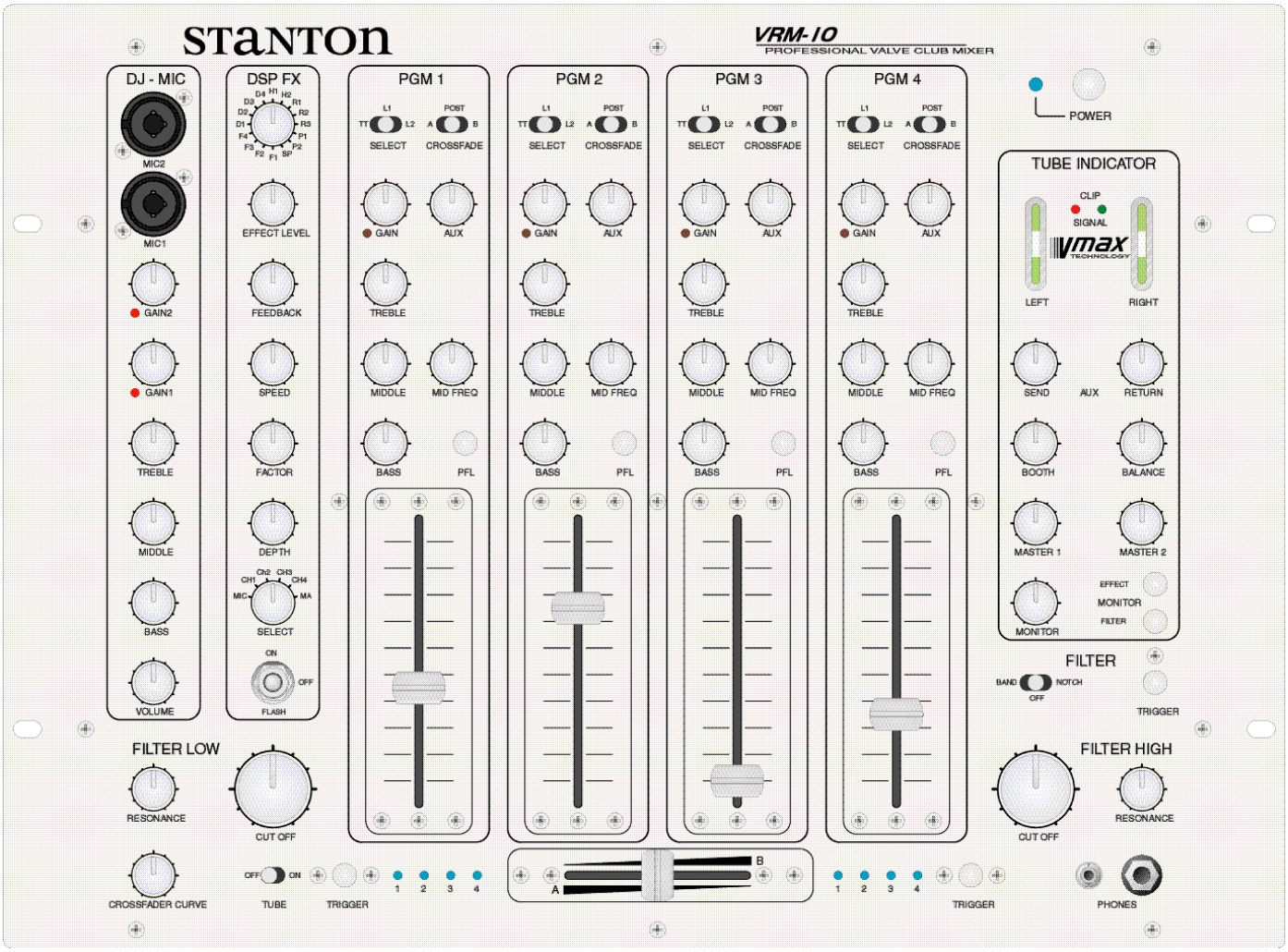
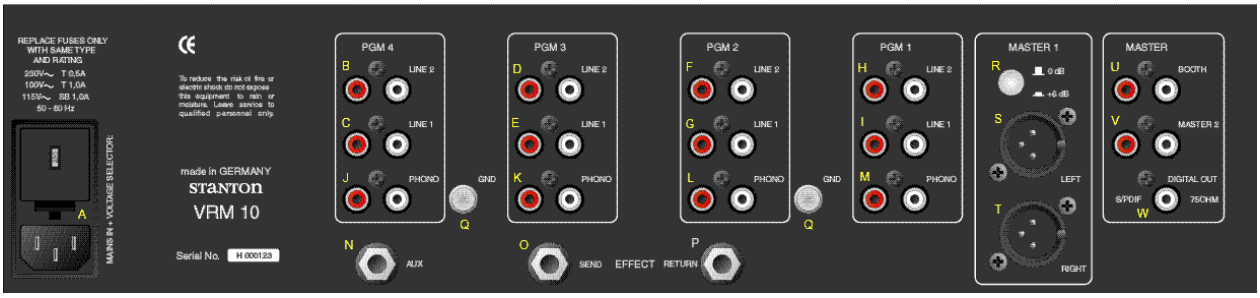
VRM-10

