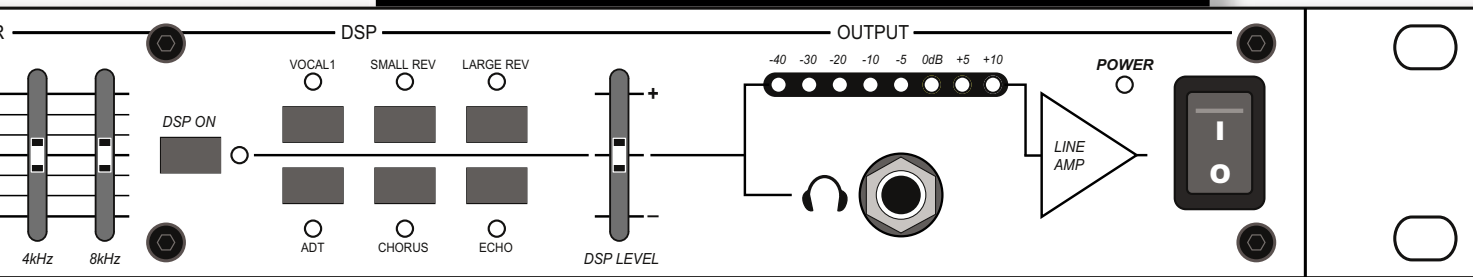
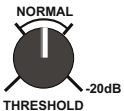


# StuDiomaster



## NOISE GATE



## DSP FOOTSWITCH

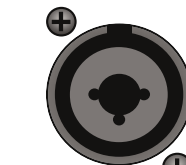


**StuDiomaster VMS**  
Vocal Management System  
DESIGN AND ENGINEERING IN ENGLAND  
BY  
STUDIOMASTER & COURT ACOUSTICS  
[www.studiomaster.com](http://www.studiomaster.com)

## HI-PASS FILTER



## +48V PHANTOM



INPUT MIC - XLR  
LINE - JACK

**VMS**  
Vocal Management System

**USER  
GUIDE**



# INDEX

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## **INTRODUCTION**

The Vocal Management System (VMS) is a world first, designed by Studiomaster & Court Acoustics, packing all the studio grade equipment a vocalist needs into one compact product. However, the complexity has been left out as the VMS is extremely easy to use and will give your voice the sound it deserves, every performance.

An all new mic preamp design, precision optical compressor and noise gate, seven band graphic equaliser will ensure studio quality sound. The DSP (digital signal processor) provides six stunning vocal effects designed by Studiomaster using 30 years of live sound experience.

## **READ THE USER GUIDE**

Despite the sophisticated design the VMS is very easy to use although to get the best from your new purchase, we recommend you read this User Guide before getting down to any serious work.

It also contains important safety information as well as practical hints.

## **UNPACKING**

Remove your Studiomaster product from its packaging and ensure that along with this User Guide you have an A.C. power cord / mains lead and a warranty card. Retain the packing carton in the eventuality that the unit needs to be returned for service or repair, and please complete and return your warranty card. Returning the completed warranty card does not diminish your statutory rights in any way.



