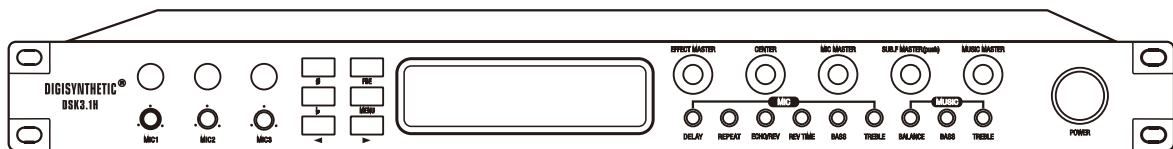


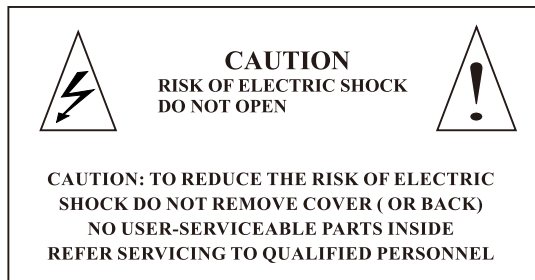
DIGISYNTHETIC®

DSK3.1H

DIGITAL KARAOKE PROCESSOR



USER MANUAL



The lightning flash with arrowhead symbol within an equilateral triangle is 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.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instruction in the literature accompanying the appliance.

IMPORTANT SAFETY INSTRUCTION

Please read below basic protection proceeding before using:

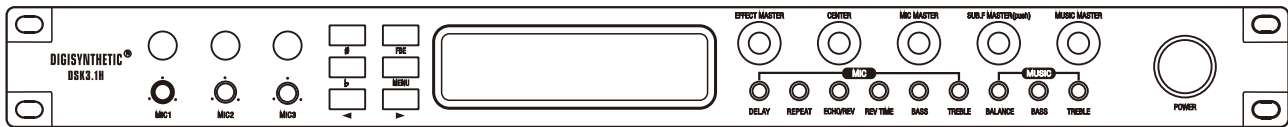
1. Please read all the safety instruction before using the product.
2. This product must be earthed. If it should be malfunction or break down, grounding provides a path of least resistance for electric current to reduce risk of electric shock.

This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and earthed in accordance with all local codes and ordinance.

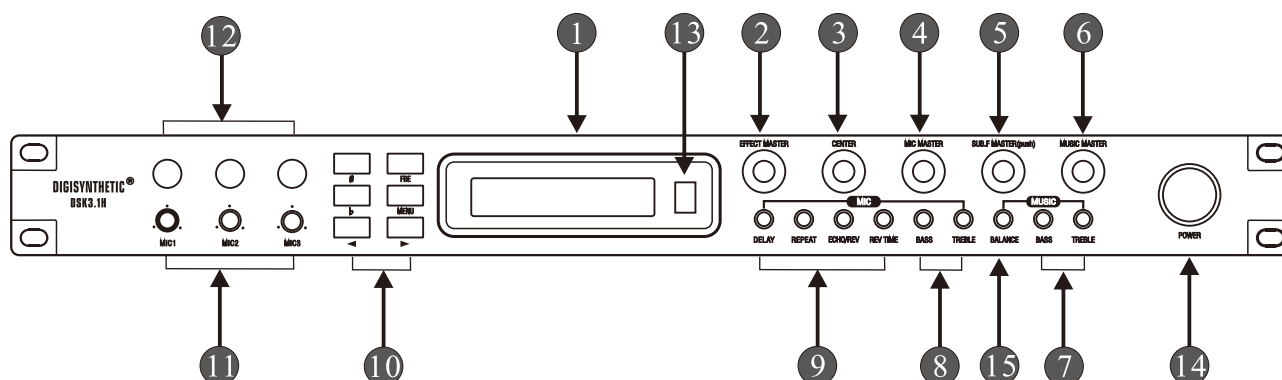
DANGER- Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

3. To reduce the risk of injury, close supervision is necessary when the product is used near children.
4. Do not use this product near water-for example, near a bathtub, washbowl, kitchen sink, in wet basement or near a swimming pool or the lake.
5. This product may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
6. This product should be located so that its location or position does not interfere with its proper ventilation.
7. This product should be located away from heat sources such as radiators, heat registers or other products that produce heat.
8. The product should be connected to a power supply only of the type described on the operation instructions or as marked on the product.
9. This product may be equipped with a polarized line plug (one blade wider than the other). This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the plug.
10. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time. When unplugging the power-supply cord, do not pull on the cord, but grasp it by the plug.
11. Care should be taken so that object do not fall and liquid are not spilled into the enclosure through opening.
12. The product should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have been fallen, or liquid has been spilled into the product; or
 - C. The product has been exposed to rain; or
 - D. The product does not appear to operate normally or exhibits a marked change in performance; or
 - E. The product has been dropped or the enclosure damaged..
13. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.
- 14 **WARNING-** Do not place objects on the product's power cord or place it in a position where anyone could trip over, walk on or roll anything over it. Do not allow the product to rest on or to be installed over power cords of any type. Improper installations of this type create the possibility of fire hazard and/or personal injury.

SAVE THESE INSTRUCTIONS



- ◆ The product use 24-bit high performance DSP and AD/DA 48Hz frequency multi-channel karaoke processor
- ◆ High performance professional effect(Mixing,Echo,Mixing Echo)
- ◆ 5 bands auto-digital feedback control
- ◆ Seven stage stereo digital key control of Modified tone
- ◆ Music high-low pass plus 5 bands parametric equalizer
- ◆ Micro high-low pass plus 5 bands parametric equalizer
- ◆ Super bass 3 bands parametric equalizer
- ◆ Mid-3 bands parametric equalizer
- ◆ 3 groups audio-video auto priority input(BGM) function
- ◆ Specially added mid-micro channel, extrude vocal ensemble
- ◆ Digital potentiometer adjust parameter adjustment easy operation
- ◆ VOD computer interface of song request wireless remote control
- ◆ RS232 computer realtime control , All parameter can adjust.
- ◆ Extremely low BG noise
- ◆ 16×2 character LCD display, more direct viewing



1.16x2 character LCD display, show all kinds of information, parameter

2. Micro (EFFECT MASTER) turn button

3.(CENTER MASTER) Turn button

4. (MIC MASTER) Turn button

5. (SUB MASTER) Turn button

6. (MUSIC MASTER) Turn button

7. Music TREBLE & BASS potentiometer

8. Micro TREBLE & BASS potentiometer

9. Effect parameter digital potentiometer adjust "DELAY"echo,"REPEAT" echo feedback , "CHO/REV" proportion,"REV TIME" reverb time

10.Menu select &confirmable button (MENU),menu parametric increase &decrease button(" # " & " b "), menu switch button("<" & ">"), Feedback control button

