SWITCHING POWER PROFESSIONAL AMPLIFIER

User's Manual

DA-480Z/DA-481Z

INDEX

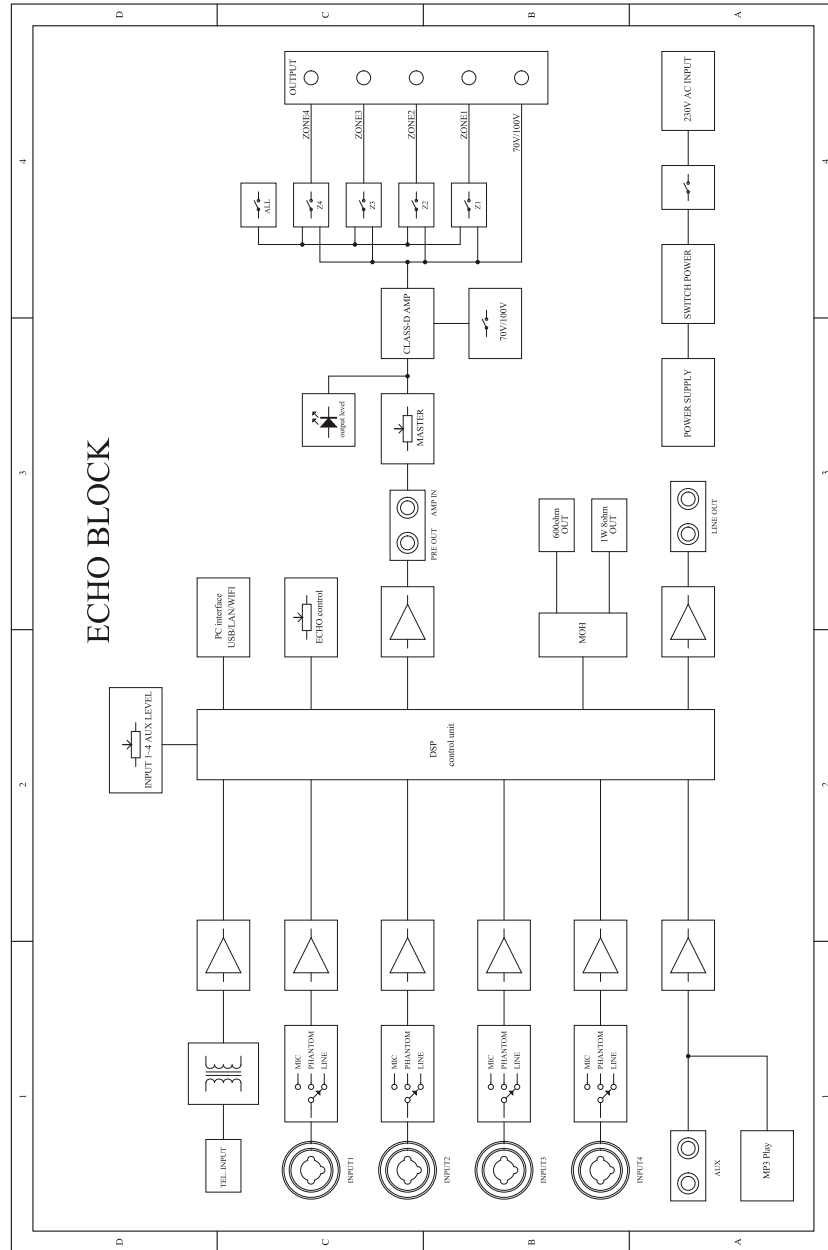# TECHNICAL SPECIFICATIONS

MODEL	DA-480Z/DA-481Z
Power supply :	AC 115V / 230V 50Hz / 60Hz
Power output (1kHz / 70V OR 100V):	RMS 480W
INPUT / OUTPUT	6 INPUT / 1 OUTPUT
Frequency response:	MIC : 120Hz - 16kHz ($\pm$3dB) AUX : 120Hz - 16kHz ($\pm$ 3dB)
Inputs (balance / 1kHz) :	MIC (balanced) : -50dBv $\pm$ 2 dBv LINE (balanced) : -10dBv $\pm$2 dBv AUX (unbalanced) : -10dBv $\pm$ 2 dBv
THD+N (1K FULL POWER DOWN 3dB) :	<0. 1%
S / N Ratio:	MIC : > 60 dB AUX : > 70 dB
CMRR (balance / 1kHz) :	>60dB
Crosstalk (1kHz) :	>60dB
Outputs :	70V / 100V switchable
LINE OUT:	1V $\pm$0.2V
MOH.	1W @ 8Ω / 1V @ 600Ω
TEL. INPUT	-10dBv $\pm$2dBv
Dimension (W x D x H) :	434x353x88mm
Weight (Approx.) :	6.5kg

IMPORTANT!

Please read this manual carefully before operating this unit for the first time.

BLOCK DIAGRAM

ECHO BLOCK

OUTPUT

ZONE4 ZONE3 ZONE2 ZONE1 70V/100V

ALL Z4 Z3 Z2 Z1

CLASS-D AMP

70V/100V

output level

MASTER

PRE OUT AMP IN

600ohm OUT

1W 8ohm OUT

LINE OUT

PC interface USB/LAN/WIFI

ECHO control

MOH

INPUT 1~4 AUX LEVEL

DSP control unit

TEL. INPUT

MIC PHANTOM LINE

INPUT1

MIC PHANTOM LINE

INPUT2

MIC PHANTOM LINE

INPUT3

MIC PHANTOM LINE

INPUT4

AUX

MP3 Play

230V AC INPUT

SWITCH POWER

POWER SUPPLY

SAFETY RELATED SYMBOLS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

The symbol is used to indicate that some hazardous live terminals are involved within this apparatus, even under the normal operating conditions.

The symbol is used in the service documentation to indicate that specific component shall be only replaced by the component specified in that Documentation for safety reasons.

⏚ Protective grounding terminal.

∼ Alternating current /voltage.

⚡ Hazardous live terminal .

ON: Denotes the apparatus turns on.

OFF: Denotes the apparatus turns off, because of using the single pole switch, be sure to unplug the AC power to prevent any electric shock before you proceed your service.

WARNING: Describes precautions that should be observed to prevent the danger of injury or death to the user.

