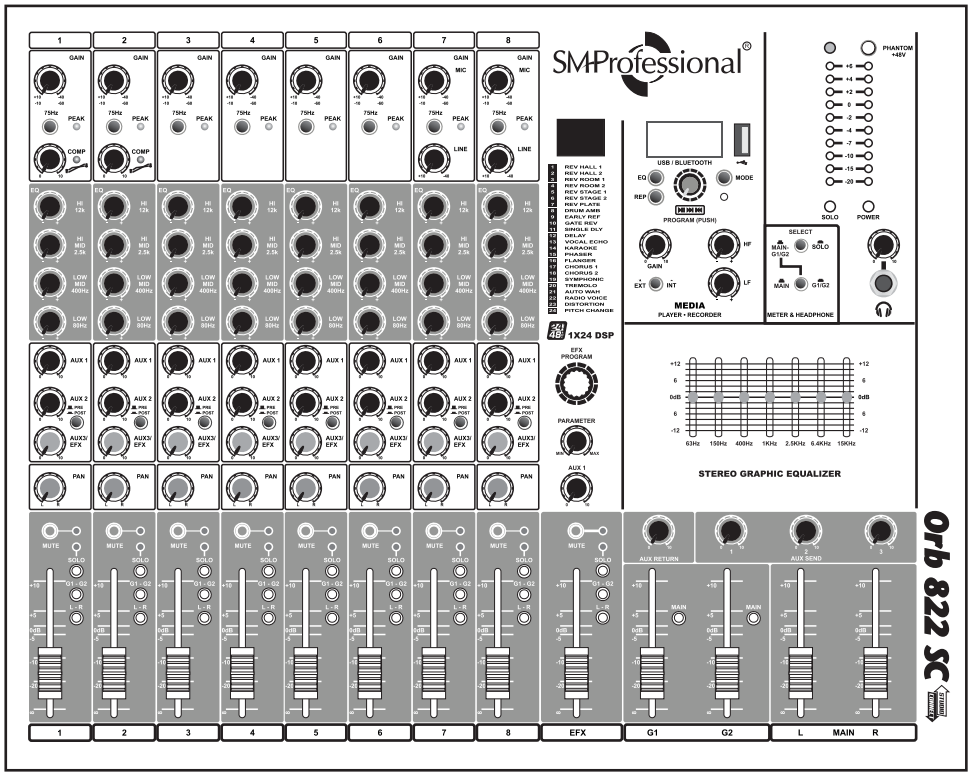
INSTRUCTION MANUAL

SMProfessional®

Orb 822 SC

STUDIO CONNECT

Premium Mixer



1. Introduction

Thank you for choosing the SMProfessional Orb 822 SC mixer.
To ensure maximum performance and safety, please follow this instruction manual carefully.
Please retain this manual for future reference. For any complaint, feedback or testimonials please contact authorised SMProfessional distributor/dealer.
Retain the carton for future use should the product require servicing/maintenance.

2. Product Care Instruction

DO NOT SWITCH ON YET! READ THIS SECTION FIRST.
SAFETY INSTRUCTIONS

- Make sure this product is suitable for use on your local supply Voltage. The voltage is printed on the rear panel. Only use the AC power cord /Mains lead supplied with the product.
- Do not attempt to remove screws or panel. There are no user serviceable part inside
- Do not operate the unit next to heat source such as radiators. If the unit gets damaged or appears to have developed a fault refer to the sevice information section for details
- Do not use your mixer in environments having a high humidity or where liquids or objects may accidentally enter the console.
- Always ensure the Ventilation slot is clear and never remove the main earth to cure a buzz or hum caused by faulty wiring. If external signal processors or effect processor is being used, these should also be connected & switched on before the mixer is powered up.
- In the event that the rear panel fuse blows, replace it only with the same type and rating of fuse (see technical specifications). If a fault occurs that replacing the external fuse does not cure, return the unit to your dealer or to an authorized service agency. Do not attempt to replace the internal fuse yourself, as this could be dangerous and will void the warranty

3. Features at a Glance

- 8 channels: 8 mic / 10 line inputs.
- MON:Ster (mono-stereo) inputs for full flexibility.
- One Knob Compressor on 2 channels.
- Ultra low-noise preamps with wide headroom and dynamic range.
- Built-in multi-EFX processor with 24 DSP presets and editable parameters.
- Provisions to route EFX to monitor via Aux 1.
- Built-in USB MP3 media player and recorder with Bluetooth.
- Level control, 2-band EQ with internal/external media input selection.
- Dual USB audio interface with plug & play connectivity for recording and playback using a PC.
- 75Hz low cut on mono channels.
- 4-band EQ on all inputs.
- 3 Aux sends - 2 pre/post and 1 post.
- Stereo AUX returns.
- Balanced XLR and 1/4" jack main outputs.
- 2 sub groups with individual 1/4" outputs.
- Insert (send/return) on the first 3 mono channels and main output.
- Mute, solo, group (G1-G2) and main (L-R) routing per channel.
- Peak, comp, mute and solo LEDs per channel.
- Stereo RCA input and record output.
- Headphone output with level control.
- Globally switched +48V phantom power supply.
- Responsive 60mm faders.
- 7-band stereo graphic equalizer on main output.
- Dual 10-segment LED meter for main, group and solo outputs.
- Ergonomic angled-design for better visibility.
- Clutter-free rear panel input and output connectivity.

4. Mixer Basics

1. Balanced vs. Unbalanced Inputs - What's the Difference?
   An unbalanced cable consists of two connectors with two conductors each, connected by two wires inside the cable - a signal wire and a ground wire. The ground wire serves two functions in this design: it carries the negative part of the audio signal and helps to shield the main positive signal wire from external interference. The downside is that the ground wire itself also acts like an antenna and can pick up noise. Unbalanced cables are generally only good for running signal up to 15 feet.
   A balanced cable, in turn, consist of three conductors inside a connector, two signal wires and a separate ground wire. Both wires carry equal and opposite signal in the inputs and any interference imposed on both leads will be subtracted, cancelling out that interference.
   The longer the wire, the more noise it is likely to pick up. Hence balanced lines are preferred for longer cable runs.

2. Equalizer: An equalizer allows the sound in specified frequency bands to be amplified or reduced to adjust the quality or tone of the sound. The equalizer allows control over several frequency bands.

3. Low Cut (High Pass Filter): A High Pass Filter (HPF) is designed to allow through frequencies that are higher than the one that is set. They are usually used to attenuate extra low-frequency signals such as mechanical rumbles and hum.

4. Solo/PFL: This button send signal from input channels to the headphone as well as bargraph. As this signal pre-fader, it is possible to listen to the signal or view on bargraph with the fader fully down before it is included in the mains output.

5. Group Out: Controls the overall level of any channels routed to the stereo group. This is valuable feature for controlling sets of instrument or sound such as drums mics or backing vocals.

6. Pan/Bal: Panning is the distribution of sound signal into two different outputs. In panning, the same signal is distributed to left and right outputs. While in Balance two different signals are routed to the left and right output. The amplitude of the signal depends on the Pan/Bal control position. When control (knob) is at the centre, the signal is divided equally in both left and right outputs.

7. Insert (Send/Return): Inserts are used to connect compressors, limiters, equalizer or any other signal processor to the channel. An insert allows you to break into the path of an audio signal and connect a processor. Insert is provided through a ¼" TRS phone jack. To use this feature, a "Y Cable" is needed with one ¼" TS (mono) phone plug connected to the tip of ¼" TRS (Stereo) phone plug and another ¼" TS phone plug connected to the sleeve of the ¼" TRS phone plug.

8. Effects: A few mixers incorporate built-in effects processing such as reverb, delay, chorus, phasing, etc can be incorporated into a mixing console so that you don't have to invest in external equipment.

9. Aux: An Aux bus allows you to send a secondary feed of an input channel's audio signal to another destination, independent of the channel's main output. It can be either pre-fader or post-fader. A pre-fader output is independent of the channel fader, i.e. it stays the same level whatever the fader is set to. A post-fader output is dependent on the fader level. Many mixers let you choose between the two aux modes. It can be used for stage monitoring, external/outboard effects processing, recording and much more.

