



KX200

DIGITAL PROCESSOR



Owner's Manual



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.

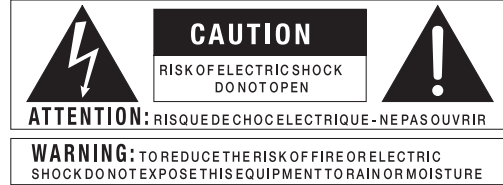
POWER ON/OFF SWITCH: If the equipment has a Power switch, the Power switch used in this piece of equipment DOES NOT break the connection from the mains.

MAINS DISCONNECT: The plug shall remain readily operable. For rack-mount 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/ YEL	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.

Table of Contents

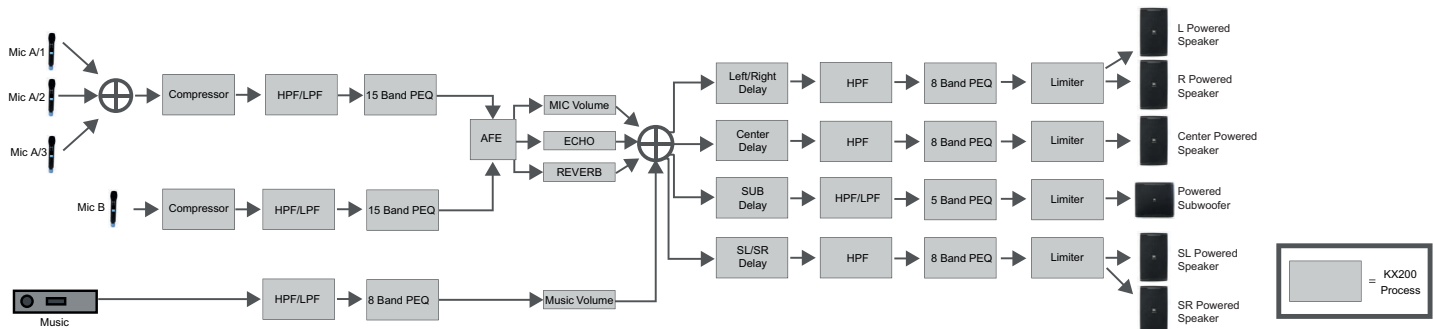
Section 1 - Introduction	1		
1.1 Defining the KX200	1		
1.2 Contact Info.....	2		
Section 2 - Getting Started	3		
2.1 Quick Start	3		
2.2 Front Panel.....	4		
2.3 Rear Panel.....	5		
2.4 Display & Control.....	6		
The Display	6		
Front Panel Unlock	6		
The Adjust/Select Knob	6		
Loading Presets.....	6		
Editing Parameters	6		
The ESC Button.....	7		
The SAVE Button	7		
Save User Presets	7		
2.5 Function Menus & Navigation.....	8		
Section 3 - Processing & Parameters	9		
3.1 Input & Output Processing	9		
3.2 COMPRESSOR.....	10		
3.3 AFE.....	10		
3.4 ECHO.....	10		
3.5 REVERB.....	11		
3.6 EQ.....	11		
3.7 Sing Mode & Dance Mode.....	12		
		Dance Mode Parameters	12
		Sing Mode Parameters	13
		3.8 Driver Alignment Delay	13
		3.9 Limiter.....	13
		3.10 Additional Parameters.....	13
		Section 4 - Appendix	15
		4.1 USB Port/Software GUI/Firmware Update	15
		4.2 Factory Reset	15
		4.3 Infrared Remote Control Codes	16
		4.4 Hardware Block Diagram	17
		4.5 Specifications.....	18

Section 1 - Introduction

Congratulations on your purchase of the JBL® KX200. The KX200 is a powerful and full-featured digital processor, designed specifically for karaoke installations. With a variety of audio connectivity options, six channels output and dbx® and Lexicon® effects processing used by countless music professionals and singers around the world, the KX200 provides you with all the connectivity and processing required for an amazing karaoke experience.

1.1 Defining the KX200

The KX200 provides you with all the connectivity and processing required between your sources and amplifiers.



The KX200's main features include:

- Two independent microphone input channels
- Six output for multi loudspeakers application
- Record output for recording the audio performance to an external recorder
- USB port for using with the KX200 software GUI and firmware update
- Legendary Lexicon® Echo and Reverb effects
- dbx® processing (AFE, Compressor, EQ, limiting, crossover)
- Storage for up to 15 Presets. (5 Factory Presets and 10 User Presets)
- 15 bands PEQ for microphone inputs
- Limiters for six outputs
- Dance/Sing mode for manual/automatic subwoofer management
- Password viable for front panel lock
- Pre-loaded optimized EQ of existing HARMAN entertainment products

Package Contents:

- JBL KX200 Digital Processor
- Owner's Manual
- Power cable
- Rack ears (with screws)
- Rubber pads

1.2 Contact Info

On the World Wide Web:

www.jblpro.com

Professional Contacts, Outside the US:

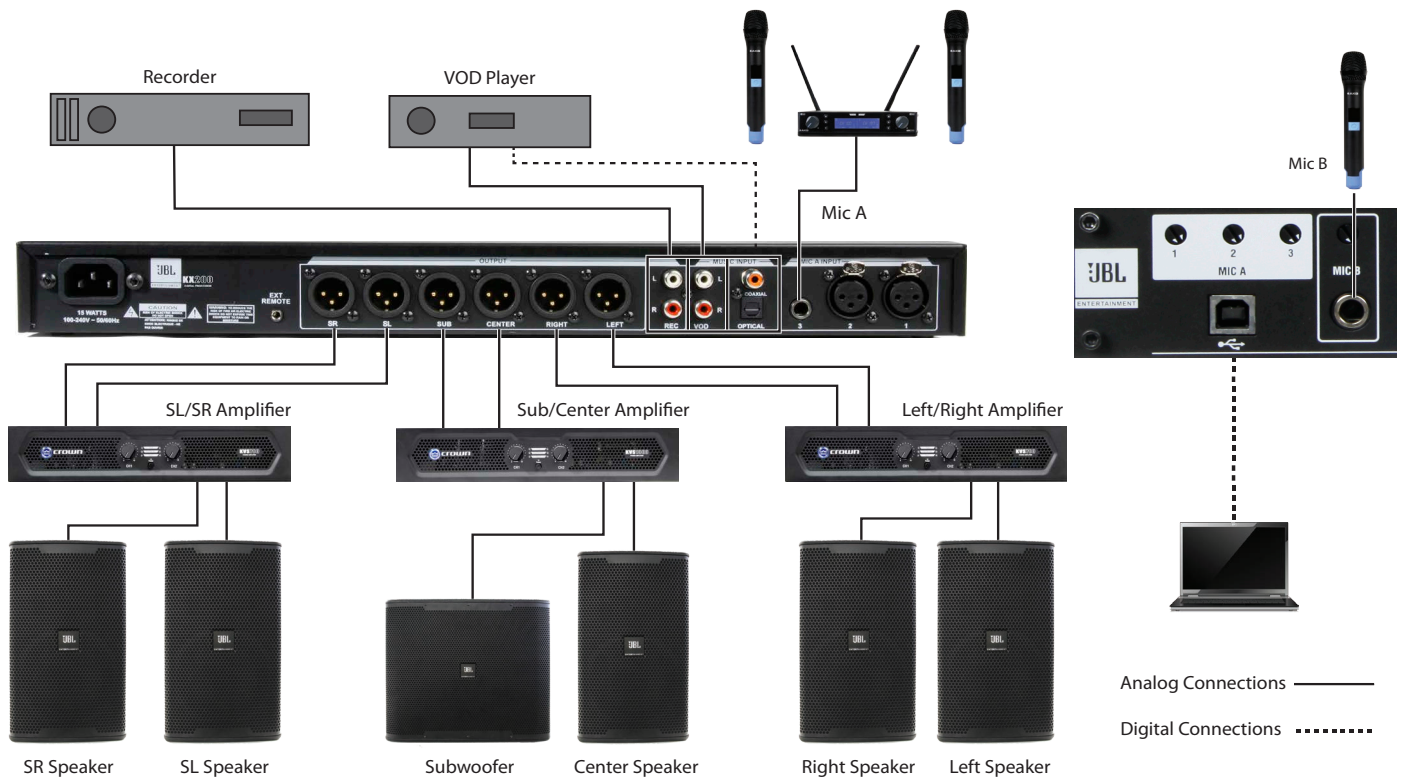
Contact the JBL Professional Distributor in your area. A complete list of JBL Professional international distributors is provided on our website @ www.jblpro.com

Section 2 - Getting Started

2.1 Quick Start

Please follow the proceeding steps to set up and running quickly. Before proceeding, ensure the power to the KX200 and your amplifier(s) are turned off.