11.3 ways micro input master individual adjustment potentiometer

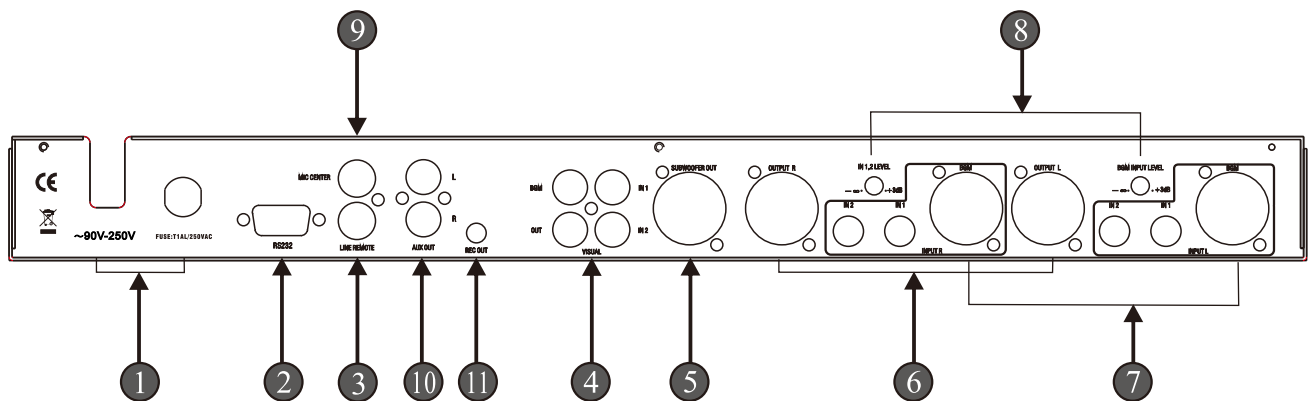
12.3 ways micro input jack

13.Wireless remote received window

14.Power switch

15.Music left & right balance

REAR PANEL



1. Power, fuse specification: 90V-250VAC T1A1/250VAC
2. RS232 real time PC control port
3. Circuit remote input port
4. 3 ways video input and one way video output
5. Super bass output terminal
6. Left & right channel stereo output terminal
7. Stereo 3 ways input terminal (BGM,DVD,AUX)
8. Input potentiometer adjustment
9. Control channel output terminal
10. Aux output terminal
11. REC output terminal

1 MUSIC PART

1.Audio signal (DVD,VCD) connect to terminal of (DVD,AUX,BGM)audio input, then adjust the frequency input potentiometer , Rotate music master button, Adjust the music VOLUME. As chart 1:

MUSIC VOL : -20dB ECHO&REV ⓘ 1
--

Chart 1 (music volume display menu)

2.Through the music TREBLE & BASS adjustment , It can modify the FR inflexion 。 Adjustment range—12dB ~ +12dB,stepover - .1dB. As chart 2:

MUS BASS: -10.0dB ECHO&REV ⓘ 1
--

MUS TREBLE: +6.0dB ECHO&REV ⓘ 1

Chart 2 (music treble & bass display menu)

3.Modified tone operation, Under main menu, press the (" #" & " b ") button of menu parameter to adjust the music rising tone and falling tone .As chart 3:

MUSIC VOL : -20dB ECHO&REV #3 ⓘ 1

Chart 3 (music modified tone display menu)

2 SUBwoofer part

- 1."SUB.F MASTER" knob, is use to adjust the parameter of SubWoofer part, after press the button. It will change different parameter menu between, Including volume and scaling down parameter of Sub .F. Master。

SUB VOL :	-20dB
ECHO	 1

SUB-BASS VOLUME

SUB CUTOFF:	300Hz
ECHO	 1

SUB-BASS SCALING DOWN

Chart 4 (Subwoofer parameter – 1)

- 2.In the "SUB. F MASTER"menu, Including following three parameter In chart 5。

SING SUB :	-30dB
ECHO	 1

Sing sub volume

DISC SUB :	- 5 dB
ECHO	 1

Disc sub volume

SING/DISC:MANUAL	
ECHO	 1

Sing/Bass mode selection

MIC SENSITIVE	5
ECHO	 1

Mic sensitve

Chart 5 (Sub.F parameter as chart 2)

3. Usually this three parameters use to in sing 2 dance background, Set up the volume of different background. Example Sub. F . volume of sing & dance: (SING SUB=-30dB), (DISC SUB=-5dB)。

When the mode is "AUTO" the system will auto convert the SUB. F volume of sing to SUB. F volume of dance which it has set up before when the system has detected that no Mic signal in. And it will convert back to SUB. F volume of singing when the system detet the signal of Mic in.

When the mode is manual, The user need to lock up the system first (please see the following explanation . How to lock up the system),then use SUB .F master button to convert this two mode

MIC VOL:	-10dB
ECHO	 1

Sing mode

MIC VOL:	-10dB
ECHO	 1

Disc mode

Chart 6 (Sub woofer convert)

3 MIC PART

1. Mic access the jack of input, And adjust the input potentiometer knob to right position. then rotate the Mic master knob to adjust the volume of Mic output. Rotate EFFECT master knob to adjust the volume of EFFECT in chart 7:

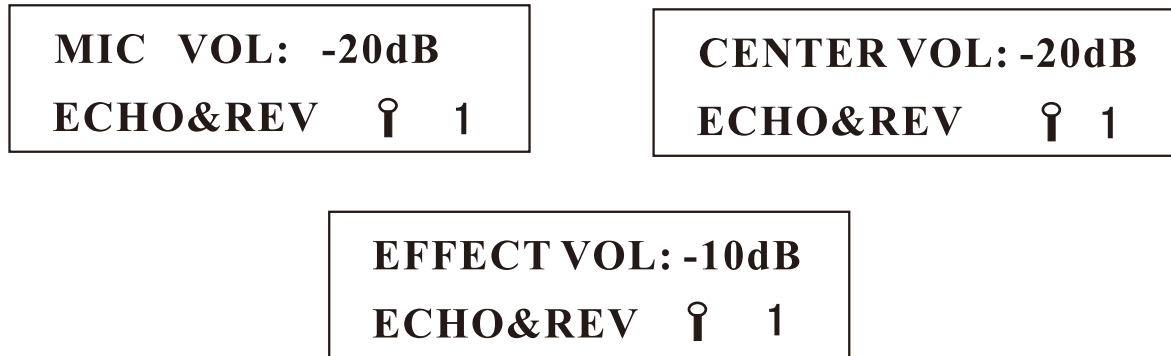


Chart 7(Mic volume、Center volume and Effect volume)

2. Select a singing effect : Rotate to adjust EFFECT scale digital potentiometer ,direction of inverse hour, is adding extra echo scale percentage, LCD display will show "ECHO 55%"... "ECHO 85%" till turn echo effect mode ,And the mixing effect is zero. Direction of clockwise is adding extra mixing scale percentage LCD will show "REV 55%"... "REV 85%" till pure mixing effect mode and echo will be zero. Echo and mixing are same scale, LCD will show "ECHO&REV" mode. IN FIGURE 8:

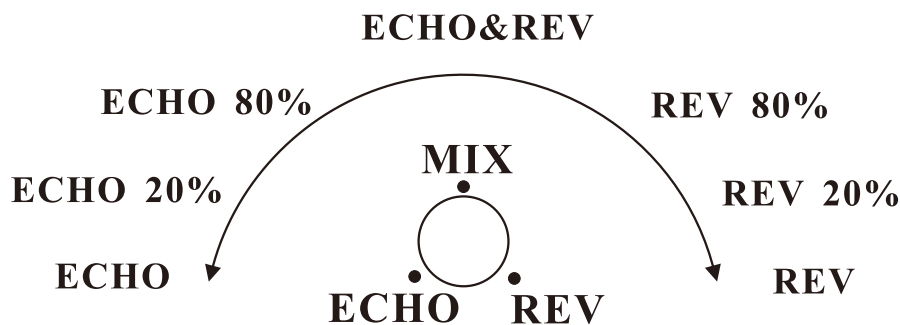


Chart 8 (Effect scale mode)

