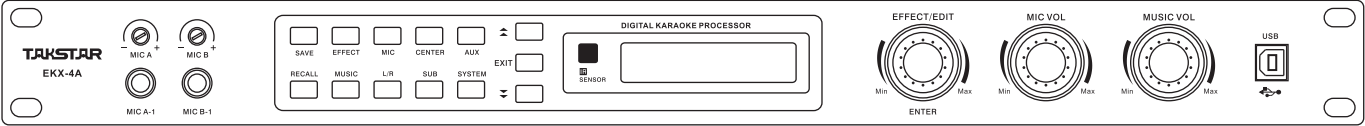




使用说明书
User's Manual

EKX-4A

数字卡拉OK效果器
DIGITAL KARAOKE EFFECTOR



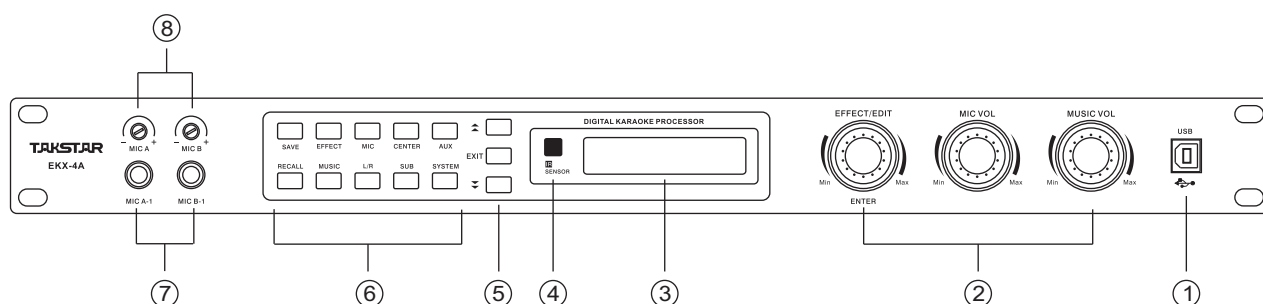
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产品功能

- * 96kHz采样率，40-bit浮点DSP运算处理器，24-bit AD/DA转换。
- * 2路独立话筒通道处理，同时可接4路话筒输入，分别带独立增益控制，相位，限制器，噪声门，可选类型的低切，20段参量均衡，激励（参数可调可保存），可选6级反馈抑制器等处理模块。
- * 话筒效果有总音量控制，限制器；ECHO带5段参量均衡（可做高低切），模式1、模式2效果可选，立体声和单回声效果可选，以及延时，重复，预延时参数独立可调；REVERB带5段参量均衡（可做高低切），有预延时，时间，激励，空间，反射参数调整；另外还有直达声效果处理。
- * 音乐通道具有总音量控制，限制器，噪声门，可选类型的低切，10段参量均衡，激励（参数可调可保存），升降调等处理模块。2路立体声音乐输入，其中BGM和VOD具有单独输入音量控制，可选择自动和手动切换模式。还配有1路光纤输入和1路同轴输入。
- * 5.1声道输出：左右输出，中置输出，辅助输出，超低音输出。
- * 左右输出具有独立音量控制，静音，相位，压缩（参数可调），9段参量均衡（可做高低切），左右延时等处理模块。
- * 中置输出具有独立音量控制，静音，相位，压缩（参数可调），6段参量均衡（可做高低切），延时等处理模块。
- * 辅助输出具有独立音量控制，静音，相位，压缩（参数可调），6段参量均衡（可做高低切），左右延时等处理模块。
- * 超低音输出具有独立音量控制，静音，相位，压缩（参数可调），5段参量均衡，可选类型的低切，高切，延时等处理模块，另AGC自动增益控制功能（通常所说当话筒关闭后，系统将自动进入舞曲状态），输出增益可接受话筒控制进行衰减，且衰减量连续可调。
- * 输出通道还具有舞曲和唱歌设定功能，有手动和自动选择模式，通常在自动模式下，当话筒打开后进入唱歌模式，当话筒关闭后进入舞曲模式。
- * 2路话筒处理通道可接不同类型的话筒，比如：无线话筒，有线话筒，落地式摇杆话筒，可针对不同类型的话筒进行独立的曲线修饰，这样可以将话筒音色做到极致。
- * 整机工作有三种状态，断电记忆，断电不记忆和断电不记忆且每次开机默认U01参数，适合不同人员在不同情况下使用。
- * 美观且操作简便的PC软件控制界面，而且在面板上也可基本实现PC界面上的功能操作。面板和软件都具有操作锁功能，面板带USB调试端口，后面带RS232中控控制端口，系统操作更安全方便。

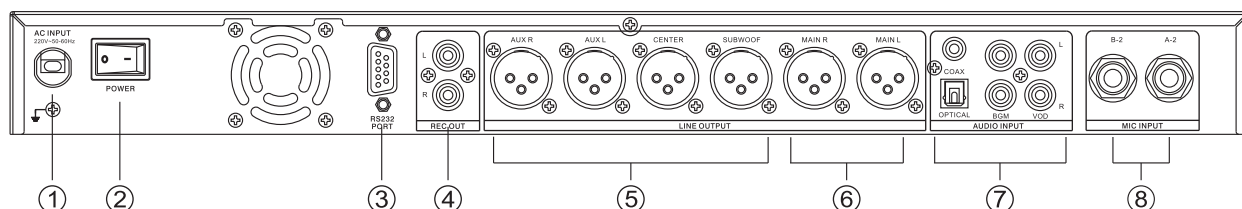
前面板说明



- ① USB端口
- ② EFFECT/MIC/MUSIC总音量调节
可控制效果量的大小及话筒和音乐音量的大小。
- ③ LCD显示屏
显示所有操作功能菜单。

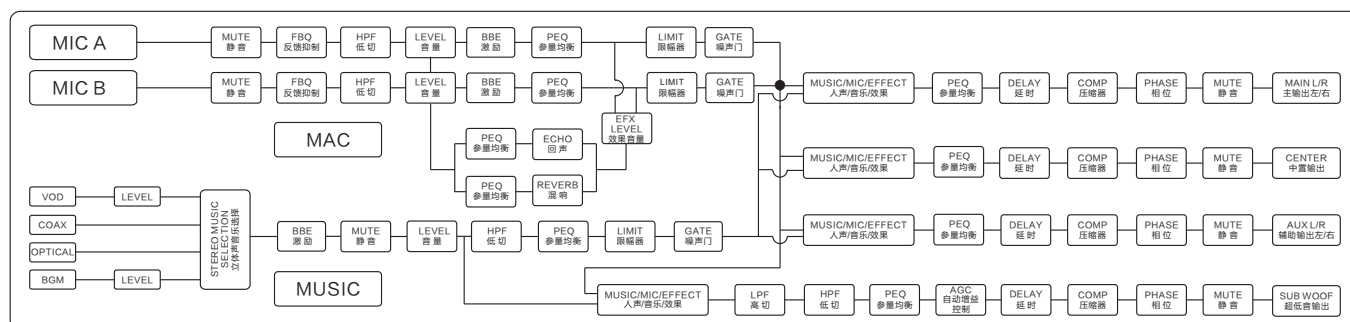
- ④ 红外遥控接收窗口
- ⑤ 主菜单翻页键，退出键
进入菜单后，按“▲▼”键可上下翻页，按EXIT键退出。
- ⑥ 主菜单控制按钮
可编辑MIC,MUSIC,EFFECT,L/R,AUX,CENTER,SUB,SYSTEM菜单，并存储和调用用户及出厂预设。
- ⑦ 麦克风输入座
MIC A,B可以接2路不同的话筒输入，独立可以处理。
- ⑧ 麦克风输入增益控制
可控制麦克风A,B的输入增益。

后背板说明



- ① 电源线
电源输入：AC~220V，50Hz。
- ② 电源开关
- ③ RS232接口
用来与PC/点歌系统连接，进行远程控制。
- ④ 录音输出端子
可连接到录音设备，进行话筒和音乐的同步录制。
- ⑤ 立体声辅助，中置，超低音输出
可连接立体声环绕，中置，超低音扩声系统。
- ⑥ 主输出端子
左右平衡式输出，可连接主扩音系统使用。
- ⑦ 音频输入端口
音频输入可手动切换至VOD，BGM，光纤，同轴输入通道，选自动时VOD和BGM会相互切换。
- ⑧ 话筒输入插座
A-2，B-2为MIC A和B的并联输入通道，一样可以接2路不同的话筒输入。

功能方框图



操作指导

主画面

KTV1 MUS: 0
EFF: 50 MIC: 0

开机自检结束后, LCD显示预设信息。有“KTV1”出厂预设和“U01-U16”16个用户预设可选择。“MUS”显示当前音乐音量值;“EFF”显示当前效果音量值;“MIC”显示当前话筒总音量大小。

SAVE键

Store Preset
U01 Default

按“SAVE”键可保存预设程序, 旋转“EFFECT/EDIT”编码器选择要保存的位置U01-U16。

Preset Naming
[Default]

连续按下“EFFECT/EDIT”编码器可编辑要保存文件的名称。

Preset Naming
Saving...

直至出现“Y”按确认后即可保存。

RECALL键

Load Preset
F01 KTV1

按一次“RECALL”键和旋转“EFFECT/EDIT”编码器可选择调用预设程序U01-U16或原厂预设程序F01, 再按一次为确认调用。

EFFECT键

ECHO PDLY: 0mS
MODE: MONO G: 80

按一下“EFFECT”键进入ECHO的参数界面: 回声增益调节范围是0-100; 预延时时间0-250mS可调; 模式选择有单回声(MONO)和立体声(STEREO)两种。

ECHO
REP: 60% T: 182mS

按一次“▼”键可以调整ECHO效果的重复和延时时间参数, 重复参数0-100%可调, 延时参数0-400ms可调。

ECHO TYPE
TYPE1

按二次“▼”键可以调整ECHO的效果模式, 有TYPE1和TYPE2两种不同算法的效果可选。

ECHO EQ1 Q: 0.40PK
F: 54.4 G: 0.0

按三次“▼”键可以调整ECHO的PEQ参数, ECHO的PEQ数量EQ1-5可选, PEQ的频率F、类型(PK参量均衡\LS低阶\HS高阶\LC低切\HC高切)、Q值、以及增益G可调。

RVB PREDLY: 50mS
TIME: 1.96s G: 30

按四次“▼”键进入REVERB参数调整界面: 预延时调节范围是0-250ms; 时间调节范围是0-4s, 增益调节范围是0-100。

REVERB EXCITER: 32
SP: 0mS REF: 12

按五次“▼”键可以调整REVERB的激励、空间、反射参数, 激励调整范围是0-70, 空间的调整范围是0-250ms, 反射的调整范围是0-100。

RVB EQ1 Q:0.71LC F:150.4 G: 0.0	按六次 “▼” 键可以调整REVERB的PEQ参数，REVERB的PEQ数量1-5可选，PEQ的频率F、类型（PK参量均衡\LS低阶\HS高阶\LC低切\HC高切）、Q值、以及增益可调。
DIRECT LEVEL 20%	按七次 “▼” 键可以调整效果里面的直达声音量，调整范围是0-100%。
EFX LIMIT 100	按八次 “▼” 键可以调整效果音量的限制参数，调节范围是0到100。
MUSIC键	
MUS EQ1 Q: 1.40PK F:31.3 G: 0.0	按一下 “MUSIC” 键可进入音乐参量均衡参数调整界面，PEQ的数量EQ1-10可选，PEQ的频率F、类型（PK参量均衡\LS低阶\HS高阶\LC低切\HC高切）、Q值、以及增益G可调。
MUS LOW CUT BYPASS 22.6Hz	按一次 “▼” 键可以调整音乐的低切参数：斜率可选BYPASS/BUTTERWORTH/BESSEL/LINK-6dB--24dB，频率调节范围
MUSIC BBE MODE OFF	按二次 “▼” 键可以选择音乐BBE激励的开和关状态：开是ON，关是OFF，当选择开的时候，激励的低频和高频的频率，以及增益参数独立可调。
MUSIC GATE ON	按三次 “▼” 键可以关闭和打开音乐的噪声门；ON是打开，OFF是关闭。
MUSIC LIMIT 100	按四次 “▼” 键可以调整音乐增益的限制参数：调节范围是0-100。
MUSIC IN VOD:100 AUTO BGM:100	按五次 “▼” 键可以选择音源输入的通道：VOD、BGM、SPIDIF、COAX，当选择AUTO时VOD和BGM通道会自动切换。VOD和BGM的输入音量可调，调整范围是0-100。
MUSIC KEYSHIFT NORMAL	按六次 “▼” 键可以调整音乐的升降调功能，升降调各有5阶可选，NORMAL是标准声音。
MIC键	
MIC GAIN 80	按一下 “MIC” 键进入话筒增益调整界面，调整范围是0-100。如果系统菜单里面选择了A，B话筒独立处理的时候，按一下 “MIC” 键会进入话筒A的参数调整界面，按第二次 “MIC” 键时进入话筒B的参数调整界面。
MIC EQ1 Q:4.00PK F:29.8 G:0.0	按一次 “▼” 键可进入话筒参量均衡参数调整界面，PEQ的数量EQ1-20可选，PEQ的频率F、类型（PK参量均衡\LS低阶\HS高阶\LC低切\HC高切）、Q值、以及增益G可调。

MIC LOW CUT BUT-12dB 42.2Hz	按二次“▼”键可以调整话筒的低切参数：斜率可选 BYPASS/BUTTERWORTH/BESSEL/LINK-6dB--24dB，频率调节范围
MIC EXCIT MODE OFF	按三次“▼”键可以关闭和打开话筒的激励功能；OFF是关闭，ON是打开，当选择开的时候，激励的低频和高频的频率，以及增益参数独立可调。
MIC GATE OFF	按四次“▼”键可以关闭和打开话筒的噪声门；OFF是默认关闭，ON是打开。
MIC PHASE 0	按五次“▼”键可以调整话筒相位参数：选择范围是0和180。
MIC FBT LEVEL1	按六次“▼”键可以调整话筒的反馈参数，共有6个级别的反馈参数可选。
MIC LIMIT 100	按七次“▼”键可以调整话筒增益的限制参数：调节范围是0-100。
L/R键	
L/R IN BALANCE MIC: 90 MUS: 90	按一下“L/R”键进入主输出的话筒和音乐音量控制界面，调整范围都是0-100。
L/R EFF BALANCE ECHO: 90 RVB: 90	按一次“▼”键可以调整主输出的ECHO和REVERB效果的音量，调整范围都是0-100。
L/R EQ1 Q: 1.70PK F: 25.4 G: 0.0	按二次“▼”键可以进入主输出的参量均衡参数调整界面，PEQ的数量EQ1-9可选，PEQ的频率F、类型（PK参量均衡\LS低阶\HS高阶\LC低切\HC高切）、Q值、以及增益G可调。
L/R L: 0.000mS DYL R: 0.000mS	按三次“▼”键可以调整主输出的左右延时参数，调整范围是0-100ms。
L/R PHASE 0	按四次“▼”键可以调整主输出相位参数：选择范围是0和180。
L/R CMP T: +20.0 R:3.0 A:50 R:500	按五次“▼”键可以调整主输出的压缩器参数：T代表压缩值，调整范围是-40dB到+20dB；第二行第一个R代表压缩比率，1:1-1:2-LIMIT；A代表压缩器的启动时间，调整范围是0-200MS；最后一个R代表压缩器的恢复时间，调整范围是0-999MS。