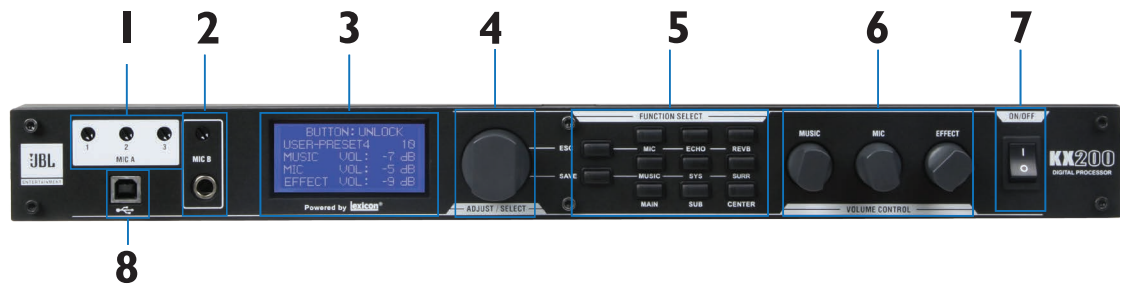
1. Connect the KX200 to your system.



2. Apply the power to the KX200 digital processor, and then apply the power to the amplifier.
3. Turn all gain controls on your amp(s) all the way down and apply power to your amps.
4. While passing the audio to the KX200, slowly increase the amp gains to the desired listening level while ensuring the amplifiers do not clip.

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



1. MIC A: Microphone Inputs gain control

Separate gain trim controls are provided for above each input on the rear panel.

2. MIC B: 1/4" Microphone Input

Use this microphone input when connecting microphones via a 1/4" connection. Separate gain trim control is provided above the input.

3. Display

This LCD display shows which menu you have navigated to and which parameters are available for editing.

4. Adjust/Select Knob

This dual function encoder allows you to load presets, navigate within menus, and edit processing parameters.

5. FUNCTION SELECT

These buttons allow you to navigate through the different menus within the KX200. Here's a brief description of these buttons:

- ESC - A short press will navigate up one level within the current menu. If pressed and held for 2 seconds, this button will completely exit the current menu and return you to the home screen.
- SAVE - This button is used to initiate the storing of a preset.
- MIC - Enters the microphone menu.
- ECHO - Enters the ECHO menu.
- REVB - Enters the REVB menu.
- MUSIC - Enters the MUSIC menu.
- SYS - Enters the system menu.
- SURROUND - Enters the surround outputs menu.
- MAIN - Enters the main outputs menu.
- SUB - Enters the subwoofer output menu.
- CENTER - Enters the center output menu.

6. VOLUME CONTROL

These knobs allow quick access for adjusting the mix between the music level, overall microphone level, and echo/reverb effect level.

7. Power Switch

Use this switch to turn the power of the KX200 on and off.

8. USB Port

This port allows you to connect the KX200 to the computer.

2.3 Rear Panel**1. Power Jack**

Connect KX200 to this jack through the supplied power supply.

2. EXT Remote Jack

Use this jack for connecting a third party remote control.

3. Audio Outputs

Connect these outputs to your amplifier(s) or powered speakers.

4. REC Outputs

Connect these outputs to an external audio recorder for recording karaoke performances.

5. MUSIC Inputs

Connect your audio sources to these inputs: VOD (RCA), COAXIAL and OPTICAL.

6. MIC A: Microphone Inputs

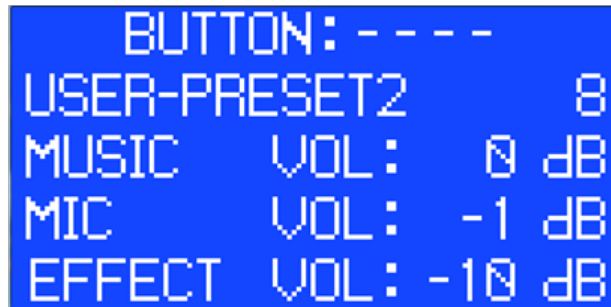
Use these microphone inputs when connecting microphones via XLR connections or 1/4" connection.

2.4 Display & Control

This section will walk you through the different menus within the KX200 and how to navigate the device.

The Display

The Display allows you to access the different menus, so you can edit the various parameters. The home screen (viewed after the KX200 initially boots) displays the currently loaded preset name and number, preset type (User or Factory), and currently Music volume, Microphone.



Front Panel Unlock

JBL KX200 default Front Panel Password is “1234”. Correctly input the password, the LCD will display: “BUTTON: UNLOCK”. Functional Key vs Number as below:

MIC-1,	ECHO-2,	REVB-3,
MUSIC-4,	SYS-5,	SURR-6,
MAIN-7,	SUB-8,	CENTER-9.

The Adjust/Select Knob

The Adjust/Select knob allows you to adjust parameter values (turn) and select menus (press).



•Loading Presets

1. From the home screen, push the Adjust/Select knob will enter into presets option page, turning the Adjust/Select knob will cycle through the 10 User Presets (6~15), and then through the 5 Factory Presets (1~5).
2. Once you have selected the preset you would like to load, pressing the Adjust/Select knob will load the preset.

•Editing Parameters

1. When navigating through menus, pressing the Adjust/Select knob will allow you to select a parameter within the currently active page.
2. By then turning this Adjust/Select knob, the selected parameter can be edited.

The ESC Button

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



- Pressing the ESC button will back up one menu level.
- Pressing and holding the ESC button for 2 seconds will exit out of any menu, regardless of how deeply nested it may be, and take you back to the home screen.

The SAVE Button

The SAVE button allows you to store user presets.

**•Save User Presets**

1. Pressing the SAVE button will enter the Save menu.
2. Turn the Adjust/Select knob to select the User Preset location to which you would like to save your new preset.
3. Press the Adjust/Select to initiate the selection and move on to the naming screen.
4. This is where you name your program. Rotating the Adjust/Select knob you can change the selected character.
5. Pressing the Adjust/Select knob allows you to move on to the next character (additional presses will cycle through all characters and wrap back to the beginning).
6. Once you have entered the preset's name, press the SAVE button to confirm the store.

Notes: Any preset modifications that are not saved using the above procedure will be lost on a preset change. The last preset loaded will be the initial preset that is recalled on power up.

2.5 Function Menus & Navigation

Function Select Buttons

The sub-menus of nine function select buttons are shown in the table below.

MIC SETTING
AFE
COMPRESSOR
PRE EQ: ON/OFF
MIC TYPE: CHA
MIC TYPE: CHB
MIC CH LINK: ON/OFF
HPF
LPF
MIC EQ
MUTE

ECHO SETTING
DRY LEV
ECHO LEV
PREDELAY
DELAY TIME
REPEAT
DELAY R
PREDELAY R
HPF
LPF
EQ
MUTE

REVERB SETTING
DRY LEV
REV LEV
REV TIME
PREDELAY
HPF
LPF
EQ
MUTE

MUSIC SETTING
INPUT: VOD/COAXIAL/OPTICAL
HPF
LPF
EQ
MUTE

SYSTEM SETTING
INITIAL PRESET
MUSIC MAX
MUSIC INIT
MIC MAX
MIC INIT
EFFECT MAX
EFFECT INIT
BUTTON PASSWORD CHANGE
SYSTEM PASSWORD CHANGE
STORE CONFIG
BUTTON LOCK: ON/OFF

SURROUND OUTPUT SETTING
MUSIC
MIC DRY
ECHO
REVERB
BALANCE
DELAY SL
DELAY SR
CH LINK: ON/OFF
HPF
EQ
LIMITER
MUTE
POLARITY

MAIN OUTPUT SETTING
SPEAKER TYPE
MUSIC
MIC DRY
ECHO
REVERB
BALANCE
DELAY L
DELAY R
CH LINK: ON/OFF
HPF
EQ
LIMITER
MUTE
POLARITY

SUB OUTPUT SETTING
MUSIC
MIC DRY
DELAY
HPF
LPF
EQ
LIMITER
MODE: DANCE/SING/OFF
MUTE
POLARITY

CENTER OUTPUT SETTING
MUSIC
MIC DRY
ECHO
REVERB
DELAY
HPF
EQ
LIMITER
MUTE
POLARITY

Section 3 - Processing & Parameters

3.1 Input & Output Processing

The KX200 provides the following processing on the respective inputs and outputs.

Input/Output	Available Processing
Mic Inputs (All)	AFE control, Compressor, Pre-EQ, 15 Band Parametric EQ, Echo, Reverb, HPF, LPF, MIC Type Setting.
Music Audio Inputs	Inputs Source control (VOD, Coaxial, Optical), HPF, LPF, 8 Band Parametric EQ.
Main Outputs (Left/Right)	Speaker Alignment Delay, Limiter, Mute, 8 Band Parametric EQ, HPF, L/R Balance, Polarity, Speaker Type Setting.
Center Output	Speaker Alignment Delay, Polarity, Limiter, Mute, 8 Band Parametric EQ, HPF, Center Mix.
Sub Output	Speaker Alignment Delay, Limiter, Mute, 5 Band Parametric EQ, HPF, LPF, Singing/Dance Mode, Polarity.
Surround Output	Speaker Alignment Delay, Limiter, Mute, 8 Band Parametric EQ, HPF, SL/SR Balance, Polarity.

The remainder of this section will explain the different types of processing available in the KX200 and their respective processing parameters.

3.2 COMPRESSOR

The Compressor is used to compress the dynamic range and tighten uneven parts of audio signals.

- ON/OFF - This parameter turns on or off the compression algorithm.
- Threshold (-40 dB - 20 dB) - 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.
- Attack (5 ms - 200 ms) - This parameter defines the time it takes for the Compressor to start compressing when threshold is reached.
- Release (200 ms - 10000 ms) - This parameter defines the time it takes for the Compressor to stop after the signal dips below threshold.
- Compression Ratio (1.0 - 10.0) - 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.