Professional Valve DJ mixer



OWNER'S MANUAL



INPUTS AND OUTPUTS (Rear)

Aside from the headphone output and microphone jacks, all connections are on the rear of the VRM10.

A Mains plug with fuse and voltage selector.
Changing the fuse: The lid for the housing of both fuses can easily be opened by pressing both sides of the lid simultaneously. After changing the fuses, please make sure the lid is closed securely. To switch the voltage selector it is also necessary to open the fuse housing. You must now twist the plug to the desired voltage setting. The selected voltage can be seen from outside. Make sure to replace the fuses with the necessary value, as indicated on the back of the mixer.

****MAINS PLUG MUST BE UNPLUGGED TO SELECT THE VOLTAGE****

B LINE INPUT for channel 4
C LINE INPUT for channel 4
D LINE INPUT for channel 3
E LINE INPUT for channel 3
F LINE INPUT for channel 2
G LINE INPUT for channel 2
H LINE INPUT for channel 1
I LINE INPUT for channel 1
LINE inputs 1 and 2 are for connecting devices with an output of up to +20dBu (i.e. CD, MD, DAT, etc...)

J PHONO INPUT for channel 4
K PHONO INPUT for channel 3
L PHONO INPUT for channel 2
M PHONO INPUT for channel 1
The PHONO inputs are for use with turntables with magnetic systems. They can perform best with levels form up to -20dBu. There is an integrated RIAA-filter for each phono input

N AUX
The auxiliary channel can be used for various applications such as:
- Recording of individual or selection of various channels
- Monitoring of an individual or various channels
- Additional effect send for one or more channels (when using an “empty” channel)

The volume can be set to 0dBu maximum and is controlled in each channel individually with the AUX (25) control knob. The signal for the auxiliary send is taken after the GAIN signal path, but before the EQ section (please also see the block diagram).

O EFFECT SEND
P EFFECT RETURN
When using an external effects processor (such as the Stanton DJF1 professional DJ filter) you must connect the EFFECT SEND to the input of your processor and the EFFECT RETURN to the output of your effects unit. The input and output volumes can be at a maximum of 0dBu. The volume can be set and controlled via the settings of AUX SEND (47) and RETURN (48). The effect patch goes through the MASTER-channel; the DJ-MIC signal will not be affected (please also see the block diagram).

The 1/4” Jacks for EFFECT SEND, EFFECT RETURN and AUX are set as follows:

TIP:	LEFT
RING:	RIGHT
SHAFT:	GROUND

Q GROUND connection for turntable
If the connected turntable has a separate GROUND cable, it must be connected with the screw Q to prevent ground humming.

R Output attenuation selector for MASTER 1
S MASTER 1 LEFT
T MASTER 2 RIGHT
The main output MASTER 1 is equipped with balanced (symmetrical) XLR jacks. The value of this output can be selected either at +6 or 0dBu with the switch R. The value of the output signal can also be individually set with the MASTER (51) control.

The XLR’s are set as follows:

1:	GND
2:	+SIGNAL
3:	-SIGNAL

U BOOTH

The output value of the BOOTH is set at 0dBu. It can be adjusted via the control knob BOOTH (49)

***NOTE** : BOOTH output is not affected by any balance/pan setting (50).*

V MASTER 2

The output MASTER 2 is identical to MASTER 1. It has an output impedance of +6dBu, which can be adjusted by the MASTER 2 control.

