

X Fader Switch— This switch controls the routing of its channel to the crossfader. In the off position the channel is not routed via the crossfader . Select X to route to the X side or Y to route to the Y side of the crossfader. Any or all channels can be assigned to a side of the crossfader.



Fader – The channel faders provide smooth mix transitions between the different audio sources. They are not intended to be used to set the channel level being fed to the main Mix Bus - use the Channel Trim control for this.

Each fader has a range from Off, (fully anti-clockwise) - to unity, (fully clockwise), with a progressive law.

There is no signal gain built into the channel fader and for best dynamic range it should be operated fully clockwise on any channel feeding into the mix.

Master Controls

Master – The Master level control adjusts the output level of the Mix buss sent to the Master XLR outputs and to any connected PA system.

It is recommended to operate the mixer with the control aligned on or above its '12 o-clock' position to achieve the best signal to noise ratio (SNR). If this results in excessive volume, then reduce the gain on the connected power amplifies.

Booth – The Booth Output provides for independent local monitoring of the Main Mix buss and is not affected by the Main Mix Level control.

Split – The Split Cue button is responsible for sending the audio from the cue bus to the left channel of the phones output when a channel cue is activated.

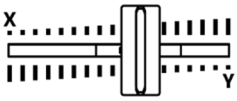
When the Add Mix control is fully clockwise you can hear the Cue Bus on the left channel and the master bus on the right channel. This button illuminates when the Split Cue is active.

Phones – Adjusts the level of the headphone output. The mixer is fitted with a powerful high-quality headphone amplifier optimised for use with headphones having an impedance between 33ohms to 170ohms. Headphones with impedances above or below the recommended impedance should be avoided, and in particular headphones with impedances below 33ohms could cause damage to the circuitry.

Add Mix – This control allows for monitoring the master output as well as the cue output. Adjusting the Add Mix control fades between these two audio signals, only to be heard through the headphones output..

WARNING! Avoid operating the mixer with headphones at high volume or for extended periods of time as this can contribute to severe hearing loss!

Master Controls Continued

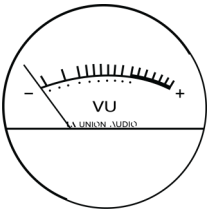


Crossfader – The crossfader is a feature that allows for smooth transitions between two different channels on the master output.

Use the switches above each of the channel meters to assign the respective channels to either the X or Y side of the crossfader.

X Fade Contour – The Crossfader Contour modifies the volume curve as the crossfader is moved from one side to the other, affecting how quickly or smoothly the audio transitions between the two channels being mixed.

When fully anti-clockwise, the fader transitions with a neutral slope. Rotating the control anticlockwise changes the behaviour to a much sharper profile.



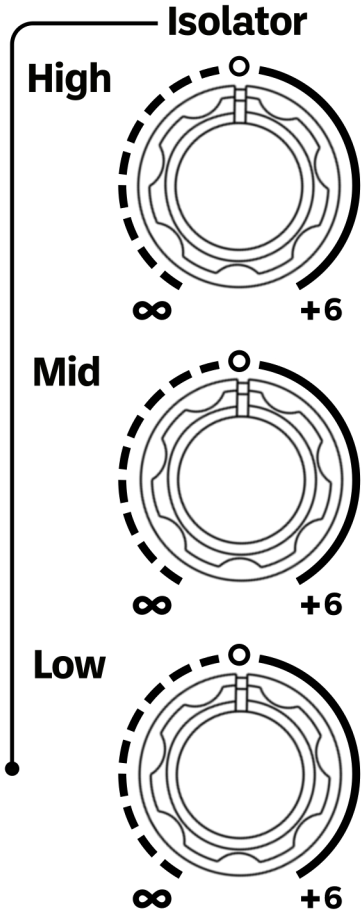
Output Meters – The large analogue VU Meters allow for easy monitoring of the left/right main Mix Buss signal level. The signal level is monitored post-Isolator but pre-Master Level control. The meter response is the VU (Volume Unit) standard and displays the average signal level. Both meters feature warm white illumination for easy monitoring in low light conditions, without being overly bright or distracting.

For lowest distortion and best dynamic range, operate the mixer with the meters reading between –5VU and 0VU, with signal peaks no higher than +1VU.

If the mix buss signal level goes above +3VU the meter illumination will start to glow increasingly red as a visual warning of excessive signal level.

Headphones Output – The headphones output socket is located on the bottom right corner front panel and supports 1/4" TRS Jack connections.

3-Band Isolator



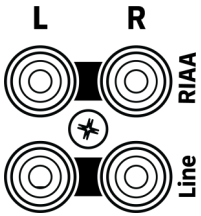
This is a versatile equalizer with three separate frequency controls: Low, Mid, and High. Each band can be adjusted to either completely cut or boost the frequency range by up to +6dBu. This allows precise control over each frequency range in your audio, letting you enhance or reduce specific elements of the sound.

Low – -3dB = 200Hz.

Mid – Centre Frequency = 800Hz.

