

TAKSTAR®

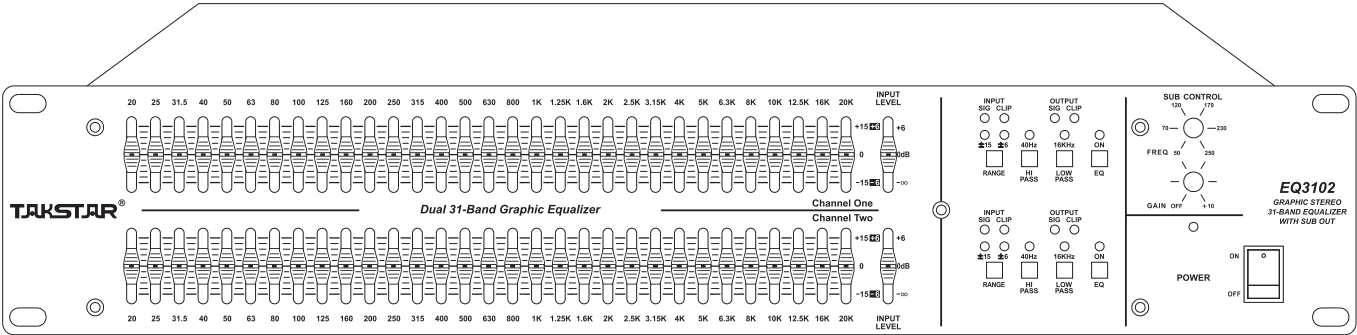
用户手册

User's Manual

EQ3102

图式31波段立体声均衡器
GRAPHIC STEREO31-BAND EQUALIZER

带重低音输出
WITH SUB OUT





内部高压，小心触电



机器重要操作和维护提示



保护接地端子



交流电流/电压



危险带电端

ON:

表示设备开启

OFF:

表示设备关闭



警告

警示说明，需注意，
避免可能受伤或死亡的危险。

警告

电源在接通机器电源之前，确保主电源电压与该机器所需电压一致，否则将对机器造成损坏或可能危害用户安全。机器长时间不用或打雷闪电时请拔出电源插头，以避免触电或火灾危险。

外部连接

使用专用电源线连接，以免造成电击/死亡或火灾危险。若不明白，请联系技术人员处理。

不要拆除任何外盖

机器内部有高压区，为了避免触电危险，在电源接通时不要拆除任何外盖。如有必要，请联系技术人员处理。

内部为非用户维修部件

保险丝

为防止火灾及机器的损坏，确保使用指定规格保险丝，禁止使用不同规格保险丝。在换保险前，确保关闭机器电源，拔出电源插头。

保护接地

开启机器前，确保与地连接，避免触电危险。严禁切断内部或外部的保护接地线或拔出保护接地端子。

操作说明

请根据制造商的指示说明安装机器。为了避免触电和机器损坏，不要将机器置于雨水或潮湿环境。切勿在积水旁使用此机器。不要将机器安装于高温源附近不要阻塞任何通风口，以免引起火灾。机器远离明火。

