



ΣC4800

DIGITAL SPEAKER CONTROLLER



TABLE OF CONTENTS

1. CAUTION	1
2. INTRODUCTION	
2.1 Main Features	2
3. PACKAGE	2
4. AC POWER REQUIREMENTS	2
5. FRONT PANEL CONTROL FEATURES	3
6. REAR CONNECTING FEATURE.....	3
7. .DISPLAYS AND OPERATION	
7.1 Main Menu	4
7.2 Browse Configuration Program	4
7.3 Call the Configuration Program	4
7.4 Modify ID Number	4
8. BUILT-IN SIGNAL PROCESSING	
8.1 Input Part	5
8.2 Output Part	5
9. SOFTWARE	
9.1 How to Get this Software	6
9.2 Facility and the Connection of Computer.....	6
9.3 Instruction of PC Software	7
9.4 Signal Process Module.....	9
9.5 EQ/Xover Curve	11
10.DEFINITION OF PORT	12
11.SPECIFICATIONS	13

I. CAUTION

Instruction:



The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

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

Do not open the cover:



Do not open the cover to avoid the risk of electric shock caused by high voltage parts in the product. Any problems caused by user's wrong actions are out of warranty.

Do not damage the cord:



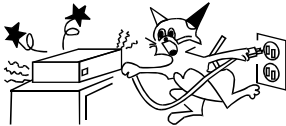
the cord Please hold the plug when pulling out or plug in the cord. Do not pull out or touch the cord with wet hand, or it will cause the risk of electric shock. Power supply cords should be routed so that they are not likely to be walked upon or pinched by items placed on or against them. When removing the cord from a power outlet be sure to remove it by holding the plug attachment and not by pulling on the cord.

Avoid object and liquid entry:



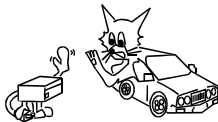
Take care that objects do not fall into and that liquids are not spilled into the inside of the product. If the object or liquid enter the product, please ask qualified personnel to check it.

Abnormal status:



In the event of abnormal noise and smell, please put off the power supply and pull out the cord, please ask qualified personnel to check it.

Nonuse for a long time:



When nonuse it for a long time, please put off the power supply and pull out the cord to avoid the unexpected dangers.

2. INTRODUCTION

Thank you for your purchasing of the device digital speaker processor, this processor builds on the advanced and experienced ideas of design and marketing, the excellent audio performance and competitive quality & price ratio make sure your interests.

2.1 Main Features

The Device utilizes state of the DSP technologies, beginning with 24bits,48kHz delta-sigma A/D and D/A converters with 32bits floating points DSP. Digital processing includes Gain, Polarity Invert, Parametric EQ, Shelving Filters, Delay, Crossover Functions (Butter worth /Bessel/Linkwitz, optional slope12dB~36/oct),Limiting Functional Module, etc. Each input signal can be passed to another channel by router and can be delayed max 4 seconds.

6 way LED signal indicates the status of each input and output dynamic.

LCD displayed information of program and device.

40 groups of configure programs is available for the user.

1 USB communication port is used for connection of PC software and updated the program.

Dual RS485 port can be used for connection with more device at large gymnasium application by user

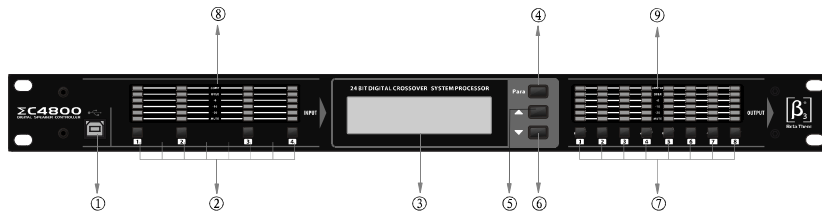
3. PACKAGE

As a part of our system of quality control, every product is carefully inspected before leaving the factory to ensure flawless appearance, after unpacking, please inspect for any physical damage, keep the shipping carton and all packing materials, if have any physical damage, please inform you dealer.