3. Adjustment of EFFECT parameter, including echo Delay, Repeat ,Rev time `s Effect adjustment. Rotate echo delay, repeat, Adjust effect scale of echo effect parameter, The adjustment range is (0~1200)mi-second,Depth (0~100) %. mixing effect parameter of mixing Rev time adjustment, the adjustment. Range is (0.0~6.0)second.in chart 9:

CAUTION: Effect scale mode is pure echo, LCD will show echo in the meaning time, Mix is zero, Same situation, Pure mix LCD will show "REV", echo is zero besides. pure echo and pure mix other mix mode can adjust echo and Rev parameter.

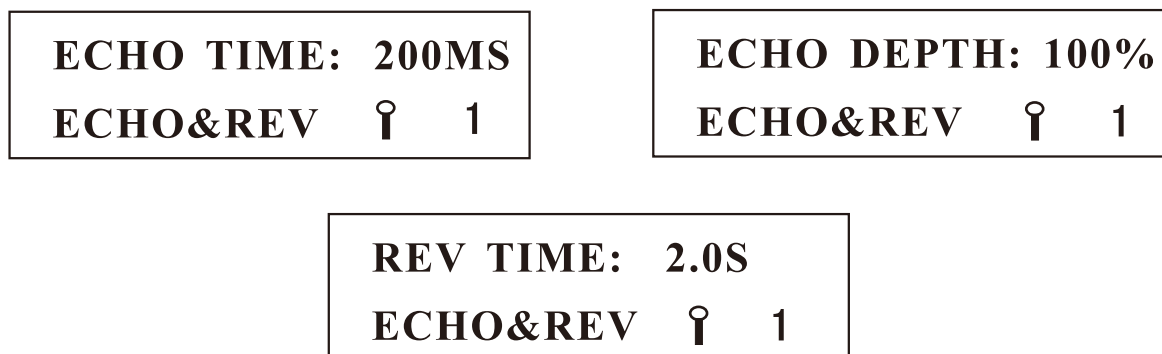


Chart 9 (Effect parameter schematic diagram)

4. MIC EQ ADJUSTMENT. Mic EQ mainly modify the timbre of singing voice, Through change the FR curved line of bass, Low-Mid, Mid-High and Alt, To make voice more beautiful of the performer, More strong of expressive force. Can adjust the bass and treble frequency through interface. PC software can adjust Also. the EQ adjustment range is (−9dB~+9dB), Among low-mid frequency, default boost frequency is 100Hz. MID-ALT frequency, default boost frequency is 1.00KHz. Alt default boost frequency is 4.00KHz. As figure 10:

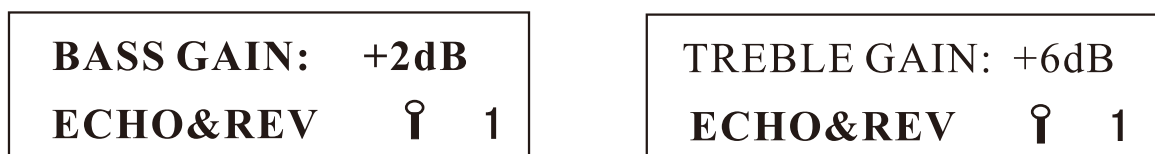


Chart 10 (Mic EQ schematic diagram)

5. MIC AUTO FEEDBACK CONTROL. When the performer use Mic to sing in front of speakers, Always arise the hissing, so can press FBE button, hissing will disappear, It will be more effective to protect the speakers, press the Button gain, the feedback control function will cancel. As chart 11:

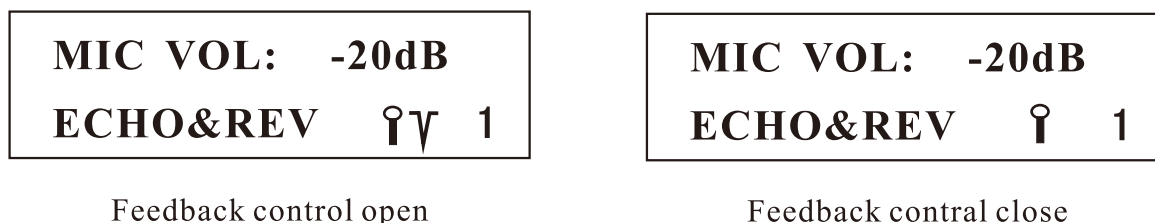


Chart 11 (Mic feedback control)

4 Function set up

1.The system provide multi functional solution Among menu button use to press in the main menu and SUB-MENU,sametime,use confirm button to operate it too , menu button ("<" & ">"), use to operate different menu and all the options , the parameter of increase & decrease button ("#" & "b") use to adjust current menu parameter.

**===MAIN MENU===
EFFECT PROGRAM**

Load a Effect
Store a Effect
Erase a Effect
Load Ini Effect
Store Ini Effect

**===MAIN MENU===
MIC EFFECT SETUP**

(EFFECT MODE AND PARAMETER)

**===MAIN MENU===
MIC SETUP OPTION**

MIC N_GATE
MIC INIVOL
MIC MAXVOL
EFF INIVOL
EFF MAXVOL
EFF INIMODE
CNT INIVOL
CNT MAXVOL
REMOTE SEL
REMOTE MODE
RS232 MODE

**===MAIN MENU===
MUS SETUP OPTION**

MUS N_GATE
BALANCE
MUS INIVOL
MUS MAXVOL
AUDIO INPUT
AV SWITCH
MUSIC DELAY

**===MAIN MENU===
SECURITY OPTION**

(SAFE CODE SET UP)