3.3 AFE

The AFE Automatic Feedback Elimination function was designed to provide an excellent feedback elimination processing, all of these feedback detection and suppression is done by AFE automatically completely. With AFE, the feedback is removed automatically to keep a good and live sound after suppression.

AFE Parameters

The AFE algorithm contains the following parameters:

- AFE mode: Activated/Bypassed, Level(1,2,3).

3.4 ECHO

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:

- MIC Dry Level (-40 - 10 dB) - This parameter adjusts the overall level of the microphone input.
- Echo Level (-40 - 0 dB) - 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.
- Echo Pre-Delay (0 ms - 100 ms; range is preset dependent) - This parameter adjusts the amount of delay which occurs before you begin to hear the first- repeats.
- Echo Delay Time (50 ms - 500 ms; range is preset dependent) - This parameter adjusts the amount of delay which occurs before you begin to hear any repeats.
- Echo Repeat (0 - 100%) - 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.

- R CH Pre-Delay (-50% - 50%; referring to L channel)
- R CH Delay (-50% - 50%; referring to L channel)
- Echo LPF (20 Hz - 20000 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 HPF (20 Hz - 20000 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.
- Echo PEQ (5 Bands)

3.5 REVERB

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:

- MIC Dry Level (-40 - 10 dB) - This parameter adjusts the overall level of the microphone input.
- Reverb Level (-40 - 0 dB) - 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 Pre-Delay (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 Time (200 ms - 4000 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 LPF (20 Hz - 20000 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 - 20000 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 PEQ (5 Bands).

3.6 EQ

EQs allow you to shape the tone of the audio signal. Sometimes these EQs are needed at various stages of the signal path. The KX200 has Output EQs (for equalizing the overall sound system)

and Input EQs (for shaping the tone of the input sources). The KX200 provides 8 Band EQs on the left, right, center and surround outputs, a 5 Band EQ on the sub output, 15 Band EQs on the microphone inputs and 8 Band EQs on the music inputs.

EQ Parameters

The EQ algorithm contains the following parameters:

- Filter Type (PEQ, Low shelf, 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 Gain (-18 dB - +18 dB) - Sets the level of the selected EQ band.
- Band Frequency (20 Hz - 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 - 20K Hz.
 2. Low Shelf Frequency Range: 20 Hz - 20K Hz.
 3. High Shelf Frequency Range: 20 Hz - 20K Hz.
- Q (0.1 - 25.0) - 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.
- EQ Bypassed - This parameter is used for Music, Mic, ECHO, Reverb, Main, Center, Sub and Surround. This option when turned on will set all the EQs for that input or output off like it is flat.
- EQ Enabled: Activate the selected band.
- EQ Delete: When turning on this option, it will delete the selected EQ.

When finished the EQ settings of channels, enable the L/R EQ, the left and right channels parameter will be synchronized. The CH A/B link on microphone inputs is the same.

3.7 Sing Mode & Dance Mode

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 Mode Parameters

Dance Mode contains the following parameters:

- Attack time (10 s - 600 s)

- Boost Gain (0 dB - 12 dB)

Sing Mode Parameters

Dance Mode contains the following parameters:

- Attack (5 ms - 2000 ms)
- Release (0.2 s - 10 s)
- Reduce Gain (-12 dB - 0 dB)

3.8 Driver Alignment Delay

Driver Alignment Delay is available on the Left/Right, Center Subwoofer and Surround outputs. It is used to time align the signal from the various speakers so that all loudspeaker signals arrive at the audience at approximately the same time, thereby reducing phase issues.

Delay Parameters

Delay contains the following parameter:

- Delay (0 ms - 40 ms) - This parameter sets how much delay will be applied to the selected output.

3.9 Limiter

The Limiter is a dynamic range process. When the output signal reaches a certain level (defined by the threshold parameter) the Limiter kicks in and keeps the signal level from going any higher, preventing the output signal from overdriving amplifiers and/or loudspeakers.

Limiter Parameters

The Limiter algorithm contains the following parameters:

- Limiter Enable - This parameter turns the limiter algorithm on.
- Limiter Threshold (-60 dB - 0 dB) - This parameter sets the level at which limiting begins to occur. For example, if the threshold is set to -10dB, any signal level higher than -10dB would trigger the limiter, while any signal levels lower than -10dB would remain untouched. Generally, for speaker protection, you would want to use light limiting, where most of the signal content remains just below the threshold and only the peaks cross the threshold and get limited.
- Limiter Attack (5 ms - 200 ms) - This parameter adjusts the attack time of the limiter.
- Limiter Release (200 ms - 10000 ms) - This parameter adjusts the release time of the limiter.

3.10 Additional Parameters

There are some parameters which don't necessarily pertain to any of the processing algorithms previously listed, but do pertain to certain inputs. This sub-section covers these additional input parameters.

- VOD - Selects the VOD audio inputs as the source.
- Coaxial - Selects the coaxial input as the source.
- Optical - Selects the optical input as the source.
- Initial Preset (POP, ...USER-10) - This parameter allows you to select the preset to be

routed to when the unit is powered on.

- Mic Volume (Mute, -39 dB - +6 dB) - This parameter allows you to adjust the Mic volume through the Mic knob or the small Mic Input knobs on the front panel.
- Mic INI Volume (Mute, -40 dB - +6 dB) - This parameter allows you to set the initial Mic volume when the processor boots up.
- Mic Max Volume (Mute, -40 dB - +6 dB) - This parameter allows you to set the absolute maximum limit to which the Mic volume can be set.
- Music Balance (L50 - Center - R50) - This parameter allows you to adjust the left/right balance of the music inputs.
- Music Volume (Mute, -40 dB - +6 dB) - This parameter allows you to adjust the volume of the music sources. This parameter is also adjustable from the front panel Music knob.
- Music INI Volume (Mute, -40 dB - +6 dB) - This parameter allows you to set the initial Music Volume when the processor boots up.
- Music Max Volume (Mute, -40 dB - +6 dB) - This parameter allows you to set the absolute maximum limit to which the Music volume can be set.
- Effect Volume (Mute, -40 dB - +0 dB) - This parameter allows you to adjust the volume of the effect independently. This parameter is also adjustable from the front panel Effect knob.
- Effect INI Volume (Mute, -40 dB - +0 dB) - This parameter allows you to set the initial effect volume value independently. This is the default value that the Effect Volume will be set to each time the processor boots up or another preset is loaded.
- Effect Max Volume (Mute, -40 dB - +0 dB) - This parameter allows you to set independently the absolute maximum limit to which the Effect volume can be set.

Section 4 - Appendix

4.1 USB Port/Software GUI/Firmware Update

The USB port is used for connecting to the KX200 Software GUI and for updating the KX200 firmware.

Follow these steps for setting up the Software GUI for communication with the KX200 processor:

1. Download the KX200 Software GUI from the website: <http://www.harmanpro.com.cn>.
2. Connect the KX200 to your computer's USB port.
3. Launch the KX200 Software GUI.

Follow these steps for updating the firmware of the KX200 processor:

1. Download the KX200 firmware update file from the website: <http://www.harmanpro.com.cn>.
2. Connect the KX200 to your computer's USB port.
3. Launch the KX200 firmware update file.
4. Restart the KX200 according to the navigation.
5. Use PC-GUI to load the presets to KX200: follow the steps (Device - Restore Factory Setting.)

System Requirements:

- Windows XP/Vista/7/8

4.2 Factory Reset

The Factory Reset will delete all User Presets and set all parameters back to the factory default state. To perform the Factory Reset procedure, please follow these steps:

1. Apply the power to the KX200.
2. Connect KX200 to the USB port of the PC.
3. Launch the KX200 software GUI.
4. Follow the steps: Device - Restore Factory Setting.
5. Wait till the reset is finished.
6. Restart the KX200.