L/R OUT UNMUTE	按六次 “▼” 可以关闭和打开主输出的静音功能；Unmute是不静音，Mute是静音。
CENTER键	
CNT IN BALANCE MIC: 90 MUS: 90	按一下“CENIER”键进入中置输出的话筒和音乐音量控制界面，调整范围都是0-100。
CNT EFF BALANCE ECHO: 90 RVB: 90	按一次 “▼” 键可以调整中置出的ECHO和REVERB效果的音量，调整范围都是0-100。
CNT EQ1 Q: 1.70PK F: 30.5 G: 0.0	按二次 “▼” 键可以进入中置输出的参量均衡参数调整界面，PEQ的数量EQ1-9可选，PEQ的频率F、类型（PK参量均衡\LS低阶\HS高阶\LC低切\HC高切）、Q值、以及增益G可调。
CNT DELAY 0.000mS	按三次 “▼” 键可以调整中置输出的延时参数：调节范围是0ms-100ms。
CNT PHASE 0	按四次 “▼” 键可以调整中置输出的相位参数：选择范围是0和180。
CNT CMP T: +20.0 R:3.0 A:50 R:500	按五次 “▼” 键可以调整中置输出的压缩器参数：T代表压缩值，调整范围是-40dB到+20dB；第二行第一个R代表压缩比率，1:1-1:2-LIMIT；A代表压缩器的启动时间，调整范围是0-200MS；最后一个R代表压缩器的恢复时间，调整范围是0-999MS。
CNT OUT UNMUTE	按六次 “▼” 键可以关闭和打开中置输出的静音功能；Unmute是不静音，Mute是静音。
SUB键	
SUB IN BALANCE MIC: 0 MUS: 90	按一下“SUB”键进入超低音输出的话筒和音乐音量控制界面，调整范围都是0-100。
SUB EFF BALANCE ECHO: 0 RVB: 0	按一次 “▼” 键可以调整超低音输出的ECHO和REVERB效果的音量，调整范围都是0-100。
SUB AGC 0.0dB	按二次 “▼” 键可以调整超低音输出的自动衰减量，当有话筒输入时超低音输出音量会自动衰减，衰减范围是-30dB到0dB。
SUB EQ1 Q: 4.0 PK F: 26.0 G: 0.0	按三次 “▼” 键可以进入超低音输出的参量均衡参数调整界面，PEQ的数量EQ1-9可选，PEQ的频率F、类型（PK参量均衡\LS低阶\HS高阶\LC低切\HC高切）、Q值、以及增益G可调。

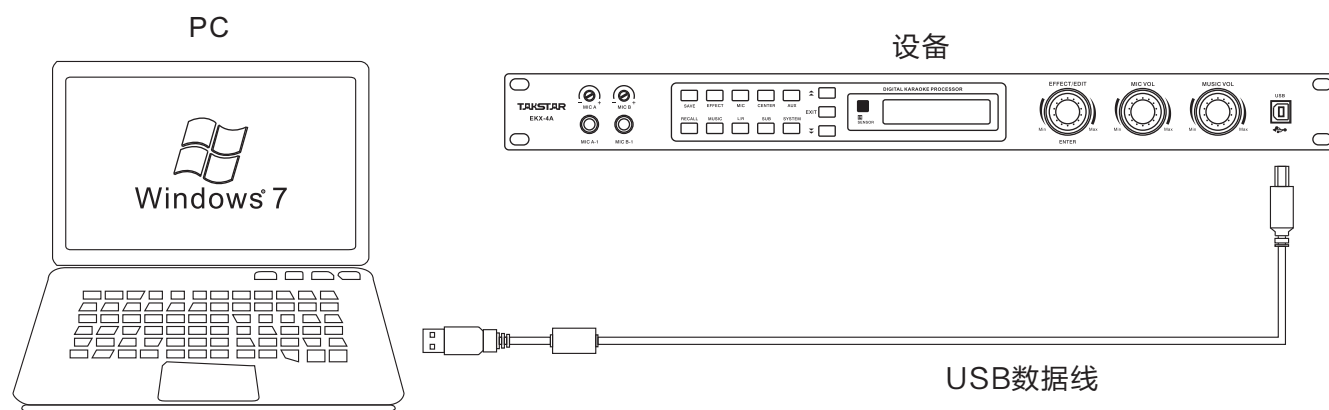
SUB HIGH CUT L/R-24dB 101.5Hz	按四次“▼”键可以调整超低音输出的高切参数：斜率可选BUTTERWORTH/BESSEL/LINK-6dB--24dB，频率调节范围是20Hz-500Hz。
SUB LOW CUT L/R-24dB 19.7Hz	按五次“▼”键可以调整超低音输出的低切参数：斜率可选BYPASS/BUTTERWORTH/BESSEL/LINK-6dB--24dB，频率调节范围是20Hz-500Hz。
SUB DELAY 0.000ms	按六次“▼”键可以调整超低音输出的延时参数：调节范围是0ms-100ms。
SUB PHASE 0	按七次“▼”键可以调整超低音输出的相位参数：选择范围是0和180。
SUB CMP T: +20.0 R: 3.0 A: 50 R: 500	按八次“▼”键可以调整超低音输出的压缩器参数：T代表压缩值，调整范围是-40dB到+20dB；第二行第一个R代表压缩比率，1:1-1:2-LIMIT；A代表压缩器的启动时间，调整范围是0-200MS；最后一个R代表压缩器的恢复时间，调整范围是0-999MS。
SUB OUT UNMUTE	按九次“▼”可以关闭和打开超低音输出的静音功能；Unmute是不静音，Mute是静音。
AUX键	
AUX IN BALANCE MIC: 90 MUS: 90	按一下“AUX”键进入辅助输出的话筒和音乐音量控制界面，调整范围都是0-100。
AUX EFF BALANCE ECHO: 90 RVB: 90	按一次“▼”键进入辅助输出的ECHO和REVERB效果的音量，调整范围都是0-100。
AUX EQ1 Q: 1.70PK F: 30.5 G: 0.0	按二次“▼”键进入辅助输出的参量均衡参数调整界面，PEQ的数量EQ1-9可选，PEQ的频率F、类型（PK参量均衡\LS低阶\HS高阶\LC低切\HC高切）、Q值、以及增益G可调。
AUX L: 0.000mS DYL R: 0.000mS	按三次“▼”键可以调整辅助输出的左右延时参数，可调范围是0-100ms。
AUX PHASE 0	按四次“▼”键可以调整辅助输出相位参数：选择范围是0和180。
AUX CMP T: +20.0 R: 3.0 A: 50 R: 500	按五次“▼”键可以调整辅助输出的压缩器参数：T代表压缩值，调整范围是-40dB到+20dB；第二行第一个R代表压缩比率，1:1-1:2-LIMIT；A代表压缩器的启动时间，调整范围是0-200MS；最后一个R代表压缩器的恢复时间，调整范围是0-999MS。

AUX OUT Unmute	按六次“▼”可以关闭和打开辅助输出的静音功能；Unmute是不静音，Mute是静音。
SYSTEM键	
HI MODE VOICE	按一下“SYSTEM”系统设置按键后进入设备输出的工作模式设置功能界面：VOICE是唱歌模式；DANCE是舞曲模式；当选择AUTO时进入自动切换模式，话筒开的时候设备进入唱歌模式状态，话筒关的时候设备自动进入舞曲模式状态。请注意，选择了任意功能后，需要按一下编码器的确认键，出现“Saving…”后字符不再闪动时才是被选中。
MIC MODE A+B	按一次“▼”键进入话筒输入的通道切换功能界面，A+B是单话筒处理模式，所有话筒输入只经过一个通道处理；A,B是两路话筒处理模式，A,B话筒进入两个通道独立进行处理。请注意，选择了任意功能后，需要按一下编码器的确认。
MIC OUT EQ BYPASS OFF	按二次“▼”键进入话筒的输出EQ旁路功能设置界面，ON是话筒经过输出EQ的处理，OFF是话筒不经过输出EQ的处理。请注意，选择了任意功能后，需要按一下编码器的确认键，出现“Saving…”后字符不再闪动时才是被选中。
Unit Lock Pass Word [1 2 3 4] Y	按三次“▼”键进入面板密码设置功能界面，待设定好密码之后按“Y”进行确认，按“N”时退出。
WORKING STATUS MEMORIZE	按四次“▼”键可以进入机器的工作状态界面：默认是“MEMORIZE”为断电即时参数保存；“FORGET”为断电不保存；U01为机器无论是什么状态关机再开机后都回到U01用户预设程序。请注意，选择了任意功能后，需要按一下编码器的确认键，出现“Saving…”后字符不再闪动时才是被选中。
IR SETING CHECK ALL	按五次“▼”键进入遥控器代码设置界面：默认状态是“CHECK ALL”检查四码方式，选择“CHECK KEY”为检查单码方式。请注意，选择了任意功能后，需要按一下编码器的确认键，出现“Saving…”后字符不再闪动时才是被选中。
LOAD MUTE OFF	按六次“▼”键进入调用预设时的状态设置界面，OFF是调用预设时不静音，On是调用预设时静音。请注意，选择了任意功能后，需要按一下编码器的确认键，出现“Saving…”后字符不再闪动时才是被选中。

PC软件

提示：所需PC控制软件和产品说明书都保存在附件的光盘

USB数据线连机步骤



USB数据线连接方式

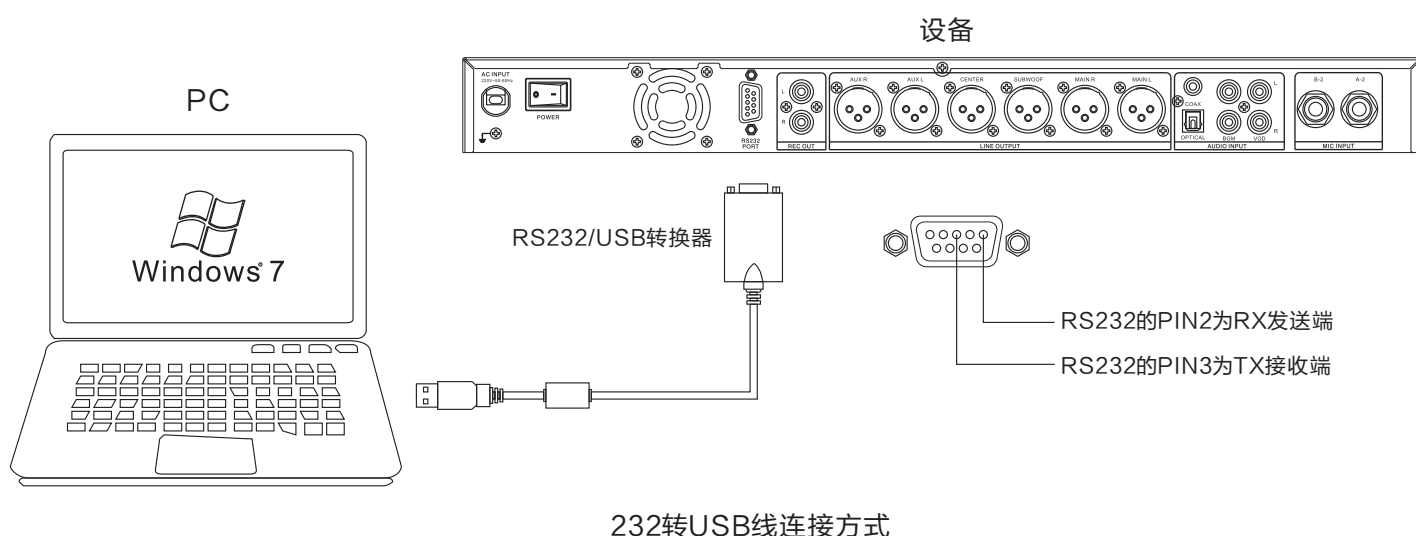
- 一. 点击安装光盘上随机附送的PC控制软件，根据默认提示按“下一步”进行操作，直到软件安装成功后按“完成”退出，出现以下窗口后关闭此控制软件窗口：



- 二. 将电脑和前级用USB数据线连接起来，打开前级电源，此时电脑会自动找到新硬件并且提示硬件已安装而且可以使用。
- 三. 打开PC控制软件，PC软件会自动寻找USB并且联机，联机后右上角联机按键会变成绿色，并且显示“已联机”，说明软件与机器已联机成功，此时可以通过控制软件对前级进行操作。退出时同样先点击“已联机”按键，再关闭软件界面窗口即可：



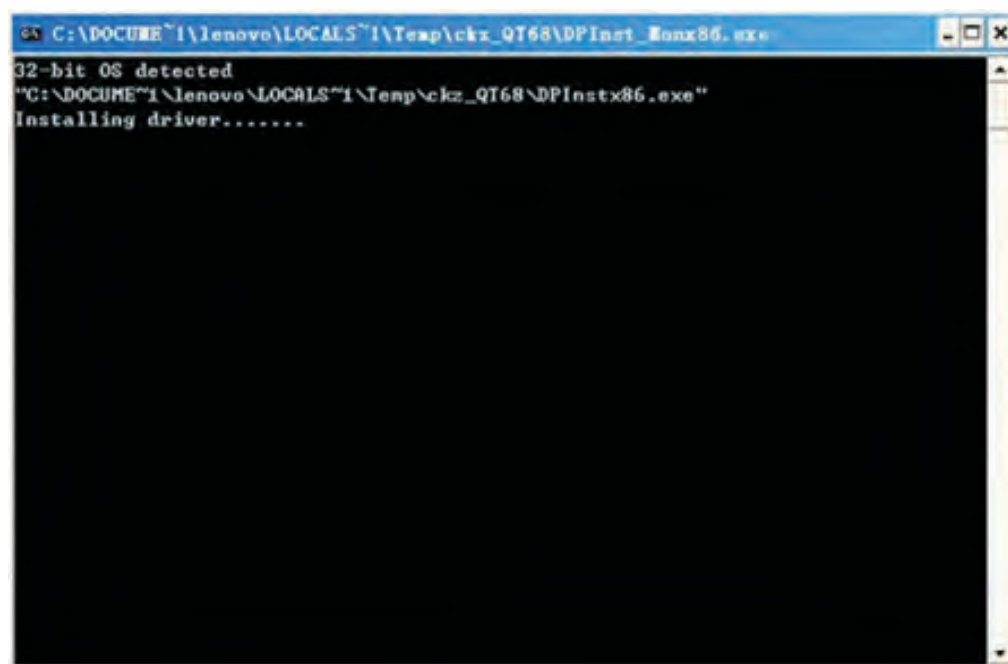
RS232转USB数据线联机步骤



- 一. 点击安装光盘上随机附送的PC控制软件，根据默认提示按“下一步”进行操作，直到软件安装成功后按“完成”退出，出现以下窗口后关闭此控制软件窗口：

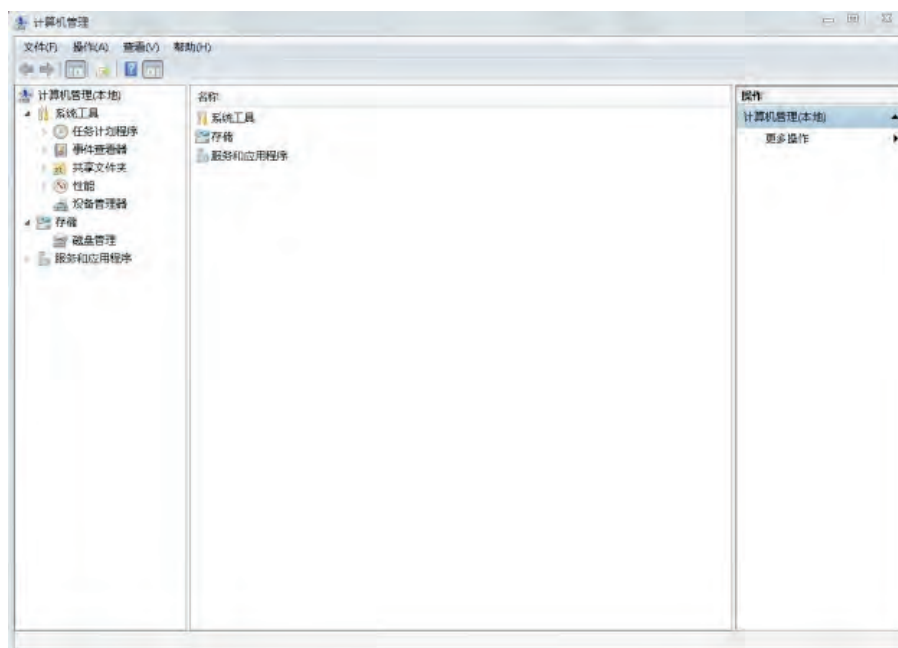


- 二. 点击安装RS232转USB数据线的驱动（驱动程序在购买此数据线随线附送的光盘内，请选择合适并兼容电脑操作系统的驱动，比如Windows 7系统电脑安装符合Windows 7系统的驱动，XP系统电脑安装符合XP系统的驱动），安装过程中可能会闪烁出现以下窗口：