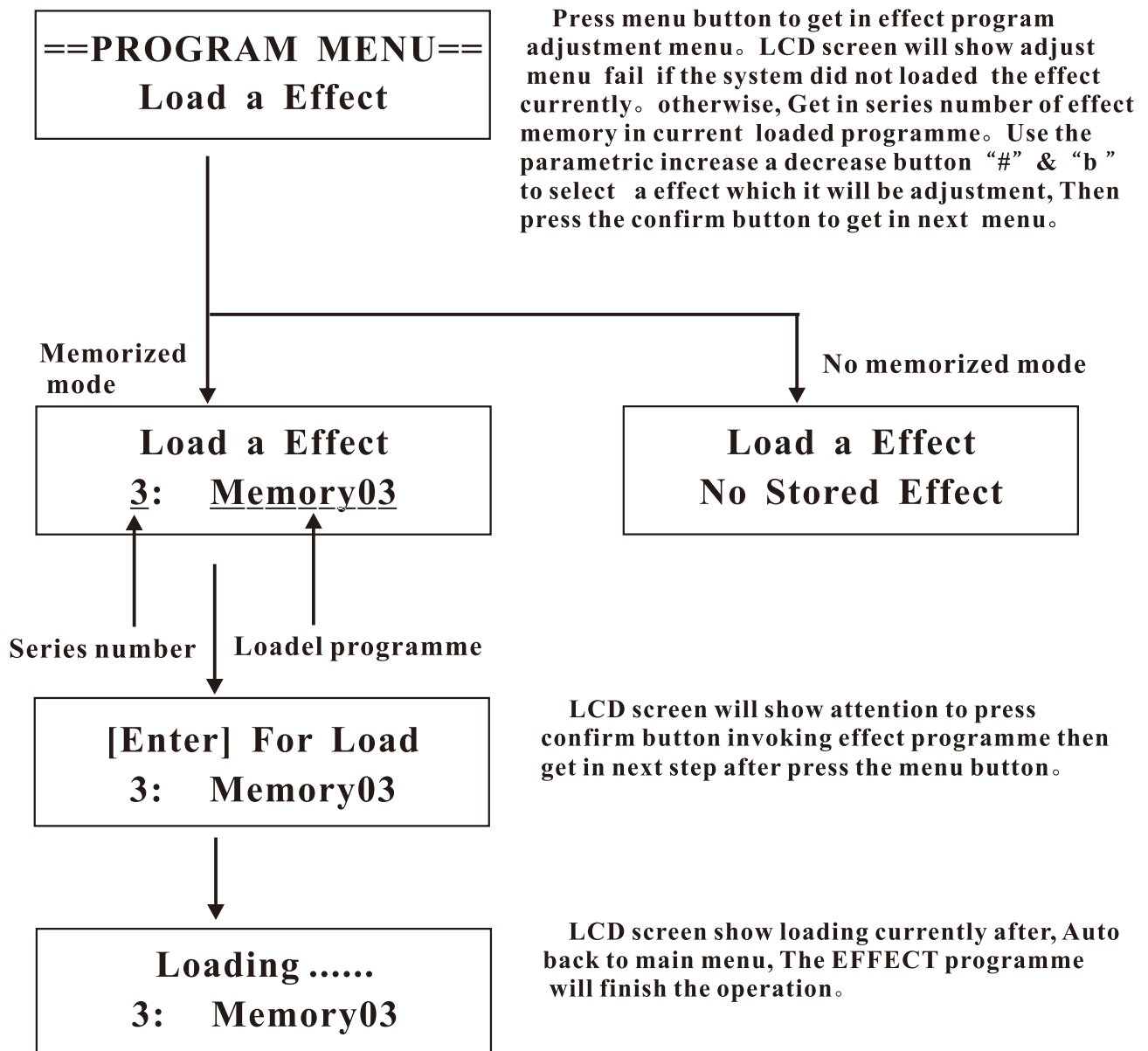
Chart 12 (main menu structure)

2. Press confirm button to get in SUBMENU from MAIN. As chart 13. There are five function set up inside EFFECT menu. the procedures is following:



Chart 13 EFFECT SET UP MENU)

<Adjust effect program>



<Load effect programme>

==PROGRAM MENU==
Store a Effect

Press menu to get in the effect programme of the storage menu.

Store a Effect
5: Memory05 ?

Use parametric button “#” & “b” to select a position to load effect programme LCD screen will show “?” on bottom right corner if the current series number has loaded programme before, Then press the confirm button to next interface.

Programme
series number

Overwrite a Mem?
5: Memory05 ?

LCD screen attend to cover previous loaded programme, Press the menu button to next interface.

Set Memory Name.
5: Memory0005

Cursor indication

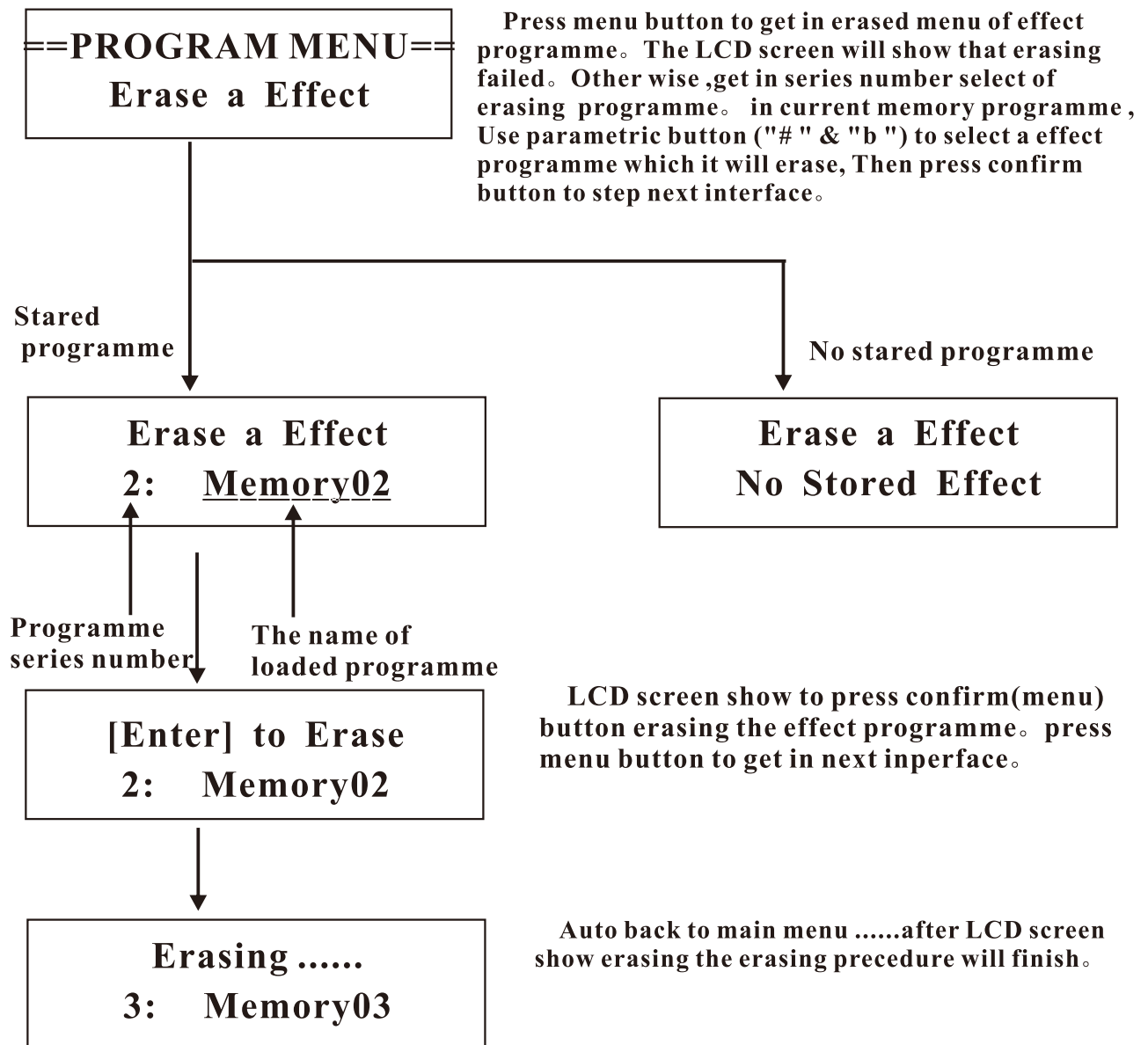
Set up the name of memory programme, use parametric button("# " & "b ") to adjust current the character size of cursor indication , use parametric moving button("<-" & "->") to change the location of cursor indication character. it can save 10 character every loaded memory.