4. AC POWER REQUIREMENTS

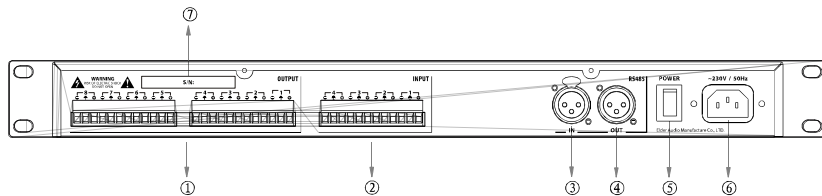
Before connecting your device with your local voltage please make sure your local voltage and AC socket is same or cover this device, if your device doesn't work, normally the reason is fuse broken, please ask help for replacing same fuse by professional person.

5. FRONT PANEL CONTROL FEATURES



1. USB connection port.
2. Input channel mute button
3. LCD display.
4. Para button for parameter selection or confirmation of menu.
5. Up button for parameter selection.
6. Down button for parameter selection.
7. Output channel mute button
8. Input channel signal level indicator and mute status indicator
9. Output channel signal level indicator and mute status indicator

6. REAR CONNECTING FEATURE



1. Output Signal Terminal
2. Input Signal Terminal
3. RS485 Input Terminal
4. RS485 Output Terminal
5. Power Switch
6. Power Input Socket
7. Product Serial Number

7. DISPLAYS AND OPERATION

7.1 Main Menu. Switch on power, The display will show program name you are using as following:



Preset 1
4x8 Digital Process

7.2 Browse Configuration Program. You can browse internal configuration program by up or down button under main menu as following:



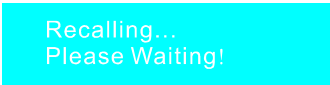
Recall: Preset 1
4x8 Digital Process

7.3 Call the Configuration Program. you can call the configuration program by push "para" button under main menu or browse configuration program.



Recall Preset 1
Are you sure Yes/No ?

Select "YES", "NO" by up or down button, then push "Para" button to carry out. Select "Yes" showed as following and "No" for back to menu.



Recalling...
Please Waiting!

7.4, Modify ID Number: keep pressing "Para" to modify ID number as following:



Modify Device ID
ID: 01

Modify ID number from 1-50 by up or down button, ID number will be saved automatically when you modified.

8. BUILT-IN SIGNAL PROCESSING

This device equipped with 4 channel input signal port and 8 channel output signal port, any input signal can be passed to another output with different ratio.

8.1 Input Part

1. Five parametric equalizer

EQ Type: peaking/bandpass/hi-shelf/lo-shelf/notch.

Frequency: 20~20KHz, based on 1/12oct, totally 121 frequency points.

Level: peaking/hi-shelf/lo-shelf filtering gain, can be adjusted between -12dB~+12dB, 0.5dB/step.

Q: peaking/bandpass/notch filtering quality factor, can be adjusted between 0.31~19.4.

2. Input Gain(Gain)+12dB~ -90dB adjustment 1dB/step

3. Input Channel Delay, Each Channel can be delayed Max 2 seconds

4. Input Mute Switcher(Mute)

8.2 Output Part

1. Signal Route, Any input signal can be passed to any output with different ratio.

2. Output Channel Delay(Delay), Max delay for each output channel is 2 seconds, Max delay for each channel is 4 seconds, (input + output delay), can be adjustment separately.

3. Crossover(HPF/LPF)

Frequency: 20~20KHz, Based on 1/12oct, totally 121 frequency points.

Filter Type:

2/3/4/5/6 step Butterworth

2/3/4/5/6 step Bessel

2/4 step Linkwitz-Riley

4. Seven parametric equalizer(PEQ)

EQ Type: peaking/bandpass/hi-shelf/lo-shelf/notch.

Frequency: 20~20KHz, based on 1/12oct, totally 121 frequency points.