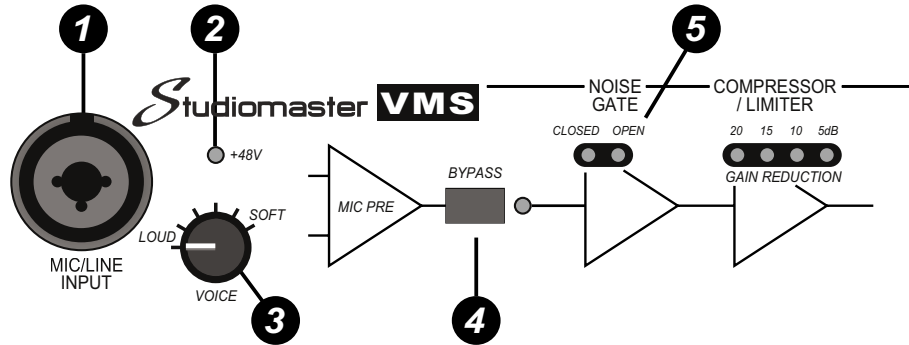
## **SAFETY INSTRUCTIONS**

READ THIS BEFORE YOU USE YOUR PRODUCT

1. Before connecting the A.C. power cord make sure the Voltage selector (located on the side of the unit) is set to your local supply voltage. For supplies between 220 and 240V use the 230V position. For supplies between 110 and 120V use the 115V position.
2. Only use the A.C. power cord / mains lead supplied with the product. Replace if it becomes damaged in any way.
3. Never operate without, or remove the safety ground (earth) from the A.C. power cord / mains lead.
4. Do not attempt to remove any screws or panels. There are no user serviceable parts inside.
5. Do not operate the unit next to heat sources such as radiators.
6. The unit should not be operated or stored near rain or moisture.
7. This equipment must not be exposed to dripping or splashing and no objects filled with liquids should be placed on top of it.
8. Write the serial number in the box provided in the Warranty section for future reference.
9. If the unit gets damaged, has been dropped or appears to have developed a fault refer to the Service Information section for details.

### **WARNING**

**THIS APPARATUS MUST BE EARTHED (GROUNDED)**

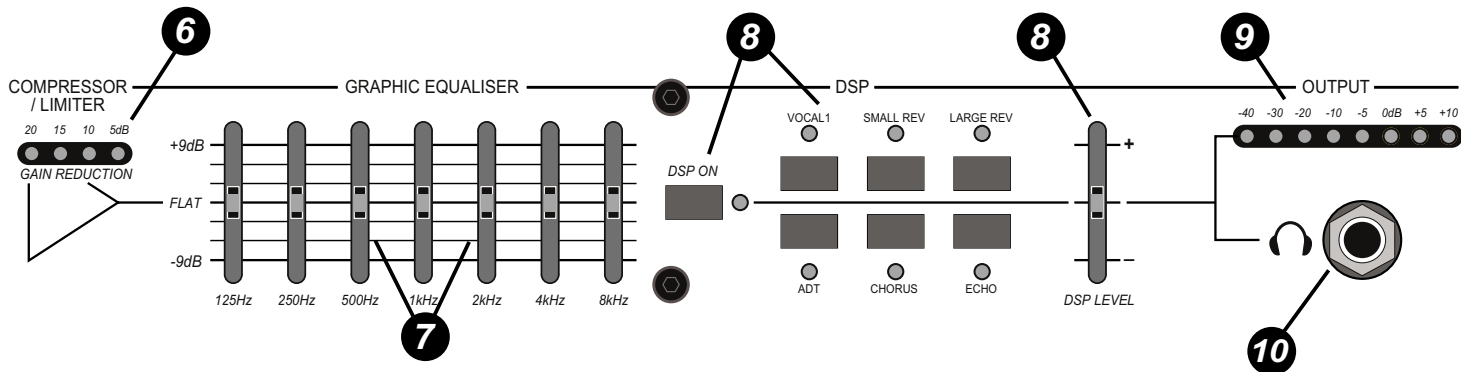


## Controls & Features - Front Panel

1. **Mic/Line input sockets:**  
Combination XLR and jack. Suitable for use with balanced low impedance microphones or line level signals typically from mixing consoles. For convenience there are two sockets fitted, one on the front and one on the rear panel. Only connect one microphone or signal at any time.
2. **+48V LED:**  
Illuminates when phantom power is turned on - see rear panel controls and features.
3. **VOICE control:**  
A six position switch marked SOFT to LOUD that refers to your average voice level. This switch adjusts the gain of the VMS to give the best setting for your particular voice. See SETUP section for more details.

