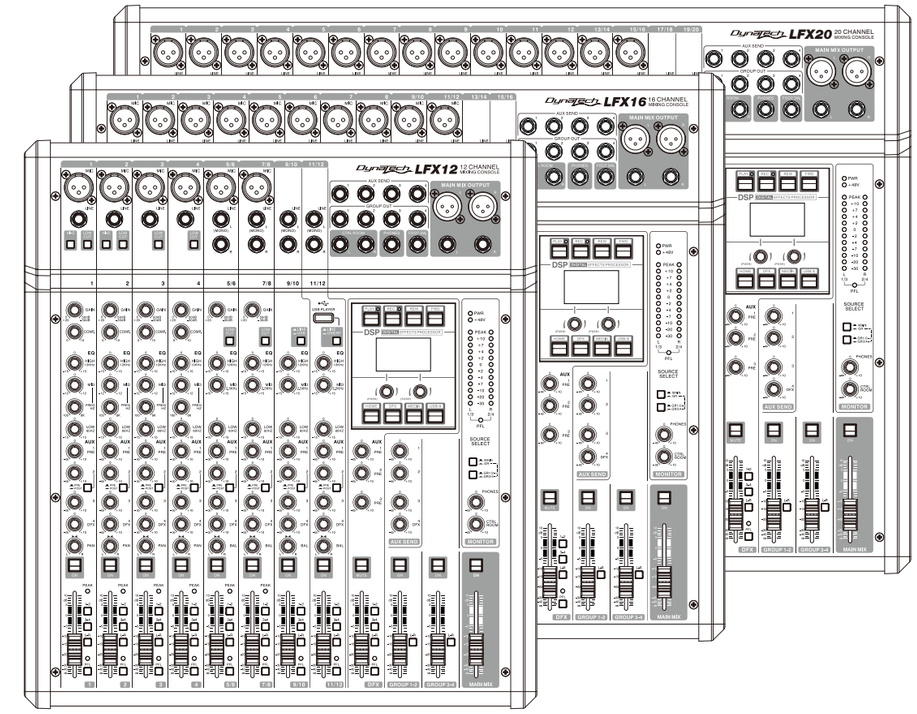
DynaTech

LFX SERIES

User's Manual

12 / 16 / 20 CHANNELS MIXING CONSOLE

LFX12 / LFX16 / LFX20



digital fx

USB ENABLED

Bluetooth®

NF06048-1.0

Important Safety Instructions



This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages within the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.

This symbol, wherever used, alerts you to important operating and maintenance instructions.

Please read.

Protective Ground Terminal

AC mains (Alternating Current)

AC mains (Alternating Current)

ON: Denotes the product is turned on.

OFF: Denotes the product is turned off.

WARNING
Describes precautions that should be observed to prevent the possibility of death or injury to the user.

CAUTION
Describes precautions that should be observed to prevent damage to the product.
Disposing of this product should not be placed in municipal waste but rather in a separate collection.

WARNING
Power Supply
Ensure that them a inssource voltage (AC outlet) matches the voltage rating of the product. Failure to do so could result in damage to the product and possibly the user. Unplug the product before electrical storms occur and when unused for long periods of time to reduce the risk of electric shock or fire.

External Connection
Always use proper ready-made insulated mains cabling (power cord). Failure to do so could result in shock/death or fire. If in doubt, seek advice from a registered electrician.

Do Not Remove Any Covers
Within the product are areas where high voltages may present. To reduce the risk of electric shock do not remove any covers unless the AC mains power cord is removed. Covers should be removed by qualified service personnel only.

No user serviceable parts inside.

Fuse
To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder. Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

Protective Ground
Before turning the unit ON, make sure that it is connected to Ground. This is to prevent the risk of electric shock.
Never cut internal or external Ground wires. Like wise, never remove Ground wiring from the Protective Ground Terminal.

Operating Conditions
Always install in accordance with the manufacturer's instructions.
To avoid the risk of electric shock and damage, do not subject this product to any liquid/rain or moisture.
Do not use this product when in close proximity to water.
Do not install this product near any direct heat source.
Do not block areas of ventilation. Failure to do so could result in fire.
Keep product away from naked flames.

IMPORTANT SAFETY INSTRUCTIONS
Read these instructions
Follow all instructions
Keep these instructions. Do not discard.
Heed all warnings.
Only use attachments / accessories specified by the manufacturer.

Power Cord and Plug
Do not tamper with the power cord or plug. These are designed for your safety.
Do not remove Ground connections!
If the plug does not fit your AC out let seek advice from a qualified electrician.
Protect the power cord and plug from any physical stress to avoid risk of electric shock.
Do not place heavy objects on the power cord. This could cause electric shock or fire.

