SONODYNE®

SMX SERIES
SMX 1112/ SMX 1116/ SMX 1124
small format analogue mixers | owners manual

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of "un-insulated dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

IMPORTANT SAFETY INSTRUCTIONS

1. Read and follow these instructions.
2. Do not use this apparatus near water.
3. Clean with dry cloth only.
4. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
5. Do not install near any heat sources such as radiators, stoves, or other apparatus (including amplifiers) that produce heat.
6. Do not defeat the safety purpose of the polarized or grounding-type plug. A grounding type plug has two poles and a third grounding pole. The thick pole is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the outlet
7. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
8. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.
9. Unplug this apparatus during lightning storms or when unused for long periods of time.
10. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE

BEFORE YOU GET STARTED

Your mixing console was carefully packed in the factory to guarantee safe transport. Nevertheless, we recommend that you carefully examine the packaging and its contents for any signs of physical damage, which may have occurred during transit.

If the unit is damaged, please notify your dealer and the shipping company immediately, otherwise claims for damage or replacement may not be granted.

INITIAL OPERATION

- Be sure that there is enough space around the unit for cooling purposes and to avoid over-heating. Do not place your mixing console on high-temperature devices such as radiators or power amps.
- The console is connected to the mains supply via the supplied cable.
- The console meets the required safety standards.
- Blown fuses must be replaced only by fuses of the same type and rating.
- Note that all units must be properly grounded. For your own safety, you should never remove any ground connectors from electrical devices or power cables, or render them inoperative.

CONNECTORS
XLR-type connectors are wired as follows (IEC60268 standard): pin 1: ground, pin 2: hot (+), pin 3: cold (-)

MAIN FEATURES

HIGH-QUALITY OPERATIONAL AMPLIFIERS
Mono input channels are equipped with discrete microphone preamplifiers. The pre amplifier features circuit used in high-end audio devices. This circuit uses multi-stage amplifiers to ensure high current and low impedance, for an audio texture with crispness and richness in the low and mid frequencies.
Combined with the specially-designed operational amp, the overall result is full-bodied reproduction of low frequencies as well as sustained high frequencies. Input channels feature combo jacks, which can accept both XLR and TRS connectors. In addition, Trim Control allows line level input, to accommodate a wide variety of instruments