Level: peaking/hi-shelf/lo-shelf filtering gain, can be adjusted between -12dB~+12dB, 0.5dB/step.

Q: peaking/bandpass/notch filtering quality factor, can be adjusted between 0.31~19.4.

5. Output Gain(Gain)+12dB~ -90dB adjustment 1dB/step

6. Limiter

Adjustable range of limiter is -24dBfs~0dBfs and OFF, 0.5dBfs/step, the light will switch on when output level arrived limiting value.

7. Output Mute Switcher(Mute).

9. SOFTWARE

This facility offers a multi-functional software control panel, which controls max 50 equipments.



9.1 How to Get this Software

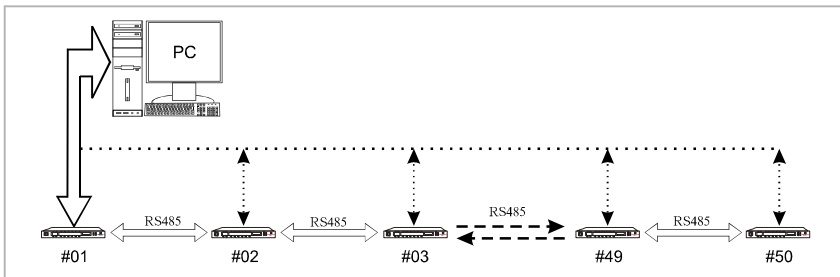
This software is stored in the enclosure DISC, you can install AudioController.exe with double click in your personal computer.

System requirement: windows 98/windows XP/windows 7(32 bit or 64bit).

Please install USB driver included on the DISC before use this software.

9.2 Facility and the Connection of Computer.

Please connect your device with computer based on below instruction. Computer should be connected with device by USB port and RS485 port connected with each device. Then you will have monitor information of each device on software. Attention: please make sure different ID No for each device when you have more than one device connected.



9. SOFTWARE

9.3 Instruction of PC Software

9.3.1 connection and disconnection of facility.

Click "scan device" button or "scan" under file menu to search your device.



If find the device, you will see it on the list as following.



Double click your device you will have the way how to connect .



Download data from PC to Device means apply existed parameter to the device without save. You will have last saved parameter when you power on next time. Upload data from Device to PC means device data upload to software, this is default set. You will have following instruction if connected successful.



Please click disconnect button if you want to disconnect.

9. SOFTWARE

9.3.2 How to save and read data.

Find existed configuration files by click "Open" under file menu

You can click "save as..." under file menu to save data into computer,

How to read and save configuration program.

You will have following menu when you click "program" under menu of program list after connected facility with software.



Select the serial No you want to save, then click "save as"

You can modify parameter of program name and recall or delete of configuration program.

You can also save parameter to facility or modify program name through "modify name" menu under program menu.



9.3.3 sinusoidal signal generator

This facility can generate 20-20KHz sinusoidal signal, the frequency and range can be adjustable



9. SOFTWARE

9.3.4 Facility information indicator

1. Level indicator



2. Facility No and information indicator

Device ID:01 Program No.:01 Program Name:..... has been connected to device..

Indicate data of facility number, program number, program name and connection status.

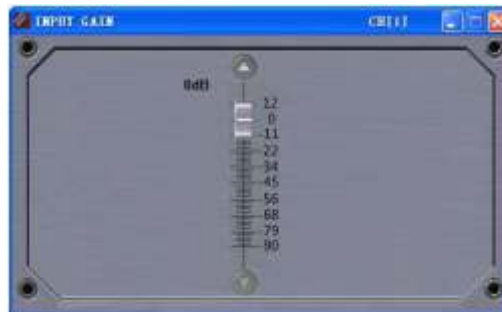
9.4 Signal Process Module

9.4.1 PEQ



Please reference point 8 for how to modify PEQ

9.4.2 Gain



Adjustable range of gain is +12~ -90dB, 1dB/step.

