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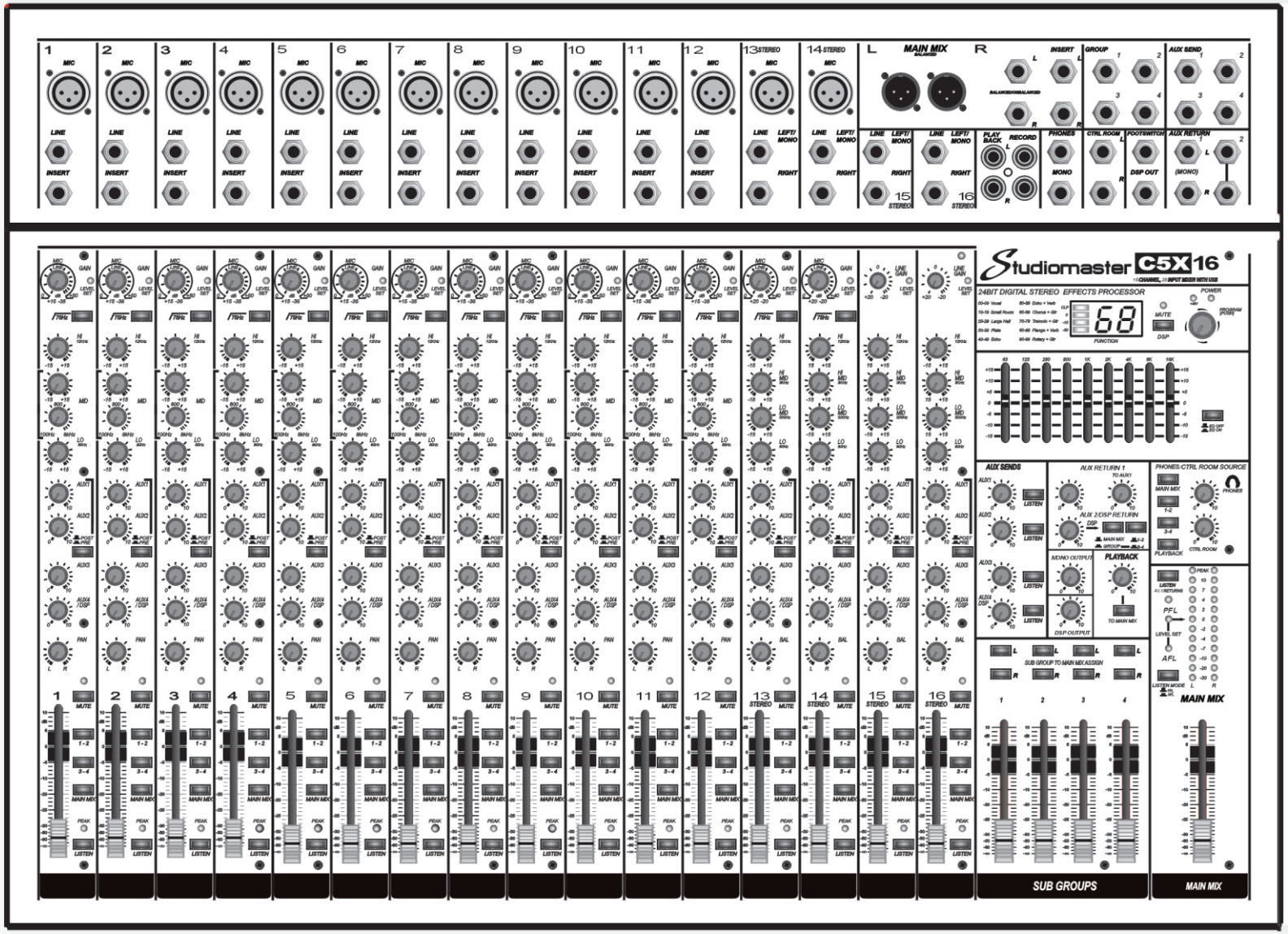

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C5X USER GUIDE

C5X-8/C5X-8R/C5X-12/C5X-16/C5X-20 PROFESSIONAL MIXER

C5X Specification

Gain	min	max	range
Mic	0dB	50dB	50dB
Line	-15db	35dB	50dB
Stereo Mic	0dB	40dB	40dB
Stereo Line	-20dB	20dB	40dB

