KP800 DIGITAL PROCESSOR

User's Manual

Contact Information

support@singeasy.com

https://singeasy.com

IMPORTANT SAFETY INFORMATION

WARNING FOR YOUR PROTECTION READ THE FOLLOWING:

KEEP THESE INSTRUCTIONS

HEED ALL WARNINGS

FOLLOW ALL INSTRUCTIONS

The apparatus shall not be exposed to dripping or splashing liquid and no object filled with liquid, such as vases, shall be placed on the apparatus.

CLEAN ONLY WITH A DRY CLOTH.

DO NOT BLOCK ANY OF THE VENTILATION OPENINGS. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

DO NOT INSTALL NEAR ANY HEAT SOURCES SUCH AS RADIATORS, HEAT REGISTERS, STOVES, OR OTHER APPARATUS (INCLUDING AMPLIFIERS) THAT PRODUCE HEAT.

ONLY USE ATTACHMENTS/ACCESSORIES SPECIFIED BY THE MANUFACTURER.

UNPLUG THIS APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME.

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 prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Use only with the cart stand, tripod bracket, or table specified by the manufacture,
or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

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.

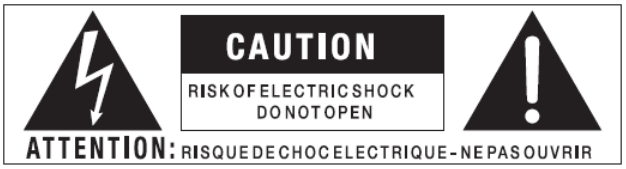
POWER ON/OFF SWITCH: If the equipment has a Power switch, the Power switch used in this piece of equipment DOES NOT break the connection from the mains.

MAINS DISCONNECT: The plug shall remain readily operable. For rackmount or installation where plug is not accessible, an all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated into the electrical installation of the rack or building.

FOR UNITS EQUIPPED WITH EXTERNALLY ACCESSIBLE FUSE RECEPTACLE:
Replace fuse with same type and rating only.

MULTIPLE-INPUT VOLTAGE: This equipment may require the use of a different line cord, attachment plug, or both, depending on the available power source at installation. Connect this equipment only to the power source indicated on the equipment rear panel. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel or equivalent.

If connected to 240V supply, a suitable CSA/UL certified power cord shall be used for this supply.



The symbols shown above are internationally accepted symbols that warn of potential hazards with electrical products. The lightning flash with arrowpoint in an equilateral triangle means that there are dangerous voltages present within the unit. The exclamation point in an equilateral triangle indicates that it is necessary for the user to refer to the owner's manual.

These symbols warn that there are no user serviceable parts inside the unit. Do not open the unit. Do not attempt to service the unit yourself. Refer all servicing to qualified personnel. Opening the chassis for any reason will void the manufacturer's warranty. Do not get the unit wet. If liquid is spilled on the unit, shut it off immediately and take it to a dealer for service. Disconnect the unit during storms to prevent damage.

IMPORTANT SAFETY INFORMATION

SAFETY INSTRUCTIONS

NOTICE FOR CUSTOMERS IF YOUR UNIT IS EQUIPPED WITH A POWER CORD.

WARNING: THIS APPLIANCE SHALL BE CONNECTED TO A MAINS SOCKET OUTLET WITH A PROTECTIVE EARTHING CONNECTION.

The cores in the mains lead are coloured in accordance with the following code:

GREEN and YELLOW - Earth BLUE - Neutral BROWN – Live

As colours of the cores in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- The core which is coloured green and yellow must be connected to the terminal in the plug marked with the letter E, or with the earth symbol, or coloured green, or green and yellow.
- The core which is coloured blue must be connected to the terminal marked N or coloured black.
- The core which is coloured brown must be connected to the terminal marked L or coloured red.

This equipment may require the use of a different line cord, attachment plug, or both, depending on the available power source at installation. If the attachment plug needs to be changed, refer servicing to qualified service personnel who should refer to the table below. The green/yellow wire shall be connected directly to the units chassis.

CONDUCTOR		WIRE COLOR	
		Normal	Alt
L	LIVE	BROWN	BLACK
N	NEUTRAL	BLUE	WHITE
E	EARTH GND	GREEN/YELLOW	GREEN

WARNING: If the ground is defeated, certain fault conditions in the unit or in the system to which it is connected can result in full line voltage between chassis and earth ground. Severe injury or death can then result if the chassis and earth ground are touched simultaneously

If you want to dispose this product, do not mix it with general household waste. There is a separate collection system for used electronic products in accordance with legislation that requires proper treatment, recovery and recycling

Private household in the 25 member states of the EU, in Switzerland and Norway many return their used electronic products free of charge to designated collection facilities or to a retailer (if you purchase a similar new one).

For countries not mentioned above, please contact your local authorities for a correct method of disposal. By doing so you will ensure that your disposed product undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health.

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Congratulations on your purchase of the Sing Easy KP800. The KP800 is a powerful and full-featured digital processor, designed specifically for karaoke and other microphone-based installations. With a variety of audio connectivity options, six channels output and effects processing, the KP800 provides you with all the connectivity and processing required for an amazing karaoke experience.

1.1 Defining the KP800

The KP800 provides you with all the connectivity and processing required between your sources and amplifiers.

The KP800's main features include:

- High-performance 32-bit DSP and A/D and D/A Converter, 24 bit, 48kHz HD Audio professional digital processor
- Four levels of AFE (Automatic Feedback Elimination) technology
- TFT display for intuitive operation and settings information
- 10-band parametric equalizer for microphone inputs
- 7-band parametric equalizer for audio inputs
- Six output channels: Right, Left, Centre, Sub, Surround Right and Surround Left
- Dance/Sing mode for manual/automatic subwoofer management
- Password viable for front panel lock
- 10 custom presets
- Independent control of Echo and Revert
- Two separate microphone input channels
- Two pairs of RCA connectors and an Optical connector for Music Input
- USB port on the front panel for MP3 playback
- PC Control Software
- RS232 port for home automation or KTV system control

Package Contents:

- Sing Easy KP800 Digital Processor
- Owner's Manual
- Power Cable
- Infrared Remote Controller

1.2 Contact Info

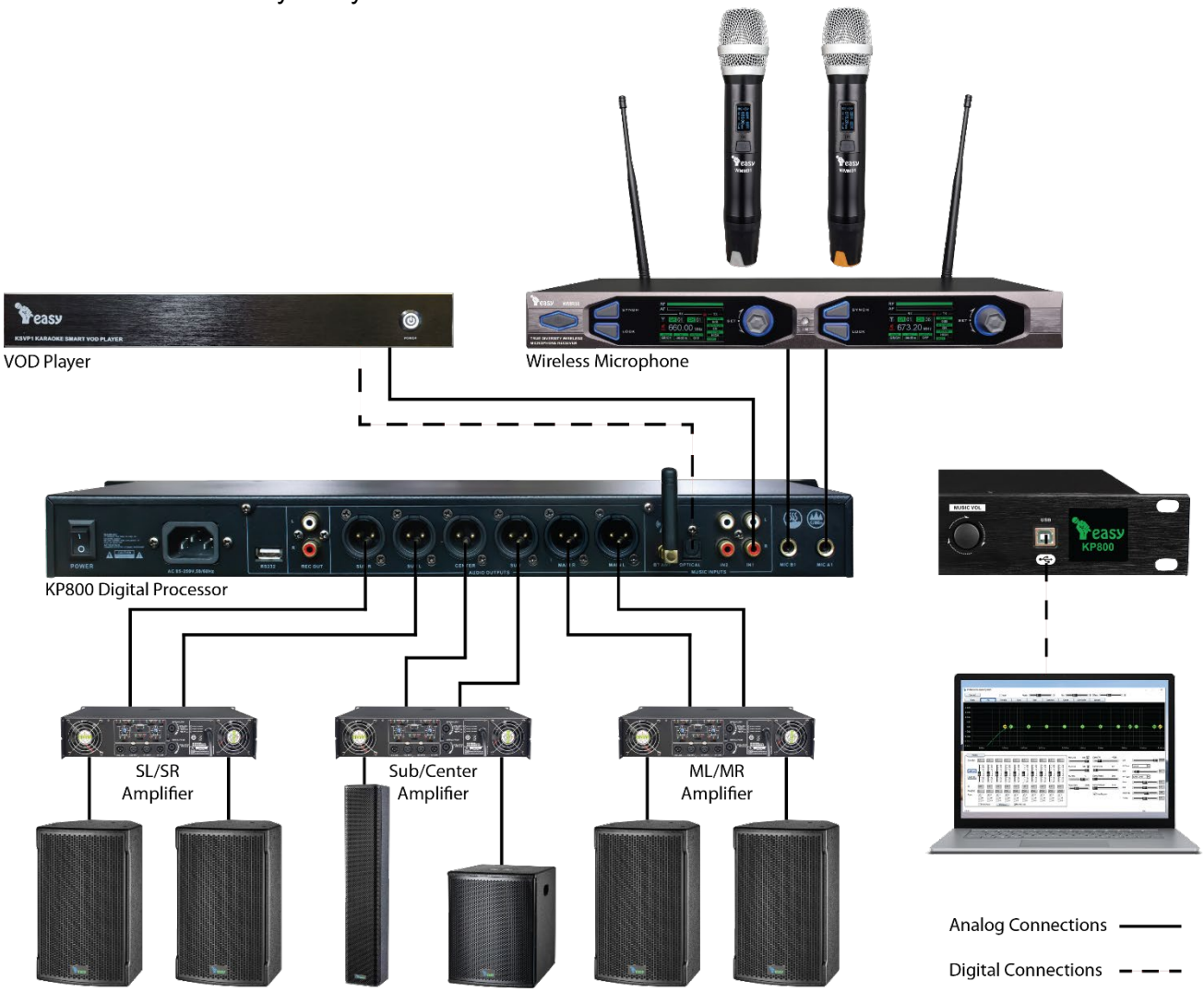
On the World Wide Web:
www.singeasy.com

Professional Contacts, Outside the US:
Contact the Sing Easy Distributor in your area. A complete list of Sing Easy international distributors is provided on our website @ www.singeasy.com

2.1 Quick Start

Please follow the proceeding steps to set up and running quickly. Before proceeding, ensure the power to the KP800 and your amplifier(s) are turned off.

1. Connect the KP800 to your system.

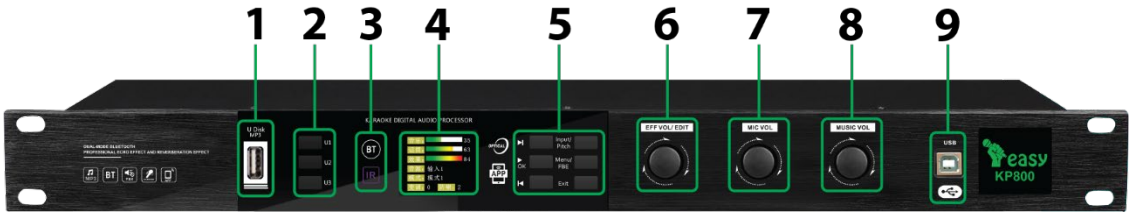


2. Power on all audio output devices such as VOD player together with the KP800 digital processor.
3. Turn all volume controls on your amplifiers down and power on the amplifiers.
4. While playing back audio, slowly increase the volume of the KAW to the desired listening level.
5. When powering off the system, remember to first power off the amplifiers to avoid speakers clipping.