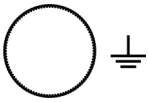
High – -3dB = 2kHz

Rear Panel Connections

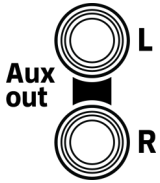


Channel Input – The top row of RCA (Phono) connectors are for use with turntable magnetic cartridges and incorporate RIAA (Record Industry Association of America) equalisation. Do not connect line-level sources to these inputs as it could cause damage to the sensitive circuitry.

The lower row of RCA connectors are for Line level signals within the range of +26dBu to -10dBu.

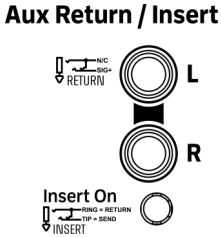


Earth terminal – This is for grounding the Turntables to reduce ground hum. Unscrew the knurled post and connect the turntables ground fork terminal between the mixer chassis and the post.



Aux out – The Auxiliary Output is via 1/4" TRS Jack sockets following the standard convention of Tip Hot, Ring Cold, and Sleeve Ground. The nominal output level is 0dBu.

Aux Return / Insert – When the "Insert On" is out these sockets function as the Auxiliary Return and follow the standard convention of Tip Hot, Ring Signal Ground, and Sleeve Chassis Ground. The nominal input level is 0dBu.

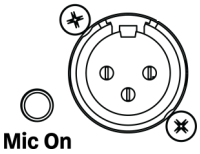


When the "Insert On" switch is pressed in these sockets function as a Mix Insert and follow the standard convention of Tip = Send, Ring = Return, and Sleeve the common Ground.

Any External Processor should have a nominal operating level between –2dBu to +18dBu. Be aware that any external equipment plugged into these sockets will have an impact on audio fidelity, and it is strongly recommended to use studio grade equipment.

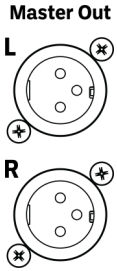
Record Out – The Record Output is via an RCA connector with a nominal level of 316mV, -10dBV (-8dBu) and is compatible with most 2-track recorders. The Record output is taken post Insert and will be affected by the Isolator EQ but not by the Master Level control.

Rear Panel Connections Continued

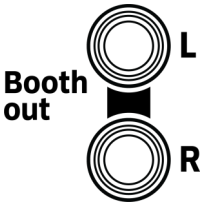


Mic Input – The Mic input (4 Valve only) are assigned to channels one and two. When the Mic On button is pressed in, the RIAA input of that channel is bypassed with the Mic Input balanced XLR.

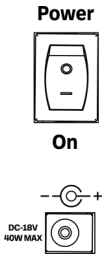
Pin1 = Ground, Pin 2 = + Hot, Pin 3 = - Cold



Master Out – The Master Output XLRs are electronically balanced, with Pin 2 hot (positive phase), Pin 3 cold (negative phase), and Pin 1 ground. When the Master Level control is fully clockwise, with the Meters reading –4VU the output level is approximately +12dBu.



Booth Out – The Booth Output is fitted with ¼" TRS jacks which are impedance balanced, with Tip as hot (positive phase), Ring as cold (negative phase), and the sleeve as a common Ground. When the Booth level control is fully clockwise, with the Meters reading –4VU the output level is approximately +6dBu.



Power – Only use the power supply included with the mixer, which is an 18V DC adapter.

To turn on the mixer, set the rocker switch to the '-' position. To turn it off, set the switch to the 'o' position.

Specification##

Distortion plus Noise (THD+N) un-weighted	
0dBu, 20Hz to 20kHz, Line In to Mix Out +4dBu	0.1% Typically
F**requency Response**	
Line in to Mix Out	+/-1dB 20Hz - 50kHz
RIAA Accuracy	+/-1dB 20Hz to 20kHz
Shutoff and Crosstalk	
Fader Shutoff	> -80dB
L/R Crosstalk Line in to Mix Out 1kHz	<-75dB
Noise 22Hz to 22kHz Un-Weighted	
Residual Output noise	<-92dBu
Line In to Mix Out Unity	<-85dBu
Maximum Output Level Mix Out 0.5% THD	+27dBu
Dynamic Range	116dB
EQ and Filter Frequency	
Channel High-Pass Filter Fully Clockwise	-3dB/1500Hz
Master 3 Band Isolator	200Hz, 800Hz, 2000Hz
Headphone Amplifier	
Maximum output level	750mW RMS - 33 ohms
Power Supply	
Type	External SMPSU
Mains Voltage range	90-260VAC
Output	18V DC 30-40W
Efficiency	LEVEL VI

*Specification figures shown for ***two.valve –four.valve*** will be similar.

Dimensions

Dimensions *two.valve*

Mixer

Height	100mm (inc. knobs)
Width	230mm
Depth	283mm
Weight	3.5kg

Packed Dimensions

Size L x W x H	37cm x 37cm x 20cm
Weight	5kg (11lb)

Dimensions four.*valve*

Mixer

Height	100mm (inc. knobs)
Width	350mm
Depth	283mm
Weight	4.75kg

Packed Dimensions

Size L x W x H	48cm x 38cm x 20cm
Weight	7kg (16lb)