EQ all +-15dB

Mic Channels	Hi 12kHz, Mix 800-8kHz, Lo 80Hz
Stereo Channels	Hi 12kHz, Hi Mid 3kHz, Lo Mid 500Hz, Lo 80Hz
Hi Pass Filter	75Hz@18dB/oct
Frequency Response	10-40kHz -3dB
Distortion	0.01%

Noise 20-20kHz

Faders down	-96dB
Faders nominal	-76dB
8 Mic channels routed	-70dB

Attenuation

Mute Switches	80dB
Channel Faders	80dB
Output Faders	94dB
Routing Switches	85dB

Signal levels	Nominal	Maximum	Impendence
Channel Insert	0dBu	+22dB	75 ohms
Mix Insert	0dBu	+22dB	100 ohms
Main Mix Jack output	0dBu	+22dB	100 ohms
Main Mix XLR Bal	+6dBu	+28dB	150 ohms
Record Output	0dBu	+22dB	1k ohms
Aux Sends	0dBu	+22dB	150 ohms
Mono Output	0dBu	+22dB	100 ohms

Effects DSP

Type	24bit sampling, 100 programs
Muting	Front panel switch and foot switch socket- Note:Only use a momentary type footswith.
Effect Groups	Vocal, Small Room, Large Hall, Plate, Echo, Echo & Reverb, Guitar Chorus, Guitar Tremolo, Flange & Reverb, Rotary Speaker.

Connections

Inputs:	Balanced XLR & Jack, unbalanced Phono
Outputs:	Balanced XLR & Jack, unbalanced Phono
Power requirements	100-240V ~ 50/60Hz, 30Watts
Fuse	T1.6AL 20x5mm

Size (W x H x D)	Weight (net/shipping)
C5X-8 :430X445X105	C5X-8 : 5.5Kg/9.7Kg
C5X-8R:482X445X105	C5X-8R: 6Kg/8.7Kg
C5X-12:535X445X105	C5X-12: 7.2Kg/10 Kg
C5X-16:645X445X105	C5X-16: 8.8Kg/10.5Kg
C5X-20:735X445X105	C5X-20: 10Kg/13Kg

1.INTRODUCTION

Thank you for buying this product. The C5X range are a compact, extremely versatile 1audio mixers Designed specifically for the requirements of live sound and basic recording.

READ THE USER GUIDE

Despite the sophisticated design the C5X range they are easy to use mixers although to get the best from your new purchase, we recommend you read this User Guide before getting down to any serious work.

UNPACKING

Remove your 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.

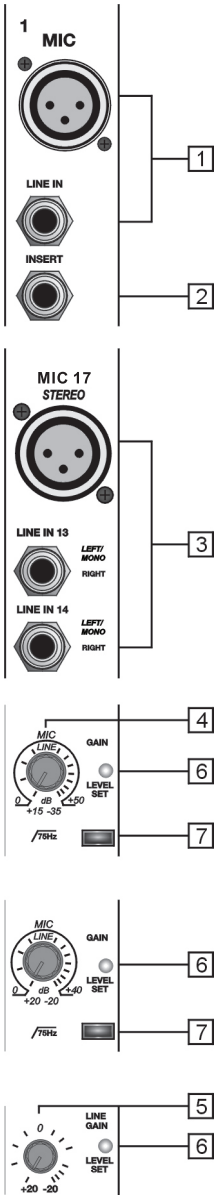
Safety Instructions

a. Before connecting the A.C. power cord make sure the product is suitable for you local A.C. Supply. The C5X can be used on A.C. Voltages between 100-240V.
b. Only use the A.C. power cord / mains lead supplied with the product. Replace if it becomes damaged in any way.
c. Never operate without, or remove the safety ground (earth) from the A.C. power cord / mains lead.
d. Do not attempt to remove any screws or panels. There are no user serviceable parts inside.
e. Do not operate the unit next to heat sources such as radiators.
f. The unit should not be operated or stored near rain or moisture.
g. This equipment must not be exposed to dripping or splashing and no objects filled with liquids should be placed on top of it.
h. Make a note of the serial number for future use.
I. If the product gets damaged, has been dropped or appears to have developed a fault refer to a qualified Studiomaster service centre.

