Warranty Registration Card

PROFESSIONAL PRODUCTS

By completing and returning your product registration card you will receive these important benefits:

■WARRANTY CONFIRMATION
■PRODUCT PROTECTION
■PRODUCT REGISTRATION

Warranty Registration Card

产品合格证　保修登记卡

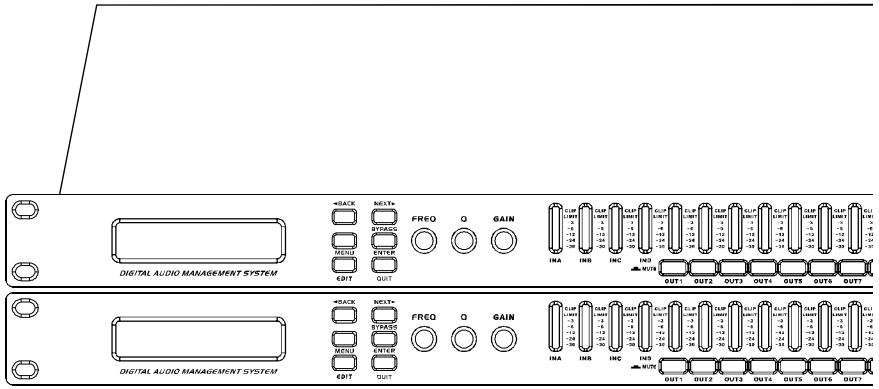
First Class Postage Required

Post Office Will not deliver without proper postage

PROFESSIONAL PRODUCTS

User Manual

Digital Audio Processor



DP series

DIGITAL AUDIO MANAGEMENT SYST

IMPORTANT SAFETY INSTRUCTIONS

CAUTION
RISK OFELECTRIC SHOCK
DO NOT OPEN

ARNING: TO REDUCE THE RISK OF FIRE OR
ECTRIC SHOCK DONOT EXPOSE THIS
UIPMENT TO RAIN OR MOISTURE

The lighting 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

WARNING FOR YOUR PROTECTION
PLEASE READ THE FOLLOWING:

P THESE INSTRUCTIONS

D ALL WARNINGS

LOW ALL INSTRUCTIONS

IOT USE THIS APPARATUS NEAR WATER

AN ONLY WITH A DRY CLOTH

IOT BLOCK ANY OF THE VENTILATION OPENINGS. INSTALL IN ACCORDANCE WITH THE MANUF-URER' S INSTRUCTIONS.

IOT INSTALL NEAR ANY HEAT SOURCES SUCH AS RADIATORS, HEAT REGISTERS, STOVES, OR ER APPARATUS (INCLUDING AMPLIFIERS) THAT PRODUCE HEAT.

' USE ATTACHMENTS/ACCESSORIES SPECIFIED BY THE MANUFACTURE

LUG THIS APPARATUS DURING LIGHTING STORMS OR WHEN UNUSED FOR LONG PERIODS OF IME.

ıot defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide e or third prong are provided for your safety. If the provided plug does not fit your outlet, consult an ele-ian for replacement of the obsolete outlet.

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

er all servicing to qualified service personnel, Servicing is required when the apparatus has been ıaged in any way, such as power-supply cord or plug is damaged, liguid has been spilled or objec-ave fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not oper-normally, or has been dropped.

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

UNITS WITH SELECTIVE-INPUT VOLTAGE: This equipment require a different fuse indicated on equipment rear panel depending on the voltage selector position. Refer servicing to qualified ser-personnel or equivalent.

NING - Do not place objects on the product's power cord place it in a position where anyone could er, walk on or roll anything over it. Do not allow the product to rest on or to be installed over power of any type, Improper installations of this type create the possibility of fire hazard and/or personal

RETURN THIS CARD TODAY AND RECEIVE THESE IMPORTANT BENEFITS:

Warranty confirmation:
your prompt product registration confirms your right to the protection availal under the terms and conditions of your Company warranty.
Product protection;
we will keep the model number and date of purchase of your Company electronics product on file to help you refer to this information in the event an insurance claim such as theft or loss.
Product registration:
thank you for purchasing our product. Filling out the attached card is the only of insuring that we contact you in the event of safety, update, or other proc issues that may arise.

User archives: _____
Product king: _____ Product model: _____
user unit name: _____ user unit telephone: _____
User's complete address: _____
your name: _____ the term of validity: _____
date of purchase: _____

PROFESSIONAL PRODUCTS Warranty Registration

产品合格证
保修登记卡（用户联）

产品编号: _____

尊敬的用户：

非常感谢您选用本公司专业舞台音响系列产品,产品出厂前为确保性能良好,已进行严格的品质检验.为了确保用户得到完善的售后服务，敬请您注意以下事项：
本公司本着"用户至上"的原则，向用户承若如下：

1、产品保修期为一年，从购买产品开始保修卡之日起，产品如有损坏或者发生故时，经本公司技术人员检查核实，非因错误操作所引起的损坏，凭保修卡享受费修理和免费更换元件。
（保修期满后，免收维修费仅收取合理的元器件成本费用）
2、在下列情况下，本公司将不给予免费维修和免费更换元件；
a、产品曾因被错误操作而损坏，如过荷或反馈而烧坏；
b、产品曾因不小心搬运则摔坏；
c、产品曾被非本公司技术人员修理或改装。
3、本公司并不负责由于器材损坏而直接或间接导致任何的损失。
4、在您购买本公司产品后，请正确填写好"用户档案"留与当地经销商处存档，当你的产品需要服务时，凭保导修卡与经销商联系，以便为你提供快捷的服务

用户档案：为方便阁下保修卡之储存，请用正楷中文填写

产品种类: _____ 产品型号: _____
用户单位: _____ 用户单位电话: _____
用户单位名称: _____ 用户单位电话: _____
用户详细地址: _____
用户签名: _____ 有效期: _____
购买日期: _____
（用户填写好后，请经销商盖章生效）