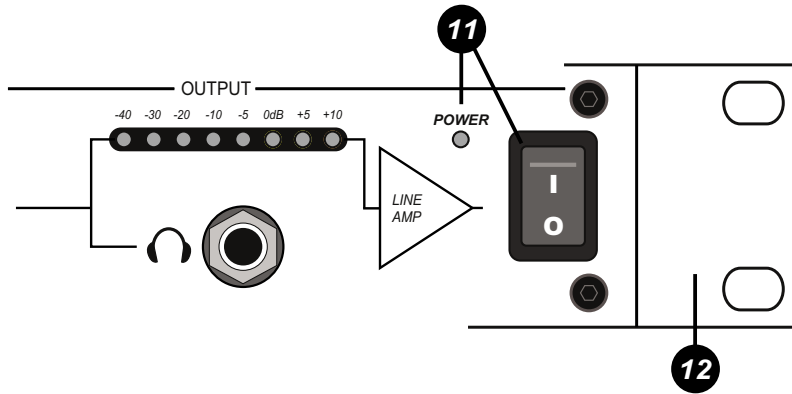
4. **BYPASS switch:**  
Pressing this allows you to hear your voice unprocessed for comparison purposes. Note the LEDs associated with the gate, compressor, graphic and DSP turn off and the BYPASS LED illuminates giving a visual indication of status.
5. **NOISE GATE status LEDs:**  
The noise gate automatically turns the microphone off when you stop singing. This reduces the unwanted background noise the microphone would otherwise pick up. The open and closed LEDs give a visual indication of the noise gate status.

The controls for the NOISE GATE are located on the rear panel - see **rear panel controls and features** for more details.



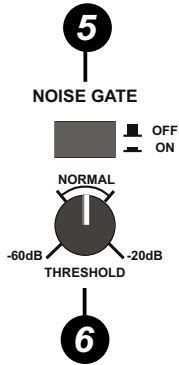
6. **COMPRESSOR/LIMITER status LEDs:**  
Shows how much compression is being applied to your voice. The first green (5dB) LED shows small amounts of compression whilst the red (20dB) LED shows maximum compression has been reached.  
See **SETUP** section for more details.
7. **GRAPHIC EQUALISER (EQ):**  
Is a seven band tone control section. Unlike the graphic equalisers found on most professional equipment, this uses special frequencies dedicated to vocals, allowing fine adjustment of your individual tonal qualities.
8. **DSP - digital signal processor:**  
Contains six preset sound effects tailored to the voice. Controls consist of an on/off switch with green status LED, six

- effect switches and effects level control.  
When an effect has been selected for more than 10 seconds that selection is automatically restored the next time the VMS is turned on.
9. **OUTPUT level bargraph:**  
Using eight LEDs gives instant visual indication of the signal level through the VMS in active and BYPASS modes.
10. **Headphone socket:**  
Stereo jack socket for use with most headphones.  
Warning: The signal level to the headphone socket is internally set. To avoid damage to your hearing, connect the headphone plug before placing the headphones over your ears. Adjust (lower) the volume by sliding the headphones slightly forward, away from your ears.

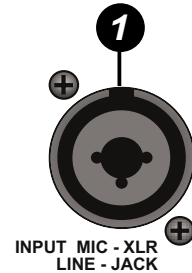
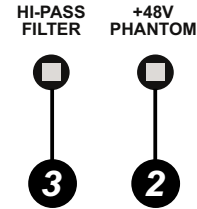


11. Power switch and LED:  
Turns the VMS on or off. The blue LED illuminates when the VMS is on.

12. Rack mount brackets:  
The VMS is supplied ready for installation into a standard 19" rack. For free standing use, remove the 3 Philips screws on each bracket. The VMS is packed with four screw-in feet that can be fitted to the under side of the unit. Retain the brackets and screws for future use.



  
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## Controls & Features - Rear Panel

### 1. Mic/Line input sockets:

Combination XLR and jack socket suitable for use with balanced low impedance microphones or line level signals typically from mixing consoles. Only connect one microphone or signal at any time.

### 2. +48V PHANTOM:

Switch applies 48 Volts to both XLR input sockets to power condenser microphones. A red LED on the front panel illuminates when switched on (in position). Most modern condenser microphones have a working voltage range of 9 to 50V.

However, if in doubt check with the microphone manufacturer.

### 3. HI-PASS FILTER:

Cuts very low frequencies reducing handling noise, stage rumble and wind noise. The VMS is shipped with the filter already active (switch in position) as it will aid vocal clarity.

### 4. DSP FOOTSWITCH:

Jack socket allows connection of a foot switch (not supplied) to turn on and off the DSP effects. Use any latching or change over type foot switch.