4.3 Infrared Remote Control Codes

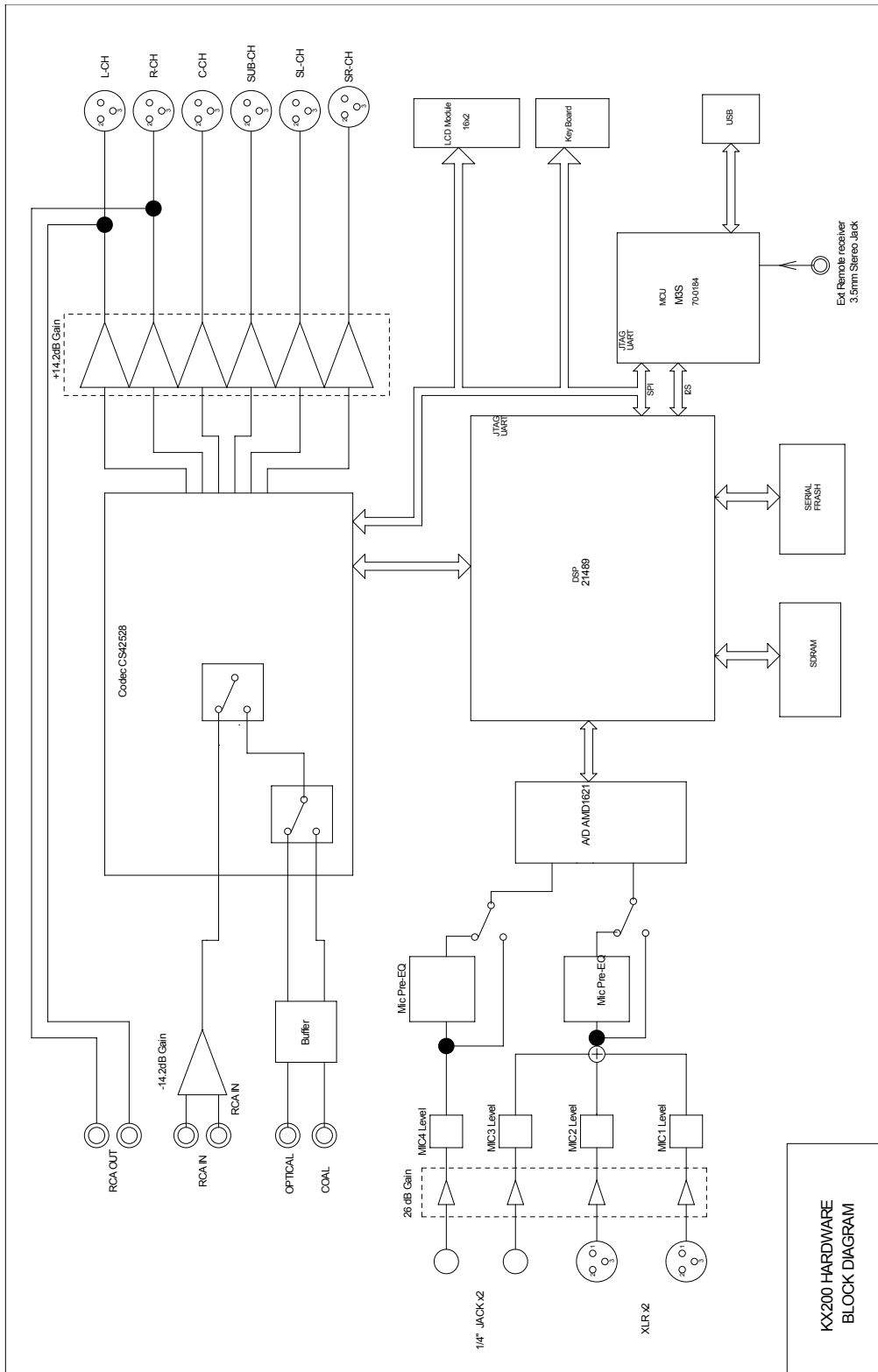
IRDA: based on standard IRDA protocol

User Code: 9f

Load Preset					
Preset 1	38	Preset 2	cc	Preset 3	8c
Preset 4	ac	Preset 5	6c	Preset 6	ec
Preset 7	1c	Preset 8	9c	Preset 9	5c
Preset 10	4	Preset 11	84	Preset 12	44
Preset 13	c4	Preset 14	a	Preset 15	8a
Volume					
Music +	4a	Mic +	2a	Effect +	6
Music -	ca	Mic -	aa	Effect -	86
Echo +	46	Reverb +	56		
Echo -	66	Reverb -	33		

*You can also find the IR codes from KX200 PC-GUI.

4.4 Hardware Block Diagram



KX200 HARDWARE BLOCK DIAGRAM

4.5 Specifications

Audio Inputs

MIC Input Type:	XLR & ¼" balanced or unbalanced
Impedance:	600 Ohm
EIN:	< -104 dBu, 20 KHz Bandwidth
Level Control:	-∞ to +14.2 dBu
Line Input Type:	RCA unbalanced left & right
Impedance:	24K Ohm

Audio Outputs

XLR Output Type:	Balanced or unbalanced
Level:	+ 4 dBu Nominal, +14.2 dBu Maximum
Impedance:	30 Ohm balanced, 15 Ohm unbalanced
RCA Output Type:	RCA unbalanced left & right
Level:	+ 4 dBu Nominal, +14.2 dBu Maximum
Impedance:	100 Ohm

Audio Performance

Frequency Response:	20 Hz to 20 KHz, +/- 1 dB
THD+ N:	< 0.007% 20 Hz – 20 KHz
Dynamic Range:	>103 dB
A/D Conversion:	24 bit, 48 KHz
DSP Processor:	32 bit

Infrared Receiver

Carrier	Frequency: 38 KHz
Format:	NEC
External:	1/8" TRS Jack
Distance:	Device dependent
Angle:	Device dependent

Other

Computer Connection:	USB 2.0
Gross Weight:	2.5 kg
Net Weight:	1.8 kg

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



KX200

数字处理器



用户手册



重要安全说明

安全操作警示

妥善保管本安全须知。

留意所有警示信息。

遵守所有操作规范。

严禁在设备周围喷洒液体。请勿在设备上方摆放盛有液体的容器，如花瓶等。

仅使用干布清洁本设备。

严禁堵塞散热口。根据厂商相关说明安装本设备。

严禁在热源附近安装本设备，如散热器、热调节器、热炉或其它制热设备（包括功放）等。

必须使用厂商指定的附件与配件。

雷暴天气或设备长时间停机，请拔下电源插头。

请遵守极性插头或接地插头的安全使用规范。极性插头由两片宽度不一的金属片构成。接地插头则由两极插片与具有安全保护功能的接地插片构成。如所提供的插头与电源插座不兼容，请更换电源插座。有关电源插座的更换事宜，请咨询电气工程师。

注意保护电源线，避免踩踏或碾压。特别注意保护插头端、插座端与设备端线缆。

必须使用厂商指定或随同设备出售的活动机柜、底座、三脚架、支架与作业台。使用活动机柜时，请小心谨慎以防机柜与设备侧翻。如需维护检修，请咨询相关有资质的维修人员。如有以下情形出现，必须对设备进行检修：电缆或插头损坏、液体溅入、异物掉入、淋雨受潮、无法正常运行或设备摔落等。



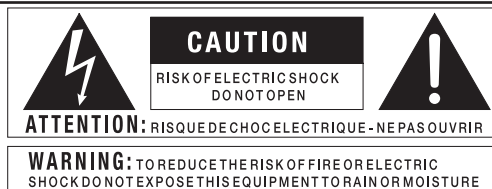
电源开关：对于设有电源开关的设备，关闭电源开关并未完全断开设备与电源的连接。

电源断路设置：电源插头应保持随时可用。对于采用机柜安装或无法采用插头连接的设备，应在设备机柜或建筑物中配备触点开距不小于3mm的全极电源开关。

对于保险丝接口外置的设备：必须更换同类型同规格的保险丝。

多种输入电压：根据安装现场的供电情况，本设备可能需要使用不同的电源线或连接插头。确保接入电源符合设备后面板所标示的电源类型要求。有关电力方面信息或服务，请咨询相关有资质人员，以免火灾或触电危险。

如设备需连接240V电源，应使用符合CSA/UL认证要求的电源线缆。



以上符号为国际通用的电子产品危险警示标识。带箭头闪电的三角形标识用于提示用户注意设备中存在“危险电压”，可导致触电。感叹号三角形符号用来提示用户留意并遵守手册中重要操作与维护（维修）说明。

此类标识用于警示用户本设备内不含用户可自行维修零件。本设备不得擅自开启。请勿擅自对本设备实施任何维修操作。如需维护检修，请咨询相关资质的专业人员。擅自开启设备机箱可导致保修条款失效。本设备严禁淋雨受潮。如有液体渗入，应立即关停设备并送返至代理商处维护。如遇雷暴天气，应断开设备电源，以防设备损坏。

重要安全说明

安全须知

使用带电源线设备的用户，请注意此处安全须知！

警告：本设备必须接入具有接地保护的电源插座！

电源线中线缆按以下颜色区分：

黄绿色-地线

蓝色-零线

棕色-火线

如设备电源线中线缆颜色标识与所需连接电源插头中接线端颜色标识不一致，请按以下步骤操作：

- 将设备电源线中黄绿色线缆连接至电源插头中标有E、或接地符号、或绿色或黄绿色的接线端；
- 将设备电源线中蓝色线缆连接至电源插头中标有N或黑色的接线端；
- 将设备电源线中棕色线缆连接至电源插头中标有L或红色的接线端。

