



Introduction

The Fusion Original is a compact, versatile mixer packed with all the features the modern musician and DJ demands. As the name suggests Fusion is the combination of three major sound elements. The first is professional mic channels with smooth and musical E.Q. The second is a high quality effects processor with just the right reverb and delays to produce stunning vocals. The third and the most unique feature is the music/D.J. inputs geared to modern club mixing.

Easy to use, incredibly flexible and backed up by quiet studio quality electronics. It can be used free standing or rack mounted and the host of internal options make the Fusion adaptable to any situation.

Read the operator guide

Despite the sophistication behind the control panel, the Fusion is very easy to use, though to get the best from your new purchase, we recommend you read this operator guide in full at least once before getting down to any serious work. This operator guide contains important safety information as well as practical hints on operating a live sound system.

Unpacking

Remove your Studiomaster Fusion from its packing and ensure that along with this operator guide you have an AC 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.

WARNING: THIS APPARATUS MUST BE EARTHED (GROUNDED)

Safety instructions

1. Make sure the Voltage Selector is set to your local supply Voltage. For supplies between 220 and 240 Volts use the 230 position. For supplies between 110 and 120 Volts use the 115 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 screws or panels on your Fusion. 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. Do not allow objects or liquid to enter the unit.
8. This equipment must not be exposed to dripping or splashing and no objects filled with liquids should be placed on top of it.
9. Write the serial number in the box provided in the Service Information (page 8) for future reference.
10. If the unit gets damaged, has been dropped or appears to have developed a fault refer to the Service Information section for details.

Applications

(see set-up diagrams page A)

DJs - 4 full featured stereo inputs, 2 with -36dB 'kill' facility, and switchable to vinyl (RIAA). Assignable VCA cross fader with fully adjustable tapers producing smooth mixes.

Karaoke - A total of 3 full featured mic channels 2 of which can be muted remotely, via footswitch, by the compere. The onboard DSP digital reverb/delay enhance vocal performances and 4 stereo channels - 2 for Karaoke machines and 2 for background/ back up CD players.

Solo / Duo Performer / Live Music - The 3 professional mic channels can be used for vocals or instruments, the 4 stereo inputs can be used for drum machines, keyboards, etc or CD/mini disk play back. Easy to use onboard 16 bit digital reverb for the perfect vocal sound.

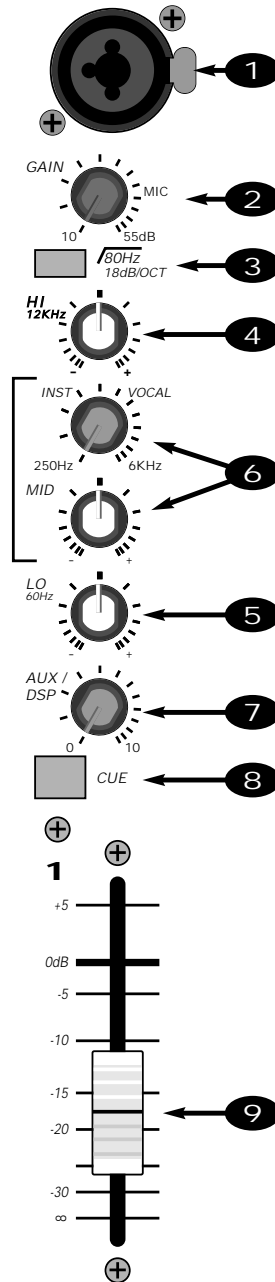
Club mixer - The 4 stereo channels have all the latest features a DJ needs, including -36dB 'kill' controls, with a flexible Booth output (with selectable mic mute), the VCA cross fader is internally adjustable for cross mix, beat mix, and cut mix. A separate CUE bus bargraph makes beat and level matching with the main outputs easy.

Night club/entertainment venue - The flexible input arrangement can accommodate all types of performer. Small bands, background music, disco or a simple announcement/PA system can all be easily handled by the Fusion.

Install - The main outputs are on balanced XLR connectors with level adjustment, mic inputs are on the front panel for easy access. A 20Hz, 18dB/Octave filter on the main outputs reduces out of band signal (from CDs, records and instruments) reducing power loss and promoting tighter bass in the sound system.