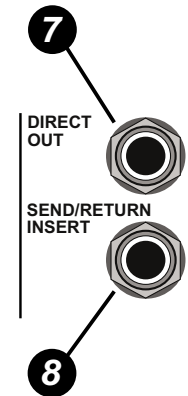
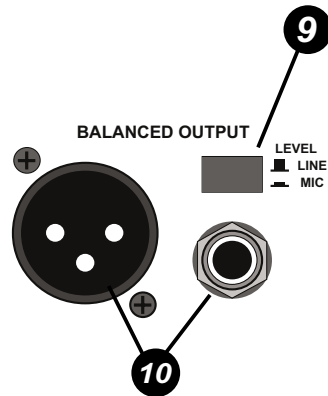
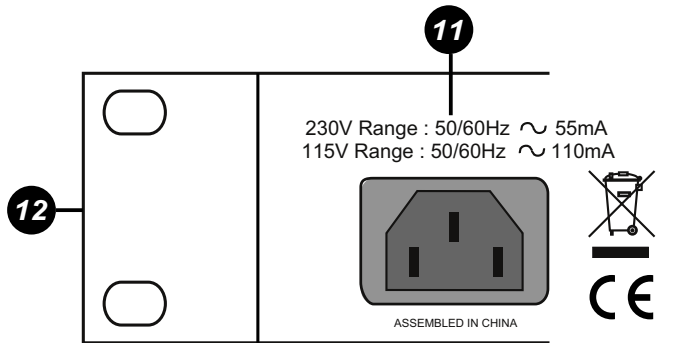
### 5. NOISE GATE on/off switch:

Turns on and off the noise gate.

### 6. NOISE GATE THRESHOLD control:

Adjusts the threshold or level at which the noise gate turns on.





**7. DIRECT OUTPUT:**

Jack socket positioned in the circuit after the effects & send/return insert but before the main output, bargraph and headphones socket. This socket is useful for connecting to external equipment for triggering effects etc.

**8. SEND / RETURN INSERT:**

Jack socket positioned in the circuit after effects but before direct output, main output, bargraph and headphones socket. Useful for connecting to external equipment for additional processing etc.

**9. BALANCED OUTPUT LEVEL switch:**

Changes output signal level from line (suitable for line inputs on mixers, amplifiers etc) to mic (suitable for mic inputs on mixers, computers etc).

**10. BALANCED OUTPUT sockets:**

XLR and Jack socket. Can be used balanced or unbalanced - see connector wiring section.

**11. A.C. power input socket.**

**12. Voltage selector (located on the side panel):**  
Read the Safety Instruction before attempting to move this switch. Never make any adjustment with the A.C. power cord/mains lead attached.

# VMS

# VMS

## SETTING UP THE VMS

### HOW TO MAKE IT WORK

Although the VMS contains a number of highly sophisticated signal processing circuits, it is very easy to setup and use. We recommend whatever level of audio experience, you read the following section to get the best from this product.

#### 1 Connecting up and checking control settings:

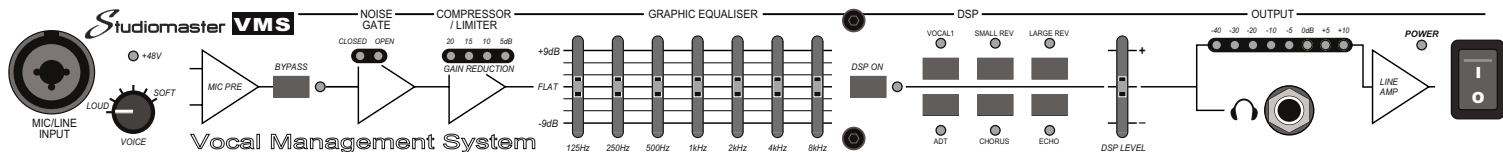
- Connect a microphone to either front or rear panel MIC socket.
- Connect the output to your mixer, sound system etc.
- Check the NOISE GATE switch on the rear panel is in the off (out) position.
- Connect the A.C. power cord / mains lead and switch on, noting that the blue POWER LED illuminates.

#### 2 Getting sound:

- Sing into the microphone and adjust the VOICE switch until one or two yellow (marked 0dB, +5) LEDs on the bargraph illuminate with the loud parts of your voice.
- Adjust your mixer or sound system for a suitable volume level.

#### 3 Activate your VMS!

- Release the BYPASS switch. Now when you sing into the microphone the gain reduction LEDs illuminate



confirming correct operation. Your voice will now sound warmer and have a more consistent volume.