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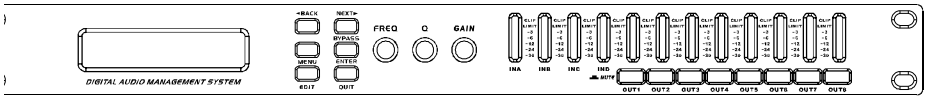
roduction



ık you for choosing the dp480 speaker management system. Thisproduct will enable you to
ıin the best possible performance from your loudspeaker system. You can also reduce the
ount of outboard gear that is required to transport, set-up and operate as part of the sound system.
dp480 offers many powerful functions. It is highly recommended that you
d through this manual before you begin connection and operation. For
se that are familiar with this type of device or if you simply can't wait to
· how good your system will sound, some terms that will be used in this manual:
'iguration: this refers to a particular group of settings, with the primary parameter being the
sover type.program: a program is a configuration with either the factory default or a user-created
e.configuration and program may be used interchangeably, though a configuration must be
rammed for a program to exist.parameter: a component of a setting such as the center frequency
ıe band of parametric eq or the attack time of a limiter.balanced inputsas standard,
dp480 comes with electronically servo-balanced inputs. This circuit designfeatures automatic
ı and noise reduction for balanced signals and thus allows for trouble-free operation even at high
'ating levels. Externally induced mains hum etc. Will be effectively suppressed. Theautomatic
o-function recognizes the presence of unbalanced connectors and adjusts
nominal level internally to avoid level differences between the input and output signals
'ection 6 db).low distortion high dynamic frequency response 20hz~20khz,
30 is 4 input 8 output, include 10 configure modes:4 x 2-way crossover; 2 x 3-way, and 2 aux;
-way + mono sub; 2 x 4-way crossover; 1 x 5-way, and 3 aux;mono distribution; stereo distribution;
with mono subs; 4 x 4 processor; muted,flat startup all the parameters of these preset modes
ıdjustable.each input channel includes input gain control each channel includes independent
sover controller.5 bands parameter equalizer delayer maxim delay 7ms
ıut gain and phase control parameters lock function to avoid misoperation.
32 usb interface remote control pc software included .
ı group parameter equalizer has 360 iso frequency points,gain is from -12db to +12db
ı group q value is from 0.5 to 128 and provide hi_shelf lo_shelf function.
pendent limiter attack time hold time decay time and threshold parameter
lexible configuration.
ı channel high pass, low pass configured with 6db 12db 18db 24db 48db
erworth linkwitz riley bessel frequency response curve.

Product parameter

Inputs

Impedance : > 10 KΩohms Electron Balance Input
CMRR: >65dB(30Hz-20KHz)

Outputs

Output Impedance<50Ohms
Source Imp: > 10 KΩ Electron Balance Output
Max.Level: >Vpp=4V Balance, Vpp=7.6V Imbalance
Frequency Resp: 20Hz-20.0kHz + 0.5dB

Dynamic Extension

Distortion: >105dB(A weighted) 20Hz-20kHz 0.01%(THD)
Maximum Delay: 7mS, The least adjusting distance 0.021mS
Output Gain: -40dB to +6dB , in 0.1dB steps
Input Gain: -40dB to +6dB , in 0.1dB steps

Parameter Balance Filter: 5 sect / Each way input , 3sect /each way output

Filter Gain: -40dB to +6dB in 0.1dB steps
Freq Range: 20Hz-20kHz, 1/36 octave steps.(368 positions)
Filter Q/BW: 0.5 to 128/2.0 to 0.008(Sections switched to shelving respo

High and Lowpass Filters

Filters: Each way output is with 1 HPF and LPF
Freq Range HPF: 2 0Hz-20kHz, 1/36 octave steps
Freq Range LPF: 20Hz-20kHz, 1/36 octave steps
Responses Curve: Butterworth : 6dB 12dB 18dB 24dB 36dB 48dB
Bessel: 12dB 18dB 24dB 48dB
Linkwitz-Riley : 12dB 24dB 48dB

Limiter

Threshold: + 3dBu to -40dBu
Attack Time: 1 to 100milliseconds
Release Time: 2/4/8/16/32 ×Attack time 0~100mS

Display

20x2 blue back light white word LCD
Input LED: -30dB,-24dB,-12dB,-6dB,-3dB,Limit, Clip
Output LED: -30dB,-24dB,-12dB,-6dB,-3dB,Limit, Clip

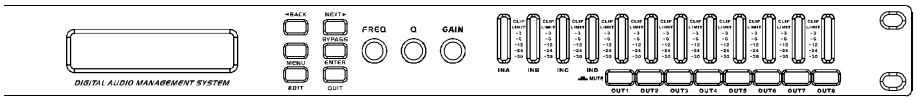
BLAK PANEL FEATURES

Inputs: 3 pin female XLR
Outputs: 3 pin male XLR
RS232: 9 pin DEE connector
USB connector
Power switch&IEC Socket

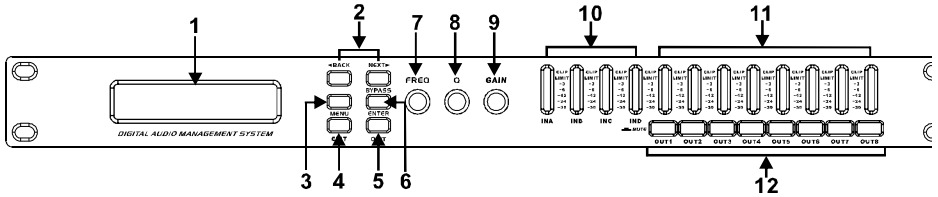
Electric Source

Input Electric Source: 95V to 250VAC 50Hz to 60Hz
Fuse: T1.5A/250VAC
Weight: 3.5KG
Size: 482mm×210mm×44mm)

Note: Due to continuing product improvement the above specifications are subject to char