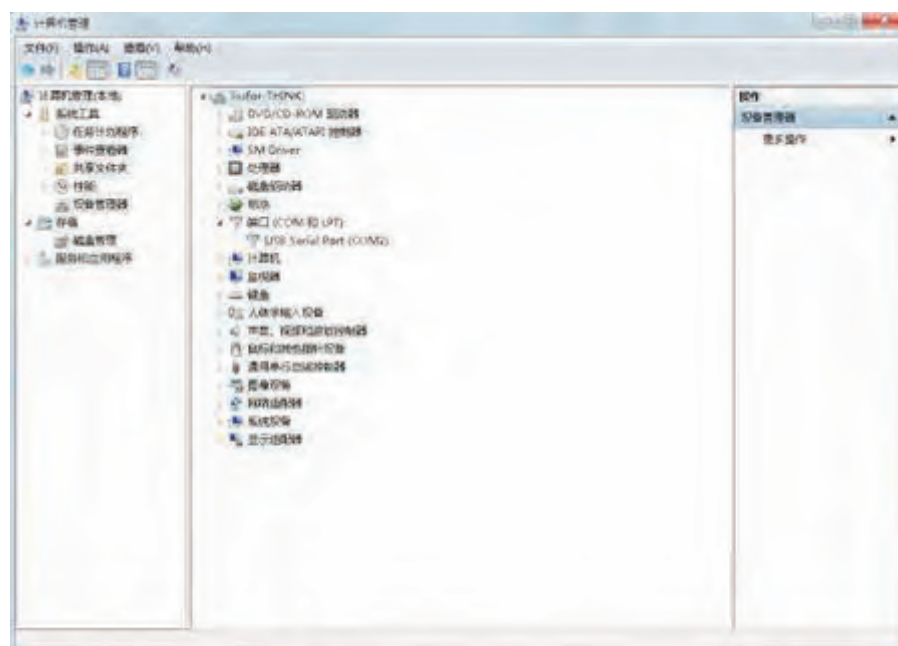


三. 驱动安装成功后，将RS232转USB数据线把电脑和前级连接起来，打开前级电源，此时电脑会自动找到新的硬件并且提示硬件已安装而且可以使用，可在以下步骤寻找当前USB的COM端口号：

1. 将鼠标移至电脑桌面上的“计算机”或“我的电脑”图标上点击右鼠标键后再点击“管理”，出现以下窗口：



2. 点击“设备管理器”后，再点击“端口（COM和LPT）”弹出以下窗口，显示当前USB的COM端口号后关闭此窗口：

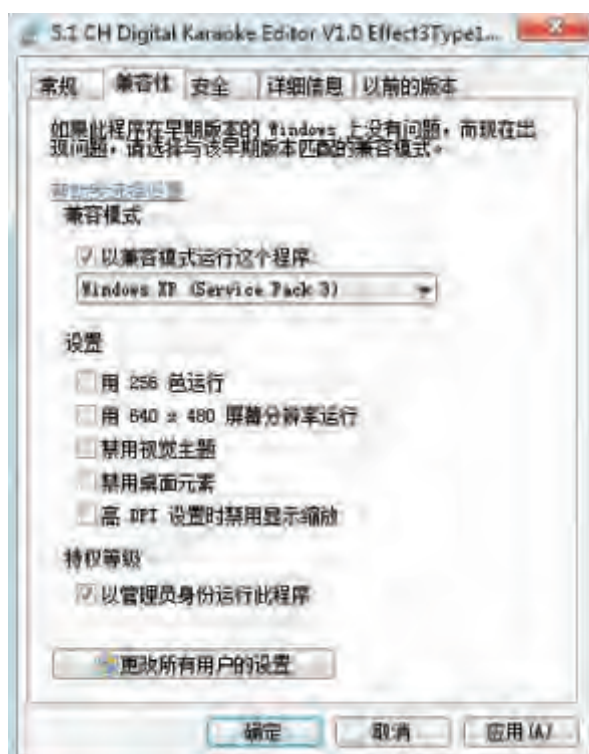


四. 如果您的电脑是Windows 7或Windows 8的操作系统，依照以下步骤进行操作；如果电脑是XP或其它的操作系统，则跳过此点操作，直接按照“第五点”进行。

1. 将鼠标移至安装好的PC控制软件图标上（不要点击打开），点击右键鼠标键选择“属性”后会弹出以下窗口：



2. 点击“兼容性”栏会出现以下窗口，在“特权等级”下方勾选“以管理员身份运行此程序”，点击“应用”后再点击“确定”：



五. 打开PC控制软件，系统会自动寻找USB的COM端口，PC软件的右上角连机按键会变成绿色，并且显示“已连机”，说明软件与机器已连机成功，此时可以通过控制软件对前级进行操作。退出时同样先点击“已连机”按键，再关闭软件界面窗口即可：



PC软件界面说明



① 菜单栏

可以进行整机数据的上传下载，单个预设文件的保存和调用，连机，面板锁操作，工作状态选择，推荐效果值选择以及中英文的界面切换等操作。

② 连机键

一键式连机，绿色说明已连机，蓝色说明已断开连机。

- ③ 参数调节区
可以对所需要的通道功能进行详细的参数设置。
- ④ 预设操作区
可以进行单个预设的保存和调用，注意此时保存和调用的预设都是在机器里面。
- ⑤ 静音按钮
可以控制所有音乐和话筒的静音和不静音。

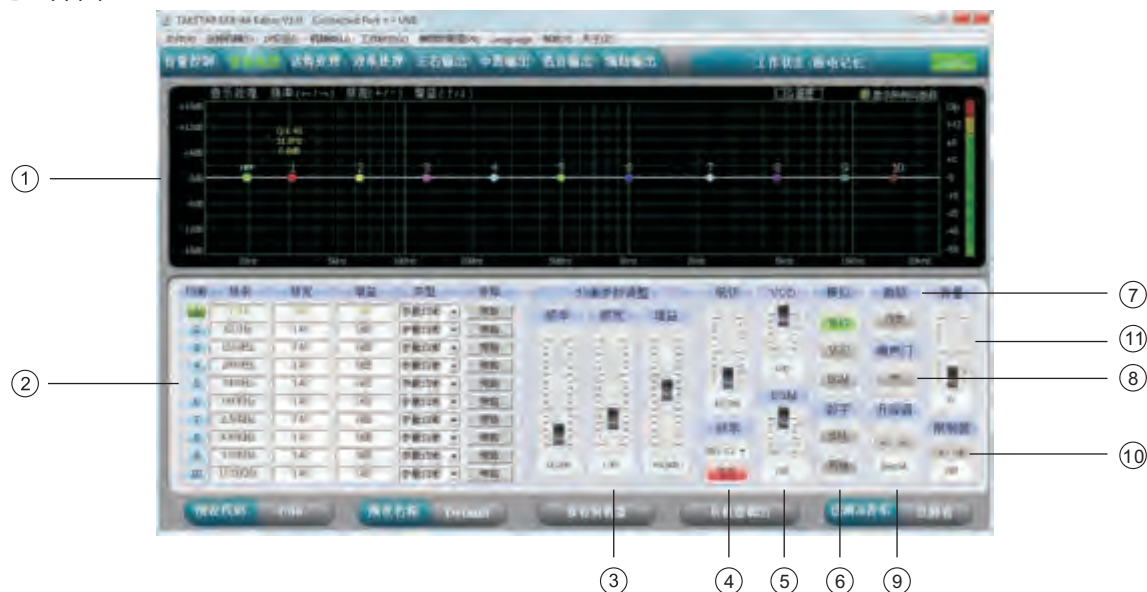
PC软件操作说明

一.音量控制界面



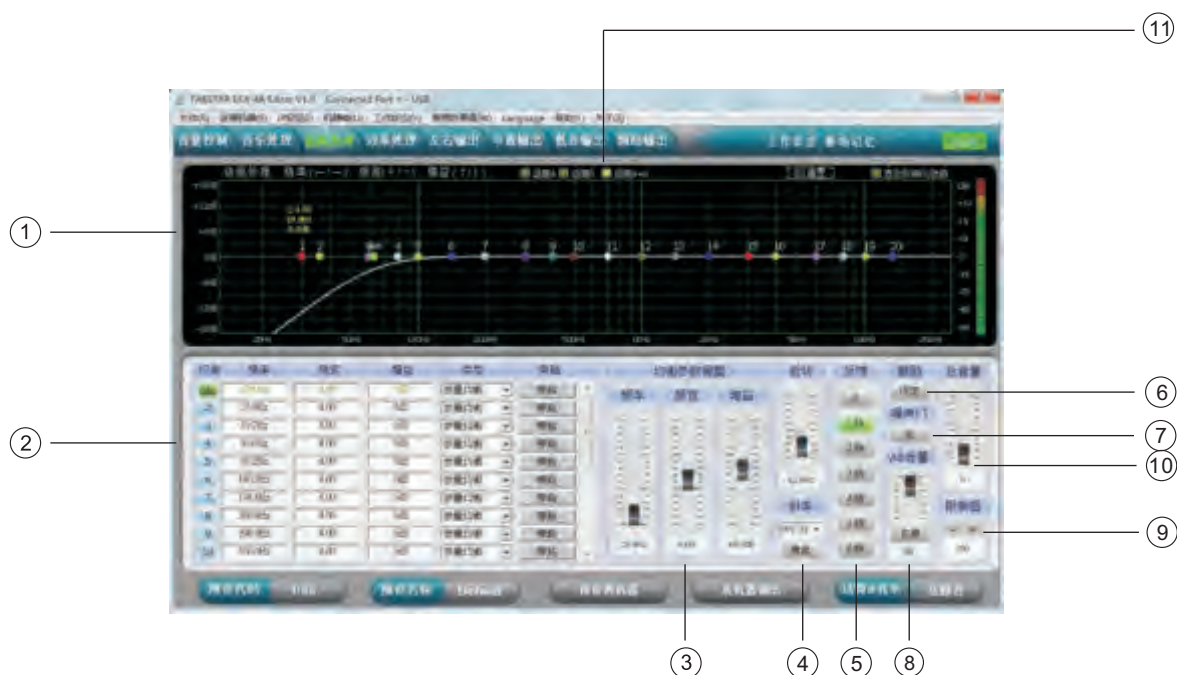
- ① 显示当前音乐，话筒，效果的PEQ曲线状态。
- ② 输入音源选择：VOD，BGM为模拟输入，光纤和同轴为数字输入。
- ③ 可以调整音乐，话筒，效果的音量以及限制器参数。
- ④ 可以调整左右输出，中置输出，超低音输出以及辅助输出的独立音量大小以及电平显示和静音功能。

二. 音乐处理界面



- ① PEQ参量均衡曲线调节区域，通过拖动频点（小圆点）可以调整频率和增益参数，拖动小方块可以改变低切点的频率，点击“显示所有EQ参数”可以显示所有PEQ点的频率，增益，带宽参数，点击“EQ重置”可以将所有PEQ参数恢复到出厂默认值。
- ② PEQ参量均衡参数显示区域，可以手动输入数据来改变相应频点的频率，Q值，增益，滤波类型（低阶，高阶，低切，高切）可选，以及旁路功能键。
- ③ PEQ参量均衡参数调整推杆，可以改变当前被选中的PEQ参数(频率，频宽，增益)。
- ④ 可以调整音乐的低切频率，低切的滤波类型选择有BUTTERWORTH-6dB--24dB/BESSEL-6dB--24dB/LINK-12dB--24dB，以及旁路按键。
- ⑤ 可改变VOD和BGM输入的音量大小。
- ⑥ 音乐音源的输入选择可切换至自动（AUTO:VOD,BGM)和手动模式(VOD TV COAX OPTICAL)。
- ⑦ 点击“设定”开关后弹出音乐激励参数窗口，其中有低频和高频的激励频率、激励量可调。激励的开和关、自动状态选择。进入自动状态后，当打开话筒时音乐的激励功能将自动关闭，另外还有专业箱参考值和卡包箱参考值供参考。
- ⑧ 可以打开和关闭音乐输入噪声门功能。
- ⑨ 音乐升降调调节，b1-5降调，NORMAL标准，#1-5升调。
- ⑩ 点击“+”键可以改变音乐音量限制器的参数。
- ⑪ 可以对音乐的音量大小进行控制。

三. 话筒处理界面



- ① PEQ参量均衡曲线调节区域，通过拖动频点（小圆点）可以调整频率和增益参数，拖动小方块可以改变低切点的频率，点击“显示所有EQ参数”可以显示所有PEQ点的频率，增益，带宽参数，点击“EQ重置”可以将所有PEQ参数恢复到出厂默认值。

- ② PEQ参量均衡参数显示区域，可以手动输入数据来改变相应频点的频率，Q值，增益,滤波类型（低阶，高架，低切，高切）可选，以及旁路功能键。
- ③ PEQ参量均衡参数调整推杆，可以改变当前被选中的PEQ参数（频率，频宽，增益）。
- ④ 可以调整音乐的低切频率,低切的滤波类型选择有BUTTERWORTH-6dB--24dB/BESSEL -6dB--24dB/LINK-12dB--24dB,以及旁路按键。
- ⑤ 反馈抑制有六个级别的选择，选择“关”键没有启动反馈抑制功能。
- ⑥ 点击“设定”开关后弹出音乐激励参数窗口，其中有低频和高频的激励频率、激励量可调。激励的开和关选择，另外还有专业箱参考值和卡包箱参考值供参考。
- ⑦ 可以打开和关闭话筒输入噪声门功能。
- ⑧ 点击AB话筒的输入音量控制推杆，可同时控制2个通道，也可以独立控制，以及话筒AB的相位调整。
- ⑨ 点击“+-”可以改变话筒音量限制器的参数。
- ⑩ 可以对话筒总音量的大小进行控制。
- ⑪ 话筒输入通道选择，选话筒A,话筒B时可独立输入和处理，话筒A+B时同时处理。

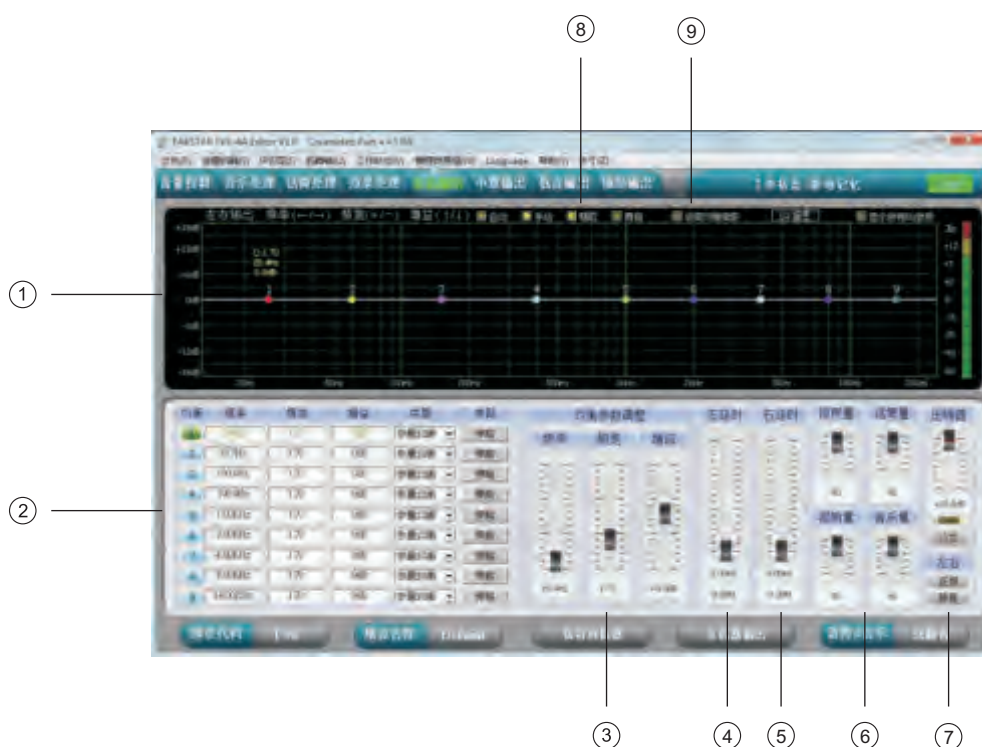
四. 效果处理界面



- ① 回声和混响的PEQ参数独立处理，通过拖动频点（小圆点）可以调整频率和增益参数，点击“显示所有EQ参数”可以显示所有PEQ点的频率、增益、带宽参数，点击“EQ重置”可以将所有PEQ参数恢复到出厂默认值。
- ② PEQ参量均衡参数显示区域，可以手动输入数据来改变相应频点的频率，Q值，增益，滤波类型（低阶、高架、低切、高切）可选，以及旁路功能键。
- ③ PEQ参量均衡参数调整推杆，可以改变当前被选中的PEQ参数（频率，频宽，增益）。

