USER'S MANUAL

16x8 Digital Audio Matrix Processor



Thank you for purchasing our products.
Please read the owner's manual thoroughly prior to using the system.
Please keep the manual for future reference.

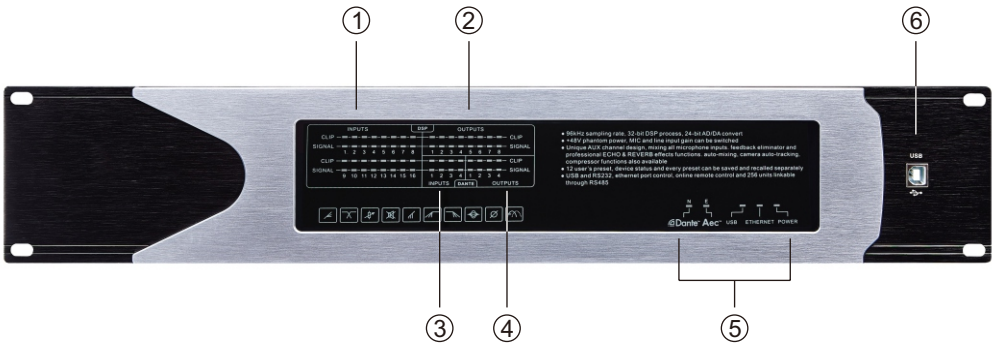
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FUNCTIONS

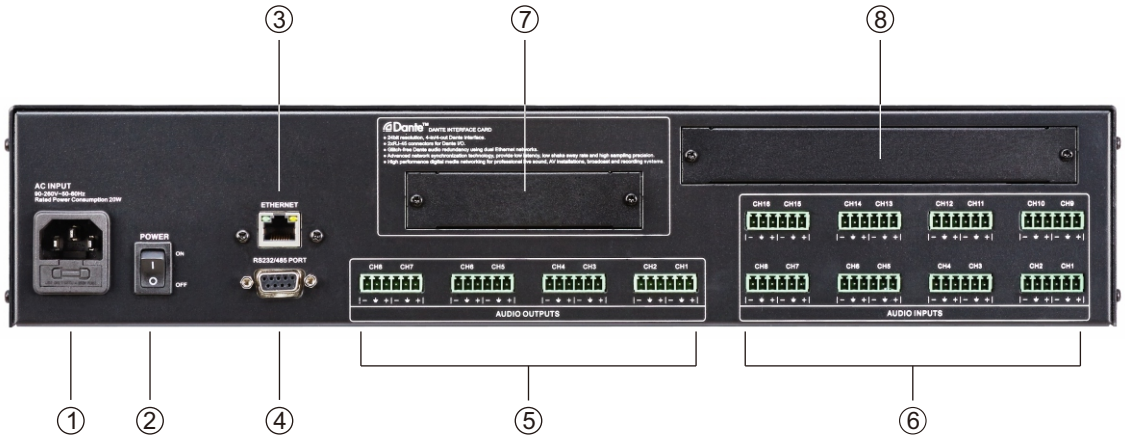
- 32 bit SHARC DSP, 96kHz sampling rate, 24 bit AD/DA convert.
- 22x12 channels whole sound mixing matrix design, including 16 local analog input channels, 8 local analog output channels, 4 Dante network input channels and 4 Dante network output channels, 1 AUX internal sound mixing channel, 1 double effector internal marshaling channel.
- Fully supports scalable DANTE digital network audio card and AEC automatic echo noise cancellation card, the users can freely configure and choose according to their requirements.
- Dante digital network audio card configuration is a double standard network interface, which fully supports the function of unite switching and hot backup, hardware system can distinguish automatically, can use immediately when it inserts. Software internal and local analog signal can realize fully sound mixing matrix processing. Each channel has independent DSP processing function.
- AEC automatic echo cancellation card has powerful automatic echo cancellation function, automatic feedback cancellation and system environmental noise filtering. Effectively reducing the pickup of the speakers and the terrible echo which caused by the reflection of wall. It can also eliminates environmental noise that generated by the feedback of pickup, moreover the noise of air conditioner and fan. Making sure any environment have a noise-free, high definition audio and video system for many conference applications.
- AUX channel has powerful mixing function, such as threshold, level, attack time, release time, continually, adjustment, also with the automatic function of camera-tracking, threshold, level, attack& release time. And has independent PEQ processing function.
- Unique design for EFX channel, has professional ECHO&REVERB double engine multiple stereo effectors inside. Can realize the meeting according to different voices to beautify and modify personalized , and also perfectly support various performance and karaoke effector requirement, very suitable for conference rooms, multifunctional halls, hotels, private clubs and other complex, with multiple function demand for the occasion.
- Each analog input channels with +48V phantom power, MIC/LINK input gain switchable, MIC input sensitivity adjustable.
- Input including low cut, independent feedback inhibition, PEQ, noise gate, gain, mute, phase, linkage adjustment and volume adjustment.
- Output including X-over, PEQ, Gain, mute, compressor/limiter, phase, delay, linkage adjustment and volume adjustment.
- Front panel has level indicator for input/output, USB port, standard Ethernet remote control RJ45 port and RS232&485 at rear panel. IP and ID address can set, network and unite management can realize maximal 255 units link control, but also has remote visit password protected function, make the system more stable and safe.
- Design has thorough control code, fully support the third-party centre control and management, including all volume control, preset scene recall, parameter inquire and return code, current level return display, every input and output channels control. Etc.
- 12 user presets can be save and recall, system work in power-off memory status, ensure the date would not lose.