'arametric•Chose the excellent DSP decoder and 32 bit interior data channel
/hich is especial wide dynamic extension and purity sound quality.
Input gain control for each channel, Separate crossover controller
Crossovers•4 inputs 8 outputs and includes 10 configurations
Choice of Operating and Crossover Modes: 4 X 2-way,
X 3-way + 2 Aux,2 X 4-way, 1 X 5-way + 3 Aux, Mono Dist.,
tereo Dist., LCRS w/Mono Subs, 4 X 4 Processor, Muted/Flat Startup
.qualizers• 5 band fully parametric equalizer
Each group Q value is from 0.5 to 128 and provides Hi shelf/Lo shelf
elect function.
Each group parametric equalizer has 360 ISO frequencies with + or -
2dB gain
Separate limiter with Attack, Hold, Decay and Threshold parameters
High Pass and Low Pass filter avail for each channel @ 6 or 12dB slope
Choice of 6dB, 12dB,18dB, 24dB, 48dB Butterworth, Linkwitz-Riley or
Bessel frequency response curve
)elay• Driver Alignment Delay for each output up to 7ms in .1ms increments
Output gain and phase control
Three front panel encoders to speed programming
'rotection• Security lockout to discourage system tampering
onnector • USB, RS-232 remote control PC interface (Windows compatible
;oftware included) windows 7 , windowsXP,windows2003.
Memory for up to 30 on-board user programs USB and Rs232 connector ,
an connect the out-controller , friendly ,intuitionistic computer operation view ,
as well as multilevel perfect security lock function.
)river• 8X7 bit input/output precision digital LED meter.
20X2 Blue in a poor light white word LCD display, display more good-view.



1. LCD Display : The 2x20 backlit LCD displays the program and programming choices of the

2. <BACK/NEXT> Buttons

These buttons allow navigation for selection of sub-menus and some parameter values.

3. Menu

This is one of two buttons that will access the front panel programming. This one is used primarily to select which program to call up, edit or save.

4. Gain

This is one of two buttons that will access the front panel programming. This, along with the <Back/Next> buttons accesses the various parameters of a program.

5.Quit : This exits the programming menu and returns the display to showing the selected pr

6. Enter : Hitting this button will write the current selection to memory, Using currently equilil parameter will be pass-by.(High-pass/low-pass filter and limiter can't pass-by)

7. FREQ Encoder Knob

This acts as the main value selector dial for most parameters other than those associated with EQ, Q and EQ Gain.

8. Q Encoder Knob : This adjusts the Q of a selected equalizer band.

9. GAIN Encoder Knob

This adjusts the Gain levels of Inputs, Outputs and any selected equalizer band.

10. Input Meters

These display the levels of the four inputs. The seven LED lamps per display are in 6 dB steps from –30dbV to –6dBV, then -3dBV, then Limit (0dBV), then Clip (+8 dBV)

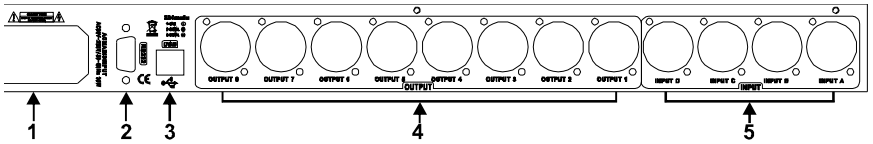
11. Output Meters

These display the levels of the eight output channels. The seven LED lamps per display are in 6 dB steps from –30dbV to –6dBV, then -3dBV, then Limit (0dBV), then Clip (+8 dBV)

12. Output Mute Buttons

Pressing one of these buttons will mute the respective Output channel and the LED will illuminate. All outputs will mute automatically during certain program selection and editing processes, to protect the loudspeakers

ck Panel Control Introduction



Power Jack

This accepts a standard IEC type AC bayonet plug. Because the unit uses universal

switching power supply, no voltage selection is required. The ON/OFF power switch

s also located here.

RS232 Interface

Connect this to the serial port on a PC using the included cable or other standard DB-9

ype cable. With the software installed, the PC can now monitor and program the

quipment. (Windows 7, windows xp, windows2003)

USB Interface

SB connecter _ connecting with personal computer.

Windows 7, windows xp, windows2003)

XLR Outputs 1-8

LR style output _ each way frequency output is with 3 core of XLR plug.

ach port is balance , 2 feet are hot end, 3 feet are cold end , 1 foot is screen

onnect with grounding) end.

XLR Inputs A-D

ese are balanced Input (Pin 2 Hot) XLR inputs that accept the signal from the

puts of the mixer.

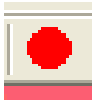
software installation instruc

1. Insert with equipment machine incident software CD-ROM to PC, open the cd-rc drive disc within the data files to click inside 4In8OutSetupV103. Setup program f for installation, always press "next" button until the installation is completed and c install USB is V1.20 Installer (USB Driver) program, finish after installation can directly use the software.