Cleaning
When required, either blow off dust from the product or use a dry cloth.
Do not use any solvents such as Benzol or Alcohol.
For safety, keep product clean and free from dust.

Servicing
Refer all servicing to qualified service personnel only.
Do not perform any servicing other than those instructions contained within the User's Manual.

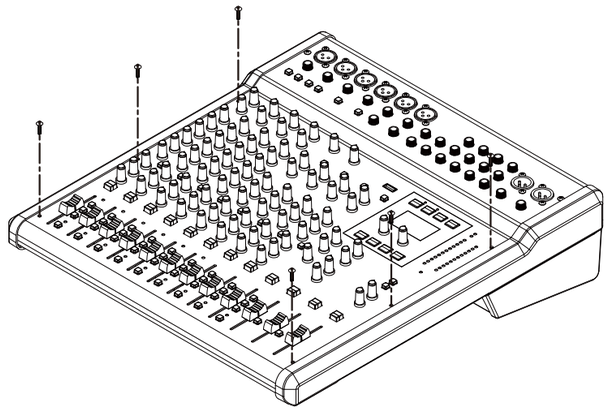
PORTABLE CART WARNING



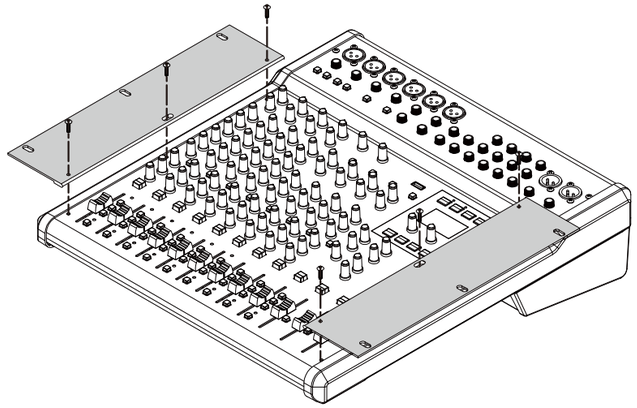
Carts and stands - The component should be used only with a cart or stand that is recommended by the manufacturer.
A component and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the component and cart combination to overturn.

9 Mounting Procedures (The illustration only for the LFX12)

1. Loosen the screws on the top sides of the mixer (six total).



2. Use the screws of the accessories install the rack-mount kit on the mixer



3. Mount the unit into the rack, and fasten it into place.

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FCC Part 15 Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Privacy of communications may not be ensured when using this device.

1

Introduction

Thank you choosing for purchasing **LFX12 / LFX16 / LFX20**. This is a professional compact mixer to give you great quality and better reliability than ever before you will get the smooth, accurate, more natural open sound from this apparatus, and it is really ideal for gigs, recording and fixed PA installations.

The **LFX12 / LFX16 / LFX20** channel Mixing Console is packed with features that can not be found in other consoles of its size: 4 / 8 / 12 mono which can provided with ultra low noise microphone pre amplifiers and Phantom Power at +48 Volt; 4 stereo input channels; 3-band EQ with sweepable MID on mono inputs; 3-band EQ on stereo inputs, 4 auxiliary control, highly accurate 12-segment bar graph meters and 2-track inputs assignable to main mix, control room, phone output etc.

This **LFX12 / LFX16 / LFX20** is very easy to operate but we advise you to go through each section of this manual carefully. In this way you will get the best out of your Mixing Console.

2

Features

- Ultra-low noise discrete MIC Preamps with +48V Phantom Power.
- 6 / 10 / 14 MIC Input Channels with XLRs and balanced Line Inputs.
- 4 Compressors control.
- Low Cut for each MIC Input.
- 2 Stereo Input Channels with mono XLRs Input and TRS Jacks;
- 3-band EQ with sweepable MID and Peak LEDs on each Mono channels. 3-band EQ and Peak LEDs on Stereo channels.
- AUX 1 & AUX 2 Send POST/PRE per channel for monitoring or external effects. AUX 3 & DFX Send POST Fader for internal effects or monitoring.
- PFL/ON function for each channels, 60mm Fader for level control.
- GR1/2, GR3/4 and Main L-R bus assign for each channel.
- Balanced XLR & TRS outputs for Main Mix.
- Built in 24-bit DSP effect with adjustable parameters.
- USB & BLUETOOTH media Player.
- Internal switch-mode power supply for maximum flexibility 100-240V.
- With USB port, record from MAIN OUT and play to CH9/10 & CH13/14 & CH17/18.

3

Useful Data

Please write your serial number here for future reference.