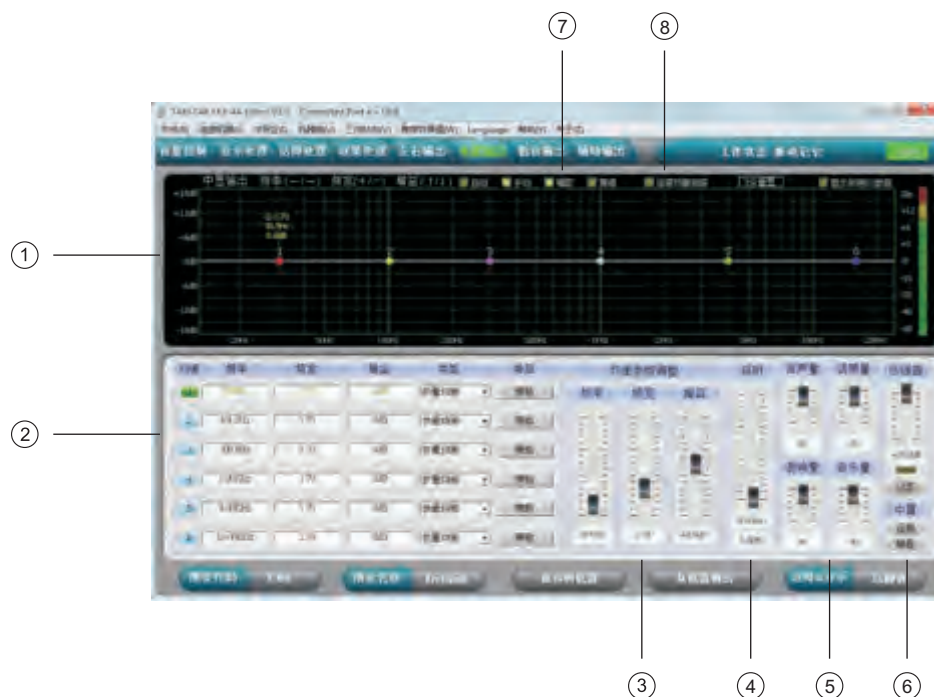
- ④ 回声有模式1，模式2，单声和立体声选择，模式1，模式2是两种不同的回声效果，单声状态时只有一个延时和一个重复参数可调；立体声状态时左右的延时和重复参数单独可调，以及回声的预延时可调。
- ⑤ 混响的音量，时间,预延时，激励，反射，空间参数可调。
- ⑥ 可调整效果的直达声参数。
- ⑦ 点击“+”可以改变效果音量限制器的参数。
- ⑧ 可以对效果总音量的大小进行控制。

五. 左右输出处理界面



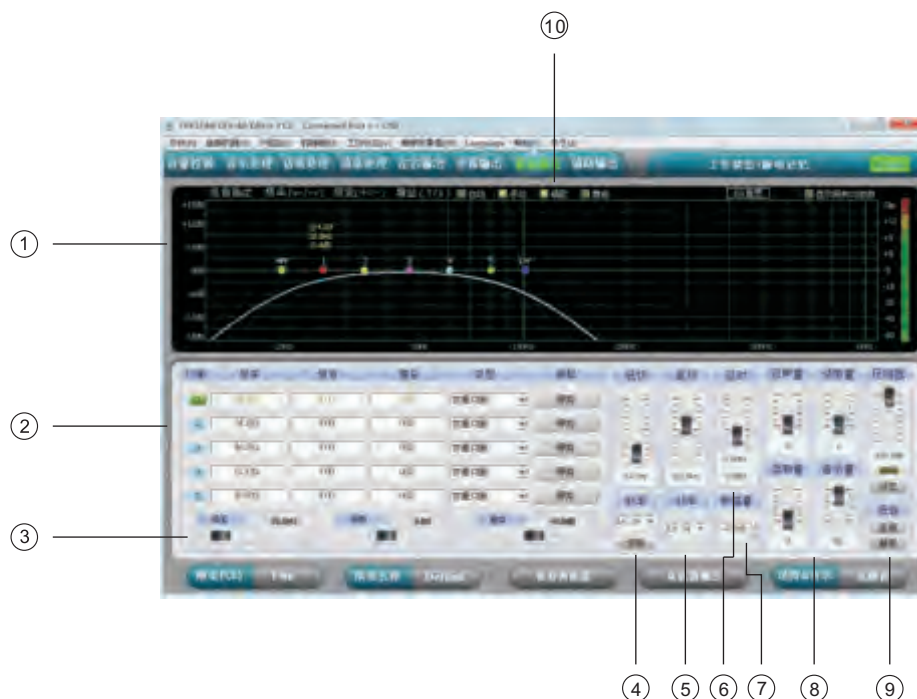
- ① PEQ参量均衡曲线调节区域，通过拖动频点（小圆点）可以调整频率和增益参数，点击“显示所有EQ参数”可以显示所有PEQ点的频率，增益,带宽参数，点击“EQ重置”可以将所有PEQ参数恢复到出厂默认值。
- ② PEQ参量均衡参数显示区域，可以手动输入数据来改变相应频点的频率，Q值，增益，滤波类型（低阶、高架、低切、高切）可选，以及旁路功能键。
- ③ PEQ参量均衡参数调整推杆，可以改变当前被选中的PEQ参数（频率、频宽、增益）。
- ④ 主输出的左声道单独延时可调。
- ⑤ 主输出的右声道单独延时可调。
- ⑥ 可以对主输出左右的音乐音量，话筒音量，回声和混响音量独立控制。
- ⑦ 可以调整压缩器的阈值参数，以及压缩电平灯显示。黄灯亮了之后说明压缩器已启动，点击“设定”键进入压缩器参数设置窗口，阈值，启动恢复时间，比例可调以及压缩曲线显示。左右的相位选择0和180，以及静音功能。
- ⑧ 可设置输出通道的工作模式，手动状态时可选择唱歌和舞曲模式，选择自动状态时，当话筒打开时进入唱歌模式，话筒关闭时进入舞曲模式。
- ⑨ 话筒均衡旁路设定，当选择此功能时，话筒处理不经过输出通道的PEQ，不选时经过输出PEQ处理。

六.中置输出处理界面



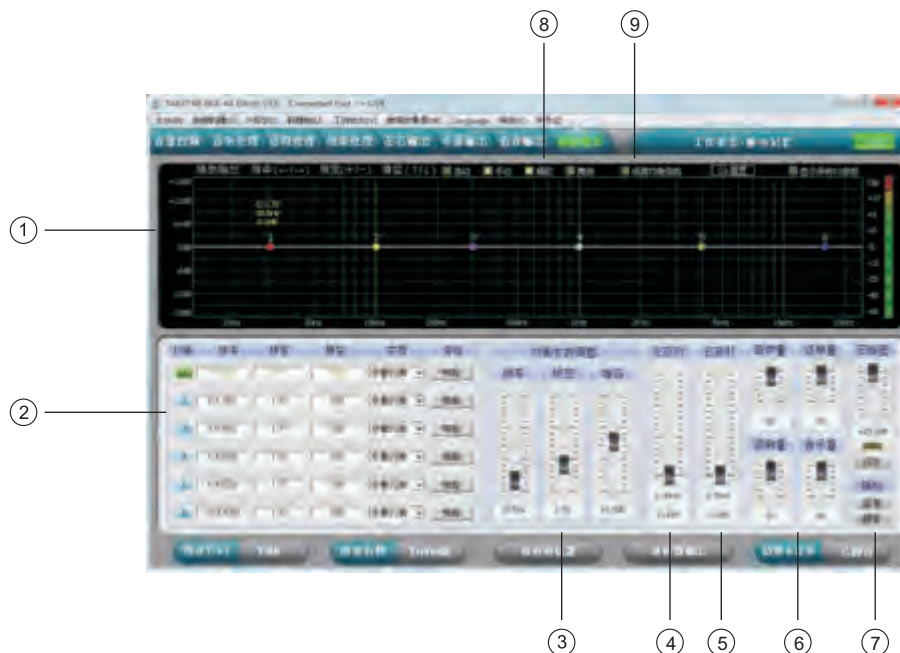
- ① PEQ参量均衡曲线调节区域，通过拖动频点（小圆点）可以调整频率和增益参数，点击“显示所有EQ参数”可以显示所有PEQ点的频率，增益，带宽参数，点击“EQ重置”可以将所有PEQ参数恢复到出厂默认值。
- ② PEQ参量均衡参数显示区域，可以手动输入数据来改变相应频点的频率，Q值，增益，滤波类型（低阶、高架、低切、高切）可选，以及旁路功能键。
- ③ PEQ参量均衡参数调整推杆，可以改变当前被选中的PEQ参数（频率、频宽、增益）。
- ④ 中置输出的延时参数可以单独调整。
- ⑤ 中置输出的音乐,话筒，回声，混响音量独立可调。
- ⑥ 可以调整压缩器的阈值参数，以及压缩电平灯显示。黄灯亮了之后说明压缩器已启动，点击“设定”键进入压缩器参数设置窗口，阈值，启动恢复时间，比例可调以及压缩曲线显示。中置的相位0和180选择，以及静音功能。
- ⑦ 可设置输出通道的工作模式，手动状态时可选择唱歌和舞曲模式，选择自动状态时，当话筒打开时进入唱歌模式，话筒关闭时进入舞曲模式。
- ⑧ 话筒均衡旁路设定，当选择此功能时，话筒处理不经过输出通道的PEQ，不选时经过输出PEQ处理。

七. 超低音输出处理界面



- ① PEQ参量均衡曲线调节区域，通过拖动频点（小圆点）可以调整频率和增益参数，拖动小方块可以改变低切点的频率，点击“显示所有EQ参数”可以显示所有PEQ点的频率、增益、带宽参，点击“EQ重置”可以将所有PEQ参数恢复到出厂默认值。
- ② PEQ参量均衡参数显示区域，可以手动输入数据来改变相应频点的频率，Q值，增益，滤波类型（低阶,高阶，低切，高切）可选，以及旁路功能键。
- ③ PEQ参量均衡参数调整推杆，可以改变当前被选中的PEQ参数（频率、频宽、增益）。
- ④ 可调整超低音的低切频率，调整范围20Hz-500Hz，低切滤波类型选择有BUTTERWORTH-6--24dB/BESSEL-6dB--24dB/LINK-12dB--24dB，以及旁路功能按键。
- ⑤ 可调整超低音的高切频率，调整范围20Hz-500Hz，高切滤波类型选择有BUTTERWORTH-6dB--24dB/BESSEL-6dB--24dB/LINK-12dB--24dB。
- ⑥ 超低音输出的延时参数可单独调整。
- ⑦ 此功能为AGC自动增益控制，当话筒有输入的时候超低音的输出音量可慢慢衰减，且衰减量连续可调，衰减 值在0dB到-60dB。
- ⑧ 超低音的输出音乐，话筒，回声，混响音量独立可调。
- ⑨ 可以调整压缩器的阀值参数，以及压缩电平灯显示。黄灯亮了之后说明压缩器已启动，点击“设定”键进入压缩器参数设置窗口，阈值，启动恢复时间，比例可调以及压缩曲线显示。超低音的相位0和180选择，以及静音功能。
- ⑩ 可设置输出通道的工作模式，手动状态时可选择唱歌和舞曲模式，选择自动状态时，当话筒打开时进入唱歌模式，话筒关闭时进入舞曲模式。

八. 辅助输出处理界面



- ① PEQ参量均衡曲线调节区域，通过拖动频点（小圆点）可以调整频率和增益参数，点击“显示所有EQ参数”可以显示所有PEQ点的频率、增益、带宽参数，点击“EQ重置”可以将所有PEQ参数恢复到出厂默认值。
- ② PEQ参量均衡参数显示区域，可以手动输入数据来改变相应频点的频率、Q值、增益、滤波类型（低阶、高阶、低切、高切）可选，以及旁路功能键。
- ③ PEQ参量均衡参数调整推杆，可以改变当前被选中的PEQ参数（频率、频宽、增益）。
- ④ 辅助输出的左延时参数可以单独调整。
- ⑤ 辅助输出的右延时参数可以单独调整。
- ⑥ 辅助输出的音乐，话筒，回声，混响的音量独立可调。
- ⑦ 可以调整压缩器的阈值参数以及压缩电平灯显示。黄灯亮了之后说明压缩器已启动，点击“设定”键进入压缩器参数，设置窗口，阈值，启动恢复时间，比例可调以及压缩曲线显示。辅助输出的相位0和180可选，以及静音功能。
- ⑧ 可设置输出通道的工作模式，手动状态时可选择唱歌和舞曲模式，选择自动状态时，当话筒打开时进入唱歌模式，话筒关闭时进入舞曲模式。
- ⑨ 话筒均衡旁路设定，当选择此功能时，话筒处理不经过输出通道的PEQ，不选时经过输出PEQ处理。

技术指标

系统规格	频率响应	20Hz-20kHz, -0.5dB
	信噪比	>115dBu
	失真度	<0.005% at 1kHz (0dBu)
	串音	<100dB below full scale
话筒输入部分	类型	不平衡式 6.3JACK
	最大增益	45dBu
	阻抗	2.2K Ω
音乐输入部分	类型	不平衡式 RCA
	最大输入电平	+18dBu
	阻抗	1M Ω /Stereo
输出部分	类型	平衡式XLR
	最大输出电平	+18dBu
	阻抗	<500 Ω
数字处理	24bit sigma-delta 转换	
	96kHz采样率	
显示	2*16字符 LCD显示当前参数设置及功能选择	
电源	AC 220V 50Hz	
尺寸 (长宽高)	48.2*22.5*4.38CM	
重量	3.2KG	

配件清单

- ① 光盘(含PC控制软件 and 用户手册)
- ② 遥控器一个 (需另行购买)
- ③ USB线一条 (需另行购买)

Karaoke Extend Remote Control Protocol V1.5

上位机串口通信协议

1. Control Package Format

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Data1	Data2	STX	DLE
Packet	0x7B	0x7D	1~254	0x31~0x34	0x??	0x??	0x7D	0x7B

2.Command Detail

1) Gain Control(0x31)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Channel	+/-	STX	DLE
Packet	0x7B	0x7D	1~254	0x31	MIC:0 MUSIC:1 EFFECT:2	+:0, -:1	0x7D	0x7B

范例（提升话筒增益）：7B7D013100007D7B

2) Mute Control(0x32)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	No/Yes	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x32	No:0, Yes:1	0x00	0x7D	0x7B

范例（静音）：7B7D013201007D7B

3) Load Preset Control(0x33)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Factory/User	Preset	STX	DLE
Packet	0x7B	0x7D	1~254	0x33	F:0, U:1	0~31	0x7D	0x7B

范例（调用用户预设U01）：7B7D013301007D7B

4) In Select Control(0x34)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Input	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x34	Auto:0 VOD:1 BGM:2 Optical:3 COAX:4	0x00	0x7D	0x7B

范例（输入信号源选择VOD）：7B7D013401007D7B

5) Volume Control (0x35)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Channel	Volume	STX	DLE
Packet	0x7B	0x7D	1~254	0x35	MIC: 0 MUSIC 1 Effect: 2	Volume	0x7D	0x7B

MIC&MUSIC: -50dB (0) ~ -30dB (20) : 1dB/Step

-29.5dB (21) ~ +10dB (100) : 0.5dB/Step

Effect: 0~100, 1/step

范例 (指定音乐音量40) : 7B7D013501287D7B

6) Key shift Control (0x36)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Keyshift	Preset	STX	DLE
Packet	0x7B	0x7D	1~254	0x36	UP: 0 Normal: 1 Down: 2	0~31	0x7D	0x7B

范例 (升KEY) : 7B7D013600007D7B

7) Get Now Gain (0x38)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Channel	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x38	MIC: 0 MUSIC 1 Effect: 2	0	0x7D	0x7B

MCU Return: 0x00~0x64

范例 (读取MIC音量参数) : 7B7D013800007D7B

8) Get Mute (0x39)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	0x30	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x39	0	0	0x7D	0x7B

MCU Return: 0x00 or 0x01=Un-Mute or Mute

范例 (读取静音参数) : 7B7D013900007D7B

9) Get Now Preset(0x3A)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	0x30	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x3A	0	0	0x7D	0x7B

MCU Return: 0x00 ~ 0x10=0: KTV, 1~16: User1~User16

范例（读取预设参数）：7B7D013A00007D7B

10) Get In Select(0x3B)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	0x30	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x3B	0	0	0x7D	0x7B

MCU Return: 0x00 ~ 0x4=0: AUTO, 1: VOD, 2: BGM, 3: Optical, 4: COAX

范例（读取输入音源通道参数）：7B7D013B00007D7B

11) Get Key Shift(0x3C)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	0x30	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x3C	0	0	0x7D	0x7B