10. Media Player: Some mixers integrate a USB, or Bluetooth media player for quick audio playback.

5. One Knob Compression

The SMProfessional Orb series mixers feature an intuitively-designed and simple one-knob compressor on select inputs.
This useful tool helps you control the dynamic range and harness the true benefits of compression without the hassle of setting complex parameters in a simple one-knob interface. To better understand this process, we have compiled a quick primer on dynamic range audio compression.

How does a compressor work?

Compression reduces loud sounds over a certain threshold while quieter sounds remain unaffected.

It consists of the following 4 main elements:

1. Threshold: A compressor reduces the level of an audio signal if its amplitude exceeds a certain threshold.

2. Compression Ratio: The amount of gain reduction is determined by a ratio. E.g. A ratio of 4:1 means that if the input level is 4dB over the threshold, the output signal level is reduced to 1dB over the threshold. The overall gain and output level has been reduced by 3dB.

3. Attack & Release Time: The attack is the period when the compressor decreases gain in response to the increased level. The release is the period when the compressor increases gain in response to reduced level.

4. Make up Gain: Because a compressor only reduces the level of the signal, the ability to add a fixed amount of make-up gain at the output is usually provided so that an optimum output level is produced.

Why use a compressor?

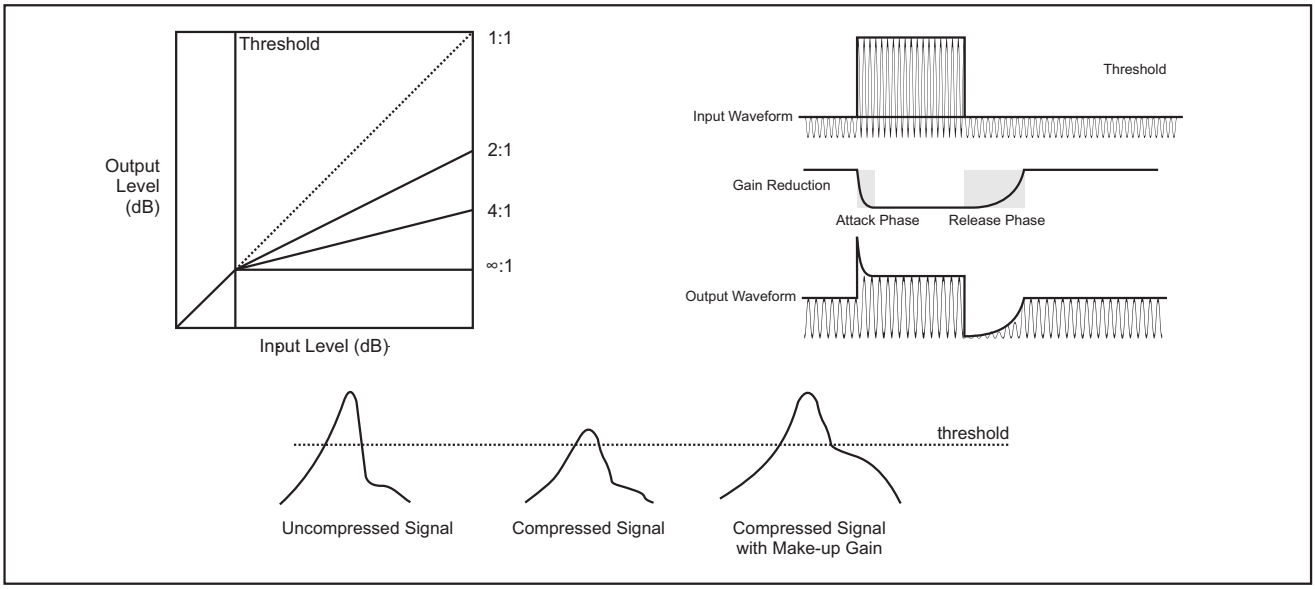
Performances by some instruments and vocals don't always maintain the same volume. Adjusting the volume in real-time so that the audience can comfortably listen is an essential element in mixing

.

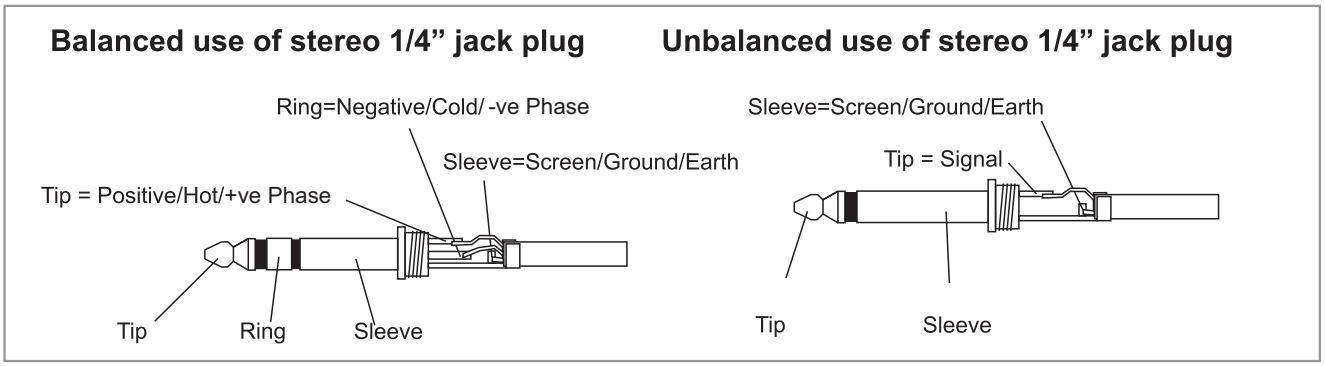
- By using a compressor in the right amount on signals which have a wide dynamic range, the sound will not overload even at louder musical parts, making it possible to mix it at an appropriate volume.
- By using a compressor on a bass guitar, you can achieve a clean and smooth sound, making it easier to introduce it in the mix.
- Using a compressor on a snare drum or other percussive instruments with a sharp attack can bring greater impact to the sound.
- As a compressor is designed to reduce louder sounds, it can be useful in protecting equipment from sudden and sharp spikes in volume.

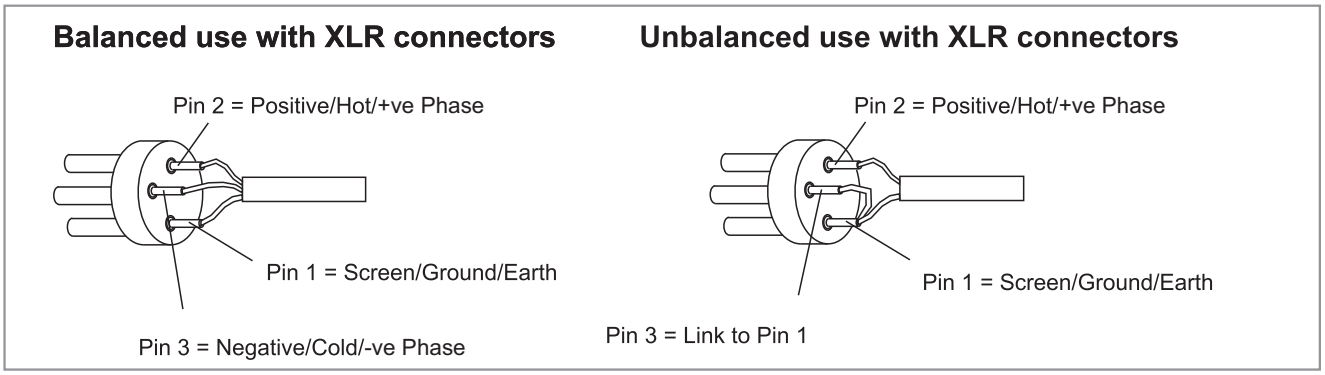
One Knob Compressor by SMProfessional

All the key 3 functions of a compressor i.e. the threshold setting, compression ratio and make up gain are integrated into a single knob solution with the attack and release time being fixed. In a nutshell, SMProfessional's one-knob compression helps you achieve an even, clear and loud signal on-the-fly!