Edit programme name

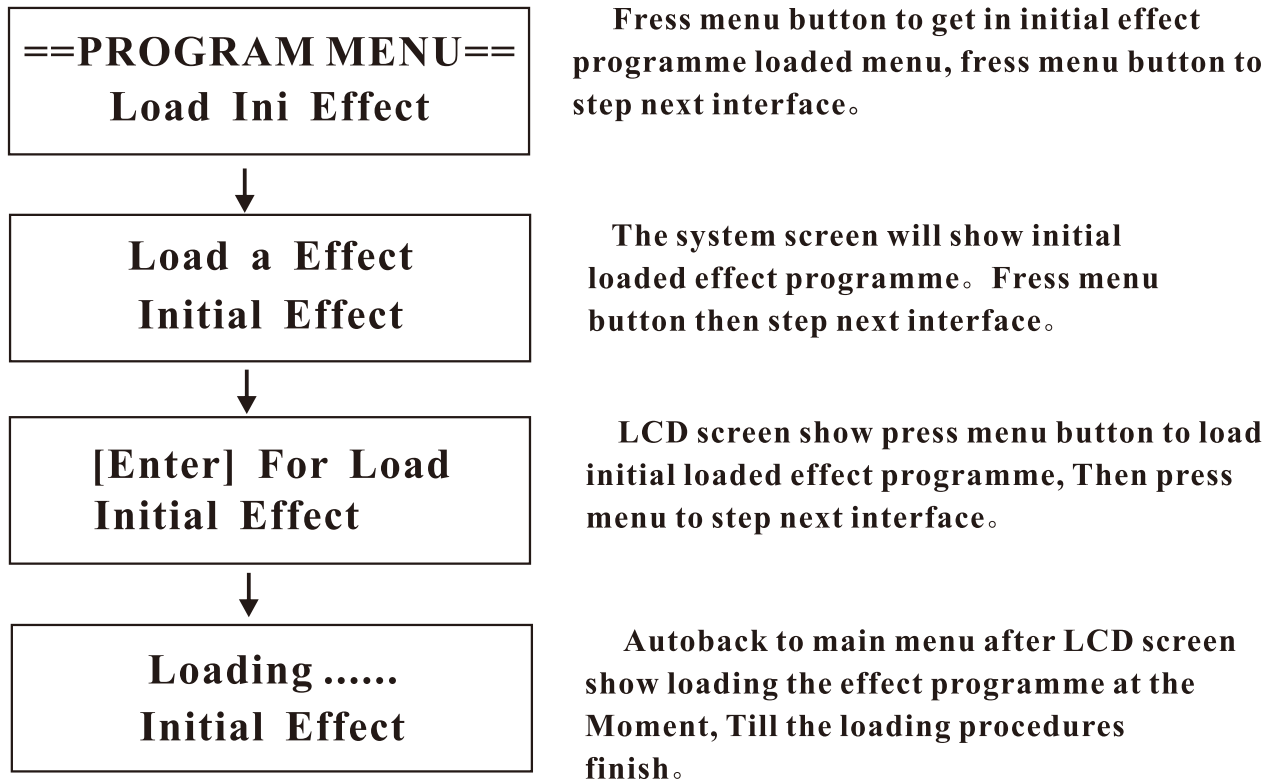
Stored to Memory
5: Memory0005

Press confirm button(menu) to save the effect programme and back to main menu.