CHANNELS 1, 2 & 3

- 1 Channels 1- 3 use a combination XLR and 1/4" jack connector. You can use a microphone fitted with a 1/4" jack or, for best results, use a balanced microphone with a 3-pin XLR connector. The design of the circuitry allows the jack input to be used to connect electric guitars, keyboards and most line level equipment.
- 2 The Gain control is used to match the incoming signal level to the internal operating levels of the Fusion. This ensures the best performance, reduces noise and avoids distortion. Typical settings for microphones are marked on the front panel.
- 3 The $\sqrt{80\text{Hz}}$ button operates a high pass filter (HPF) which cuts out just the very low frequencies, reducing handling noise, stage rumble and wind noise. It should be used with all mics and instruments - except those with significant bass content. The overall mix will sound cleaner and minimise wasted amplifier power.
- 4 The HI control cuts or boosts the high frequency (or treble) element of the sound. In the centre (12 o'clock) position, the sound is unaffected. The HI control works at 12kHz.
- 5 The LO control operates in the same way as the HI control except that it affects the low frequency (bass) part of the sound. The LO control operates at 60Hz.
- 6 The MID consists of two controls. The lower control operates in the same way as the HI & LO. The upper control (the 'sweep') adjusts the frequency at which it operates. Typical settings suitable for microphones and instruments are marked on the front panel. The MID frequency sweep control adjusts between 250Hz and 6kHz.
- 7 AUX/DSP sends some of the signal from the channel to the on-board effects processor and to the AUX OUTPUT jack on the rear panel - for external effects processing. The signal for the AUX/DSP control is controlled by the fader.
- 8 CUE routes the channel signal to the CUE led meter and the PHONES/BOOTH outputs if selected. This has no effect on the signal going to the Left/Right output.
Note - when any CUE button is pressed the signal source displayed on the L-R meters changes from post output fader to pre-fader. This means that instead of the meters showing the actual signal level leaving the Fusion, it shows the mix of signals before the master fader. This is very useful as it allows a comparison between the cue'd bargraph signal and the mix (output) signal.
- 9 The fader adjusts the level from the channel to the main output. The fader acts as a volume control for each channel. They join all the various sounds together creating a blend or 'mix' of sounds. The long, smooth faders make small adjustments easy as well as giving a visual representation of sound levels.
In use, aim to set the fader at the 0dB position. It can then be raised or lowered to adjust the sound (mix).



Tone controls Hi, Mid & Lo

The controls marked HI, MID and LO are very useful for changing the characteristics or tone of the sound. For simplicity or for new users set these controls to the centre position, which effectively turns off or bypasses the tone control section and you will not need to worry about these controls until you feel more confident.

However, to get the best out of your audio system or if you just want to experiment read on.....

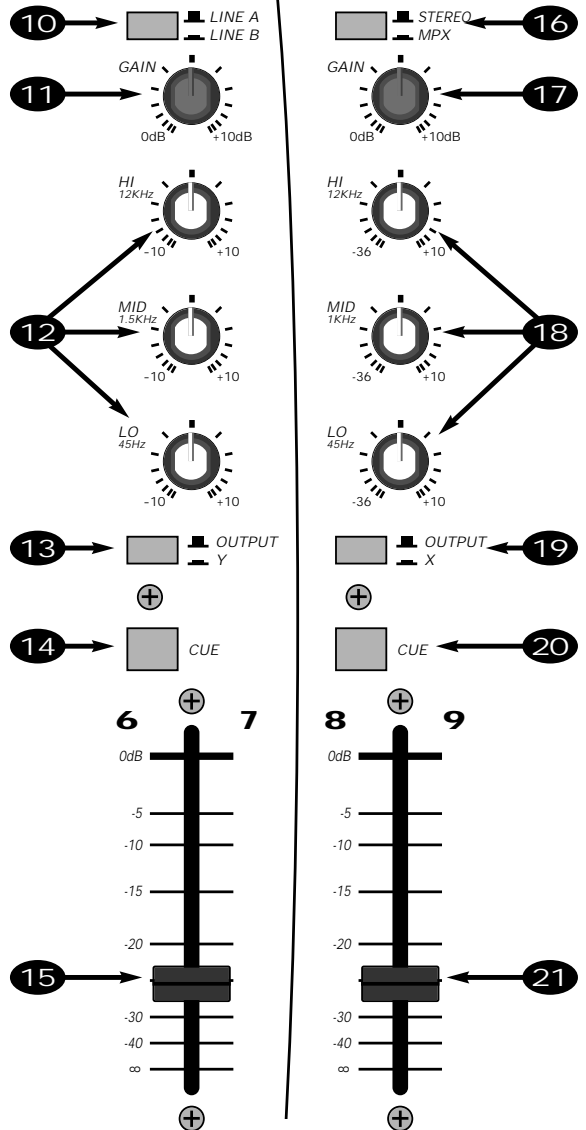
Adding a little HI on CD/Cassettes can add brightness to the sound. For microphones increasing the MID ranges tends to 'lift' the vocal adding clarity to the voice.