Disposing of this product should not be placed in municipal waste and should be separate collection.

CAUTION: Describes precautions that should be observed to prevent danger of the apparatus.

WARNING

• **Power Supply**

Ensure the source voltage matches the voltage of the power supply before turning ON the apparatus.

Unplug this apparatus during lightning storms or when unused for long periods of time.

• **External Connection**

The external wiring connected to the output hazardous live terminals requires installation by an instructed person, or the use of ready-made leads or cords.

• **Do not Remove any Cover**

There are maybe some areas with high voltages inside, to reduce the risk of electric shock, do not remove any cover if the power supply is connected.

The cover should be removed by the qualified personnel only.

No user serviceable parts inside.

• **Fuse**

To prevent a fire, make sure to use fuses with specified standard (current, voltage, type). Do not use a different fuse or short circuit the fuse holder.

Before replacing the fuse, turn OFF the apparatus and disconnected the power source.

• **Protective Grounding**

Make sure to connect the protective grounding to prevent any electric shock before turning ON the apparatus.

Never cut off the internal or external protective grounding wire or disconnect the wiring of protective grounding terminal.

• **Operating Conditions**

This apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on this apparatus.

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

Do not use this apparatus near water. Install in accordance with the manufacture-r's instructions. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not block any ventilation openings.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

IMPORTANT SAFETY INSTRUCTIONS

- Read these instructions.
- Follow all instructions.
- Keep these instructions.
- Heed all warnings.
- Only use attachments/accessories specified by the manufacturer.

• **Power Cord and Plug**

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.

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

• **Cleaning**

When the apparatus needs a cleaning, you can blow off dust from the apparatus with a blower or clean with rag etc.