FRONT PANEL



1. ANALOG INPUT CHANNEL LEVEL INDICATORS
   2 segment high precision level indicate lights show the current input channel level status.
2. ANALOG OUTPUT CHANNEL LEVEL INDICATORS
   2 segment high precision level indicate lights show the current output channel level status.
3. Dante INPUT CHANNEL LEVEL INDICATORS
   2 segment high precision level indicate lights show the current input channel level status.
4. Dante OUTPUT CHANNEL LEVEL INDICATORS
   2 segment high precision level indicate lights show the current output channel level status.
5. WORKING STATUS
   When equipped Dante card and AEC card, “N” and “E” indicator will light up. When USB and internet port online, the signal indicator will light up. And turn on the power, the “power” indicator will light up.
6. USB INTERFACE
   Used to connect with PC and center-control equipment, remote control.

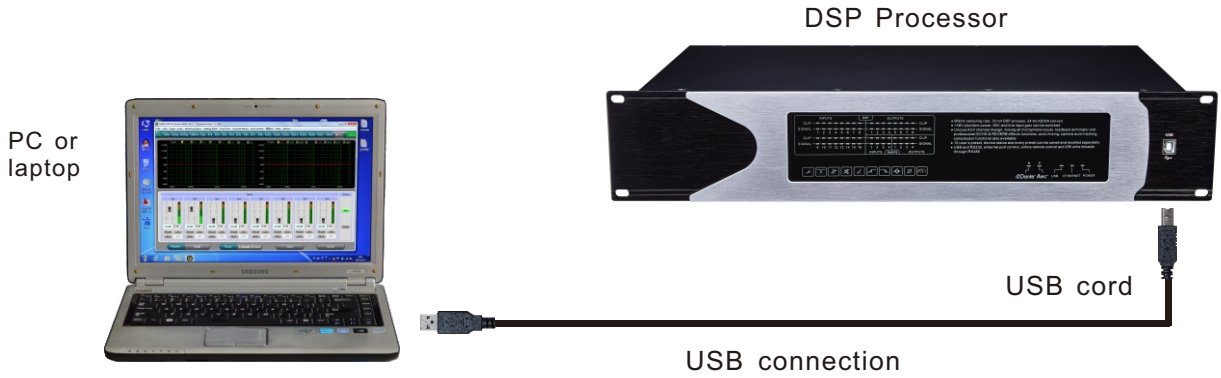
REAR PANEL



1. POWER SOCKET
   AC~95-264V 50-60Hz.
2. POWER SWITCH
3. ETHERNET CONNECTION AND CONTROLLING PORT
   Setting IP addresses to remote control by CAT-5 cable or WIFI control, also support internet control for long-distance application.
4. RS232/485
   Realize remote real-time control of center-control device through RS232, or control by one USB cord, link control by RS485.
5. SIGNAL OUTPUT CH1~CH8
6. SIGNAL INPUT CH1~CH16
7. DANTE CARD(ADDITIONALLY CHOOSE TO EQUIP)
   When insert Dante card, it can automatic identification, and panel indicator will light up. The program also can display the Dante function interface automatically.
8. AEC CARD(ADDITIONALLY CHOOSE TO EQUIP)
   When insert AEC card, it can automatic identification. And the device 6-8 output channel with AEC and background noise reduction function. AEC card with far into and far out port. Also can control its detailed function parameters by AEC card RS232 port.