- Typically the yellow and green gain reduction (marked 15, 10, 5dB) LEDs flash when singing showing normal operation. However, by adjusting the VOICE control more or less LEDs illuminate showing more or less compression being applied. Experimenting with this control will find the best setting for your voice.

4

Graphics:

If required make subtle tonal adjustments using the graphic equaliser. However, if you are happy with the tonal sound of your voice leave the graphic controls in the central position.

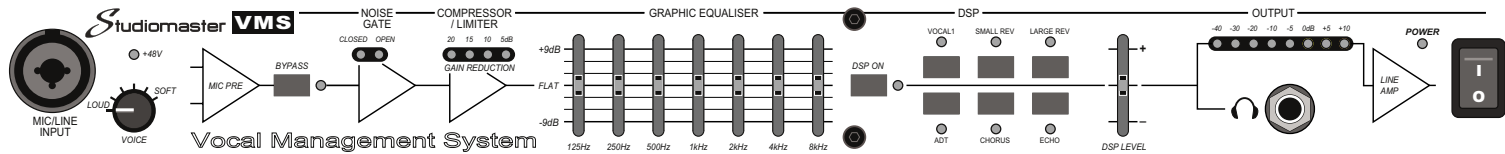
5

The noise gate:

- Set the THRESHOLD control (on the rear panel) to the centre, NORMAL position and switch on (in position).

Note the red gate closed LED illuminates and background noise disappears. As soon as you start to sing the green gate open LED illuminates and your voice is allowed through the VMS.

- The THRESHOLD control can be adjusted, if required, for sensitivity. If the gate turns on too early, 'clips' certain sounds or words, the THRESHOLD control should be turned anti-clockwise (towards -60dB) slowly to increase its sensitivity. If the gate appears too sensitive and never seems to close, turn the THRESHOLD control clockwise (towards -20dB) to reduce sensitivity.



- 5 Finally - Adding effects:  
 Turn on the DSP, select VOCAL 1 (the most popular effect on Studiomaster DSPs) and whilst singing, adjust the DSP LEVEL control until the desired effect is achieved.

**That's it - you are ready for the performance!**



## HINTS & TIPS

### HOW TO SOUND GREAT

#### GENERAL

Always use a good quality microphone that is suitable for your style of singing and that you like the sound of. Your dealer can show you mics specially designed for the voice. The VMS can use dynamic or condenser type microphones so there is a big choice available. It's time well spent getting the right mic. Learn good microphone technique and avoid the obvious pitfalls. Singing too far away from the mic will give poor signal and more background noise whilst too close will cause distortion and poor clarity. Sing directly into the mic (not on the side) at a distance that suits you and the microphone. Finally, never blow into a mic to test it. Your mic is a precision instrument designed for the delicate vocal sounds - a hurricane will destroy that precision!

#### COMPRESSOR / LIMITER

The dynamics of this compressor are internally set to give optimum results on the human voice making a complex electronic device like this easy to use. The SETUP section outlines how to adjust the VOICE control to give good results.

However, turning the VOICE control clockwise will increase the gain and so drive the compressor harder. This will give a slightly thicker vocal sound with less dynamics. Turning the VOICE control anti-clockwise will result in less compression giving a slightly more open sound. Experimentation may reveal 'your' perfect sound.

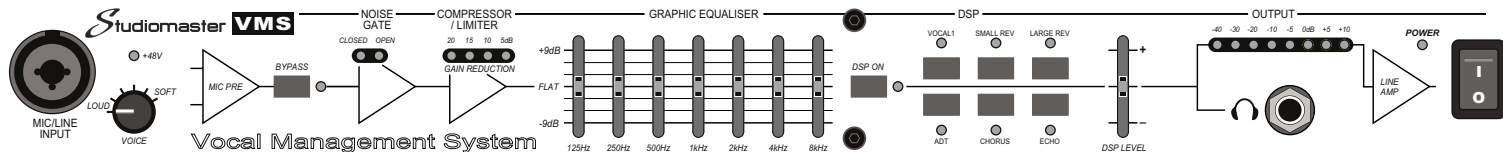
#### GRAPHIC EQUALISER (EQ)

The first point to mention here is if you are happy with the sound, leave the 7 controls in the centre (off) position. More performances have been ruined by too much EQ than not enough.