MCU Return: 0x00 or 0x4A=0~4: b5~B1, 5: Normal, 6~10: #1~#5

范例（读取升降Key参数）：7B7D013C00007D7B

通信参数:	波特率	115200	停止位	1
	数据位	8	帧间隔	>=20mS
	校验位	无	机器ID	默认为1

注意事项

【使用该产品前，请仔细阅读以下安全事项】

- 本产品应做到可靠的接地，如果出现故障时，为避免受到电击，本机的电源线及电源插头都配备安全接地，电源座应按安规要求安装和接地。

注意

接地装置连接不当会导致电击。

如果你对本产品是否正确接地存在任何疑问，请委托合格电工或专业维修人员检查，请不要尝试私自更改产品的电源插头，如果电源插座不适合，可委托合格电工或专业维修人员安装适当的电源插座。

？为了避免伤害的风险，当产品在小孩附近使用时，请严密监管。

？请勿在湿度很大的地方使用本机器，例如：靠近浴缸、洗面盆、厨房水池、湿度很大的地下室或靠近游泳池和湖泊等地方。

？该产品应当安装在通风良好，环境干燥的地方。

？该产品的电源类型必须符合操作指示或产品上标明的类型。

？该产品必须远离热源，例如：电暖气、电热毯或其它产生热源的产品。

？该产品配备一条符合安全认证要求的电源线，如果你无法把电源插头插入电源插座，请联系电工或专业维修人员来更换旧的插座。请勿破坏电源插头的安全装置。

？该产品长时间不使用时，请把电源线从电源插座中拔出，从电源插座拔出电源线时，请勿拉扯电源线，应当抓住电源插头将其拔出。

？当有下列情况发生时，请委托合格电工或专业维修人员修理：

- A，电源线或电源插头已经被损坏。
- B，杂物或液体物质浸入机箱内。
- C，产品已经被雨淋。
- D，产品已经不能正常操作或在演出时出现明显变化。
- E，产品跌坏或外观已经损坏。

？当出现不属于用户维修指南中描述的情况时，请勿尝试私自修理，应当委托合格电工或专业维修人员修理。



注意在产品内部存在非绝缘的危险电压，有可能对人体造成相当的伤害。



在产品附带的说明书中存在重要操作说明和维护指南。



注意

为避免受到电击
请勿开启



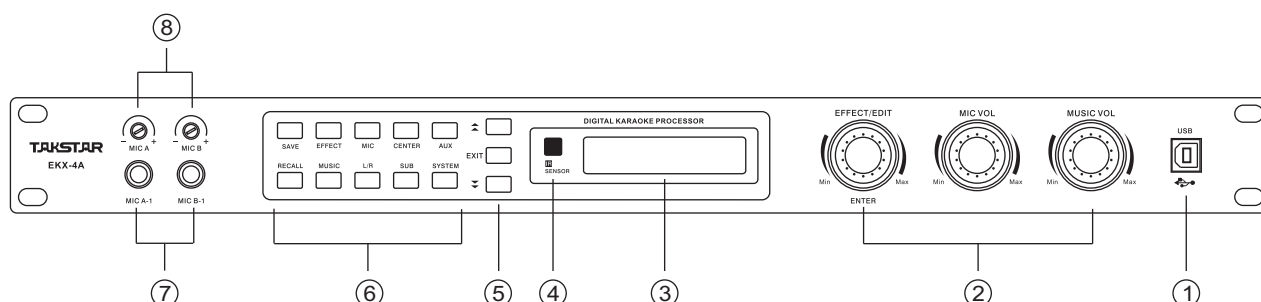
小心：为避免受到电击，请勿私自移开(底)盖，如遇到问题亦不要尝试私自修理，请委托专业维修人员修理。

警告！

请勿让重物挤压或踩踏电源线，切忌接、拔或强力扭曲电源线。请勿滥用不合格的电源线，以免导致引起火灾或对人体造成伤害。

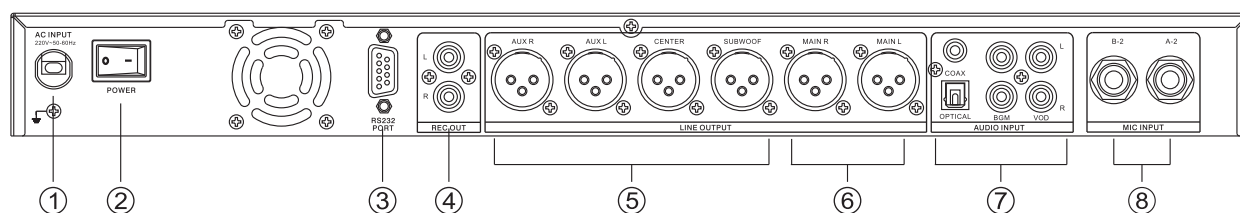
FUNCTION

- 96kHz sampling rate, 40-bit floating point DSP arithmetic process, 24-bit AD/DA convert.
- 2 independent MIC processor, 4 MIC input can be connected, with independent gain control, phase, limiter, noise gate, optional types low cut, 20 band PEQ, exciter(parameter can be adjusted and saved), optional 6 class feedback killer.
- MIC effect with master volume control, limiter, ECHO with 5 band PEQ(can be low/high cut), mode1 and mode2 effect can be chosen, stereo and mono effect can be chosen, delay, repeat and pre delay parameter can be adjusted separately; REVERB with 5 band PEQ(can be low/high cut), pre delay, time, exciter, space, reflect parameter adjust, and direct sound effect processor.
- Music channel with master volume control, limiter, noise gate, optional types low cut, 10 band PEQ, exciter(parameter can be adjusted and saved), key shift. 2 stereo music input, BGM and VOD with single input volume control, automatic and manual switching mode can be chosen, 1 optical input and 1 coaxial input included.
- 5.1 channel output: L/R output, center output, AUX output, Sub woof output.
- L/R output with independent volume control, mute, phase, compressor(parameter can be adjusted), 9 band PEQ(can be Low/high cut), L/R delay.
- Center output with independent volume control, mute, phase, compressor(parameter can be adjusted), 6 band PEQ(can be low/high cut), delay.
- AUX output with independent volume control, mute, phase, compressor(parameter can be adjusted), 6 band PEQ(can be low/high cut) L/R delay.
- Sub woof output with independent volume control, mute, phase, compressor(parameter can be Adjusted), 5 band PEQ, optional types low cut, high cut, delay. AGC automatic gain control function(when MIC close, the system will enter hot dance status automatically), output gain can accept MIC control to attenuate, and the attenuation can adjust continuously.
- Output channel with dance music and sing setting function, auto and manual mode can be chosen. In the mode of automatic mode, when opening the MIC, it enter singing mode; when closing the MIC, it enter dance music mode.
- 2 MIC process channel can connect with different style MIC, such as wireless MIC, wire MIC, console towbar MIC. different curves with different modifies, let the MIC tone be the perfect.
- Three working mode for the device: power-off memory, power-off not memory, power-off not memory and the default parameter is Uo1 when every start. The three mode can be chosen for different person in different conditio.
- Beautiful and visual PC software window, All the functions operate on the PC software also can operate on the front panel. the panel and software with lock function, the panel with USB port, RS232 remote distance control port on the rear panel, made the system more safety and convenient
- High-end LCD display, with infrared remote control function, one factory preset and 16 user preset, and there are several recommend effect parameter can be chosen, preset file can be save and recall, and the device data can upload and download.

FRONT PANEL

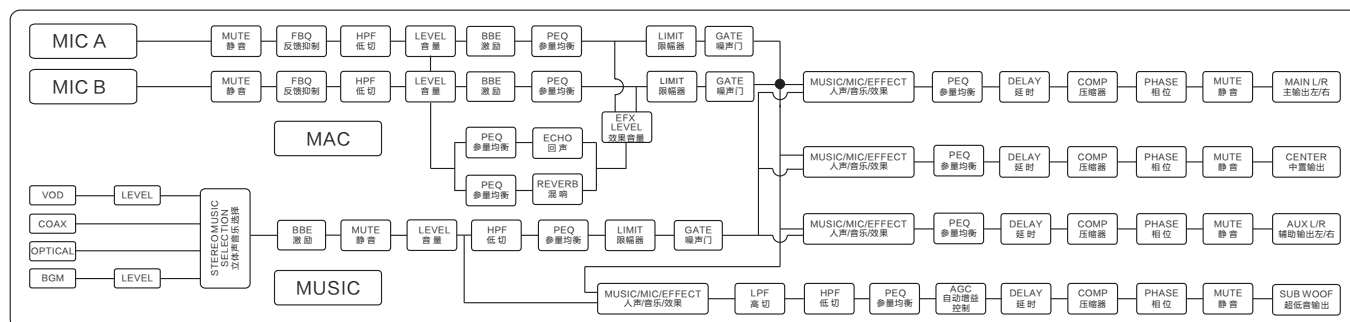
- ① USB port
Connect the computer with the PC software to control the device.
- ② Effect/Mic/Music Master Volume Adjust
Connect the computer with the PC software to control the device.
- ③ LCD Display
Show all the operation menu.
- ④ IR Reception
- ⑤ Main Menu Page Turning Key, Exit Key
Enter edit menu , press"??"to turn the page, press"EXIT"to exit.
- ⑥ Main Menu Control Button
Edit Mic, Music, Effect, L/R, Aux, Center, Sub, System menu, save and recall user and factory preset.
- ⑦ Mic Input Jack
MIC A , B can be connected with 2 different MIC input, process separately.
- ⑧ Mic Input Gain Control
Control Mic A, B input gain.

REAR PANEL



- ① Power Cord
Power input AC~220V, 50Hz.
- ② Power Switch
- ③ RS232 Interface
Connect with PC/VOD system, remote control.
- ④ Record output connector
Connect with record device, music and mic synchronous recording.
- ⑤ Stereo AUX, center, sub woof output
Connect with Stereo surround, center, sub woof amp system.
- ⑥ Main output connector
L/R banlanced output, connect with main amp system.
- ⑦ Audio Input
Audio input can switch to VOD, BGM, Optical, coaxial manually, switch among VOD and BGM when choose automatical.
- ⑧ Mic input socket
A-2, B-2 is MIC A and B parallel input channel, can connect with 2 different mic input.

FUNCTION DIAGRAM



OPERATION GUIDANCE

MAIN MENU	
KTV1 MUS: 0 EFF: 50 MIC: 0	After power on, the LCD will show the preset information. KTV1 factory preset and 16 user preset: U01-U16 can be chosen. "MUS" shows the current music volume, "EFF" shows the current effect value, "MIC" shows the current MIC master volume.
SAVE KEY	
Store Preset U01 Default	Press the save key can save the preset program, choose the saving position U01-U16 by adjust the encoder "EFFECT/EDIT".
Preset Naming [Default]	Continue to press "effect/edit" can edit the name of the file that you want to save.
Preset Naming Saving. . .	Until you can see "y", then confirm to save.
RECALL KEY	
Load Preset F01 KTV1	Press the recall key the first time and turn "EFFECT/EDIT" encoder, you can recall the preset program U01-U16 or factory preset program: F01, press again will confirm to recall.
EFFECT KEY	
ECHO PDLY: 0mS MODE: MONO G: 80	Press "EFFECT" one time enter ECHO window: ECHO gain scale is 0-100, pre delay time scale is 0-250mS, mono and stereo these two mode can be chosen.
ECHO REP: 60% T: 182mS	Press "▼" the first time can adjust echo repeat and delay time: repeat scale is 0-100%, delay scale is 0-400ms.
ECHO TYPE TYPE1	Press "▼" the second time can adjust ECHO mode, TYPE1 and TYPE2 two different effect can be chosen.
ECHO EQ1 Q: 0. 40PK F: 54. 4 G: 0. 0	Press "▼" the third time can adjust ECHO PEQ, ECHO PEQ EQ1-5 can be chosen, PEQ F, type (PK \LS\HS\LC\HC), Q value, and gain can be adjusted.
RVB PREDLY: 50mS TIME: 1. 96s G: 30	Press "▼" the fourth time enter REVERB parameter adjust window: Pre delay scale is 0-250ms; Time scale is 0-4s, Gain scale is 0-100.
REVERB EXCITER: 32 SP: 0mS REF: 12	Press "▼" the fifth time can adjust REVERB exciter, space, reflect parameter, exciter scale is 0-70, space scale is 0-250ms, reflect scale is 0-100.

RVB EQ1 Q: 0.71LC F: 150.4 G: 0.0	Press“ ▼ ”the sixth time can adjust REVERB PEQ, REVERB PEQ1-5 can be chosen, PEQ F, types (PK\LS\HS\LC\HC) , Q value, and gain can be adjusted.
DIRECT LEVEL 20%	Press“ ▼ ” the seventh time can adjust effect direct sound volume, the scale is 0-100%.
EFX LIMIT 100	Press“ ▼ ”the eighth time can adjust effect volume limit parameter, the scale is 0-100.
MUSIC KEY	
MUS EQ1 Q: 1.40PK F: 31.3 G: 0.0	Press“MUSIC”one time can adjust MUSIC PEQPEQ1-10 can be chosen, PEQ F, types (PK\LS\HS\LC\HC) , Q value, and gain can be adjusted.
MUS LOW CUT BYPASS 22.6Hz	Press“ ▼ ” the first time can adjust music low cut parameter: the slope can choose BYPASS/BUTTERWORTH/BESSEL/LINK-6dB--24dB, frequency scale is 20Hz-20kHz.
MUSIC BBE MODE OFF	Press“ ▼ ” the second time can choose music BBE exciter on or off. when choose ON, exciter low, high frequency and gain can be adjusted separately.
MUSIC GATE ON	Press“ ▼ ” the third time can close and open music noise gate: ON is open, OFF is close.
MUSIC LIMIT 100	Press“ ▼ ” the fourth time can adjust music gain limit parameter: the scale is 0-100.
MUSIC IN VOD: 100 AUTO BGM: 100	Press“ ▼ ” the fifth time can choose audio input channel: VOD, BGM, SPIDIF, COAX, when choose AUTO, VOD and BGM channel can switch automatically, VOD and BGM input volume can be adjusted, the scale is 0-100.
MUSIC KEYSHIFT NORMAL	Press“ ▼ ”the sixth time can adjust music keyshift function, 5 class keyshift can be chosen, NORMAL is standard sound.
MIC KEY	
MIC GAIN 80	Press“MIC”one time enter Mic gain adjust window, the scale us 0-100. If system menu is MIC A and B process separately, then press“MIC”one time enter MIC A parameter adjust window, press“MIC” second time enter MIC B paramter adjust window
MIC EQ1 Q: 4.00PK F: 29.8 G: 0.0	Press“ ▼ ”the first time can adjust MIC PEQ adjust window, EQ1-20 can be chosen, PEQ F, type (PK\LS\HS\LC\HC) , Q value and gain can be adjusted.

MIC LOW CUT BUT-12dB 42.2Hz	Press “ ▼ ”the second time can adjust MIC low cut parameter: the slope can choose BYPASS/BUTTERWORTH/BESSEL/LINK-6dB--24dB, frequency scale is 20Hz-20kHz.
MIC EXCIT MODE OFF	Press“ ▼ ” the third time can open and close MIC exciter function; OFF is close, ON is open, when choose ON, exciter low, high frequency and gain can be adjusted separately.
MIC GATE OFF	Press “ ▼ ”the fourth time can open and close MIC noise gate, OFF is default close, ON is open.
MIC PHASE 0	Press“ ▼ ”the fifth time can adjust MIC phase parameter, the scale is 0 and 180.
MIC FBT LEVEL1	Press“ ▼ ” the sixth time can adjust MIC feedback, 6 feedback class can be chosen.
MIC LIMIT 100	Press“ ▼ ”the seventh time can adjust MIC gain limit, the scale is 0-100.
L/R KEY	
L/R IN BALANCE MIC: 90 MUS: 90	Press“L/R”one time enter main output MIC and MUSIC volume control window, the scale is 0-100.
L/R EFF BALANCE ECHO: 90 RVB: 90	Press“ ▼ ”the first time can adjust main output ECHO and REVERB effect volume, the scale is 0-100
L/R EQ1 Q: 1.70PK F: 25.4 G: 0.0	Press“ ▼ ”the second time can adjust main output PEQ adjust window, EQ1-9 can be chosen, PEQ F, type (PK \LS\HS\LC\HC) , Q value and gain can be adjusted.
L/R L:0.000mS DYL R:0.000mS	Press“ ▼ ”the third time can adjust main output L/R delay, the scale is 0-100ms.
L/R PHASE 0	Press“ ▼ ”the fourth time can adjust main output phase parameter: the scale is 0 and 180.
L/R CMP T: +20.0 R:3.0 A:50 R:500	Press“ ▼ ”the fifth time can adjust main output compressor parameter: T stands for compress value, the scale is -40dB~+20dB; the first R on the second line stands for compressor ratio, 1:1-1:2-LIMIT; A stands for compressor attached time, the scale is 0-200ms; the last R stands for compressor released time, the scale is 0-999ms.