Don't use solvents such as benzol, alcohol, or other fluids with very strong volatility and flammability for cleaning the apparatus body. Clean only with dry cloth.

• **Servicing**

Refer all servicing to qualified personnel. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so .

Servicing 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.

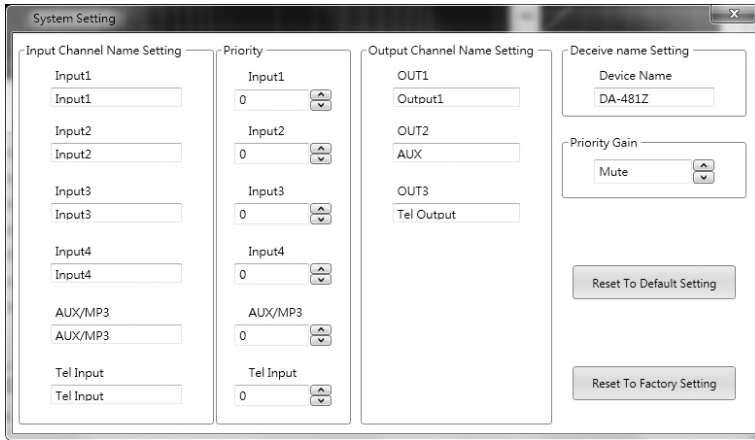The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.
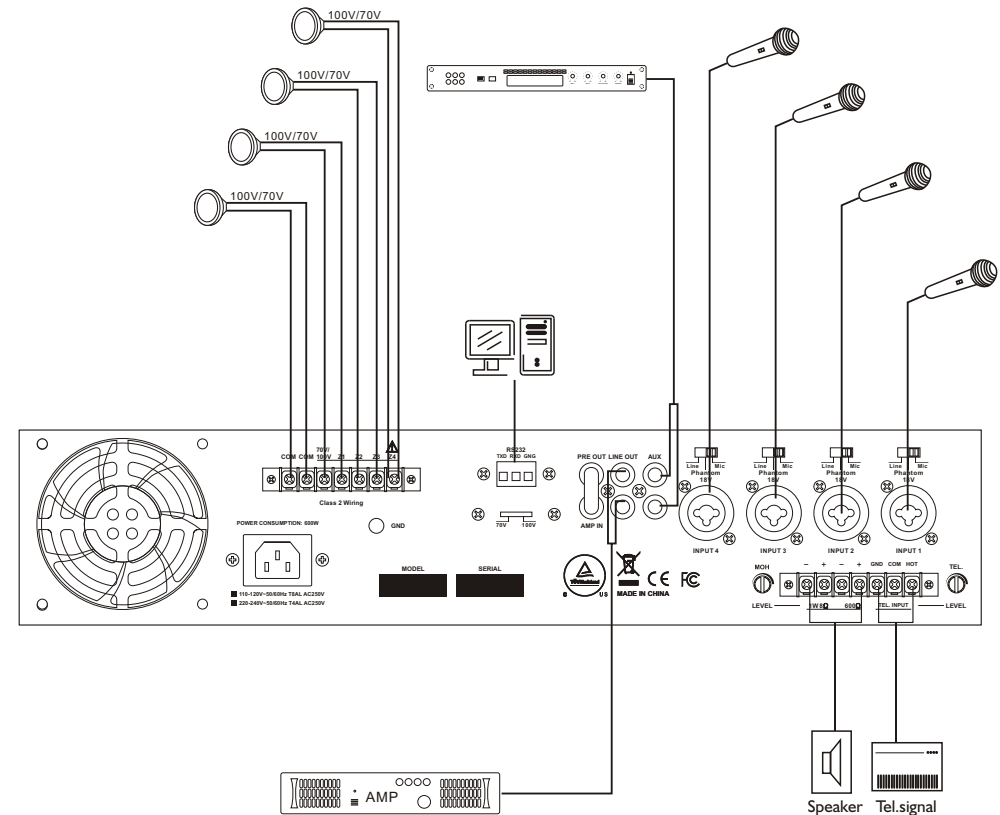
4.System parameter setting

The name of the input and output can be changed, press the Enter key to confirm the change, that means the modification is successfull.
All the changed names will be updated to the main page and all sub-pages.
Click "Reset To Default Setting" to restore all parameters to default settings,
Excludes all changeable names and presets which are saved to the machine.
Click " Reset To Factory Setting" to restore all parameters to default settings,
And restore all changeable names and presets to factory settings.