Before making any EQ adjustments first consider the sound source. Am I too close/too far away from the mic? Is it the wrong type of mic? Is the speaker system in the wrong position? It is much better to solve tonal problems at source rather than try to 'fix' them with an equaliser.

The 125Hz frequency is useful for reducing handling and low frequency background noise.

The 8kHz frequency, although outside the range of the human



voice, is helpful in reducing sibilance.  
 Try cutting (lowering) either control and listen to the difference.

### NOISE GATE

This is a great device for cutting out unwanted background sounds and instrument overspill during your performance. In live applications its setting will always be a compromise due to the environment the performance takes place in. If the background noise (from stage monitors, drum kits, guitars etc) is almost as loud as your voice, a noise gate is limited in what it can do. With this in mind, try to avoid directing the microphone to other loud sound sources. Carefully adjust the threshold control so that it doesn't close on quiet passages or between songs when talking.

### DSP - Digital Signal Processor

You will find all six effects on the VMS sound great with both male and female voices, the choice of which effect is your preference.

The DSP LEVEL control adjusts the volume of the effect that will be mixed with your original voice. Avoid adding too much of the effect, especially reverb, as it can make the voice sound distant, losing impact. Likewise, not enough effect can be too subtle for a live performance leaving the voice sounding dry. Make use of the foot switch socket to turn on and off the DSP remotely between songs. Speaking between songs is far clearer without any effects.

Vocal 1: a combination of reverb and delay developed by Studiomaster and the choice of many professional performers world wide.

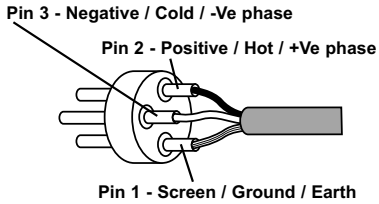
Small & Large Reverb: good quality reverbs great for ballads.  
 ADT - automatic double tracking: A technique used in the 60s which adds a small delay to the voice giving a thicker, more powerful vocal.

CHORUS: A modern, subtle effect that works well with voices in the upper range.

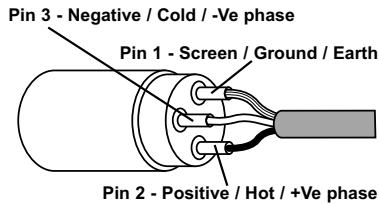
ECHO: a classic rock & roll delay with several repeats.

# CONNECTOR WIRING

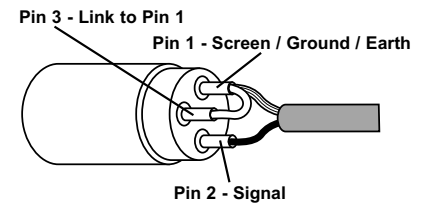
## INPUT XLR



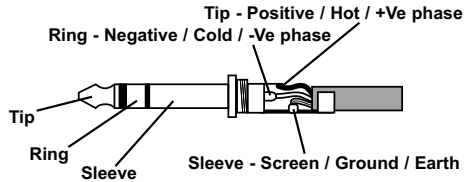
## OUTPUT XLR (BALANCED)



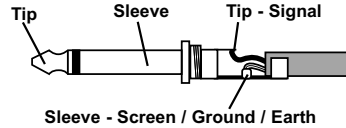
## OUTPUT XLR (UNBALANCED)



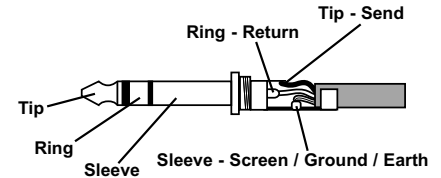
## INPUT / OUTPUT 1/4" TRS JACK (BALANCED)



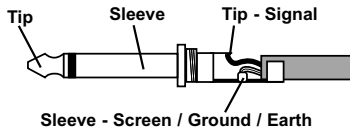
## OUTPUT 1/4" TS JACK (UNBALANCED)



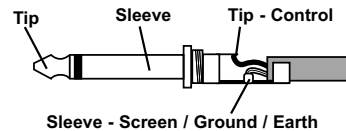
## SEND/RETURN 1/4" TRS JACK



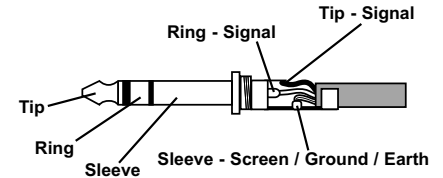
## DIRECT OUTPUT 1/4" TS JACK



## FOOTSWITCH 1/4" TS JACK



## HEADPHONES OUTPUT 1/4" TRS JACK



For use with 30 - 400ohm headphones

# VMS

# VMS

## TROUBLE SHOOTING

WHY IS IT NOT WORKING!

