



## ***OWNER'S MANUAL***

# ***GHIBLI 16/16FX***

**16-CHANNEL, MULTI-EFFECT MIXING CONSOLE  
WITH SURROUND OUTPUT**




www.altoproaudio.com  
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***English***

# IMPORTANT SAFETY INSTRUCTION



**TO REDUCE THE RISK OF ELECTRIC SHOCK PLEASE DO NOT REMOVE THE COVER OR THE BACK PANEL OF THIS EQUIPMENT. THERE ARE NO PARTS NEEDED BY USER INSIDE THE EQUIPMENT. FOR SERVICE, PLEASE CONTACT QUALIFIED SERVICE CENTERS.**

 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)
- ⚡ Hazardous Live Terminal

ON: Denotes the product is turned on.  
OFF: Denotes the product is turned off.

### CAUTION

Describes precautions that should be observed to prevent damage to the product.


1. Read this Manual carefully before operation.
2. Keep this Manual in a safe place.
3. Be aware of all warnings reported with this symbol. 
4. Keep this Equipment away from water and moisture.
5. Clean it only with dry cloth. Do not use solvent or other chemicals.
6. Do not damp or cover any cooling opening. Install the equipment only in accordance with the Manufacturer's instructions.
7. Power Cords are designed for your safety. Do not remove Ground connections! If the plug does not fit your AC outlet, 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.
8. Unplug this equipment when unused for long periods of time or during a storm.
9. Refer all service to qualified service personnel only. Do not perform any servicing other than those instructions contained within the User's Manual.
10. 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.

## WARNING

**To reduce the risk of electric shock and fire, do not expose this equipment to moisture or rain.**



**Dispose of this product should not be placed in municipal waste and should be separate collection.**

11. Move this Equipment only with a cart, stand, tripod, or bracket, specified by the manufacturer; or sold with the Equipment. When a cart is used, use caution when moving the cart / equipment combination to avoid possible injury from tip over. 

12. Permanent hearing loss may be caused by exposure to extremely high noise levels. The US. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible exposure to noise level. These are shown in the following chart:

### HOURS X DAY SPL EXAMPLE

8	90	Small gig
6	92	train
4	95	Subway train
3	97	High level desktop monitors
2	100	Classic music concert
1,5	102	
1	105	
0,5	110	
0,25 or less	115	Rock concert

According to OSHA, an exposure to high SPL in excess of these limits may result in the loss of heat. To avoid the potential damage of heat, it is recommended that Personnel exposed to equipment capable of generating high SPL use hearing protection while such equipment is under operation.

The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

The mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

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## 1. INTRODUCTION

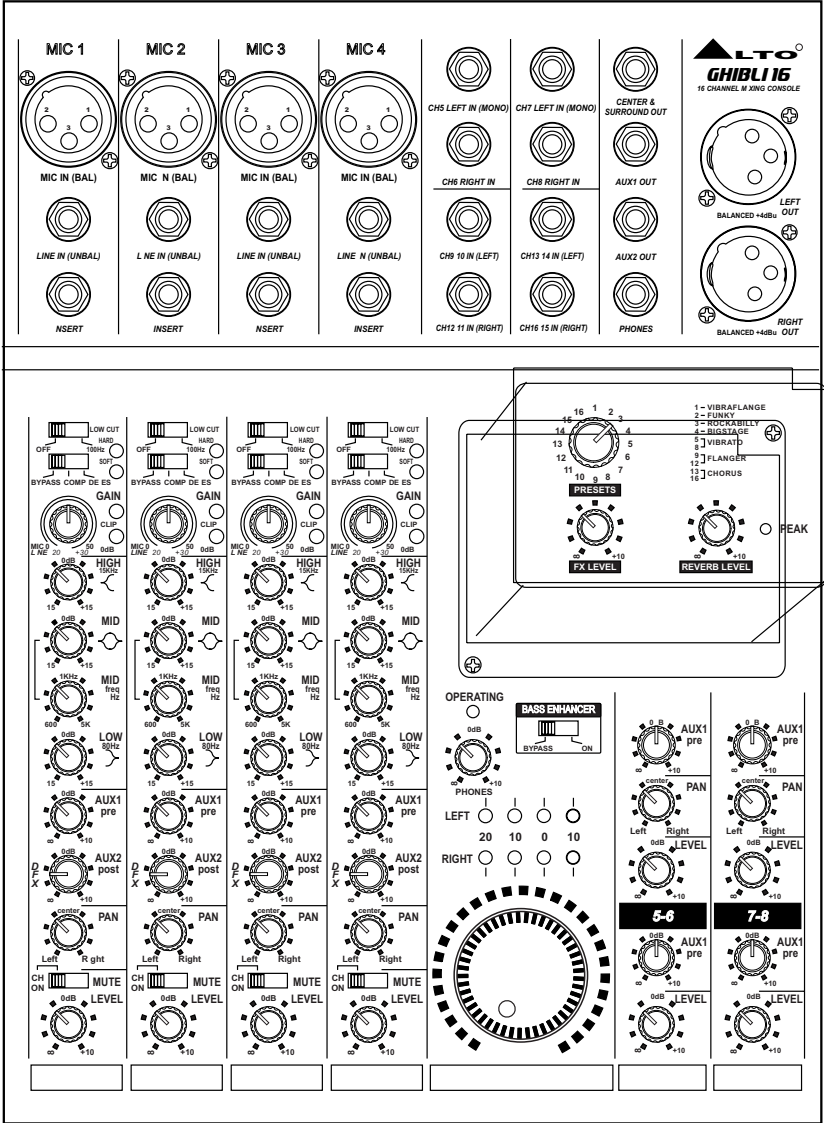
Thank you for purchasing the GHIBLI 16(FX), 16-channel mixing console with 24-bit digital multi-effects with five-channel surround output. It is just one of the many Alto products that a talented, multinational Team of Audio Engineers and Musicians have developed with their great passion for music. Your GHIBLI 16(FX) is a remarkable compact mixing desk that doesn't find many equals in the market today. With 4 microphone and 12 stereo Line-level inputs for serious live performances and recording applications, your GHIBLI 16FX also includes a 24-Bit digital multi-effect with 16 Factory Presets and separate level for digital reverb.