Note: It is recommended that the gain structure of the sound system be calibrated, and crossover, EQ, and limiter settings adjusted for proper loudspeaker protection and performance.

2.2 Front Panel

Please follow the proceeding steps to set up and running quickly. Before proceeding, ensure the power to the KP800 and your amplifier(s) are turned off.



1. **USB Port for MP3 playback**

2. **Memory recall**

3. **IR sensor**

4. **Display**
   This LCD display shows which menu you have navigated to and which parameters are available for editing as well as existing parameters display.

5. **Function select**
   These buttons allow you to navigate through the different menus within the KP800.
   Here's a brief description of these buttons:
   - ⏭ - Next track
   - ▶ - Play
   - ⏮ - Previous track
   - Input/Pitch - A short press will switch to next audio input (INPUT1, INPUT2, BT, UDISK, OPTI). If pressed and held for 2 seconds, this button will allows you to change the music pitch (b7, b6, b5, b4, b3, b2, b1, 0, #1, #2, #3, #4, #5, #6, #7).
   - Menu/FBE - A short press will enter in the Menu which allows you to load saved modes, save new modes, front panel lock, set/change front panel lock password and switch to another UI language.
   - Exit - A short press will exit the Menu.

6. **Effects volume control/Adjust knob**
   This dual function knob allows quick access for adjusting effects volume and edit processing parameters.

7. **Microphone volume control**
   This knob allows quick access for adjusting the overall microphone level.

8. **Music volume control**
   This knob allows quick access for adjusting the overall music level.

9. **USB port**
   This port allows you to connect the KP800 to the computer.

2.3 Rear Panel

1. **Power Switch**
   Use this switch to turn the power of the KP800 on and off.

2. **Power Jack**
   Connect the power cable to this jack.

3. **RS232 USB Port**
   This port allows you to connect the KP800 to the home automation controllers.

4. **REC Outputs**
   Connect these outputs to an external audio recorder for recording karaoke performances.

5. **Audio Outputs**
   Connect these outputs to your amplifier(s) or powered speakers.

6. **Antenna Jack**
   Connect the supplied BT antenna to the unit.

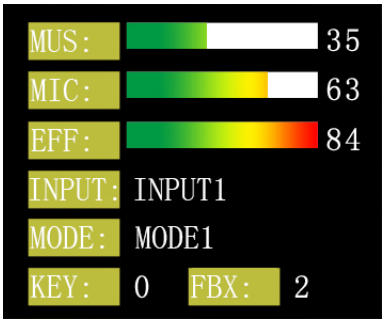
7. **OPTICAL Input**
   Connect your digital audio source to the OPTICAL input.

8. **RCA Inputs**
   Connect your analog audio source to these INPUT1 and INPUT2 inputs.

9. **Microphone Inputs**
   Connect your microphones to these 1/4” connections.

2.4 Front Panel Display

The home screen (viewed after the KP800 initially boots) displays the current Music, Microphones, Effects volumes, input channel, mode, pitch key and feedback suppression level, it also allows you to access the different menus, so you can edit the various parameters.



2.5 Front Panel Control

This section will walk you through the different menus within the KP800 and how to navigate the device.

2.5.1 Front Panel Volume Control

Effects volume control/Adjust knob

This dual-function knob allows quick access for adjusting effects volume and edit processing parameters.

Microphone volume control

This knob allows quick access for adjusting the overall microphone level.

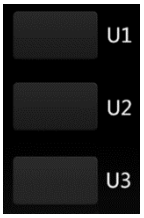
Music volume control

This knob allows quick access for adjusting the overall music level.

2.5.2 Load User Presets

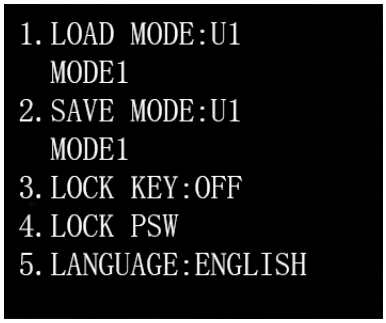
There are a total of 10 User Presets available (U1 to U10) but only U1 to U3 are directly available on the front panel, to select other User Presets, please use smartphone apps to recall (U1 to U6) or Microsoft Windows application to recall (U1 to U10).

1. To recall a User Preset, press U1, U2 or U3 on the front panel. Pressing U1 button will load User Preset 1, pressing U2 button will load User Preset 3.

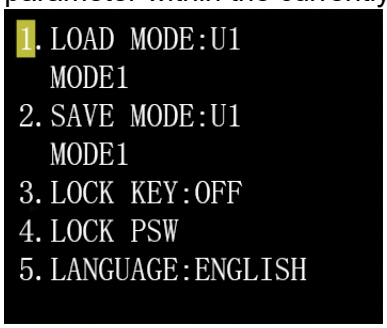


Editing Parameters

Press the Menu/FBE button to enter the Menu mode.



Navigate through the menu by turning the EFF VOL/EDIT knob will allow you to select/edit a parameter within the currently active page.



The OK Button

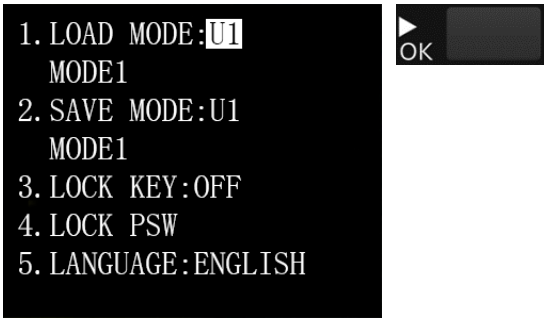
Press OK button to select the menu item.

The Exit Button

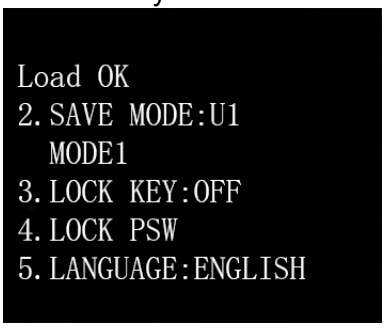
The Exit button allows you to back out of menus and get back to the home screen.

Press the Menu/FBE button to enter the Menu mode and navigate the menu to initiate the selection and 

move on to the naming screen by turning the EFF VOL/EDIT knob to select 1.LOAD MODE then press OK button.



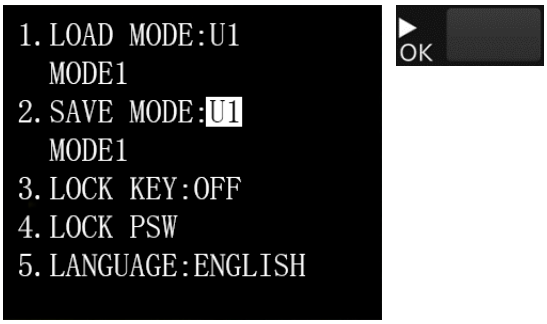
Successfully loaded.



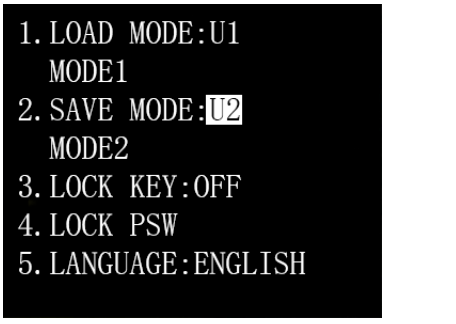
2.5.3 Save User Presets

Press the Menu/FBE button to enter the Menu mode and navigate the menu to initiate the selection and 

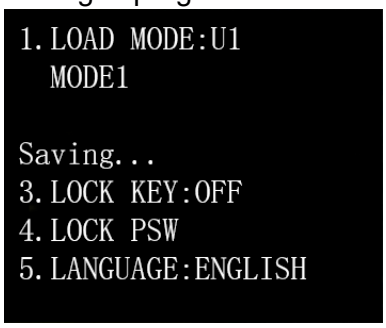
move on to the naming screen by turning the EFF VOL/EDIT knob to select 2.SAVE MODE then press OK button.



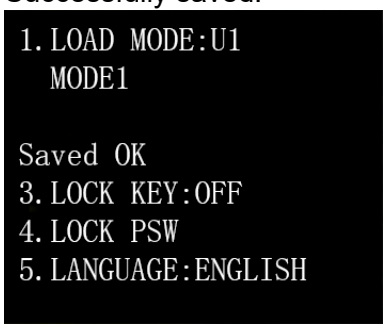
To save the User Preset on U2 button, press OK button.



Saving in progress.



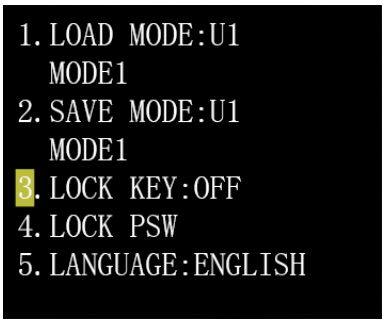
Successfully saved.



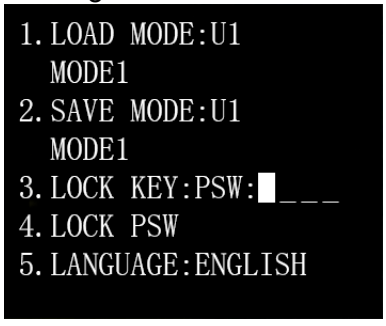
2.5.4 Front Panel Buttons Lock

Press the Menu/FBE button to enter the Menu mode and navigate the menu to initiate the selection and 

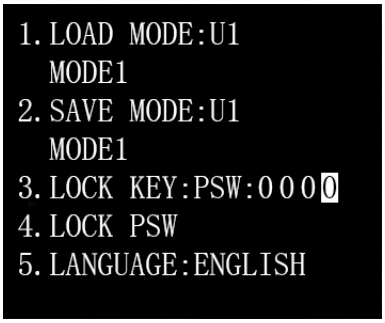
move on to the naming screen by turning the EFF VOL/EDIT knob to select 3.LOCK KEY:OFF then press OK button.



Turning the EFF VOL/EDIT knob allows you to move on to the next character.



Sing Easy KP800 default Front Panel Password is “0000”. Turn the EFF VOL/EDIT knob to move on to the desired character then press OK button to move on.



The OK Button

Press OK button to select the menu item.