9. SOFTWARE

9.4.3 Input Delay



Adjustable range of input Delay is 0-2 seconds, total range 0-4 seconds

9.4.4 Output Delay



Adjustable range of output Delay is 0-2 seconds.

9.4.5 HPF/LPF



Parameter selection of HPF/LPF

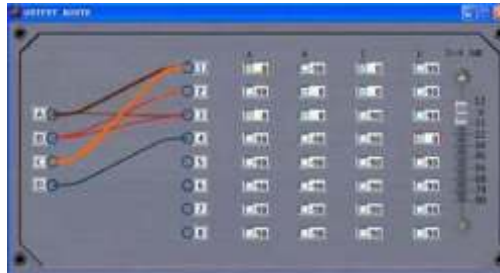
9. SOFTWARE

9.4.6 Limiter



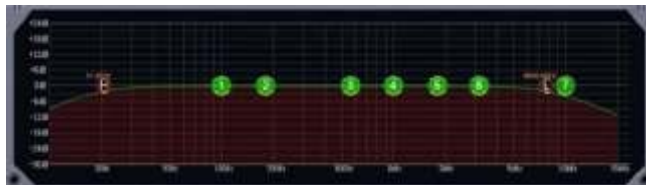
Parameter selection of limiter

9.4.7 Route



A-D means input, 1-8 means output, if a input signal passed to output channel, mark input and output channel with curve. The value from A to H can be adjusted by the volume on right side. Adjustable range is [+12,-90]dB.

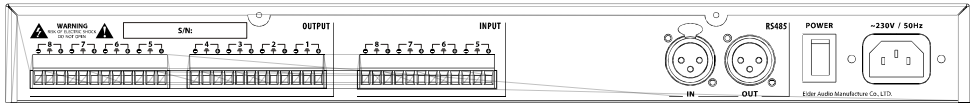
9.5 EQ/Xover Curve



The graph shows synthesis of frequency response curve of output channel, 1-7 means PEQ index. H means HPF, L means LPF. The filter can be adjusted parameter directly by the icon.

IO. DEFINITION OF PORT

Signal input and output terminal:



This equipment is equipped with pluggable terminal and signal definition as shown in above.

Communication port

Remote input control port: RS-485



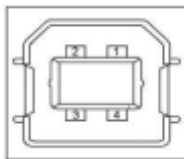
- 1: GND
- 2: A+
- 3: B-

Remote output control port: RS-485



- 1: GND
- 2: A+
- 3: B-

USB Port



PIN	Name	Color
1	VBUS	Red
2	D-	White
3	D+	Green
4	GND	Black

II. SPECIFICATIONS

Analog Input

Port: Phoenix connectors, balance output
Input impedance: $>10k\ \Omega$
Max input level: $\geq 20\ \text{dBu}$ (THD+N=0.1%)
A/D sampling rate: 48KHz

Analog Output

Port: Phoenix connectors, balance output
Output impedance: $<40\ \Omega$
Overload impedance: $>600\ \Omega$
Max output Level: $\geq 20\ \text{dBu}$ (THD+N=0.1%)

Analog Audio Parameter:

Frequency response: 20Hz-20KHz +0.5/-3dB
Dynamic range: 110dB (A)
THD/Noise: $<0.006\%$
Min delay: 1.2ms
Remote control port: RS-485 connector/XLR input and output.

Others

Input Power Voltage: AC 220V-240V~, 50/60Hz
Power Consumption: 24W (max.)
Dimension (LXWXH): 482X228X44.8mm
N.W: 5.7kg
G.W: 6.5kg
Use environment temperature: $0 \sim +40^{\circ}\text{C}$
Storage environment temperature; $-10 \sim +60^{\circ}\text{C}$

Accessory

USB cable: 1pcs
Power cable: 1pcs
Spare fuse: 500mA@110V AC prolonged version / 250mA@220V AC prolonged version
User Manual: 1pcs

Reserve the right to change the parameters without prior notice

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