WARNING

THIS APPARATUS MUST BE EARTHED (GROUNDED)

1.Channel Controls



1. Control elements

1 .Mono Mic/ line channels

These are balanced XLR microphone input jacks (1: earth line; 2: hot line ; 3 : cold line) C5X-8/8R features 4 low-noise microphone preamp (8 for C5X-12 ; 12 for C5X-16 16 for C5X-20) with optional phantom power, 50dB gain and over 115dB S/N ratio. You can contact almost all type of microphone, dynamic microphones do not need phantom power, Use phantom power only with condenser microphones but make sure that the phantom power button is disengaged before connecting the microphone. Phantom power will not damage your dynamic microphones, make sure to read the MIC instructions manual before engaging phantom power. Use switch (56) to activate/deactivate phantom power. These channels are also equipped with 1/4" TRS balanced/unbalanced LINE-IN plugs to connect line-level instruments such as keyboards, drum machines and effect devices.

2. Mono channel insert

An insert point is available between EQ and fader of corresponding input channel .These inserts can connect graphic EQ, compressor or noise filter to corresponding channels individually. These jacks are TRS (tip, ring , shield) , which can carry sending signal and Returning signal simultaneously. (tip=send/output ; ring=return/input; shield =earth line)

3. Microphone / line stereo input

(channel 4–8,channel 8-12,channel 13-16,channel 17-20)

These are jacks of stereo channel balanced XLR microphone and unbalanced stereo line input. You can connect these inputs with electronic piano,drum and effect devices.

4. Gain control –MIC input

Adjust input signal level to get optimum balance of S/N ratio and dynamic range; Set this control in a way that the CLIP LED blinks only occasionally in order to avoid distortion on the input channel.

5. Gain Line Input

When you use line level device, for optimum operation, set this control in a way that the CLIP LED blinks only occasionally in order to avoid distortion on the input channel.

6. Level set LED

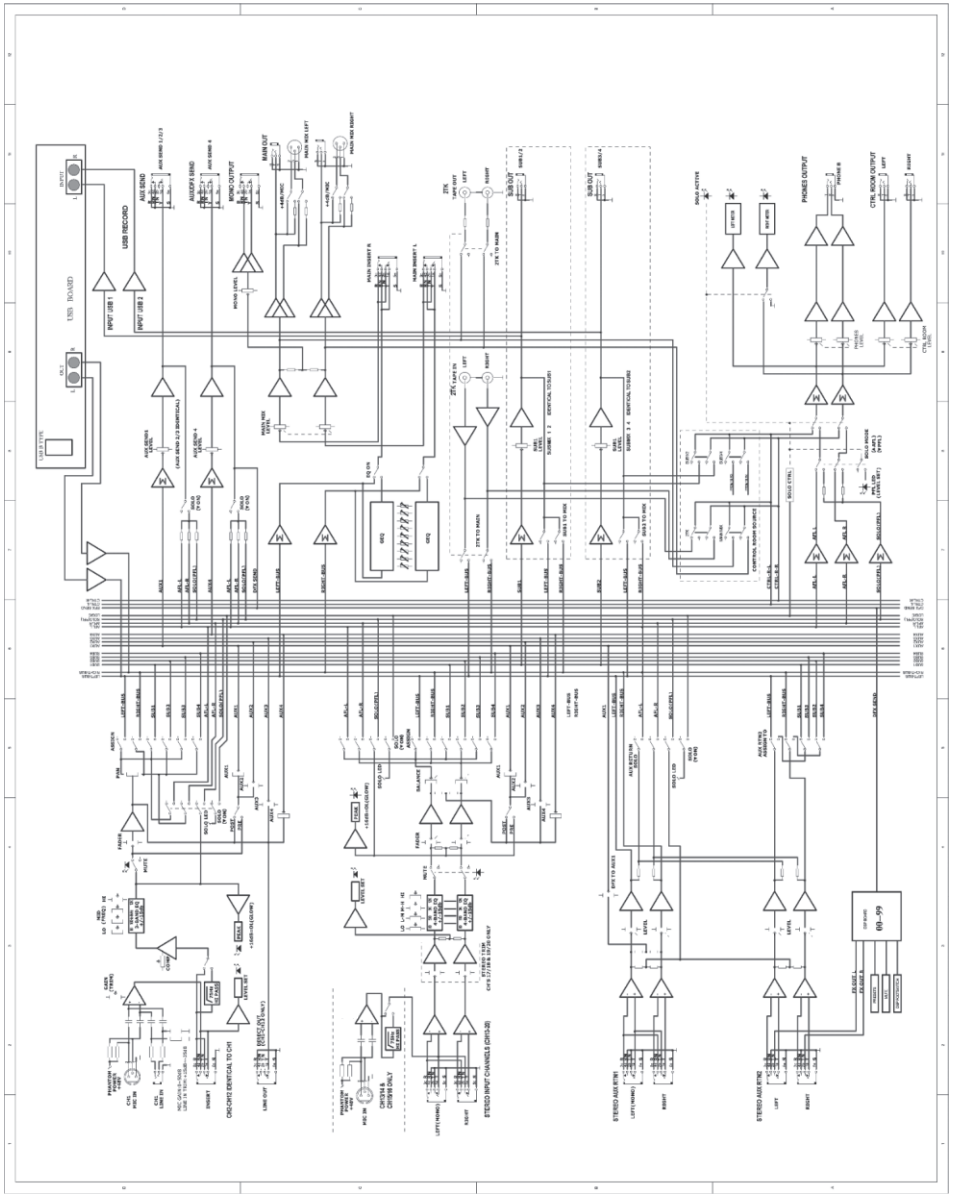
When illuminated the signal level is the correct level for the channel.