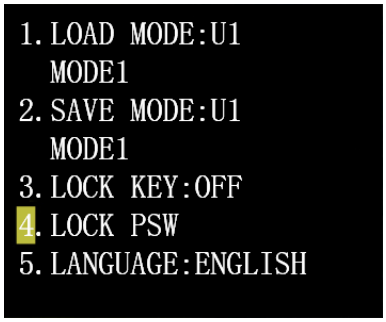
The Exit Button

The Exit button allows you to back out of menus and get back to the home screen.

2.5.5 Change Front Panel Buttons Lock Password

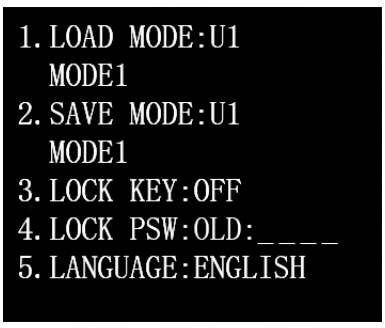
Press the Menu/FBE button to enter the Menu mode and navigate the menu to initiate the selection and

move on to the naming screen by turning the EFF VOL/EDIT knob to select 4.LOCK PSW then press OK button.



Sing Easy KP800 default Front Panel Password is “0000”.

Input the OLD password by turning the EFF VOL/EDIT knob to move on to the desired character then press OK button to move on.



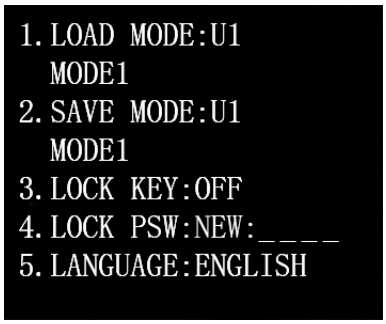
The OK Button

Press OK button to select the menu item.

The Exit Button

The Exit button allows you to back out of menus and get back to the home screen.

Input the NEW password by turning the EFF VOL/EDIT knob to move on to the desired character then press OK button to move on.



The OK Button

Press OK button to select the menu item.

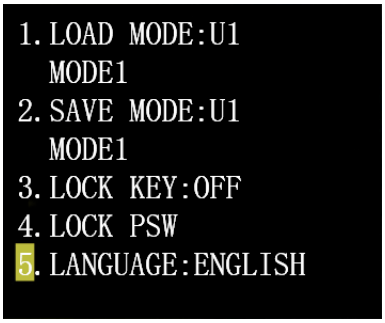
The Exit Button

The Exit button allows you to back out of menus and get back to the home screen.

2.5.6 Switch Between Languages

Press the Menu/FBE button to enter the Menu mode and navigate the menu to initiate the selection and

move on to the naming screen by turning the EFF VOL/EDIT knob to select 5.LANGUAGE:ENGLISH then press OK button.

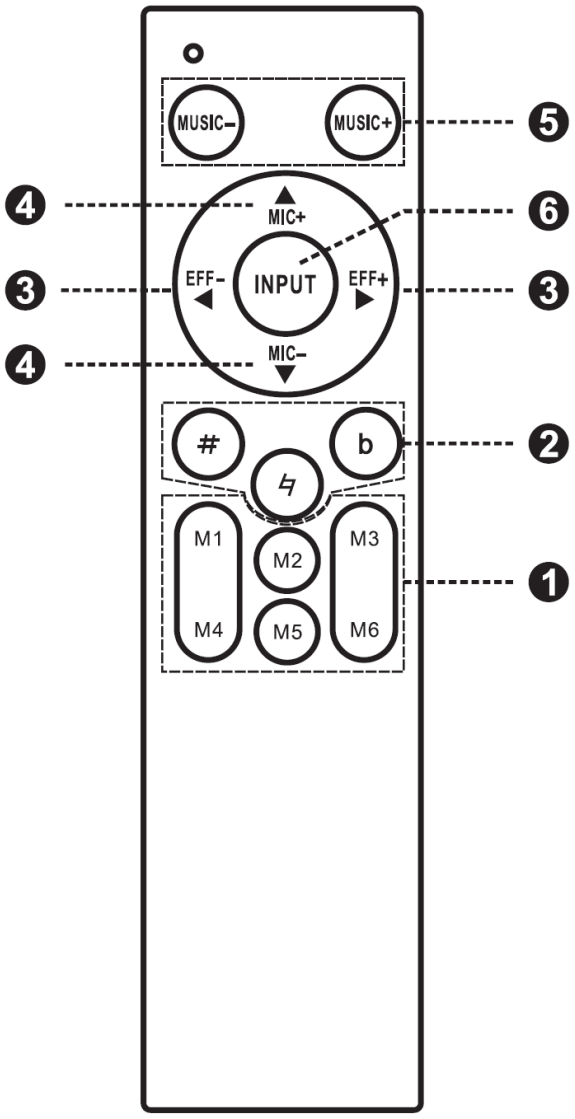


2.6 Infrared Remote-Control

Remote Control Keys

#	KEY	DESCRIPTION
❶	M1-M6	User Preset U1 to U6
❷	# ϟ b	Pitch Key
❸	EFF+ EFF-	Effects Volume
❹	MIC+ MIC-	Microphone Volume
❺	MUSIC+ MUSIC-	Music Volume
❻	INPUT	Input Selection

REMOTE OVERVIEW



3.1 Input & Output Processing

The KP800 provides the following processing on the respective inputs and outputs.

Input/Output	Available Processing
Music Audio Inputs	Inputs Source & Gain Control (Input1, Input2, BT, USB, Optical) 7 Band Parametric EQ HPF & LPF Pitch Key Noise Gate
Mic Inputs (All)	15 Band Parametric EQ Mic A & B Volume Mic FBX Noise Gate Reverb & Echo Compressor (Threshold, Ratio, Attack & Release) HPF & LPF
Main Outputs (Left/Right)	7 Band Parametric EQ Speaker Alignment Delay & L/R Balance Reverb & Echo Compressor (Threshold, Ratio, Attack & Release) HPF & LPF Singing/Dance Mode
Surround Output	5 Band Parametric EQ Speaker Alignment Delay & L/R Balance Reverb & Echo Compressor (Threshold, Ratio, Attack & Release) HPF & LPF Singing/Dance Mode
Center Output	5 Band Parametric EQ Reverb & Echo Compressor (Threshold, Ratio, Attack & Release) HPF & LPF Singing/Dance Mode
Sub Output	5 Band Parametric EQ Reverb & Echo Compressor (Threshold, Ratio, Attack & Release) HPF & LPF Singing/Dance Mode

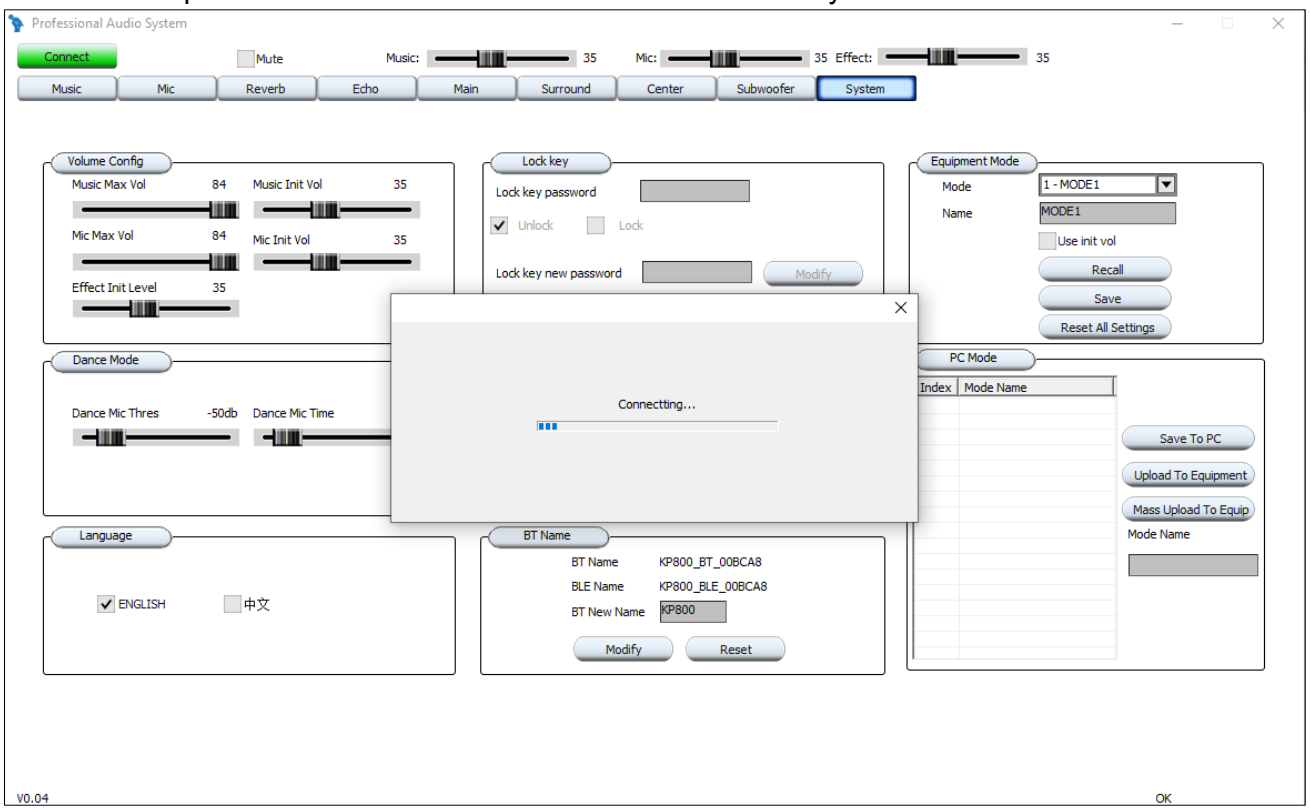
Note: Please use KP800 Microsoft Windows Application to adjust above parameters.

3.2 PC Parameters

Double-click on KP800.exe to begin configuring detailed parameters.