L/R OUT UNMUTE	Press“ ▼ ”the sixth time can close and open main output mute: Unmute and Mute can be chosen.
CENTER KEY	
CNT IN BALANCE MIC: 90 MUS: 90	Press“CENTER”one time enter center output MIC and MUSIC volume control window, the scale is 0-100.
CNT EFF BALANCE ECHO: 90 RVB: 90	Press“ ▼ ”the first time can adjust center output ECHO and REVERB effect volume.
CNT EQ1 Q: 1.70PK F: 30.5 G: 0.0	Press“ ▼ ”the second time can adjust center output PEQ adjust window EQ1-9 can be chosen; PEQ F, type (PK \LS\HS\LC\HC) , Q value and gain can be adjusted.
CNT DELAY 0.000mS	Press “ ▼ ” the third time can adjust center output delay: the scale is 0ms-100ms.
CNT PHASE 0	Press “ ▼ ” the fourth time can adjust center output phase: the scale is 0 and 180.
CNT CMP T: +20.0 R:3.0 A:50 R:500	Press “ ▼ ” the fifth time can adjust center output compressor parameter: T stands for compress value, the scale is -40dB~+20dB; the first R on the second line stands for compressor ratio,1:1-1:2-LIMIT; A stands for compressor attached time, the scale is 0-200ms; the last R stands for compressor released time, the scale is 0-999ms.
CNT OUT UNMUTE	Press “ ▼ ” the sixth time can close and open center output mute: Unmute and mute can be chosen.
SUB KEY	
SUB IN BALANCE MIC: 0 MUS: 90	Press“SUB”one time enter SUB output MIC and MUSIC volume control window, the scale is 0-100.
SUB EFF BALANCE ECHO: 0 RVB: 0	Press“ ▼ ”the first time can adjust SUB output ECHO and REVERB effect volume, the scale is 0-100.
SUB AGC 0.0dB	Press “ ▼ ”the second time can adjust sub woof output auto attenuation, when there is Mic input, sub woofer output volume can auto attenuate, the scale is -30dB~0dB.
SUB EQ1 Q: 4.0 PK F: 26.0 G: 0.0	Press“ ▼ ”the third time can adjust SUB output PEQ adjust window, EQ1-9 can be chosen, PEQ F, type (PK \LS\HS\LC\HC) , Q value and gain can be adjusted

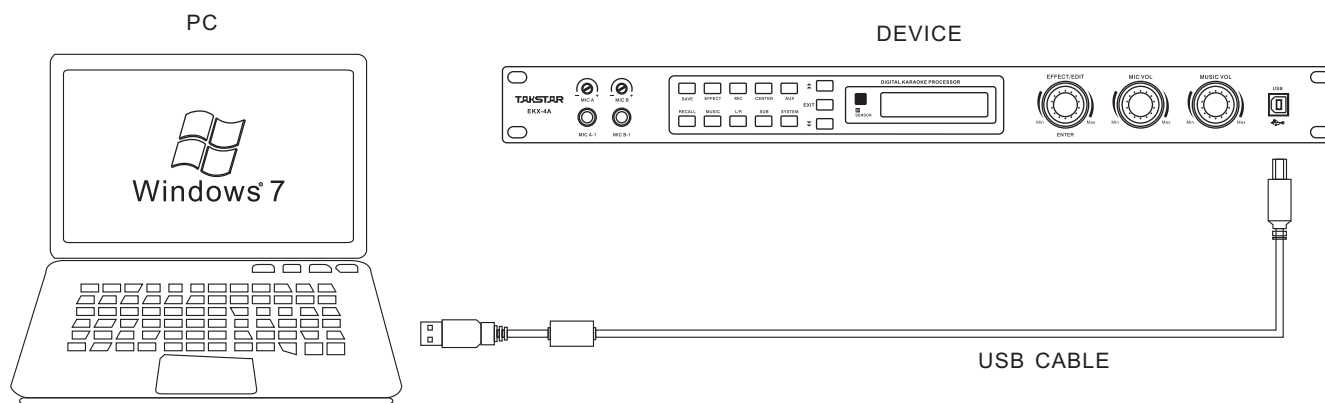
L/R OUT UNMUTE	Press“ ▼ ”the sixth time can close and open main output mute: Unmute and Mute can be chosen.
CENTER KEY	
CNT IN BALANCE MIC: 90 MUS: 90	Press“CENTER”one time enter center output MIC and MUSIC volume control window, the scale is 0-100.
CNT EFF BALANCE ECHO: 90 RVB: 90	Press“ ▼ ”the first time can adjust center output ECHO and REVERB effect volume.
CNT EQ1 Q: 1.70PK F: 30.5 G: 0.0	Press“ ▼ ”the second time can adjust center output PEQ adjust window, EQ1-9 can be chosen, PEQ F, type (PK \LS\HS\LC\HC) , Q value and gain can be adjusted.
CNT DELAY 0.000mS	Press“ ▼ ” the third time can adjust center output delay: the scale is 0ms-100ms.
CNT PHASE 0	Press“ ▼ ” the fourth time can adjust center output phase: the scale is 0 and 180.
CNT CMP T: +20.0 R:3.0 A:50 R:500	Press“ ▼ ” the fifth time can adjust center output compressor parameter: T stands for compress value: the scale is -40dB~+20dB; the first R on the second line stands for compressor ratio,1:1-1:2-LIMIT; A stands for compressor attached time, the scale is 0-200ms; the last R stands for compressor released time, the scale is 0-999ms.
CNT OUT UNMUTE	Press“ ▼ ” the sixth time can close and open center output mute: Unmute and Mute can be chosen.
SUB KEY	
SUB IN BALANCE MIC: 0 MUS: 90	Press“SUB”one time enter SUB output MIC and MUSIC volume control window, the scale is 0-100.
SUB EFF BALANCE ECHO: 0 RVB: 0	Press“ ▼ ”the first time can adjust SUB output ECHO and REVERB effect volume, the scale is 0-100.
SUB AGC 0.0dB	Press“ ▼ ”the second time can adjust sub woof output auto attenuation, when there is Mic input, sub woofer output volume can auto attenuate, the scale is -30dB~0dB.
SUB EQ1 Q: 4.0 PK F: 26.0 G: 0.0	Press“ ▼ ”the third time can adjust SUB output PEQ adjust window, EQ1-9 can be chosen, PEQ F, type (PK \LS\HS\LC\HC) , Q value and gain can be adjusted.

SUB HIGH CUT L/R-24dB 101.5Hz	Press “▼” the fourth time can adjust sub woofer output high cut: the slope can choose BYPASS/BUTTERWORTH/BESSEL/LINK-6dB--24dB, frequency scale is 20Hz-500Hz.
SUB LOW CUT L/R-24dB 19.7Hz	Press “▼” the fifth time can adjust sub woofer output low cut: the slope can choose BYPASS/BUTTERWORTH/BESSEL/LINK-6dB--24dB, frequency scale is 20Hz-500Hz.
SUB DELAY 0.000mS	Press “▼” the sixth time can adjust sub woofer output delay: the scale is 0ms-100ms.
SUB PHASE 0	Press “▼” the seventh time can adjust sub woofer output phase: the scale is 0 and 180.
SUB CMP T: +20.0 R: 3.0 A: 50 R: 500	Press “▼” the eighth time can adjust sub woofer output compressor parameter: T stands for compress value, the scale is -40dB~+20dB; the first R on the second line stands for compressor ratio, 1:1-1:2-LIMIT; A stands for compressor attached time, the scale is 0-200ms; the last R stands for compressor released time, the scale is 0-999ms.
SUB OUT UNMUTE	Press “▼” the ninth time can close and open sub woof output mute: Unmute and Mute can be chosen.
AUX KEY	
AUX IN BALANCE MIC: 90 MUS: 90	Press“AUX”one time enter AUX output MIC and MUSIC volume control window , the scale is 0-100.
AUX EFF BALANCE ECHO: 90 RVB: 90	Press“▼”the first time can adjust AUX output ECHO and REVERB effect volume, the scale is 0-100.
AUX EQ1 Q: 1.70PK F: 30.5 G: 0.0	Press“▼”the second time can adjust AUX output PEQ adjust window, EQ1-9 can be chosen, PEQ F, type (PK\LS\HS\LC\HC) , Q value and gain can be adjusted.
AUX L: 0.000mS DYL R: 0.000mS	Press“▼”the third time can adjust AUX output L/R delay, the scale is 0-100ms.
AUX PHASE 0	Press “▼” the fourth time can adjust AUX output phase: the scale is 0 and 180.

AUX CMP T: +20.0 R: 3.0 A: 50 R: 500	Press “▼” the fifth time can adjust AUX output compressor parameter: T stands for compress value, the scale is -40dB~+20dB; the first R on the second line stands for compressor ratio, 1:1-1:2-LIMIT; A stands for compressor attached time, the scale is 0-200ms; the last R stands for compressor released time, the scale is 0-999ms.
AUX OUT Unmute	Press “▼” the sixth time can close and open AUX output mute: Unmute and Mute can be chosen
SYSTEM KEY	
HI MODE VOICE	Press “SYSTEM” one time enter device output working mode setting window: VOICE is singing mode, DANCE is dance music mode, when choose AUTO enter automatically switching mode, MIC ON enter singing mode, MIC OFF enter dance music mode. please pay attention to this, after you choose any function, press down the encoder to confirm, till "saving..." not shine.
MIC MODE A+B	Press “▼” the first time enter MIC input channel switching window, A+B is single MIC process mode, all the MIC input only through one channel process; A, B is two MIC process mode, A, B MIC enter two channel process separately. please pay attention to this, after you choose any function, press down the encoder to confirm, till "saving..." not shine.
MIC OUT EQ BYPASS OFF	Press “▼” the second time enter MIC output EQ bypass setting window, ON is the process when MIC through output EQ, OFF is the process when MIC not through output EQ. Please pay attention to this, after you choose any function, press down the encoder to confirm, till "saving..." not shine.
Unit Lock Pass Word [1 2 3 4] Y	Press “▼” the third time enter panel lock setting window, press "Y" to save your setting, press "N" to exit.
WORKING STATUS MEMORIZE	Press “▼” the fourth time enter working status window: default is "MEMORIZE" power off parameter save; "FORGET" power off not save; U01 is when shut down the device, then start again, it always be U01 user preset. please pay attention to this, after you choose any function, press down the encoder to confirm, till "saving..." not shine.
IR SETING CHECK ALL	Press “▼” the fifth time to enter remote controller code setting window: default state is "CHECK ALL"; check four code, "CHECK KEY"; check single code. please pay attention to this, after you choose any function, press down the encoder to confirm, till "saving..." not shine.
LOAD MUTE OFF	Press “▼” the sixth time enter recall preset setting window, OFF is unmute when recall preset; ON is mute when recall preset. please pay attention to this, after you choose any function, press down the encoder to confirm, till "saving..." not shine.

PC SOFTWARE

Warnings: PC software and users' manual are on the attached CD



USB CORD ONLINE STEPS

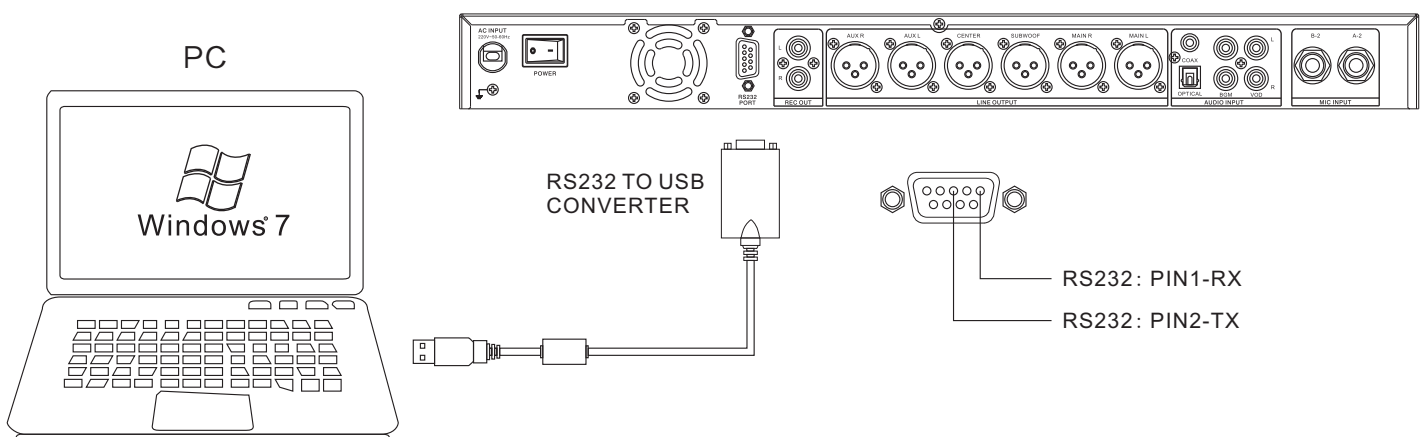
1. Click the PC software on the attached CD, press “next step” according to the default information, press “finish” to exit till the PC software set up successfully, close the window after the below window shows



2. Connect the computer and the pre amplifier with a USB cord, turn on the pre amplifier, the computer will find the new hardware automatically.
3. Open PC software , PC software will search USB and online automatically, after online, the online key on the top right of will turn green, and show"online", it means the software and the device online successfully, you can operate the pre amplifier by the software now, click"online" first when you exit, Then close the software window



RS232 TO USB CORD ONLINE STEPS

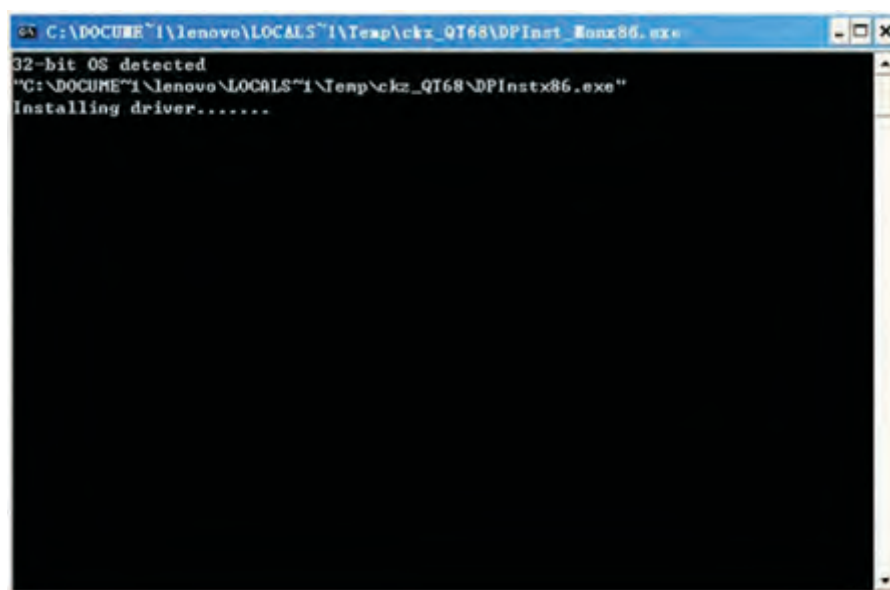


RS232 TO USB CORD ONLINE STEPS

1. Click the PC software on the attached CD, press "next step" according to the default information, press "finish" to exit till the software set up successfully, then close the software window, after the below window shows:

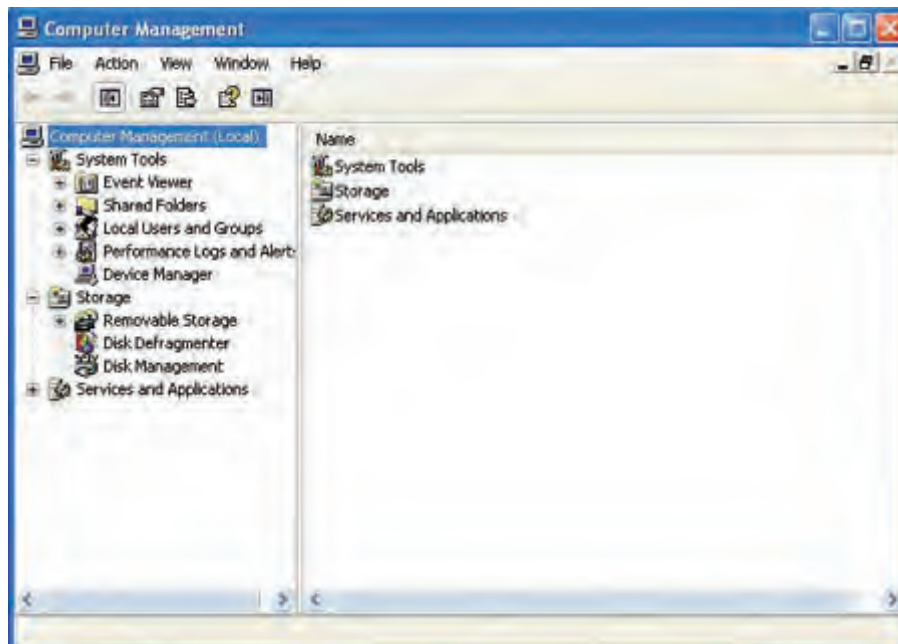


2. Click to set up the RS232 to USB driver (the driver is on the attached CD when purchase the cord, please choose the driver which is suitable and compatible with the computer system, such as Windows 7 system should install the driver suitable for Windows 7, Windows XP system should Install the driver suitable for Windows XP), the below window may be show during set up process.

