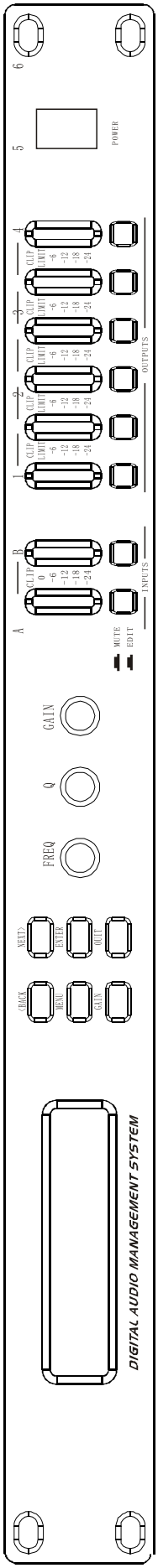
DIGITAL SPEAKER PROCESSOR



2 IN 6 OUT SPEAKER MANAGEMENT

2 IN 4 OUT SPEAKER MANAGEMENT

User's manual

Product introduction

High-precision DSP processor supports 48Bit internal data processing , with a high dynamic range and excellent acoustics .

★Multiple Frequency Divider Pattern Preset

1、(2 IN 6 OUT) Include：2×2 frequency divider、2×3 frequency divider、4+2 frequency divider、5+1 frequency divider and 6 frequency divider pattern.2、(2 IN 4 OUT) Include：2×2 frequency divider、3+1 frequency divider、4 frequency divider、2 MonoSub frequency divider pattern..

3、At the same time, users can DIY their frequency divider pattern by the signal input source function of every output channel .

★Each Input Channel Include：

Gain：Range of adjustment -40dB to +60dB，0.1dB interval adjustment，with Mute shortcut function . Parametric equalizer：1/36 Oct frequency ，0.5-128 Q value range，gain：-30dB to +15dB，0.1dB interval adjustment .

★Each Output Channel Include：

Signal input source: Support flexible signal distribution ，users can design frequency divider pattern by themselves .

High pass & Low pass：

1/36 Oct frequency ，frequency slope：-6dB，-12dB，-18dB，-24dB，-36dB and -48dB Oct

Selectable Filter：Butterworth、Linkwitz-Riley、Bessel and 12dB variable Q value type.

Parametric Equalizer：

. 5 parametric equalizer output frequency：1/36 Oct，Q value range：0.5 to 128，gain：-30dB to +15dB interval adjustment .

Delay：the longest delay can reach 6.979 millisecond，the smallest interval adjustment is 0.021 millisecond.

Gain：adjustable range：-40dB to +6dB，0.1 interval adjustment , with Mute shortcut function ..

Polarity:：output signal with reversal function .

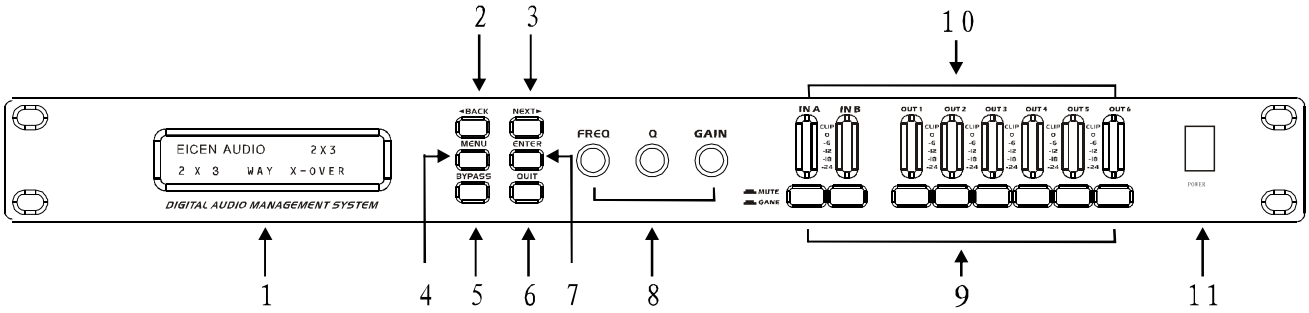
Limiter：protect each output channel ，allowing the maximum value of the signal to pass .through . The attack time and release time can be adjusted .

★ With 20 pattern for users to storage .

★ With RS232 interface , can be controlled by computer.

★ 20×2 LCD screen with green light and black character .

Front Panel Introduction



1、Liquid crystal displaydisplay menu option and parameter information.

2、Backturn backward the current menu.

3、Nextturn forward the current menu.

4、Menumenu key，to activate the main menu.

5、Bypassadjust the bypass state of the current equalizer.

6、Quitback key，return to the previous menu.

7、Enterconfirm key，get in the next menu.

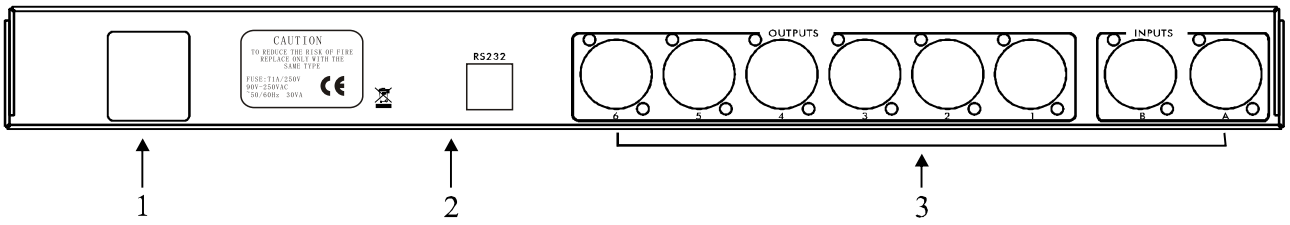
8、Parameter Control Encoderto adjust the parameter correspond to the screen.