7. Hi–pass filter

This switch turn on/off hi-pass filter, you will activate a 75 Hz low frequency filter with a slope of 3 dB per octave. You can use this facility to reduce the hum / noise , from the stage rumble while using a microphone.

Block Diagram

C5X SERIES BLOCK DIAGRAM

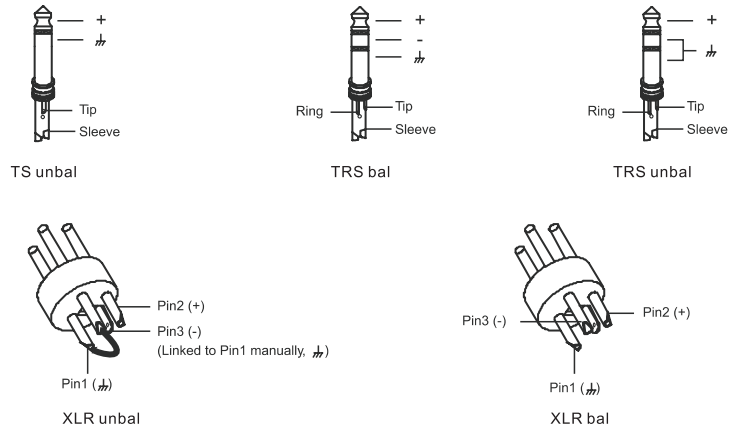


Connection

1/4 “TRS jack or XLR jack all connect balanced or unbalanced mode. Refer to the following connection figure.

1/4 “jack

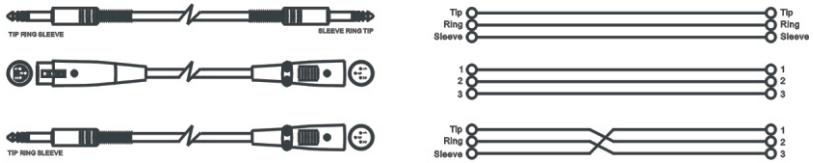
XLR jack



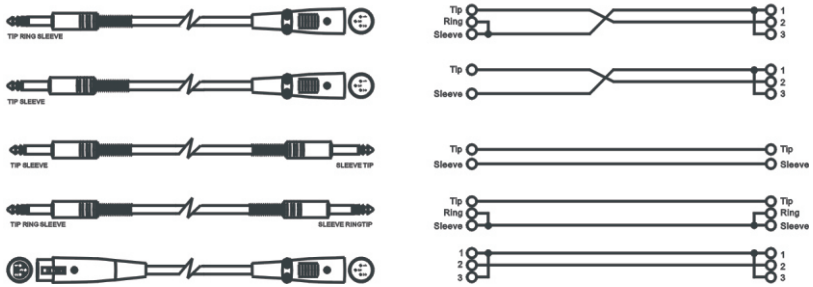
USB wiring

In these applications, device applies 1/4 “TRS and XLR connector, is convenient for connecting professional audio device.
The examples in following are used for your special connection;