Serial Number:

Date of Purchase:

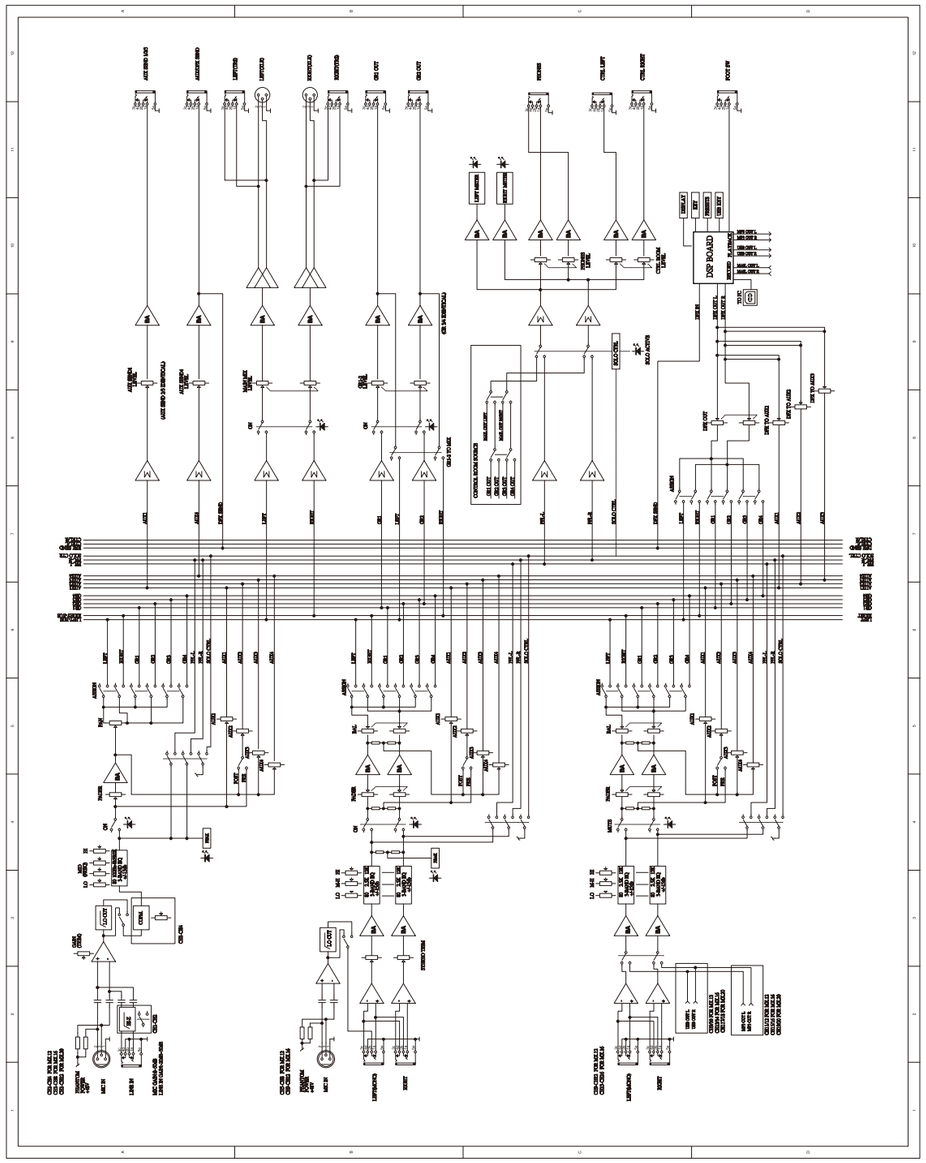
Purchased at:

Technical Specifications

8

MODEL	LFX12/LFX16/LFX20		
Mono channels			
Microphone input	XLR with balanced		
Frequency response	22Hz to 22KHz, +/-2dB		
Distortion(THD+N)	<0.03% at +0dB ,22Hz~22KHz A-weighted		
Gain range	0dB to 50dB		
Max Input	+20 dB		
LOW CUT	120Hz @18dB OCT		
SNR	<-100dBr A-weighted		
Phantom power	+48V with switch control		
Line input	1/4" TRS with balanced		
Frequency response	22Hz to 22KHz, +/-2dB		
Distortion(THD+N)	<0.03% at +0dB ,22Hz~22KHz A-weighted		
Sensitivity range	+20dB~ -30dB		
COMPRESSOR	GAIN:0~9dB		
	THRESHOLD:20dB--->5dB		
Stereo input channels			
Mic input	XLR with balanced		
Line input	1/4' TRS with balanced		
Frequency response	22Hz to 22KHz, +/-2dB		
Distortion(THD+N)	<0.03% at +0dB ,22Hz~22KHz A-weighted		
Sensitivity range	+20dBu~ -30dBu		
SNR	<-100dBr A-weighted		
Channels EQ			
	Mono Channel	Stereo Channel	
High	+/-15dB @12KHz	+/-15dB @12KHz	
Mid	+/-12dB @100Hz -8KHz	+/-15dB @2.5KHz	
Low	+/-15dB @80Hz	+/-15dB @80Hz	
Impedances			
Microphone input	1.8KΩ		
All other input	10KΩ or greater		
All other output	120Ω		
DSP section (options)			
A/D and D/A converters	24bit		
Types of effects	HALL1, HALL2, ROOM1, ROOM2, STAGE, KARAOKE, SHORT DELAY, LONG DELAY, Pong DELAY, CHROUS, FLANGER, PHASER, TREMOLO, WAHWAH, MONO DELAY, REV+FLANGE, REV+CHROUS, REV+PHASER, REV+MONO ECHO, REV+SHORT DELAY, REV+LONG DELAY, ECHO+FLANGE, ECHO+CHROUS, PITCH		
Controls	PROGRAM encoder and EDIT encoder		
	Mute switch & Foot-switching with LED indicator		
FOOT-SW	TIP: FX	SLEEV: GND	
Transmission power	CLASS2 maximum 4dB		
Frequency range	Bluetooth: 2402-2480MHz		
Maximum EIRP	Bluetooth: -4.07 dBm		
Main mix section			
Max. MAIN MIX output	+26dBu XLR balanced (+20dBu un-balanced)		
AUX range	OFF to +10dB		
Fader range	OFF to +10dB		
PHONES/CONTROL-ROOM range	OFF to +10dB		
Hum & Noise	<-80dB @ 20Hz~22KHz A-weighted, 1 channel & MAIN level:0dB, the other: Minimum		
Crosstalk	<-80dB @0dB 20Hz~22KHz A-weighted, MAIN level:0dB, the other :minimum,		
Power supply			
	LFX12	LFX16	LFX20
Main voltage	100-240V~50/60Hz	100-240V~50/60Hz	100-240V~50/60Hz
Fuse	T1.25A AC250V	T1.25A AC250V	T1.25A AC250V
Rated power consumption	40W	40W	40W

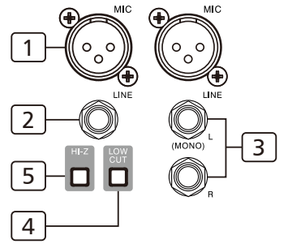
7 Block Diagram



4 Control Elements

The following features will be applied to **LFX12/LFX16/LFX20**. In case where different features need to be described for each other, the **LFX12** will be described first. followed by the **LFX12/LFX16/LFX20** feature in brackets.

1. MIC INPUT JACKS(CH1 to 7/8 for LFX12 or CH1 to 11/12 for LFX16 or CH1 to 15/16 for LFX20).
These are balanced XLR-type microphone input jacks.



2. LINE INPUT JACKS(CH1 to 4 for LFX12 or CH1 to 8 for LFX16 or CH1 to 12 for LFX20).
These are balanced TRS phone-jack line inputs.
You can connect either balanced or unbalanced phone plugs to these jacks.

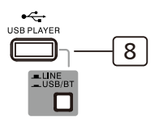
3. LINE INPUT JACKS(CH5/6 to 11/12 for LFX12 or CH9/10 to 15/16 for LFX16 or CH13/14 to 19/20 for LFX20).
They are organized in stereo pair and provided with 1/4" TRS sockets. It is used to connect the stereo device, plug both the left input and the right input. Using the left input if connect a mono input signal to the stereo channel, the output signal will appear on both sides.

4. LOW CUT
By pressing this button you will activate a 120Hz low frequency filter with a slope of 18dB per octave. You can use this facility to reduce the hum noise infected by the mains power supply, or the stage rumble while using a microphone.

5. HI-Z
To change to a high impedance input, push the appropriate hi-z switch.



6. GAIN CONTROL
Adjusts the input signal level. To achieve the best balance between S / N and dynamic range, adjust the level so that the peak LED indicator lights occasionally only on the highest input transients. For each channel the MIC input adjustment range of the Gain is 0 to 50dB and the sensitivity of line input is +20 to -30dB.



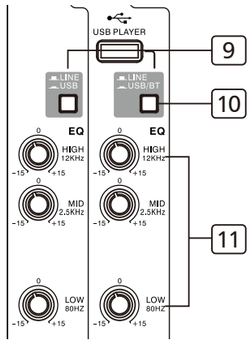
7. COMP CONTROL
Adjust the amount of compression applied to the channel. Turn the knob to the right to increase the compression ration and the output gain will automatically adjusted. The result is smoother, more even dynamics because louder signals are attenuated which the overall level is boosted.

8. USB PORT
For connecting with USB memory.

Control Elements

9. LINE/USB
By pressing this button, it will switch to the USB mode, then the USB signal can be sent to this channel; by releasing this button, the LINE IN inputs signal will send to the line input channels.