BUILT-IN UNIVERSAL SWITCHING POWER SUPPLY
The SMX Series features a universal switching power supply. This power supply supports input voltages of 100 V to 240 V, for stable operation even in environments where power voltage fluctuates easily. An AC inlet allows simple installation in environments where portability is required, as well as when mounting the mixing console in a rack
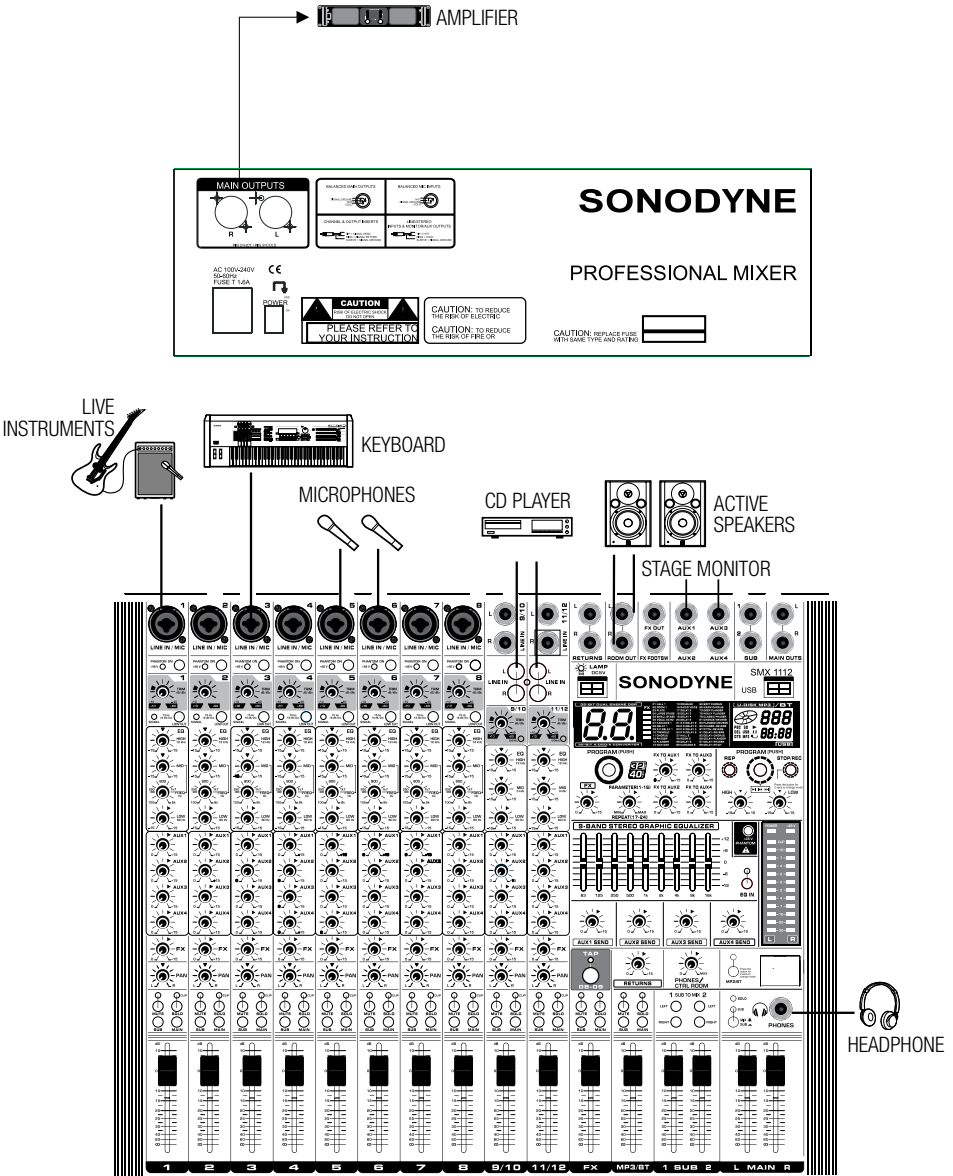
32 HIGH-QUALITY DIGITAL EFFECTS
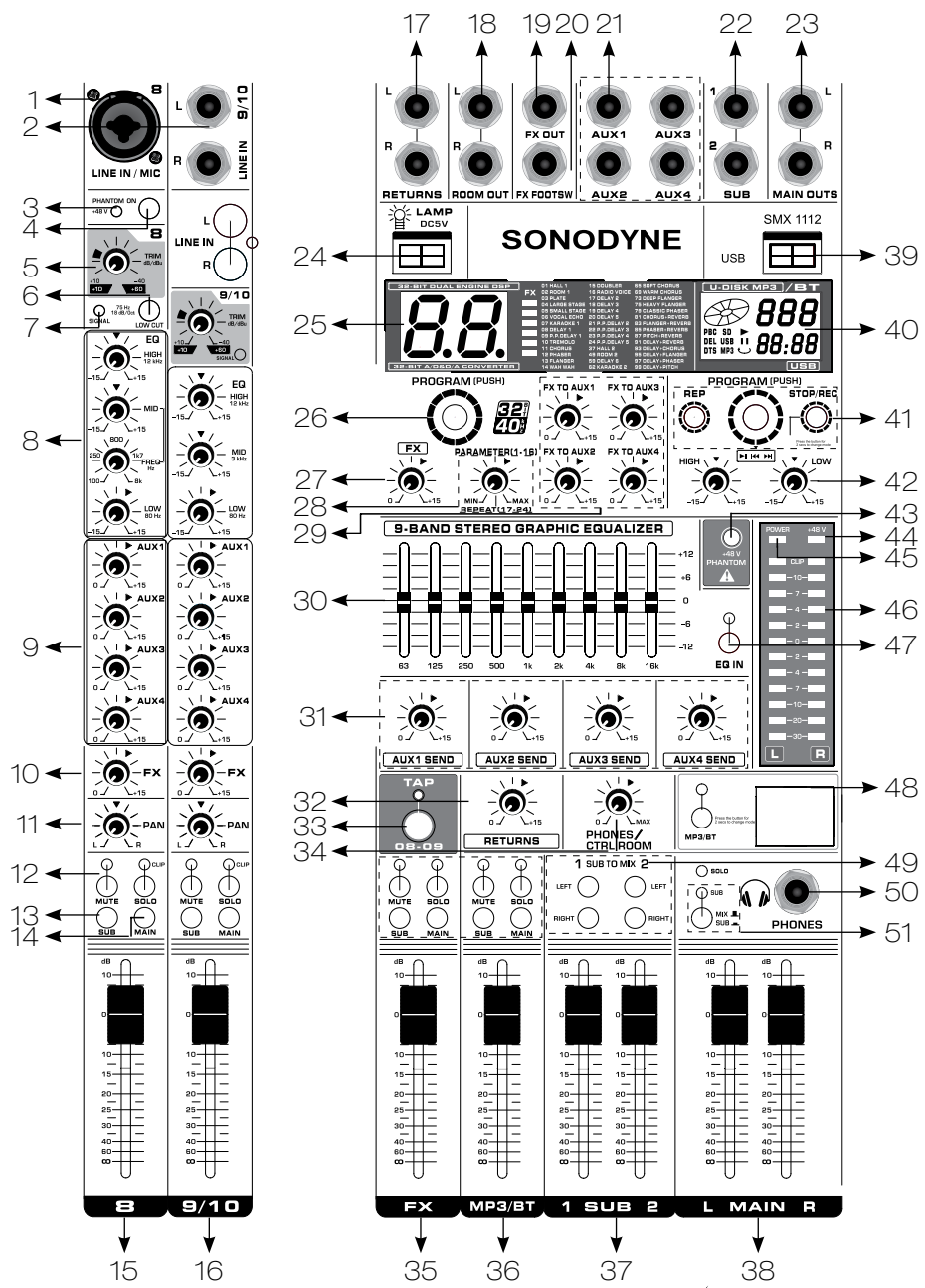The SMX models feature 99 built-in effects that are based on DSP FX