6. Connections





7. Input Section

The input channels of the Orb series mixers have two connectors; MIC and Line Inputs.

⚠ **Please do not use both inputs at the same time. Doing so may permanently damage the equipment. Please ensure the gain, fader and aux levels are set to a minimum while connecting or disconnecting inputs.**

1. **MIC Input:** This electronically balanced XLR input is designed to accept low impedance balanced signals from microphones.

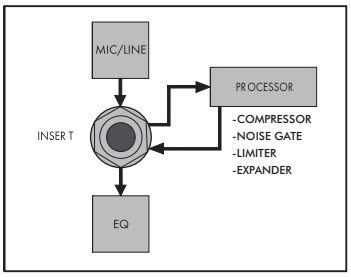
2. **Line Input:** The input accepts line-level balanced or unbalanced signals using ¼" stereo (TRS) jack. The line input is designed for instruments like keyboards, guitars, drum machines and other electronic instruments.

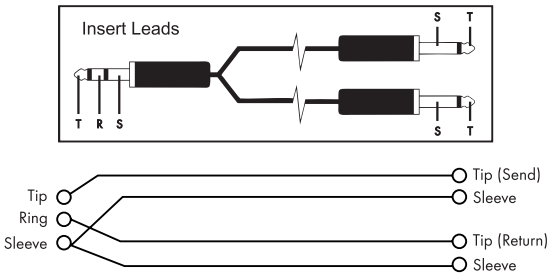
Balanced XLR	
Pin 1	Ground
Pin 2	Hot (+ve Phase)
Pin 3	Cold (-ve Phase)

Balanced TRS	
Tip	+ve Phase
Ring	-ve Phase
Sleeve	Ground

Un-Balanced TRS	
Tip	Signal
Sleeve	Ground

3. **Insert (Send/Return):** This is used to connect external signal processors such as compressors, limiters, noise gates and expanders etc. within the input path.
A 'Y' cable is required to use the insert feature.





Note: These are TRS (tip, ring, sleeve) ¼" jack that carry both the send and return signal (tip=send/out; ring=return/in; sleeve=ground).

4. **Gain Control:** Turn this knob to control gain of both MIC and Line input signals.

⚠ **Please do not operate at high gain levels as this may lead to audio clipping causing signal distortion.**

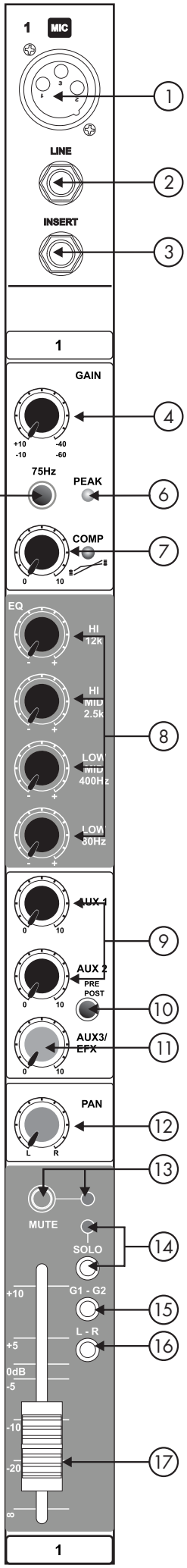
7-8 on the mixer are MON:Ster (mono/stereo) inputs with provisions for both XLR and ¼" connectors along with separate gain controls. Kindly keep this in mind while using either of the inputs.

5. **Low Cut / High Pass Filter (HPF):** This switch activates the high pass filter and allows you to attenuate unwanted low frequencies. It cuts frequencies below 75Hz by upto -3dB. It can be used to reduce hum noise introduced by the mains power supply, stage rumble, microphone 'popping' and to clean up a muddy mix.

6. **Peak LED:** This LED glows when the incoming audio signal is clipping. Kindly reduce the gain to minimize clipping.

7. **COMP:** Use this knob to adjust the amount of compression applied to the channels. As the (COMP) knob is turned to the right, the threshold, ratio and output gain are adjusted simultaneously. The Yellow LED glows when audio signal is being compressed Refer to Sec.5 for more details on one knob compression.

⚠ **Note: Avoid setting the compression too high as the resulting higher average output level may lead to feedback.**



8. **EQ Section:** The Orb 822 SC mixer have 4-band equalizers on all inputs. The EQ is designed to be easy yet effective to use. It can be used to cut or boost certain frequencies to achieve a particular tone or to eliminate any unpleasant characteristics. Keeping the knob in the centre bypasses the EQ. Turning the knob to the right boosts the corresponding frequency band while turning it left attenuates/cuts it.

HI	±15dB @ 12kHz
HI-MID	±15dB @ 2.5kHz
LOW-MID	±15dB @ 400Hz
LOW	±15dB @ 80Hz

9. **AUX 1 & 2:** These 2 knobs are used to adjust the level of the signal being sent from the channel to the Aux buses. These controls either send the signal directly before the channel fader (Pre-Fader) or the signal after the channel fader (Post-Fader) to the corresponding buses depending on the mode selected. Refer to the next point for more details on Pre and Post Fader Aux.
Tip: The Aux send is used to provide a monitor mix to the artist or to use external/outboard effects processors.

10. **Post-Pre Switch:** This switch is used to select the aux signal as pre or post-fader. In released position the signal is sent pre-fader and in the pressed position the signal post-fader.

11. **AUX 3 / EFX 1:** The Aux 3 is used to send the incoming signal to the built-in multi-effects DSP processor. This Aux bus is prefixed in Post-Fader mode. It can also be used as regular Aux bus.

12. **PAN:** This knob is used to pan/balance the incoming signal between the left and right output channel. It can also be used to route (assign) the signal to particular group (G1-G2) outputs as selected by the routing switches.

13. **Mute Switch & LED:** This switch is used to mute the channel signal and it is indicated by the LED.

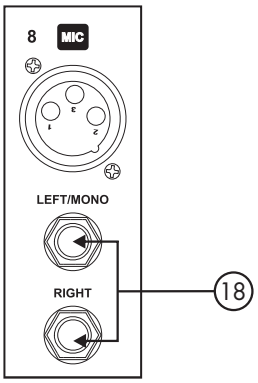
14. **Solo Switch & LED:** This switch allows you to monitor the channel's pre-fader signal using headphones. The LED glows when solo is activated.

15. **G1-G2 Switch:** This switch is used to route the channel signal to the group (G1-G2) output.

16. **L-R Switch:** This switch is used to route the channel signal to the main (Left/Right) output.

17. **Channel Fader:** This fader is used to set the level of the incoming signal to the Main/Group outputs. It provides a visible indication of channel level. Normal operating position is at "0dB". However, you have an optional headroom of +10dB.

18. **Stereo Input Jacks:** These ¼" TRS jack inputs are used to connect sources such as keyboards, drum machines, synthesizers, tape machines or returns from processing units. The inputs are balanced for high quality sound. Avoid using unbalanced sources to prevent 'hum' being introduced into the sound system. Mono sources can be connected by using the left jack input



8. Effects Section

The Orb 822 SC integrates a high-quality DSP-based effects processor with a high-resolution 24-bit/48kHz sampling rate and 24 easily-editable parameters available to help users get creative while mixing.