10. LINE/ Media Player
by pressing this button, it will switch to the USB PLAYER mode, then the signal of USB PLAYER module sent to this channel;



11. EQUALISER CONTROLS
There are 3-band EQ with sweepable MID on all mono input channel 1-4/1-8/1-12: HI, MID and LOW band. There are 4-band fixed frequency EQ on the stereo channel 5-12/9-16/13-20: HI, MID and LOW band. All bands provide up to 15 dB of boost or cut.

--HIGH
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 or reduce the hiss of a Tape player.

--MID (mono channel)
This is a peaking filter and it will boost/cut frequencies from 100 Hz to 8 kHz depending on the position of the MID freq control. This control will affect especially upper male and lower female vocal ranges and also the harmonics of most musical instruments.

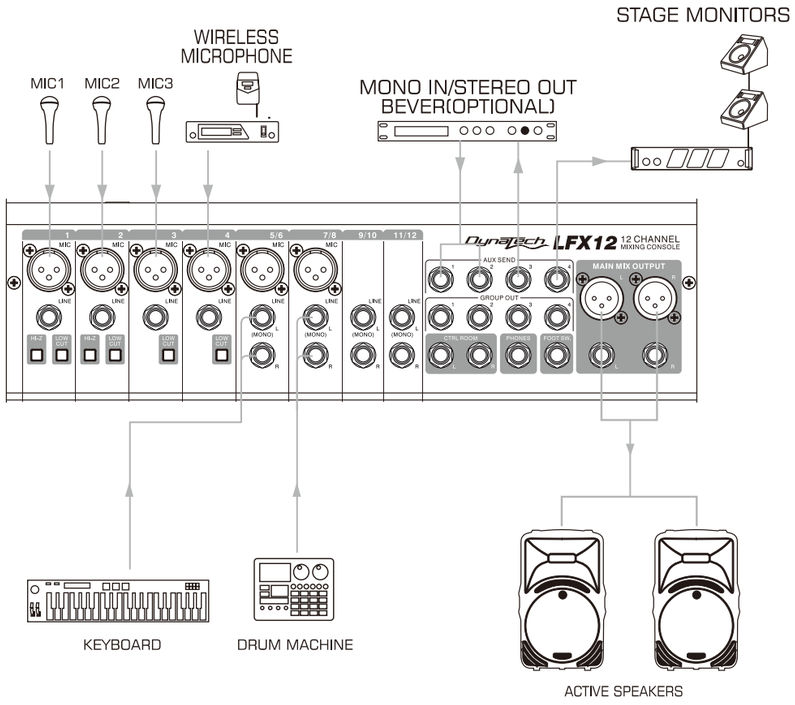
--MID(stereo channel)
This control gives you from -15dB to +15dB boost or cut at 2.5KHz. It is useful for controlling voice. It can accurately polish your performance via adjusting this knob.

--LOW
If you turn this control up, you will boost all frequencies below 80 Hz. You will give more punch to bass drum and bass guitar and make the vocalist more "macho". Turn it down, you will cut all the frequencies below 80 Hz. In this way, you can avoid low frequency vibrations and resonance thus preserving the life of your woofers.

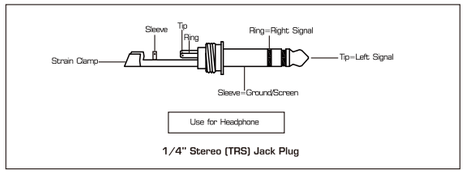
12. AUX SEND CONTROLS
These four controls are used to adjust the level of the respective signal sent to AUX bus and their adjustable range is from -∞ to +10 dB .

13. PRE/POST
AUX1 configured as Pre-Faders, and AUX2 can be switched to PRE/POST-FADER via the PRE/POST button, so, generally, they can be used to monitor application and effects&sound processors input, AUX3 and AUX4 are configured as POST-Faders.