There is a three bands EQ with mid frequency sweep on all the microphone channels and separate Main Mix, Control Room and Center/Surround outputs. All the microphone channels are also equipped with a tube-like compressor/de-esser with automatic threshold control. Use it for small Gigs, for Computer Audio, for 4-tracks recording. GHIBLI 16(FX) also is a flexible tool for your Multimedia Presentations.

Enjoy your GHIBLI 16(FX) and make sure to read this Manual carefully before operation!

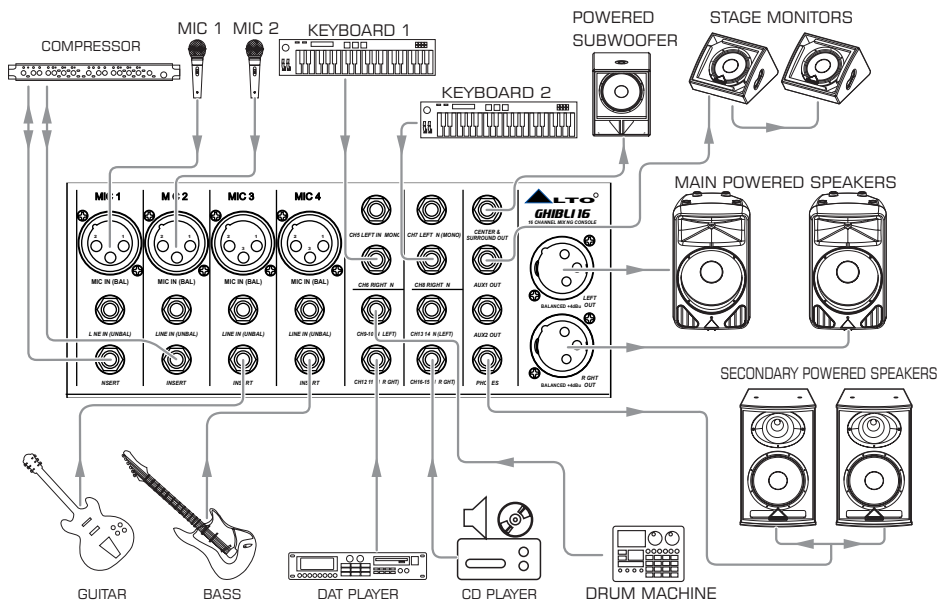
## 2. FEATURES

- ▲ MIC channels with 3 bands EQ + Mid Frequency sweep and MUTE function.
- ▲ TUBE SOUND COMPRESSOR on all MIC channels + De-esser function.
- ▲ Insert function for all MIC channels.
- ▲ 5-channel surround processor + Stereo Bass Enhancer:
- ▲ Extremely high headroom offering more dynamic range.
- ▲ Balanced ultra low noise microphone inputs with "HIGH END PREAMP".
- ▲ Suitable for live, studio and home applications.
- ▲ 2 AUX Sends on all mono channels for internal/external effects and monitoring.
- ▲ Phantom power on all MIC channels.
- ▲ Rugged construction ensures long life and durability.
- ▲ External power supply design for professional applications.