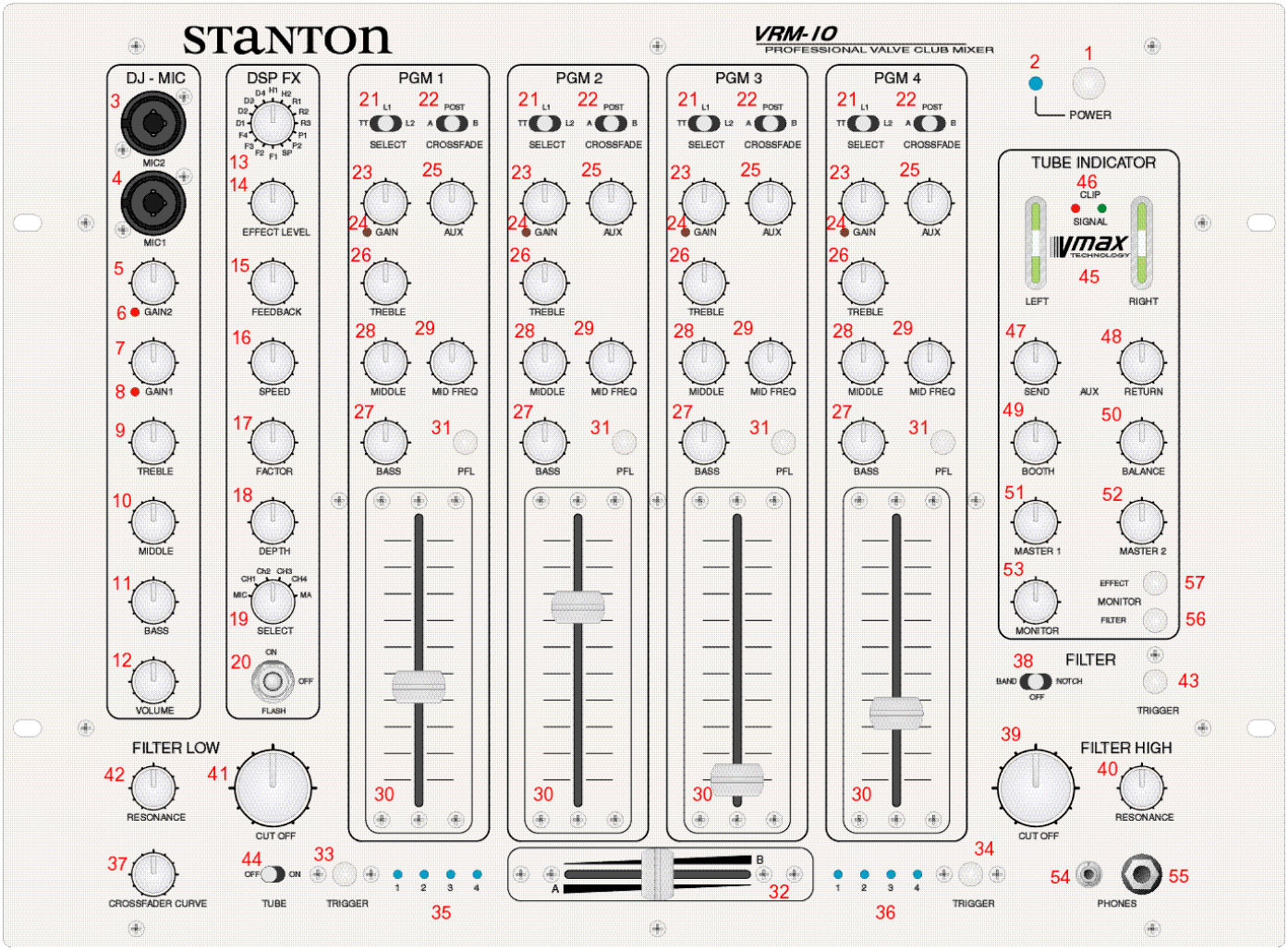
W DIGITAL OUTPUT

The digital output of the VRM10 is equipped in the S/P DIF standard. The signal path is switched parallel with MASTER 2 and can be controlled via the MASTER 2 (52) knob.