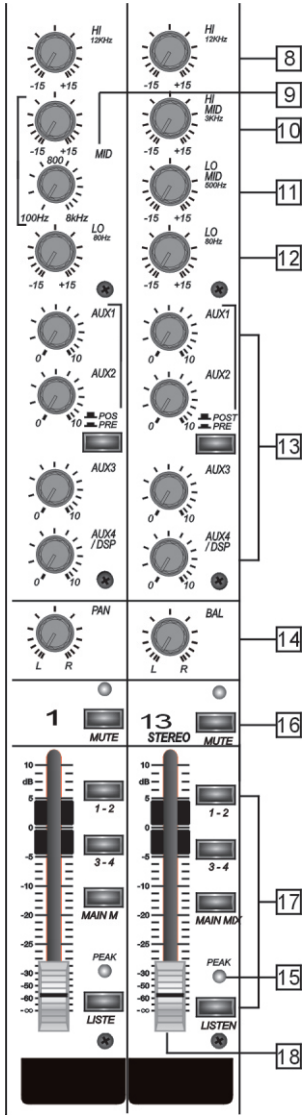
Balanced



unbalanced



USB wiring



7.MIC EQ

On all mono channel inputs features sweepable MID 3 band EQ, HI, MID, And LOW. In stereo channel features a 4 bands fixed frequency EQ HI-MID, MID-LOW and LOW. EQ of all frequency supplies boost and Cut Of 15dB. There are 3-band EQ with sweepable MID on all mono input channel HI, MID and LOW band. There are 4-band fixed frequency EQ on the stereo Channel

8.HI

If you turn this control up, you will boost all the frequencies above 12 kHz (shelving filter). You will add transparency to vocals and guitar and also make cymbals crispier. Turn the control down to cut all frequencies above 12 kHz. In such way, you can reduce sibilances of human voice

9. MID

This is band pass filter. It affects MID frequency range in center frequency from 100Hz -8KHz，Q value sets at 1.8. all frequency boost and cut down to be +/-15dB.

10. HI–MID

This control gives you up to 15 dB boost or cut at 3 kHz. It is useful for controlling voice. It can accurately polish your performance via adjusting this knob.

11. LO–MID

This control gives you up to 15 dB boost or cut at 500 Hz.

12. LO

This control gives you up to 15 dB boost or cut at 80 Hz. You will give more punch to bass drum and bass guitar Turn it down, you will cut all The frequencies below 80 Hz. In this way, you can avoidlow frequency vibrations and resonance

13. AUX SENDS Level Control

These four controls are used to adjust the level of the respective signal sent to AUX bus, AUX1 and AUX2 can be switched to PRE/POST-FADER via the PRE/POST button,so, generally, they can be used for monitor application and effects & sound processors input. AUX3 and AUX4 are configured as POST-Faders. In this typical compact unit, excluding sending out the signal directly to the external effect or processor equipment, AUX SEND4 can also be assigned to the internal onboard effect module.

14. PAN/BAL Control

Adjusts the Left/Right Balance. Keep this control in center position, then the signal will be positioned in the middle of stage..

15. PEAK LED

Detects the peak level of equalized signal. When level reaches to 3dB below clipping, CLIP LED illuminates red. As to stereo input channel with XLR, would detect peak level of post-microphone amplifier after the EQ. And LED would illuminate red if any level reaches 3dB below clipping.

16. MUTE button & LED

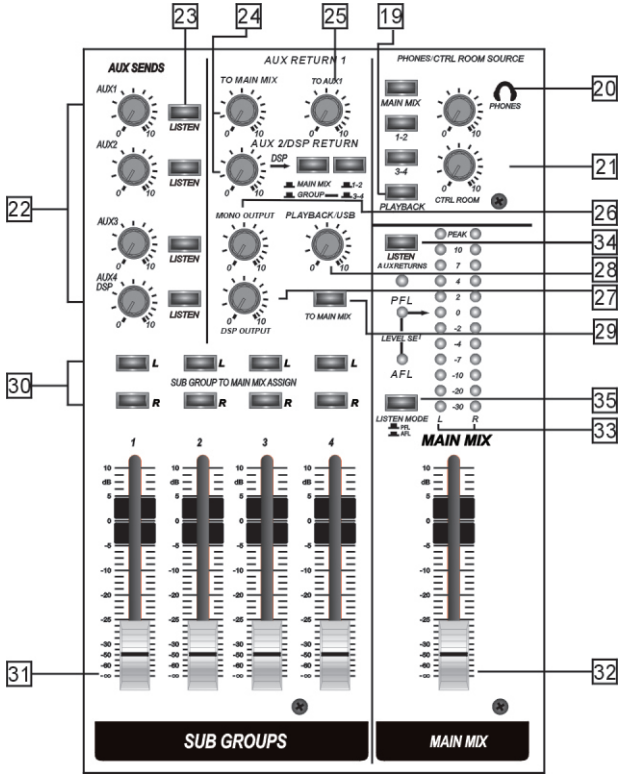
Each channel is equipped with a MUTE button, which can mute the corresponding channel output except for the channel INSERT send and LISTEN (in PFL mode). And the MUTE LED will illuminate.