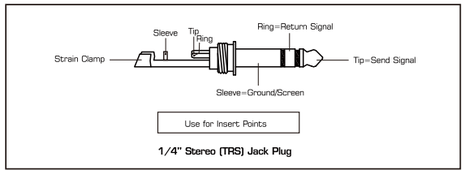
Hookup Diagram



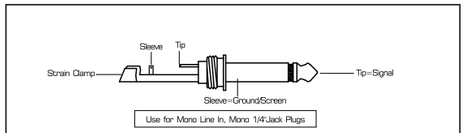
Installation And Connection



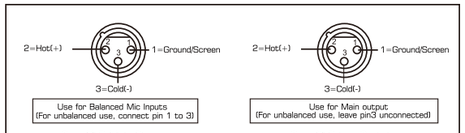
1/4" Stereo (TRS) Jack Plug



1/4" Stereo (TRS) Jack Plug

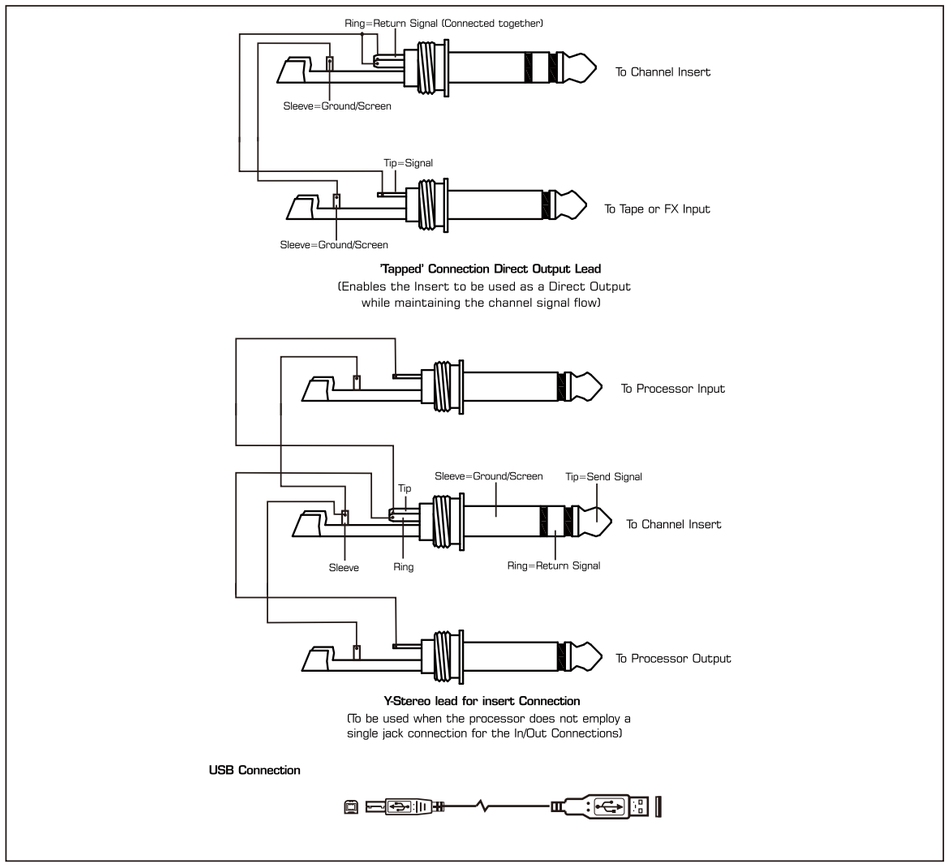


1/4" Mono (TS) Jack Plug



3-pin XLR Male Plug
(seen from soldering side)

3-pin XLR Line Socket
(seen from soldering side)



'Tapped' Connection Direct Output Lead
(Enables the Insert to be used as a Direct Output
while maintaining the channel signal flow)

Y-Stereo lead for insert Connection
(To be used when the processor does not employ a
single jack connection for the In/Out Connections)

USB Connection

Control Elements

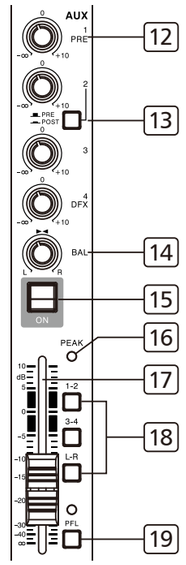
14. PAN / BAL CONTROL
The PAN control determines the stereo positioning of the channel signal on the stereo L and R buses.The BAL control knob sets the balance between left and right channels. Signal input through the stereo L/R bus.

15. ON
Each channel is equipped with the ON button, Press this button to open corresponding channel to input signal. Since each channel is closed by default.

16. PEAK LED
When this LED blinks, it warns you that you are reaching signal saturation and possible distortion. From this LED you can adjust the correct level, not too strong to cause distortion and not too weak to be lost in noise.

17. CHANNEL LEVEL
This fader will adjust the overall level of this channel and set the amount of signal sent to the output.

18. GR1-2/GR 3-4/L-R
Each channel provides three push-buttons: GR1-2, GR3-4, L-R . The three buttons can be considered as signal assignment switches. Pressing the GR1-2 will assign the channel signal to GROUP 1-2, you can depend on the PAN switch to adjust the amount of channel signal sent to the GR1 versus GR2, when turns the PAN to completely left, then the signal can be only controlled by GROUP 1 and vice versa. In the same way, pressing the GR3-4 or L-R will assign the channel signal to GROUP 3-4 or MAIN MIX L-R, and will also be affected by PAN.