System Setting

Input Channel Name Setting	Priority	Output Channel Name Setting	Deceive name Setting
Input1 — Input1	Input1 — 0	OUT1 — Output1	Device Name — DA-481Z
Input2 — Input2	Input2 — 0	OUT2 — AUX	Priority Gain — Mute
Input3 — Input3	Input3 — 0	OUT3 — Tel Output	
Input4 — Input4	Input4 — 0		Reset To Default Setting
AUX/MP3 — AUX/MP3	AUX/MP3 — 0		
Tel Input — Tel Input	Tel Input — 0		Reset To Factory Setting

Switching power professional Amplifier is designed for professional use on stage.
The high-quality components and the carefully designed circuits ensure excellent audio performance and an extremely linear frequency response. In fact, the switching technology offers, together with an increased efficiency and a better control of heat dissipation than conventional power supply systems, a drastic reduction of dimensions and weight, for easier transportation and installation.
This Amplifier guarantees total reliability and a trouble-free use even in the most demanding conditions.
We believe the this product will provide a perfect performance, what you get is unprecedented performance at an incredibly attractive price.

Features:
  *High current switching power allowing high power output with low noise and low distortion
  *Substantial protection circuitry like thermal, short circuit, output DC offset, power on/off muting
     and Therefore protection
  *Built-in limiter
  *Balanced XLR-TRS combo input jack
  *Speakon output connectors
  *front mounted gain controls for easy access
  *Signal, Clip protect, Parallel mode, and Power LED indicators to monitor performance.

under the EM disturbance, the ratio of signal-noise may be changed above 3dB.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Statement:
"This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver
    is connected.
—Consult the dealer or an experienced radio/TV technician for help."

CONTROL ELEMENTS

FRONT PANEL
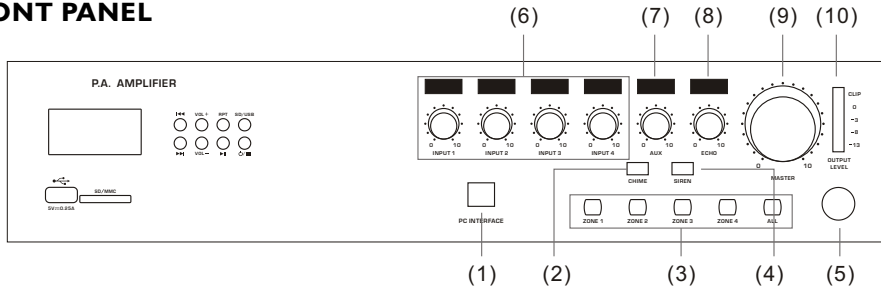
(1)PC INTERFACT

Connect computer to update the programming of product

(2)CHIME switch

The CHIME will appear after pressing the switch and the CHIME can be adjusted by the control knob of MASTER

(3)ZONE PAGING SELECTOR

There are four zone paging controls and one mains zone paging control. Press ZONE1-4 keys the output teminal in front panel have respectively output .When the "all"key is switch on,the foue zone paging controls work simultaneously

(4)SIREN switch

The siren will appear after pressing the switch and the SIREN can be adjusted by the control knob of MASTER

(5)POWER SWITCH

The main power can be switch on or off with it

(6)INPUT 1~4 VOL KNOBS

The knobs are use to dajust the gain of input 1~4 respectively.Adjust clockwise to increase the volume while adjust counter-clockwise to decrease the volume

(7)MP3/AUX VOL knob

The knobs are use to dajust the gain of AUX .Adjust clockwise to increase the volume while adjust counter-clockwise to decrease the volume