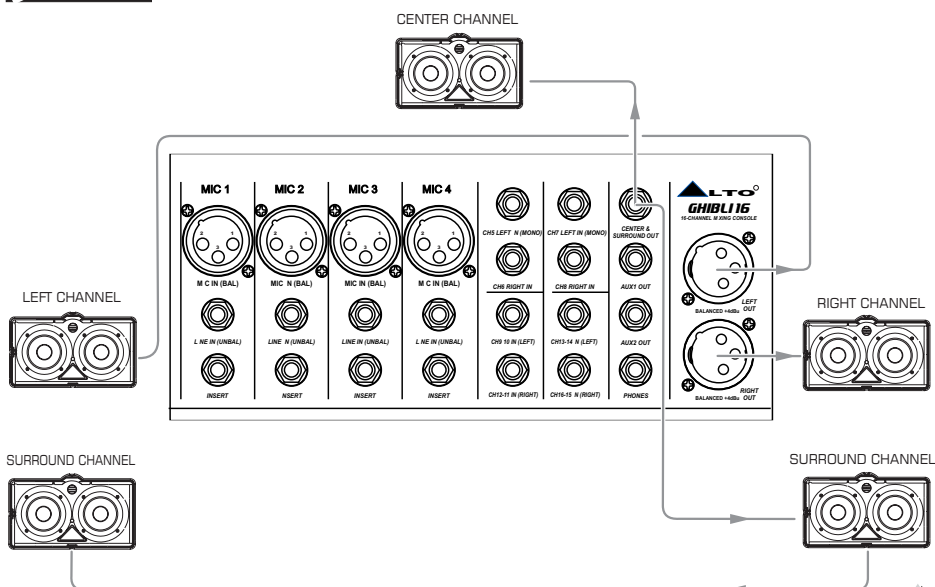




# GHIBLI 16(FX) IN A LIVE GIG



# MIXING IN SURROUND WITH Ghibli 16(FX)



### 3. QUICK START

This is the fastest way to get something out from your GHIBLI 16(FX) if you have a keyboard and a microphone.

- Plug the microphone into Channel 1 MIC IN.
- Turn down GAIN, AUX and LEVEL controls.
- Put the EQ controls on center position.
- Keep MAIN MIX LEVEL control on mid position.
- Turn on your GHIBLI 16(FX).
- Sing or speak in to the microphone with normal volume and adjust the GAIN control so that the Master LED Meter stays around "0" and never exceed 10.
- If you like, you can add some equalization at this stage.
- Connect speakers and amplifiers and turn them ON.
- Turn up Channel 1 fader to "0" and the LEFT/RIGHT main fader to one quarter
- Connect your stereo keyboard into channel 5/6 and turn on the channel Level on mid position.

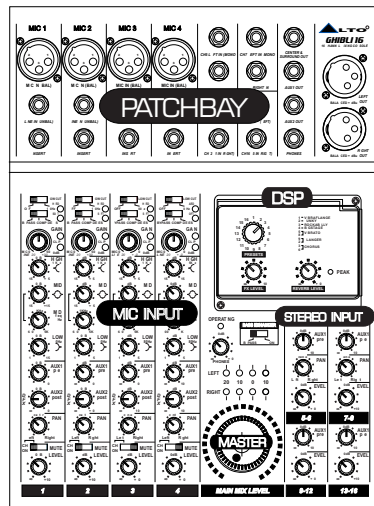
Here you are. It is your first mix with your GHIBLI 16.



### 4. CONTROL ELEMENTS

For your better understanding of the complete operational possibilities of your GHIBLI 16(FX), we have divided this part of the Manual in five different sections:

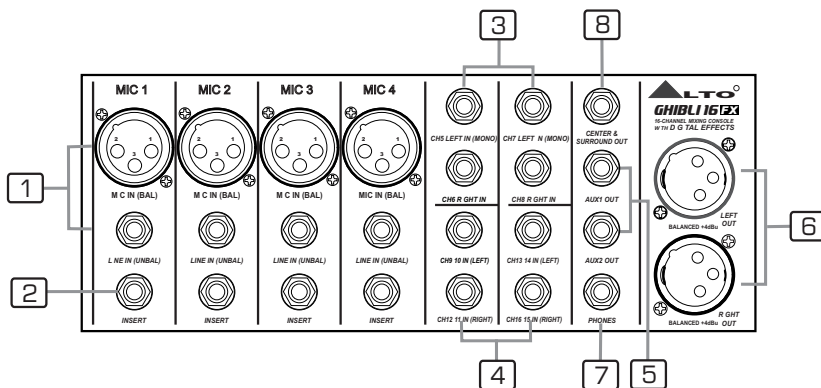
- PATCHBAY:** Including all Input and Output sockets
- MIC INPUT:** Describing the functions of the Microphone input strip
- STEREO INPUT:** Describing the 10 input channels strip
- MASTER SECTION**
- DSP SECTION**





## 4. CONTROL ELEMENTS

### ※ THE PATCHBAY



#### 1 MIC INPUT(1 to 4)

Your GHIBLI 16(FX) is equipped with 4 low-noise microphone preamplifiers with phantom power always on, 50 dB of Gain and over 100 dB of S/N ratio. You can connect almost any type of microphone. Dynamic microphones do not need phantom power. Phantom power will not damage your dynamic microphones but it may damage tube or ribbon microphones, so make sure to read the microphone instructions manual before connecting such types of microphone to your GHIBLI 16(FX). These four channels are also equipped with 1/4" TRS balanced or unbalanced LINE-IN plugs to connect line-level instruments such as keyboards, drum machines and effect devices.