For CD/cassettes adding LO makes the bass section of music more prominent. For microphones doing the opposite and removing a little bass helps stop the 'popping' or 'boomy' sound often apparent when a microphone is used too close to the mouth.

For best results with microphones/CD/cassettes, don't be over enthusiastic with the tone controls as this can make the sound un-natural. With guitars or other instruments more extreme tone settings can be used to create more of a sound effect.

STEREO CHANNELS 4/5 & 6/7

- 10 The first two stereo channels have two sets of input connectors with a selector switch (LINE A/LINE B). This means that two stereo signals can be permanently connected and selected using the switch on the front panel. Perhaps a CD and a minidisc player or any two sources that never need to be operating at the same time.
 - 11 The Gain control is used to match the incoming signal level to the internal operating levels of the Fusion. This ensures the best performance, reduces noise and avoids distortion.
 - 12 EQ is tailored to the creative DJ with up to 36dB of cut and 10dB of boost. Frequencies are set at 12kHz (HI), 1kHz (MID) & 45Hz (LO).
 - 13 Both channels can be assigned directly to the main output or to the VCA cross-fader. Channel 4/5 routes the signal to 'X' or left side of the cross fader and channel 6/7 to 'Y' or right side of the cross fader.
 - 14 CUE routes the channel signal to the CUE led meter and the PHONES/BOOTH outputs. This has no effect on the signal going to the Left/Right output.
- Note** - when any CUE button is pressed the signal source displayed on the meters changes from the post output fader to pre-fader. This means that instead of the meters showing the actual signal level leaving the Fusion it shows the mix of signals before the master fader. This is very useful as it allows a comparison between the cue bargraphs signal and the mix (output) signal.
- 15 The fader adjusts the level from the channel to the main output. For normal operation always operate these faders at the top (0dB) position. This gives the best audio performance and gives maximum fader travel for smooth fade outs.



STEREO CHANNELS 8/9 & 10/11

These channels have a rear mounted switch ('PHONO') (44) allowing record decks to be connected.

- 16 The front panel MPX/STEREO switch allows the use of 'multiplex' type CD's for karaoke use. When a 'multiplex CD' is used and the switch is in MPX position, the vocals are removed, leaving just the backing track for singing to.
- 17 The Gain control is used to match the incoming signal level to the internal operating levels of the Fusion. This ensures the best performance, reduces noise and avoids distortion.
- 18 EQ is tailored to the creative DJ with up to 36dB of cut and 10dB of boost. Frequencies are set at 12kHz (HI), 1kHz (MID) & 45Hz (LO).
- 19 Both channels can be assigned directly to the main output or to the VCA cross-fader.
- 20 CUE routes the channel signal to the CUE led meter and the PHONES/BOOTH outputs if selected. This has no effect on the signal going to the Left/Right output.
- 21 The fader adjusts the level from the channel to the main output. For normal operation always operate these faders at the top (0dB) position. This gives the best audio performance and gives maximum fader travel for smooth fade outs.

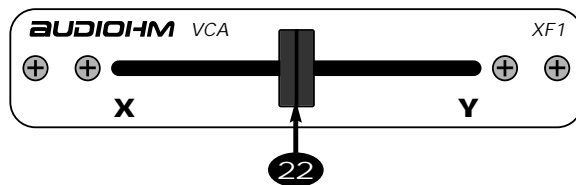
Connectors for stereo channels are all RCA/phono type.

CROSS-FADER

- 22** The cross-fader can be used simply to fade from one stereo channel to another or creatively by the DJ. Two 'TAPER' controls (34 & 35) in the master section of the Fusion allow a number of effects and mixing tricks. The signal to the cross-fader is assigned from the stereo channels using the 'X' and 'Y' switches (13 & 19). **Experimentation is recommended.**

Note: this cross-fader is easily removable using the two screws on the panel. Should your cross-fader become worn or damaged it can be replaced without lengthy downtime. Contact your dealer for information about obtaining replacement cross-faders.