9、Mute input and output, channel parameter edit keywhen press this key, red LED pilot lamp of the channel correspond to would be lighted up , it shows this is the Mute channel . Press the key for longer time(about 2 second), the parameter menu of the channel would be activated . At the same time the green LED lamp lights up, user can adjust the channel parameter setting by the parameter control encoder.

10、State lamp strip of input and output .

11、Power switch.

Rear Panel Introduction



1、Power socketcan be inserted by standard IEC plug. The machine included a power cord. (Power fuse situated at an Anti false contact fuse base at the below of the power socket, it must be changed according to the rear panel marking specification if necessary.)

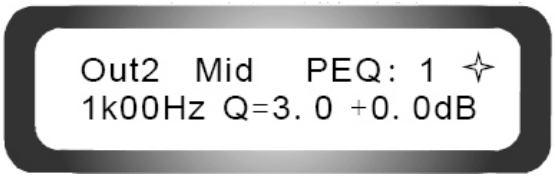
2、Rs232 communication interfacefor the same connection.

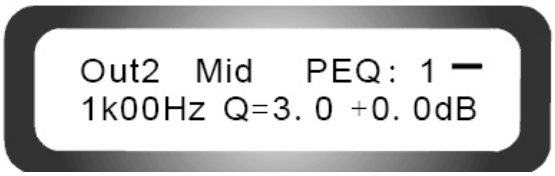
3、XLR input and output .

Parametric equalizer & Graphic equalizer

FREQ” knob is for frequency adjustment（parametric equalizer）
“Q” knob is for Q value and bandwidth adjustment （parametric equalizer）
“GAIN” knob is for gain adjustment .
“BYPASS” key is for straight state adjustment of the current equalizer.

✧ :平直（bypass)关闭状态
— :平直（bypass)打开状态





Every frequency of the parametric equalizer can be set within 20Hz～20kHz，1/36 oct interval adjustment. And can be adjusted Q value on a large range (0.5～128), so that to get a wide or steep response curve. Range of gain control is +15～-30dB,0.1dB interval . At graphic equalizer , only gain value can be adjusted , frequency and Q value will never change . In addition, “BYPASS” key is for setting straight state for all the graphic equalizer.

High Pass(Low cut) and Low Pass(high cut) Filter

“FREQ” knob is for frequency adjustment
“Q” knob is for slope adjustment of the filter

Every output including high pass filter and low pass filter, range of frequency adjustment is 20Hz～20kHz，interval adjustment is 1/36 oct. Frequency slope：-6dB，-12dB，-18dB，-24dB，-36dB and -48dB Oct. Selectable Filter：Butterworth、Linkwitz-Riley、Bessel and 12dB variable Q value type.

Delay

“FREQ” knob is for rough adjustment （1mS interval）
“Q” knob is for meticulous adjustment （0.021mS interval）

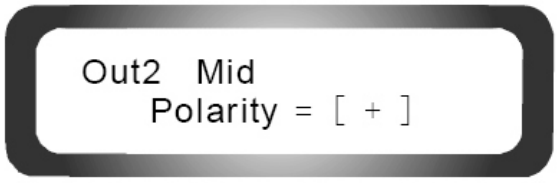
Limiter

“FREQ” knob is for turn-on time setting
“Q” knob is for release time
“GAIN” knob is for amplitude limit threshold value adjustment

Each channel of output equipped with an independent limiter. Range of turn-on time is 0.3～90mS , release time can be 4 times,8 times, 16 times or 32 times of the turn-on time, range of threshold value is +15dB～-10dB , 1 dB interval adjustment .

Phase

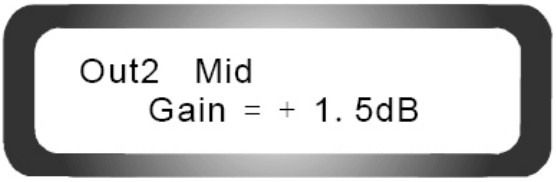
Use “GAIN” knob to adjust



Each channel of phase can be adjusted independently . 【+】signify positive phase，【-】signify opposite phase.

Gain

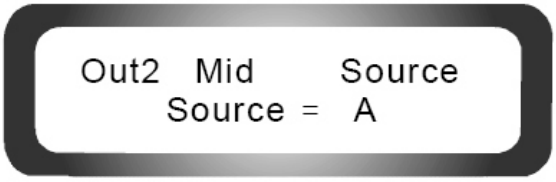
Use “GAIN” knob to adjust



Each channel of gain can be adjusted independently . Adjustment range is +6～-40dB，0.1dB interval adjustment.

Input Source

Use “GAIN” knob to adjust

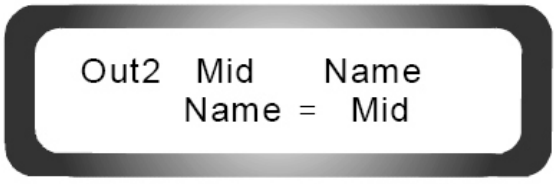


Each channel of output can select independent signal input source. User can DIY a personal frequency mode by the selection .

Selectable input source ： A or B or A+B.

Name of Input Channel

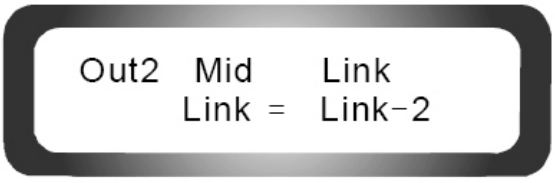
Use “GAIN” knob to adjust



To edit the name of the current output channel ， at first ， to press “Enter” key to get in editing status. The first character cursor would coruscate at this moment, turn a random knob to edit this character，press “BACK” and “NEXT” key to adjust the cursor place ，when finished editing，press “Enter” key again to make confirmation , then the cursor stop coruscating.