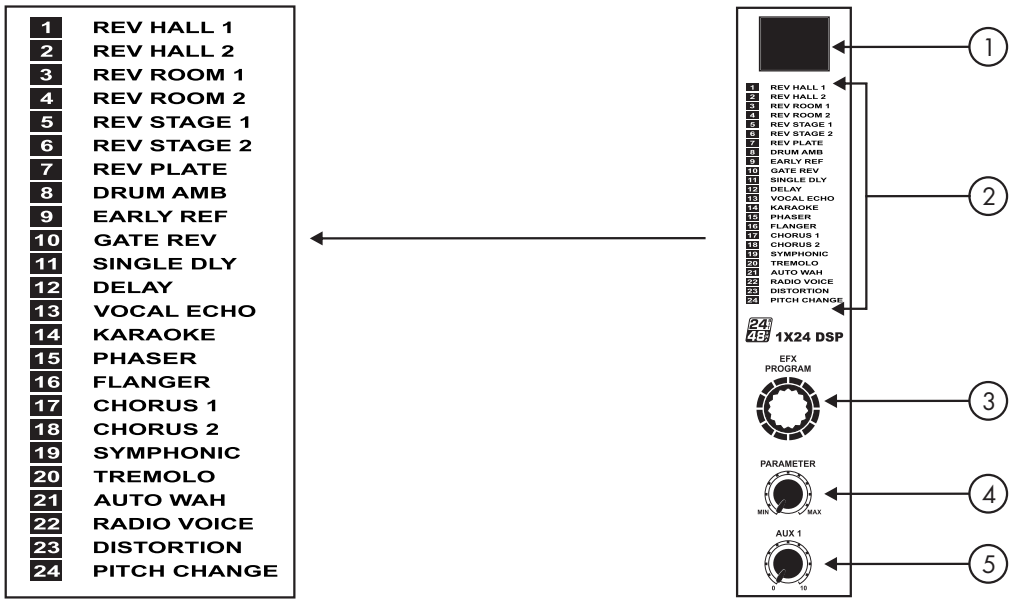
1. **Display:** It displays the selected preset number.

2. **Presets:** This is a list of all presets available.

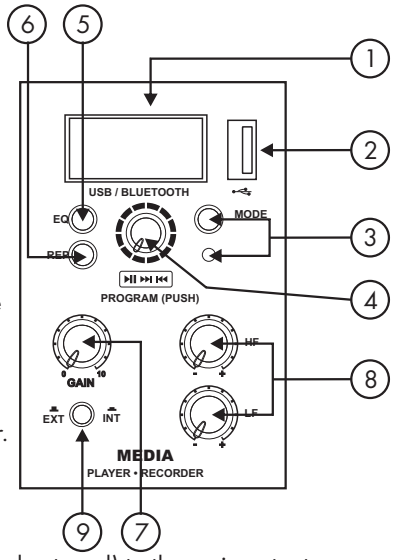
3. **EFX Program:** This knob is used to select one of the 24 internal effects.

4. **Parameter:** This knob is used to adjust the parameters of the selected effect.

5. **AUX 1:** This knob is used to route/send signals from the built-in effects processors to the Aux 1 output.



9. Media Player, Recorder and Bluetooth Section



1. Display: It displays useful information while operating the media player, recorder and Bluetooth section.

2. USB: Use this to insert a flash-based storage device (pen drive) for MP3 playback and recording.

3. Mode Switch & LED: This switch is used to select between Bluetooth and USB (playback & recording) mode. The LED glows and blinks when switching between the modes.

4. Program: This rotary push knob is used to toggle between the various parameters of the media player, recorder and Bluetooth section. Push the knob to select the required parameter.

5. EQ: This switch is used to select one of the six DSP-based EQs built into the media player.

6. Rep: This switch is used to repeat the track that is being played currently.

7. Gain: This knob is used to set the level of the input signal of the media player (internal and external) to the main output.

8. 2-Band EQ: This 2-band EQ can be used to either cut or boost high or low frequencies.

9. Ext-Int: This switch is used to select between media/ext (stereo RCA on the rear panel) input and the media player.

How to record?

1. Insert a flash-based storage device (pen drive) in the USB slot.
2. Press the "MODE" switch until the display shows "rEC". The recording mode is now active.
3. Press the "PROGRAM (PUSH)" switch to start recording. The USB LED on the display starts blinking to indicate that the recording is ongoing/active.
4. Press the "MODE" switch to stop the recording. After recording, the unit starts playing recordings / music stored on the flash-based storage device (pen drive).
5. To start a fresh recording, repeat step 2, 3 and 4.
6. The recording output is dictated by the master output level.
7. The recorded files are saved in a folder named "JL_REC" on the storage device in .mp3 format. The files are saved as "FILE0001.MP3", "FILE0002.MP3" and so on.

Terms of Use: SMProfessional respects intellectual property rights and we request our users to do the same.
Please use MP3 downloads only from sources which you have legally purchased.
PLEASE DO NOT USE PIRATED MUSIC OR PROGRAMS.

Disclaimer: Your acceptance and use of this product will be treated as your agreement to the following clause:
SMProfessional, Audioplus and all associated companies and sellers are indemnified from any liability the end-user may incur by using illegally procured material or immoral content or any other such similar program selection.

Setting Up Bluetooth Connection

- Long press mode switch to switch from USB to BT mode.
- From your phone or any of the Bluetooth device turn Bluetooth ON & search for device "SMProfessional". Pair and connect to it.
- Now any music or audio you play on your device will be played through, Media player the music can be controlled (Play, Pause, Volume+ & Volume -, Reverse & Forward) by either your device or controls on the panel.

Reconnecting Your Device

If you move out of range or turn off the Bluetooth feature on your mobile device, the Bluetooth Receiver will get disconnected from your device. To reconnect, click on the device name "SMProfessional" on your paired device list.

Changing Connected Device

If you want to switch from one device to another, follow these steps:

1) End the existing Bluetooth connection from your device by either disconnecting within your "settings" or turning off Bluetooth.
2) The "SMProfessional" Bluetooth can now be connected to a different BT device.
3) Follow the directions in ''Setting up your Bluetooth Connection''.

⚠ **ATTENTION:** Please ensure that there isn't any obstruction between Bluetooth Transmitter (Mobile phones) and Receiver (Orb Series Mixer).

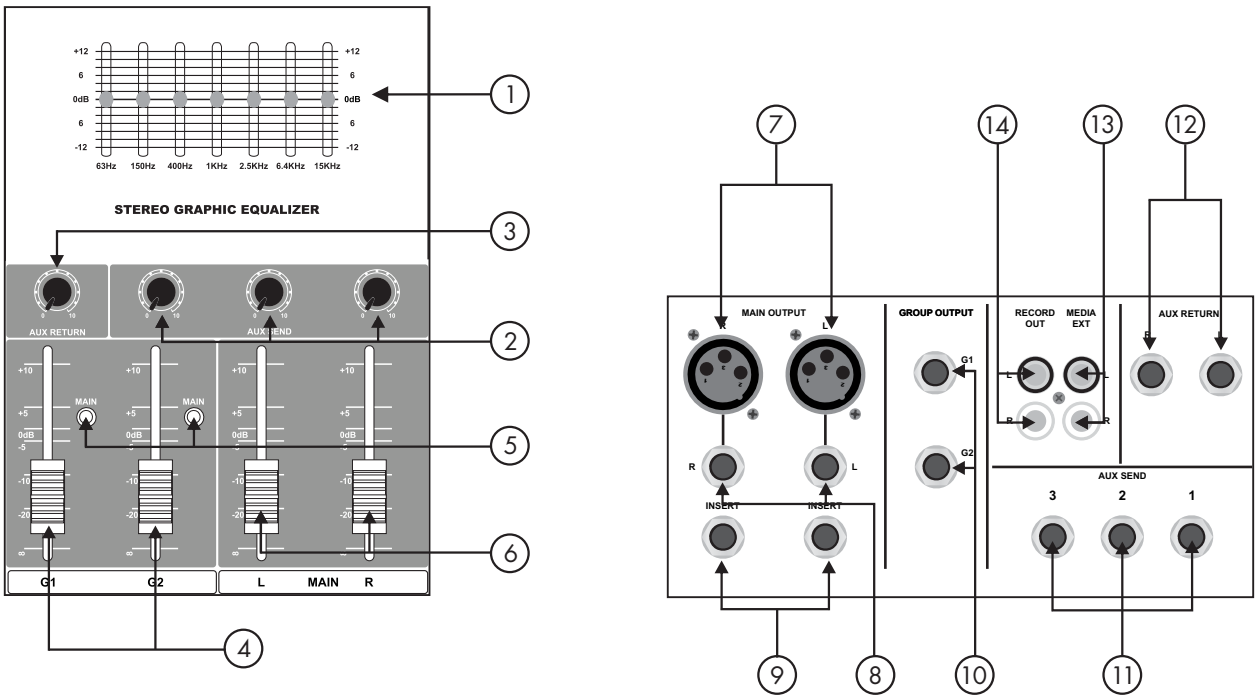
Out of Range or Lost Signal

If the music device (Mobile phones) is out of range (beyond 17 feet) of the Bluetooth Receiver (Orb Series) or if there is something blocking the Bluetooth signal, which shall be indicated by loss of audio or audio intermittency. To avoid a lost connection, move the music device back into range (within 17 feet), or reduce obstruction between the receiver and your smart phone. The connection will automatically be reestablished & audio signal will be through. If the connection does not restore you will need to establish it again as mentioned in ''Setting up your Bluetooth Connection''.