### **No Power On Led.....**

Check A.C. power cord/mains lead is connected to the VMS & wall supply and is switched on.

UK only - Check fuse in mains plug.

Check A.C. power cord/mains lead is fully pushed into the rear panel socket

Check the VMS is switched on, and blue power on LED is illuminated.

### **No sound.....**

Check for a signal on the front panel bargraph.

Signal on bargraph - check connection to the mixer/amplifier.

No signal on bargraph - check the microphone is connected (switched on if it has a switch) and the noise gate is switched off.

### **Sound is lifeless or distorted.....**

Using the mic too close to the mouth or too much gain - move away from the mic slightly or turn the VOICE control toward the LOUD setting (anti-clockwise).

### **Sound is thin or distant.....**

Too far away from the mic or not enough gain - move closer to the mic or turn the VOICE control toward the SOFT setting (clockwise) and check gain reduction LEDs are illuminating.



# TECHNICAL SPECIFICATION

## FACTS & FIGURES

<b>Gain</b>	VOICE switch	0dB, 10dB, 16dB, 22dB, 28dB, 34dB
<b>CMMR</b>	Microphone input	86dB @ 1kHz
<b>EIN</b>	Microphone input	-126dBu
<b>Frequency Response</b>	+0, -0.5dB	20Hz - 20kHz (BYPASS selected)
<b>Noise</b>	BYPASS selected Active	< -90dB < -76dB
<b>HI-PASS Filter</b>		80Hz 18dB / octave
<b>GATE characteristics</b>	Threshold variable Filter	-60dBu to -20dBu -3dB @ 150Hz & 5kHz
<b>COMPRESSOR characteristics</b>		Optimised for vocal characteristics
<b>Distortion</b>	BYPASS selected Active	< 0.002% < 0.2%

### Metering

Output levels leds illuminate -40, -30, -20, -10, -5, 0, +5, +10dBu  
 'VU' = 0dBu output, averaging response characteristic

Gain reduction leds illuminate 5dB, 10dB, 15dB, 20dB gain reduction

### Graphic EQ

Gain +/- 9dB  
 Frequencies 125, 250, 500, 1k, 2k, 4k, 8kHz  
 Response Q = 1.4

### Input / Output impedance & levels

Microphone input 2k5 ohms  
 Line input (20dB pad) 25k ohms  
 Maximum input level +22dBu (mic) +42dBu (line)  
 Maximum output level +28dBu (bal) +22dBu (unbal)  
 Output impedance 150 ohms (line) 200 ohms (mic)

### Power Requirements

230V range +/-10%, ~50/60Hz, 55mA Max  
 115V range +/-10%, ~50/60Hz, 110mA Max

### Dimensions

Width 482mm (19") including rack ears  
 Height 44mm (1.75") 1U  
 Depth 265mm (10.5")

### Weight

Net 3.6KG (7.92lbs) Gross 4.6KG (10.12lbs)



## WARRANTY

ARE YOU COVERED?

The Manufacturer warrants all Studiomaster products to be free from defects in materials and workmanship for a period of one year from date of purchase. The Manufacturer reserves the right to the final decision on all warranty claims.

### Exclusions to Warranty Cover

Damage caused by accident, misuse, improper installation or neglect.

Damage caused by repair, modification or service by persons not authorised by Studiomaster.

Products on which the serial number has been defaced, altered or removed.

### Who is Protected

This warranty is enforceable by the original purchaser and any subsequent owner(s) during the warranty period, providing a

copy of the original sales receipt is submitted whenever a warranty service is required.

It is recommended that you complete and mail the Warranty Registration Card supplied with your product.

For your reference in the event of a warranty or service repair, please complete the following information and attach a copy of your original sales receipt.