Channel Connection

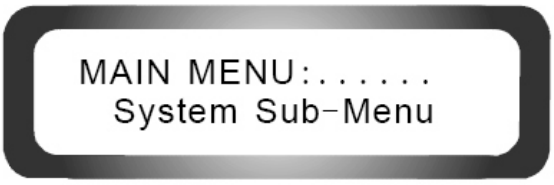
Use “GAIN” knob to adjust



To set the connection attribute of the input or output channel .When more than 2 channel attribute being the same , the connection is successful . The parametric adjustment is synchronized at this time, but the “input source” and “phase” of output channel would not be connected.

Main Menu

Press “MENU” key to enter main menu, press “ENTER” key to enter sub-menu: Program sub-menu，CopyTools sub-menu，System sub-menu，Security sub-menu.

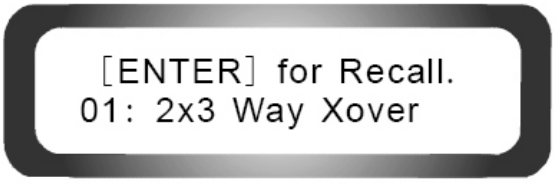


Xover Sub-menu.

Load a program
Design a program
Save a program
Delete a program

When switching to “Load a program” sub-menu，press “ENTER” key to get into next step.

Change the serial number of the loading program by a random knob, press “ENTER” key to get into next step.



If confirm to load the serial number program , press “ENTER” key to start loading .

When switching to “Design a program” sub-menu，press “ENTER” key to get into next step.

Change the type of preset mode by a random knob, press “ENTER” key to get into next step.

If confirm to use the selected preset mode , press “ENTER” key to confirm.

By default , factory settings provide Xover preset mode like above:

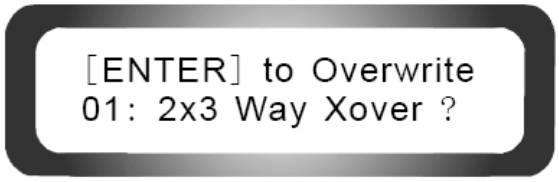
2 IN 6 OUT
2 × 2 Way + 2 Sum
2 × 3 Way
4 + 2 Way
5 + 1 Way
6 Way

2 IN 4 OUT
2 × 2 Way
3 + 1 Way
4 Way
2 Mono Sub

For more frequency Xover details， please refer to appendix 1.

When switching to “Store a program” sub-menu， press “ENTER” key to get into next step.

Change the place serial number of the storing program by a random knob, the most can be 20 places for selection , press “ENTER” key to get into next step.



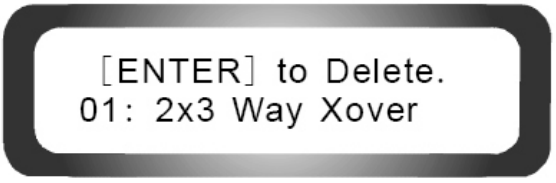
When the storing serial number overlaps with one of before , the screen would prompt if cover the old one or not .
Press the “ENTER” key to confirm to cover .
Press the “QUIT” key to cancel the operation .

To set program name （the most can be 16 characters）Adjust the cursor place of the character by a random key . Press the “BACK” key or the “NEXT” key to move the cursor place . When finished editing , press “ENTER” to continue , Press the “QUIT” key to cancel the operation .

If confirm to store the current serial number program, press “ENTER” key to start storing.

When switching to “Delete a program” sub-menu , press “ENTER” key to get into next step.

Change the deleting program serial number by a random key , press “ENTER” key to get into next step.

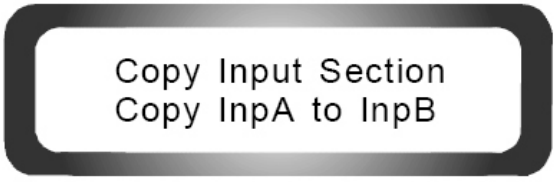


If confirm to delete the current serial number program, press “ENTER” key to start deletion.

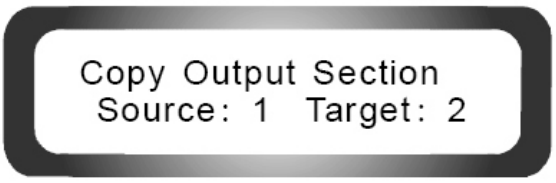
CopyTools Sub-menu

Copy input section

Copy output section



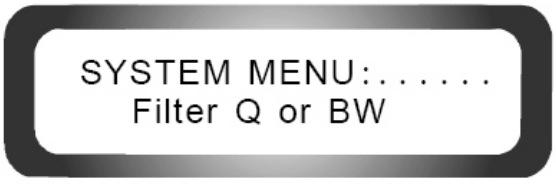
When switch to Copy Input Section , adjust the selection to “Copy InpA to InpB” or “Copy InpB to InpA“Copy InpA to InpB” ，press“ENTER” key to continue. The screen prompt if the operation confirmed, press the “ENTER” key again to start copy the input section .



When switch to Copy Output Section, use “FREQ” knob to adjust the source section，“Q” knob is for target section adjustment.Press “ENTER” key to get into next step , the screen prompt if the operation confirmed, press the “ENTER” key again to start copy the output section .

System Sub-menu

Wake-up time
Mute Hold indicate that the system holds all the output section being mute state automatically when turn on the machine . 0 Secs...60 Secs is showing the time before system making use of the program . And the mute state of the output section is holding from turn -off the machine last time . Change the parametric value with a random key , then press “ENTER” key to save setting .



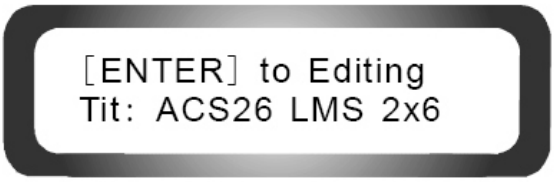
Filter Q or BW
When it is under graphic equalizer or parametric equalizer menu，the filter displays by Q value or BW. change the parametric value with a random key , then press “ENTER” key to save setting .