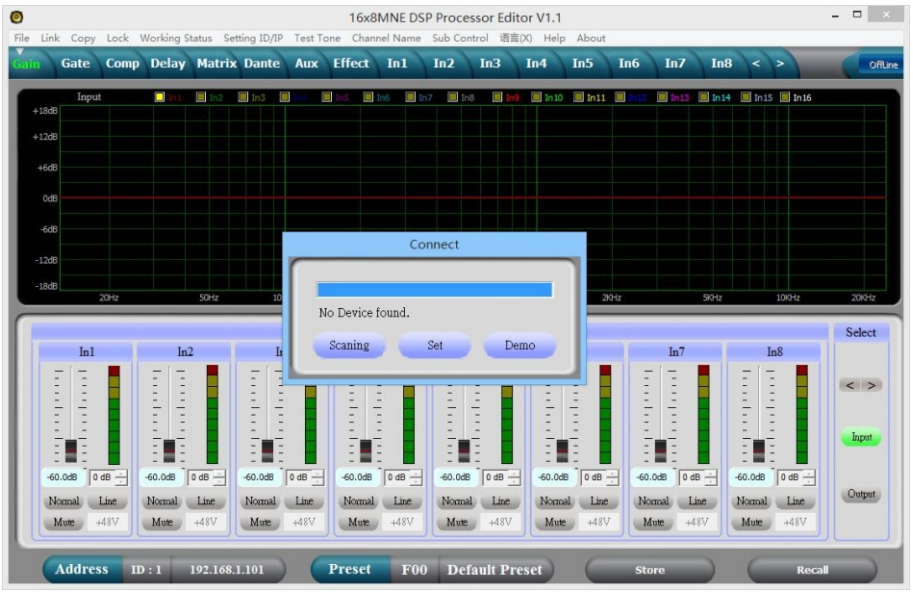
PC SOFTWARE

NOTICE: User manual, PC software are on the attached CD, due to the software upgrades time by time, please do control your DSP processor ONLY by this CD!



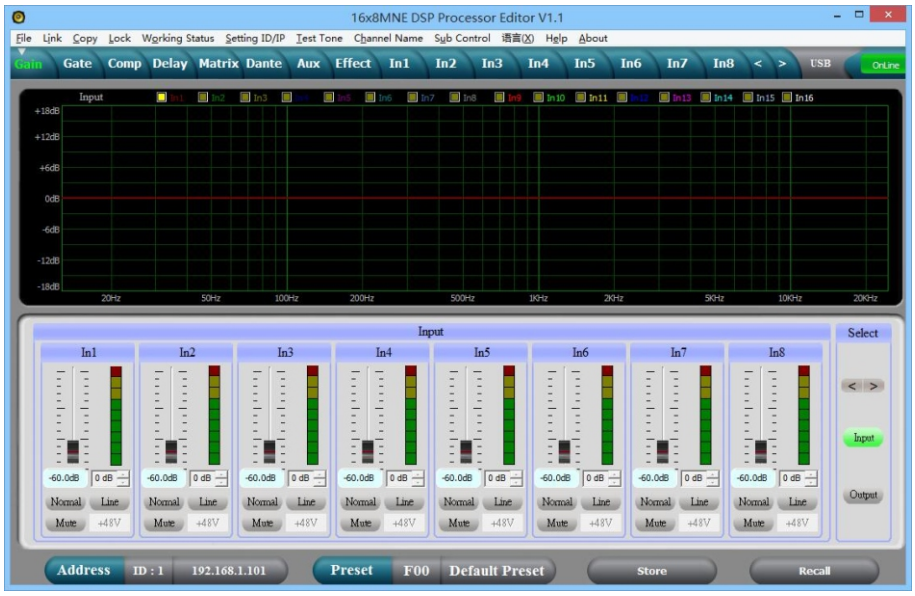
USB CONNECTION STEPS

1. Click the PC software on the CD, press next step to continue according to the instruction until finish setup, then exit.



2. Connect the processor to the computer by USB, after power on the device, the computer will searching new hardware automatically, then it will show the message: hardware setup success and can be used.

3. Open PC controlling software, PC software will find USB and connection device, after this the on-line key change into green at the top right corner and show ” Online ” , you can operate the processor by controlling software, Click ”Online” button before exit.