根据安装现场的供电情况，本设备可能需要使用不同的电源线或连接插头。如需更换连接插头，请咨询相关有资质的专业人员，并参照下表相关信息。黄绿线必须与设备机壳相连。

导线		线缆颜色	
		通用标准	其它标准
L	火线	棕色	黑色
N	零线	蓝色	白色
E	地线	绿色/黄色	绿色

警告：如接地保护不良，连接使用的设备或系统可出现故障，并导致设备机箱与大地间产生满载线电压。一旦有人员同时接触机箱与大地，可导致严重伤害甚至死亡。



本产品不得作为生活垃圾抛弃。根据相关法律规定，电子类废弃物应通过独立的回收系统进行妥善处理、回收与再利用。

位于欧盟25国、瑞士与挪威境内的私人用户可将电子类废弃物送至指定回收站或产品零售商（于购买同类新产品时），并享受免费的回收处理服务。

如用户不在上述国家境内，请联系当地机构咨询相关回收处理事宜。

以上回收处理机制旨在确保相关电子废弃物得以妥善处理、回收与再利用，防止对环境或人体健康造成损害。

目录

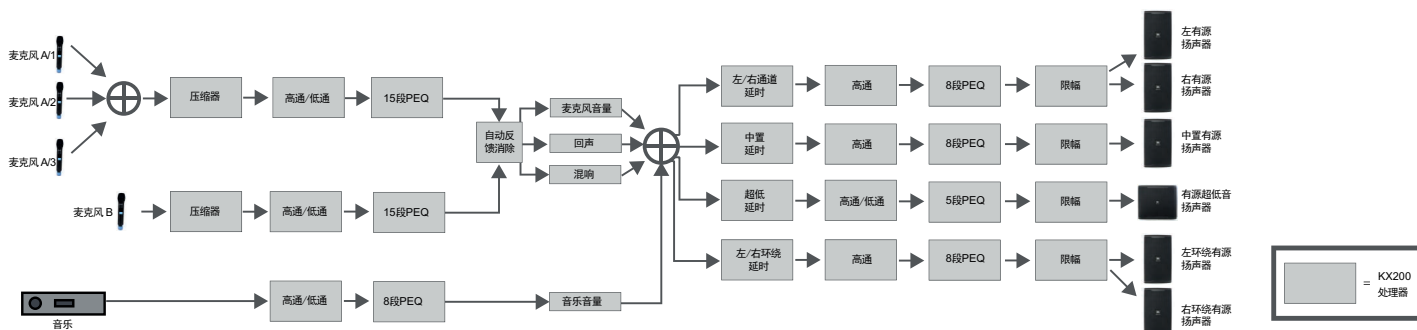
第1章 - 简介	1	热舞模式参数	12
1.1 KX200的定义	1	演唱模式参数	12
1.2 联系信息	2	3.7 扬声器延时调整	12
第2章 - 入门	3	3.8 限幅器	13
2.1 快速入门	3	3.9 其他参数	13
2.2 前面板	4	第4章 - 附录	15
2.3 后面板	5	4.1 USB接口/电脑操作软件/更新固件 ...	15
2.4 显示和主控制	6	4.2 恢复出厂设置	15
显示屏	6	4.3 红外远程控制码	16
前面板按键密码	6	4.4 硬件架构图	17
Adjust/Select旋钮	6	4.5 产品规格	18
调用预设	6		
编辑参数	6		
ESC 按钮	6		
SAVE 按钮	7		
保存用户预设	7		
2.5 功能菜单和导航	8		
第3章 - 效果处理和参数	9		
3.1 输入和输出处理	9		
3.2 压缩器	10		
3.2 AFE (自动反馈消除)	10		
3.3 回声	10		
3.4 混响	11		
3.5 均衡器	11		
3.6 演唱模式和热舞模式	12		

第1章 - 简介

感谢您购买了JBL®品牌数字处理器KX200。KX200是一款专为卡拉OK应用而设计的，功能强大的数字处理器。它不仅提供多种音频连接、六通道输出，而且还搭载了为全球众多知名音乐专业人士和歌唱家所推崇的dbx®与Lexicon®的效果处理模块。KX200提供各种必要的连接方式和处理效果，给您带来美妙的卡拉OK体验。

1.1 KX200的定义

KX200提供音源与功率放大器之间各种必要的连接和处理。



KX200的主要功能：

- 具备两路独立调节的麦克风输入通道
- 针对多扬声器应用场景的六通道输出
- 可将录音输出到外置录音器
- 可用于KX200软件联机和固件升级的USB接口
- 享誉全球的Lexicon®回声及混响效果
- dbx®处理功能（AFE自动反馈消除，压缩器，EQ均衡，限幅，分频）
- 最多存储15个预置效果（5个出厂预设，10个用户自定义预设）
- 15段麦克风输入PEQ
- 六路输出限幅
- 具备歌唱/热舞模式，可手动/自动管理超低音输出
- 前面板有密码锁
- 内置HARMAN娱乐产品优化EQ

单套包装包括：

- 一台JBL KX200数字处理器
- 一本用户手册
- 一条电源线
- 一副安装耳架（配螺丝）
- 橡胶脚垫

1.2 联系信息

网址:

www.jblpro.com

专业产品联系方式(美国以外):

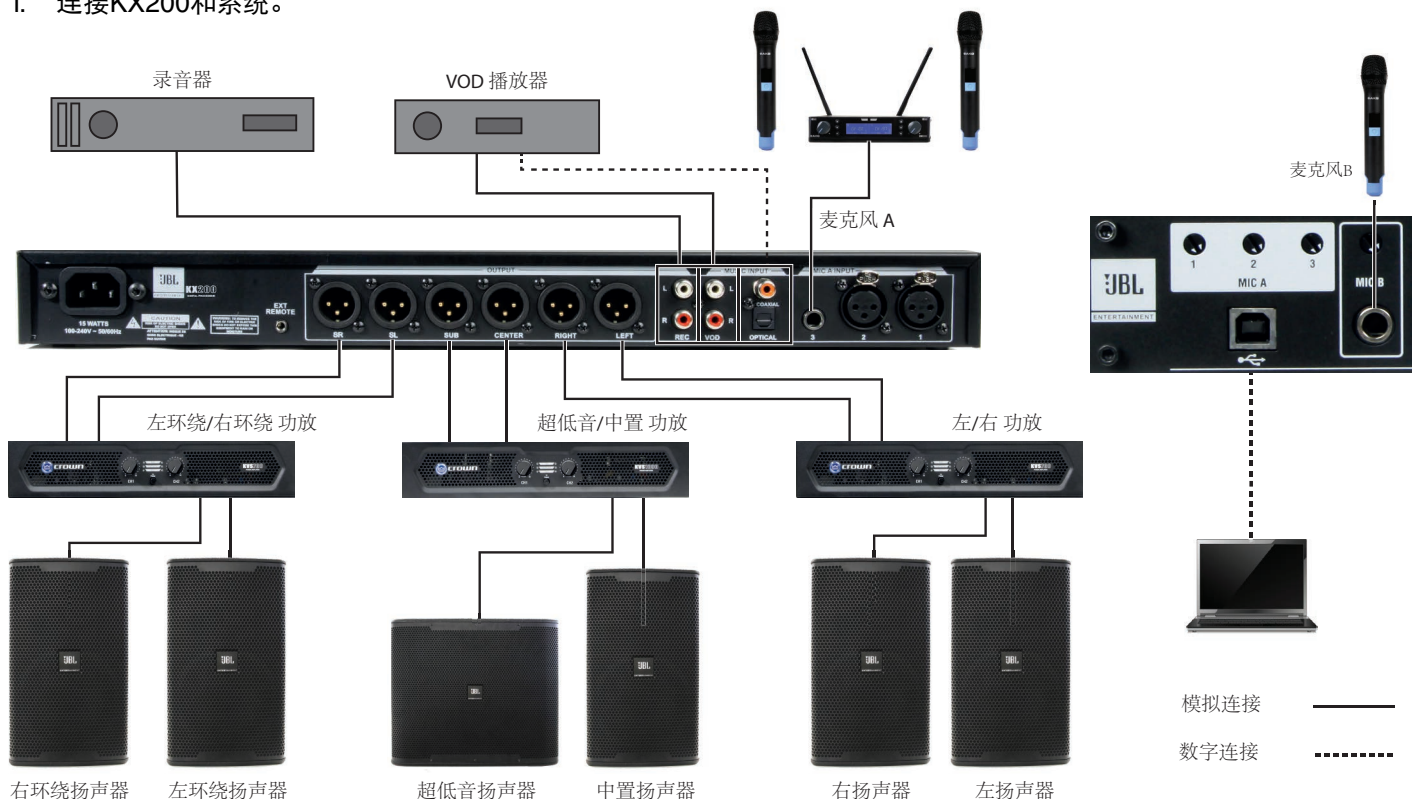
请联系您本区域JBL专业产品经销商。我们的网站www.jblpro.com提供了JBL专业产品全球经销商一览表。