重要安全说明

- 阅读安全说明
- 遵从安全说明
- 遵守安全说明
- 注意所有警示内容
- 只使用厂商指定配件

电源线和插头

不要踩踏电源线或插头。
不要断开保护接地连接。
若提供的插头与您的AC座不配套，请联系技术人员更换电源插座。
电源线与插头不要被重物压到以免有电击或火灾危险。

清洁

当机器需要清洁时，可用吹风机或干净的布除去灰尘。
不要使用清洁剂，如不纯苯、酒精等。
为了安全，请保持机器干净。

机器的维修

所有维修事项请询求专业技术人员帮助，非专业人员请不要擅自处理，以免造成触电危险。

便携式推车
使用警告



携车和支架

只使用制造商推荐的推车或支架。

小心使用，快速停止用力过猛和地面不平可能造成机器和推车翻倒。

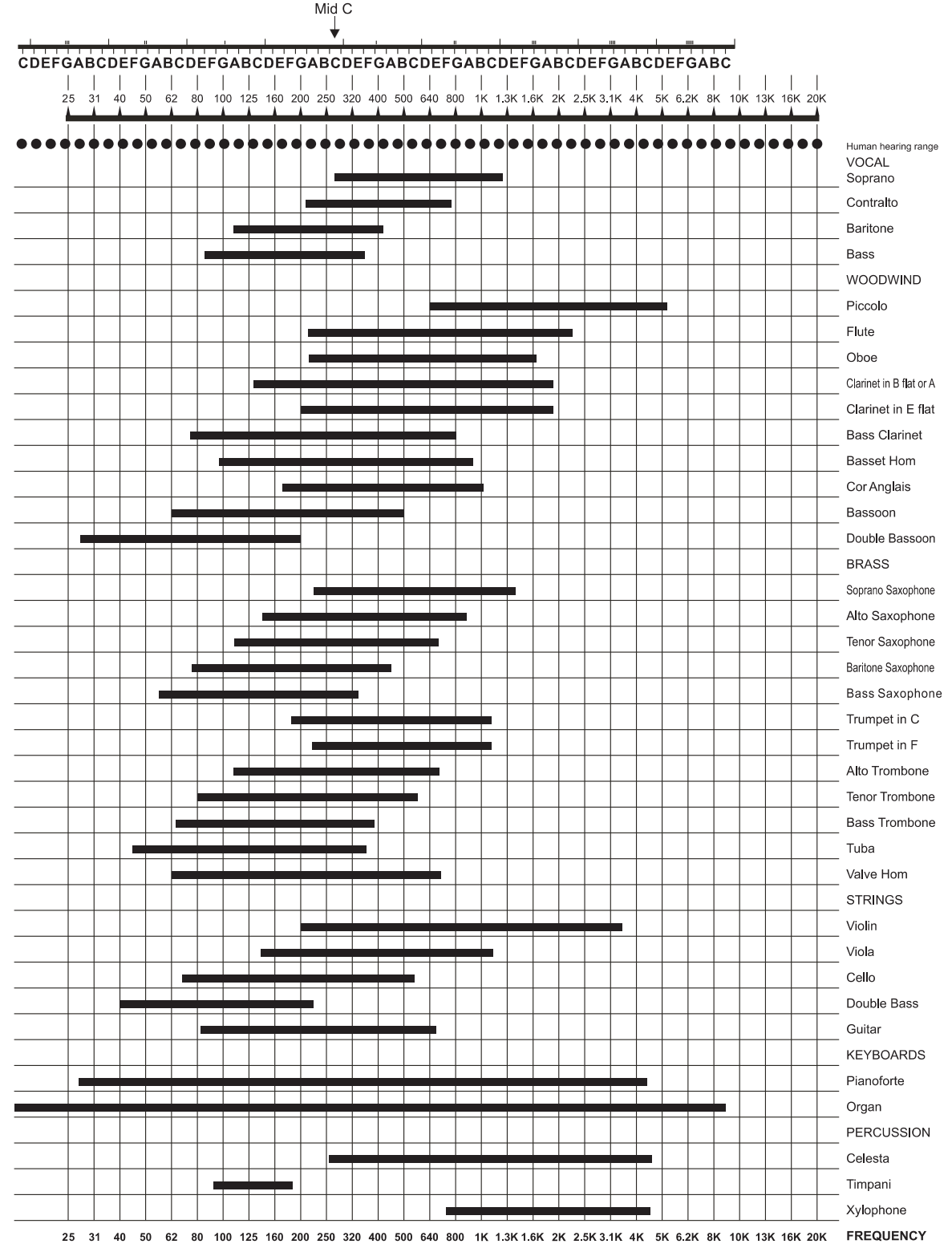
TECHNICAL SPECIFICATIONS

Model	EQ3102
Type	2 x 31 Band: 1/3 octave, ISO spacing (2H)
Slider travel	20 mm with positive centre detente
Range	±6dB or ±15dB selectable
Input Connections	Active balanced XLR and 1/4" TRS Unbalanced RCA
Input Impedance	20kΩ (balanced) 15kΩ (unbalanced)
Maximum input level	14dBu
Output connections	Active balanced XLR and 1/4" TRS Unbalanced RCA
Subwoofer Out (Only for TEQ-231SW)	Active balanced XLR Frequency 50Hz to 250Hz
Input Impedance	20kΩ (balanced) 15kΩ (unbalanced)
Output Impedance	<600Ω
High pass filter	40Hz (12dB/oct)
Low Pass filter	16kHz (12dB/oct)
Frequency Response	20Hz to 50kHz - 1.5dBu
THD +N%	<0.01% (@ 1kHz, all VR at middle position)
S/N Ratio	>110dB
Power Supply	95V-120V AC - 60Hz 220V - 240V - 50Hz / 60Hz
Consumption	18W
Dimensions	483 (W) x 220 (D) x 88 (H) (19" x 8.66" x 3.5")

Applications

6.1 The Sound Frequency
In recording studios as well as stage or radio plays, the unit will be your valuable sound tool to modify the frequency "contour" of a sound. But first of all, you should clarify the typical frequency of each instrument and voice, so that you can obtain nice results in terms of sound characterization. The tables on the following pages will give you an idea of specific frequencies and their acoustic significance.