2. From the start of the application 4In8Out Processor v103 menu found open softv

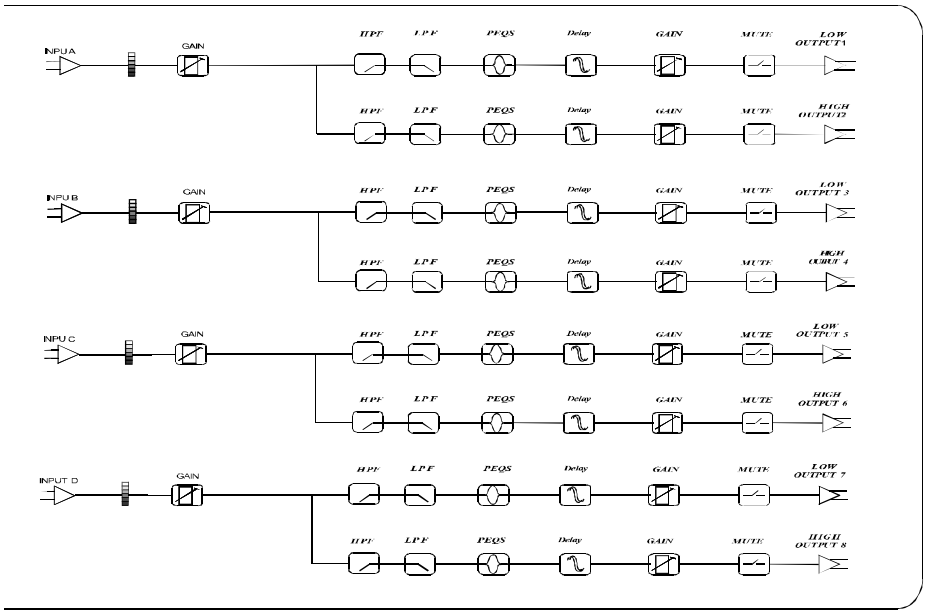
3. Click Config drop-down menu of RS232 port set menu, select the same and the processor device ID number to control the corresponding equipment, up even machine256 sets, COM choice refers to the processor and PC computer through connected to the ports of the Settings, respectively, if a choice to choose the righ port equipment can be normal connection, and if the equipment and PC port sett not correct,cannot connect, must change another port until right before connecti

4. Every time setting a good port pressed after the config drop-down menus ONLin if the connection success will display, rather than; After the success of the availa software to connect all the parameters adjustment processor control

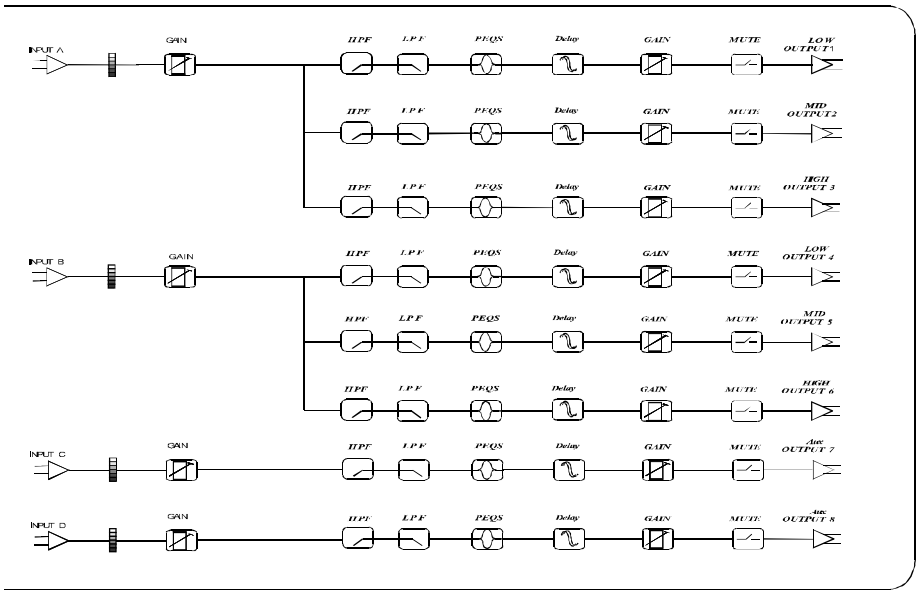


5. Software to apply the following PC computer systems use: Windows 98, ME, 20(XP and 2003.

x 2-way Crossover



3-way, and 2 Aux



OPERATION

1. Xover Menu

Press the <MENU> button, the display will appear as follows:

Press <ENTER> button to enter the Xover submenus.

Press <NEXT> or <BACK> button, you can navigate forward or backward the Xover submenus: Load a xover, Design a xover, Store a xover and Erase a xover. Confirm by pressing <ENTER> button.

Load a Xover: Recall a stored xover mode.

Design a Xover: Design a crossover mode by press <ENTER> button including the mode type, stereoLinks, input channel select for the specific modes..

Store a Xover: You can save up to 20 programs. Press the <ENTER> buttonfor saving the desired programnumber via the <FREQ> encoder. In order to move the cursor (e.g. For entering the next letter or correcting the last letter.), Press the <BACK>/<NEXT buttons. Confirm your entry by pressing the <ENTER>. Store a crossover program only including the settings in this section. The length of name of the user memory can reach 16 characters.

If store without naming, the systemstore it with the corresponding mode name by default.

Erase a Xover: Select the desired program via the encoder or <NEXT> or <BACK> butto and confirmwith the <ENTER> button.

2. Security Menu

Access the Security Menu page as the following display.

Press the <ENTER> button, the display will be appear as follows.

Press the <ENTER> button to select one of the following lock types:

Change only: The parameters can be viewed but not changed. Mute is active.

Changes + View: The parameters cannot be viewed or changed. Mute is active.

Changes + Mute: The parameters can be viewed. Changes and Mute are inactive.

Everything: Everything is locked.

Confirm with one type. Press <ENTER> button to access the password set page.

Enter Security Code
[1234]

› 1.Move the cursor via <BACK> or <NEXT> button. Edit the password by turning
the <FREQ> encoder.
› 2.Press <ENTER> button to access the password confirm page as follows.

Confirm Security Code
[1234]

›p 3. Repeat step 1 operation, then press <ENTER> button.
ly when the twice passwords are completely same, the lock operation is valid.
herwise it would fail.
System Menu
cess the Security Menu page as the following display.

MAIN MENU: ……
System Sub-Menu

ss the <ENTER> button to the System Submenu page. Press <NEXT> or <BACK>
ton, you can navigate forward or backward the system submenus:
ut Option, Wake-up Time.
ut Option: Swith the stereo link between channelsA and B, C and D on or off
ke-up Time: Via this menu, you can adjust how the controller reacts after turning on.
de-in: when turning on, the outputs gradually increase to the preset level.
te Hold: all outputs remain muted.
nterface Menu
e Remote ID number is the address of this device to be identified by PC at the
ginningof data communication. Please refer to the PC software for corresponding
ormation.Access the Interface Menu page as the following display.