The Fusion cross-fader circuit uses VCAs (voltage controlled amplifiers) to eliminate the operational noise and intermittent operation that can occur with 'conventional' cross-faders after extended use.



MASTER SECTION

- 23** Two 12 segment, 3 colour LED meters display the main Left/Right output levels.

Note - when any CUE button is pressed the signal source displayed on the meters changes from the post output fader to pre-fader. This means that instead of the meters showing the actual signal level leaving the Fusion it shows the mix of signals before the output fader. This is very useful as it allows a comparison between the cue bargraphs signal and the mix (output) signal.

- 24** The Cue meter displays the level of all signals assigned to the cue bus. It displays cue'd signals from mic channels and the right channel of the cue'd signal from stereo channels. This allows beat matching with the right output meter next to it.

- 25** The OUTPUT fader is the master volume control, like the volume control on a HI-FI. Always lower the fader to '∞' before turning on. This will avoid any 'surprises' from CDs playing or mics left on!

- 26** The POWER LED lights when the Fusion is connected to the AC power supply and switched on.

- 27** The MONO LED lights when the MONO switch (on the back panel) has been selected. The main left-right output signal will now be in mono.

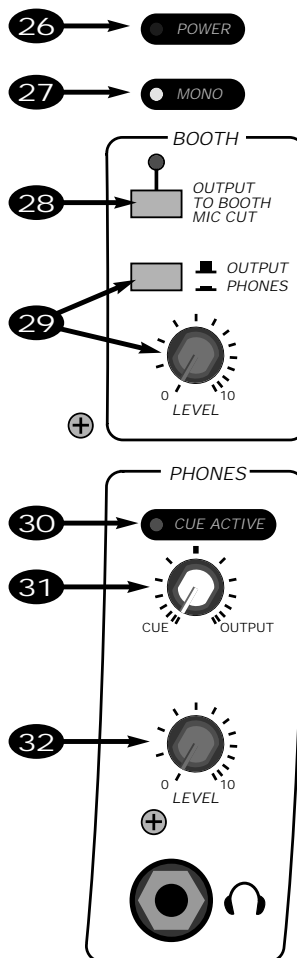
- 28** When the 'OUTPUT TO BOOTH MIC CUT' switch is selected, the associated LED illuminates and all microphone channels are disconnected from the BOOTH output mix. This helps to avoid feedback in the DJ booth. Note: the main mix is unchanged.

- 29** OUTPUT/PHONES gives you the choice of sending either the PHONES mix or the main Output mix to the BOOTH output. The LEVEL control adjusts the volume of the BOOTH output.

- 30** The CUE ACTIVE LED illuminates if any CUE buttons are activated.

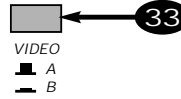
- 31** CUE/OUTPUT allows a mix between signals being 'CUE'd' and the main output to be heard on the phones output.

- 32** LEVEL adjusts the volume of the PHONES output.

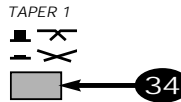


Headphones
The best headphones to use with Fusion are studio grade 200 - 400 ohm types, although most types can be used but may not sound as loud. Headphones are used mainly for cueing

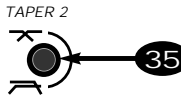
33 The VIDEO A/B switch allows the video outputs of two video players to be connected to the Fusion and selected from the front panel. The VIDEO output (on the rear panel) can then be connected to a single video monitor.



34 The TAPER 1 switch sets the cross-fader slopes. It switches between a gradual or quick fade.

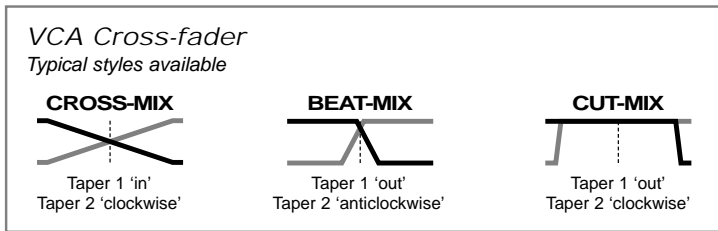


35 The TAPER 2 control adjusts the position on the fader at which the fade happens. In the clockwise position the signal is faded to zero at the end of the cross-faders travel, like a 'conventional' cross-fader. In the anticlockwise position the signal is fully faded out in the centre.