***NOTE**: To achieve the optimum sound performance and lowest signal-to-noise ratio it is essential in the digital output section to set the output impedance of the mixer to the highest possible level (control 52) and if necessary to lower the volume of the digital equipment connected to the VRM10 receiving signal.*

The main outputs of the VRM10 (MASTER 1+ 2 and BOOTH) are equipped with a special patented circuitry to prevent crackling noise in the signal while switching the unit on or/and off. In any case you should make sure, that the mixer is switched on before the rest of your equipment, i.e. especially amplification e.g. This will prevent possible damage to you speakers and PA system. When turning off your equipment, you should proceed the opposite way; this means: first turn off the amplification, then the VRM10 mixer.

CONTROL INTERFACE (Front Panel)



1 Power On/Off

2 LED Power

After pressing the VRM10's power switch, the blue power LED will light up right away. The valves in the signal path of the VRM10 will light up fully after a warm up period of 1-2 minutes.

MICROPHONE CHANNEL

3 DJ MIC 2
4 DJ MIC 1
Both mic inputs can be used as symmetrical or non- symmetrical (balanced or non-balanced) channels with either XLR or 1/4" jacks, with the provided combo connectors

THE XLR jack are set as follows:

1	GND
2	+SIGNAL
3	-SIGNAL

THE 1/4" Jacks are set as follows:

TIP	+SIGNAL
RING	-SIGNAL
SHAFT	GND

5 GAIN 2
6 CLIP LED for MIC 2
7 GAIN 1
8 CLIP LED for MIC 1
With the GAIN controls for both MIC channels you can set the level for the preamplification of the microphones.

9 TREBLE
10 MIDDLE
11 BASS
The 3 band EQ adjusts the equalization level for both microphone inputs.

12 VOLUME
The volume control adjusts the equalization level for both microphone inputs.

The Microphone channel is routed directly to the MASTER section in the output (please also see block diagram). This means:
- The microphone channel will not be influenced by the external effect send
- The microphone channel can not be heard through headphones
- The microphone channel will not be shown through the indicator tubes in the master section

***NOTE** : The signal and clip led's will be affected by the microphone channel.*

INTERNAL DSP EFFECTS

13 EFFECT SELECT
With this control you can select one of the 16 selectable effect presets:

POSITION	TYPE	CHARACTER	TIME
H1	Hall Reverb	Concert	2,4 sec
H2	Hall Reverb	Arena	3,6 sec
R1	Room	Club	1,8 sec
R2	Room	Chamber	1,0 sec
R3	Room	Garage	0,8 sec
P1	Plate	Plate	2,0 sec
P2	Plate	Vocal	1,5 sec
SP	Spring		3,4 sec
F1	Chorus/ Flange		7m sec
F2	Chorus/ Flange		12m sec
F3	Chorus/ Flange		25m sec
F4	Chorus/ Flange		35m sec
D1	Stereo Delay		200m sec
D2	Stereo Delay		300m sec
D3	Stereo Delay		400m sec
D4	Stereo Delay		500m sec

14 EFFECT LEVEL
This controls the volume of the effect signal

15 FEEDBACK
With this control you can set the feedback of your selected effect. This function only works with the CHORUS/ FLANGE and STEREO DELAY effects.

16 SPEED
With this control you can adjust the frequency of the LFO (0.1-20 Hz). The LFO will affect all effects, depending on the setting of the DEPTH control.

17 FACTOR
With this control you can adjust the Time factor of each

effect individually. The middle position of this control will have the value of the individual selected effect preset indicated in the diagram above.

18 DEPTH
With this control you can adjust the intensity of the LFO

19 SELECT
With this switch you can choose the channel on which the effect should work. The following 6 positions are available:

MIC	Microphone channel
CH1	PGM1
CH2	PGM2
CH3	PGM3
CH4	PGM4
MA	Master section

20 ON / OFF / FLASH
With this switch you can turn the effect on or off. In the FLASH position you can temporarily trigger the effect.