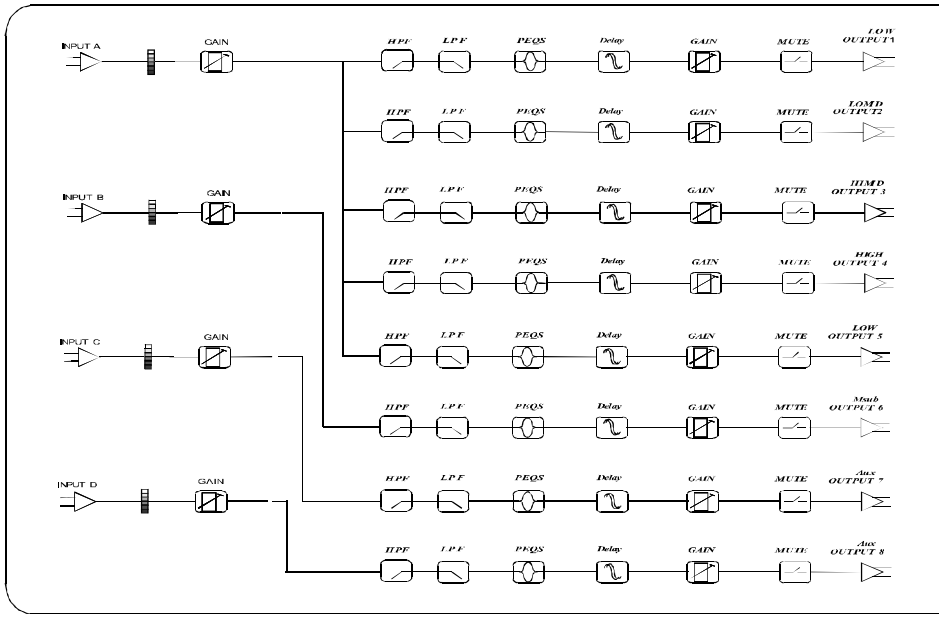
MAIN MENU: ……
Interface Sub-Menu

ss <ENTER> button to access the following page.

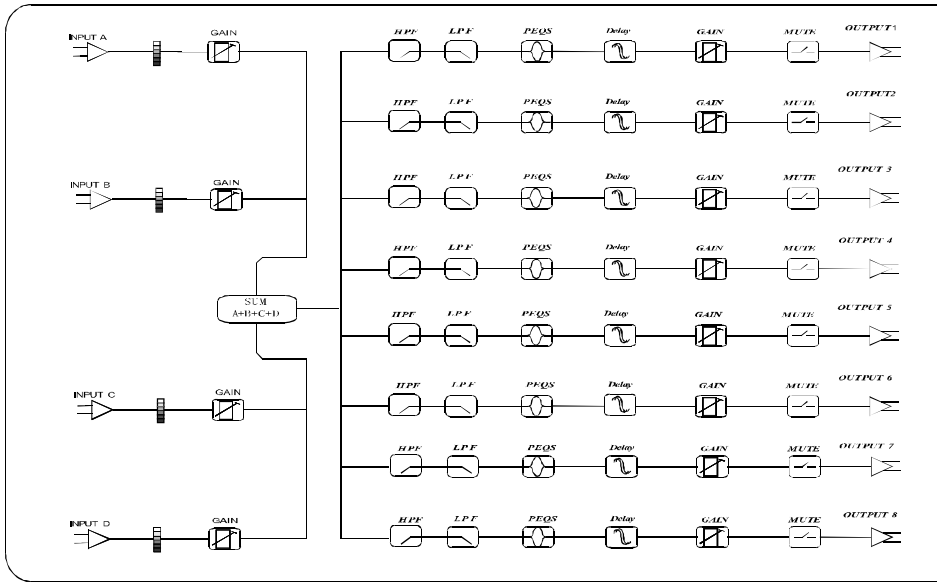
INTERFACE Menu …
Interface Setup

ss <ENTER> button again. You can choose remote ID number from 1 to 64 via
EXT>,<BACK> OR <FREQ> encoder in the following page.