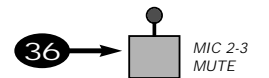


Positions inbetween set the 'fade out' anywhere between 50% and 100% of cross-fader travel.

For the classic 'Cross Mix', select the Taper 1 switch 'in' and the Taper 2 control fully clockwise.

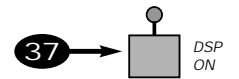


36 MIC 2-3 MUTE allows mic channels 2 & 3 to be muted either from the front panel or by footswitch control. When the LED is lit, channels 2 & 3 are muted. For information about using this function via footswitch control, see rear panel, (57).



DSP SECTION

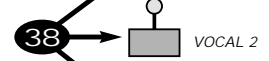
37 DSP ON switches the effects processor on or off. When the effects processor is on, the LED will light. This function is also available via footswitch control, see rear panel, 57.



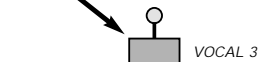
38 VOCAL 1, 2 & 3 are reverb effects tailored for vocal sounds.



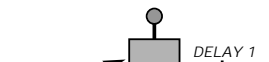
39 DELAY 1 & 2 are 'echo' effects (short & long).



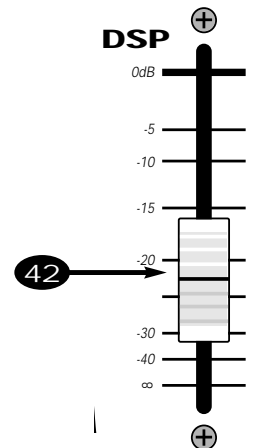
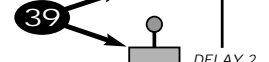
40 REGEN adds extra repeats to the Delay (or echo) effects.



41 The DSP peak LED lights when you are overloading the input of the effects processor. The input can tolerate the LED flashing occasionally but if it illuminates regularly, turn down the AUX/DSP controls on the channel until it goes out.

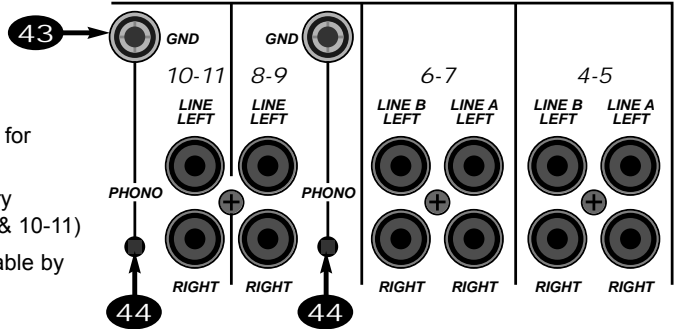


42 THE DSP fader sets the amount of effect going to the main output. Used around the mid-way position, the sound effect will tend to be more subtle. With the fader at the top (0dB) position the effect becomes more prominent.



REAR PANEL

Connectors for stereo channels are all RCA/phono type.

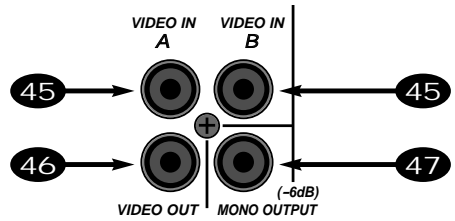


- 43 Stereo channels 8-9 & 10-11 are fitted with 'ground' terminals for record decks.
 - 44 The recessed PHONO switches activate internal RIAA circuitry making these inputs suitable for record decks. (channels 8-9 & 10-11)
- Stereo channels 4-5 & 6-7 have dual input connectors selectable by the front panel switch (10).

- 45 VIDEO A & B IN - Connect the composite video output of each video/karaoke machine here.

- 46 VIDEO OUT - Connect to a composite video monitor.

Note: these sockets (45 & 46) do not connect to the audio signal within the Fusion and should be used only for composite video signals.



- 47 MONO OUTPUT provides a line level (-6dB) mono sum of the main output. This can be used for additional mono amplifiers (zone or sub bass) or used to connect to lighting controllers.

- 48 POWER ON/OFF switch turns the Fusion on and off.