Model : \_\_\_\_\_

Serial Number : \_\_\_\_\_

Purchase Date : \_\_\_\_\_

Purchased From : \_\_\_\_\_

Note : THIS WARRANTY DOES NOT AFFECT YOUR STATUTORY RIGHTS



## SERVICE INFORMATION

### HOW TO GET MY PRODUCT REPAIRED

If you have a problem with your Studiomaster product or think it has developed a fault you should first carefully check the Trouble Shooting section in this guide. If this does not solve the problem or if the product is physically damaged, contact your local dealer or distributor for service details.

Should it be recommended you return the product to your nearest Studiomaster Service Centre you must first contact them.

You will be asked for the product type and serial number. You will then be given a Returns Authorisation (RA) number.

Pack the unit in its original carton to protect it from shipping damage.

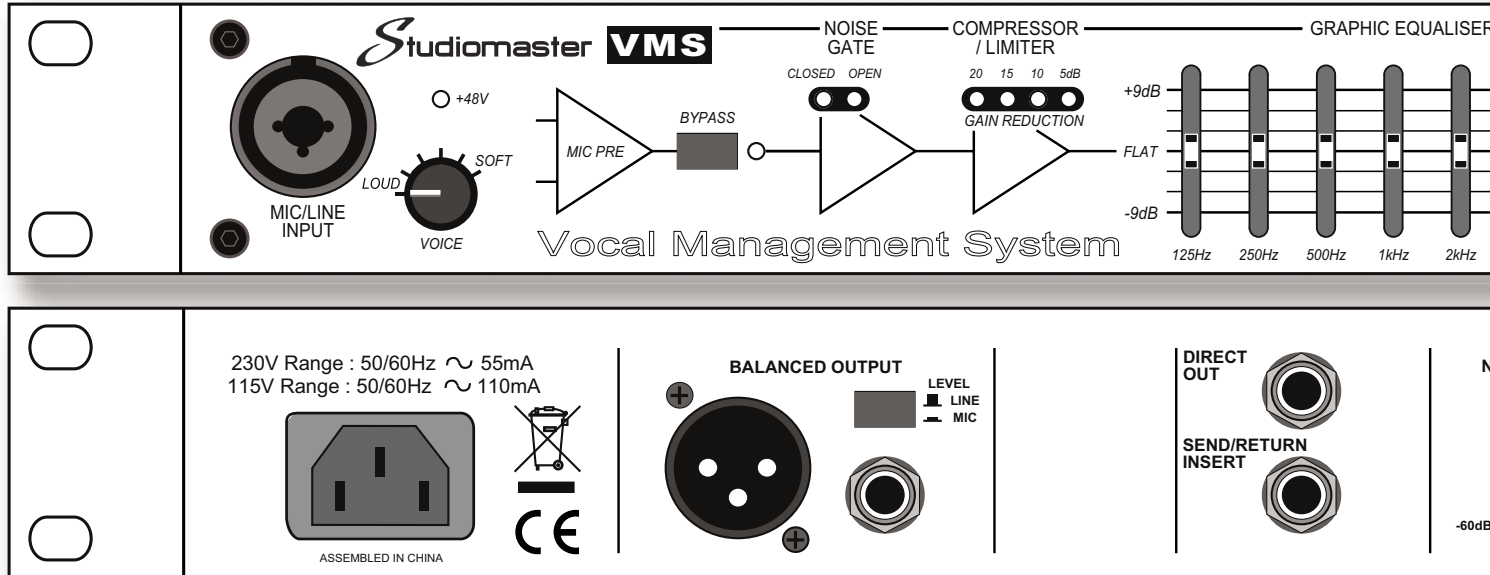
You must have the Returns Authorisation number clearly marked on the outside of the carton or we may refuse the delivery. Studiomaster cannot be held responsible for damage resulting from the equipment being packed incorrectly.

Label the equipment clearly with your name and address and include a clear description of the fault. The more information you supply helps the service engineer, minimising repair cost when out of warranty.

**Important :** No liability will be accepted by Studiomaster for any transit damage to units not returned in their original packing, for warranty repairs or otherwise.

In Accordance with our progressive product development, Studiomaster / Studioking reserve the right to change features and specifications without prior notice.

# EXPECT THE BEST



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