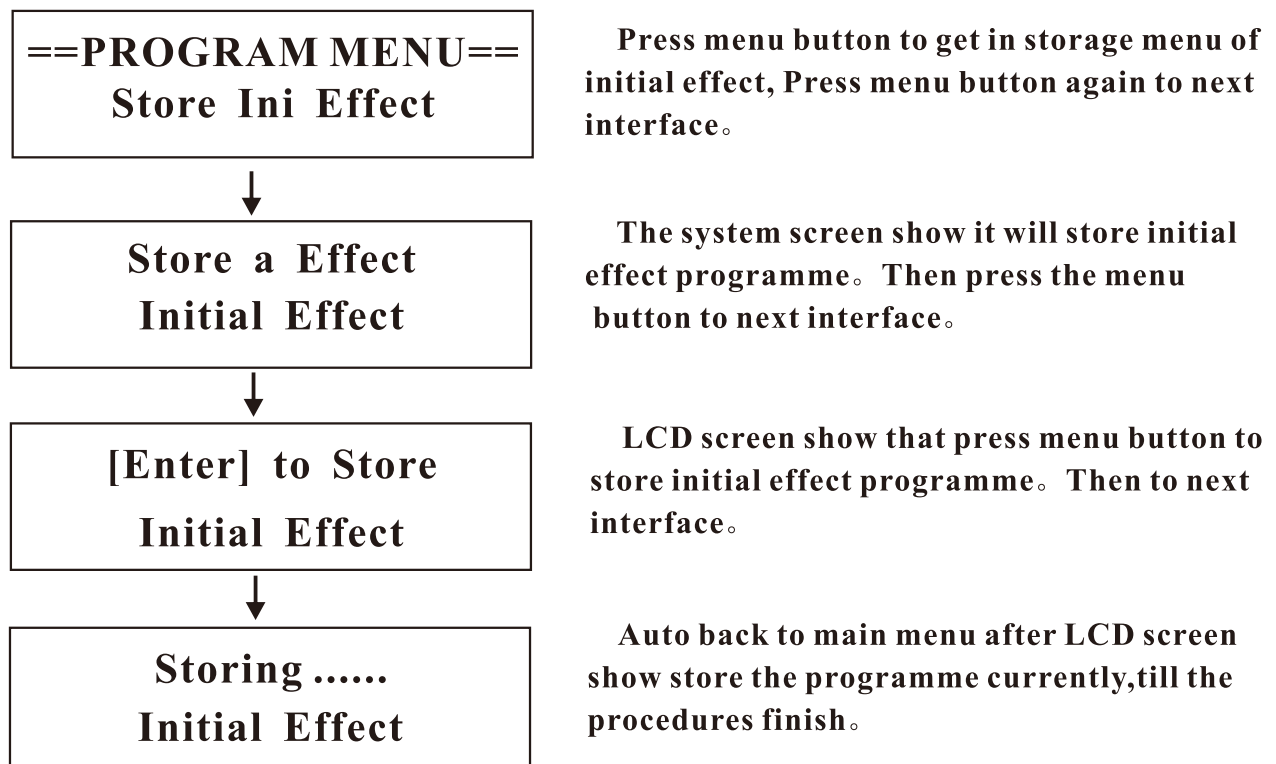
<Delete effect programme>



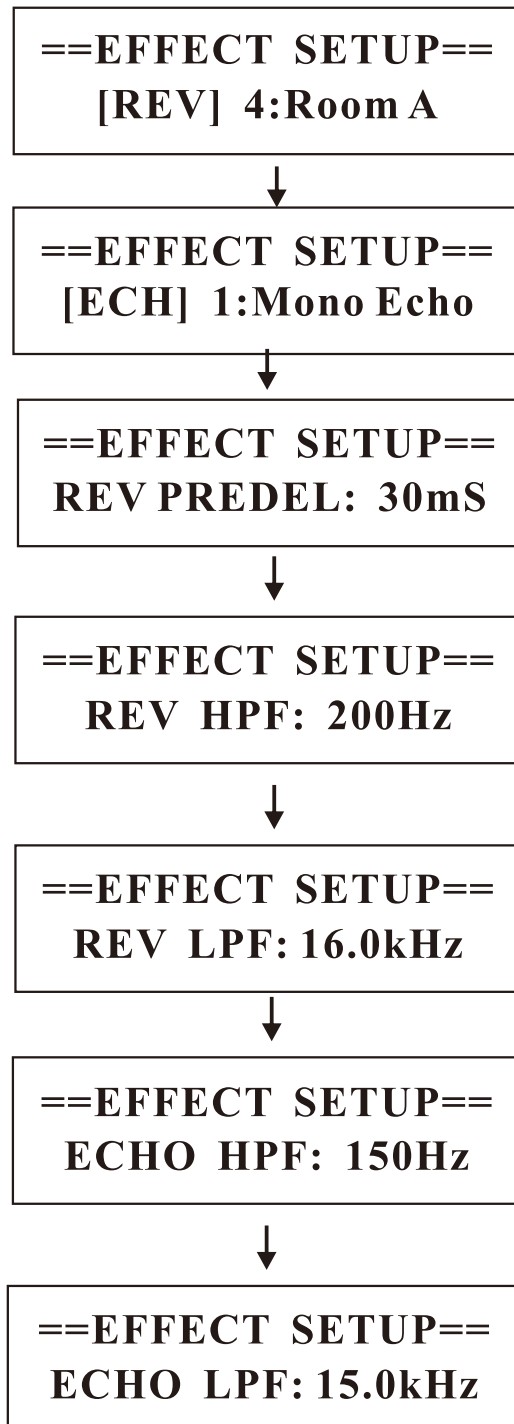
<Invoke start effect programme>



<Storage initial effect programme>



<Effect mode & parameter>



Fress menu button to get in effect programme set up menu, As left figure.

Use “ # ” and “ b ” key to set up effect mode, supply total 14 Groups mix and 4Groups echo effect combination crossover mode. Echo and mix effect couldn't closed same time when the machine change the effect.

Fress “<-” & “->” button more the parametric menu, follow current selective effect made, provide mix delay, mix high pass mix low pass echo high pass, echo low pass etc. Parameter set up interface.

3. Select MIC SETUP OPTION in the main menu interface press menu button to get in submenu, As chart 17, then use “<-” & “->” button to select different parameter option.

===MAIN MENU===
MIC SETUP OPTION

Chart 14 (Mic setup menu)

MIC noise gate setup: setup MIC N-Gate threshold in the menu, Setup limit is -90dB~-24dB. this parameter can reduce the MIC noise very efficiency, Threshold more large, Can reduce noise component, certainly including some small signal (performer untuned)Acquiescence is-66dB.

===MIC OPTION===
MIC N_GATE: -66dB

MIC volume preinstall: set up MIC part preinstall volume. This parameter set up is mainly support karaoke volume project. When the system switch on, the MIC volume is always set up in preinstall range if need minimum volume of switch on MIC every time, just need to preinstall range in-26dB.

===MIC OPTION===
MIC INIVOL: -10dB

MIC volume limitation: Set up MIC volume allowable volume in the menu this parameter is maximum of MIC set up limit Example: Parameter set up in -10dB, so MIC volume set up limit is max -10dB, when user use MIC volume knob or remote set up MIC volume, max output is -10dB. the parameter mainly protect the amplifier and speakers when output is in certain range limit.

===MIC OPTION===
MIC MAXVOL: -10dB

Effect volume preinstall: set up the initial preinstall volume in menu this parameter set up is mainly supply karaoke project when the system switch on echo volume is always set up in preinstall range.

===MIC OPTION===
EFF INIVOL: -20dB

Effect volume limitation: Set up effect volume allowable value in menu this parameter is maxilum limit of set up in center Example: parameter set up -6dB center volume limit is -6dB. The parameter ravge is -30dB~0dB. through set up this parameter, mainly protect & speakers in certaion output limit.

===MIC OPTION===
EFF MAXVOL: 0dB

Centre volume preinstall:

Set up centre output initial volume in power on condition. This parameter setup is mainly supporting Karaoke project. When power on, Centre volume is always loading on preload value. If demand the centre volume for minimum when the system start,Just need to set up for -30dB.

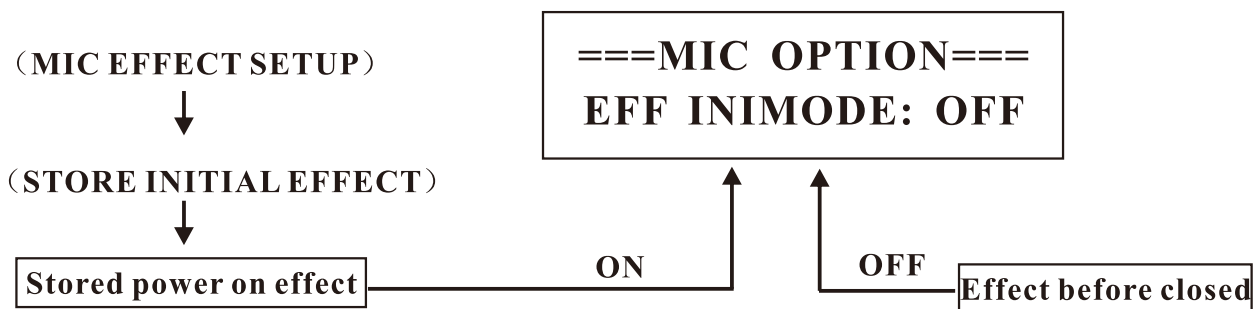
===MIC OPTION===
CNT INIVOL: -10dB

CENTRE VOLUME LIMITATION:

Set up center volume allowable value in the menu. The parameter is maximum value of center adjustment limitation. Example :when the parameter is -20dB, The limit of center adjustment is -20dB. When user use center volume knob or remote to adjust the center volume ,Maximum output is -20dB and the parameter range is -30dB~0dB. Through set up the parameter ,It will protect the AMP and Speaker in certain output range .

===MIC OPTION===
CNT MAXVOL: -20dB

Set up power on effect mode: This function is use to set up power on effect made when the parameter has seted up on mode in initial the system as to invoking preinstall parameter. The system will invoke effect parameter previous when the parameter set up off.



Remote in put selective set up: This function is mainly use to set up input terminal of remote the system allow user using wireless remote to set up parameter when the parameter has seted up in “ IrDA ” when the parameter is “ line ” ,the system allow user using wire remote terminal set up parameter ,though Backside of the machine.

===MIC OPTION===
REMOTE SEL: IrDA

Remote invoke effect setup: This function is use to set up invoke mode of remote when the parameter set up in "pres", the user can use remote control to set up 7 kinds of preinstall effect when this parameter set up in user, User can use remote control to set up the effect basic on 10kind of user defined mode.