ADDED FEATURES
- USB playback
- USB Recording
- Global Equalizer
- Tap Delay
- Bluetooth Playback

AMPLIFIER

MAIN OUTPUTS

BALANCED LINE OUTPUTS

BALANCED MIC INPUTS

CHANNEL & OUTPUT INSERTS

R   L

SONODYNE

AC 100V~240V
50~60Hz
FUSE T 1.6A

POWER

PROFESSIONAL MIXER

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
PLEASE REFER TO
YOUR INSTRUCTION

CAUTION: TO REDUCE
THE RISK OF ELECTRIC

CAUTION: TO REDUCE
THE RISK OF FIRE OR

CAUTION: REPLACE FUSE
WITH SAME TYPE AND RATING

LIVE
INSTRUMENTS

KEYBOARD

MICROPHONES

CD PLAYER

ACTIVE
SPEAKERS

STAGE MONITOR

SONODYNE   SMX 1112

USB

9-BAND STEREO GRAPHIC EQUALIZER

HEADPHONE

CONNECTION DIAGRAM

8 — LINE IN / MIC
9/10 — L / R — LINE IN
PHANTOM ON +48 V
8 — TRIM dB/dBu — -10 / +60
LOW CUT — 75 Hz 18 dB/Oct
SIGNAL
9/10 — L / R — LINE IN
TRIM dB/dBu — -10 / +60
SIGNAL

EQ — HIGH 12 kHz — -15 / +15
MID 3 Hz — 800 — 250 / 8k — FREQ 100 Hz / 8k
LOW 80 Hz — -15 / +15

AUX1 — 0 / +15
AUX2 — 0 / +15
AUX3 — 0 / +15
AUX4 — 0 / +15

FX — 0 / +15
PAN — L / R
MUTE   CLIP   SOLO
SUB   MAIN

dB — 10 — 0 — 10 — 15 — 20 — 25 — 30 — 40 — 60 — ∞

8   **9/10**

SONODYNE

RETURNS   ROOM OUT   FX OUT   FX FOOTSW   AUX1   AUX3   AUX2   AUX4   SUB   MAIN OUTS

LAMP DC5V   SMX 1112   USB

32-BIT DUAL ENGINE DSP — 32-BIT A-DSG/A CONVERTER

U-DISK MP3 / BT

PROGRAM (PUSH)   32 / 40   FX   FX TO AUX1   FX TO AUX3   PROGRAM (PUSH)   REP   STOP/REC

PARAMETER(1-16)   FX TO AUX2   FX TO AUX4   REPEAT(17-24)   MIN / MAX   HIGH   LOW — -15 / +15

9-BAND STEREO GRAPHIC EQUALIZER

+48 V PHANTOM   POWER   +48 V   CLIP

+12 — +6 — 0 — -6 — -12
63   125   250   500   1k   2k   4k   8k   16k

EQ IN

AUX1 SEND   AUX2 SEND   AUX3 SEND   AUX4 SEND — 0 / +15

TAP   06:09   RETURNS   PHONES / CTRL ROOM — MAX

MUTE   SOLO   MUTE   SOLO   1 SUB TO MIX 2   SOLO   SUB
SUB   MAIN   SUB   MAIN   LEFT   LEFT   MIX   PHONES
RIGHT   RIGHT   SUB

