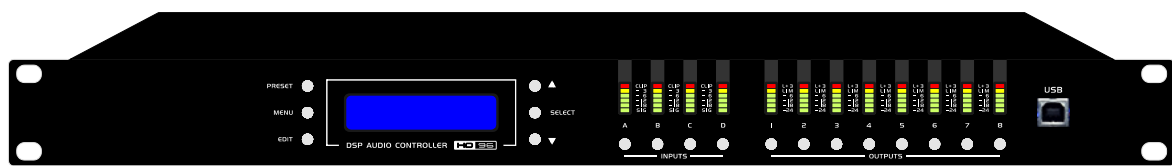# LOUDSPEAKER MANAGEMENT

User Manual

Introduction

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacture's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. 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 the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Use only attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personal. Sevicing 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.
15. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.
16. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

The symbol, wherever is appears, alerts you to the presense of uninsulated dangerous voltage inside the enclosure-voltage that may be sufficient to constitute a risk of shock.

The symbol, wherever is appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.
To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.
To reduce the risk of fire to electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.
These service instructions are for use by qualified service personal only.
To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personal.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN
DO NOT EXPOSE TO RAIN, MOISTURE,
DRIPPING OR SPLASHING

Introduction

The XPLUS Series are powerful DSP based loudspeaker processors, ideally suited for install application, where they combine the functions of a multitude of conventional products in a compact 1U unit with extensive remote control capabilities. To achieve this, the XPLUS Series devices have two inputs, three inputs, and four inputs and up to eight outputs.

Units offer "Routing" for free assign signal, which allows completely flexible routing of any output from any combination of inputs.

Each input has a gain control, polarity, noise gate, 31 band Graphic EQ, multi-type filters. Filter types included parametric equalisation, high & low shelving 6dB/12dB/variableQ, all-pass 90 &180, notch, band-pass, variableQ highpass & lowpass.
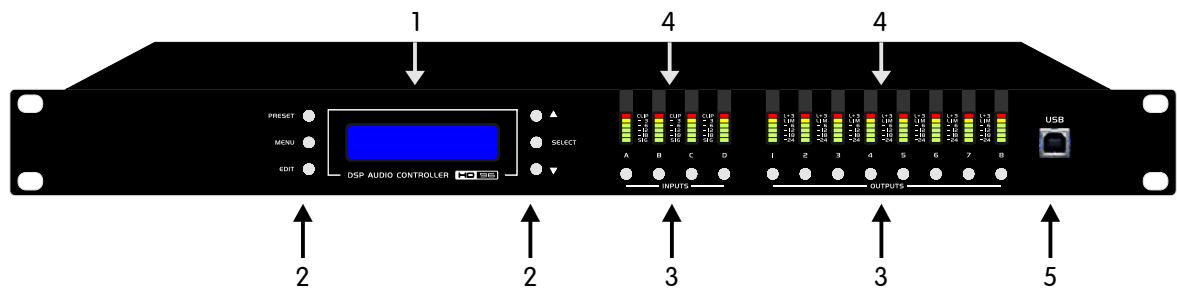
Each output has a gain control, polarity, variable delay line, highpass and lowpass crossover filters, multi-type filters, input signal source, a limiter. The crossover filters offer slopes of up to 48dB/Octave.

Security lock-out is avaiable for each parts.

Supply external device remote controls.

Remote port is USB and RS232.

Front Panel

1. LCD Sreeen: Show menu infomation and parameters.

2. PRESET: Activates the preset menu.
   MENU: Activates the main menu.
   EDIT: edit or switch parameters.
   SELECT: Select or return key.
   ▲▼ : Change parameter value.

3. EDIT (MUTE) : These buttons illuminate when pressed and edit parameters for that
                   channel. When push about two seconds, mute/unmute for that channel.

4. Meters: Input and Output meters show dB from clipping point.

5. USB: Type-B used for remote connection.

Rear Panel
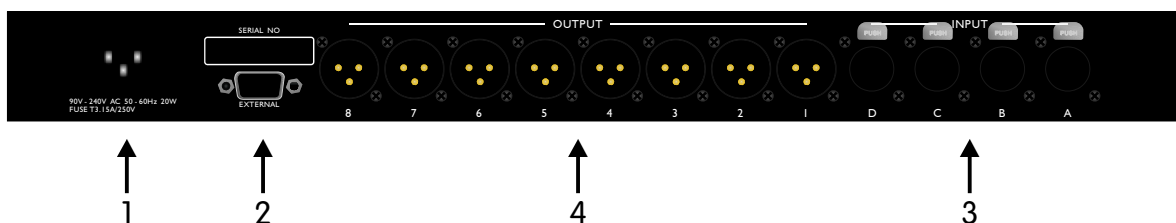
1. Power Socket: mains power supply.