INPUT CHANNELS 1-4

Input channels 1-4 are identical. Therefore we will only describe PGM1:

21 SELECT
With this switch you can select one of the three inputs:

TT	PHONO	(M)
L1	LINE 1	(I)
L2	LINE 2	(H)

22 CROSSFADER
This switch will select to which side of the crossfader the the signal of the selected channel should be routed. The blue LED's to the left and right of the crossfader will indicate the chosen selection:

A	The signal comes through the left side of the cross fader
POST	The signal bypasses the crossfader
B	The signal comes through the right side of the crossfader

23 GAIN
24 LED Clip
With this control you can set the volume of the incoming signal of your selected input (SELECT 21). When setting this control in the right position, the CLIP-LED will only light up occasionally during really loud peaks of audio signals.

25 AUX
With this control you can set the volume and intensity of the auxiliary output.

26 TREBLE
27 BASS
28 MIDDLE
29 MID FREQ
With the EQ you can set the level of each frequency. Furthermore the EQ can be used to isolate certain frequencies. This is very easy and effective with the high quality and very strong filter-type parametric EQ on your VRM10.

***NOTE** : As the VRM-10's EQ is so powerful, you may have to carefully adjust the GAIN (23) while using the EQ (26-29)*

30 CHANNEL FADER
With the fader you can set the volume of the input channel

The VRM10 is equipped with high quality faders. Nevertheless a fader has no life-time warranty (see warranty section) as it is used in a heavy duty way. If the fader ever needs replaced, we have made it easy to be replaced:Just loosen the 4 screws around the fader; then disconnect the fader and replace with the new part. Connect the fader back into the socket and screw the 4 screws back into their holes.

31 PFL
In the headphones you will hear the signal of the master output if none of these buttons are activated: PFL (31), EFFECT (57) and FILTER (56). If you press any PFL switch you will here the selected audio signal before the master output signal.

***NOTE** : It is possible to select more than one channel with the PFL option.*

CROSSFADER

32 Crossfader
With the crossfader you can control and mix the various audio channels. You must have selected which channel runs through the crossfader, though. This selection can be made with the CROSSFADE switch (22).

Using modern VCA-technology in the VRM10 prevents early damage of the crossfader. Nevertheless, once in a while every fader gets worn out and needs to be replaced. To change the crossfader easily you only need to unscrew the two screws on the fader and disconnect the socket. Then you need to connect the new fader and put the screws back into their place.

33/34 TRIGGER
With both these buttons you can punch-in the audio signal on whichever side of the crossfader you would like to hear it, no matter in which position the crossfader is. By pressing both buttons you will hear both audio signals on either side of the crossfader.

35/36 CROSSFADE LED's
The LED's located left and right of the crossfader indicate, which input channel lies on which side of the crossfader according to the crossfader assign switch (22).

37 CROSSFADE CURVE
With this control you adjust the crossfade curve. When the knob is set completely to the left, the crossfader curve is set to a sharp on/off cut on both sides. If the knob is set completely to the right, the crossfader will fade smoothly from side to side.

DJ FILTER

The DJ Filter consists of two 24dB/Octave analog filters, which can be combined by setting the FILTER SELECT switch (38).

38 FILTER SELECT
These positions are available:

BAND	The filter works as bandpass
OFF	The filter is switched off
NOTCH	The filter works as a notch filter

39 CUT OFF HIGH
In the BAND position, this is used as a lowpass frequency control. In the NOTCH position, it works as a highpass frequency control.

40 RESONANCE HIGH
This creates a gradual increase of up to 6dB of resonance of the CUTOFF frequency is as it turned to the right.

41 CUT OFF LOW
In the BAND position, this will act as highpass frequency control. In the NOTCH position, it will act as lowpass frequency control.

42 RESONANCE LOW
This creates a gradual increase of up to 6dB of resonance of the CUTOFF frequency is as it turned to the right.

43 FLASH
The Flash function temporarily disables the filter while the button is pressed.

***NOTE** : In BAND mode it may be possible to eliminate the output signal totally if the controls are used heavily. The frequency controls (39 and 41) act as high torque kill switches.*

MASTER SECTION

44 TUBE
This switch turns the tube-preamplifier on or off.

45 TUBE INDICATOR (MAGIC EYES)
Both indicator tubes for the left and the right channel will indicate the output volume of the mixer, except the MIC channels. When the tube lines meet in the middle you have the ideal output peak. Additionally, the maximum peak will be indicated by the master clip LED's (46).