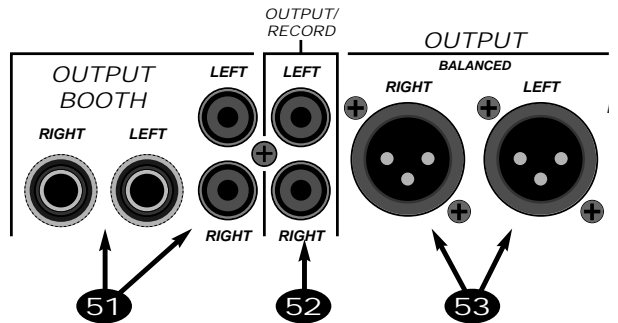
- 49 The Voltage selector allows the Fusion to operate on either 115 or 230 Volt AC supplies.

- 50 The AC power connector also contains the internal A.C. power fuse.

- 51 BOOTH OUTPUT is available on both 1/4" jacks and RCA/phono connectors. These outputs should be connected to the input of the amplifier powering the booth monitor system.

- 52 OUTPUT/RECORD provide the main mix on RCA/phono connectors. They can be used to provide a signal to the main amplifier/speaker system or for recording.

- 53 The 3 pin XLRs provide the main mix with a balanced +4dB signal to drive a professional amplifier/speaker system.

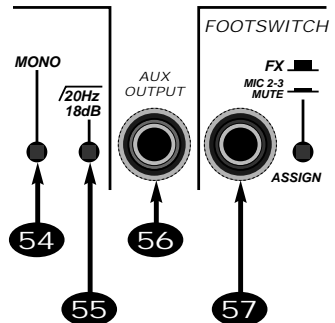


- 54 The recessed MONO switch sums the main Left & Right outputs together and sends a mono signal to both the Left and the Right output XLRs. When MONO is selected the MONO LED on the front panel will light.

- 55 The recessed $\sqrt{20\text{Hz}}$ switch activates a 20Hz high pass filter on the outputs of the Fusion. This stops excessively low frequencies from reaching the amplifier/speaker system and possibly causing damage. It is recommended that this filter is always used.

- 56 The AUX OUTPUT 1/4" jack takes the signal from the AUX/DSP controls on the front panel and sends them to an external effects processor if required.

- 57 The FOOTSWITCH jack can be set to either turn the effects processor on and off, or to mute Mic channels 2 & 3. This is achieved using the adjacent recessed switch. The footswitch socket works with a 'latching' or 'changeover' type footswitch (not supplied).



No power on LED.....

- Check A.C. power cord/mains lead is connected to wall supply and switched on.
- Check A.C. power cord/mains lead is fully pushed into Fusion rear panel socket.
- Check Fusion is switched on.
- Check correct voltage is selected.
- Check Fusion A.C. fuse (on rear panel, inside the power inlet connector). Always replace with the same type and rating.
- UK only - Check fuse in 'mains' plug

No sound.....

- Check for a signal on the meters.
- Check the amplifier and speaker system is connected and switched on.
Use headphones to check the output of the Fusion.
- Check that the fader of the channel being used and the OUTPUT fader are raised to 'normal' positions (0dB).
- Check the sound source - is it on?

Headphones distorting.....

- Is the phones level set too high?
- Are headphones being used with too low an impedance? 150-200 ohm types will give best performance, 32-50 ohm types can be used but may give lower maximum sound level.

Internal Feature Options

The following options are accessed by removing the front panel.
Only qualified service personnel should undertake this work.

● Mic channel:

1. Aux/DSP send can be configured pre, post fader and pre E.Q.
Factory set: post fader.
Access: internal jumper - HDR2 on mic channels
2. Channel Mutes can be enabled or disabled on each channel.
Factory set: Channel 1 disabled, channel 2,3 enabled.
Access: internal jumper - HDR1 on mic channel PCBs.

● Stereo channel 8/9-10/11:

1. Standard RIAA or IEC addendum.
Factory set to IEC - Adds a 20Hz high pass filter to the standard RIAA equalisation.
Access: internal jumper - HDR2 (channel 8-9) and HDR4 (channel 10-11) on input connector PCB in base.

● Output section:

1. LED metering- VU or PPM.
Factory set: VU.
Access: internal jumper - HDR1 on each meter PCB.
2. Output level- +4dBu or 0dBu.
Factory set: +4dBu.
Access: internal jumper - HDR1 on output PCB.
3. Booth output signal select:
Follow main output, always mono, always stereo.
Factory set: Follow main output.
Access: internal jumper - HDR1 on output PCB

Service Information

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 Return 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.