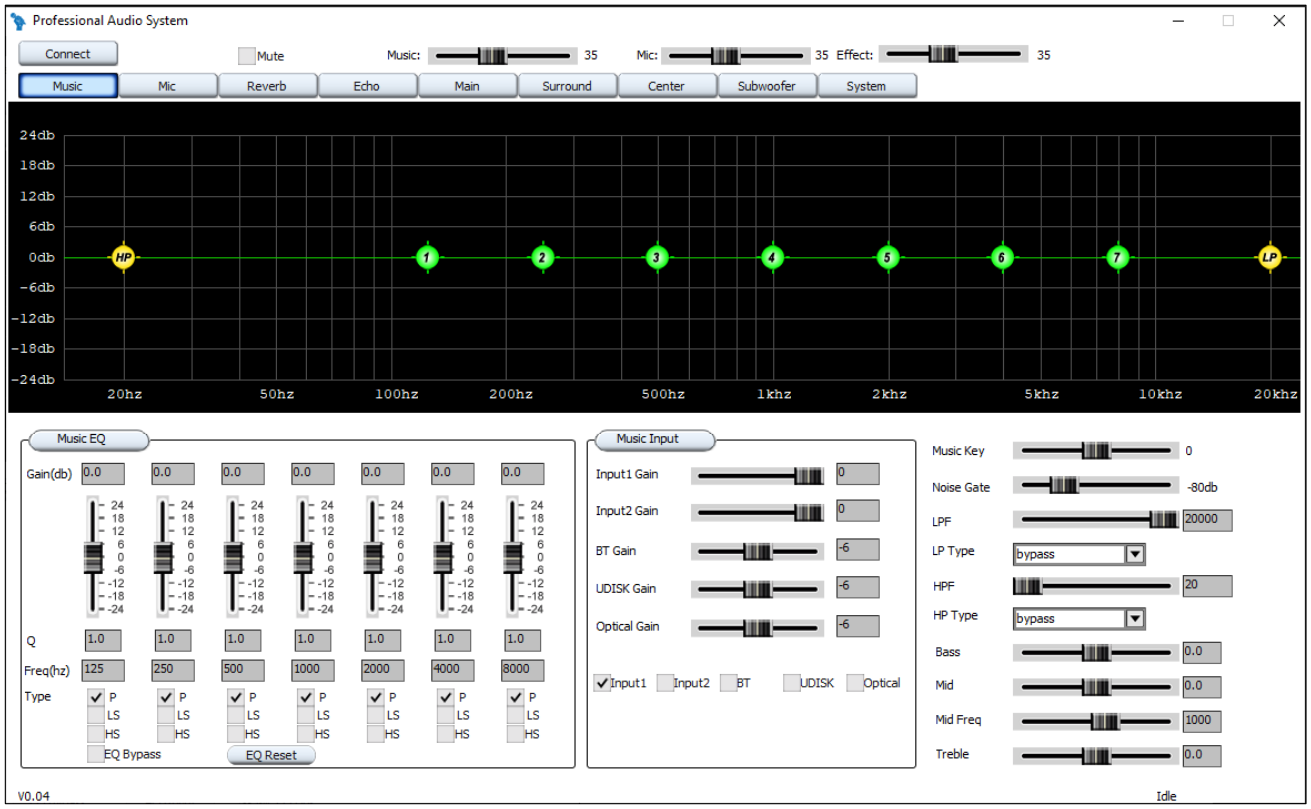
KP800v1.exe

Connect the optional USB to RS232 cable between KP800 and your PC then click Connect.



3.2.1 Music Parameters

Click on Music tab to tune the parameters.



Music is the control of the music inputs and parameters.

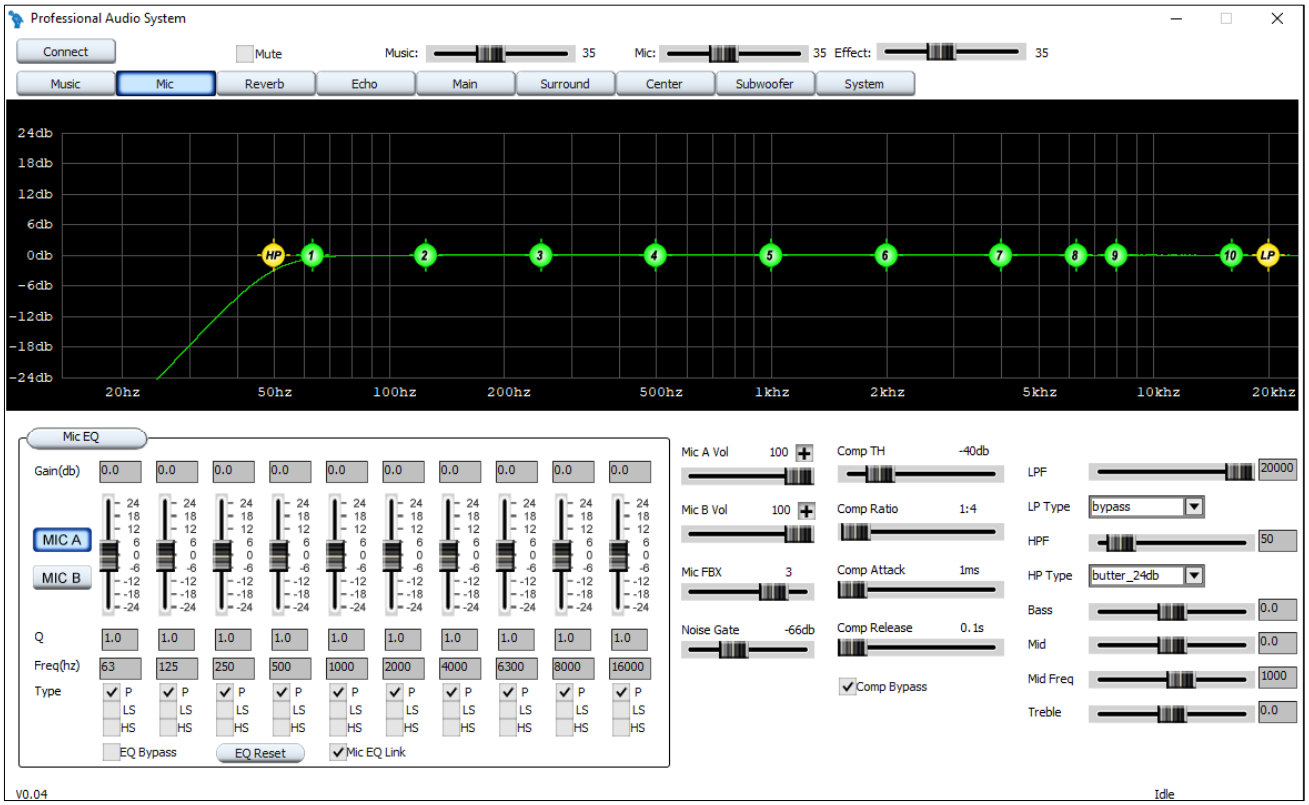
EQs allow you to shape the tone of the audio signal. Sometimes these EQs are needed at various stages of the signal path. The KP800 has Input EQs for shaping the tone of the input sources.

Music Parameters

- Music EQ (7 Bands - 125Hz, 250Hz, 500Hz, 1KHz, 2KHz, 4KHz, 8KHz)
- Music Input1 Gain (-12dB to 0dB)
- Music Input2 Gain (-12dB to 0dB)
- Music BT Gain (-12dB to 0dB)
- Music UDISK Gain (-12dB to 0dB)
- Music Optical Gain (-12dB to 0dB)
- Music Input (Input1, Input2, BT, UDISK, Optical)
- Music Key (Minor b1, b2, b3, b4, b5, b6, b7; Flat 0; Sharp: #1, #2, #3, #4, #5, #6, #7)
- Noise Gate (OFF; -90dB to -50dB)
- LPF (20 to 20000Hz)
- LP Type (Bypass, Bessel 12dB/18dB/24dB, Butter 12dB/18dB/24dB, Link Riley 24dB)
- HPF (20 to 20000Hz)
- HP Type (Bypass, Bessel 12dB/18dB/24dB, Butter 12dB/18dB/24dB, Link Riley 24dB)
- Bass (-24dB to +24dB)
- Mid (-24dB to +24dB)
- Mid Freq (20 to 20000Hz)
- Treble (-24dB to +24dB)

3.2.2 Microphone Parameters

Click on Mic tab to tune the parameters.



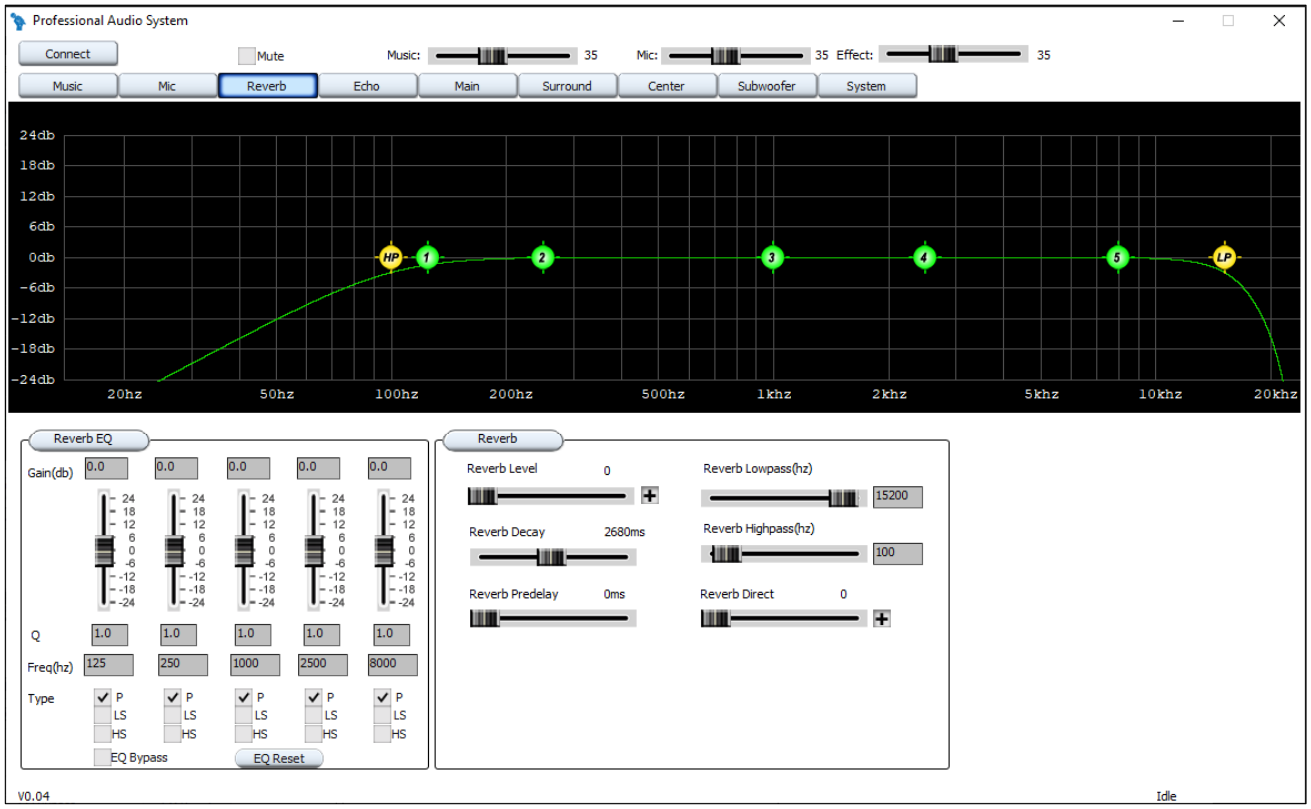
Mic is the control of the microphone inputs and parameters.