46 SIGNAL/ CLIP LED's
The green LED's will indicate a well balanced output signal. To achieve the optimum peak level at maximum performance, the green LED's should always light up, as soon as any signal runs through your VRM10. The red LED's will indicate if the peak is too high. These red LED's should only peak occasionally within high volume passages from the audio source fed through the mixer. If this is not possible you may need to adjust the volume within the individual channel faders.

47 SEND
With this you control the SEND volume of the external effect path (max level is set at 0dBu).

48 RETURN
With this you control the volume of the external effect signal returned to the mixer.

***NOTE** : When the internal effect (19) is turned on and set to MASTER (20), the external effect will be automatically switched off.*

49 BOOTH
With this you control the volume of the BOOTH output (max level is set at 0dBu).

50 BALANCE
With this knob you can control the balance (pan) for the MASTER outputs.

51 MASTER 1
With this knob you can control the MASTER 1 output volume [max level is set at 0dBu, or +6dBu according to the attenuation switch located on the back panel (R)]

52 MASTER 2
With this knob you can control the MASTER 2 output volume (max level is set at +6dBu)

MONITOR

53 MONITOR
With this knob you can control the volume of the headphones

54 HEADPHONE JACK 3,5mm / 1/8"
55 HEADPHONE JACK 6,3mm / 1/4"
Both jacks are switched parallel. You can connect two pairs of phones at the same time with an impedance of 30-400

Ohm. You will hear the master signal in your headphones if you haven't selected any of these options: PFL (31), EFFECT (57) and FILTER (56).

56 FILTER

When the FILTER switch (56) is selected, you will hear the mixed master signal before the activated DJ filter or master effect. When the FILTER switch is in its up position (off), the master signal is set to post-filter.

57 EFFECT

By pressing the EFFECT switch you can pre-listen to the internal effect signal.

***NOTE** : The PFL and EFFECT monitor switches must be off monitor the filter from the headphone output.*

TECHNICAL CHARACTERISTICS

Mic Inputs	(Mic1 + Mic2)
Sensitivity	-46dBu
Impedance	10kOhm
S/N Ratio	>80dB
THD+Noise	<0,1%
EQ High	+/-15dB, 10kHz
EQ Mic	+/-15dB, 1,1kHz
EQ Low	+/-15dB, 50Hz
Input 1-4	
Sensitivity	-20dBu (Line1+2)
	-60dBu (Phono/RIAA-Filter)
Impedance	100kOhm (Line1+2)
	50kOhm (Phono)
S/N Ratio	>85dB
THD+Noise	<0,1%
EQ High	+/-15dB
EQ Low	+/-15dB
Parametric EQ	+/-25dB (100Hz-10kHz)
AUX-Level	0dBu
Master	
Effect-Loop	0dBu
Booth	0dBu
Master1	0/+6dBu switchable
Master2	+6dBu

Internal Effects	
Frequency Range	20Hz-15kHz
THD+Noise	0,025%
S/N Ratio	86db
Effects	8 x Reverberation
	4 x Delay
	4 x Flanging
Filter	
Mode	Band/Notch
Frequency Range	50Hz-15kHz, 24dB/Octave
Resonance	+6dB
Headphones	
Impedance	30-200Ohms
Frequency Range	20Hz-20kHz
Mains	
Power Consumption	50VA
Voltage Selector/Fuse	230V/500mA
	115V/1A
	100V/1A
Dimensions	
Front	483mmx355mm (19"x8)
Chassis	436mmx352mmx100mm
Weight	approximately 10kg

WARRANTY

This unit has been designed and manufactured using quality components. Therefore, it is warranted to be free from defects in materials (limited as specified below), and workmanship for a period of twelve (12) months from the original purchase date. During this period, all service and parts necessary to repair a defect will be free of charge. This limited warranty applies to mechanical parts which are subject to wear and tear as specified:

- Faders, specified durability: 15,000 cycles
- Rotary potentiometers, specified durability: 10,000 cycles
- Switches, specified durability: 10,000 cycles

Consequently, the parts listed above are warranted to be free from defects in materials and workmanship for a period of thirty days (30) days from the original purchase date.

FOR THE WARRANTY TO BE VALID, PLEASE COMPLETE THE ONLINE WARRANTY REGISTRATION FORM FOUND AT WWW.STANTONMAGNETICS.COM

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BLOCK DIAGRAM