===MIC OPTION===
REMOTE MODE:User

4. Select mus set up option in main menu, press menu button to get in submenu. As chart 15. then use ("<" and ">") button to select different parameter option.

===MAIN MENU===
MUS SETUP OPTION

Chart 15 (Music setup menu)

Music noise gate set up: Set up music N-gate threshold in the menu, set up range is -90dB $\sim -24\text{dB}$. This parameter can reduce the exiguous noise effectively, threshold more large, can reduce more noise component. Certainly including some small signal. Acquiescence is -66dB .

==MUSIC OPTION==
MUS N_GATE: -66dB

Output balance set up : Press parameter ("#" & "b ") button to set up till LCD screen show "R 0%", it means right channel output in minimum. Set up till LCD show "R 0%" it means left channel output in minimum. "LR 100%" means left & right channel output is same.

==MUSIC OPTION==
BALANCE: LR 100%

Music volume preinstall : Set up preinstall in volume of menu part. This parameter set up is mainly supporting karaoke project. When the system power on, the music volume is always in preinstall volume, User don't need to set up again very time. And if need music volume in minimum when power on, Just set up preinstall volume In -30dB .

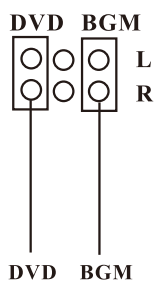
==MUSIC OPTION==
MUS INIVOL: - 10dB

Music volume limitation: Set up music volume allowable value in the menu。 This Parameter is music maximum limitation, example when the parameter set up in -10dB,so,music volume allowable value set up -10dB use knob or remote to set up, maximum output volume is -10dB, the parameter range is -30dB, through parameter limitation,protect the Amp and speaker in certain range of output

==MUSIC OPTION==
MUS MAXVOL: -10dB

Music signal input selection: Set up music signal input in the menu, the parameter have seven selection, it is DVD-B15 Among B 6, B 9, B 12, B 15. Is BGM auto convert basic on priority step is following: BGM connect to Audio frequency input BGM input of processor, then groups, connect karaoke group audio input, that is end。

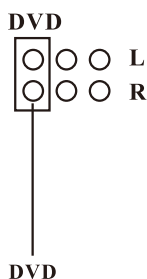
==MUSIC OPTION==
AUDIO INPUT: B 9



BGM function audio connection

Set up BGM auto convert priority mode, input audio select BGM input first。 Any groups audio play, the system auto convert to this group. As left chart. the system will auto convert to BGM audio basic on preinstall BGM convert timing when the performer audio stop。 Example: As left chart DVD audio, When the DVD audio off, the system will auto convert to BGM if No any audio signal after six seconds。 And B9,B12,B15 will auto convert after 9,12,15 seconds。

==MUSIC OPTION==
AUDIO INPUT: DVD



Regular audio connection

Fixed audio mode set up: First select any group and connect to performer audio。 Example: as left chart。 Then set up hornologous input channel in the menu, As left chart。 DVD audio this moment, the system has connected input audio from DVD spur track, does not matter other input channel provide signal input, the audio always fixed in preinstall input spur track。

Audio & Video frequency convert mode set up: set up Audio & Video frequency convert mode in the menu when the parameter set up in “Fadein” if will need to upgrade progressive from lower when the signal circuit convert 。 and when the parameter is “direct” , the signal is direct convert, No progressive procedures。

==MUSIC OPTION==
AV SWITCH : Fadein

Power on replacement

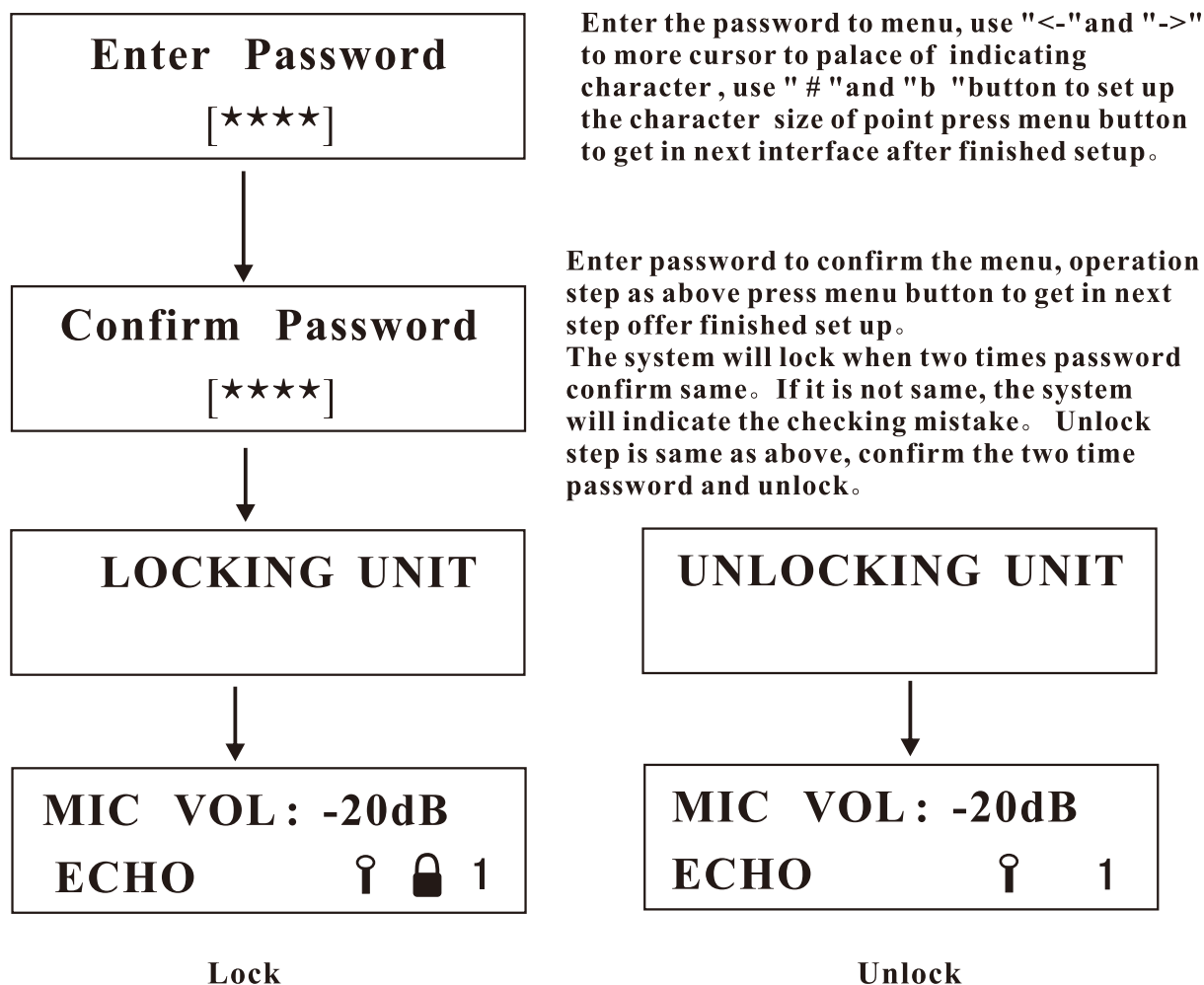
Put down " # " button for a while when power on, the machine will replace instantly。