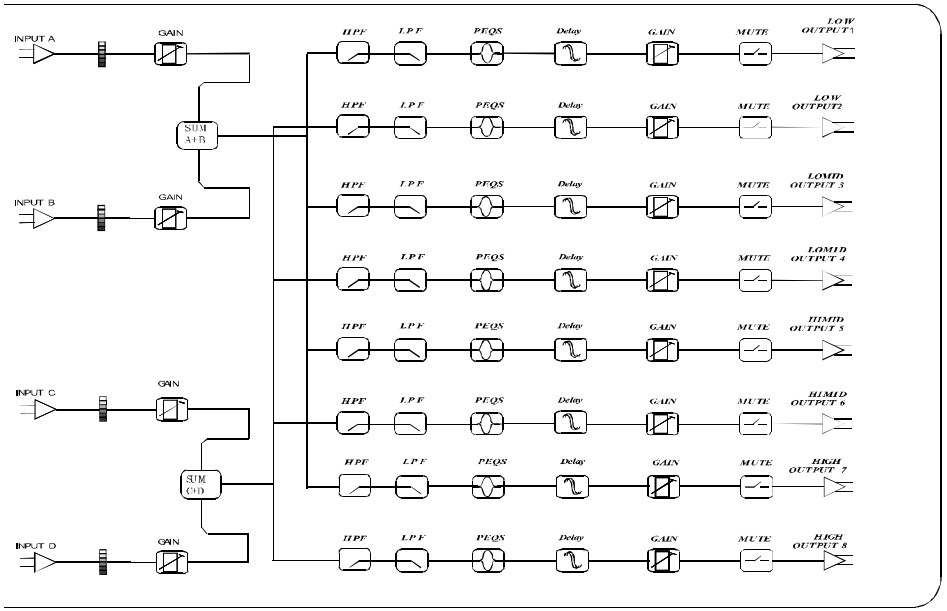
1 x 5-way, and 3 Aux



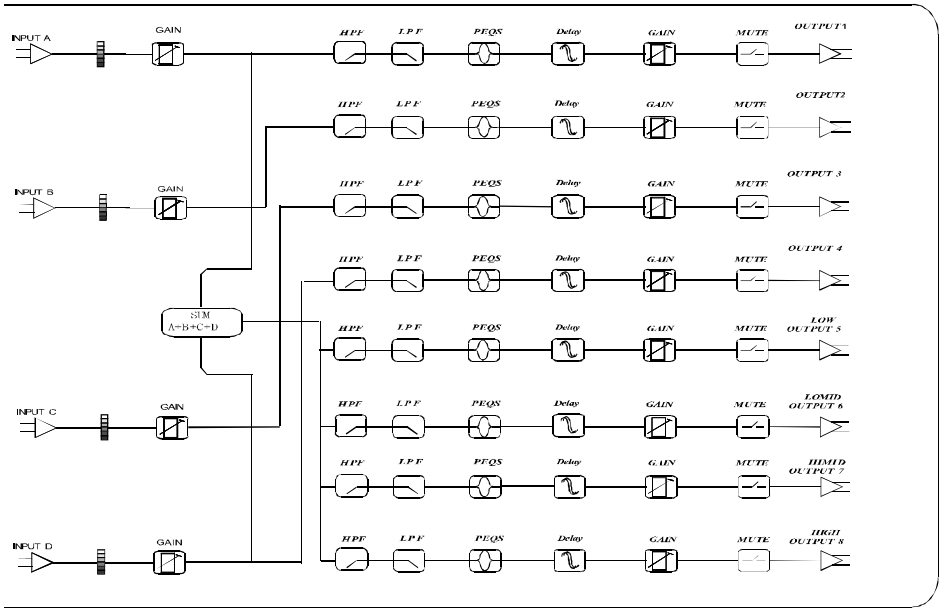
Mono Distribution



·eo Distribution



:S with mono subs




```
Interface Setup.....
Remote ID Num =  1
```

5. Parameters Menu
Press the <GAIN> button to access the Parameters Menu.
A. Input and Output channel selection & Gain
Press <NEXT> or <BACK> button to choose among input A, input B, input C, inpu
or output 1 channel. At the same time, the selected channel page is with Gain fun
as follows.

```
Input A      Gain
Gain=0.0dB
```

You can adjust the input level from -40dB to +6dB in 0.5dB step
via <FREQ> encoder. The display shows if the inputs are linked with each other. I
linked inputs, the gain is adjusted for their linked inputs.
Press the <GAIN> button to access other output channels from2,3 ... 8,1 circularl
at the output 1 page.
The display shows if the inputs are linked with each other. For linked outputs, the
parameters are adjusted for the linked outputs.

```
Op4  low  Gain
Gain=0.0dB
```

B. Output Phase
The polarity of every output can be inverted. If the polarity of a linked output will b
inverted, the polarity of the other channel will also be inverted.

```
Op1  low  Gain
Polarity=[+]
```

C. Delay
The delay is to compensate differences in the distances between different speake
systemor speaker systems at different installation spots.
Turn the <FREQ> to adjust the selected channel delay time from0ms to 7ms in 0.5
ms step. The corresponding distance in meters and feet also are displayed as follc

```
Op1    LOW    Delay
0.0ms   0m    0.0ft
```

eration Introduction

PF & LPF
stands for High Pass Filter, LPF for Low Pass Filter. Each channel has its
pendent HPF and LPF that can be accessed by pressing <NEXT> or <BACK>
on as the following displays.

Op1 High HPF	*Op1 High LPF*
4.00KHz FLAT THRU	*4.00KHz Butwth 24dB*

<FREQ> encoder to adjust the frequency whose range is from10Hz to 16.0kHz
HPF, 35Hz to 22.0kHz for LPF.
<GAIN> encoder to choose the filter type and slope. The available slopes are
d below: Flat Through, Butterworth 6dB, Butterworth 12dB, Butterworth 18dB,
erworth 24dB, Butterworth 48dB, Bessel 12dB, Bessel 18dB, Bessel 24dB,
sel 48dB, Linkwitz-Riley 24dB, Linkwitz-Riley 48dB.

qualizer
re are five parametric equalizers per output that can be selected via <NEXT> or
CK> button. The display is somthing like as follows.

Op2 LOW PEQ:2 ✧
2.00KHz Q=3.0 +0.0dB

<FREQ> encoder to adjust the frequency whose range is from20Hz to 20.0kHz.
<GAIN> encoder to adjust the gain whose range is from -12dB to +12dB in 0.1dB
s. Turn <Q> encoder to adjust the gain whose range is from0.5 to 10, including
elf and Loshelf. Press <ENTER> button to bypass PEQ indicated by “=” symbol
e upper right corner of the display.
/ when gain is +0dB at the Q value page, you can select Hishelf/Loshelf
<Q> encoder. The symbol Only when gain is +0dB
e HISHF/LOSHF page, the <Q> encoder is active, i.e. You can return to the Q
e setup fromHISHF/LOSHF page. The range of Hishelf frequency is 1.0k~20.0kHz,
elf 20.0Hz~1.0kHz.