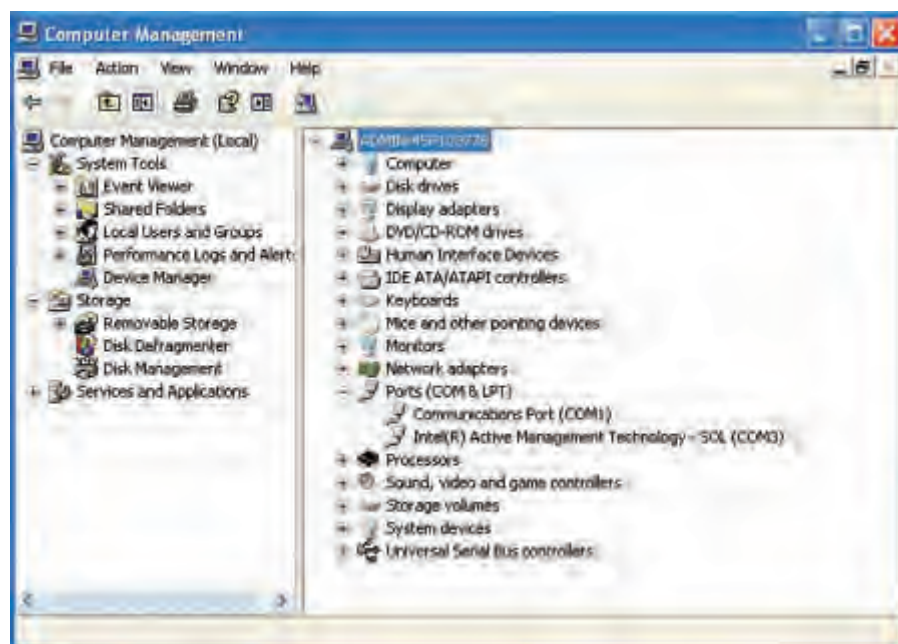


3. Connect the computer and the pre amplifier with a RS232 to USB cord after the driver set up successfully, turn on the pre amplifier ,the computer will find the new hardware automatically, the hardware have already set up and can be used now, you can find the current USB COM number as the below steps:

A. Move the mouse to “computer” or ”my computer” on the desktop, click “management” by the right mouse, show the below window:

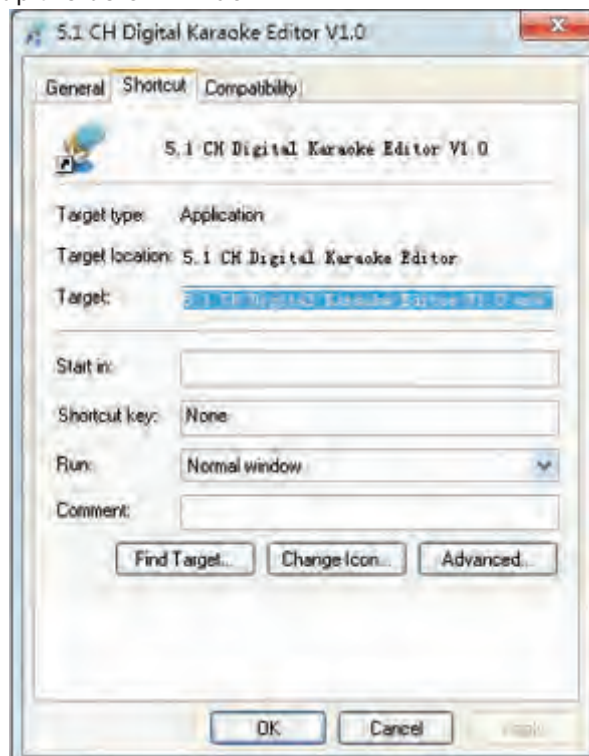


B. After click "device manager" ,continue to click"port(COM and LPT)" , then popup the below window show the current USB COM number and then close the window:

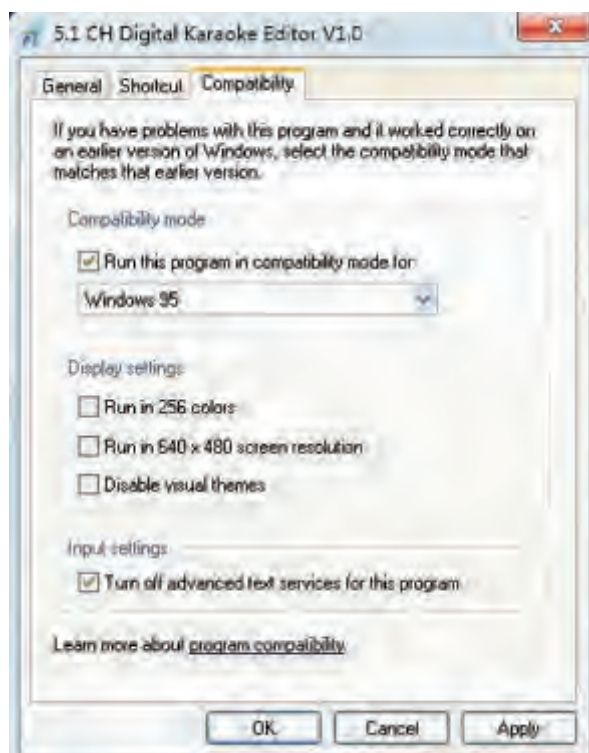


4. If your computer system is Windows 7 or Windows 8 , please operate according to the below steps.
If Windows XP or other systems, please skip this step, operate as “step 5” directly

A. move the mouse to the PC software symbol (please do not open), choose “properties”
by the right mouse, then popup the below window:



B. Below window will show by click “compatibility”, tick “Run this program as an administrator”
which below “Privilege level ”click “apply”, then “confirm”.



5. Open PC software, the system will search USB COM automatically, the online key on the top right corner of PC software will turn green, and show "online", it means the software and the device online successfully, you can operate the pre amplifier by the software now, click "online" first when you exit, then close the software window.



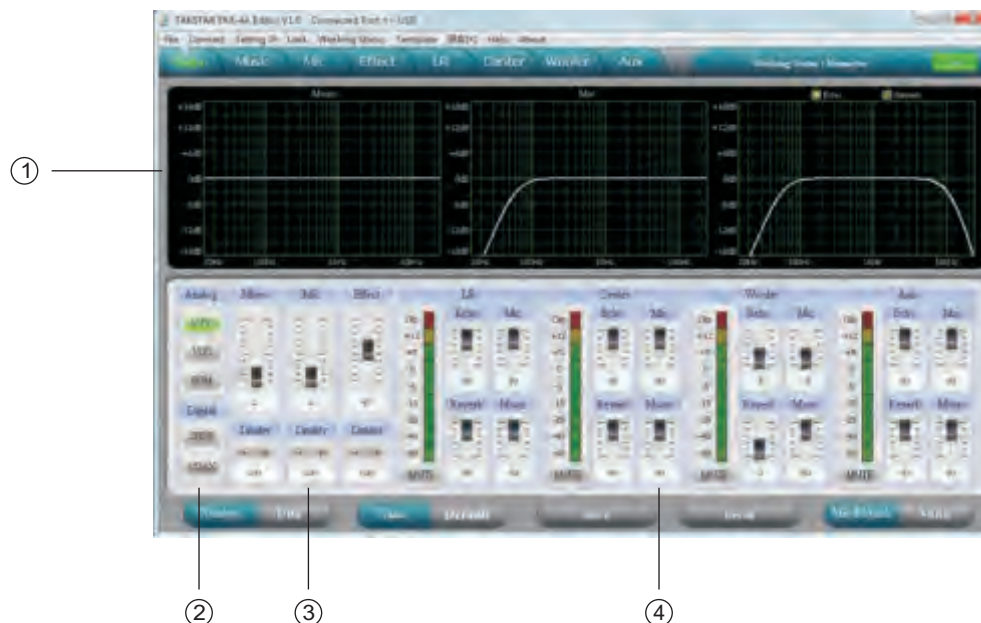
PC SOFTWARE WINDOW



- ① Menu
Upload and download the data, save and recall the preset files, online, panel lock, working status choose, recommend effect parameter choose, Chinese and English operation window.
- ② Link key
One key type link, green means connect, blue means disconnect.
- ③ Parameter adjust
Set the needed channel parameter.
- ④ Preset operation
Save and recall the single preset, save and recall presets at this time are in the device.
- ⑤ Mute key
Control mute or unmute of all Music and Mic.

PC SOFTWARE OPERATION INSTRUCTION

1. VOLUME CONTROL



- ① Show the current music, MIC, effect PEQ curve status
- ② The input source selection: VOD and BGM are analog input, optical and coaxial are digital input
- ④ Adjust music, mic, effect volume and limiter parameter
- ⑤ Adjust L/R output, center output, sub woof output and AUX output volume, level display and mute function

2. MUSIC PROCESS



- ① PEQ curve adjust area, adjust the frequency and gain parameter by dragging the frequency (small round), drag the small square can change low cut frequency. Click "show all the EQ parameter", show all the PEQ frequency, gain, bandwidth, parameter, click "EQ reset", all the PEQ parameter can resume to the factory default value.
- ② PEQ parameter display area, you can input the data manually to change corresponding frequency, Q value, gain, filter style(low shelf, high shelf, low cut, high cut) and bypass function key.
- ③ PEQ adjust push rod, change the current chosen PEQ parameter(frequency, bandwidth, gain).
- ④ Adjust music low cut frequency, filter style can choose Butterworth-6dB--24dB/Bessel-6dB--24dB/LINK-12dB---24dB, and bypass key.
- ⑤ Change VOD and BGM input volume.
- ⑥ Music input sound source can switch to (AUTO: VOD, BGM) and manual mode(VOD TV COAXIAL OPTICAL).
- ⑦ Click "SET UP", popup music BBE window, included low and high frequency BBE frequency, adjustable BBE. BBE ON and OFF, auto status selection. After enter auto status, when open MIC, music BBE will close automatically, there have professional loudspeaker and card charter loudspeaker recommend parameter for your reference.
- ⑧ Open and close music input noise gate function.
- ⑨ Music keyshift adjust, b1-5 is falling tone, NORMAL is standard, #1-5 is rising tone.
- ⑩ Click "+,-" change music volume limiter parameter.
- ⑪ Control music volume.

3. MIC PROCESS



- ① PEQ curve adjust area, adjust the frequency and gain parameter by dragging the frequency (small round), drag the small square can change low cut frequency. Click "show all the EQ parameter", show all the PEQ frequency, gain, bandwidth, parameter, click "EQ recharge", all the PEQ parameter can resume to the factory default value.

- ② PEQ parameter display area, you can input the data manually to change corresponding frequency, Q value, gain, filter style(low shelf, high shelf, low cut, high cut) and bypass function key.
- ③ PEQ adjust push rod, change the current chosen PEQ parameter(frequency, bandwidth, gain).
- ④ Adjust music low cut frequency, filter style can choose Butterworth-6dB--24dB/Bessel-6dB--24dB/LINK-12dB--24dB, and bypass key.
- ⑤ 6 class feedback killer selection, select "OFF" will close feedback killer function.
- ⑥ Click "SETUP", popup music BBE window, included low and high frequency BBE frequency, adjustable BBE, BBE on and off, professional and card charter loudspeaker recommend parameter for your reference.
- ⑦ MIC input noise gate on and off function.
- ⑧ Click AB mic input volume control push rod, can control two channels at the same time, also can control separately, and MIC AB phase adjust.
- ⑨ Click "+-" to change Mic volume limiter parameter.
- ⑩ Control MIC master volume.
- ⑪ MIC input channel selection, input and process separately when select MIC A, MIC B, process at the same time when select MIC A+B.

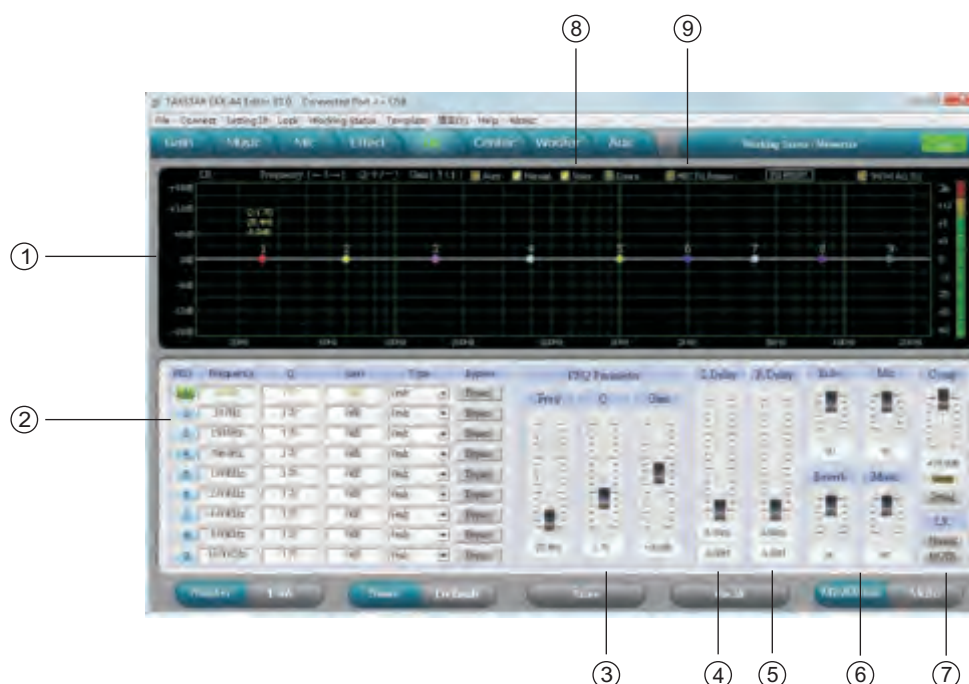
4. EFFECT PROCESS



- ① ECHO and REVERB PEQ process separately, adjust frequency and gain by dragging the frequency (small round). Click "show all the EQ parameter", show all the PEQ frequency, gain, bandwidth, parameter, click "EQ reset", all the PEQ parameter can resume to the factory default value.
- ② PEQ parameter display area, you can input the data manually to change corresponding frequency, Q value, gain, filter style(low shelf, high shelf, low cut, high cut) and bypass function key.
- ③ PEQ adjust push rod, change the current chosen PEQ parameter(frequency, bandwidth, gain).

- ④ Echo has mode 1, 2 mono and stereo, mode 1 and 2 are different ECHO effect, mono status: only one delay and one repeat parameter can adjust; stereo Status: L/R delay and repeat can adjust separately, echo pre delay can be adjust.
- ⑤ REVERB volume, time, pre delay, exciter, reflect, space adjust.
- ⑥ Effect direct sound adjust.
- ⑦ Click "+-" to change effect volume limiter.
- ⑧ Control effect master volume.