Typical Frequency of Each Instrument and Voice



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简介

非常感谢购买我们 TAKSTAR 的产品图式31波段立体声均衡器(带重低音输出), 拥有此产品, 您就拥有了一台配乐、操作灵活的图式均衡器及反馈抑制器。

此高端产品是在多年专业经验基础上设计而成, 为音乐家、演奏者、工作室音响师及音响承包商提供永久性精确均衡。

任何需修改声音频率的地方都可以使用, 其也能对许多常见的声音问题提供解决方法, 便于用户运用创意来获得想要的特性声音。

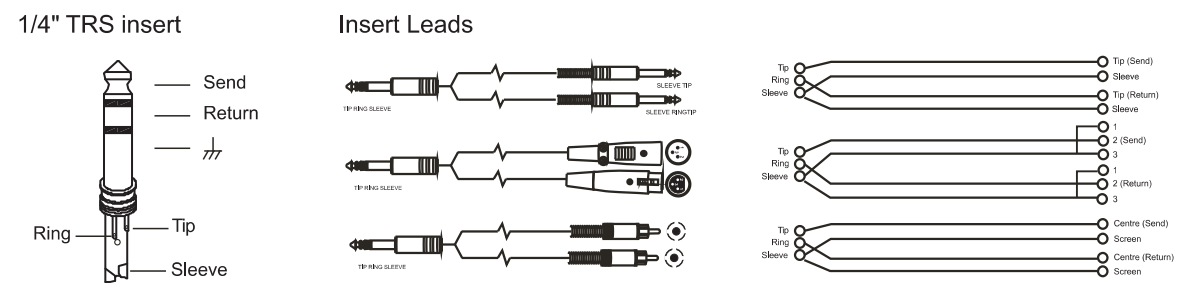
特性

- 操作方便
- 恒定Q值电路设计, 3%中心频率精确度
- 控制范围选择: $\pm 6\text{dB}$ 或 $\pm 15\text{dB}$
- 平衡和非平衡式输入输出座
- 可变的输入位准控制
- 信号削波监控
- 接地"LIFT"开关, 用以从底板接地断开信号接地
- 输入电压选择
- 设计轻巧耐用
- 符合QS9000, VDA6.1认证管理系统
- 本产品带重低音输出

Installation & Connection

- Insert Points Connection

If you are connecting to a mixing console's main inserts, you may have a single TRS jack for SEND & RETURN, in this case, use an insert "Y" cable that configured like the examples below.



4.3 Rack Mounting

The most secure mounting is on a universal rack shelf available from various rack manufactures or your music dealer. Please allow at least an additional 4" depth for the connectors on the rear panel. Be sure that there is enough air space around the unit for sufficient ventilation and please do not place the unit on high temperature devices such as power amplifiers etc. to avoid overheating.

Installation & Connection

5.1 Mains Connection

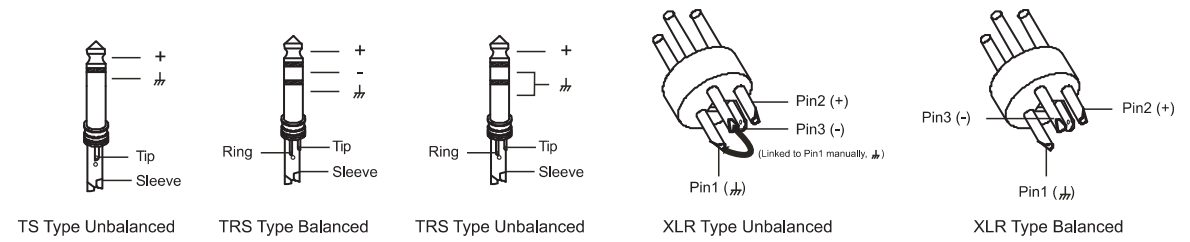
Please ensure that the unit is set to the correct supply voltage before plugging the power cord into the wall outlet, use the same fuse as marked on the fuse holder at the AC power connection socket. The mains connection of the unit is made by using the enclosed mains cord and a standard IEC receptacle. It meets all of the international safety certification requirements.

5.2 Audio Connection

The unit presents with balanced XLR & 1/4" TRS and unbalanced RCA connectors, and it can be interfaced by several ways to support a variety of applications without any signal loss. The unit can be used on a single instrument by connecting to a mixing console's main inserts, or on an entire mix "in-line" between a mixing console's outputs and a power amplifier.