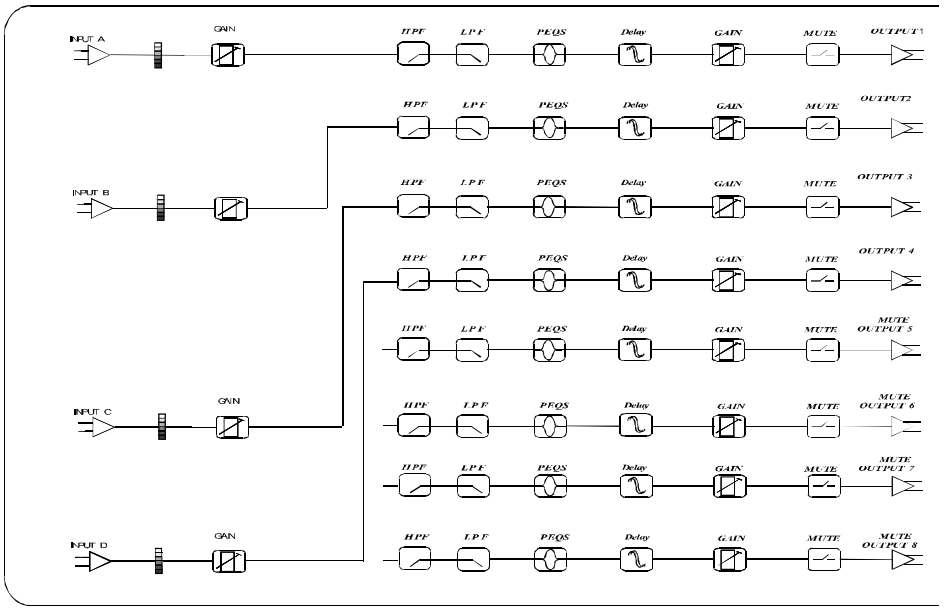
ENTION:Only when gain is +0dB at the Q value page, you can select Hishelf/Loshelf
<Q> encoder. The symbol "{" indicates Hishelf, "}" Loshelf. Only when
is +0dB, at the HISHF/LOSHF page, the <Q> encoder is active, i.e. You can return
e Q value setup fromHISHF/LOSHF page. The range of Hishelf frequency is
~20.0kHz,Loshelf 20.0Hz~1.0kHz.

miter
re is one indepedent limiter for each output channel. The limiter serves as an
tional clipping protection to avoid speaker damage. The signal level is always
ed to the adjusted threshold level. In most cases, it is sufficient to adjust the
shold value to the clipping level of the connected amplifier. Nevertheless make
the amplifier does not distort.
ess the Limiter page via <NEXT> or <BACK> button. Turn the <FREQ> encoder
djust the limiter from -20 to +15dB.