Delay time/Distance
When it is under Delay menu，the delay unit displays as（mS）or（M）. Change the parametric value with a random key , then press “ENTER” key to save setting.

Load Program Option
When the parameter is being Mute Status Off，all output would be mute after loading the program . When the parameter is being Mute Status On，after loading the program, all the mute status of each output is the same as before the program stored , and output volume would fade out from quiet to loud, Change the parametric value with a random key , then press “ENTER” key to save setting .

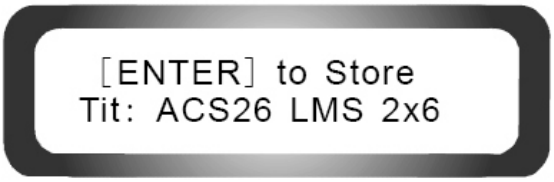
Device name title

Change the device name title of the main menu first line . press “ENTER” key to get into editing status.



To edit the stored program name（the most can be 16 characters）.Adjust the cursor place of the character by a random key .Press the “BACK” key or the “NEXT” key to move the cursor place .

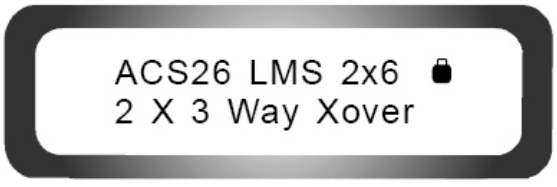
When finished editing , press “ENTER” to continue , Press the “QUIT” key to cancel the operation .



If confirm to store the current serial number of program, press “ENTER” key to start storing.

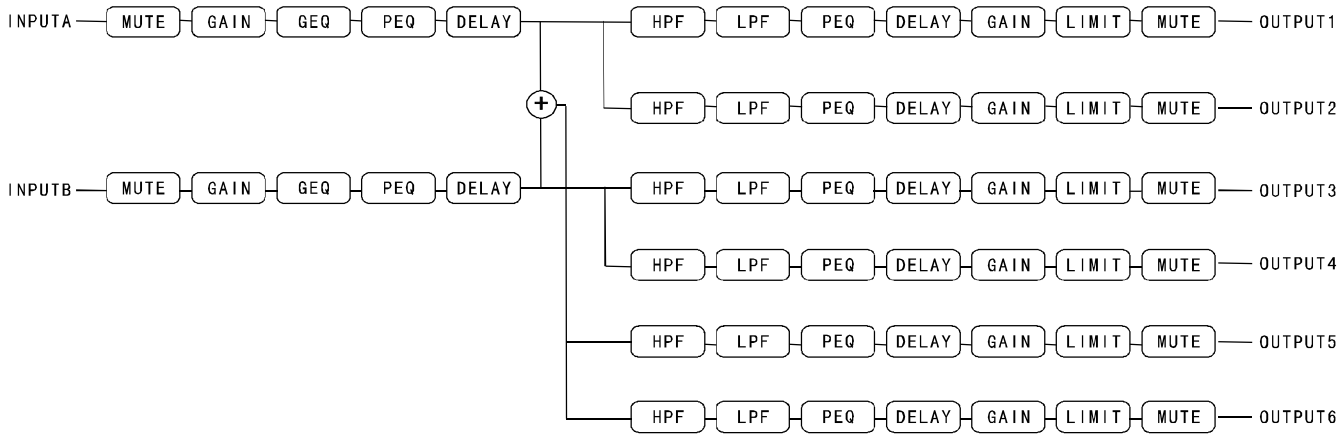
Security Sub-menu

When enter the menu，the first character cursor would coruscate at this moment, turn a random knob to edit this character，press “BACK” and “NEXT” key to move the cursor. When the password editing finished，press “Enter” key to confirm, then the system require to enter the password again, press “Enter” key to confirm again . Only two password entered completely the same ，the encryption could be successful. Decryption is same as encryption, but only need to enter the correct password one time .