Please write your Serial number here for future reference....

AC POWER SUPPLY

Local electrical supply

ASSIGN

To switch or route a signal to a specific signal path.

ATTENUATE

To reduce or make quieter.

AUX/AUXILIARY

An additional means of sending a signal to external equipment generally without affecting what is going on in the main mix.

BALANCE

The relative levels of signals. Also refers to the left/right position in a stereo mix.

BALANCED

A 3 wire system for connecting audio which has 2 wires for the audio (HOT and COLD) and a totally separate connection for the screen. Balanced circuitry is widely used in audio equipment from inexpensive dynamic microphones to top quality studio devices. The balanced system is used as it cancels interference in the connecting cables resulting in a cleaner signal

BANDWIDTH

In audio terms the bandwidth is the range of frequencies that will pass through a piece of equipment.

BOOTH

A separate area or enclosure typically used by DJs. Depending on the type of venue, the sound mix may be different to that in the dance area, so the booth helps to isolate what the DJ and audience hear.

BUS

A common conductor that carries a signal, or number of signals, through a mixing console.

COLD

The negative phase of a signal. With a simple unbalanced two wire signal one wire is positive (HOT) and the other is negative (COLD).

COMPRESSOR

An electronic device used to stop the level of a sound from increasing above a set threshold point. A compressor can also be used to keep signal levels from overloading the input of a piece of equipment.

CLIPPING

Distortion caused by a signal exceeding the maximum level that the equipment can accommodate.

CUE

A button that allows the operator to monitor signals within the unit independently of the main mix.

CUEING

Makes it possible to hear the sound from an input before adding it to the mix

D.I.

Direct Injection. Often a small 'D.I. box' is used to send a signal directly from a guitar or bass into the mixer to avoid the need for a microphone to capture the sound.

DECIBEL (dB)

A logarithmic ratio used to represent voltage or power gain. The reference to which the ratio is made is usually stated. 0dB means that the input and outputs are at the same level.

DECIBEL (dBA)

A logarithmic measure of sound intensity. In this case 0dB is the threshold of human hearing. 100+ dBA is 'loud'. Long term exposure to high level sound can ultimately cause hearing damage. Normal speech, such as in a quiet office is typically around 60dBA. 120dBA is normally quoted as the threshold of pain

DELAY

Nowadays a delay or DDL (Digital Delay Line) is an electronic effects processor which samples a short sound and replays it back a short time later to give an echo effect.

DETENT

A soft 'click' in the travel of a rotary control usually indicating the centre point.

DRY

A signal which has not been processed by an effects unit.

EFFECTS SENDS

Any outputs from a channel or console that can be connected to external equipment for extra sound processing. Usually effects sends are post fade so any level changes to the main signal also adjust the signal sent for processing.

ECHO

The effect produced when sound is reflected off hard surfaces. Often reproduced artificially using electronic equipment (See DELAY).

E.I.N.

Equivalent Input Noise. A technical specification used to measure the noise of a gain stage, typically a microphone pre amplifier.

EFFECTS

Any device that alters a sound. Can be anything from a simple foot pedal to a sophisticated professional studio effects processor

EQUALISATION (EQ)

Tone controls. Also in the case of analogue tape recording and vinyl records, frequency dependent gain used to correct limitations of the recording/playback process.

FADER

Volume control, often a linear or slider type volume control.

FEEDBACK

The deafening squealing sound produced when a microphone picks up its own amplified sound from a loudspeaker.

F.O.H.

Front of House. The speaker system which is used to project the sound from the stage to the audience. It is also used to describe the position, in front of the stage, where the main mixing console is situated.

FLAT (EQ)

When the signal has not been adjusted using the equaliser (EQ) controls.

FOLDBACK

Sound which is sent from the main mixing position back to the stage so the performers can hear it. Often with a large sound system an entirely separate foldback (or monitor) system with a dedicated console is located on one side of the stage so the performers can communicate easily with the operator.

GRAPHIC

Graphic equaliser. An equaliser that uses rows of slider controls to adjust the sound. Each of the sliders will adjust one part of the frequency spectrum giving a visual display of which areas have been cut or boosted.

GROUND

Earth

HIGH PASS FILTER (HPF)

A filter that cuts the sound below a pre-determined frequency. Usually used where the only contribution that sound below that point will make is rumble or hum.

HOT

The positive phase of a signal. With a simple unbalanced two wire signal one wire is positive (HOT) and the other is negative (COLD).