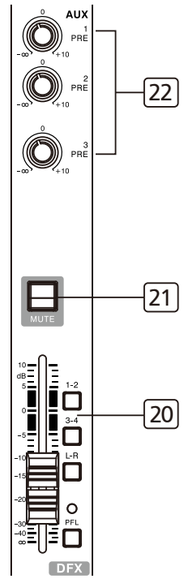


19. PFL
Each channel is equipped with the PFL button, pressing this button which the corresponding signal send will be routed to CTRL ROOM/PHONES outputs and METER display.

20. DFX TO 1-2 / 3-4 / L-R
This control is used to assign the signal from FX to GR1-2, GR3-4, L-R.

21. DFX MUTE
Enables or disables the internal effects processor.

22. DFX TO AUX SEND1/2/3
These three rotary knobs assign the DFX signals to their respective AUX SEND outputs.



Control Elements

23. AUX SEND CONTROLS
These four controls are used to determine the master AUX SEND levels, which can be varied from -∞ to +10 dB. When the external effect units which have no input gain control were connected to mixer, you can get a further +10 dB gain available from these Aux Send outputs.
As to the AUX4, it can also provide the level adjustment for the internal effect signal.

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

25. MAIN MIX LEVEL
This fader is used to set the amount of signal sent to the main mix output.

26. CONTROL ROOM CONTROL
This control is used to adjust the signal present at the control room output, which can be varied from -∞ to +10 dB.

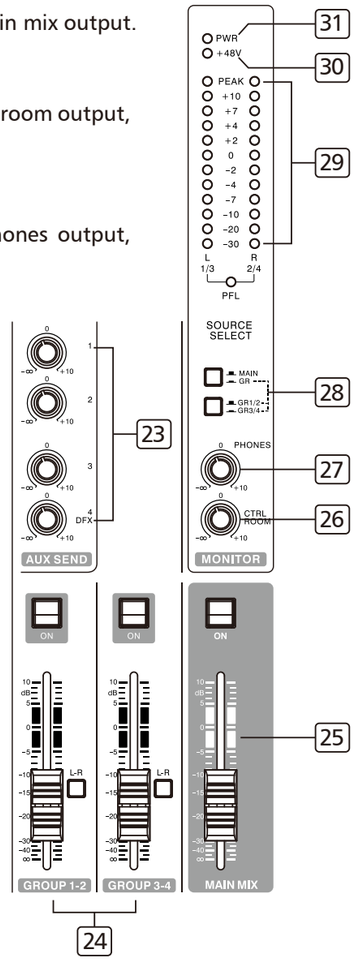
27. PHONES CONTROL
This control is used to adjust the signal present at the Phones output, which can be varied from -∞ to +10 dB.

28. SOURCE SELECT
If you release the MAIN/GR button, the signal will be cone from the MAIN MIX output, it will not be affected by pressing both GR1/2 and GR3/4 button. When you push down the MAIN/GR button and press both GR1/2 and GR3/4 at the same time, the signal will be come from the GR3/4 output. When you release the GR1/2 and GR3/4, the signal will be come from the GR1/2 output.

29. OUTPUT LEVEL
This stereo 12 segments LED meter will be indicate the level of overall output signal.

30. +48V LED
This LED indicates when the phantom power is switched on.

31. PWR LED
This LED indicates when the power is on in your mixer.



Control Elements

Ok, you have gotten to this point and you are now in the position to successfully operate your 12 / 16 / 20 Channel Mixing Console. However, we advise you to read carefully the following section to be the real master of your own mixer. Not paying enough attention to the input signal level, to the routing of the signal and the assignment of the signal will result in unwanted distortion, a corrupted signal or no sound at all. So you should follow these procedures for every single channel:

- Before connecting MICs or instruments, make sure that the power of all your systems components including the mixer is turned off. Also, make sure that all input and output controls of your mixer are turned down. This will avoid damage to your speakers and avoid excessive noise.
- Properly connect all external devices such as MICs, power amplifiers, speakers, effect processor etc.
- Now, turn on the power of any peripheral devices, then power up the mixer.

Note: the power amplifier or powered monitors shall be turned on after the mixer and turned off before the mixer.

- Set the output level of your mixer or the connected power amplifier at no more than 75%.
- Set the CONTROL ROOM/PHONE level at no more than 50%.
- Position HI, MID and LOW EQ controls on middle position.
- Position panoramic (PAN/BAL) control on center position.
- While speaking into the MIC (or playing the instrument), adjust the channel Level control so that the PEAK LED will blink occasionally, in this way you will maintain good headroom and idea dynamic range.
- You can shape the tone of each channel by adjusting the equalizer controls as desired.
- Now repeat the same sequence for all input channels. The main LED could move up into the red section, in this case yo can adjust the overall output level through the MAIN MIX control.