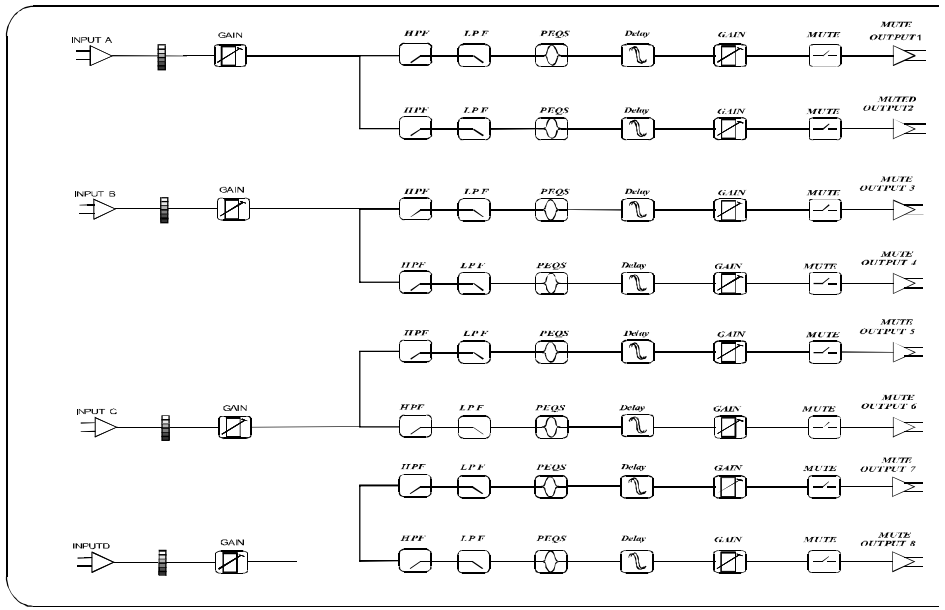
Op3 Mid limiter
Level=0.0dB

Hpf&lpf Frequency M

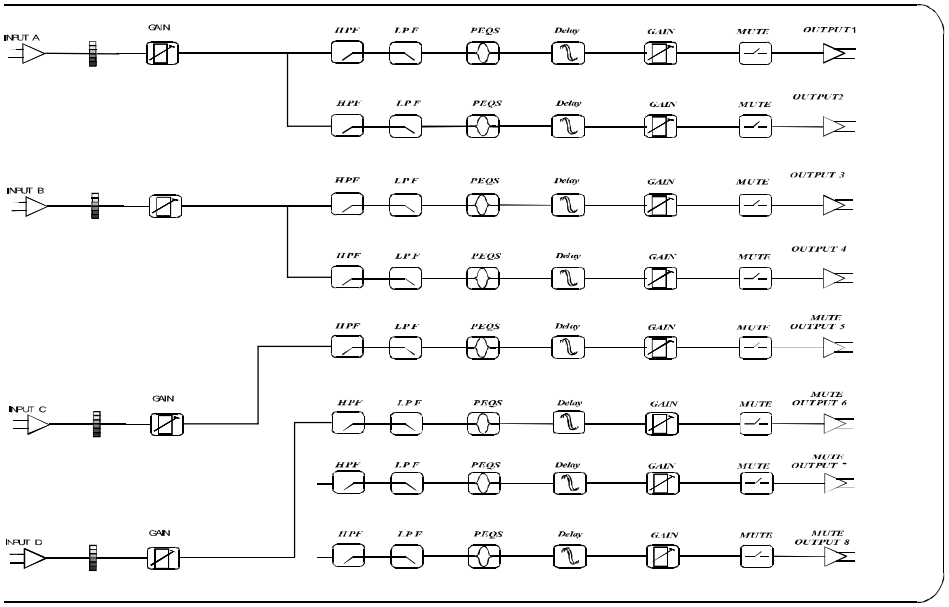
4 x 4 Processor



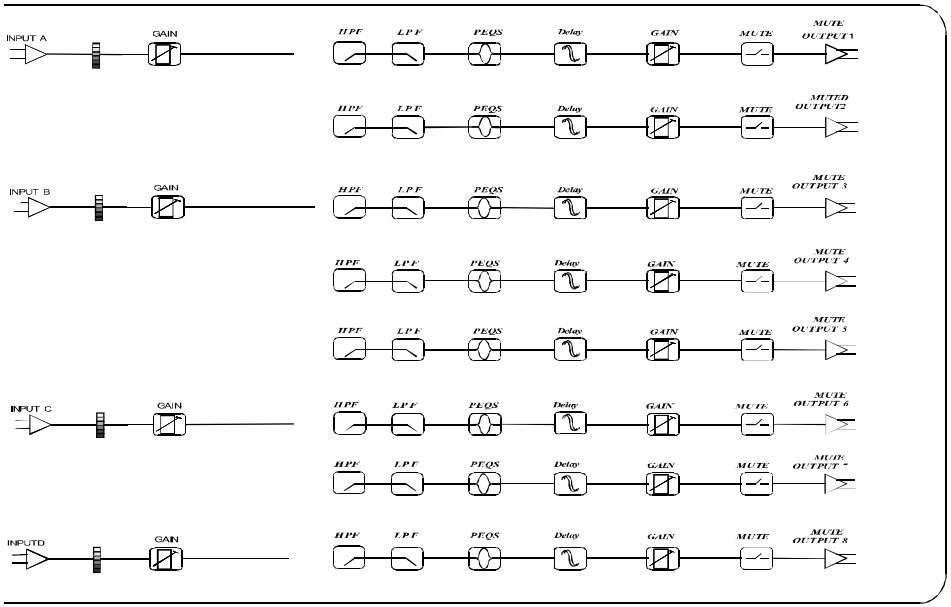
3x6 Processor



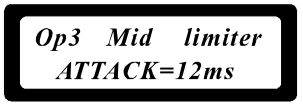
Processor

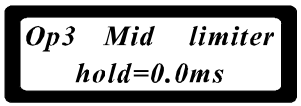


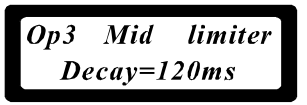
ED FLAT STARTUP



The limiter also include Attack, Hold and Decay time. Enter them via <NEXT> or <BACK> button.







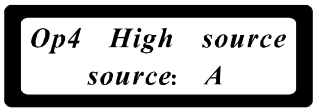
You can adjust the Attack time between 1 and 100ms, Hold time between 0 and 10
Decay time between 10 and 1000ms.

G. Name

You can select the best fitting name from a preset name list via the <FREQ> enco

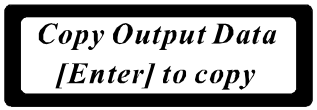
H. Source

You can check the input sources for each output but not change it. Access the sou page for different output channel via <GAIN> button.



I. Copy Output Data

You can copy all the setups of one output channel to the other output channel. Access the Copy Output Data menu.

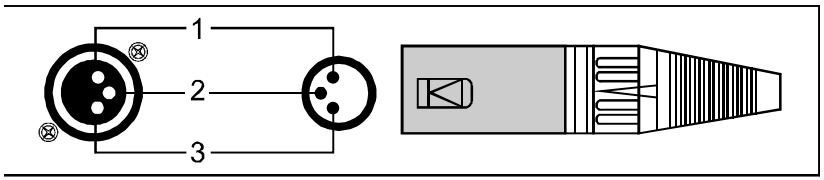


Press <ENTER> button. The display is as follows:

the <FREQ> encoder to select the source channel you want to copy. Then press
ΓER> button. The display is something like this.

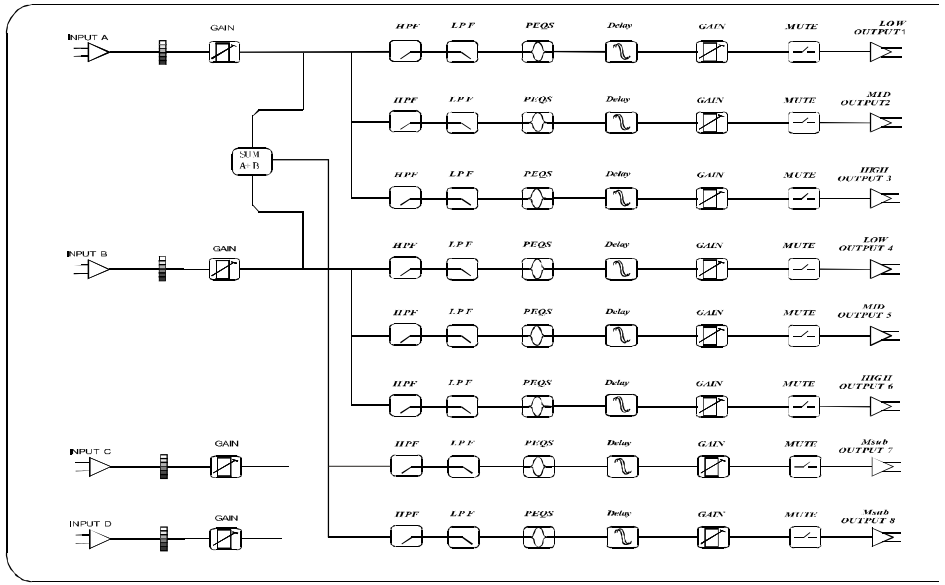
the <FREQ> encoder to select the destination channel of the copy operation.
s <ENTER> button to finish the operation.

NECTORS
processor must be installed using standard 3 –pin type XLR jacks.
ough the inputs are fully balanced, the automatic servo-functions allow them
erate with unbalanced source/loads. Audio outputs also use XLR jacks.



Appendix 1: Flow Chart

2 x 3-way + mono sub



2 x 4-way Crossover