MP3/BT   Press the button for 2 sec to change mode

FX   **MP3/BT**   **1 SUB 2**   **L MAIN R**

Label numbers: 1–51, 15, 16, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51

SWITCHES

1. MIC INPUT JACKS: These are balanced XLR-type microphone input jacks.
   (1: Ground; 2: Hot; 3: Cold)

2. LINE INPUT JACKS (mono channels): These are balanced TRS phone-jack line inputs. (T: Hot; R: Cold; S: Ground). You can connect either balanced or unbalanced phone plugs to these jacks

3. 48V INDICATOR: The red "48V LED lights up when phantom power is switched on. Phantom power is required to operate condenser microphones

4. PHANTOM +48 V SWITCH: This switch toggles phantom power on and off. When the switch is on the mixer supplies +48V phantom power to all channels that have XLR mic input jacks

5. TRIM CONTROL: Adjusts the input signal level. To get the best balance between the S/N ratio and the dynamic range adjust the gain, so that the PEAK indicator (9) lights only occasionally and briefly on the highest input transients. The -60 to +10 scale is the MIC input adjustment range. The -40 to +10 scale is the LINE input adjustment range

6. LOW CUT SWITCH: This switch toggles the HPF on or off. The HPF cuts frequencies below 75Hz

7. SIGNAL LED: This is a signal presence indicator which glows when signal is applied to input

8. EQUALISER (High, Mid and Low): This three-band equalizer adjusts the high, mid and low frequency bands of the corresponding channel. Setting the knob to the "0" position produces a flat response in the corresponding band. Turning the knob to the right boosts the corresponding frequency band, while turning to the left attenuates the band. The center frequency of the mid equalizer can be changed with the help of a frequency control which can be varied continuously from 100Hz to 8kHz

9. AUX CONTROL: Monitor and effects busses (AUX sends) source their signals via a control from one or more channels and sum these signals to a so-called bus. This bus signal is sent to an aux send connector (for monitoring applications: MON OUT) and then routed, for example, to an active monitor speaker or external effects device. In the latter case, the effects return can then be brought back into the console via the aux return connectors. All monitor and effects busses are mono and tapped into post EQ offering amplification of up to +15dB

10. FX CONTROL: The aux send marked FX offers a direct route to the built-in effects processor and is therefore post-fader and post-mute

11. PAN CONTROL: The PAN control determines the position of the channel signal within the stereo image. When working with subgroups, you can use the PAN control to assign the signal to just one output, which gives you additional flexibility in recording situations. For example, when routing to subgroups 3 and 4, panning hard left will route the signal to group output 3 only, and panning hard right will route to group output 4 only

12. MUTE LED: The MUTE LED indicates a muted channel.
    MUTE Switch: Pressing this switch mutes the corresponding channel.
    CLIP LED: The PEAK LED lights up when the input signal is driven too high. If this happens, back off the TRIM control and, if necessary, check the setting of the channel EQ.
    SOLO Switch: The SOLO switch is used to route the channel signal to the solo bus (Solo In Place) or to the PFL bus (Pre Fader Listen). This enables you to listen to a channel signal without affecting the main output signal. The signal you hear is taken either before the pan control (PFL, mono) or after the pan and channel fader (Solo, stereo)

13. SUB SWITCH assigns the output of the corresponding channel to the SUB bus

14. MAIN SWITCH assigns the output of the corresponding channel to the MAIN bus

15. CHANNEL FADER adjusts the level of the corresponding mono channel. Use these faders to adjust the balance between the various channels

16. CHANNEL FADER: The function of this is same as the channel fader of mono channels

17. STEREO AUX RETURNS JACKS: The STEREO AUX RETURN jacks generally serve as the return for the effects mix (created using the post-fader aux sends) by connecting the output of an external effects device. If only the left jack is connected, the AUX RETURN is automatically switched to mono