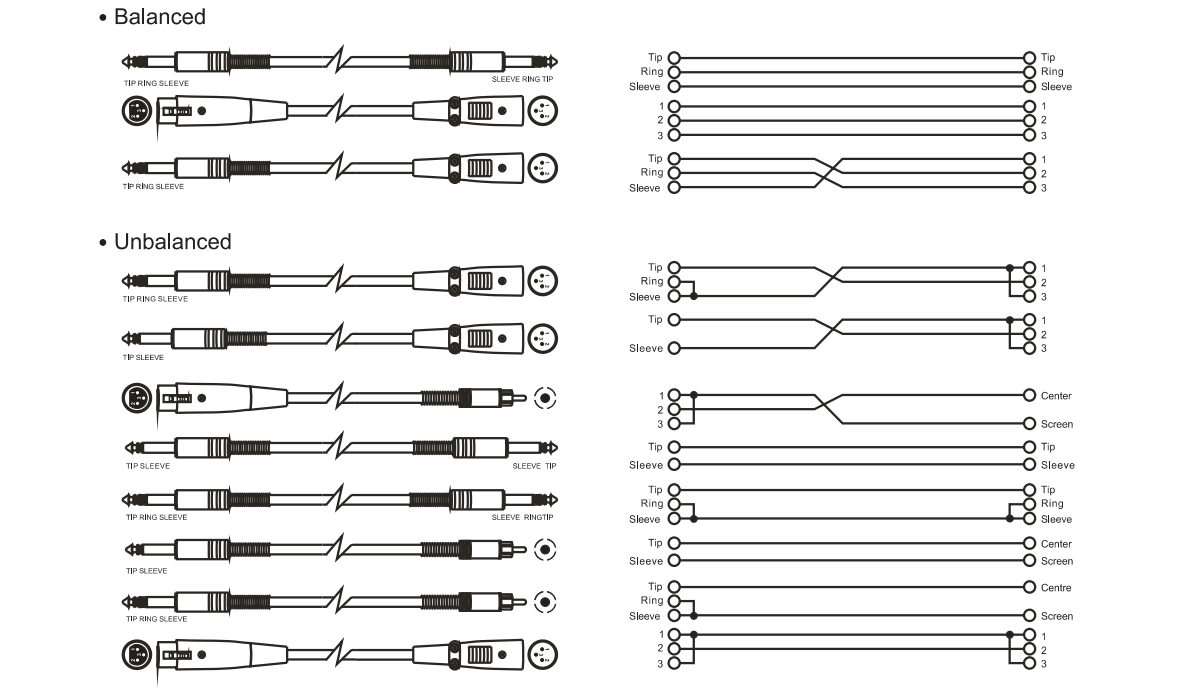
- Wiring Configuration

Either the 1/4" TRS phone jack or the XLR connector can be wired in balanced and unbalanced modes, which will be determined by the actual application status, please wire your system as the following wiring examples:



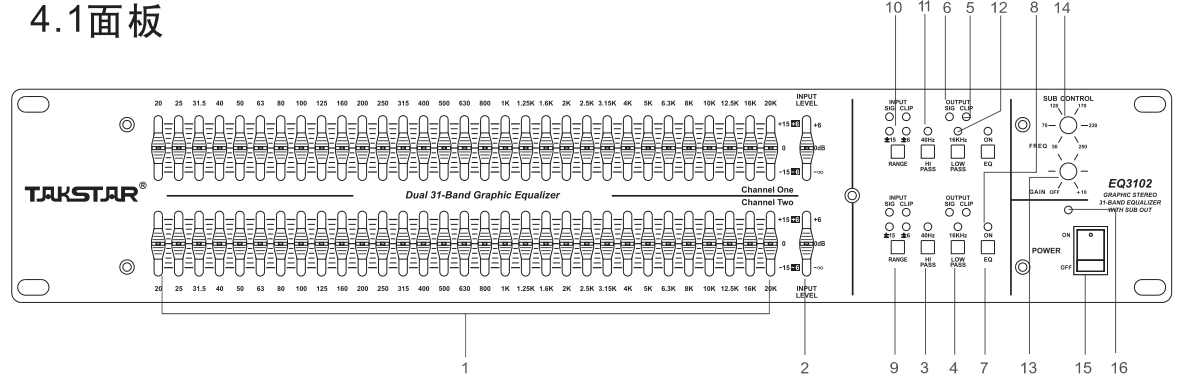
- In Line Connection

For these applications the unit provides 1/4" TRS connectors, XLR connectors and RCA connectors to interface with most any professional audio device easily. Follow the configuration examples below for your particular connection.



控制功能

4.1面板



1.滤波控制器

每一控制器可对目前频宽上选择的频率进行提升或衰减($\pm 6\text{dB}$ 或 $\pm 15\text{dB}$), 当所有控制器都在中心位置时, 输出为平坦响应。

2.输入信号控制器

此控制器控制输入信号位准, 当控制器在"0dB"位置时, 输入不会得到提升或衰减, 若削波指示灯(5)亮, 请将此控制器调低直至LED变为间或闪烁。

3.高通滤波开关

这是高通滤波功能开启/关闭的一个开关, 当按下此开关时, 高通滤波功能开启, 低于40Hz的频率按15dB/倍频被衰减掉。

4.低通滤波开关

这是低通滤波功能开启/关闭的一个开关, 当按下此开关时, 低通滤波功能开启, 高于16KHz的频率按15dB/倍频被衰减掉。

5.削波指示灯

当设备任何部分在削波5dB内时此指示灯亮, 间或闪烁为无问题可接受, 但若保持持续亮时, 应该调低音量控制器或降低前面组件的输出位准以避免声音失真。

6.信号指示灯

当有信号出现在输入/输出级时, 此绿色LED亮。

7.EQ开关

此开关用以对通道路径插入或去掉均衡器。按下此开关, EQ指示灯(7)亮, 处于EQ模式; 再次按下弹出此开关, 输入信号直接进入输出座, 处于直通模式。

8.EQ指示灯

当这个指示灯亮时, 表示在EQ模式。

9.范围选择开关

此钮在-6dB到+6dB或-15dB到+15dB之间更改滤波滑动器的增益范围。

控制功能

10.滤波范围指示灯

当选择±6dB范围时， 绿色批示灯亮； 当选择±15dB时， 红色LED亮；

11.高通指示灯

当启动高通滤波时(40Hz/12dB),此指示灯亮；

12.低通指示灯

当启动高通滤波时(16KHz/12dB),此指示灯亮；

13.SUB输出

此控制功能用以调整重低音频率波段的输出位准

14.重低音 分频控制器

此控制器用以选择重低音音箱频率波段的频点， 可在50Hz到250Hz之间选择分频频点。

15.电源开关

用以开关设备的电源， 当电源开关在ON位置时， 设备开启； 在OFF位置时， 设备关闭。

16.电源指示灯

当设备开启后， 此指示灯亮。

Control Elements

14. Sub Crossover Frequency Control

This control selects the crossover frequencies of the subwoofer frequency band. You can select the crossover frequencies between 50Hz and 250Hz.