Mic Parameters

- Mic EQ (10 Bands - 63Hz, 125Hz, 250Hz, 500Hz, 1KHz, 2KHz, 4KHz, 6.3KHz, 8KHz, 16KHz)
- Mic A Vol Vol (0 to 100)
- Mic B Vol Vol (0 to 100)
- Mic FBX (0 to 4)
  The FBE/FBX Feedback Elimination function was designed to provide an excellent feedback elimination processing, all of these feedback detection and suppression is done be FBE/FBX automatically completely. With FBE/FBX, the feedback is removed automatically to keep a good and live sound after suppression.
- Noise Gate (OFF; -90dB to -50dB)
- Comp TH (-50dB to 0dB)
  Threshold sets the signal level at which the Compressor starts to work. If the threshold level is set at -10 dB, only signals that pass above -10dB will be compressed; signals below the level will not be compressed.
- Comp Ratio (1:2 to 1:100)
  This parameter is the amount the unit compresses the signal level and indicates the difference between the signal increase before compression and the increase at the output level. A 2:1 ratio means if the incoming signal is 2 dB above threshold, the output signal after compression is 1 dB above threshold.
- Comp Attack (1ms to 90ms)
  This parameter defines the time it takes for the Compressor to start compressing when threshold is reached.
- Comp Release (0.1s to 2.5s)
  This parameter defines the time it takes for the Compressor to stop after the signal dips below threshold.
- Compression Bypass (On/Off)
  This parameter turns on or off the compression algorithm.
- LPF (20 to 20000Hz)
- LP Type (By pass, Bessel 12dB/18dB/24dB, Butter 12dB/18dB/24dB, Link Riley 24dB)
- HPF (20 to 20000Hz)
- HP Type (By pass, Bessel 12dB/18dB/24dB, Butter 12dB/18dB/24dB, Link Riley 24dB)
- Bass (-24dB to +24dB)
- Mid (-24dB to +24dB)
- Mid Freq (20 to 20000Hz)
- Treble (-24dB to +24dB)

3.2.3 Reverb Parameters

Click on Reverb tab to tune the parameters.



Reverb is the ambient sound of various live environments such as clubs, studios, concert halls, etc. Much like the Echo effect, it is used for enhancing the sound of vocals to make them more interesting.

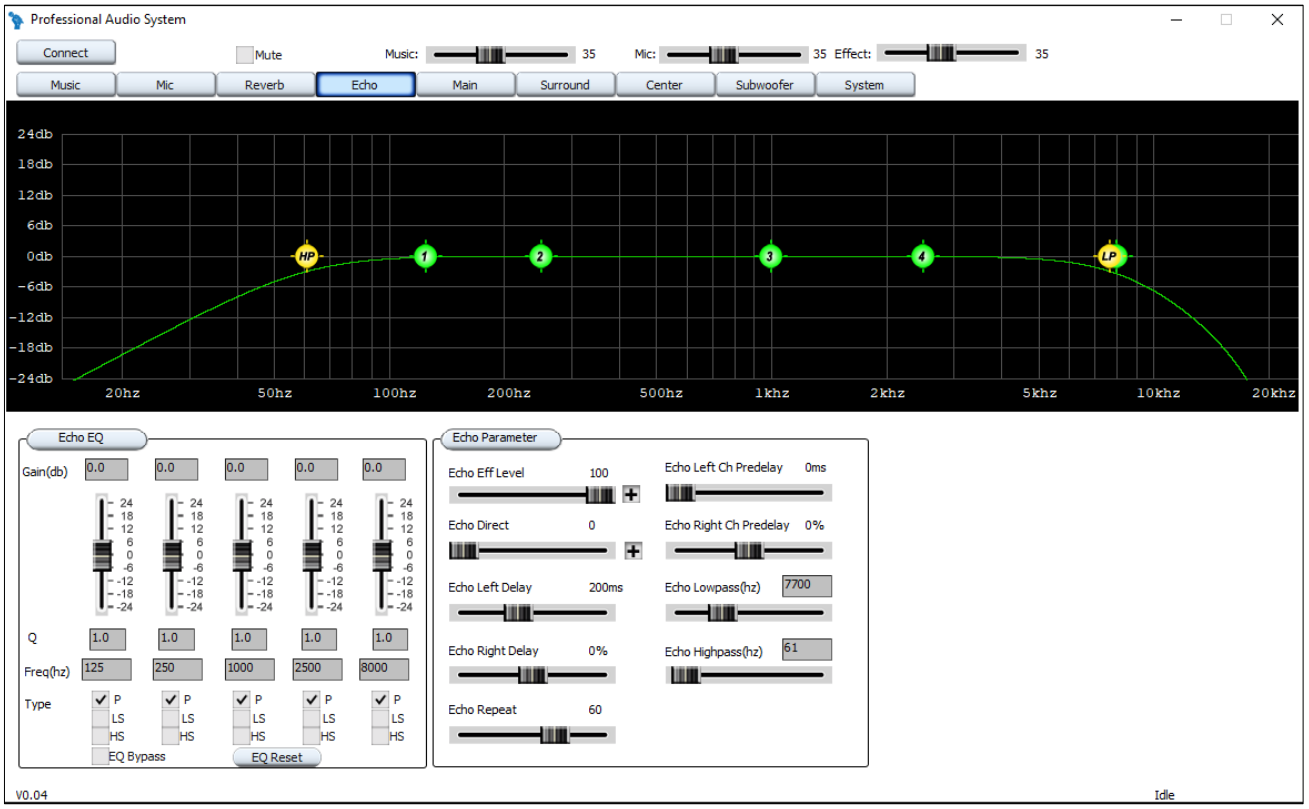
Reverb Parameters

The Reverb algorithm contains the following parameters:

- Reverb PEQ (5 Bands - 125Hz, 250Hz, 1KHz, 2.5KHz, 8KHz)
- Reverb Level (0 - 100) - This parameter adjusts the overall level of the reverb effect
  Use this parameter to add just the right amount of reverb effect to the source signal
- Reverb Decay/Time (500 ms - 5000 ms)
  This parameter adjusts the amount of time that it takes for the reverb to die out. Higher values create the illusion of a larger space or harder more reflective surfaces.
- Reverb Predelay (0 - 100 ms, range is preset dependent)
  This parameter adjusts the amount of delay time before the reverb effect becomes audible. Higher values can create the illusion of a much larger room as it mimics the time that it would take for reflections from very distant surfaces to reach the listeners ears.
- Reverb Lowpass (4000 Hz - 16000 Hz)
  This parameter adjusts the frequency of the reverb low pass filter. Lower values will allow the lower frequencies to pass through the reverb effect creating a fuller, darker reverb, whereas higher values will begin cutting off lower frequencies, which can make a reverb sound thinner and sit better in a busy mix.
- Reverb HPF (20 Hz - 1000 Hz)
  This parameter adjusts the frequency of the reverb high pass filter. Lower values yield a darker sounding reverb, whereas higher values create a brighter sounding reverb effect.
- Reverb Direct (0 - 100)
  This parameter adjusts the overall level of the microphone input.

3.2.4 Echo Parameters

Click on Echo tab to tune the parameters.



The Echo effect consists of delays which generate the artificial echos. In an echo effect, the processed signal is mixed with the unprocessed signal and is used to make a singer's voice sound more interesting. Echo has adjustable time, feedback and level for producing that sought after karaoke effect.

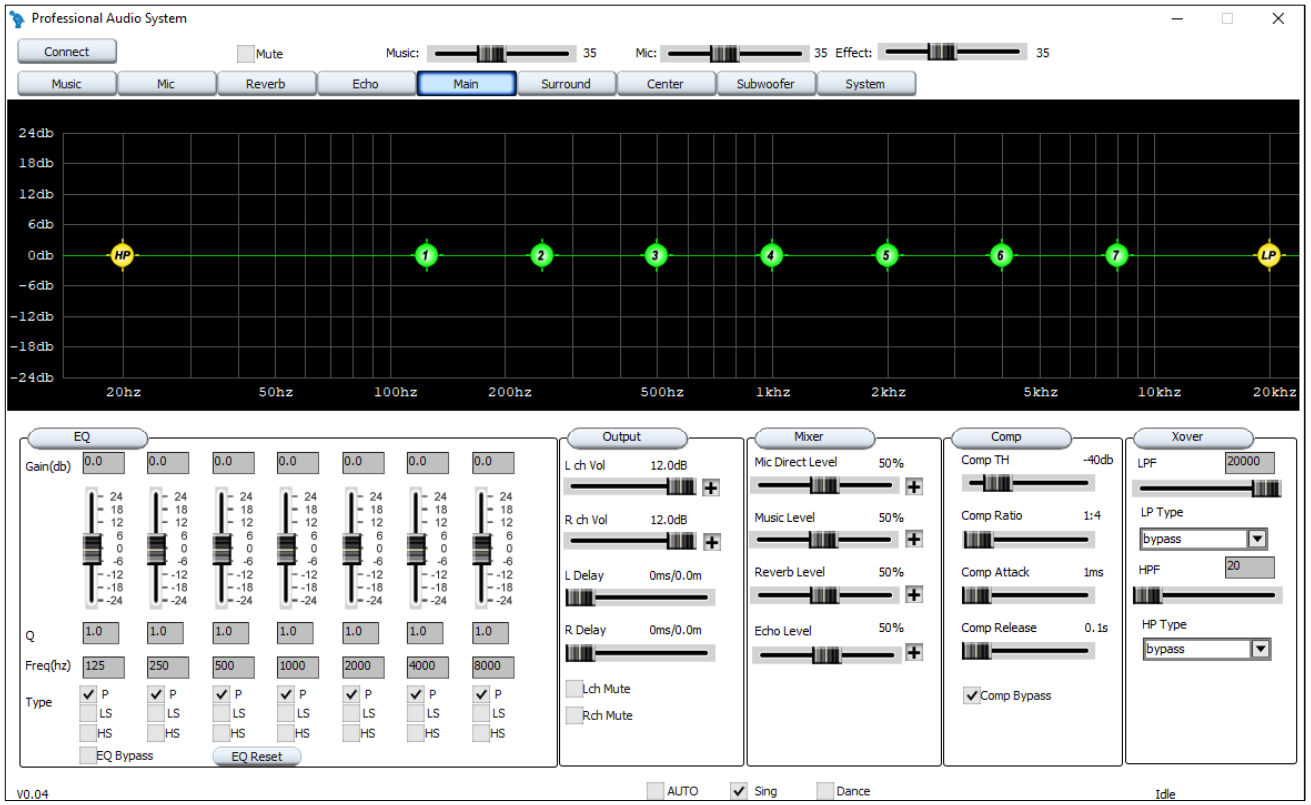
Echo Parameters

The Echo algorithm contains the following parameters:

- Echo EQ (5 Bands - 125Hz, 250Hz, 1KHz, 2.5KHz, 8KHz)
- Echo Eff Level (0 - 100)
  This parameter adjusts the overall level of the echo effect. Use this parameter to add just the right amount of echo effect to the source signal.
- Effect Direct/Dry Level (0 - 100)
  This parameter adjusts the overall level of the microphone input.
- Echo Left Ch Delay (1ms – 500ms; referring to L channel)
  This parameter adjusts the amount of delay which occurs before you begin to hear any repeats.
- Echo Right Ch Delay (1ms – 500ms; referring to R channel)
  This parameter adjusts the amount of delay which occurs before you begin to hear any repeats.
- Echo Left Ch Pre-Delay (-50% - 50%; referring to L channel)
  This parameter adjusts the amount of delay which occurs before you begin to hear the first- repeats.
- Echo Right Ch Pre-Delay (-50% - 50%; referring to R channel)
  This parameter adjusts the amount of delay which occurs before you begin to hear the first- repeats.
- Echo Repeat (0 - 90)
  This parameter adjusts how many times the delay will be repeated. The higher the value of this parameter, the longer the delay effect will be heard before fading out.
- Echo Lowpass (4000 Hz - 16000 Hz)
  This parameter adjusts the frequency of the echo low pass filter. Higher values allow more of the high frequencies to pass, creating a brighter Echo effect. Lower values will begin to cut off the higher frequencies, creating a darker sounding echo effect.
- Echo Highpass (20 Hz - 1000 Hz)
  This parameter adjusts the frequency of the echo high pass filter. Lower values (or Off) allow more of the low frequencies to be passed through the effect and yield a fuller sounding echo, whereas higher values begin to cut off lower frequencies, creating a thinner sounding echo effect which can make the effect sit better in a busy mix.