2. RS232: RS232 standard via a 9 pin D-type connector.

3. Audio Inputs: 3 pin XLR sockets are provided for each channel.
                 All are fully balanced, pin 2 hot, 3 cold, 1 screen.

4. Audio Outputs: 3 pin XLR sockets are provided for each channel.
                  All are fully balanced, pin 2 hot, 3 cold, 1 screen.

Diagram of input channels

INPUT A · MUTE · NOISEGATE · GAIN · Graphic EQ · PEQ · COMPRESSOR
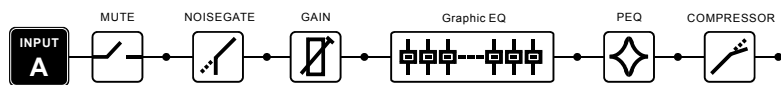
Diagram of output channels

HPF · LPF · PEQ · DELAY · GAIN · LIMITER · MUTE · OUTPUT 1

Main Frame

Brand name ——— Brand Name
Current preset name ——— Program name

device lock icon
panel lock icon
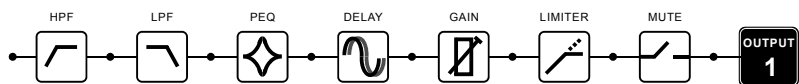
when display ⚷ icon， means keypad will be locked.

push "SELECT" button three seconds， icon will disappear， keypad return active status.

PRESET

Push "PRESET" button and enter load preset menu，push "SELECT" button and enter submenu.

> **PRESET MENU**
> **Load preset**

SELECT   enter submenu

Load preset

> **LOAD PRESET F:01**
> **2x3 preset**

▲
▼   Change preset position
    （F: Factory preset, U: User preset）

SELECT   Confirm and load preset

MAIN MENU

Push "MENU" button and enter main menu，push "SELECT" button and enter submenu.

> **MAIN MENU**
> **Utility**

▲
▼   display submenu content

SELECT   enter submenu

> **MAIN MENU**
> **Interface**

> **MAIN MENU**
> **Security**

> **MAIN MENU**
> **System**

UTILITY

UTILITY MENU
LED Brightness

▲
▼   display submenu content

SELECT   enter submenu

UTILITY MENU
Power Control

LED brightness

LED Brightness
4

▲
▼   adjust parameters

Power control

▶ **PWCtrl: Disable**
Close: Only LCD

EDIT   active/deactive edit cursor

▲
▼   adjust parameters

Save Disable: power control disable.
After N Minutes: When no operation on the frontpanel,
             power control will start after n minutes.
Close: Only LCD, Only LED, LCD & LED.

INTERFACE

▶ **Ctrl Port : USB**
Protocol : PCsw

EDIT   active/deactive edit cursor

▲
▼   adjust parameters

Select communication port: USB, RS232.

Select control protocol.
PCsw: select PC control.
ESRP: external serial remote protocol, enable external
       or third party device base on ESRP to control this
       device through RS232 port.

SECURITY

Unit Lock Type
▶ **EVERYTHING**

Lock status setting:
No Lock: without lock out.
Control: cannot change.
Display: cannot view.

	Xover Only	Xover + Trim	Xover + Trim + Mute	Changes Only	Changes + View	Changes + Mutes	EVERYTHING
Input Gain	No Lock	No Lock	No Lock	Control	Display	Control	Display
Input PEQs	No Lock	No Lock	No Lock	Control	Display	Control	Display
Input Links	No Lock	No Lock	No Lock	Control	Display	Control	Display
Input Phase	No Lock	No Lock	No Lock	Control	Display	Control	Display
Input Noisegate	No Lock	No Lock	No Lock	Control	Display	Control	Display
Output Gain	No Lock	Display	Display	Control	Display	Control	Display
Output Delay	Display	Display	Display	Control	Display	Control	Display
Output PEQs	Display	Display	Display	Control	Display	Control	Display
Output Xover	Display	Display	Display	Control	Display	Control	Display
Output Links	Display	Display	Display	Control	Display	Control	Display
Output Phase	Display	Display	Display	Control	Display	Control	Display
Output Limiter	Display	Display	Display	Control	Display	Control	Display
Input Mutes	No Lock	No Lock	No Lock	No Lock	No Lock	Control	Control
Output Mutes	No Lock	No Lock	Control	No Lock	No Lock	Control	Control
Input Name	Control	Control	Control	Control	Control	Control	Control
Output Name	Control	Control	Control	Control	Control	Control	Control
Signal Routing	Display	Display	Display	Control	Display	Control	Display
Menu System	No Lock	No Lock	No Lock	No Lock	No Lock	No Lock	Control
Memory Store	No Lock	No Lock	No Lock	No Lock	No Lock	No Lock	Control
Memory Load	No Lock	No Lock	No Lock	No Lock	No Lock	No Lock	Control
File Operation	No Lock	No Lock	No Lock	No Lock	No Lock	No Lock	Control