第2章 - 入门

2.1 快速入门

请按如下步骤完成快速安装和启动。操作之前请确保已关闭KX200和所有功率放大器的电源。

1. 连接KX200和系统。



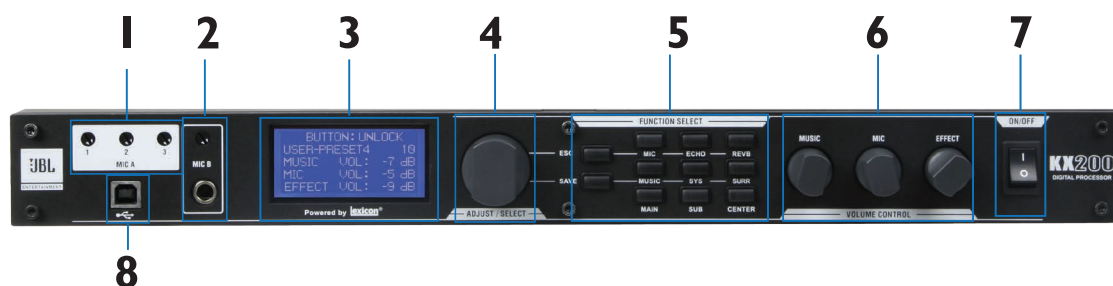
2. 先启动KX200，再启动功率放大器。

3. 在以上操作过程中，将所有功率放大器的音量调至最低，然后接通功率放大器电源。

4. 信号通过KX200时，在确保功率放大器不削波的前提下，慢慢调高功率放大器的音量到理想收听效果。

注意:为了正确地保护扬声器而不影响其性能，建议您调整音频系统的音量结构并且调节分频器，均衡器和限幅器的设置。

2.2 前面板



1. 麦克风A：麦克风输入增益控制

3个独立的对应于后面板的麦克风输入增益控制旋钮。

2. 麦克风B：1/4" 麦克风输入

使用1/4"连接器连接麦克风，使用麦克风输入。输入接口上边对应一个增益调节。

3. LCD显示屏

显示了当前导航的菜单及菜单下可编辑的参数。

4. Adjust/Select（调节/选择）旋钮

这是个具有双重功能的旋钮。它可以调用预设、导航菜单以及编辑效果处理参数。

5. FUNCTION SELECT（功能选择）按键

在KX200中，通过这些按键调试对应的功能参数。以下是对这些按键的基本描述：

- ESC – 短按可返回上一级菜单。长按2秒可退出菜单返回主页
- SAVE – 用于保存预设
- MIC – 进入MIC（麦克风）菜单
- ECHO – 进入ECHO（回声）菜单
- REVB – 进入REVB（混响）菜单
- MUSIC – 进入MUSIC（音乐）菜单
- SYS – 进入系统菜单
- SURROUND – 进入环绕输出菜单
- MAIN – 进入主输出菜单
- SUB – 进入超低输出菜单
- CENTER – 进入中置输出菜单

6. 音量控制

旋钮可快速调节音乐、麦克风和效果的音量。

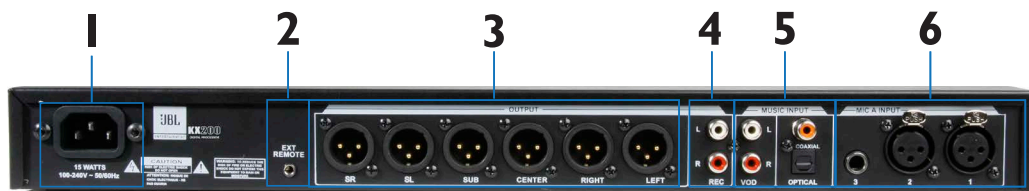
7. 电源开关

可打开或关闭KX200。

8. USB 接口

连接KX200和电脑。

2.3 后面板



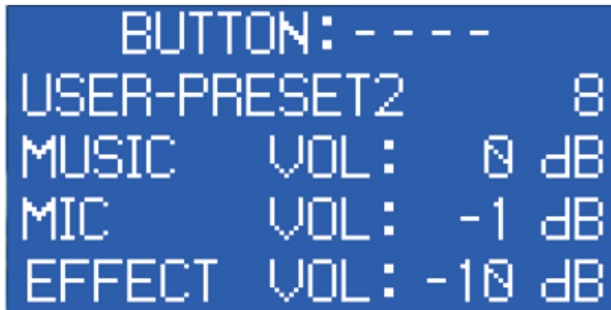
- 1. Power Jack (电源插座)**
通过电源线连接KX200到插座。
- 2. EXT Remote (外接遥控插座)**
连接第三方远程控制的接口。
- 3. Audio Outputs (音频输出插座)**
连接功率放大器或有源音箱。
- 4. REC Outputs (录音输出插座)**
连接此对输出插座与一台外部录音设备便可录制卡拉OK表演。
- 5. MUSIC Inputs (音乐输入插座)**
连接音乐输入: VOD (RCA) 模拟信号输入, 同轴与光纤数字信号输入。
- 6. MIC A: Microphone Inputs (麦克风输入插座)**
通过XLR插座或 1/4"插座连接麦克风。

2.4 显示和主控制

阅读本章节可以浏览KX200的所有菜单以了解操作流程。

显示屏

通过显示屏进入不同的菜单，编辑各类参数。主界面（KX200开机界面）显示了当前预设名称和编号，预设类型（用户自定义预设或出厂预设），当前音乐、麦克风、效果的音量。



前面板按键密码

JBL KX200出厂预设面板按键密码为“1234”，正确输入密码后，LCD显示屏显示“BUTTON: UNLOCK”。各功能键对应数字分别为：

MIC - 1	ECHO - 2	REVB - 3
MUSIC - 4	SYS - 5	SURR - 6
MAIN - 7	SUB - 8	CENTER - 9

Adjust/Select（调节） / （选择）旋钮

旋转此旋钮以调节参数值，按下此旋钮以选择菜单。



调用预设

1. 在主界面旋转Adjust/Select（调节） / （选择）旋钮可循环浏览10个用户自定义预设（6-15）以及5个出厂预设（1-5）。
2. 选中需要调用的预设再按下Adjust/Select（调节） / （选择）旋钮调用预设。

编辑参数

1. 导航菜单时按下Adjust/Select（调节） / （选择旋钮）可选取当前页面中的一个参数。
2. 旋转Adjust/Select（调节） / （选择）旋钮编辑选中的参数。

ESC（退出键）

可用于返回上级菜单或主页面。



- 按下ESC 键可返回上一级菜单。
- 长按ESC键2秒可退出任何菜单并回到主界面。

SAVE（保存键）

SAVE键可保存用户自定义预设。



- **存储User Presets（用户自定义预设）**
 1. 按下SAVE进入保存菜单。
 2. 旋转Adjust/Select（调节）/（选择）旋钮选择期望存储的位置。
 3. 按下Adjust/Select启用选项并切换至命名的界面。
 4. 通过此操作给预设命名。旋转Adjust/Select（调节）/（选择旋钮）更改选中的字符。
 5. 按下Adjust/Select（调节）/（选择旋钮）转到下一个字符（重复按下Adjust/Select（调节）/（选择旋钮）可循环浏览所有字符并返回到第一个字符。
 6. 按下SAVE（保存键）确认保存。如无需重新命名，可跳过步骤3，4，5。

注意：未按照如上操作步骤进行保存，将使你丢失对此预设所作的修改。系统重启后最后调用的预设恢复为初始预设。

2.5 功能菜单和导航

Function Select (功能选择键)

9个功能选择键所对应的子菜单如下表所示:

MIC SETTING
AFE
COMPRESSOR
PRE EQ: ON/OFF
MIC TYPE: CHA
MIC TYPE: CHB
MIC CH LINK: ON/OFF
HPF
LPF
MIC EQ
MUTE

ECHO SETTING
DRY LEV
ECHO LEV
PREDELAY
DELAY TIME
REPEAT
DELAY R
PREDELAY R
HPF
LPF
EQ
MUTE

REVERB SETTING
DRY LEV
REV LEV
REV TIME
PREDELAY
HPF
LPF
EQ
MUTE

MUSIC SETTING
INPUT: VOD/COAXIAL/OPTICAL
HPF
LPF
EQ
MUTE

SYSTEM SETTING
INITIAL PRESET
MUSIC MAX
MUSIC INIT
MIC MAX
MIC INIT
EFFECT MAX
EFFECT INIT
BUTTON PASSWORD CHANGE
SYSTEM PASSWORD CHANGE
STORE CONFIG
BUTTON LOCK: ON/OFF

SURROUND OUTPUT SETTING
MUSIC
MIC DRY
ECHO
REVERB
BALANCE
DELAY SL
DELAY SR
CH LINK: ON/OFF
HPF
EQ
LIMITER
MUTE
POLARITY

MAIN OUTPUT SETTING
SPEAKER TYPE
MUSIC
MIC DRY
ECHO
REVERB
BALANCE
DELAY L
DELAY R
CH LINK: ON/OFF
HPF
EQ
LIMITER
MUTE
POLARITY

SUB OUTPUT SETTING
MUSIC
MIC DRY
DELAY
HPF
LPF
EQ
LIMITER
MODE: DANCE/SING/OFF
MUTE
POLARITY

CENTER OUTPUT SETTING
MUSIC
MIC DRY
ECHO
REVERB
DELAY
HPF
EQ
LIMITER
MUTE
POLARITY

第3章 - 效果处理和参数

3.1 输入和输出处理

KX200可对以下各个输入与输出进行相应的效果处理。

输入/输出	可处理效果
(所有) 麦克风输入	自动反馈消除, 压缩器, 预设均衡, 15段参数均衡, 回声, 混响, 高通滤波器, 低通滤波器, 麦克风类型设置。
音乐音频输入	输入音源选择 (VOD, 同轴, 光纤), 高通滤波器, 低通滤波器, 8段参数均衡。
主输出 (左/右声道输出)	扬声器延时调节, 限幅器, 静音, 8段参数均衡, 高通滤波器, 左/右声道平衡, 极性调整, 扬声器设置
中置输出	扬声器延时调节, 限幅器, 极性调整, 静音, 8段参数均衡, 高通滤波器, 中置混合。
超低音输出	扬声器延时调节, 限幅器, 静音, 5段参数均衡, 高通滤波器, 低通滤波器, 歌唱/热舞模式, 极性调整。
环绕声输出	扬声器延时调节, 限幅器, 静音, 8段参数均衡, 高通滤波器, 环绕左/右声道平衡, 极性调整。