(8)ECHO FUNCTION

It is used to control ECHO

(9)MASTER

This knob is used to adjust the overall gain of the unit

(10)Output level indicator LED

3.Save and read preset parameters

When tick the "Device" below,
Press "Save" to save the parameters to the preset list,
Press "Delete" to delete the preset saved in the preset list,
Press "ecall" o export the preset parameters from the preset list,
When tick the " Local PC " below,
Press "Save" to export parameters to the local,
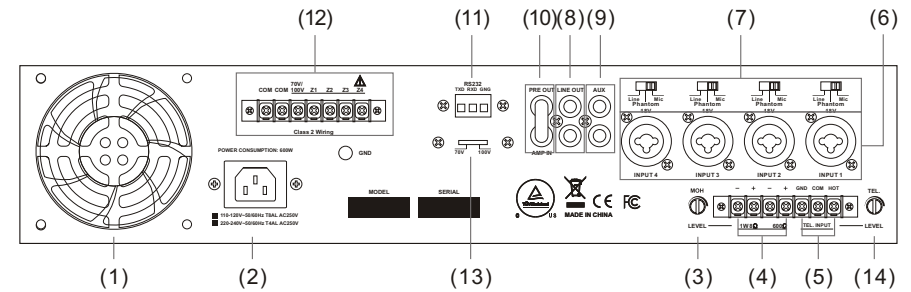Press "Load" to import the default parameters from the local,
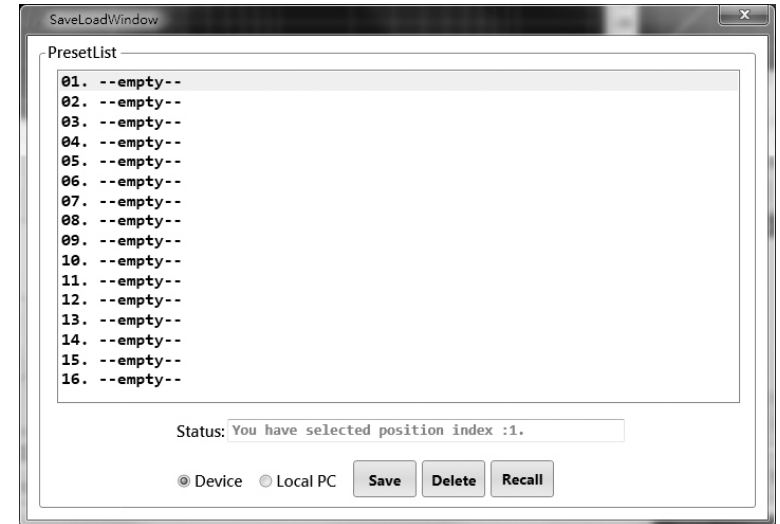
(1)You can adjust the input and output volume of echo effect on this page. You also can see the effect level under Effect Preset at this time, the higher the level the more obvious the effect. The effect level is adjusted by the Echo knob on the front panel of the machine.
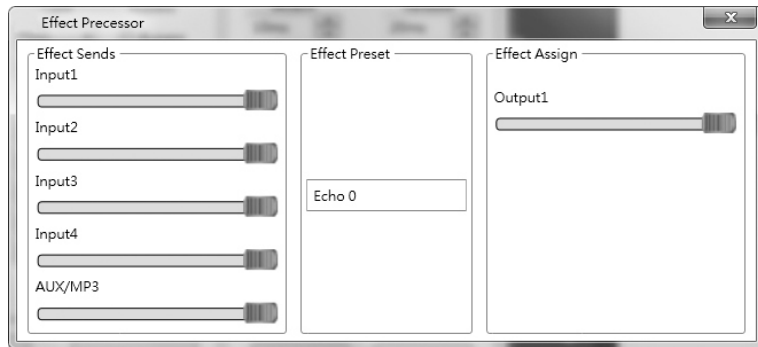
REAR PANEL

(1)FAN
It is the contant rotation

(2)AC JACK
This connector is meant for connection of supplied main cord . Do not insert the power cord into this   unit until voltage has been correctly set

(3)MUSIC ON HOLD VOL
It is used to monitor volume of black ground music

(4)MUSIC ON HOLD OUTPUT
It is connected to monitor the signal of aux input

(5)TELEPHONE PAGING
It is connected with telephone

(6)INPUT 1~4
They are used for both balanced and unbalanced inputs.