Troubleshooting Bluetooth Connection

PROBLEM	POSSIBLE SOLUTION
Paired Bluetooth device does not connect	Already connected to other BT device. Disconnect from it and pair & connect again.
	Make sure USB mode is selected on Orb 822 SC mixer.
No or poor audio from Bluetooth connection	Move your BT device away from devices that generate electromagnetic interference, such as microwave ovens, cordless phones, WIFI networks or other Bluetooth device.
	Make sure that the BT module on the Orb Series Mixer is not muted (paused) and the volume is up.
	Make sure your Bluetooth transmitting device is playing audio and the volume is down.
	Your Bluetooth device may be out of the specified range, try moving it closer to the speaker.
	Make sure that you work within the Bluetooth range of 17 feet, taking care that there is no metal or human body interference.
Cannot pair the speaker with your Bluetooth device	Make sure you select "SMProfessional" in the pairing list on your device to finalize the connection. (required by some devices)
	Your Bluetooth device may be out of range-try moving it closer to the speaker.
	Already paired to other BT device. Unpair from it and then pair & connect again.

10. Output Section



1. 7-Band Stereo Graphic Equalizer: This 7-band stereo graphic equalizer can be used to make tonal changes to the master (main L/R) output of the mixer. The EQ range is as follows: ±12dB @ 15kHz/6.4kHz/2.5kHz/1kHz/ 400Hz / 150Hz / 63Hz

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2. Aux Send: This control is used to adjust the overall level of signals that have been sent to the AUX bus by the controls on the individual input channels. The signals can be accessed via the Aux 1, 2 and 3 output on the rear panel.

3. Aux Return: This knob is used to adjust the level of signal received from an external effect processor via the Aux return ¼" jack located on the rear panel. The incoming signals are routed to the master output. If a mono source is used, plugging it into the left input automatically feeds the signal to both the left and right output.

4. Group 1 & 2 Faders: These faders adjust the level of the signal sent to the Group 1 & 2 output.

5. Main Switch : This switch is used to route the group output to the main L/R output.

6. Main (L/R) Output Faders: These are used to control the main output level.

7. Main Out (XLR): This is used to connect the main output using balanced XLR connectors. The output level is determined by the master fader. This is a servo balanced output so you can connect either balanced or unbalanced cables without affecting the output level.

8. Main Out (Jack): This is used to connect to the main output using balanced ¼" stereo connectors. The output level is determined by the master fader.

9. Insert (Send/Return): This is used to connect external signal processors such as Compressors, Limiters, Noise Gates and Expanders etc. within the output path. A 'Y' cable is required to use the insert feature. Refer to Pt. 3 Sec. 7 for insert cable wiring diagram.

10. Group Output: These ¼" jacks can be used to provide signal for a separate set of PA system without affecting the main (L/R) output.

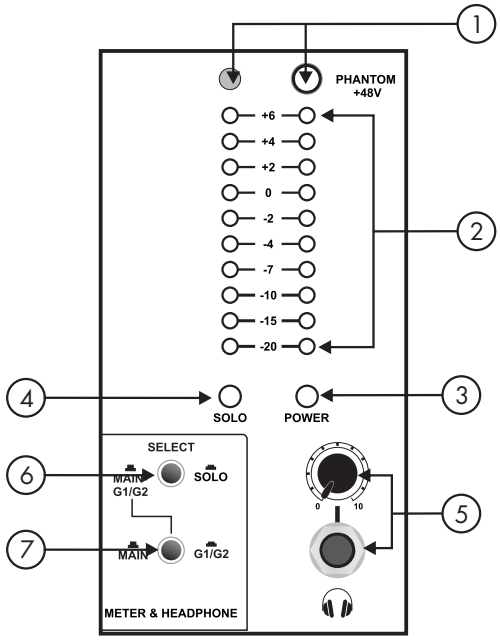
11. Aux Sends: These ¼" jacks are used to send the signal to external devices such as effects units or stage monitors.

12. Aux Returns: This ¼" jack inputs are used to accept return signals received from external effect processors. The level of signal is determined by the Aux Return level control knob. The incoming signals are routed to the master output. If a mono source is used, plugging it into the left input automatically feeds the signal to both the left and right output.

13. **Media Ext:** This stereo RCA input is provided to connect external audio devices such as CD Player, iPods, MP3 players and Laptops etc. The input level of this can be controlled by the Gain level knob in the media player section (Refer to Pt. 7 Sec. 9).

14. **Record Output:** This stereo RCA output is provided to record a master mix onto a recording medium. The output level is determined by the main L/R fader. Else, the input level on the recording medium can be used to set the level.

11. Solo, Monitoring, Metering & Others



1. **Phantom Supply Switch and LED:** This global switch is used to turn on +48V phantom power supply for all channels when using condenser microphones. The adjacent LED indicates that phantom power is ON.

⚠ **WARNING: Do not switch ON Phantom Power before connecting a microphone. Make sure the gain levels, channel faders and output levels are turned down.**

2. **LED Level Meter:** This dual 10-segment 3-colour LED meter is provided to monitor signal levels as selected in the Meter & Headphones section. The '0' segment corresponds to nominal output level.
Tip: Keep the signal within the Yellow LED at peak levels for best performance.

3. **Power:** This LED glows when power is supplied to the mixer.

4. **Solo:** This LED glows when the solo switch is pressed in the Meter & Headphones section.

5. **Headphone Jack & Control:** This is used to monitor the main output or solo on individual channels using headphones. Insert high-quality, high-impedance headphones with ¼" jack inputs for best results.

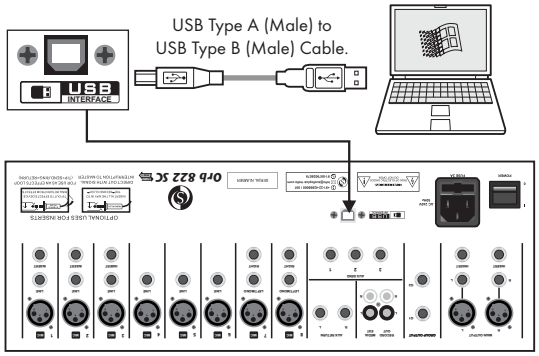
6. **Solo Select:** It is used to route the channel that is in Solo mode to the LED meter for monitoring.

7. **Main-G1/G2 to Solo Routing:** In pressed position the group (G1-G2) signal is routed to the solo LED meter and in released position the main output signal is routed to solo LED meter.

12. Using USB Audio Interface

The Orb 822 SC has a built-in USB audio interface with plug & play connectivity for recording and playback using a PC/laptop and DAW (Digital Audio Workstation). The audio interface is class-compliant and does not require any device drivers to be installed. With this feature, users can connect multiple inputs, record them and get creative with their mixes. The Orb 822 SC is an ideal choice for musicians, podcasters, content creators, YouTubers, e-learning trainers, audio conferencing and host of different applications.