18. CONTROL ROOM OUT JACKS: The control room output is normally connected to the monitoring system in the control room and carries the stereo mix or, when selected, the solo signals

19. FX OUT JACKS: The FX OUT jack should be used when hooking up a monitor power amp or active monitor speaker system. The relevant FX path should be set pre-fader

20. FX FOOT SW JACK: Connect a standard foot switch to the foot switch jack and use this to switch the effects processor on and off. A light at the bottom of the display indicates whether the effects processor has been muted by the foot switch

21. AUX SEND JACK: The AUX SEND jack carries the master aux mix(from the channel's AUX controls)

22. SUB OUT (1 - 2) JACKS: These impedance-balanced* TRS phone jacks output the SUB 1/2 signals. Use these jacks to connect to the input jacks of an multi-track recorder, external mixer, or other such device.
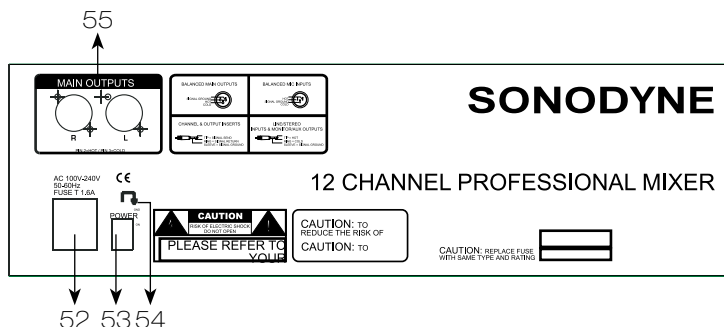
23. MAIN OUT (L, R) JACKS: These jacks deliver the mixer's stereo output. You can use these jacks, for example, to connect to the power amplifier driving your main speakers.

24. USB DC5V CONNECTOR: This is a USB-A type connector to power a 5V DC lamp

25. EFFECTS DISPLAY: There are 99 different types of Effect each denoted by a number printed on the panel. This number is shown by the display

26. PROGRAM DIAL (JOG): You can select the Effect preset by turning the PROGRAM control. The display flashes with the number of the current preset. To recall the selected preset, press the button; the flashing stops. You can also recall the selected preset with the foot switch

27. FX CONTROL THE AUX SEND (FX) JACK carries the master aux mix (from the channel's FX controls). You can connect this to an external effects device to process the FX bus. The processed signal can then be brought from the Effects device back into the STEREO AUX RETURN jacks

28. REPEAT CONTROL adjusts the parameter (depth, speed, etc.) for the selected effect. The last value used with each effect type is saved

29. FX TO AUX CONTROL: This controls the level of Effect to AUX1 AUX2 AUX3 AUX4

30. 9-BAND STEREO GRAPHIC EQUALIZER: This stereo graphic equalizer allows you to tailor the sound to the room acoustics (defeatable)

31. AUX SEND CONTROL Use this fader to control the signal level at AUX output jack

32. STEREO AUX RETURN1 Control Adjusts the level at which the signal received at the RETURN jacks (L (MONO) and R) is sent to the STEREO L/R bus.

33. TAP SWITCH: Press this switch to change the repeat time. For short repeat time, press rapidly, for longer repeat time, press slowly

34. PHONES/CTRL ROOM CONTROL: Use this control to adjust the control room output level and the headphones volume.

35. FX SEND FADER: This is the master control for the Effects level.

36. MP3/BT FADER adjusts the level of MP3/BT.

37. SUB (1-4) FADER adjusts the signal level sent to the SUB OUT (1 to 4) jacks.

38. MAIN MIX FADER: This is the master level control for the MAIN OUTS.

39. MP3 USB JACK: Connect a flash drive to this socket for playing MP3 audio files. This is a host USB player.

40. MP3 DISPLAY: Shows various information about audio files being played like track number, name of the track, etc.

41. MP3 SWITCHES:
- STOP/REC: To record to USB flash drive, press the STOP/REC switch for 2 seconds and recording will start. Press again the STOP/REC for 2 seconds to STOP recording. File will be automatically saved in the USB flash drive.
- PLAY JOG Switch: Press the switch to pause or play track.
  Rotate clockwise to select next track shown in display
  Rotate anticlockwise to select previous track
  You can select the Mp3 tracks by turning the JOG Switch.
- Program Dial: Displays the MODE : USB Playback with Tracks
  USB Recording
  Bluetooth
- Repeat switch: Press this switch to repeat all tracks or a single track.