(7)MIC/PHANTOM/LINE SELECT SWITCH
It is turned to left for MIC,middle for PHANTOM,and right for LINE

(8)LINE OUT
It is connected to recorder and pass on mixed signal

(9)AUX IN
It is used for AUX input

(10)PRE OUT/AMP IN
Jacks AMP IN and PRE OUT insert and audio unit for singal processing

(11)RS232
Connect computer to update the parameters of product

(12)OUTPUT TERMINALS AND ZONE OUTPUT TERMINALS
Connections for constant voltage 70v or 100v speakers. There are 4 zone output terminals which controlled by key
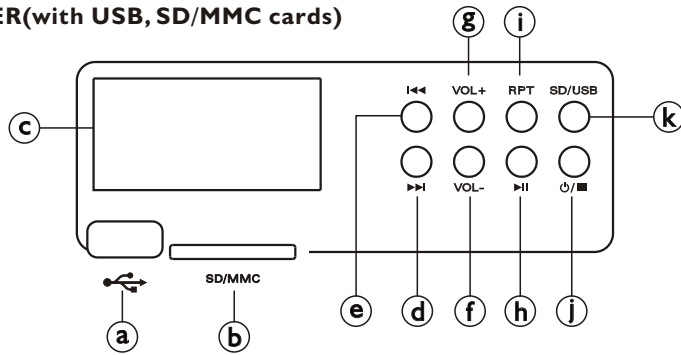
(13)70V/100V SELECT SWITCH

It is turned to right for 70v OUTPUT TERMINALS output 70v,turned to left for 100v OUTPUT TERMINALS output 100v

(14)TELEPHONE LEVEL

It controls the level of telephone level

MP3 PLAYER

MP3 PLAYER(with USB, SD/MMC cards)

ⓐ	USB CONNECTOR	Insert USB player
ⓑ	SD/MMC CARD CONNECTOR	Insert SD/MMC Card
ⓒ	DISPLAY	Display the status of USB playing
ⓓ	►►⊦	Play the next title
ⓔ	⊦◄◄	Play the last title
ⓕ	VOL-	Press this key to decrease the sound level.
ⓖ	VOL+	Press this key to increase the sound level.
ⓗ	►⊪	Press this key to start to play
ⓘ	RPT	Press this key to repeat the title
ⓙ	⏻/■	Press this key to switch the power or stop the title
ⓚ	SD/USB	Press this key to select the SD Card or USB Player

2.Subpage
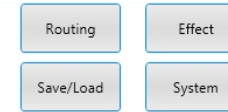
1.Routing setting

(1)Adjust the input volume here.
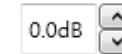
(2)Input and output selection, click the first small box to the right of the input module, the default connection is the output1, and so on. You can also click the input module to pull a line to the output which you want to route.
Each I/O module can be moved.