※ **NOTE:** Phantom power is applied only to the XLR MIC socket but not to the LINE IN 1/4" socket. Phantom Power may damage line-level instruments such as keyboards, so never connect such instruments to the XLR socket. Always use the 1/4" socket.

#### 2 INSERT

This is where you connect external sound processors such as compressor-limiter, equalizers, etc. The insert point is available on the first 4 MIC channels only. For the other channels, you can always insert the processor in between the sound source (such as keyboard or drum machine) and the GHIBLI input. The Insert sockets can also be used as direct-outs to feed the input of a 4-track tape recorder.

#### 3 STEREO LINE INPUTS (5 to 8)

These are channels 5/6 and 7/8. They are organised in stereo pair and provided with 1/4" TRS phone sockets. If you connect only the left jack, the input will operate in mono mode, that is, the mono signal will appear on both input channels. You can use these inputs with a stereo keyboard, drum machine, etc.



## 4. CONTROL ELEMENTS

### 4 STEREO LINE INPUTS (9 to 16)

These are channels (9/10-11/12) and (13/14-15/16). They are organised in double stereo pair and provided with 1/4" TRS phone sockets. You can connect either mono or stereo line-level instruments or use them as stereo return for external multi-effects.

### 5 AUX OUT 1 & 2

These 1/4" phone sockets are used to send out the signal from the AUX bus of the input channels into external devices such as effect units and/or stage monitors. You can use AUX OUT 2 to feed powered stage monitors. Use AUX OUT 2 only for internal/external effect since this AUX bus 2 is only post-fader.

### 6 MAIN MIX OUTPUTS

These low-impedance outputs are fully balanced and can drive +4 dBu lines with very high headroom. You can connect the inputs of a stereo power amplifier or a pair of powered speakers.

### 7 PHONES

This socket will be used to send the signal to a headphone or to a pair of powered studio monitors.

### 8 CENTER & SURROUND OUT

Both the CENTER and SURROUND channels are available on this socket. You must use a stereo Y type cable. (The same cable you use for the INSERT sockets). The CENTER signal will appear on the TIP of the jack. The SURROUND channels will appear on the RING.



### 9 LOW-CUT filter

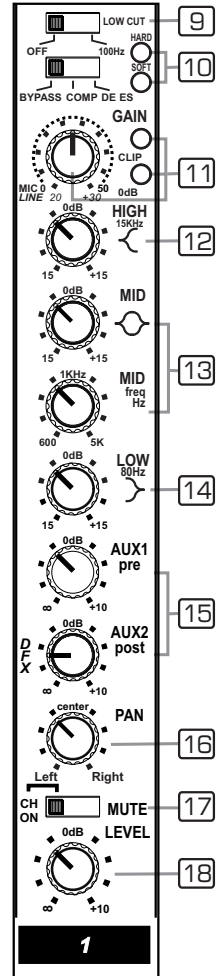
Also regarded as high-pass filter: This filter will cut low frequencies below 100 Hz with a slope of 18 dB x octave. You should always activate this filter when using microphones. In this way, you reduce the possibility of feedback and resonance due to stage vibrations. Do not use the filter with bass drums and bass guitar; if you want to preserve the full body of these instruments. There is a creative way to use the low-cut filter with the channel LOW equalization control. You can boost a male vocal track with the channel LOW level control at 80 Hz and immediately after apply the low-cut filter. In this way, you add the wanted colourations to the voice avoiding stage rumble and breath pops.

### 10 COMPRESSOR/DE-ESSER

Your GHIBLI 16(FX) also includes a flexible and easy to use tube-like compressor and de-esser. It is really a powerful dynamic processor using optical compression just like the best Tube Compressors. Two internal automatic settings are provided, one for smooth compression with a threshold level of 0 dB, and one for hard limiting with a threshold level of around +10 dB. The soft and hard knee curve is automatic and it is shown by the two yellow LEDs, HARD and SOFT. This dynamic processor can also avoid the channel clipping, maintaining the best signal-to-noise ratio. To set the right amount of compression turn up the GAIN control. Higher the gain, higher is the compression ratio. With the switch in BYPASS position the compressor will be sleeping, In COMP position the Compressor is alive while you can activate the de-esser filter with the switch in such position. The de-esser filter is very useful to get rid of vocals sibilances and tape hiss.