42. MP3 EQUALISER: This two-band equalizer allows you to adjust the tone control of the MP3 player.

43. PHANTOM: +48 V SWITCH: This (global) switch toggles phantom power on and off. When the switch is on the mixer supplies +48V phantom power to all channels that have XLR mic input jacks.

44. 48V INDICATOR: The red "48V LED" lights up when phantom power is switched on. Phantom power is required to operate condenser microphones.

45. POWER INDICATOR: This indicator lights when power to the mixer is switched on.

46. LEVEL METER: Shows the level of signal. The "0" segment corresponds to the nominal output level. The PEAK indicator lights when the output reaches the clipping level..

47. EQ IN SWITCH: Use this switch to activate the graphic equalizer.

48. BT: Press SWITCH for two seconds, the Signal LED will blink.
   Using mobile phone or tablet or pc, go to the BT device list and search for MIXER-01 to pair.
   Blinking stops when device is pared.
   Press the SWITCH again for 2 sec to disconnect BT.
   Restart BT to pair to another mobile phone or tablet PC.

49. SUB TO MAIN SWITCH: If this switch is on, the mixer sends the signals processed by the SUB faders onto the stereo bus.

50. PHONES JACK: Connect a pair of headphones to this TRS phone-type output jack.
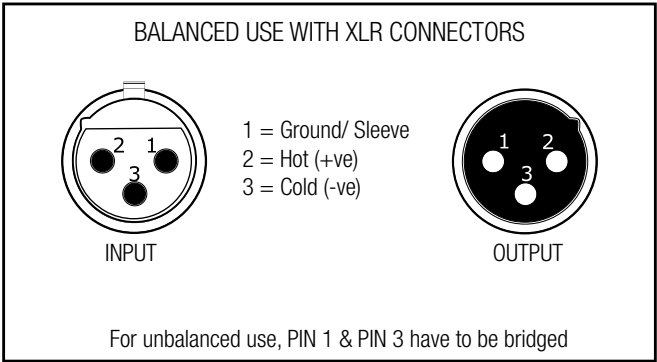
51. SWITCH HEADPHONES between MIX and SUB channel.

55

MAIN OUTPUTS

BALANCED MAIN OUTPUTS   BALANCED MIC INPUTS

CHANNEL & OUTPUT INSERTS   UNISTEREO INPUTS & MONITOR/AUX OUTPUTS

R   L

SONODYNE

AC 100V-240V
50-60Hz
FUSE T 1,6A

CE

POWER

12 CHANNEL PROFESSIONAL MIXER

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
PLEASE REFER TO YOUR

CAUTION: TO
REDUCE THE RISK OF
CAUTION: TO

CAUTION: REPLACE FUSE
WITH SAME TYPE AND RATING

52 53 54

52. FUSE HOLDER/IEC MAINS RECEPTACLE: The console is connected to the mains via the cable supplied, which meets the required safety standards. Blown fuses must only be replaced by fuses of the same type and rating. The mains connection is made via a cable with IEC mains connector. An appropriate mains cable is supplied with the equipment.

53. POWER SWITCH: Use the POWER switch to turn on the mixing console. The POWER switch should always be in the "Off" position when you are about to connect your unit to the mains. To disconnect the unit from the mains, pull out the main cord plug. When installing the product, ensure that the plug is easily accessible.

54. GND CONTACT: GND in order to avoid leakage.

55. CONTROL ROOM OUT JACKS: The control room output is normally connected to the monitoring system in the control room and carries the stereo mix or, when selected, the solo signals.
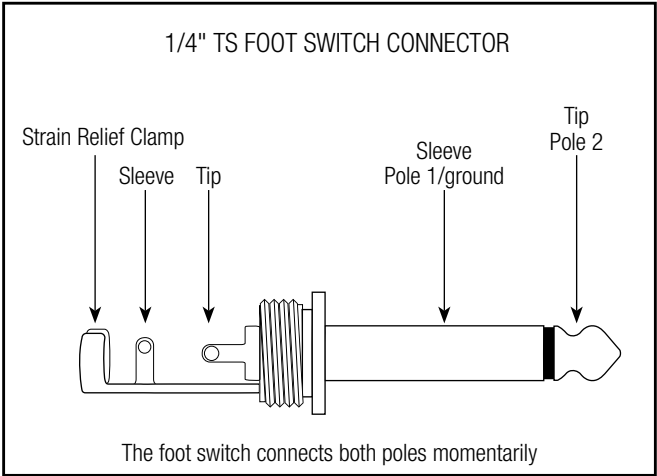
CABLE CONNECTIONS