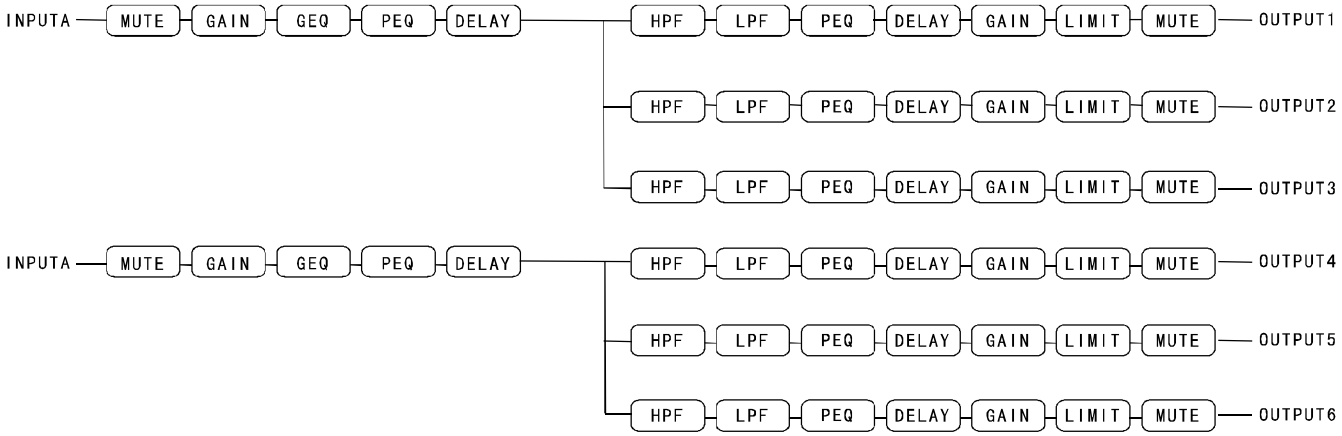


Flow chart

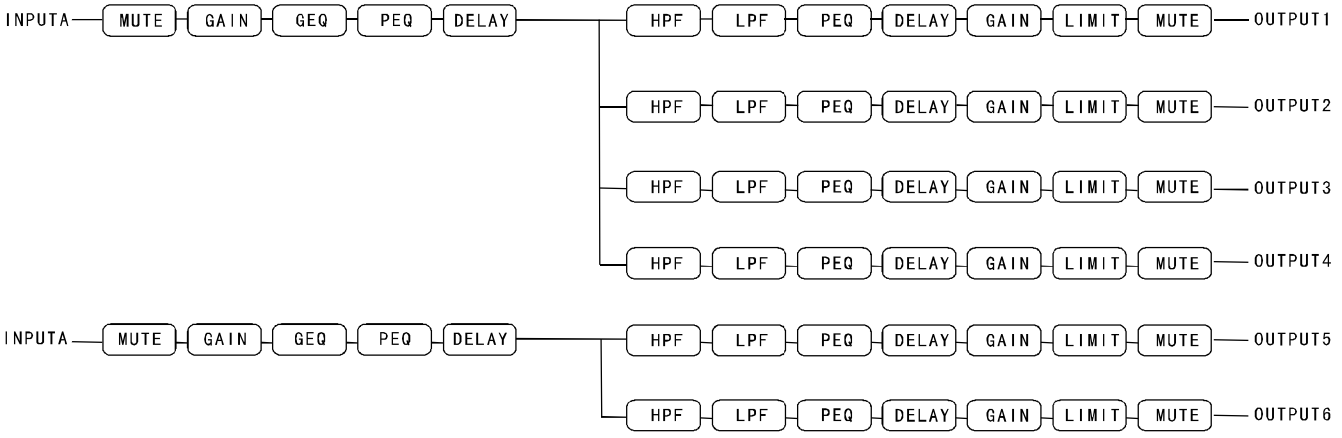
2×2 Way+2Sum(DP260A Pro)



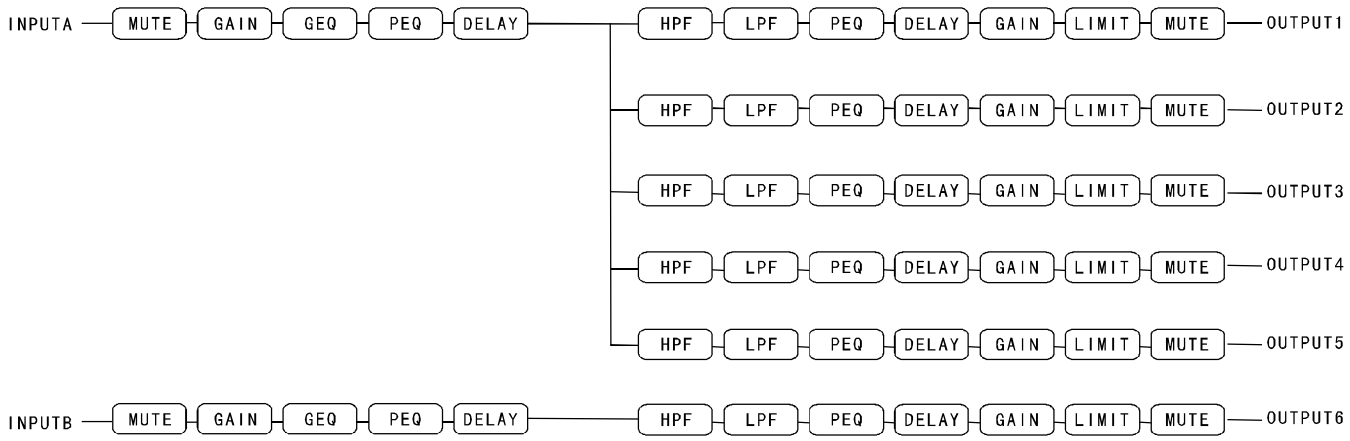
2×2 Way+2Sum(DP260A Pro)



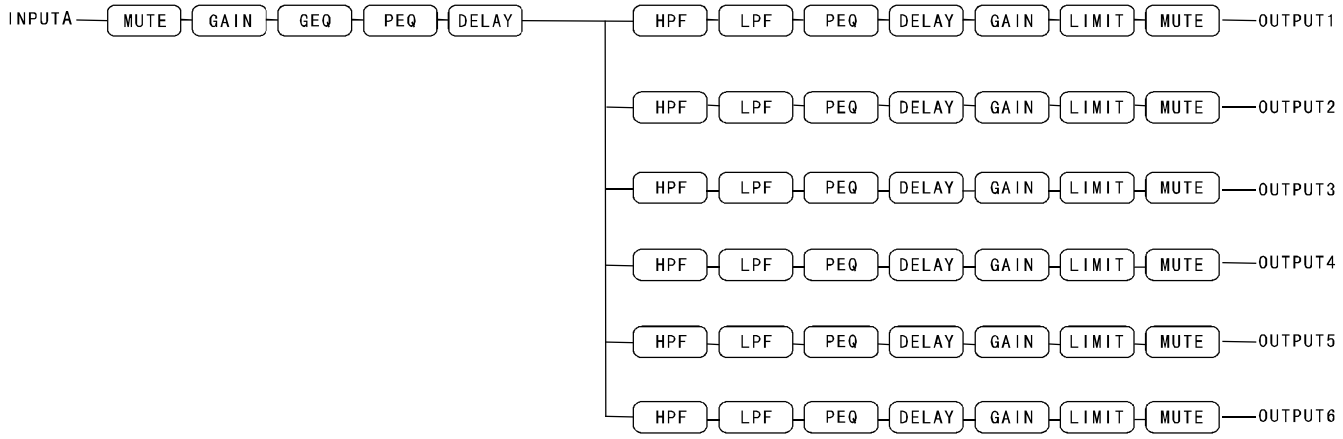
4+2 Way(DP260A Pro)