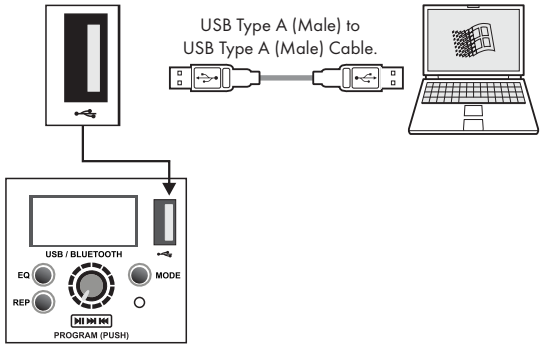
Below are two ways to use the audio interface in the Orb 822 SC mixer:



Requirements

1. SMProfessional Orb 822 SC Mixer.
2. USB Type A (Male) to USB Type B (Male) Cable.
3. PC/Laptop Running Windows 7 or Above.

Fig. 1



Requirements

1. Studiomaster Professional Orb 822 SC Mixer.
2. USB Type A (Male) to USB Type A (Male) Cable.
3. PC/Laptop Running Windows 7 or Above.

Fig. 2

Note

- The mixer cannot be bus-powered via USB. Always use the included power adaptor to supply power to the mixer.
- Although the USB interface in this mixer is class-compliant and no separate drivers are required, some PCs/Laptops may require basic WDM audio drivers to be installed. Kindly check with your PC / laptop manufacturer for any assistance on this. SMProfessional cannot be held responsible for any performance and incompatibility issues faced by the customers due to this.
- Kindly switch off Phantom power supply before connecting or disconnecting the mixer from the PC/Laptop to avoid damages to any connected condenser microphones.

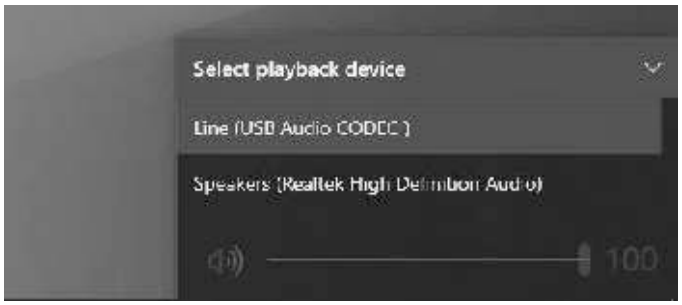
Installation Steps:

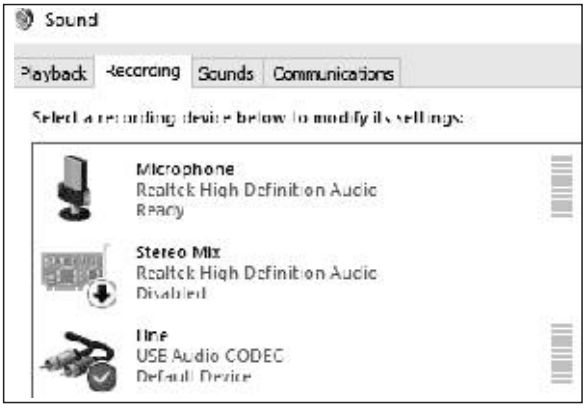
1. Connection:

Connect your mixer to a PC/Laptop using any of the two cables suggested above (see Fig.1 & Fig. 2). This enables a stereo signal to be sent to and from your mixer and PC/Laptop. The signal sent from the mixer to the PC/Laptop is the same as the master bus. The audio returning from the computer into the mixer appears directly in the master output. You can use the 3-4/USB switch to route the incoming signal to the master output (see Sec 6 Pt. 11).

2. Audio Device Settings:

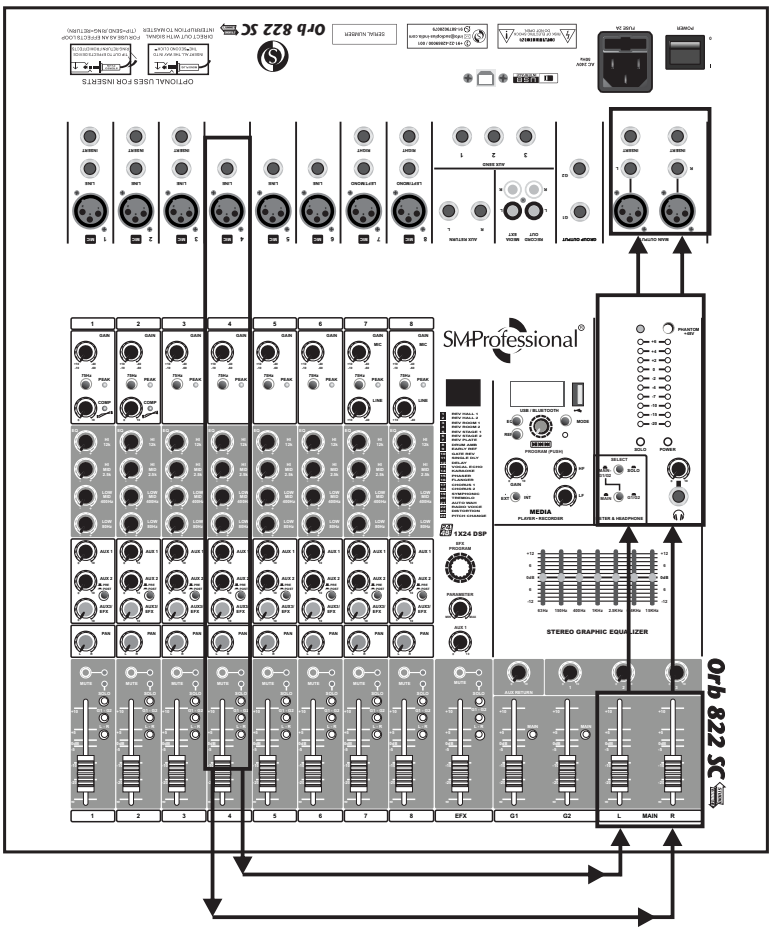
Find the audio device **"USB AUDIO CODEC"** (if you are using the rear panel audio interface using a USB Type A (Male) to USB Type B (Male) Cable) OR **"MP3-Audio"** (if you are using the front panel audio interface using a USB Type A (Male) to USB Type A (Male) Cable) in your PC/Laptop's hardware/device manager and change the input and output settings as required (However, some legacy PCs/Laptops(Windows 7 and Older) may display it differently) For best results, we recommend making the Orb 822 SC as your default audio device while recording and playback. For any further assistance, please go through the documentation of your PC/Laptop.