The illustrations below show the wiring of these cables. Be sure to use only high-grade cables.
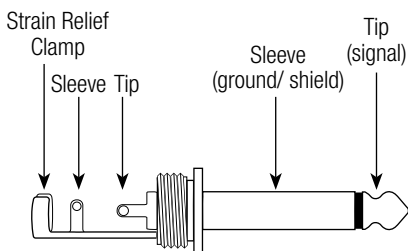
XLR CONNECTIONS

BALANCED USE WITH XLR CONNECTORS

1 = Ground/ Sleeve
2 = Hot (+ve)
3 = Cold (-ve)

INPUT

OUTPUT

For unbalanced use, PIN 1 & PIN 3 have to be bridged

FOOT SWITCH CONNECTOR

1/4" TS FOOT SWITCH CONNECTOR

Tip
Pole 2

Strain Relief Clamp

Sleeve
Pole 1/ground

Sleeve   Tip

The foot switch connects both poles momentarily

AUDIO CONNECTIONS

Use commercial RCA cables to wire the 2-track inputs and outputs.
You can also connect unbalanced devices to the balanced input/outputs. Use either mono plugs, or use stereo plugs to link the ring and shaft (or pins 1&3 in the case of XLR connectors).
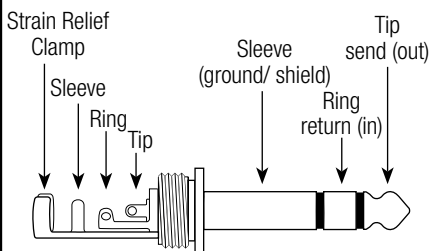
CAUTION! You must never use unbalanced XLR connectors (PIN 1 and 3 connected) at the MIC input jacks if you want to use the phantom power supply.
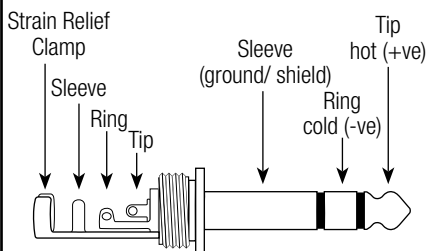
6.3: 1/4" MONO PLUG

Strain Relief Clamp

Sleeve Tip

Sleeve (ground/ shield)

Tip (signal)

Unbalanced 1/4" TRS connector

INSERT SEND RETURN 1/4" TRS CONNECTOR

Strain Relief Clamp

Sleeve

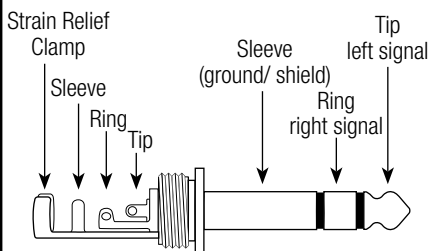Ring
Tip

Sleeve (ground/ shield)

Tip send (out)

Ring return (in)

Connect the insert send with the input and the insert return with the output of the effects device

BALANCED 1/4" TRS CONNECTOR

Strain Relief Clamp

Sleeve

Ring
Tip

Sleeve (ground/ shield)

Tip hot (+ve)

Ring cold (-ve)

For connection of balanced and unbalanced plugs, ring and sleeve have to be bridged at the stereo plug

1/4" TRS HEADPHONE CONNECTOR

Strain Relief Clamp

Sleeve

Ring
Tip

Sleeve (ground/ shield)