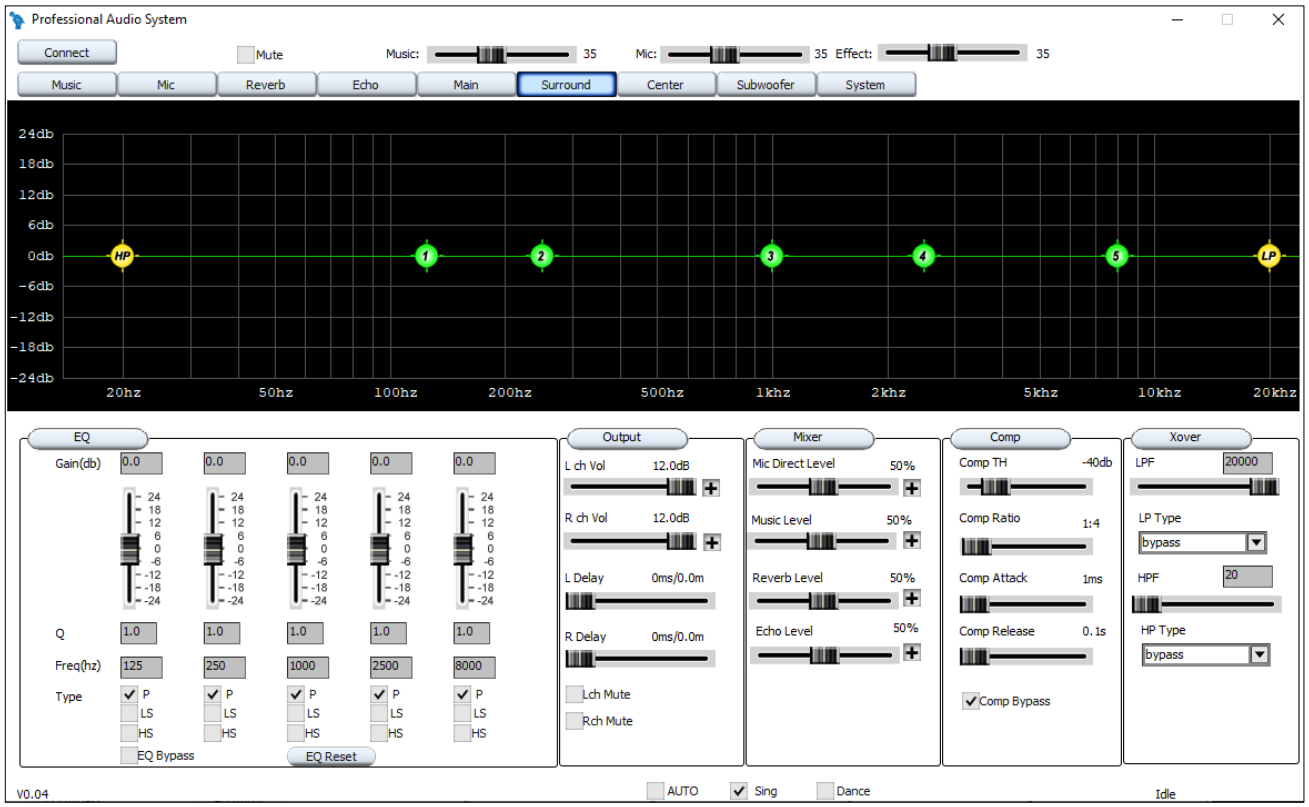
3.2.5 Main Output Parameters

Click on Main tab to tune the parameters.



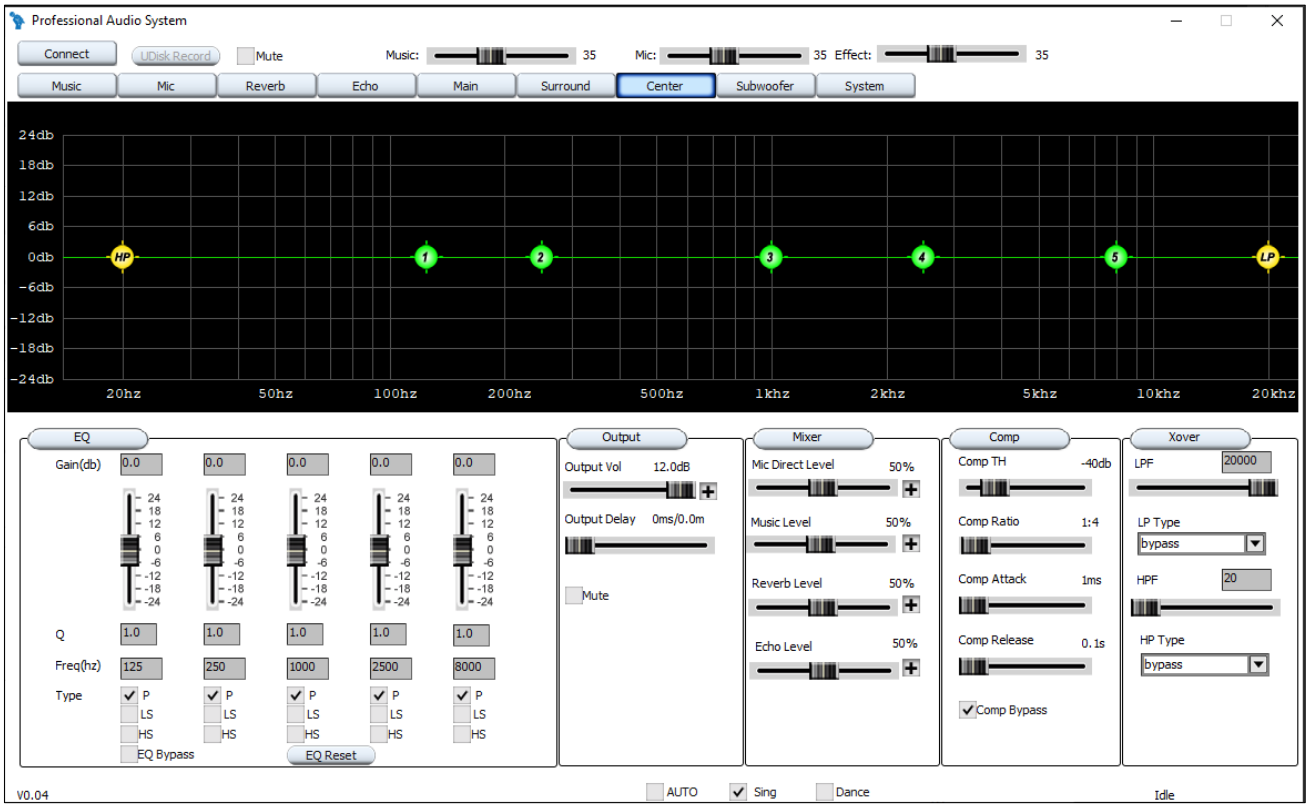
3.2.6 Surround Output Parameters

Click on Surround tab to tune the parameters.



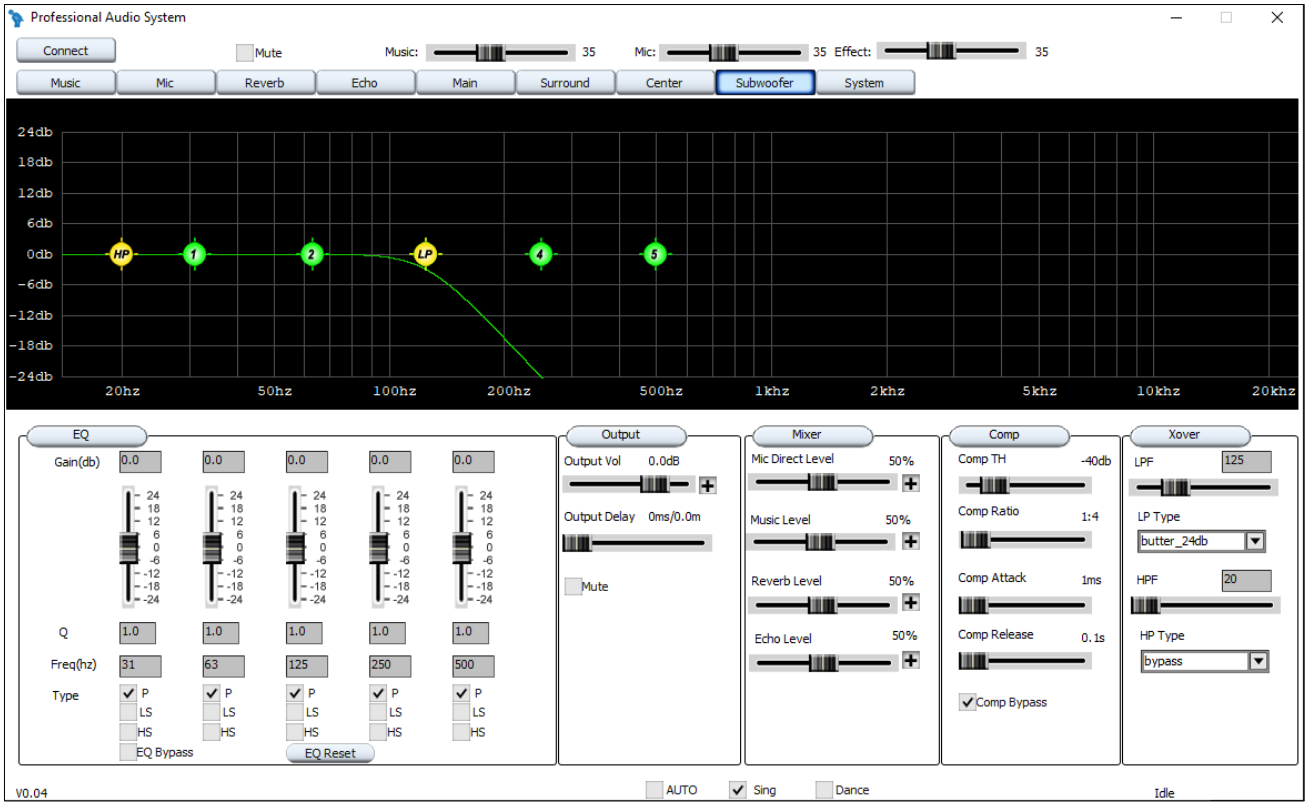
3.2.7 Center Output Parameters

Click on Center tab to tune the parameters.