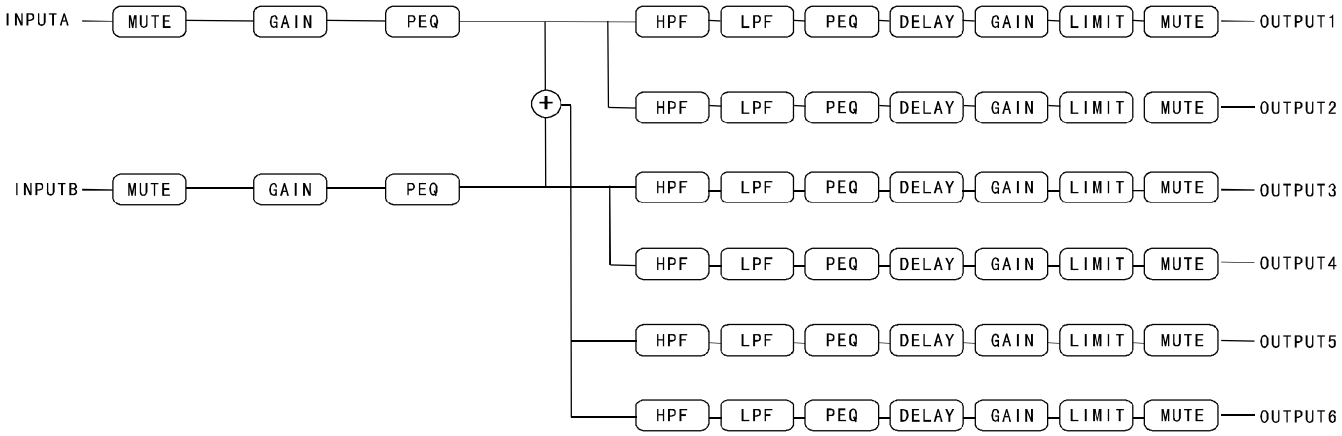
5+1 Way(DP260A Pro)



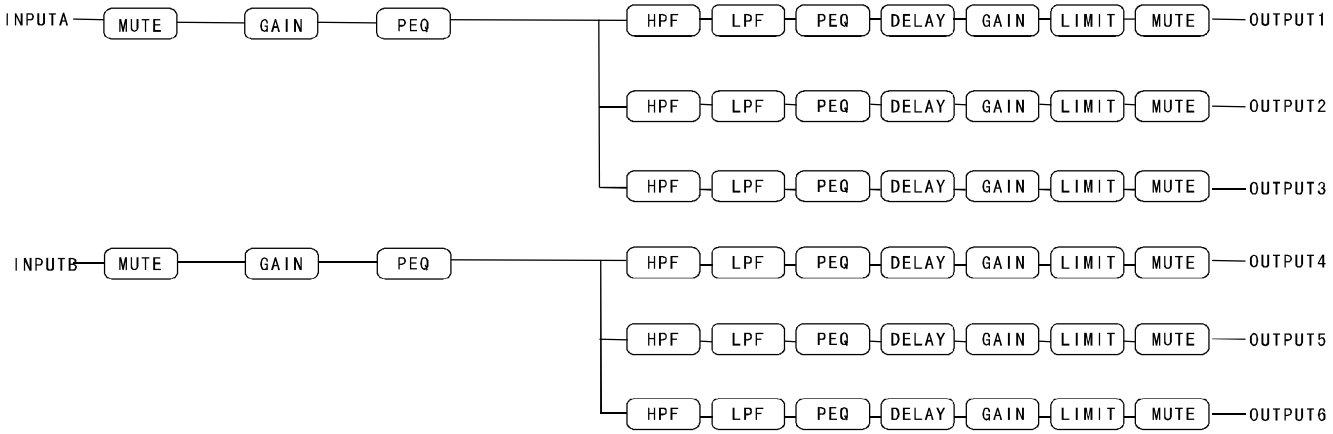
6 Way(DP260A Pro)