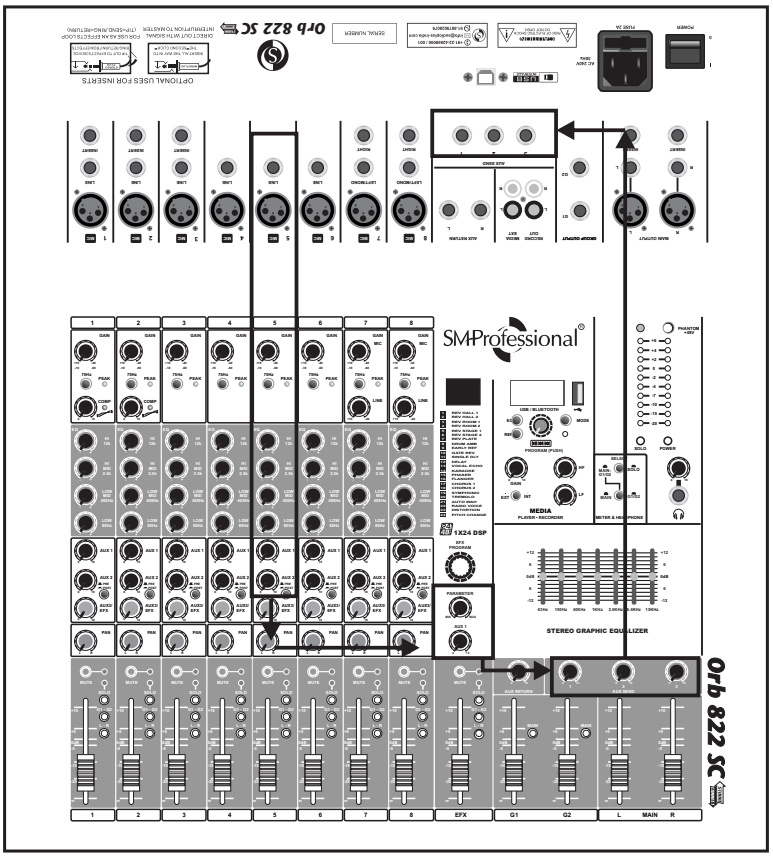


13. Signal Routing

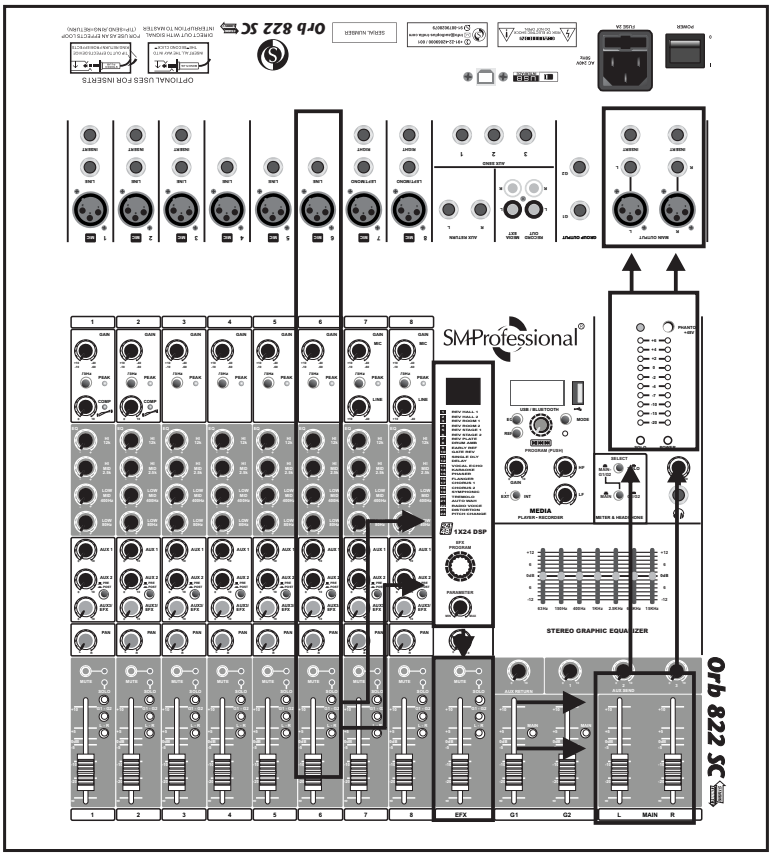
a) Mic/Line routing



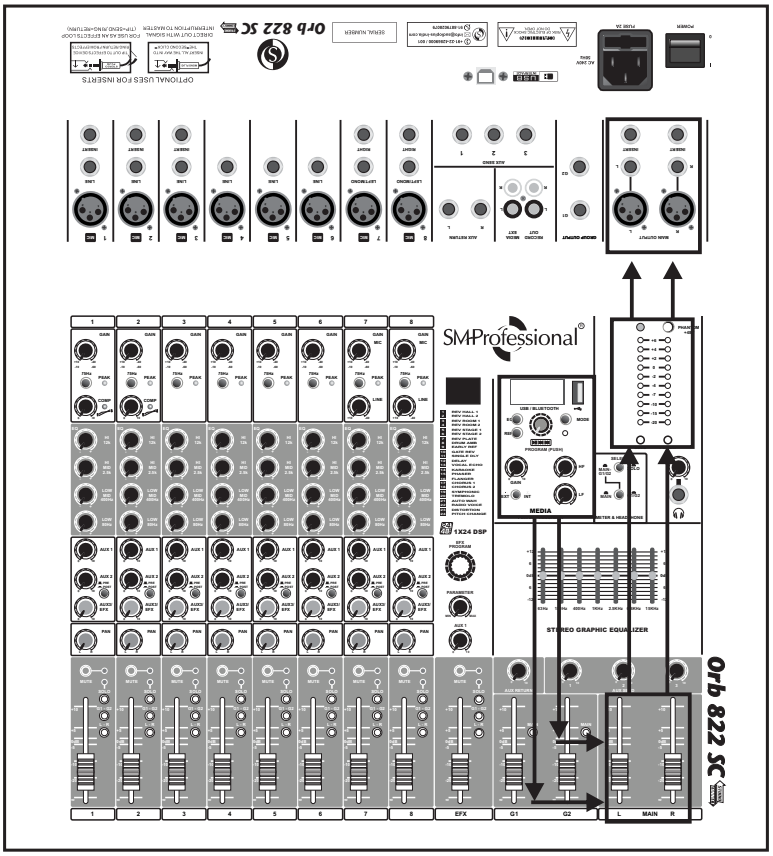
b) AUX routing



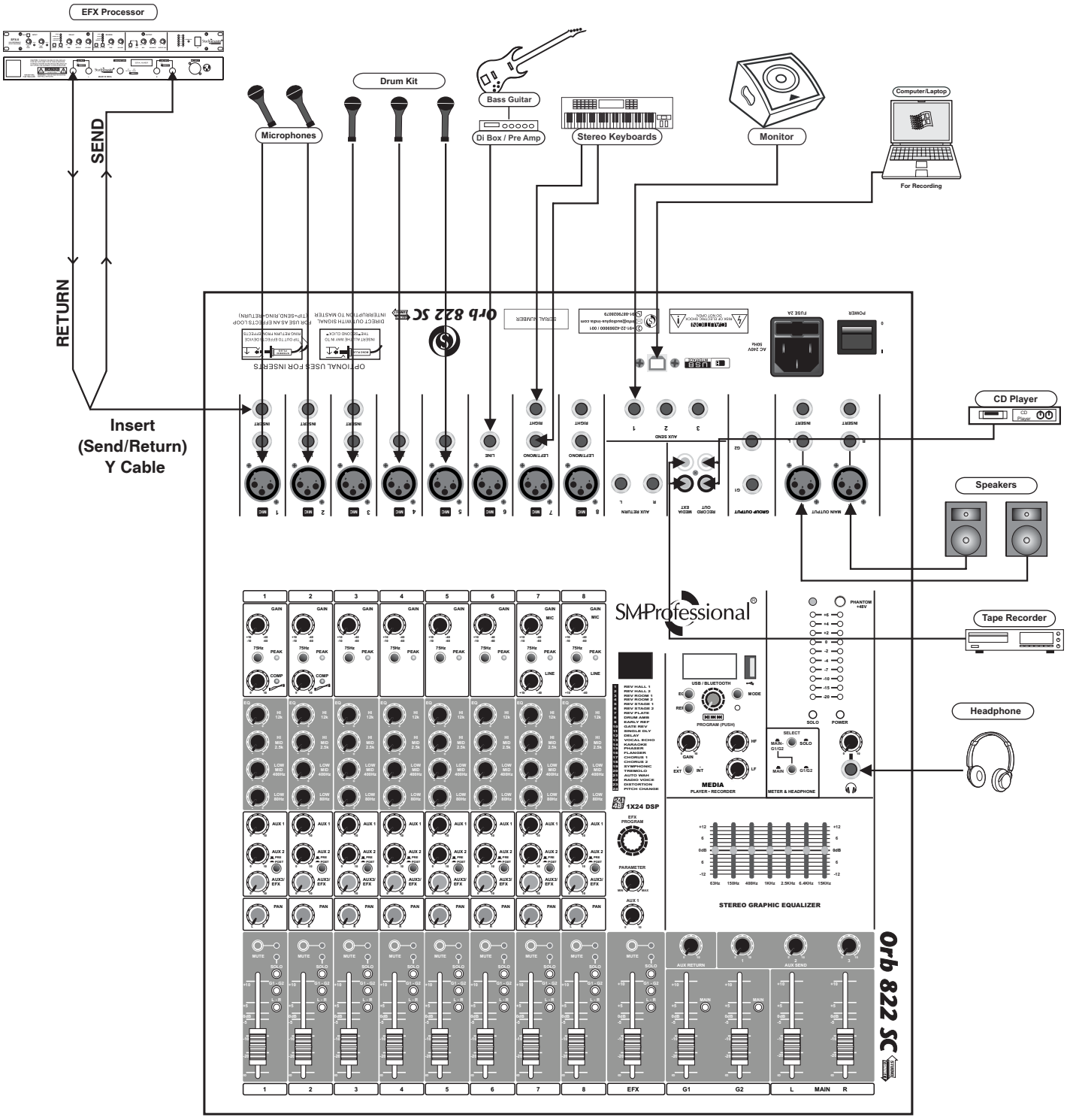
c) Effects



d) Multi-Media player



14. Set-Up Diagram



15. Technical Specification

Model	Orb 822 SC
Nominal Gain (Mic / Line / Stereo Line)	60dB / 40dB / 20dB
Max Gain (Mic / Line / Stereo Line)	80dB / 60dB / 40dB
Input Output Levels	
Input Sensitivity	
Mic (Gain Min / Gain Max)	-10dBu / -60dBu
Line (Gain Min / Gain Max)	+10dBu / -40dBu
Stereo Line (Gain Min / Gain Max)	+10dBu / -20dBu
Aux Return (Nominal / Max)	-10dBu / +30dBu
External Media In (Nominal / Max)	
Clip Indication	5dB prior to true clip
Output Levels	
Main Output, Group Output, Aux Send, Record Out (Nominal / Max)	0dBu (0.775V RMS) / +20dBu (7.75V RMS) Max
Insert In/Out (Nominal / Max)	0dBu (0.775V RMS) / +20dBu (7.75V RMS) Max
General	
Mic Input Impedance	5 KΩ Balanced
Line Input Impedance	20KΩ Balanced / 10KΩ Unbalanced
Frequency Response	20Hz-20kHz (+0 / -1dB)
Total Harmonic Distortion	< 0.02%
Cross-talk	-80dB
Hum & Noise	
MIC EIN (Equivalent Input Noise)	-128dB
Main Out/Group Out	-80dB
Aux Send	-70dB
Record Out	-77dB
Equalization	
Mono MIC (Hi / Hi-Mid / Low-Mid / Low)	±15dB @ 12kHz / 2.5kHz / 400Hz / 80Hz
Stereo Line (Hi / Hi-Mid / Low-Mid / Low)	±15dB @ 12kHz / 2.5kHz / 400Hz / 80Hz
7-Band Stereo Equalizer	±12dB @ 15kHz / 6.4kHz / 2.5kHz / 1kHz / 400Hz / 150Hz / 63Hz
Low Cut	-3dB @ 75Hz
Miscellaneous	
Effects	24-bit/48kHz Sampling Rate 1 x 24 DSP Presets 2-Band EQ
Phantom Supply	+48V
Power Supply	150V-240V / 50Hz
Fuse	2A 250V AC
Power Consumption	16W Max
Dimensions (W x D x H) mm	500 x 490 x 160
Net Weight (Kg)	6.5

Range of Products.

Wired Microphones
SM 100XLR
TRIO 100
SM 200XLR
TRIO 200
SM 300I
SM 400XLR
SM 450XLR
SM 500XLR
SM 600XLR
SM 650XLR (Silver)
SM 650XLR (Black)
Flex 3
Flex 4

Wireless Microphones
BR 28 Series
ER 31 Series
ER 58 Series
XR 20 Series
XR 40® Series
XR 60 Series
XR 80 Series
XR 100 Series
NT 50 Series
NT 60 Series

Conference System
Vāk 10 System
Vāk 10d / Vāk 10c
Vāk 20
Vāk 30
Vāk 30d / Vāk 30c

Crossovers
SX-2
SX-321
SX-341

Processors
SEQ 152
SEQ 302F
SEQ 312 / SEQ 341
Multi 3
SFX 8
SPS 8
SDX 4

Mixers
~ Mini Series
Mini 6
Mini 6U
Mini 8
Mini 8U