17. Assignment controls

Each channel provides four push-buttons: SUB1-2, SUB3-4, MAIN L-R and LISTEN.Pressing the LISTEN button, the corresponding LISTEN LED will illuminate and the LISTEN signal will replace other signals send to the Headphone/Control Room and Meters. Usually use the LISTEN function in live work to preview channels before they are let into the mix. It is useful to set an instrument's input level and EQ, and you can also solo any channel that you want to. TheLISTEN switch never affects any mix other than the Control Room. The other three buttons can be considered as signal assignment switches. Pressing the SUB1-2 will assign the channel signal to Subgroup1/2, you can depend on the PAN switch to adjust the amount of channel signal sent to the SUB1versus SUB2, when turns the PAN to completely left, then the signal can be only controlled by Subgroup1 and vice versa. In the same way, pressing the SUB3-4 or MAIN L/R will assign the channel signal to Subgroup3/4 or MAIN MIX L/R, and will also be affected by PAN.

18. FADER

This fader will adjust the overall level of this channel and set the amount of signal send to the main output.
Note: adjust fader of unused channel to minimum to decrease noise.

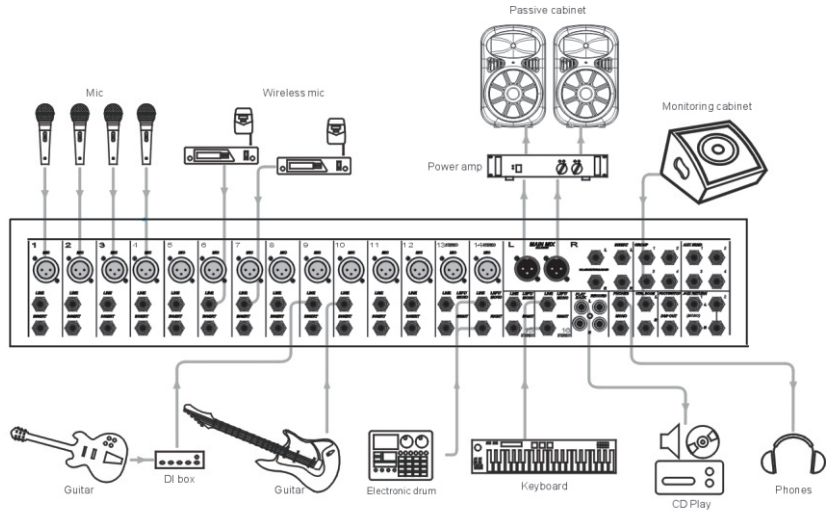


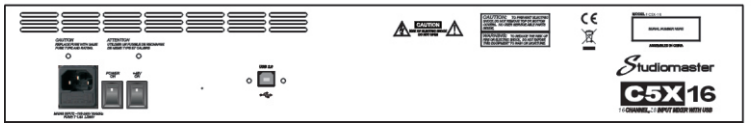
19. Control Room Source

You can choose to monitor any combination of MAIN MIX, SUB1-2, SUB 3-4 and 2TK IN via these Matrix switches. Engaging these switches, the stereo signals will be delivered to the Phones, Control Room and Meters display.
NOTE: When any LISTEN switch is engaged, the LISTEN signal will replace other signals, and also be sent to the Control Room, Phones and Meters.

Installation

1).Connect microphones to any female XLR input. For best results always use balanced microphones. For wireless microphones use the LINE jack socket input.
2).The MAIN MIX output male XLRs are connected to external power amplifiers or powered speakers. For best results use balanced cables. Set the mixer signal levels so the meters are peaking at about +7dB. Only then turn up the power amplifier or powered speaker until the required volume is achieved. Now the sound system can be controlled just from the MAIN MIX fader.
3).It is not advisable to connect instruments, such as guitars and basses, directly to the LINE inputs. Much better results will be achieved by using a DI box or suitable preamp/processor.
4).The AUX outputs can be used for a stage monitor system. This can be via an external amplifier and stage monitor speakers or powered stage monitors.
5).The USB socket connects to a computer which allows recording of the performance, sourcing the MAIN MIX signal. Playback from the computer to the C5X is also possible with the volume level adjusted via the PLAYBACK/USB control.





56. +48 phantom power switch

It's only used for XLR MIC socket condenser microphone. When phantom power already starts don't insert microphone. Before turning on phantom power, please make sure all faders are turned off to protect your stage monitor and main speaker.

57. POWER switch

The switch is used for turning off or turning on main power.(Note:The boot time will be delayed 3-4s,durning the output power supply is connected.)