### 11 GAIN

This control is provided with 2 different indications: one is for the MIC and the other for the LINE input. When you use a Microphone you shall read the MIC ring (0~50dB); when you use a line level instrument you shall read the LINE ring (-20~+30dB). For optimum operation you shall set this control in a way that the CLIP LED will light up only occasionally in order to avoid distortion on the input channel.





## 4. CONTROL ELEMENTS

### ※ EQUALIZATION

You have three EQ control for each mono and stereo input channel each providing +/-15 dB of boost and cut. The signal will be unaffected when the controls on center position. You may use an external equalizer to make up a mix properly, but a master equalizer will not have effect on a single channel and you may overload the signal easily. Individual EQ will give you a much better control on single tracks.

#### 12 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 or reduce the hiss of a Tape player.

#### 13 MID

This is a peaking filter and it will boost/cut frequencies from 600 to 5000 Hz 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.

#### 14 LOW

If you turn this control up, you will boost all frequencies below 80 Hz. You will give more punch to bass drums and bass guitar; and you will make the male vocalist more "macho". Turn it down and 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.

#### 15 AUX sends

These two controls are used to adjust the level of signal sent to AUX 1&2 outputs (if nothing is connected to AUX2 OUT socket, the signal will be sent to the resident digital multi-effect ), and such adjustment doesn't affect the main mix output signal at all. AUX1 is configured pre-fader. It means that the signal is sent to the AUX1 OUT socket before the channel LEVEL control. This Bus is used to feed stage monitors.

#### 16 PAN

This is the PANORAMA control, or balance control. You can adjust the stereo image of the signal via this control. Keep this control in center position and your signal will be positioned in the middle of stage. Turn this control fully counter-clockwise and the signal will be present only on the left speaker and vice-versa. Of course a large number of intermediate positions are available.



## 4. CONTROL ELEMENTS

### 17 MUTE

If you move this switch to the right, you will mute all functions of the channel.

### 18 LEVEL

It is channel's LEVEL control and it determines the amount of the input signal sent to the main mix (LEFT and RIGHT output) and to the SURROUND and CENTER outputs.

### ※ STEREO INPUT CHANNEL STRIP

#### 19 AUX 1

This control will send the input signal to the AUX1 OUT socket. The signal is sent out before the channel LEVEL control and will not be affected by the channel LEVEL control position. This Bus is used to feed stage monitors.

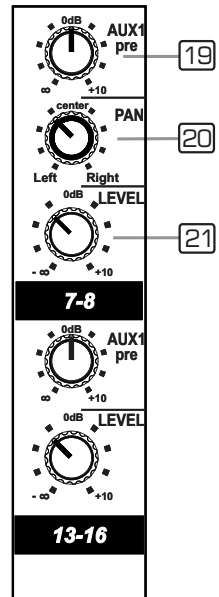
#### 20 PAN

This is the PANORAMA control, or balance control. You can adjust the stereo image of the signal via this control. Keep this control in center position and your signal will be positioned in the middle of stage. Turn this control fully counter-clockwise and the signal will be present only on the left speaker and vice-versa. Of course a large number of intermediate positions are available.

#### 21 LEVEL

It is channel's LEVEL control and it determines the amount of the input signal sent to the MAIN MIX (LEFT and RIGHT Output) and to the SURROUND and CENTER outputs.

※ **NOTE:** You can input a stereo signal on channel 5-6 and 7-8. You can adjust the input level the stereo image and feed stage monitors via the AUX control. In the channels marked 9-12 and 13-16, you can connect a double stereo channel to each single input. In this case, you will have a stereo channel on the LEFT input and another stereo channel on the RIGHT input. You will find out that if you do not need a large number of line-level sources, you can use the stereo channels as RETURNS for external multi-effects. Via the AUX1 control, you can also send the processed signal to the stage monitors.





## 4. CONTROL ELEMENTS

### ※ MASTER SECTION

#### 22 INSERT

These large rotary knob controls the level of the signal sent to MAIN OUTPUTS and CENTER/SURROUND outputs. All un-muted channel's signals will be sent to this control.

#### 23 PHONES control

This control adjusts the signal level sent to the PHONES output socket. You can use it to feed a pair of headphones or powered studio monitors.

#### 24 OUTPUT LEVEL METERS

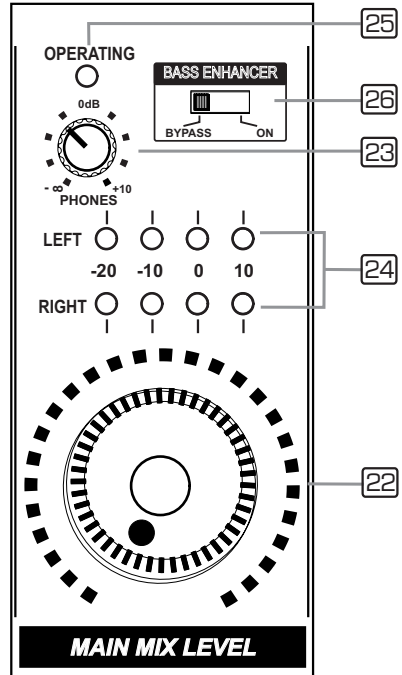
This consists of two column of 4 LEDs each ranging from -20 dB to +10 dB. The 0 (yellow) LED corresponds to a level output of 0 dBu. The 10 (red) LEDs come to life when the output reaches +10dBu. Set the MAIN MIX level control so that the 10 LEDs only flash occasionally. In general, you get a good mix level when the Meter LEDs operate in the range -10 to 0. If you exceed 0, you will get distortion. If even -20 LEDs are sleeping, your signal-to-noise ratio will suffer.