Tip left signal

Ring right signal

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TROUBLESHOOTING

Power does not come on	• Is the mixer connected to an independent power source (generator, etc.) or a power strip with switches? Check that the power of that device is turned on.
No output	• Are external instruments (including microphones) and speakers connected correctly? • Are your cables shorted? • Are the [GAIN] knobs for each channel, channel faders, [STEREO] master fader, and [GROUP] faders adjusted to appropriate levels? • Are the bus assign switches set appropriately?
No output from the [STEREO OUT] jack	• Are the [ON] switch and [ST] switch for the channels you are using turned on? • Is the [STEREO] master [ON] switch turned on?
No output from the [SEND (AUX1 – 4)] jacks	• Are the [SEND MASTER] knobs and [AUX 1 – 4] for each channel set appropriately? • Are the [ON] switches for the channels you are using turned on?
No output from the [PHONES] jack	• Are the SOLO [PFL] switches for the channels you are not using turned on? Turn the SOLO [PFL] switches off.
Sound is low, distorted, or noisy	• Is the microphone connected to a [MIC] jack or a [MIC/LINE] jack? • When using a condenser microphone, is the [PHANTOM +48V] switch turned on? • Is the [PAD] switch on? Turn this switch off for sources with low output levels, such as microphones. • Is the output signal level for the instrument connected to the mixer appropriate? • When connecting an instrument with an output level of +4dBu, either turn down the TRIM control on a mono input channel or use a stereo input channel. • Where an input channel provides both a XLR input jack and a phone input jack, or a phone input jack and an RCA pin jack, are there connections made at both jacks? Use only one of these jacks. • Are the [GAIN] knobs for each channel, channel faders, [STEREO] master fader, and [GROUP] fad- ers adjusted to appropriate levels? • Are effect or compressor levels too high? Use the [FX] knob, [FX RTN] fader, [FX RTN LEVEL] knob, and [COMP] knob to lower their levels.

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Effects cannot be applied	- Are the [FX] knobs for each channel adjusted to appropriate levels? - Is the [ON] button for [FX RTN] turned on? - Are the [PARAMETER] knob and [FX RTN] fader adjusted to appropriate levels? - Is the [FX RTN] bus assign switch set appropriately? - If external effects are connected to the [SEND(AUX1 – 4)] jacks, are the [AUX1 – 4] knobs for [SEND MASTER] set appropriately?
Voices are not clear	- Is the [HPF] switch turned on? - Is the equalizer ([HIGH]/[MID]/[LOW]) adjusted appropriately?
No output from MONITOR OUT	Are powered speakers connected to the [MONITOR OUT] jacks? Use the [MONITOR LEVEL] knob to adjust the signal output from the [MONITOR OUT] jacks.
Left and right levels are different for a stereo signal input	- Is [PAN] set to the center? If panned to the center, try reversing the left and right input connections. If, after switching the left and right connections, the side with the low volume level also switches, check the instrument or device that is the source of the signal. - Are you using the same type of cable to connect both the left and right input signals? Cables with built-in resistors will attenuate the signal.
The sound level is unstable and inconsistent	Is the compressor level set too high? Use the TRIM knob to lower the level

SPECIFICATIONS

	SMX 1112	SMX1116	SMX1124
INPUT MONO (MIC/LINE)	8	12	20
INPUT STEREO	2	2	2
OUTPUT MAIN	2	2	2
OUTPUT AUX	4	4	4
OUTPUT GROUP	2	2	2
GRAPHIC EQ	9 band stereo, switchable		
EQ HIGH	Gain ± 15dB, Freq 12kHz shelving		
EQ MID	Gain ± 15dB Mono channels - Freq 100Hz ~ 3kHz peaking, Stereo channels - Freq 3kHz peaking		
EQ LOW	Gain ± 15dB, Freq 80Hz shelving		
LOW CUT	75 Hz 18dB/octave		
EFFECTS	99 effects, DSP based		
BT/USB PLAYBACK	yes	yes	yes
RECORD TO USB	yes	yes	yes
FADERS	Individual channel, Effects master, MP3 master, Sub group master 1,2, Main L, R fader, 60mm		
LEVEL METER	12- digit, peak-reading LED level meter		
PHANTOM POWER	Per mic ch/global		
OTHER FEATURES PER CHANNEL	Mute, solo, low-cut and bus-assign switches MAIN, SUB)		
MIC EIN, 50Ω SOURCE RESISTANCE, 20Hz~20kHz	-133dB		
FREQ. RESPONSE +0, -1dB	10Hz ~ 90kHz		
THD	0.004% A- weighted		
SNR	110dB, A- weighted, +22dB gain		
MAX OUTPUT LEVEL	+22dBu		
POWER REQUIREMENT	230V AC 50Hz		
POWER CONSUMPTION	50W	55W	60W
DIMENSION HxWxD (mm)	150 x 510 x 475	150 x 620 x 475	150 x 620 x 475

Due to continuous improvements, all specifications are subject to change

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A product of the Mukherjee Innovation Centre