58. AC inlet(with fuse)

Connect mixer to main power AC supply with cable. Accessories includes fuse. When change fuse , please use the fuse of equal specification.

DSP effect

No	Program	Description	Specification
00~09	vocal	simulate a small room	decay time: 0.8~0.9s, delay time: 0~45mS
10~19	small room	simulate a recording studio	decay time: 0.7~2.1s, delay time: 20~45mS
20~29	Large hall	simulate a hall	decay time: 3.6~5.4s, delay time: 23~55mS
30~39	plate	simulate a plate	decay time: 0.9~3.6S
40~49	echo	echo/delay effect	delay time: 145~205mS
50~59	echo+reverb	echo and reverb	delay time: 208~650ms,decay time: 1.7~2.1S
60~69	chorus+guitar	guitar and chorus	frequency 0.92hz~1.72Hz
70~79	tremolo+guitar	guitar tremolo	frequency : 0.6hz~5Hz
80~89	flanger+reverb	flanger and echo	decay time: 1.5~2.9ms, frequency : 0.8hz~2.52Hz
90~99	rotation+guitar	guitar rotation	modulation depth 20%~80%

20. PHONES controls

21. CTRL ROOM controls

22. Master AUX SENDS Controls

Adjusts the output level of the AUX sends

23. LISTEN Button

The function of these LISTEN buttons are the same as the channel LISTEN button, they can also be affected by the LISTEN MODE switch. Press the LISTEN button, the corresponding AUX send will be routed to the Ctrl Room/Phones outputs and Meters display.

24. STEREO AUX RETURNS

These four controls set the level of effects that received from the stereo AUX RETURN connectors, which can be varied from -∞ to +15 dB. They are used to provide the further gain for low level effects.

25. TO AUX SEND1

The both rotary knobs assign the AUX RETURN signals to their respective AUX SEND outputs: The "TO AUX SEND1" assign the signal from AUX RETURN1 to AUX SEND1 bus, and "TO AUX SEND2" assign the signal from AUX RETURN2 to AUX SEND2 bus. The adjustable range goes from -∞ to +15 dB.

26. MONO volume control

Adjusts the level of the MONO output

27. DSP OUT control

Adjusts the output signal level of the DSP processed signal

.

28. PLAY BACK/USB CONTROL

Adjusts play back level from MP3 /CD or USB

29. PLAY BACK/RECORD/USB TO MAIN button

The button is used to send PLAYBACK/USB input signal to MAIN MIX output.

30. SUBGROUPS ASSIGN TO MAIN MIX

Through these switches, you can operate the subgroup faders as a master control for assigning the subgroups to MAIN MIX. Engage the LEFT switch to send the corresponding subgroup signal to MAIN MIX L, and the RIGHT switch for MAIN MIX R. When engaging the both switches, the signal will be sent to L/R of MAIN MIX.

31. SUBGROUPS fader

These faders are used to control the levels of the signal send to the SUB-GROUPS OUT, the adjustable range goes from - to +10 dB. Any channel that is assigned to the subgroups, not muted and not turned down will be assigned to the SUB OUTS.

32. MAIN MIX LEVEL fader

This fader sets the amount of signal send either to the Main Mix Output or to the Record Output.

33. LED Meter

12 band stereo LED Level Meter of console indicates accurately output level. To reach optimum signal output, control should be set around 0, and send individually to Ctrl Room and Phones output.

34. AUX RETURNS SOLO buttons

The function of AUX RETURN LISTEN is like the channel LISTEN button. Engaging it sends the signal from AUX RETURN (1-2) to the CTRL ROOM, PHONES outputs and Meters display. It can also be affected by SOLO mode button, and the LED next to the button will illuminate.

35. LISTEN MODE button

This button provides two modes: up for PFL (Pre-Fader-Listen) mode, down for AFL (After-Fader-Listen) mode. Engage the button, the soloed signal will output after the Level control, otherwise, release the button will output the soloed signal before the Level control.
Note: The SOLO function can never affect the mix at main recording output, and also can't be affected by channel's MUTE switch.

36. EQ switch

Engage this button to add the stereo graphic EQ to the main mix output circuit. It can be used to modify the frequency "contour" of a sound. If you release the button, the stereo graphic EQ will be bypassed.

37. Stereo graphic EQ

2 × 9 band stereo graphic EQ inside console compensates signal with EQ according to performance features. Corresponding frequency boost or attenuate (+/-15 dB). When all the faders are in the center position, the output of the equalizer is flat response.