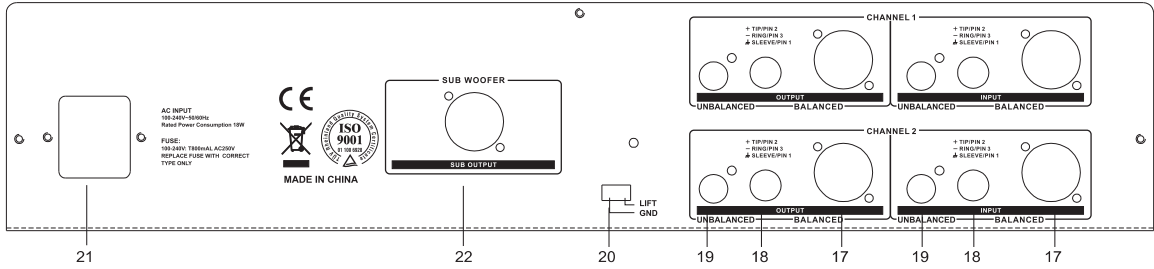
15. Power Switch

It switches on/off the unit main power.The unit would be turned on when the power switch in the on-position, and it would be turned off when the switch in the off-position.

16. Power LED

This LED lights up when the unit is powered on.

4.2 The Rear Panel



17. XLR Input and Output Connector

These XLR connectors are actively balanced and used to input/output the signal.

18. 1/4" TRS Phone Plug Input and Output Connector

These 1/4" TRS connectors are actively balanced and used to input/output the signal.

19. RCA Input and Output Connector

The RCA connectors are unbalanced.

NOTE: While you can use any input connector with any output connector, only one set of these connectors is to be used at one time. Please refer to 4.2 Audio Connection for further details.

20. Ground Lift Switch

This switch is used to disconnect the signal ground from the mains and chassis earth. If it is determined that the equalizer is the cause of hum or buzz in your system due to a ground loop, move this switch to the "lift" position.

21. AC Inlet & AC Fuse holder

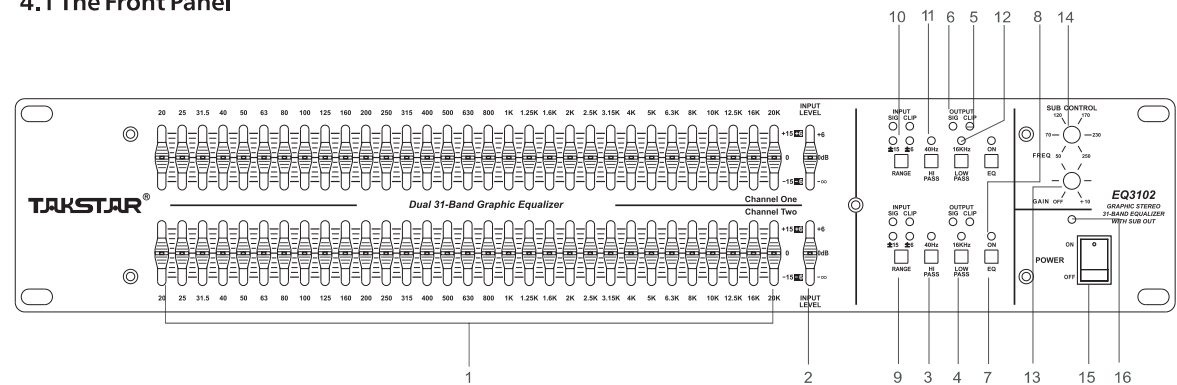
This connector is meant for the connection of the supplied main cord. Do not insert power cord into the unit until the voltage has been set correctly. Do not plug the power cord into AC power until the voltage has been set correctly. You must be sure of the voltage available in your country because this is a dual voltage unit, voltage operation can be changed through the fuse protecting the power supply but this operation must be performed by a qualified engineer.

22. Subwoofer Output Connector

Connect your subwoofer amplifier via this balanced XLR jack.

Control Elements

4.1 The Front Panel



1. Filter Level Controls

Each of these fader will boost or attenuate (either $\pm 6\text{dB}$ or $\pm 15\text{dB}$) the selected frequency at a preset bandwidth. When all the faders are in the centre position, the output of the unit is flat response.

2. Input Signal Level Control

This fader controls the input signal level. The input is not boosted or attenuated when the fader locates in the "0dB" position. If the clip LED (5) lights, please turn down this fader until it only flashes occasionally.

3. High Pass Filter Switch

This is an on/off switch for the high pass filter. The high pass filter is on when the switch is pressed inward, and the frequency region below 40Hz will be attenuated at 15dB/octave.