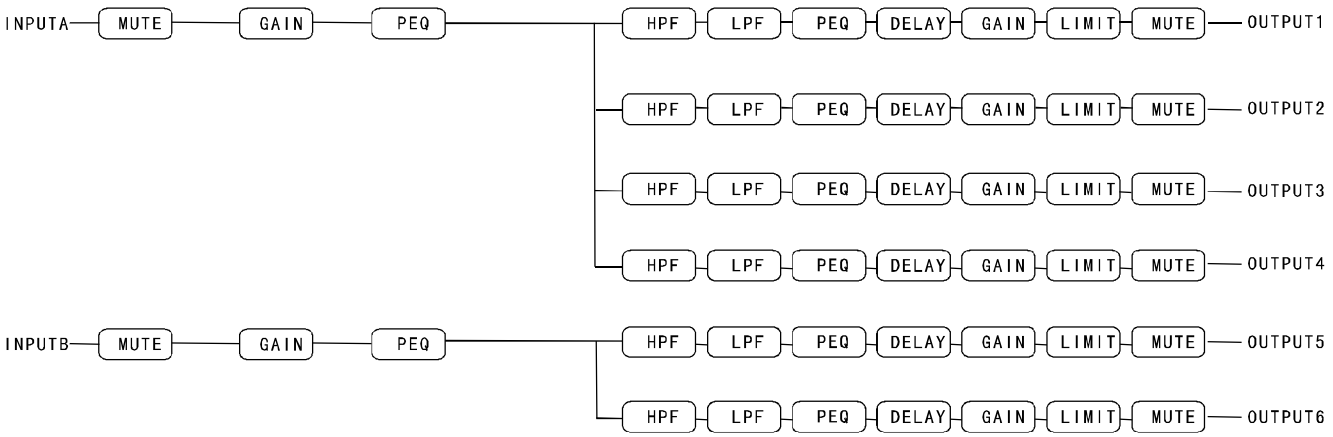
2×2 Way+2Sum



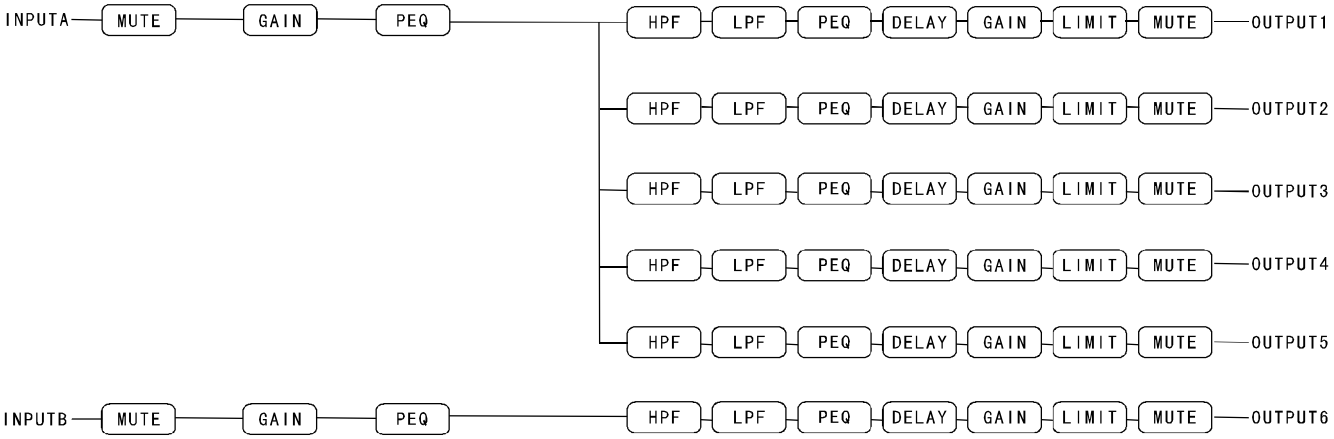
2X3 Way+2Sum



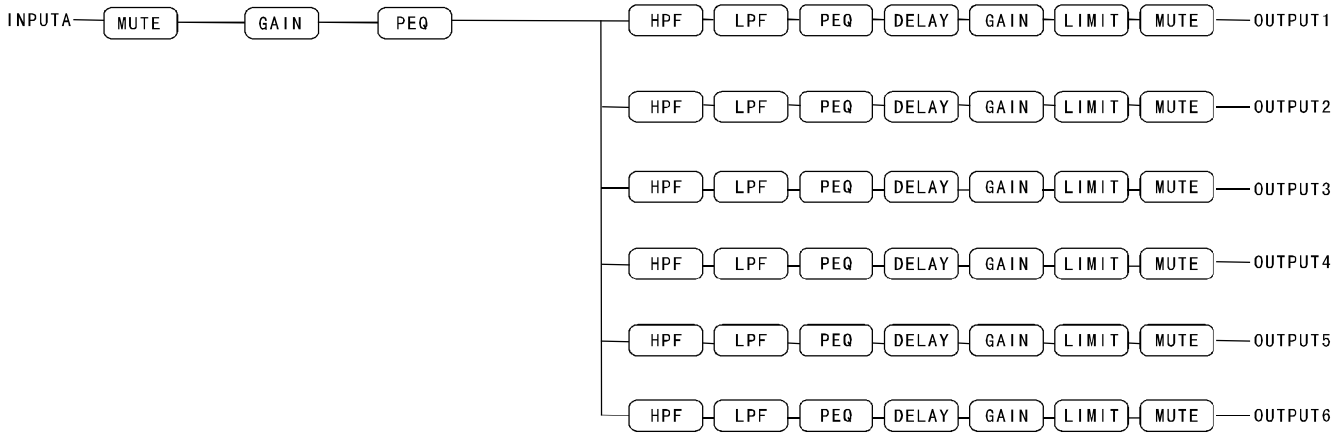
4×2 Way



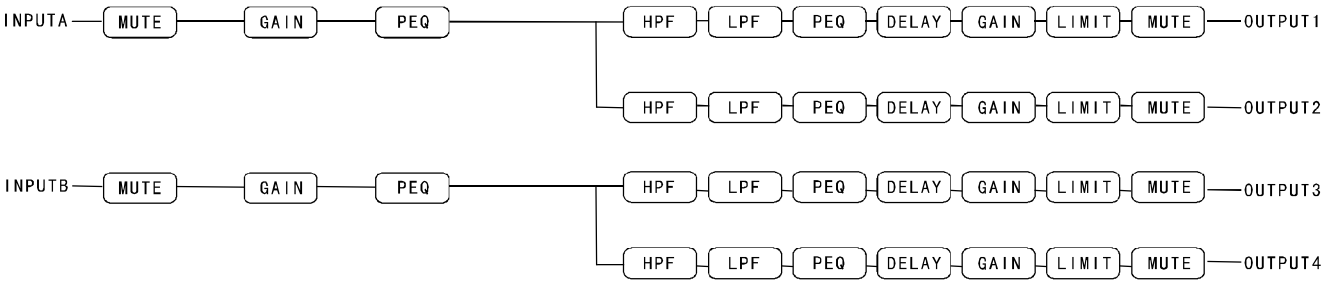
5+1 Way


INPUTA
MUTE
GAIN
PEQ
HPF
LPF
PEQ
DELAY
GAIN
LIMIT
MUTE
OUTPUT1
OUTPUT2
OUTPUT3
OUTPUT4
OUTPUT5
INPUTB
MUTE
GAIN
PEQ
HPF
LPF
PEQ
DELAY
GAIN
LIMIT
MUTE
OUTPUT6