2.Echo effect setting
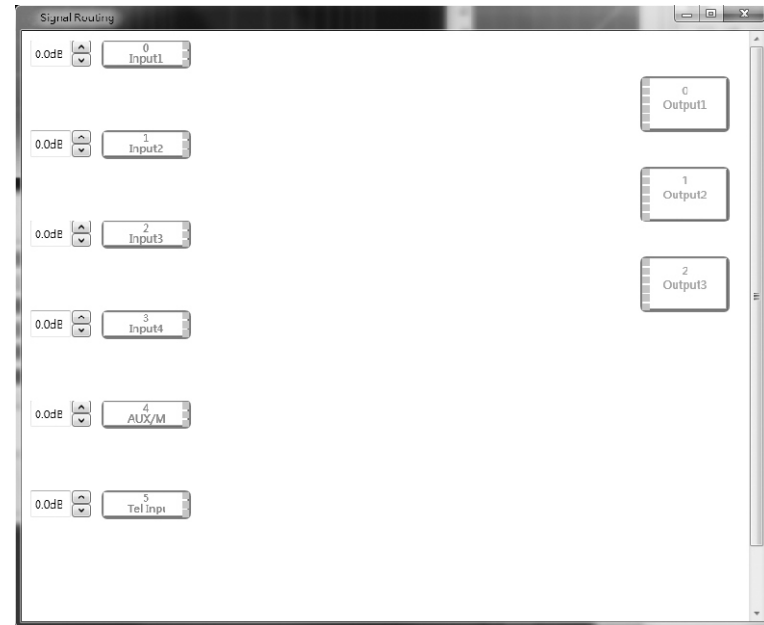
(12) Compressor

Set compressor parameters for each output on this page. The compressor compresses and outputs signals above the "Threshold" at the specified rate.

-THRES

Set the compression "threshold" for the selected channel. When the signal amplitude exceeds the "threshold", the compressor will work, compress signal level which is larger than this value; when the signal is less than this limit value, it will not start the compression processing module, and the input signal will output directly.
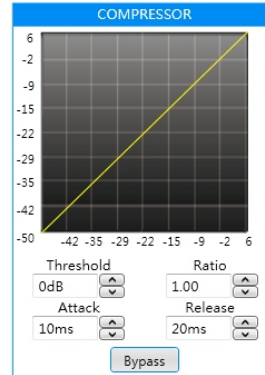
-RATIO

Set the slope of the compression, which is the ratio of the output level to the input level. For example, if the ratio is set to 4：1, any signal above the "Threshold" will be compressed at 4：1. This means：that for signals above the "Threshold", the compression output increases by only 1 dB for every additional 4 dB.

-ATTACK

Set the compression starting speed of the selected channel. Start to set the speed at which the compression will work on the signal.

-RELEASE

Set the compression release time for the selected channel, how long it takes to set the signal below the "Threshold" to its normal gain.
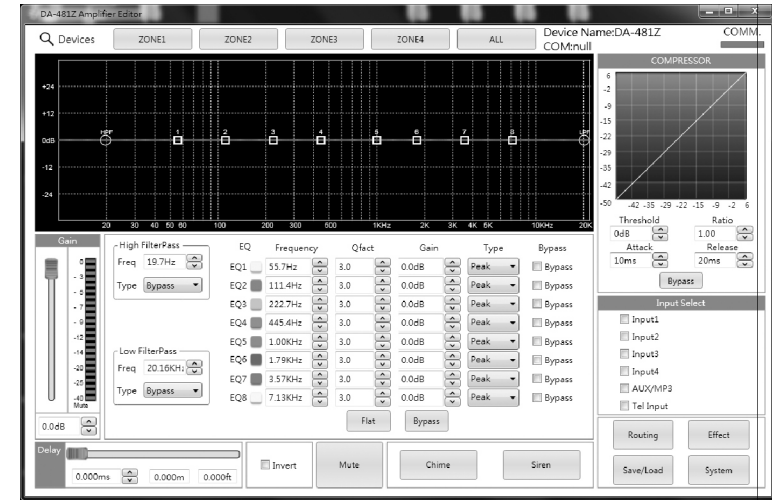
(13) Routing
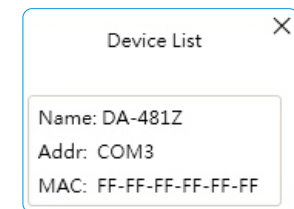
Can be ticked, and route 6 input to output.
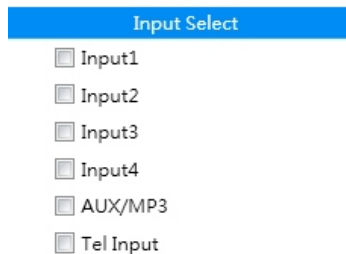
INTERFACE
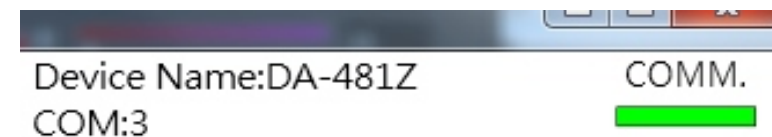
1.DA-480Z/DA-481Z interface