#### 25 OPERATING LED

This LED indicates when your GIBLI 16(FX) is switched-on.

#### 26 BASS-ENHANCER

The Main Output Stage of your GIBLI 16(FX) features a very useful BASS ENHANCER processor that also provides to recover the very low end of the audio band, if you are using a small PA system without big woofer:





## 4. CONTROL ELEMENTS

### ※ DSP SECTION

Your GHIBLI 16FX includes a quite unique and innovative digital multi-effects with 24-bit resolution and high dynamic range. Unlike other multi-effects where all the presets are available in a sequence and via a single control, GHIBLI 16FX multi-effect unit is organized with a 16 presets control and relative Level control for vibrato and modulation controls such as chorus and flanger. You can add reverb at any time with a separate Level control or you can just use the reverb keeping the FX level control turned down.

### 27 PRESETS

Adjust this control to select the desired effect. There are a total of 16 Factory presets available including pitch-variations, vibratos, Flanger, Chorus, etc.

### 28 FX LEVEL

This control is used to adjust the output level of FX signal, which can be varied from 0 dB to 10 dB.

### 29 REVERB LEVEL

This control is used to adjust the output level of the REVERB signal, which can be varied from 0 dB to 10 dB. The digital reverb is independent from the other 16 Factory Presets, so you can add reverb in any amount over chorus, flanger, etc or just use reverb turning down the FX LEVEL control.

### 30 PEAK LED

This LED lights up when the input signal is too strong.

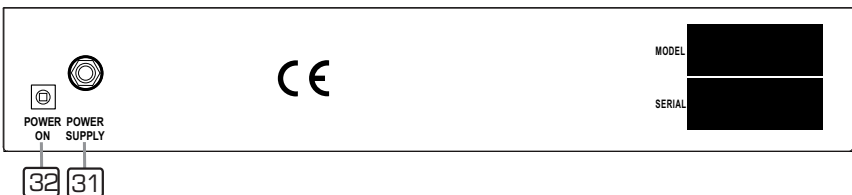
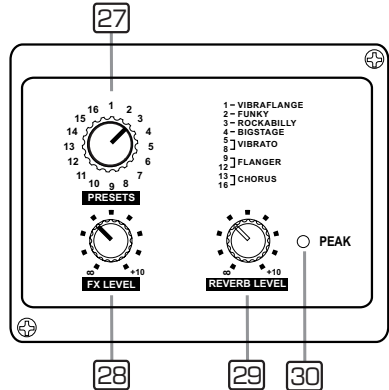
### REAR PANEL

### 31 POWER SUPPLY

Used to connect the supplied 24VAC adapter.

### 32 POWER ON/OFF switch

This switch is used to turn the main power ON and OFF.





## 5. INSTALLATION AND CONNECTION

OK, you have got to this point and you are now in the position to successfully operate your GHIBLI 16(FX). However, we advise you to read carefully the following section to get the best out of your GHIBLI 16(FX).

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 before operation:

1. Before connecting microphones or instruments, make sure that the power of all your systems components including the GHIBLI 16(FX) is turned off. Also, make sure that all input and output controls are turned down. This will avoid damage to your speakers and excessive noise.
2. Properly connect all external equipment such as microphone, power amplifier, speakers etc.
3. Now, turn on the power of any peripheral devices, then connect the 18 VAC power supply to your GHIBLI 16(FX) and to the AC socket.