本章节剩余部分将介绍KX200的各种效果处理以及相应的参数。

3.2 压缩器

压缩器用于压缩音频信号的动态范围。

- ON/OFF (开启/关闭) - 用于开启或关闭该压缩算法。
- Threshold (门限) (-40 dB - 20 dB) - 用于设定启动压缩器的信号电平。如门限设定为-10 dB, 当信号高于-10 dB, 压缩器开始工作; 如信号低于该电平, 压缩器不工作。
- Attack (启动时间) (5 ms - 200 ms) - 该参数用于限定压缩器从不工作到开始工作的瞬间变化时间长度。
- Release (释放时间) (200 ms - 10000 ms) - 该参数用于限定压缩器从工作到结束工作的瞬间变化时间长度。
- Compression Ratio (压缩比) (1.0 - 10.0) - 该参数用于设定信号压缩量。例如: 压缩比为2: 1表示输入信号高于门限值2 dB时, 则输出信号高于门限值1 dB。

3.3 AFE

AFE自动反馈消除功能提供极佳的反馈消除处理, 所有这些反馈检测和抑制完全由AFE自动完成。有了AFE, 反馈被自动消除, 且独有的AFE滤波器可准确作用于某个啸叫频点, 在抑制后可保持良好的声音表现。

AFE参数

AFE包含以下参数:

- AFE模式: 开/关, 档位 (1, 2, 3)

3.4 回声

回声由多个延时产生的人工回音组成, 回声将处理后与未经处理的信号混合起来可使演唱者的声音听起来更加引人入胜。灵活调设回声的时间、反馈和电平能产生期望的卡拉OK效果。

回声参数

回声包含以下参数:

- MIC Dry Level (麦克风直达声) (-40 - 10 dB): 调节麦克风直达声电平。
- Echo Level (回声电平) (-40 - 0 dB): 调节回声效果的所有电平。使用本参数给源信号恰当地增加回声效果。
- Echo Pre-Delay (回声预延时) (0 ms - 100 ms; 预延时时间范围由不同的预设决定): 预延时参数决定着直达声发出之后, 回声什么时候开始。
- Echo Delay Time (回声延迟时间) (50 ms - 500 ms; 延时时间范围由不同的预设决定): 延时参数决定着每一次回声所持续的时间。
- Echo Repeat (回声重复) (0 - 100%): 调节回声重复的次数。参数值越大, 在消失之前能听到的延时效果越长。
- R CH Pre-Delay (右通道预延迟) (-50% - 50%; 参考左通道)。
- R CH Delay (右通道延迟) (-50% - 50%; 参考左通道)。

- Echo LPF（回声低通）（20 Hz - 20000 Hz）：调节回声低通滤波器的频率。数值越大允许通过的高频越多，产生一种更明亮（清晰）的回声效果。数值越小较高的频率会被削掉，产生一种更模糊的回声效果。
- Echo HPF（回声高通）（20 Hz - 20000 Hz）：调节回声高通滤波器的频率。数值越小（或者关闭）允许通过的低频越多，产生一种更饱满的回声效果。数值越大较低频率会被削掉，产生一种更适合快速混音的单薄的回声效果。
- Echo PEQ（回声参数均衡）（5段）。

3.5 混响

混响近似于回声效果，它形象地再现了各种室内环境如俱乐部、录音室、演奏厅等等产生的环境声音，可使演唱者的声音加强使之听起来更具现场感和趣味性。

混响参数

混响包括以下参数：

- 麦克风直达电平（-40 - 10 dB）：可调节麦克风输入的所有电平。
- Reverb Level（混响电平）（-40 - 0 dB）：调设混响效果的整个电平，恰当地将混响效果增加到源信号中。
- Reverb Pre-Delay（混响预延时）（0 - 100 ms，混响预延时范围由不同的预设决定）：在混响效果被听到之前调设延迟时间。数值越大越能产生较宽敞厅室的回声效果，因为它模仿来自远距离的物体表面反射到达听众耳朵的时间。
- Reverb Time（混响时间）（200 ms - 4000 ms）：调节混响消失所需的时间。数值越大越能产生较宽敞厅室或多反射面所需混响。
- Reverb LPF（混响低通）（20 Hz - 20000 Hz）：调设混响低通滤波器的频率。取值较小可让较低频的信号通过，产生更加饱满、昏暗的混响效果；取值较大将削掉较低频的信号，产生一种更适合快速混音的单薄的混响效果。
- Reverb HPF（混响高通）（20 Hz - 20000 Hz）：调设混响高通滤波器的频率。取值越小产生更昏暗（模糊）的混响效果；取值越大产生明亮（清晰）的混响效果。
- Reverb PEQ（混响参数均衡）（5段）。

3.6 均衡器

均衡器可调节音频信号的EQ。有时在信号通道的不同阶段需要这些均衡器。KX200配备Output EQs（输出均衡器）（使整个声频系统信号均衡）和Input EQs（输入参数均衡器）（调节输入信号的频率）。KX200针对左声道、右声道、环绕声输出提供8个频段均衡器，针对超低音输出提供5个频段均衡器，针对麦克风输入提供15个频段均衡器，针对音乐输入提供8个频段均衡器。

均衡器包括以下参数：

- Filter Type（滤波器类型）（PEQ, Low Shelf, High Shelf）（参数均衡，低架均衡，高架均衡）：用于选择每频段使用的滤波器类型。
 1. PEQ（参数均衡器）：以设定频点为中心，可调节任意频段参数的均衡器，“Q”可用于调整带宽。
 2. Low shelf（低架均衡）：控制所有低于设定频率的频率。
 3. High shelf（高架均衡）：控制所有高于设定频率的频率。

- Band Gain (频段增益) (-18 dB - +18 dB) : 设置选中均衡器频段的增益。
- Band Frequency (频段频率) (20 Hz - 20K Hz) : 对每个应用均衡器提升或衰减增益的频段选择中心频率。
 1. 参数均衡器频率范围: 20 Hz - 20K Hz
 2. 低通频率范围: 20 Hz - 20K Hz
 3. 高通频率范围: 20 Hz - 20K Hz
- Q (频段带宽) (0.1 - 25.0) : 调设参数均衡器的带宽。取值越小均衡器曲线越宽 (覆盖更宽的频率范围); 取值越大均衡器曲线越窄 (覆盖极窄的频率范围以获得更精确的参数均衡)。此参数仅对如上所述设置为“参数均衡器”类型的频段有效。
- EQ Bypassed (旁通均衡器) : 用于设置所有均衡器, 所有输入、输出通道的频段将变平。
- EQ Enabled (启动均衡器) : 激活选中频段。
- EQ Delete (删除均衡器) : 可删除选中频段。

对于左右通道输出, 在对应通道均衡设置完成后, 开启连接左右均衡, 可将右通道均衡参数与左通道同步。麦克风输入的A、B通道也同理。

3.7 演唱模式和热舞模式

您可使用演唱/热舞模式来调用PA系统的热舞声乐环境 (Dance Mode) 或演唱声乐环境 (Sing Mode)。当使用演唱模式时, 超低音部分的音频得到减弱从而更适宜卡拉OK应用。当使用热舞模式时, 超低音部分的音频得到增强从而更适宜舞场应用。两种模式让现场声乐环境的转换变得轻而易举。

演唱/热舞模式分为手动和自动模式。您可使用演唱模式定时器来设定话筒开始使用多长时间之后开始衰减超低频输出。

热舞模式参数

热舞模式包含以下参数:

- Attack time (启动时间) (10 s - 600 s)
- Boost Gain (增加增益) (0 dB - 12 dB)

演唱模式参数

演唱模式包含以下参数:

- Attack (启动时间) (5 ms - 2000 ms)
- Release (释放时间) (0.2 s - 10 s)
- Reduce Gain (减小增益) (-12 dB - 0 dB)

3.8 扬声器延时调整

扬声器延时调整可应用于左/右声道, 中置超低音和环绕输出。在时间上它可让不同的扬声器的信号同步, 因而所有扬声器输出的信号能近乎同时到达听众, 以此减少相位问题。

延时参数

延时包括以下参数：

- Delay (延时) (0 ms - 40 ms) : 设置应用到选中输出的延时长短。

3.9 限幅器

限幅器是一个对动态范围进行处理的过程。当输出信号达到一定的水平(门限)时限幅器开始控制信号电平,防止信号使功率放大器/或扬声器出现过载。

限幅器参数

限幅器包括以下参数：

- Limiter Enable (启用限幅器) : 用于启用限幅器。
- Limiter Threshold (限幅器门限) (-60 dB - 0 dB) : 设置开始限幅值。比如: 设置门限为-10dB时,任何高于-10dB的信号电平都会触发限幅器;但低于-10dB的信号电平不会触发限幅器。总之为了保护扬声器建议您使用较低压限值,大部分信号保留在门限以下,而且只有超过门限的峰值被压限。
- Limiter Attack (启动限幅器) (5 ms - 200 ms) - 调节启动限幅器的时间。
- Limiter Release (释放限幅器) (200 ms - 10000 ms) - 调节释放限幅器的时间。