3.2.8 Subwoofer Output Parameters

Click on Subwoofer tab to tune the parameters.



EQs allow you to shape the tone of the audio signal. Sometimes these EQs are needed at various stages of the signal path. The KP800 has Output EQs for equalizing the overall sound system. The KP800 provides 7 Band EQs on the left, right and 5 Band EQs on the surround, center and subwoofer outputs.

EQ

The EQ algorithm contains the following parameters:

- Gain (-24dB to +24dB) - Sets the level of the selected EQ band.
- Q (0.7 to 99.9) - This parameter adjusts the width of the PEQ filter. Lower values, create wider EQ curves (covering a wider range of frequencies) and higher values create narrower EQ curves (covering a much smaller range of frequencies for more surgical EQ work). This parameter is only available in bands that are set to the 'PEQ' type, as listed above.
- Main EQ (7 Bands - 125Hz, 250Hz, 500Hz, 1KHz, 2KHz, 4KHz, 8KHz)
- Surround EQ (5 Bands - 125Hz, 250Hz, 1KHz, 2.5KHz, 8KHz)
- Center EQ (5 Bands - 125Hz, 250Hz, 1KHz, 2.5KHz, 8KHz)
- Subwoofer EQ (5 Bands - 31Hz, 63Hz, 125Hz, 250Hz, 500Hz)
- Filter Type (P "PEQ", LS "Low shelf", HS "High shelf") - The Type selector allows you to select which type of filter you would like to use on each band.
  1. PEQ: Manipulates a set range of frequencies, out in both directions from the center frequency, with the 'Q' parameter determining the width.
  2. LP shelf: Manipulates all frequencies below the set frequency.
  3. HP shelf: Manipulates all frequencies above the set frequency.
- Band Frequency (20 Hz to 20K Hz) - Selects the center frequency, for each band, at which the EQ gain or attenuation will be applied.
  1. PEQ Frequency Range: 20 Hz to 20K Hz.
  2. Low Shelf Frequency Range: 20 Hz to 20K Hz.
  3. High Shelf Frequency Range: 20 Hz to 20K Hz.
- EQ Bypass - This option when turned on will set all the EQs for that output off like it is flat.
- EQ Reset - Resets the EQ

Output (Main & Surround)

- L ch Vol (OFF, -37dB to +12dB) - Sets the left channel volume.
- R ch Vol (OFF, -37dB to +12dB) - Sets the right channel volume.
- L Delay (0ms/0.0m to 50ms/17.0m) - This parameter sets how much delay will be applied to the left channel output.
- R Delay (0ms/0.0m to 50ms/17.0m) - This parameter sets how much delay will be applied to the right channel output.
- Lch Mute - This parameter mutes the left channel.
- Rch Mute - This parameter mutes the right channel.

Output (Center)

- Output Vol (OFF, -37dB to +12dB) - This parameter sets the center channel volume.
- Output Delay (0ms/0.0m to 50ms/17.0m) - This parameter sets how much delay will be applied to the center output.
- Mute - This parameter mutes the center channel.

Output (Subwoofer)

- Ouput Vol (OFF, -37dB to +12dB) - This parameter sets the subwoofer volume.
- Output Delay (0ms/0.0m to 50ms/17.0m) - This parameter sets how much delay will be applied to the subwoofer output.
- Mute - This parameter mutes the subwoofer channel.

Mixer

- Mic Direct Level (0% to 100%) - This parameter sets microphone direct level.
- Music Level (0% to 100%) - This parameter sets music level.
- Reverb Level (0% to 100%) - This parameter sets reverb level.
- Echo Level (0% to 100%) - This parameter sets echo level.

Compressor

- Comp TH (-50dB to 0dB)
  Threshold sets the signal level at which the Compressor starts to work. If the threshold level is set at -10 dB, only signals that pass above -10dB will be compressed; signals below the level will not be compressed.
- Comp Ratio (1:2 to 1:100)
  This parameter is the amount the unit compresses the signal level and indicates the difference between the signal increase before compression and the increase at the output level. A 2:1 ratio means if the incoming signal is 2 dB above threshold, the output signal after compression is 1 dB above threshold.
- Comp Attack (1ms to 90ms)
  This parameter defines the time it takes for the Compressor to start compressing when threshold is reached.
- Comp Release (0.1s to 2.5s)
  This parameter defines the time it takes for the Compressor to stop after the signal dips below threshold.
- Compression Bypass (On/Off)
  This option when turned on will set all the Compressions for that output off like it is flat.

Xover/Crossover

- LPF (20 to 20000Hz)
- LP Type (By pass, Bessel 12dB/18dB/24dB, Butter 12dB/18dB/24dB, Link Riley 24dB)
- HPF (20 to 20000Hz)
- HP Type (By pass, Bessel 12dB/18dB/24dB, Butter 12dB/18dB/24dB, Link Riley 24dB)

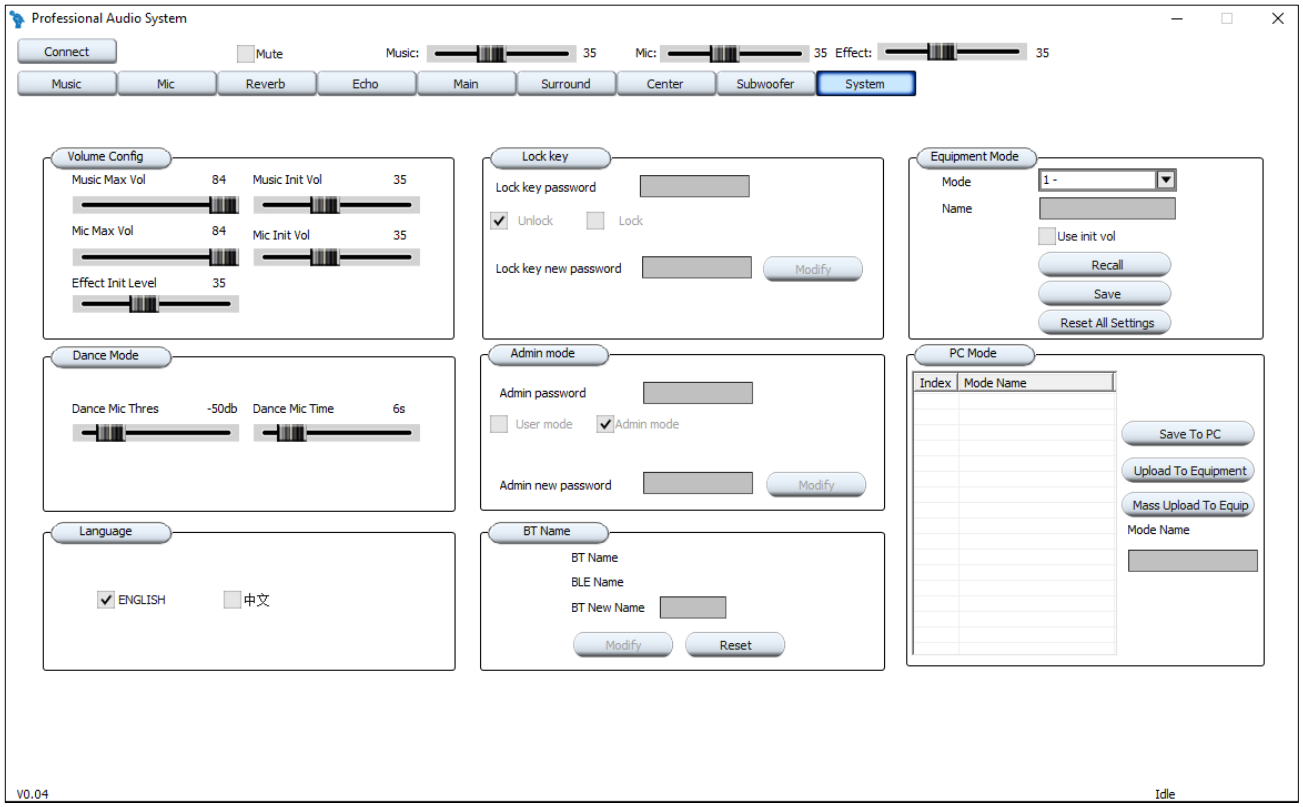
Auto Sing/Dance Mode

- Auto Sing/Dance mode is used to switch between using the system in a dance environment (Dance Mode) or for karaoke use (Sing Mode). When Sing Mode is turned on, the subwoofer can be reduced for karaoke use. When Dance Mode is turned on, the subwoofer can be enhanced for dance club use. This feature makes it very easy to use the live sound system for both purposes.
  Sing/Dance Mode can either be engaged manually or automatically. The Sing Mode Timer allows you to automatically decrease ultralow frequency output after a period when the microphones are not used.

DANCE MICROPHONE THRESHOLD AND DANCE MICROPHONE TIME MUST BE SET IN SYSTEM SETTINGS PAGE.

3.2.9 System Settings Parameters

Click on System tab to change system settings.



Volume Config		
Music Max Vol	0 to 84	Music maximum volume:
Mic Max Vol	0 to 84	Microphone maximum volume:
Effect Init Level	0 to 99	Effect initial volume
Music Init Vol	0 to 84	Music initial volume
Mic Init Vol	0 to 84	Microphone initial volume
UDisk Record Vol	1 to 6	
USB Record Vol	1 to 6	
Dance Mode		
Dance Mic Thres	-60 to 0dB	Dance microphone threshold, in automatic mode, when the signal level of the microphone is higher than the thousand-shot threshold, the subwoofer enters the singing mode
Dance Mic Time	1 to 30s	Dance microphone time, in automatic mode, the subwoofer switches from singing mode to dancing mode when the signal level of the microphone is low and the trigger threshold is maintained for a set time.
Language		
Language	English/中文	Switch between languages.
Lock key		
Lock key password	Default password is 0000	Change lock key password
Unlock or Lock		Switch between unlock or lock modes
Lock key new password		Set lock key new password
Admin mode		
Admin password	Default password is 000000	Set admin password
User mode or Admin mode		Switch between user or admin modes
Admin new password		Set admin new password
BT Name		
BT New Name		Modify the Bluetooth name
Reset		Restore factory Bluetooth name
Equipment Mode		
Recall		To recall a user preset
Save		To save a user preset
Reset All Settings		To reset all settings
PC Mode		
Save To PC		To save existing parameters to PC
Upload to Equipment		To upload exiting parameters to equipment
Mass Upload to Equip		To upload exiting parameters to multiple devices

4.1 Infrared Remote Control Codes

IRDA: based on standard IRDA protocol
User Code: 08F7

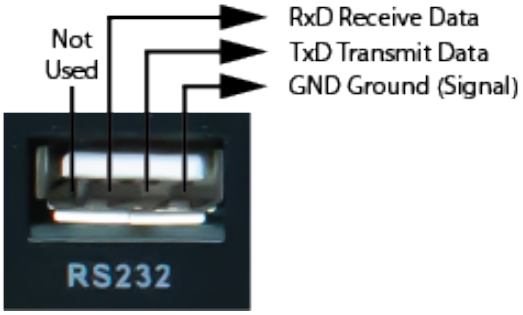
Load User Preset	
User Preset U1	05FA
User Preset U2	11EE
User Preset U3	10EF
User Preset U4	09F6
User Preset U5	1DE2
User Preset U6	1FE0

Audio Control	
Music -	1AE5
Music +	04FB
Mic -	0EF1
Mic +	01FE
Effect -	06F9
Effect +	02FD
Input	0AF5
Pitch Sharp	0DF2
Pitch Reset	19E6
Pitch Flat	1BE4

4.2 RS232 Commands

The KP800 is built-in bi-directional RS-232 serial interface allows system control and query through a high-end controller or PC.