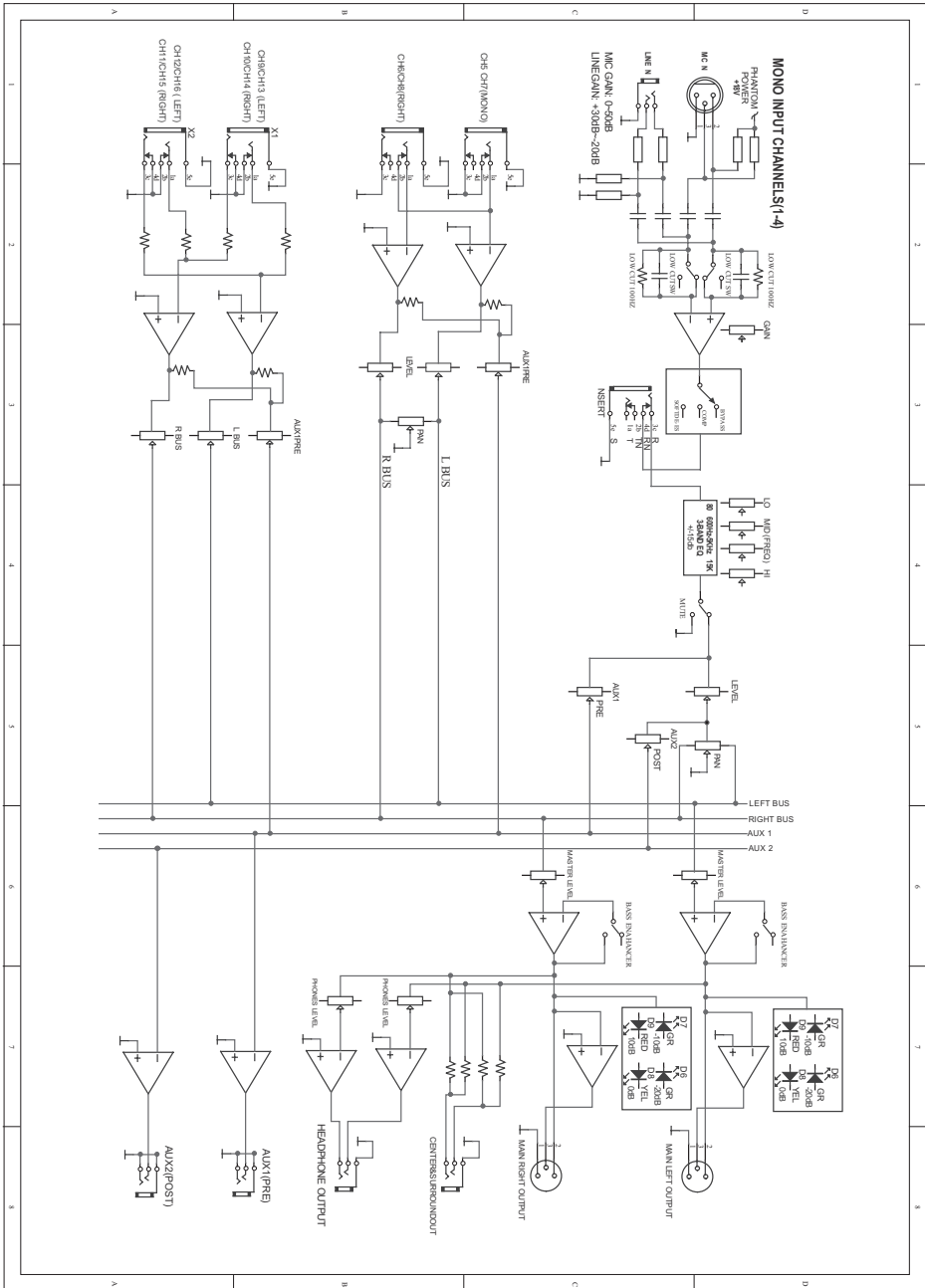
※ **NOTE:** The power amplifier or powered monitors shall be turned ON after the GHIBLI 16(FX) and OFF before the GHIBLI 16(FX) is turned OFF.

4. Set the output level of your GHIBLI 16(FX) or the connected power amplifier at no more than 75%.
5. Set the PHONES level at no more than 50%.
6. Set HI, MID and LOW EQ controls on center position.
7. Set panoramic ( PAN / BAL ) control on center position.
8. While speaking into the microphone (or playing the instrument) at normal volume, adjust the channel gain control until the OdB LED lights up; in this way, you will maintain good headroom and proper dynamic range.
9. You can shape the tone of each channel by adjusting the equalizer controls as desired.
10. Now repeat the same sequence for all input channels. The Main LED Meter could move up into the red section. In this case, you can adjust the overall output level through the MAIN MIX control.