DSP section

There is a powerful preset multi-effects included in your C5X series console. Effects include reverbs, chorus, flange, delay etc,

38. DSP effect control

Use the control to select your desired effect, there are 100 effects to be selected: echo, vocal, metal and all kinds of dual-effects combination. When you select desired effect, please press the control to save.

39. DSP mute switch

The switch is used to turn on or turn off DSP effect. And the corresponding mute LED also illuminates. You can use footswitch to operate conveniently.

40. DSP effect display

Display preset types of DSP effect，“from 00 to 99”, there are 100 effects display.

41. DSP level LED

These LED displays DSP output level to make sure CLIP indicator just blink occasionally, to get optimum signal output, should control at 0 position.

42. POWER LED

The LED indicates when the power is ON.

43. PHANTOM LED

This LED indicates when the phantom power is switched on.

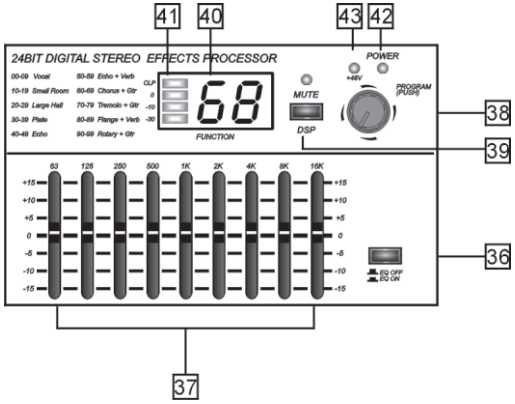
44. **PLAY BACK/RECORD**

-PLAY BACK

Can be user for PLAY BACK of MP3/CDS

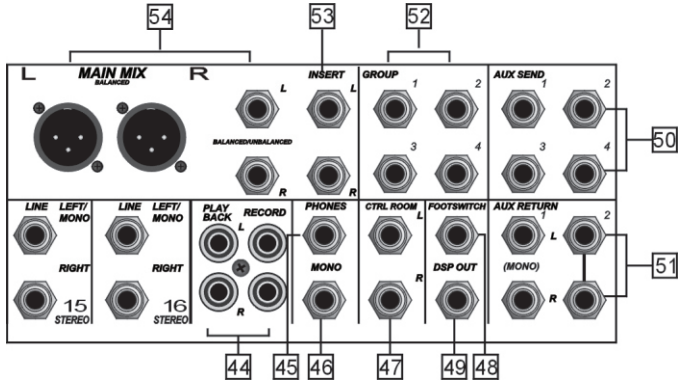
- RECORD

These RCA jacks will route the main mix into the recording device.



45. PHONES jacks

These jacks will be used to send the signal to a pair of headphone .



46. MONO output jack

The 1/4" phone jack is unbalanced mono mix output connector. It can be regarded as a sum output of the left and right of MAIN MIX.

47. CTRL ROOM jacks

These 1/4" phone jacks can be used for sending ctrl room signal to record room monitor speaker.

48. Foot Switch Control

The 1/4" phone jacks can be used for connecting external footswitch or turn off built-in DSP effect.
Note:the foot switch for DSP on/off should be specified as a momentary type.

49. DSP OUT jack

This 1/4" phone jack is used to output the effect signal that comes from internal DSP module and the signal level can be controlled by the EFFECTS OUT control.

50. AUX SENDS jacks

These 1/4" phone jacks can be used to send signal from AUX bus signal to external devices such as effect device or stage monitor.

51. AUX RETURNS input

Use these stereo 1/4" phone jacks to return the stereo signal of an effect unit to the Main Mix. Alternatively you can also use them as an extra auxiliary input via using the AUX RETURN level control as volume control. The signal will be sent directly to MAIN MIX control.

52. SUB GROUPS jacks

These 1/4" phone jacks are used to connect the inputs of deck or secondary in a complicated PA live sound system. You will find it is the best tool when you operate the SUBGROUPS OUT.

53. MAIN INSERT function

The two 1/4" phone jacks are stereo insert points, is used for connecting processor. Such as compression and EQ, when they insert to a jack of external processor, main stereo signal would be brought out after EQ, and would be return to MAIN MIX before MAIN MIX fader.

54. MAIN MIX output

These stereo output would be supplied by XLR balanced cannon and 1/4" phone jacks, it is controlled by Main Mix level control.

55. USB PORT

USB port is connected to computer via USB cable to record.