4. Low Pass Filter Switch

This is an on/off switch for the low pass filter. The low pass filter is on when the switch is pressed inward, and the frequency region above 16kHz will be attenuated at 15 dB/octave.

5. Clip LED

This LED will light when any section of the unit is within 5 dB of clipping. Occasional flashes of this clip LED is acceptable, but if it remains on continuously, you should turn down the level control or reduce the output level of the preceding component to avoid audible distortion.

6. Signal LED

This green LED will light when any signal appears at input/output stage.

7. EQ Switch

This switch inserts or removes the equalizer to the channel path. If press this switch, the EQ LED (7) will be illuminated, which means it is in EQ mode. When release this switch, the input signal is routed directly to the output jacks, which means it is in bypass mode.

8. EQ LED

When this LED lights, it is in EQ mode.

9. Range Switch

This button switches the gain range of the filter slider between -6dB to +6dB or -15dB to +15dB.

10. Filter Range Indicator

When the $\pm 6\text{dB}$ range is selected, the green LED will light. When the $\pm 15\text{dB}$ range is selected, the red LED will light.

11. High Pass LED

When the High pass filter (40Hz/12dB) is in active, this LED will light up.

12. Low Pass LED

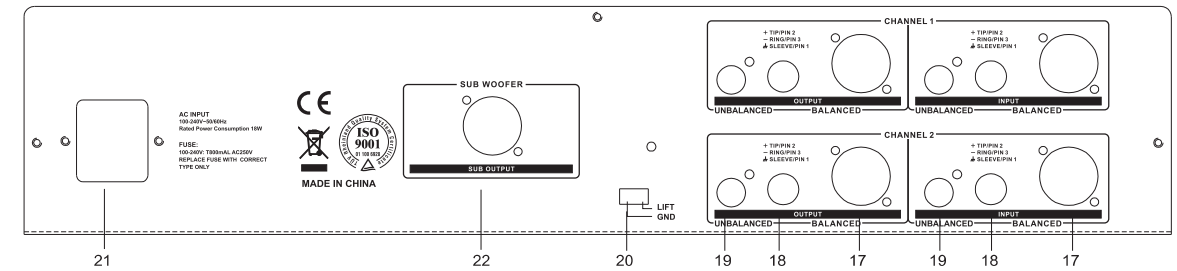
When the Low pass filter (16KHz/12dB) is in active, this LED will light up.

13. Sub Out only

This control is used to adjust the output level of the subwoofer frequency band.

控制功能

4.2 后板



17.XLR输入输出座

这些XLR座为平衡式，用以输入/输出信号。

18.1/4" TRS耳机插入输入输出座

这些TRX座为平衡式，用以输入/输出信号。

19.RCA输入输出座

这些RCA座为非平衡式。

注意：尽管对任何输出座可匹配使用任何输入座，但一次只使用一组，请参考4.2音响连接获取更多详情。

20.浮地开关

此开关用以将信号接地从电源与底板接地中断开，若确定系统中的嗡嗡声由均衡器接地回路造成，将此开关打到"lift"(浮地)位置；

21.AC输入插座&AC保险丝座

此座子用于连接电源线接通电源。在电压未设置正确前，不要将电源线插入到设备，也不要将电源线插入AC电源。必须确定电压可用，因为这是一台双电压设备，可通过保护电源的保险丝修改工作电压，但此修改必须由专业人员处理。

22.重低音音箱输出座

通过此平衡式XLR座连接重低音放大器。

安装&连接说明

5.1电源连接

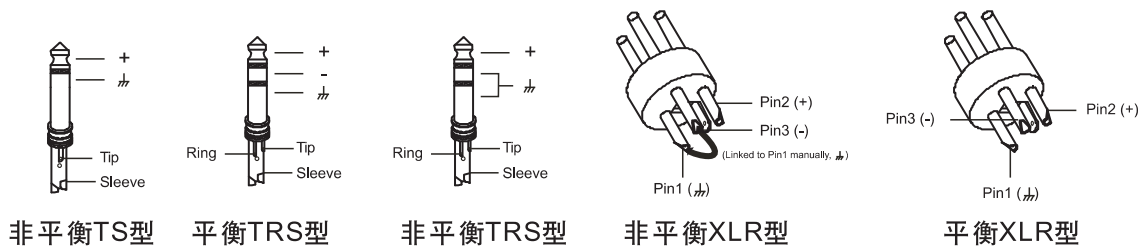
插入电源线前请确保电压设置正确，使用的保险丝需与保险丝座上所标规格一致，电源连接使用所附电源线及标准IEC座连接，满足国际安全认证要求。

5.2音响连接

本产品配有平衡式XLR座&1/4" TRS耳机座及非平衡式RCA座，可通过不同的方式连接，支持多种应用而不会遗失信号。既可通过连接调音台主连接口使用于单个乐器上，也可于调音台输出与功放之间的整个混音"在线"上使用。