## 6. PRESET LIST (For GHIBLI 16FX Model)

NO.	Preset	Description	Parameter
1	VibraFlange	Slight pitch variation with Flanger effect	Mod Level: 90%
2	Funky	Large pitch variation with heavy Flanger effect	Mod Level: 68%
3	Rockabilly	Simulate a stage space with slight Flanger effect	Rate:0.1Hz
4	Big stage	Simulate a stage space of the sound.	Decay time:5.4s
5	Vibrato 4	Slight variation of pitch resulting from the free oscillation of the vocal cords.	Rate: 4.8Hz
6	Vibrato 3	Slight variation of pitch resulting from the free oscillation of the vocal cords.	Rate: 3.8Hz
7	Vibrato 2	Slight variation of pitch resulting from the free oscillation of the vocal cords.	Rate: 3.0Hz
8	Vibrato 1	Slight variation of pitch resulting from the free oscillation of the vocal cords.	Rate: 2.0Hz
9	Flanger 4	Simulate to play with another person carrying out same the notes on the same instrument	Rate: 4.9Hz
10	Flanger 3	Simulate to play with another person carrying out same the notes on the same instrument	Rate: 3.21Hz
11	Flanger 2	Simulate to play with another person carrying out same the notes on the same instrument	Rate: 0.9Hz
12	Flanger 1	Simulate to play with another person carrying out same the notes on the same instrument	Rate: 0.56Hz
13	CHORUS 4	Recreate the illusion of more than one instrument from a single instrument sound	Rate: 3.6Hz
14	CHORUS 3	Recreate the illusion of more than one instrument from a single instrument sound	Rate: 1.79Hz
15	CHORUS 2	Recreate the illusion of more than one instrument from a single instrument sound	Rate: 0.32Hz
16	CHORUS 1	Recreate the illusion of more than one instrument from a single instrument sound	Rate: 0.39Hz

# 7. BLOCK DIAGRAM





## 8. TECHNICAL SPECIFICATION

### Mono input channels

Microphone input	Electronically balanced
Bandwidth	15 Hz to 20 kHz, +/3 dB
Distortion (THD & N)	0.007% at +4 dBu, 1 kHz, Bandwidth 20 kHz
Gain range	0 dB to 50 dB (MIC)

### SNR (Signal to Noise Ratio)

Line input	unbalanced
Bandwidth	15 Hz to 60 kHz, +/3 dB
Distortion (THD & N)	0.007% at +4 dBu, 1 kHz, Bandwidth 60 kHz
Line level range	20 dBu to +30 dBu

### Stereo input channels

Max input level	+10 dBu
Line input	unbalanced
Bandwidth	10 Hz to 55 kHz, +/3 dB
Distortion (THD & N)	0.007% at +4 dBu, 1 kHz, Bandwidth 80 kHz

### Equalization

Hi shelving	+/- 15 dB @12 kHz
Mid bell	+/- 15 dB @600~5 kHz
Low shelving	+/- 15 dB @80 Hz

### Main Mix Section

Max output	+26 dBu balanced
AUX Sends max out	+22 dBu unbalanced
Phones Out	+22 dBu unbalanced
Center, Surround output	+22 dBu unbalanced
Signal to Noise Ratio	112 dB, all channels at Unity Gain

### Power Supply (AC/AC Adapter)

Main voltage	USA/Canada ~115 VAC, 60 Hz;
	Europe ~230 VAC, 50 Hz;
	U.K./Australia ~240 VAC, 50 Hz
	Japan ~100 VAC, 60 Hz

### Physical

Dimension (WxDxH)	270 x 198 x 43 mm
Net weight	1.73 Kg
Shipping weight	2.45 Kg

## 9. WARRANTY

### 1. WARRANTY REGISTRATION CARD

To obtain Warranty Service, the buyer should first fill out and return the enclosed Warranty Registration Card within 10 days of the Purchase Date.

All the information presented in this Warranty Registration Card gives the manufacturer a better understanding of the sales status, so as to provide a more effective and efficient after-sales warranty service. Please fill out all the information carefully and genuinely, miswriting or absence of this card will void your warranty service.

### 2. RETURN NOTICE

- 2.1 In case of return for any warranty service, please make sure that the product is well packed in its original shipping carton, and it can protect your unit from any other extra damage.
- 2.2 Please provide a copy of your sales receipt or other proof of purchase with the returned machine, and give detail information about your return address and contact telephone number.
- 2.3 A brief description of the defect will be appreciated.
- 2.4 Please prepay all the costs involved in the return shipping, handling and insurance.

### 3. TERMS AND CONDITIONS

- 3.1 ▲LTO warrants that this product will be free from any defects in materials and/or workmanship for a period of 1 year from the purchase date if you have completed the Warranty Registration Card in time.
- 3.2 The warranty service is only available to the original consumer, who purchased this product directly from the retail dealer, and it can not be transferred.
- 3.3 During the warranty service, ▲LTO may repair or replace this product at its own option at no charge to you for parts or for labor in accordance with the right side of this limited warranty.
- 3.4 This warranty does not apply to the damages to this product that occurred as the following conditions:
  - Instead of operating in accordance with the user's manual thoroughly, any abuse or misuse of this product.
  - Normal tear and wear.
  - The product has been altered or modified in any way.
  - Damage which may have been caused either directly or indirectly by another product / force / etc.
  - Abnormal service or repairing by anyone other than the qualified personnel or technician.

And in such cases, all the expenses will be charged to the buyer.

- 3.5 In no event shall ▲LTO be liable for any incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.
- 3.6 This warranty gives you the specific rights, and these rights are compatible with the state laws, you may also have other statutory rights that may vary from state to state.

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