HERTZ (Hz)

A measurement of frequency. 1Hz = 1 cycle per second.

HEADROOM

The amount of level (above the nominal operating level) that the equipment can accommodate before distortion occurs.

IMPEDANCE

Similar to resistance - but includes the effect of circuit capacitance and inductance which affects AC signals (like audio).

JACK PLUG (SOCKET)

Probably the most widely used connector for audio signals, (see TS and TRS). 1/4" (6.35mm) jacks are used for professional applications. 3.5mm and 2.5mm jacks are often found on 'consumer' equipment.

KILOHERTZ (kHz)

A measurement of frequency.

1Hz = 1 cycle per second. 1000 Hertz = 1kHz.

LEVEL

The size of a signal, at any given point, in an audio system.

MIC LEVEL

The very small output level of a microphone, typically around 1 to 10 millivolts (mV). A millivolt is 1/1000 of a volt.

LINE LEVEL

A standard reference level (voltage) used to simplify the interconnection of equipment.

Typically semi pro equipment is -10dBV (100mV) while pro equipment is usually +4dBu (1.23V) and often balanced.

Line level can be anything from 100mV and 4V (-15 to +15dBu).

MIDI

Musical Instrument Digital Interface. An industry standard which allows suitably equipped instruments and equipment to communicate with each other. Often it is used to play a sound module from a separate keyboard or sequencer.

MIC PREAMP

A very high quality 'pre-amplifier' that increases the tiny voltage from a microphone up to the internal operating level of the mixer.

MONO

Single channel sound reproduction (short for monaural).

MONITOR

Either the ability to hear signals within a console or the speakers used by the performers to hear on-stage.

NOISE

Any sound you didn't want.

OHM Ω

A unit of electrical resistance.

1000 ohms = 1K ohm (or 1000 Ω = 1k Ω)

PAN

Control which is used to set the Left to Right balance of a sound in a stereo mix. Derived from the film industry term (panorama) where a camera would swing round to follow the action from one side of the picture to the other and adopted by the sound recordist who had to do the same with the sound.

PARAMETRIC

A type of equalisation where the frequency and the range of frequencies (the 'Q' factor) is variable in addition to the cut and boost.

PFL

Pre Fade Listen. A function which allows the operator to monitor (usually on headphones and on meters) a signal even when the channel output fader is down at its minimum volume position.

PHONES

Headphones (also known as 'cans').

POST FADE

A signal taken after (post) the fader.

PRE FADE

A signal taken before (pre) the fader.

PHONO (RCA JACK)

A simple, unbalanced two pole connector used for connecting hi-fi or other line level equipment including some multitrack recorders.

REVERB

Reverberation. A series of very closely spaced echoes which continue after the original sound has finished. Probably the most widely used effect in modern recorded music. Clap your hands in a room and listen to the way the sound fades away; that is reverberation. Reverb as an effect is generally reproduced by electronic devices. Churches and concert halls are often specifically designed to be highly reverberant to enhance the type of music usually performed there.

REGEN

Regeneration. The control used to increase the amount of artificial echo or reverb that continues after a sound has finished.

RETURN

The connectors or controls used to bring a signal, that has been processed externally, back into the mixing console.

SEND

The connectors or controls used to send a signal, to be used externally, out of the mixing console.

SIGNAL TO NOISE

The ratio used to describe the relationship between the level of a signal and the background noise that accompanies it.

SHELVING

The characteristic of the type of equalisation where all frequencies above (or below) the quoted figure are unaffected.

STEREO

Two channel sound reproduction where the two signals are sent to separate left and right speaker systems.

SWEEP EQ

An EQ system which allows the centre frequency of the cut and boost control to be adjusted over a wide range to achieve the most effective results.

TRS

Tip, Ring, Sleeve, (1/4") three pole jack plug. Often referred to as a stereo jack plug. Used for balanced line signals, insert (send/return) points and stereo headphones.

TS

Tip, Sleeve, 1/4" two pole jack plug. Often referred to as a mono jack. Used for unbalanced signals.

UNBALANCED

Two wire connection protocol using one signal and one screen conductor.

WET

A signal that has been processed using an effects processor.

XLR

A three pin connector widely used for balanced microphones. They are also used for line level balanced signals and are sometimes used for high power amplifier speaker outputs. 4,5 and 6 pin XLRs also exist for specialist applications.