Some Final Tips on Wiring Configuration
You can connect unbalanced equipment to balanced inputs and outputs. Simply follow these schematics.

Control Elements

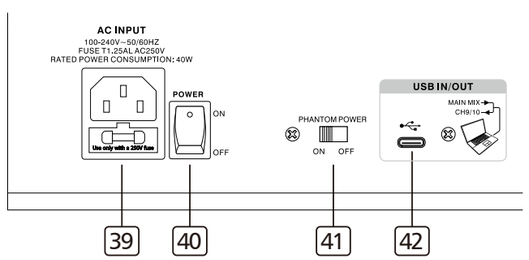
MEDIA	Press the button to enter the interface of media player.
USB/BT	Press and hold the button more than 2s to switch the signal sources of media player (optional USB or bluetooth)
PLAY	When there is media playing, press the button to play/ pause current playing. And the LED on upper right of the button keep flashing during playing.
REC	When a U disk inserted, short press this button to enter recording mode. and then press it again to start recording. In the recording state, the LED on upper right of the button will keep flashing. It will exit current recording and ask whether to re-record if the DELETE encorder is pressed under the recording state. It will save current recording and ask whether to play the recording if the SAVE encoder is pressed under the recording state.
REW	When there is media playing, short press this button to play the previous song, and press and hold this button to reduce the volume of the media player.
FWD	When there is media playing, short press this button to play the next song, and press and hold this button to increase the volume of the media player.

39. AC INPUT
Use it to connect your mixer to the main AC with the supplied AC cord. Please check the voltage available in your country and how the voltage for your miser is configured before attempting to connect your mixer to the main AC.

40. POWER Switch
This switch is used to turn the main power on and off.

41. +48 Volt Phantom Power Switch
It is available only to the XLR MIC sockets. Never plug in a microphone when phantom power is already on. Before turning phantom power on, make sure that all faders are totally down. In this way, you will protect your stage monitors and main loudspeakers.

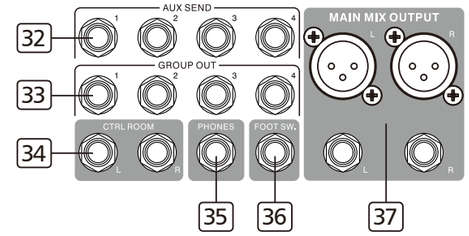
42. USB PORT
This USB port is used to connect the unit to PC with a transmission line. When it is in RECORD mode, it can connect with the MAIN MIX output; in the PLAYBACK mode, it can connect with the stereo channel 9/10 or channel 13/14 or channel 17/18.



Control Elements

32. AUX SENDS
These 1/4" TRS jack are used to send out the signal from the AUX bus to external devices such as effects.

33. GROUP OUT
These 1/4" TRS jack are used to send out the signal from the GROUP 1/4 mix bus to external devices.



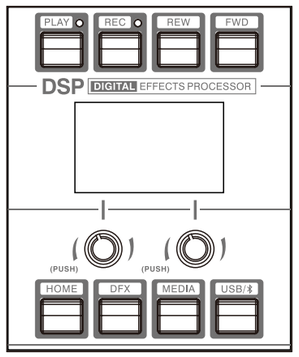
34. CTRL-ROOM
These 1/4" TRS jack will be used to send the signal to studio monitor speakers or to a second set of PA.

35. PHONES
This socket will be used to send out the mix signal to a pair of headphones.

36. FOOT SW.
This socket is used to connect external footswitch for your convenient operation, it has the same function as DFX MUTE button.

37. MAIN MIX OUTPUT
These stereo outputs are supplied with both the XLR and 1/4" TRS jack and it is controlled by the Main Mix Level.

38. DSP Control



HOME	Press the button to enter the main interface of DSP.
DFX	1. Press the DFX button to enter the main interface of effector. And then user can choose different effects by rotating the PROGRAM encoder and adjust the main parameters of effects type selected by rotating the EDIT encoder. 2. Press the button again to enter the interface of effects parameters. And then rotate SELECT encoder to choose related effect parameters you want to edit, and rotate EDIT encoder to adjust related effect parameters selected. 3. Press the button once more and then the screen will return to the main interface of effector.

SEIKAKU TECHNICAL GROUP LIMITED

客　　戶	Dynatech						
料　　號	NF06048						
品　　名	說明書-英文						
規　　格	LFX12/16/20 Dynatech_V1.0						
機種成品料號	LFX12						
重量 / 基數	0.09KG / 1						
材　　質	銅板紙						
紙張展開性質	(A3) | A4 | A5 | 其它:				紙張展開數量	9 pcs	
核　准		審　核		校　稿		製　稿	研發部 2023.08.25 馮 斌
陽片數量: 18 張		供應商：深榮		單位: mm		公差:± 3mm	