3.10 其它参数

某些参数不一定和前文所列处理方式有关,但一定和某些输入参数有关。以下是这些增加的输入参数的细分类。

- VOD: 选择VOD作为音频输入源。
- Coaxial (同轴) : 选择同轴输入作为音频输入源。
- Optical (光纤) : 选择光纤输入作为音频输入源。
- Initial Preset (初始预设设置) (POP, ...USER-10) : 设备开机后,自动路由至所选预设。
- Mic Volume (麦克风音量) (Mute (静音), -39 dB - +6 dB) : 调节麦克风的音量。可使用前面板的Mic (麦克风旋钮)进行调节,也可使用前面板的麦克风输入小旋钮进行调节。
- Mic INI Volume (麦克风初始音量) (Mute (静音), -40 dB - +6 dB) : 设置麦克风的初始音量,即设备开机时麦克风的默认音量值。
- Mic Max Volume (麦克风最大音量) (Mute (静音), -40 dB - +6 dB) : 设置麦克风音量的最大值。
- Music Balance (音乐平衡) (L50 - Center (中置) - R50) : 调设左/右通道使音乐输入平衡。
- Music Volume (音乐音量) (Mute (静音), -40 dB - +6 dB) : 调设音乐源的音量。可使用前面板的Music (音乐旋钮)进行调节。
- Music INI Volume (音乐初始音量) (Mute (静音), -40 dB - +6 dB) : 设置音乐的初始音量。音乐初始音量是本设备每次开机时默认的音乐音量值。
- Music Max Volume (音乐最大音量) (Mute (静音), -40 dB - +6 dB) : 设置音乐音量的最大值。
- Effect Volume (效果音量) (Mute (静音), -40 dB - +0 dB) : 单独调设效果音量。可使用前面板的Effect (效果旋钮)进行调节。

- Effect INI Volume (效果初始音量) (Mute (静音), -40 dB - +0 dB) : 单独设置效果的初始音量。效果初始音量是本设备每次开机时默认的效果音量值。
- Effect Max Volume (效果最大音量) (Mute (静音), -40 dB - +0 dB) : 单独设置效果音量的最大值。

第4章 - 附录

4.1 USB接口/电脑操作软件/更新固件

通过USB接口将KX200与电脑连接后，可使用KX200操作软件对设备进行调试，亦可对KX200固件进行更新。

遵循以下步骤安装操作软件：

1. 登入哈曼专业官方网站：<http://www.harmanpro.com.cn>，进入JBL娱乐产品分类，找到处理器KX200，点击下载操作软件。
2. 连接KX200到电脑的USB接口。
3. 登入KX200操作软件界面。

遵循以下步骤更新固件：

1. 登入哈曼专业官方网站：<http://www.harmanpro.com.cn>，进入JBL娱乐产品分类，找到处理器KX200，点击下载固件更新文件。
2. 连接KX200到电脑的USB接口。
3. 运行KX200固件更新文件。
4. 根据提示重新启动KX200。
5. 通过控制软件界面，按顺序操作：设备—恢复出厂设置。

系统要求：

- Windows XP/Vista/7/8

4.2 恢复出厂预设

恢复出厂预设将删除所有的User Presets(用户自定义预设)以及参数，系统恢复到出厂默认状态。KX200需通过电脑操作软件实现恢复出厂预设。遵循以下步骤执行恢复出厂预设：

1. 开启KX200电源。
2. 连接KX200到电脑的USB接口。
3. 打开KX200电脑操作软件。
4. 按顺序操作：设备—恢复出厂设置。
5. 请耐心等待至重设完成。
6. 重启KX200。

4.3 红外远程控制码

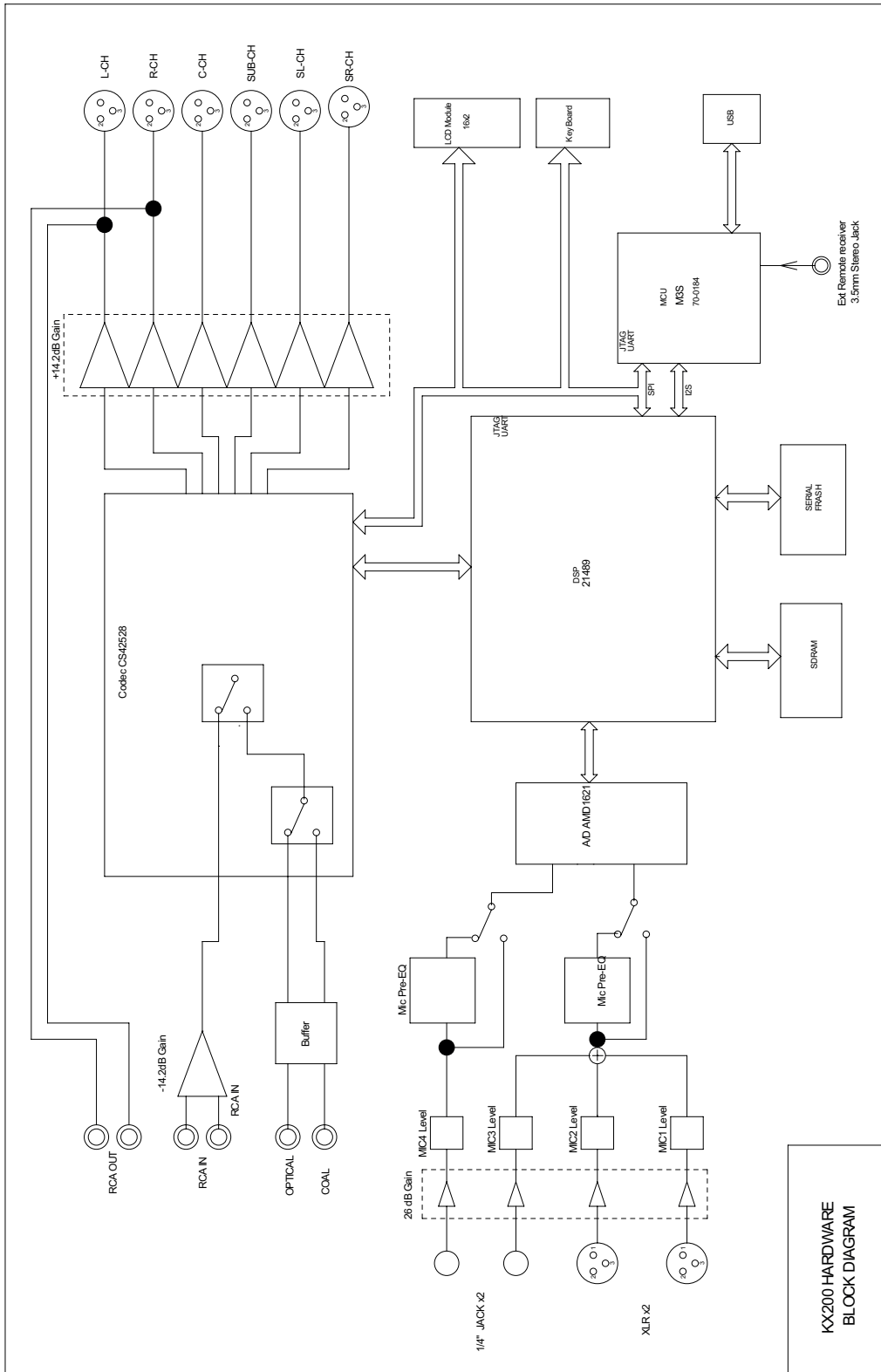
IRDA: 基于标准IRDA协议

用户码: 9f

加载预设					
预设1	38	预设2	cc	预设3	8c
预设4	ac	预设5	6c	预设6	ec
预设7	1c	预设8	9c	预设9	5c
预设10	4	预设11	84	预设12	44
预设13	c4	预设14	a	预设15	8a
音量					
音乐+	4a	麦克风+	2a	效果+	6
音乐-	ca	麦克风-	aa	效果-	86
回声+	46	混响+	56		
回声-	66	混响-	33		

*您也可以从KX200电脑操作软件上查找此红外控制码。

4.4 硬件架构图



4.5 产品规格

音频输入

麦克风输入类型:	XLR和1/4"平衡或非平衡
阻抗:	600 Ohm
EIN:	< -104 dBu, 20 KHz带宽
电平控制:	∞ 至 +14.2 dBu

信号线输入类型:	左&右通道RCA非平衡
阻抗:	24K Ohm

音频输出

XLR输出类型:	平衡或非平衡
电平:	+ 4 dBu一般情况下, +14.2 dBu最大
阻抗:	30 Ohm平衡, 15 Ohm非平衡

RCA输出类型:	左和右通道RCA非平衡
电平:	+ 4 dBu一般情况下, +14.2 dBu最大
阻抗:	100 Ohm

音频性能

频率响应:	20 Hz - 20 KHz, +/- 1 dB
THD+N:	<0.007% 20 Hz - 20 KHz
动态范围:	>103 dB
模/数信号转换:	24 bit, 48 KHz
DSP处理器:	32 bit

红外线接收器

载波频率	频率: 38 KHz
格式:	NEC

外部遥控器:	1/8" TRS Jack
可操作距离:	不同设备不一样
可操作角度:	不同设备不一样

其他

计算机连接:	USB 2.0
毛重:	2.5 kg
净重:	1.8 kg

备注: JBL不断致力于作改进产品相关的研究。JBL会将新材料、新生产方法、及新设计改良应用到现有产品上而不需另行通知。因此,任何当前JBL产品在某种程度上将不同于之前发布之产品,如无特别说明,这些产品仍等同于或优良于原始设计的规格。



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