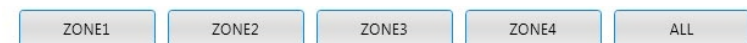(1) Click here to research the devices 🔍 Devices

(2) Click the device to connect

(3) The indicator will turn to green when the connection is successful. And display the device name and the connected port.

(4) Select output to Zone1 ～ Zone4 or output to all Zone
zones 1 to 4 correspond to the four output ports on the rear of the machin

(5)EQ and H/LFP parameter adjust

Set the output EQ parameters on this page. EQ is the compensation and correction of the frequency characteristics, so that it can reach a more flat frequency response.

-FREQ
Center frequency is the midpoint of the frequency that can pass, between the lower and higher shutdown frequency (used to define the frequency range).

-Q value
The Q value is the ratio of the center frequency and the bandwidth. If the center frequency is constant, the bandwidth is inversely proportional to Q, that is the Q value increased and the bandwidth narrowed.
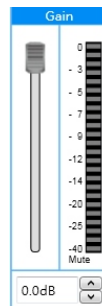
-GAIN
Set the center frequency gain attenuation or enhancement, when this value is 0, the center frequency and Q value are invalid.
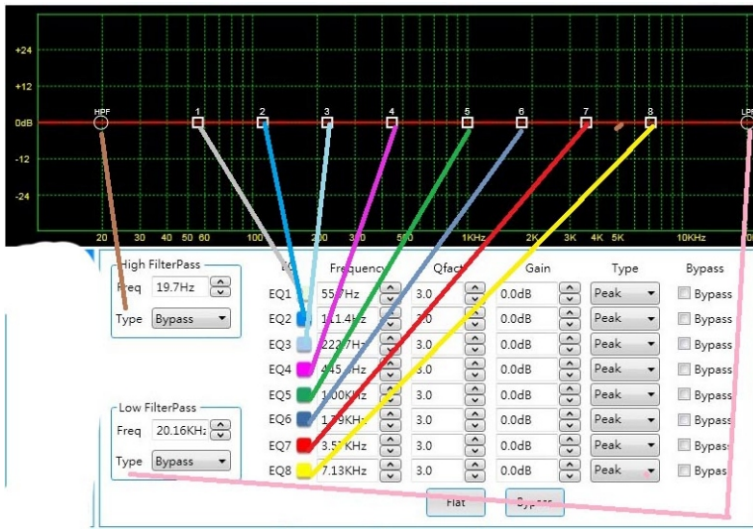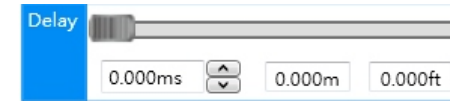

(6)Volume adjust
It is used to adjust the volume.

(7)Delay
Delay adjust, it is used to set the output delay time.
Note: Only the first parameter' s value can be changed when setting(that is delay time), the other two parameters are the delay distance, expressed as (meters) and (feet), respectively, vary over time, the formula is: distance = sound speed * time.
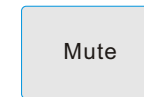

(8)Invert
Invert adjust (Phase reverse)
This button is used to set the phase reverse of the output signal.It can be used to correct the inverted audio signal and cancel or enhance each other.

(9)Mute button
This button is used to mute the output.

(10)Chime: Press it and will send out four rhythmic Chimes.
Other functions are temporarily uncontrollable at this moment, the chime volume take the volume of the Maste knob when turn on as standard on the front panel.

(11) Siren
Press and will give an siren during which other functions are temporarily out of control, siren volume can be adjusted by the Master knob on the front panel.