~ Air Series
AiR® 2
AiR® 4
AiR® 4F
AiR® 6
AiR® 6R
AiR® 8
AiR® 12
AiR® 16
AiR® 24
AiR® 2U
AiR® 4U
AiR® 6U
AiR® 8U
AiR® 12U
AiR® 16U

Mixers
~ Air Series
AiR® Pro 18
AiR® Pro 28
AiR® Pro 36

~ AQUA Series
Aqua 6
Aqua 8
Aqua 10
Aqua 14

~ Orb Series
Orb 1222
Orb 1822
Orb 402 SC

~ Digital Mixer
D. Mix 20

~ Diamond Club Series
Diamond Club 6.2
Diamond Club 8.2
Diamond Club 8.2 EFX
Diamond Club 12.2
Diamond Club 12.2EFX
Diamond Club 12.2UX
Diamond Club 16.2
Diamond Club 16.2EFX

~ Club 2000 Series
Club 2000 142
Club 2000 182

~ Diamond Pro-3 Series
Pro-3 12.3
Pro-3 16.3

~ DJ Mixers
DJX 325
DJX 825
DJX 925
X35

Amplifiers
~ P - Series
PA 1.5
PA 2.0
PA 3.0
PA 4.5
PA 6.0
PA 7.5

~ XPA - Series
XPA 30
XPA 40
XPA 60

~ DPA Series
DPA 2000
DPA 3200
DPA 4500

~ RAX Series
RAX 5020
RAX 7020

~ DJA Series
DJA 500
DJA 800
DJA 1600
DJA 2500

Amplifiers
~ DJA Series
DJA 3200
DJA 4000
DJA 5000
DJA 6000

~ Industrial Amplifier
ARC 120A
ARC 240A
ARC 120UB
ARC 240UB

Speaker Component
~ S-Series
SWF 18120
SWF 18140
SWF 18100
SWF 1880
SWF 1560
SMB 1565
SMB 1545
SMB 1530
SMB 1250
SMB 1230
SMB 1220
SHF 0104
SHF 0106
SHF 0210

~ E-Series
EMB 1225
EMB 1530
EMB 1535

~ TITAN Series
TWF 2115
TWF 1815
TWF 1810
TWF 1580
TWF 1570
TMB 1555
TMB 1535
THF 0208

~ FURY Series
F18.120
F15.70
F15.40
F15.50X
F15.40X
F12.30X

Passive Speakers
~ S-Series
S8018
S8118
S8218
S8128
S8028

~ Fire Series
Fire 21
Fire 51
Fire 55
Fire 57
Fire 59
Fire 82
Fire 84

Passive Speakers
~ XVP Series
XVP 1540
XVP 2550
XVP 2585MK2
XVP 1808
XVP 1810
XVP 2820

~ ELAN Series
ELAN 151
ELAN 181

EKS 151

Q 400

~ ARIA Series
Aria 8
Aria 12
Aria 15

Powered Speaker
~ Clio Series
Clio 84
Clio 154

~ B Series
B 200
B 400V2

~ OP Series
OP 415

~ SUB Series
12SUB
15SUB

~ Muse Series
MUSE 61
MUSE 81
MUSE MIC LHM 100

Line Array System
FIRE 92
SLA-40 T
SLA-40 Kit
S 9022

Stabilizers
SVC - S1000
SVC - S2000
SVC - S3000
SVC - S5000
SVC - S8000
SVC - S10000
SVC - S12000

* Design and specification are subject to change without notice.

Brought to you by: AUDIOPLUS

A1/A2, Giriraj Industrial Estate, Mahakali Caves Road, Andheri (East), Mumbai - 400093 India.
Tel.: +91-22-42869000 / 001 Whatsapp.: +91-8879028079 E info@audioplus-india.com
W www.audioplus-india.com / www.studiomasterprofessional.com

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