-接线说明

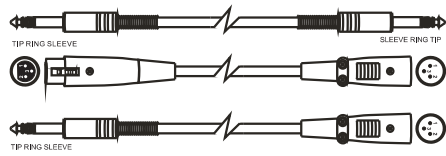
1/4"TRS耳机座(Tip-Ring-Sleeve)或XLR座都可按平衡或非平衡模式连接，根据实际使用情况决定，请按如下举例连接您的系统：



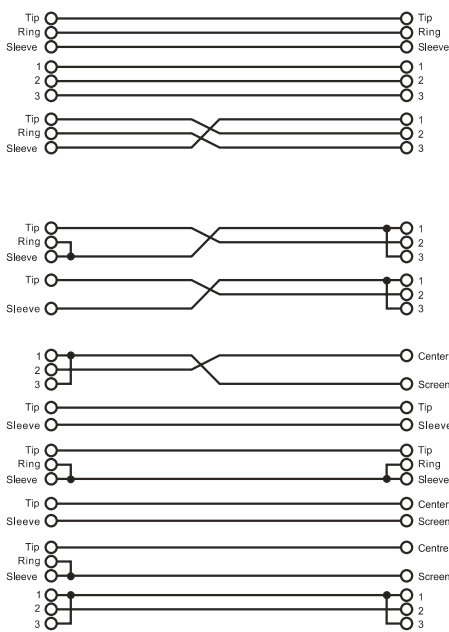
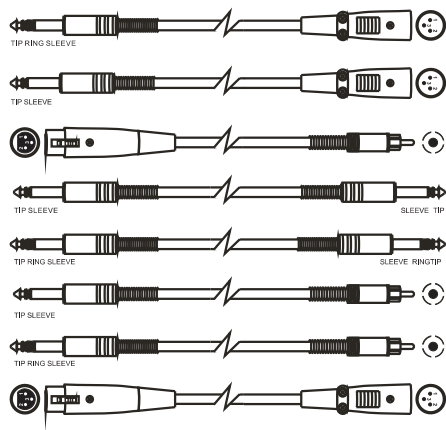
-在线连接

对于这些应用，本产品提供了1/4"TRS耳机座、XLR座与RCA座，便于与大部分专业音响设备连接，您的特定连接按以下举例说明：

• 在线连接



• 非平衡式



Introduction

Thank you very much for expressing your confidence in our products by purchasing the **TAKSTAR Unit Graphic Stereo** 31 Band Equalizer with sub out. With the unit you have acquired an extremely musical, flexible graphic equalizer and feedback suppresser.

The high-end unit is based on many years of experience and is designed to provide a permanent precise equalization to the musician, performer, studio engineer and sound contractor.

The unit can be used wherever is requested to modify the frequency "contour" of a sound and can offer a solution to many common sound problems and allows the user to use the creativity to obtain nice results in terms of sound characterization.

Features

- Easy to operate front panel controls
- Constant Q circuitry with a 3% center frequency accuracy
- Control range selectable: $\pm 6\text{dB}$ or $\pm 15\text{dB}$
- Active balanced and unbalanced input and output connectors
- Variable input level control
- Signal clip pilot
- Ground "LIFT" switch to disconnect signal ground from chassis ground
- Inputvoltage selectable
- Robust and compact design
- Manufactured Under QS9000, VDA6.1 certified management system
- Sub out only for unit

Safety Related Symbols



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



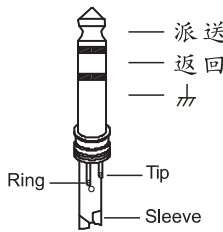
Carts and stands - The component should be used only with a cart or stand that is recommended by the manufacturer. A component and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the component and cart combination to overturn.