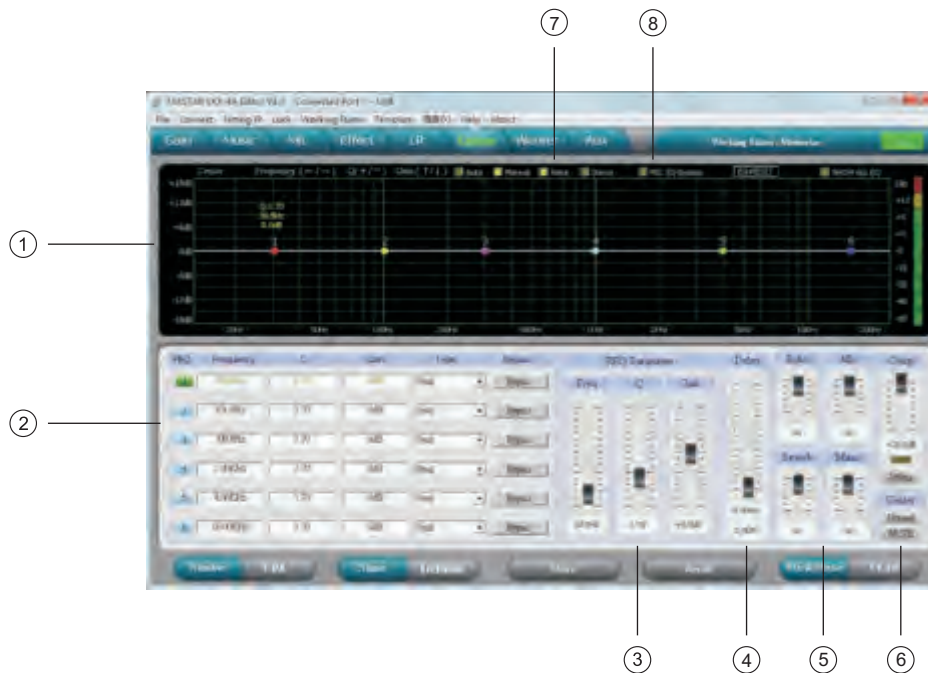
5. L / R OUTPUT PROCESS



- ① PEQ curve adjust area, adjust the frequency and gain parameter by dragging the frequency (small round). Click "show all the EQ parameter", show all the PEQ frequency, gain, bandwidth, parameter, click "EQ reset", all the PEQ parameter can resume to the factory default value.
- ② PEQ parameter display area, you can input the data manually to change corresponding frequency, Q value, gain, filter style(low shelf, high shelf, low cut, high cut) and bypass function key.
- ③ PEQ adjust push rod, change the current chosen PEQ parameter(frequency, bandwidth, gain).
- ④ Main output L single delay adjust.
- ⑤ Main output R single delay adjust.
- ⑥ Control main output L/R music volume, mic volume, echo and reverb volume.
- ⑦ Adjust compressor threshold and level display. When the light turn yellow, it means the compressor started. click "setup" to enter compressor parameter setting window, threshold, start released time ,ratio adjustable and compressor curve display, L/R phase can choose 0 and 180, and mute function.

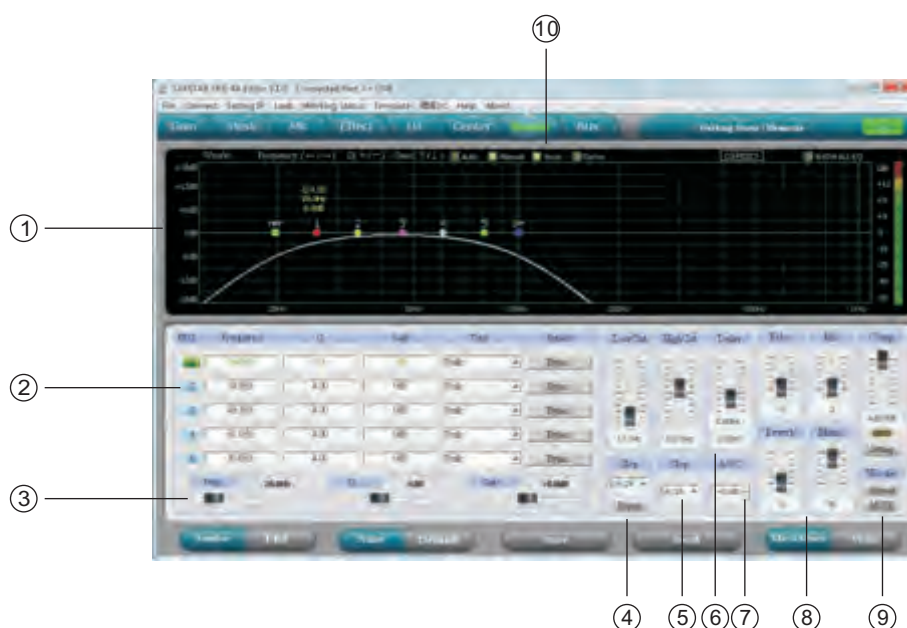
- ⑧ Set output channel working mode, singing and dance music mode can be chosen in manual status, in automatic status, mic on enter singing mode, mic off enter dance music mode.
- ⑨ Mic EQ bypass setting, when select this function, mic process not through output channel PEQ, when, not select this function, mic process through PEQ.

6. CENTER OUTPUT PROCESS



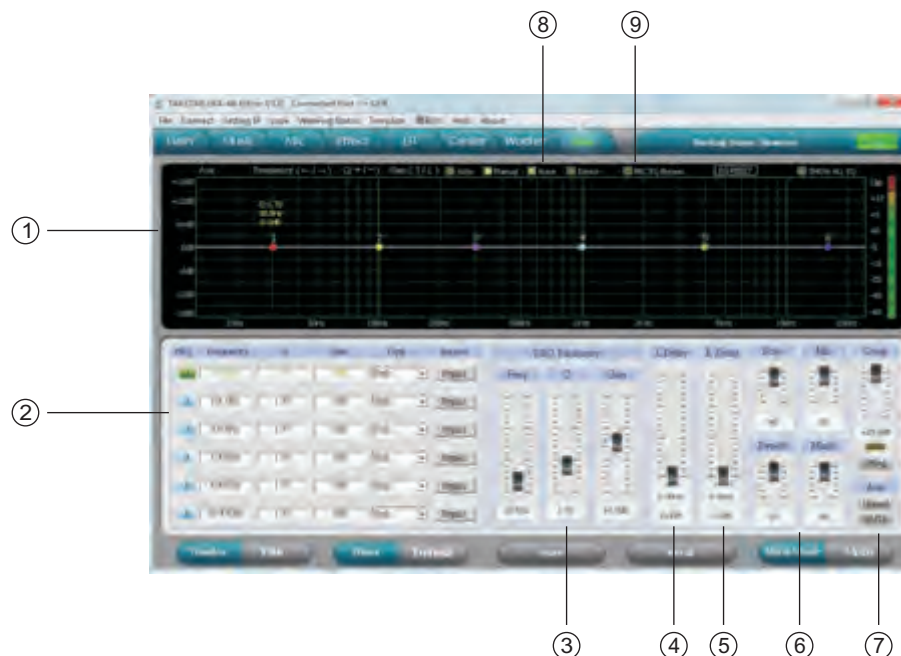
- ① PEQ curve adjust area, adjust the frequency and gain parameter by dragging the frequency (small round). Click "show all the EQ parameter", show all the PEQ frequency, gain, bandwidth, parameter, click "EQ reset", all the PEQ parameter can resume to the factory default value.
- ② PEQ parameter display area, you can input the data manually to change corresponding frequency, Q value, gain, filter style(low shelf, high shelf, low cut, high cut) and bypass function key.
- ③ PEQ adjust push rod, change the current chosen PEQ parameter(frequency, bandwidth, gain).
- ④ Center output delay adjust.
- ⑤ Center output music, mic, echo, reverb volume adjust.
- ⑥ Adjust compressor threshold and level display. When the light turn yellow, it means the compressor started. click "setup" to enter compressor parameter setting window, threshold, start released time ,ratio adjustable and compressor curve display. Center phase can choose 0 and 180, and mute function.
- ⑦ Set output channel working mode, singing and dance music mode can be chosen in manual status, in automatic status, mic on enter singing mode, mic off enter dance music mode.
- ⑧ Mic EQ bypass setting, when select this function, mic process not through output channel PEQ, when not select this function, mic process through PEQ.

7. SUB WOOF OUTPUT PROCESS



- ① PEQ curve adjust area, adjust the frequency and gain parameter by dragging the frequency (small round). Drag the small square can change low cut frequency. Click "show all EQ parameter", show all the PEQ frequency, gain, bandwidth parameter, click "EQ reset", all the PEQ parameter can resume to the factory default value.
- ② PEQ parameter display area, you can input the data manually to change corresponding frequency, Q value, gain, filter style (low shelf, high shelf, low cut, high cut) and bypass function key.
- ③ PEQ adjust push rod, change the current chosen PEQ parameter (frequency, bandwidth, gain).
- ④ Adjust sub woofer low cut frequency, the scale is 20Hz-500Hz, low cut filter style have Butterworth-6dB--24dB/Bessel-6dB--24dB/link-12dB--24dB, and bypass function key.
- ⑤ Adjust sub woofer high cut frequency, the scale is 20Hz-500Hz, high cut filter style have Butterworth-6dB---24dB/Bessel-6dB--24dB/link-12dB--24dB.
- ⑥ Sub woofer delay can adjust separately.
- ⑦ AGC (auto gain control) function. sub woofer output volume will slow down when there is Mic Input, attenuation can adjust continuous, the value is 0dB- -30dB.
- ⑧ Sub woofer output music, mic, echo, reverb volume adjust.
- ⑨ Adjust compressor threshold and level display. When the light turn yellow, it means the compressor started. click "setup" to enter compressor parameter setting window, threshold, start released time, ratio adjustable and compressor curve display. Subwoofer phase can choose 0 and 180, and mute function.
- ⑩ Set output channel working mode, singing and dance music mode can be chosen in manual status, in automatic status, mic on enter singing mode, mic off enter dance music mode.

8. AUX OUTPUT PROCESS



- ① PEQ curve adjust area, adjust the frequency and gain parameter by dragging the frequency (small round). Click "show all the EQ parameter", show all the PEQ frequency, gain, bandwidth, parameter, click "EQ reset", all the PEQ parameter can resume to the factory default value.
- ② PEQ parameter display area, you can input the data manually to change corresponding frequency, Q value, gain, filter style(low shelf, high shelf, low cut, high cut) and bypass function key.
- ③ PEQ adjust push rod, change the current chosen PEQ parameter(frequency, bandwidth, gain).
- ④ Aux output L delay adjust.
- ⑤ Aux output R delay adjust.
- ⑥ Aux output music, mic, echo, reverb volume adjust.
- ⑦ Adjust compressor threshold and level display. When the light turn yellow, it means the compressor started. click "setup" to enter compressor parameter setting window, threshold, start released time, ratio adjustable and compressor curve display. Aux phase can choose 0 and 180, and mute function.
- ⑧ Set output channel working mode, singing and dance music mode can be chosen in manual status, in automatic status, mic on enter singing mode, mic off enter dance music mode.
- ⑨ Mic EQ bypass setting, when select this function, mic process not through output channel PEQ, when not select this function, mic process through PEQ.

SPECIFICATION

System Specification	Frequency Response	20Hz-20kHz, -0.5dB
	S/N Ratio	>115dBu
	Distortion	>0.005% at 1kHz (0dBu)
	Cross Talk	<100dB below full scale
MIC Input Section	Type	Unbalanced 6. 3JACK
	Max Gain	45dBu
	Impedance	2.2Kohm
Music Input Section	Type	Unbalanced RCA
	Max. Input Level (Bypass)	+18dBu
	Impedance	1M ohm/stereo
	Type	Balanced XLR
Output Section	Max Output Level	+18dBu
	Impedance	<500 ohm
Digital Processing	24bit Sigma-delta Converters	
	96kHz Sampling Rate	
Display	2*16 Lcd Display For Parameter Setting And Function Select	
Power Supply	AC220V 50Hz	
Dimension(L*W*H)	48. 2*22. 5*4. 38CM	
Weight	3. 2KG	

ACCESSORIES

- ① One CD (included PC software and users' manual).
- ② One remote controller (need to purchase separately).
- ③ One USB cord (need to purchase separately).

Karaoke Extend Remote Control Protocol V1.5

1. Control Package Format

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Data1	Data2	STX	DLE
Packet	0x7B	0x7D	1~254	0x31~0x34	0x??	0x??	0x7D	0x7B

2. Command Detail

1) Gain Control (0x31)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Channel	+/-	STX	DLE
Packet	0x7B	0x7D	1~254	0x31	MIC:0 MUSIC 1 EFFECT:2	+:0, -:1	0x7D	0x7B

Example (add MIC gain): 7B7D013100007D7B

2) Mute Control (0x32)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	No/Yes	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x32	No:0, Yes:1	0x00	0x7D	0x7B

Example (Mute): 7B7D013201007D7B

3) Load Preset Control (0x33)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Factory/User	Preset	STX	DLE
Packet	0x7B	0x7D	1~254	0x33	F:0, U:1	0~31	0x7D	0x7B

Example (recall users' preset U01): 7B7D013301007D7B

4) In Select Control (0x34)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Input	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x34	Auto:0 VOD:1 BGM:2 Optical:3 COAX:4	0x00	0x7D	0x7B

Example (input signal source select VOD): 7B7D013401007D7B

5) Volume Control (0x35)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Channel	Volume	STX	DLE
Packet	0x7B	0x7D	1~254	0x35	MIC: 0 MUSIC 1 Effect: 2	Volume	0x7D	0x7B

MIC&MUSIC: -50dB(0)~-30dB(20): 1dB/Step

-29.5dB(21)~+10dB(100): 0.5dB/Step

Effect: 0~100, 1/step

Example(set music volume 40): 7B7D013501287D7B

6) Key shift Control (0x36)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Keyshift	Preset	STX	DLE
Packet	0x7B	0x7D	1~254	0x36	UP: 0 Normal: 1 Down: 2	0~31	0x7D	0x7B

Example(rising KEY): 7B7D013600007D7B

7) Get Now Gain (0x38)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	Channel	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x38	MIC: 0 MUSIC 1 Effect: 2	0	0x7D	0x7B

MCU Return: 0x00~0x64

Example(read MIC volume parameter): 7B7D013800007D7B

8) Get Mute (0x39)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	0x30	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x39	0	0	0x7D	0x7B

MCU Return: 0x00 or 0x01=Un-Mute or Mute

Example(read mute parameter): 7B7D013900007D7B

9) Get Now Preset(0x3A)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	0x30	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x3A	0	0	0x7D	0x7B

MCU Return: 0x00 ~ 0x10=0: KTV, 1~16: User1~User16

Example(read preset parameter): 7B7D013A00007D7B

10) Get In Select(0x3B)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	0x30	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x3B	0	0	0x7D	0x7B

MCU Return: 0x00 ~ 0x4=0: AUTO, 1: VOD, 2: BGM, 3: Optical, 4: COAX

Example(read input audio source channel parameter): 7B7D013B00007D7B

11) Get Key Shift(0x3C)

	0	1	2	3	4	5	6	7
	DLE	STX	Device Address	CMD	0x30	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x3C	0	0	0x7D	0x7B

MCU Return: 0x00 or 0x4A=0~4: b5~B1, 5: Normal, 6~10: #1~#5

Example(read Keyshift parameter): 7B7D013C00007D7B

Communicate Parameter:	Bits per second	115200	Stop bits	1
	Data bits	8	Step	>=20mS
	Parity	None	Device ID	Default 1

SAFETY INSTRUCTION



Intended to alert the user to the presence of uninsulated “dangerous voltage” within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



Intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

CAUTION: Risk of electrical shock — **DO NOT OPEN!**

CAUTION: To reduce the risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

WARNING: To prevent electrical shock or fire hazard, this apparatus should not be exposed to rain or moisture, and objects filled with liquids, such as vases, should not be placed on this apparatus. Before using this apparatus, read the operating guide for further warnings.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: When using electrical products, basic cautions should always be followed, including the following:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any of the ventilation openings. Install in accordance with manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding plug. The wide blade or third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point they exit from the apparatus.
11. Only use attachments/accessories provided by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. Never break off the ground pin. Write for our free booklet "Shock Hazard and Grounding." Connect only to a powersupply of the type marked on the unit adjacent to the power supply cord.
16. If this product is to be mounted in an equipment rack, rear support should be provided.
17. Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary

Considerably insusceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficientlyintense noise for a sufficient time. The U.S. Government's Occupational and Health Administration (OSHA) hasspecified the following permissible noise level exposures:

Duration Per Day In Hours	Sound Level dBA, Slow Response
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
1/4 or less	115

According to OSHA, any exposure in excess of the above permissible limits could result in some hearing loss. Ear plugs or protectors to the ear canals or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss, if exposure is in excess of the limits as set forth above. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels such as this amplification system be protected by hearing protectors while this unit is in operation.

SAVE THESE INSTRUCTIONS!

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