6 Lock set up

Select security option of lock “set up”, then press menu button to get in sub menu, As chart 16:



Chart 16 (security lock setup menu)



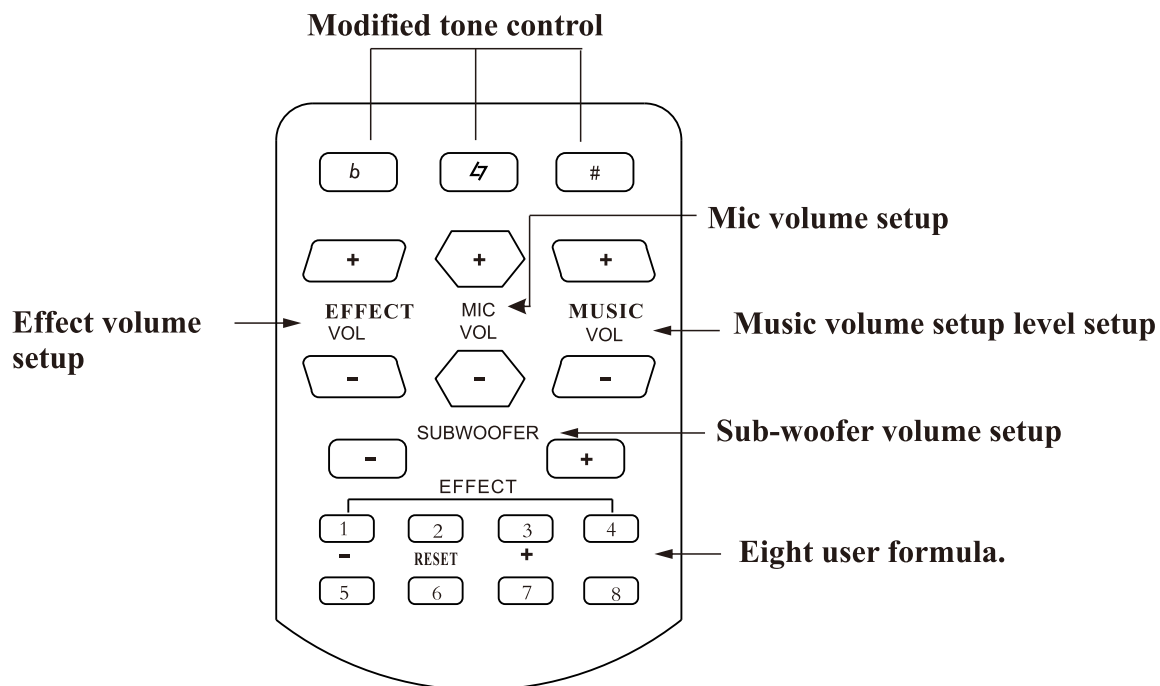
Caption: when carry out lock operation, the system will lock down all different part function basic on previous set up option (use computer software to setup the parameter),including music, Mic volume and parameter, etc.

CAUTION:

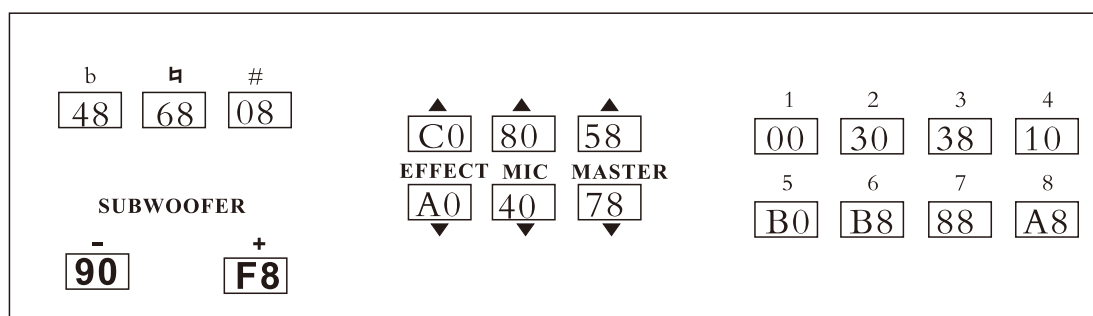
The machine have auto lock function, the coder will auto lock if does not set up small coder after a min .when the power is on. If can't turn the small coder after locked, press “SUB.F.MASTER” button to unlock, the coder can Turn. User also can cancel the auto lock through software interface . if user doesn't use this function. Auto lock will available after the system replacement.

7 Wireless remote

Sample remote function, simple parameter set up, easy to set up all useful parameter。



User code: 01,FE



Rs232computer connection cable product sofeware CD disc

MUSIC PART

SNR	>95dB(direct,nodified tune closed)
THD	0.01% 20Hz-20kHz
Freqnecy response	20Hz-20kHz ± 0.5dB
Input sensitivity/resistame	0.707V/47kohm
Max output	8Vpp/60ohm balance output
Treble(increase & decreasw)	20Hz- 1kHz(± 12dB, step ± 1dB)
Bass(increase & decreasw)	1kHz- 20kHz(± 12dB, step ± 1dB)
Five bands parameter EQ	
TYPE	PEQ, Highshelf,Lowshelf,FLAT
PLUS	± 12dB, step ± 0.1dB
FREQUENCY	20Hz$\sim$20kHz
BANDWIDTH	0.011$\sim$3.595Oct
WODIFIED TONE	± 7 classes,step100 cent
Three ways stereo audio input level adjustment	BGM -∞-+3dB
	DVD -∞-+3dB
	AUX -∞-+3dB

VIDEO:

Three ways vedio input,one way vedio output	
Input sensitivity/resistame	1Vpp/75ohm
Output sensitivity/resistame	1Vpp/75 ohm

SUBWOOFER

THD	0.07% 20Hz-2000Hz
Freqnecy response	20Hz-2000Hz ± 0.5dB
Three bands parameter EQ	
TYPE	PEQ, Highshelf,Lowshelf,FLAT
PLUS	± 12dB, step ± 0.1dB
FREQUENCY	20Hz$\sim$20kHz
BANDWIDTH	0.011$\sim$3.595Oct

MIC PART

SNR	>80dB(Effect open)
THD	0.04% 50Hz-16kHz(Effect close)
Freqnecy response	50Hz-16kHz ± 0.5dB
Input sensitivity/impedance	100mv-500mv/4.7kohm
Max output	7Vpp
EQ	
EQ low	20Hz- 1kHz(± 12dB, step ± 0.1dB)
EQ high	1kHz-20kHZ(± 12dB, step ± 0.1dB)
Five bands parameter EQ	
TYPE	PEQ, Highshelf,Lowshelf,FLAT
PLUS	± 12dB, step ± 0.1dB
FREQUENCY	20Hz$\sim$20kHz
BANDWIDTH	0.011$\sim$3.595Oct

Three ways mic input

Romote	Circuif remote one way,5 pin plug
Rs232 port	9 pin plug
Power supply	AC 90-250V/50Hz
Fuse	T1AL/250VAC
Power consumption	18W
Weight	3.5KG
Packing size	45$\times$482$\times$170mm