Enter Password
[******]

Enter Password
[******]

Confirm Password
[******]

Locking Unit
[******]

Unlocking Unit
[******]

EDIT   move edit cursor
▲
▼   adjust char
SELECT   enter or confirm password

Pressing SELECT will enter password.
Push ▲▼ button to modify character, push EDIT button to move cursor position.
Pressing SELECT for enter password again.
while twice time password match, system will lock unit.

SYSTEM

```
SYSTEM MENU
Device Name
```

▲
▼   display submenu content

SELECT   enter submenu

```
SYSTEM MENU
System Status
```

Device name length is 16 character.

```
Device Name
        X26
```

SELECT   active/deactive edit cursor

EDIT   move edit name cursor

```
edit Name
        X26
```

▲
▼   adjust name characters

SELECT   confirm and save name characters

System Status will display firmware and hardware version infomation.

```
Firmware Ver 1.01
Hardware Ver 1.00
```

Specifications

ANALOG INPUTS

Number of Inputs:	2/3/4 electronically balanced.
Impedance:	> 10k ohms.
CMRR:	> 55dB @ 1kHz.

ANALOG OUTPUTS

Number of Outputs:	6/8 electronically balanced.
Impedance:	< 60ohms
Min. Load:	600ohm
Max. Level:	+10dBu

ADC/DAC PERFORMANCE

ADC Dynamic Range:	> 110dB, 20Hz ~ 20kHz (A-Weight)
DAC Dynamic Range:	> 107dB, 20Hz ~ 20kHz (A-Weight)

SYSTEM PERFORMANCE

Digital Audio Sample Rate:	96kHz
Frequency Response:	+/- 0.5dB, 20Hz ~ 35kHz
Signal to noise ratio:	> 100dB (A-Weight)
Distortion:	< 0.006% @1kHz, +4dBu
Latency:	0.52mS (2 in 6 Out / 3 In 6 Out / 4 In 8 Out) @96k

PARAMETERS

Input Gain:	-40dB ~ +6dB in 0.1dB steps
Output Gain:	-40dB ~ +15dB in 0.1dB steps.
Delay:	>50mS(Output), depend on different devices.
	Min Step Size: 0.010mS(3mm).
Graphic EQ	31 per Input (Optional).
Multi-Type Filters:	10 per Input, 10 per Output.
	Freq. Range: 20Hz ~ 20kHz, 1/36 Octave steps.
	Filter Q: 0.4 ~ 128, BW: 0.0078 ~ 2.5.
	Filter Type: Parametric Equaliser
	HiShelf-6dB, HiShelf-12dB, HiShelf-Q.
	LoShelf-6dB, LoShelf-12dB, LoShelf-Q.
	Variable Q Highpass, Lowpass.
	Bandpass, Notch, Allpass-90, Allpass-180.
High and Lowpass Filters	Freq. Range: 20Hz ~ 20kHz, 1/36 Octave steps.
	Slope: 6/12/18/24/36/48 dB/Octave.
	Type: Butterworth, Linkwitz-Riley, Bessel.
Limiters	Threshold: -20 ~ +10dB, 1dB steps.
	Attack time: 1 ~ 100mS.
	Release time: 0.1 ~ 2.0 second.

DISPLAY

Character LCD:	16x2

CONNECTORS

Inputs:	3 pin female XLR
Output:	3 pin male XLR
USB:	Type-B
RS232:	9 pin DEE connector
Power:	3 pin IEC

POWER SUPPLY

Power Voltage:	90 ~240VAC @50/60Hz
Power Consumption:	< 15 watts

PHYSICAL

Weight:	2.2kg. Net (3.2kg. Shipping)
Dimensions:	1.75"(44mm)H x 19"(482mm) W x 6.7"(170mm)D