安装&连接说明

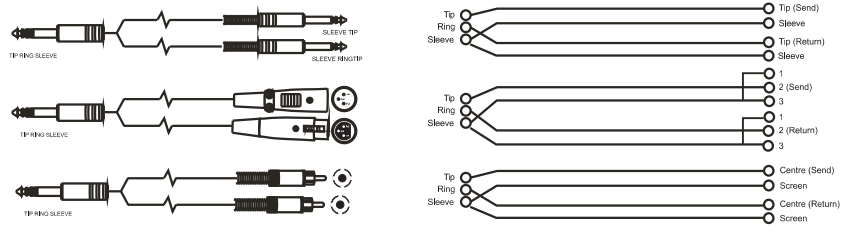
-插入点连接

若要连接到调音台的主接口，您可能有了一个单独的TRS座用于信号派送与返回， 这种情况下， 使用Y型插入线， 如下举例：

1/4" TRS插头



插头引线



-支架安装

最稳固的方法是将设备安装在通用支架上， 各支架制造厂或音乐产品经销商皆有出售。

请对后板上的连接座至少保留额外4"的深度。

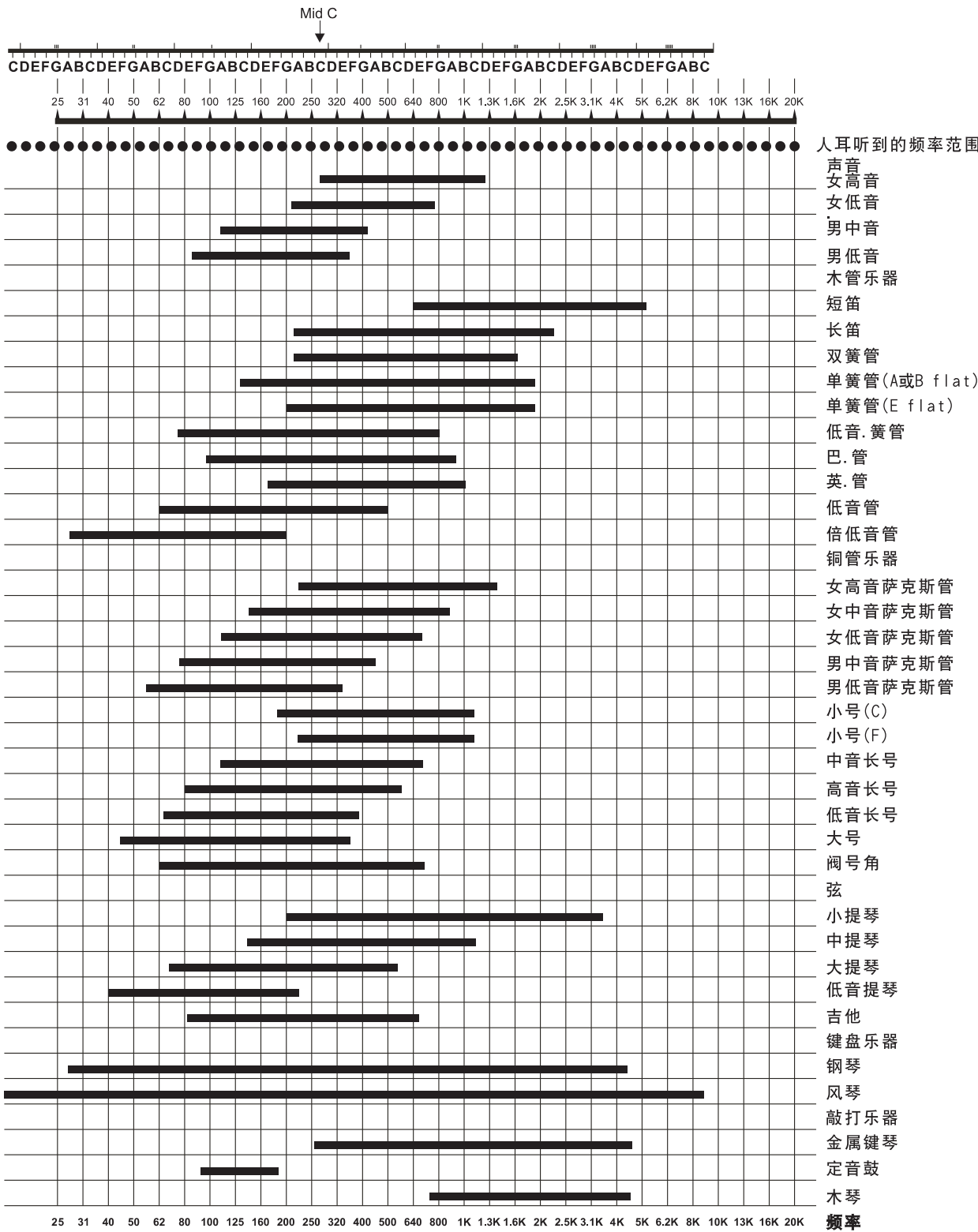
请确保设备周围空气通畅以便散热。

请不要将本产品置于高温设备上， 如功率放大器， 以避免设备过热。

应用说明

6.1 声音频率
在录音室、舞台或广播剧中，本产品将会是修改声音频率"形状"的有效工具。
但首先，需了解每种乐器与声音的典型频率，这样在声音特性上才能获得最佳效果。
如下页面上的表格可使您对每一特定频率与声学意义有一个大致了解。

每种乐器与声音的典型频率



技术参数

型号	EQ3102
类别	2x31波段：1/3倍频，ISO间距(2H)
滑杆步距	20mm，正中间止动
控制范围	±6dB或±15dB
输入座	平衡式XLR座与1/4" TRS座 非平衡式RCA座
输入阻抗	20kΩ（平衡） 15kΩ（非平衡）
最大输入位准	14dBu
输出座	平衡式XLR座与1/4" TRS座 非平衡式RCA座
重低音音箱输出 只针对unit	平衡式XLR座 频率50Hz-250Hz
输入阻抗	20kOhm（平衡） 15kOhm（非平衡）
输出阻抗	<600Ω
高通滤波	40Hz (12dB/倍频)
低通滤波	16Hz (12dB/倍频)
频率响应	20Hz to 50KHz - 1.5dBu
总谐波失真	<0.01%(@1kHz, 所有电位器在中间位置)
信噪比	>110dB
电源	95V-120V AC - 60Hz 220V - 240V - 50Hz / 60Hz
消耗功率	18W
尺寸	483 (W) x 220 (D) x 88 (H) (19" x 8.66" x 3.5")