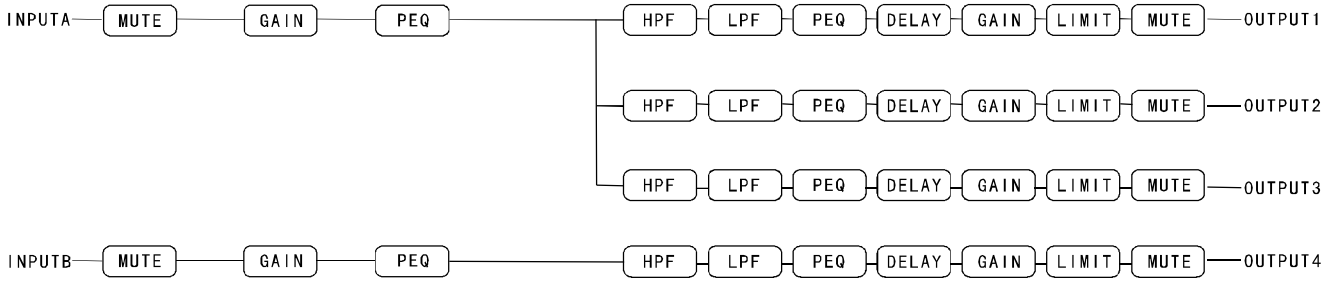
6 Way


INPUTA
MUTE
GAIN
PEQ
HPF
LPF
PEQ
DELAY
GAIN
LIMIT
MUTE
OUTPUT1
OUTPUT2
OUTPUT3
OUTPUT4
OUTPUT5
OUTPUT6

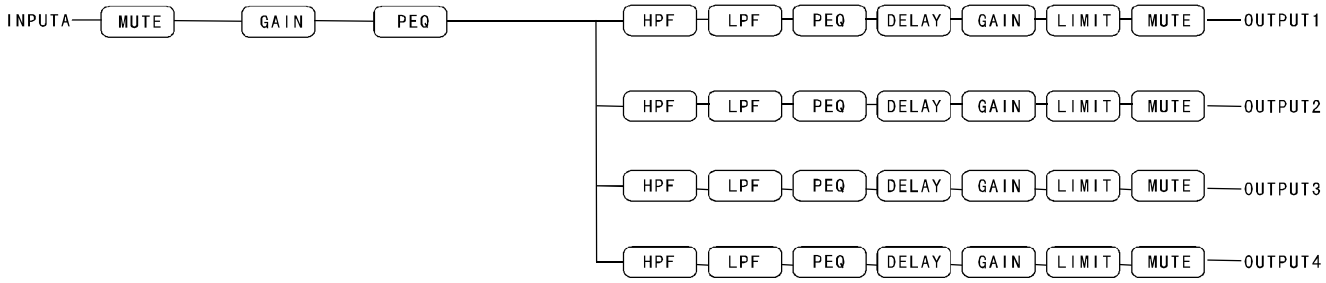
2×2 Way



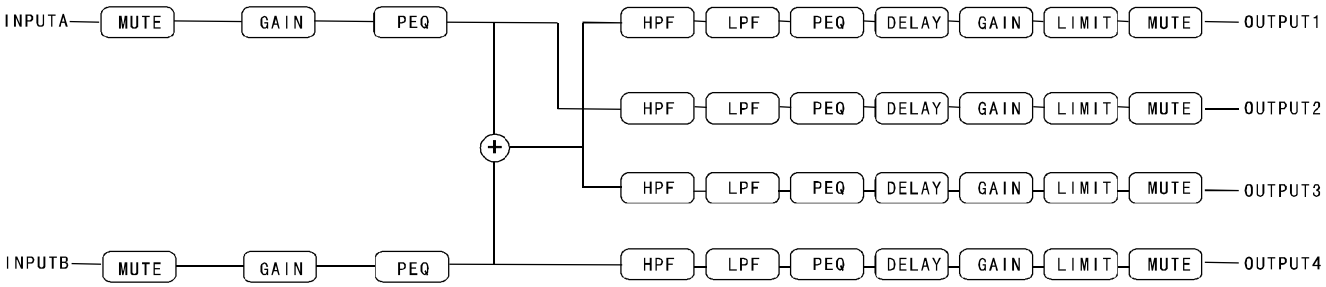
3+1 Way



4 Way



2 Mono Sub



Product Function Comparison

	Function Name		2 IN 6 OUT	2 IN 4 OUT
Input	Gain		−40 ～ +6dB	−40 ～ +6dB
	Graphic equalizer		—	—
	Parametric equalizer		3	3
	Delay		—	—
Output	Output channel		6 Channel	4 Channel
	X-over filter		Maximum slope : 48dB	Maximum slope : 48dB
	Parametric equalizer		5	5
	Delay		6. 979ms	6. 979ms
	Gain		−40 ～ +6dB	−40 ～ +6dB
	Limiter		−10 ～ +15dB	−10 ～ +15dB

Technical Specification

Input：2 electronic balance
Impedance：＞10k Ω
Common mode rejection ratio：＞60dB 50Hz-10kHz

Output：6 electronic balance
Impedance：＜60 Ω
Minimum load：600 Ω
Maximum level：+15dBm
Frequency response：+-0.5dB 20Hz-20kHz
Dynamic range：＞100dB 20Hz-20kHz
Distortion：＜0.02% @1kHz，+15dBm
Maximum delay：6.979mS
Minimum interval：0.021mS
Input gain：+6dB～-40dB，0.1dB interval
Output gain：+6dB～-40dB，0.1dB interval

Parametric Equalizer
Standard version：3 phases input，5 phases output
Enhanced version：9 phases input，8 phases output
Frequency range：20Hz-20kHz 1/36Oct
Filter slope：-6dB、-12 dB、-18 dB、-24 dB、-36 dB、-48dB。
Selectable type：Butterworth、Linkwitz-Riley、Bessel and 12dB variable Q value.

Limiter
Threshold value：+15dB -10dB，Adjustable interval：1dB.
Range of turn-on time：0.3～90mS
Releasing time can be the 4、8、16 or 32 times of the turn-on time.

20×2 character LCD display.

Connector
Input: tripod XLR female socket
Output：tripod XLR male socket
Communication port：RS232/USB

Power：60～230 +15% ◎50/60Hz
Power consumption：＜20W
Weight：3.5kilo（4.8kilo）
Dimension：1.75”(1U)×19”×11.8”(44×482×300mm)