KP800 RS232 PIN OUTS (RS232)



RS232 PIN OUTS (DB-9)

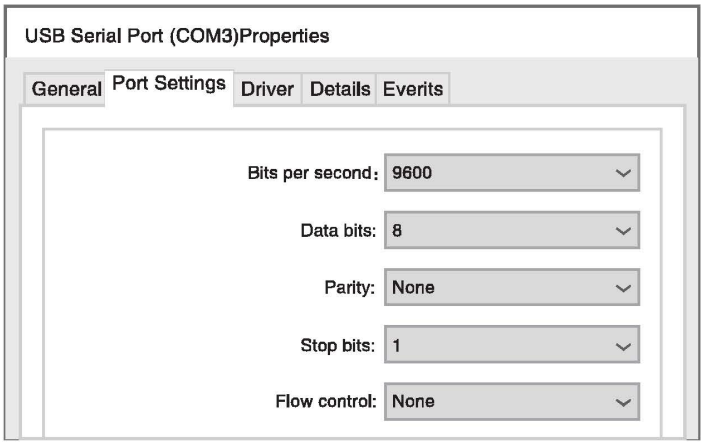
A male DB-9 connector viewed from the front. Reverse or back view of male connector for Female Connector.

DTE Pin Assignment (DB-9 Male)		
1	DCD	Data Carrier Detect
2	RxD	Receive Data
3	TxD	Transmit Data
4	DTR	Data Terminal Ready
5	GND	Ground (Signal)
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send
9	RI	Ring Indicator

DCE Pin Assignment (DB-9 Female)		
1	DCD	Data Carrier Detect
2	TxD	Transmit Data
3	RxD	Receive Data
4	DSR	Data Set Ready
5	GND	Ground (Signal)
6	DTR	Data Terminal Ready
7	CTS	Clear to Send
8	RTS	Request to Send
9	RI	Ring Indicator

COMMUNICATION PORT SETTING

The communication baud rate is 9600, and the communication format is: 8 data bits, 1 stop bit, and no parity bit.



CONTROL COMMANDS

Note: Data format is 4-digit Hexadecimal value.

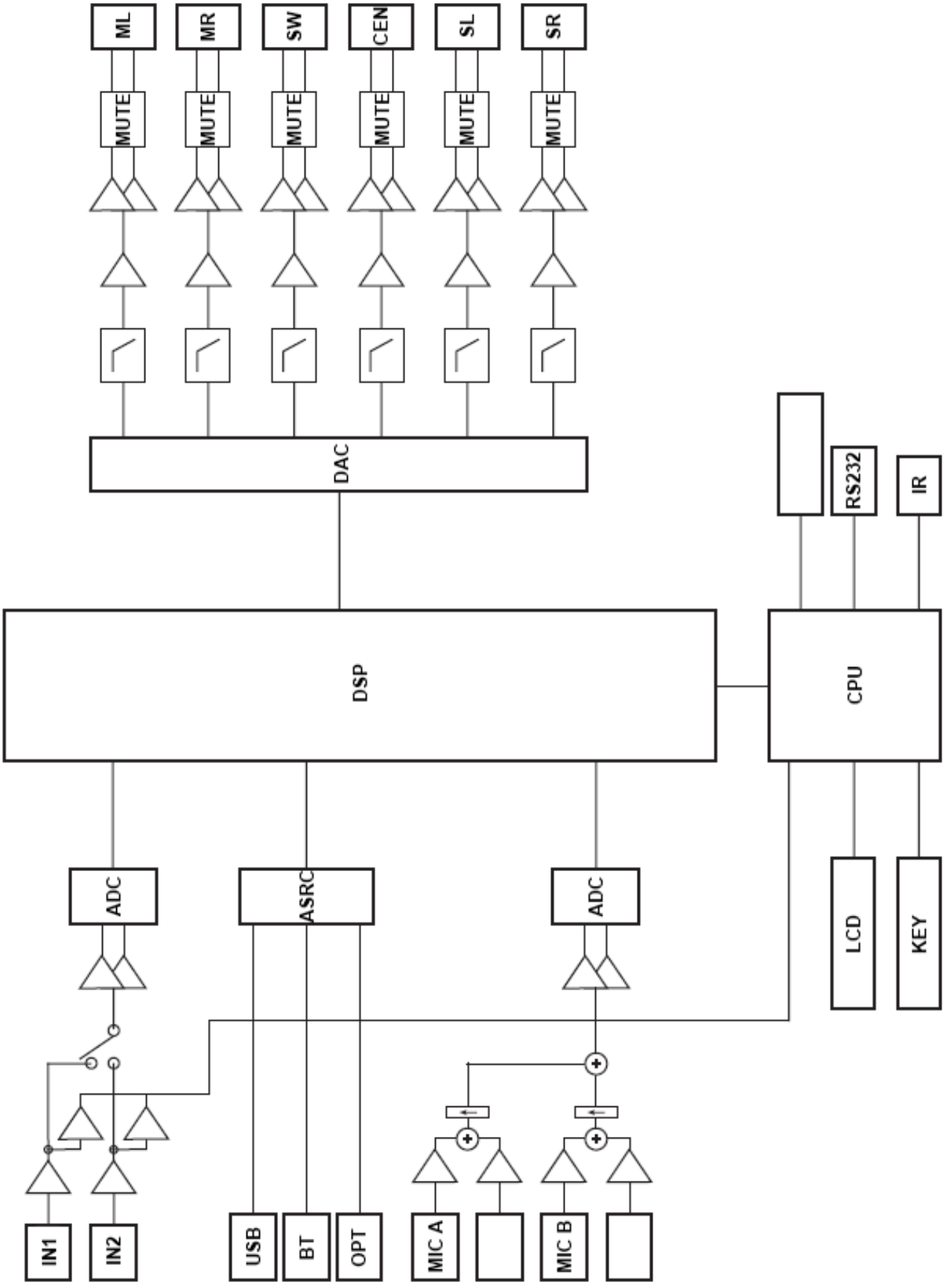
#	FUNCTION	COMMAND			
1	Adjust music volume up	3c	79	31	C3
2	Adjust music volume down	3c	79	32	C3
3	Adjust microphone volume up	3c	79	33	C3
4	Adjust microphone volume down	3c	79	34	C3
5	Adjust effect volume up	3c	79	35	C3
6	Adjust effect volume down	3c	79	36	C3
7	Pitch/key up	3c	79	37	C3
8	Pitch/key down	3c	79	39	C3
9	Reset pitch/key	3c	79	38	C3
10	Mute	3c	79	3a	C3
11	Unmute	3c	79	3b	C3
12	Memory recall (xx: 00-09, HEX, Decimal 01-10)	3c	70	xx	C3
13	Music volume value (xx: 00-54, HEX, Decimal 00-84)	3c	71	xx	C3
14	Microphone volume value (xx: 00-54, HEX, Decimal 00-84)	3c	72	xx	C3
15	Effect volume value (xx: 00-54, HEX, Decimal 00-84)	3c	73	xx	C3
16	Input source selection xx: 01, Switch input signal IN1 xx: 02, Switch input signal IN2 xx: 03, Switch input signal BT xx: 04, Switch input signal USB music playback xx: 05, Switch input signal OPT	3c	74	xx	C3
17	Bluetooth or USB playback - previous track	3c	79	3c	C3
18	Bluetooth or USB playback - play/stop	3c	79	3d	C3
19	Bluetooth or USB playback - next track	3c	79	3e	C3

QUERY AND RETURN COMMANDS

Note: Data format is 4-digit HEX value.

#	FUNCTION	COMMAND			
1	Music volume query	3c	75	01	C3
2	Music volume return (xx: 00-54, HEX, Decimal 00-84)	3c	81	xx	C3
3	Microphone volume query	3c	75	02	C3
4	Microphone volume return (xx: 00-54, HEX, Decimal 00-84)	3c	82	xx	C3
5	Effect volume query	3c	75	03	C3
6	Effect volume return (xx: 00-54, HEX, Decimal 00-84)	3c	83	xx	C3
7	Input source query	3c	75	04	C3
8	Input source value return xx: 01, Switch input signal IN1 xx: 02, Switch input signal IN2 xx: 03, Switch input signal BT xx: 04, Switch input signal USB music playback xx: 05, Switch input signal OPT	3c	84	xx	C3
9	Tone query	3c	75	05	C3
10	Pitch/key value return (xx: 00-0e, HEX, 00: b7 01: b6 02: b5 03: b4 04: b3 05: b2 06/b1 07: 00 08: #1 09: #2 0a: #3 0b: #4 0c: #5 0d: #6 oe: #7)	3c	85	xx	C3

4.3 Hardware Block Diagram



4.4 Specifications

Processor	32 bit
Analog / Digital Signal Conversion	24 bit, 48 KHz
Frequency Response	Music: 20Hz to 20kHz (± 1 dB) Mic: 20Hz to 20kHz (± 1 dB)
Signal-to-Noise Ratio	Music: >100dB Mic: >95dB (while effects, EQ, delay, and compression are off and the microphone's volume is at its highest)
Audio Inputs	Line: IN1, IN2 and Optical
Line Input Impedance	24 K Ohm
Maximum Input Level	Music: +12.0dBV Mic: +15.0dBV
Audio Outputs	XLR 5.1 Channel Output + RCA REC Out
XLR Output Impedance	30 Ohm balanced; 15 Ohm unbalanced
RCA Output Impedance	100 Ohm
Maximum Output Level	Music: +14.5dBu Mic: +14.5dBu
Infrared Receiver Carrier	Frequency: 38 KHz
Infrared Receiver Format	NEC
Computer Connection	USB 2.0
Power Requirements	AC 220V ± 10% 50Hz
Gross weight	2.4Kg
Net weight	1.9Kg
Dimensions (W x H x D mm)	483 × 43 × 180 mm

Note: The design and specifications are subject to change without notice for improvement.