PC SOFTWARE SPECIFICATIONS

(1). VOLUME CONTROLLING INTERFACE

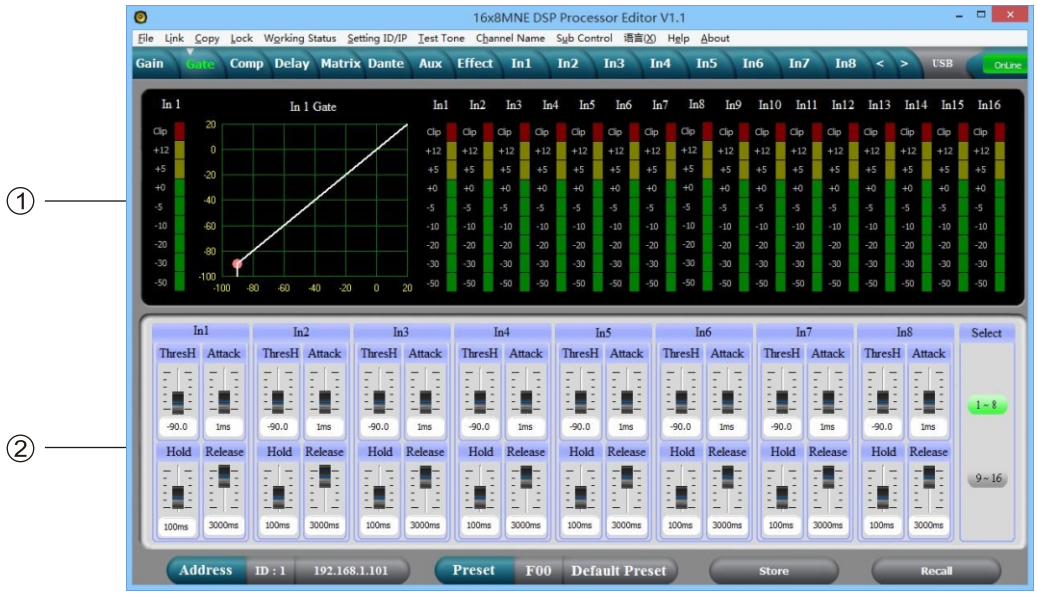


1.Menu

File	Open and save preset parameter, the whole date upload to the computer and download to the device.
Link	Input and output channels can be set freely to adjust all of the parameters .
Copy	Parameter copy freely between the input and Output channels.
Lock	Setting password of the panel to ensure the safety of the device.
Working Status	The working atatus could be set as; not memory ; immediate memory (under U01-12 user mode) , not memory but can be back to U01 mode when power on.
Setting ID/IP	To cascade control more than 254 device by setting different ID Setting IP address for Long-distance and wireless WIFI control.
Test Tone	Buid-in signal generator, outputting pink noise, white noise and sine wave.
Channel Name	The whole channel name are revisable.
Sub Control	Any channel volume are revisable.
Language	Chinese and English language is switchable.

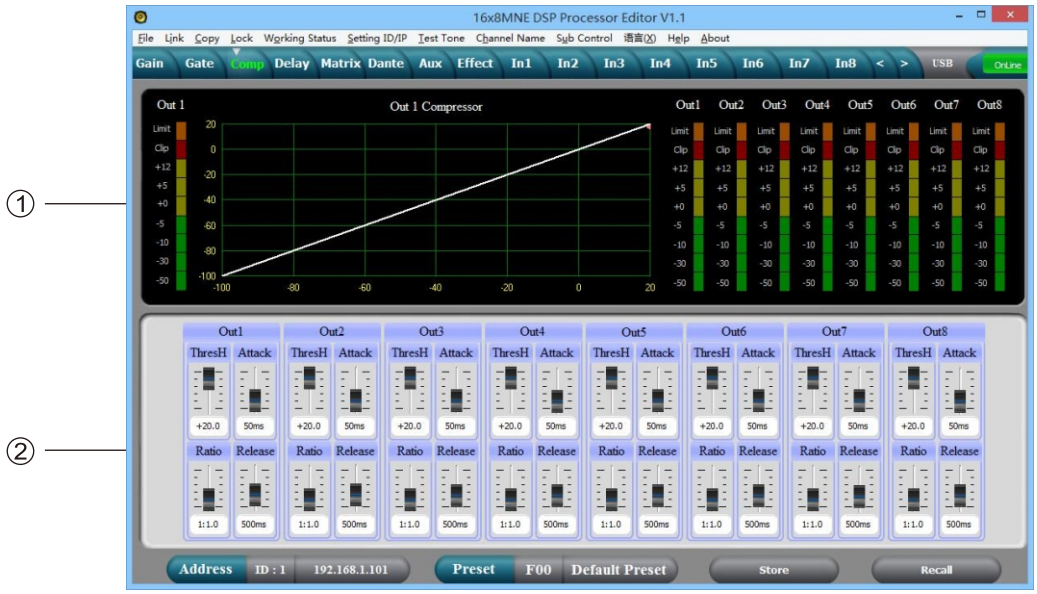
2. Spectrum Area: You can choose PEQ and phase freely which show the input and output channels.
3. The Volume Control Area:
   Gain, Phase, Mute control for all input & output channels.
4. Preset Operation Area:
   Save or recall preset parameter and show current preset parameter status.

(2). NOISE GATE INTERFACE



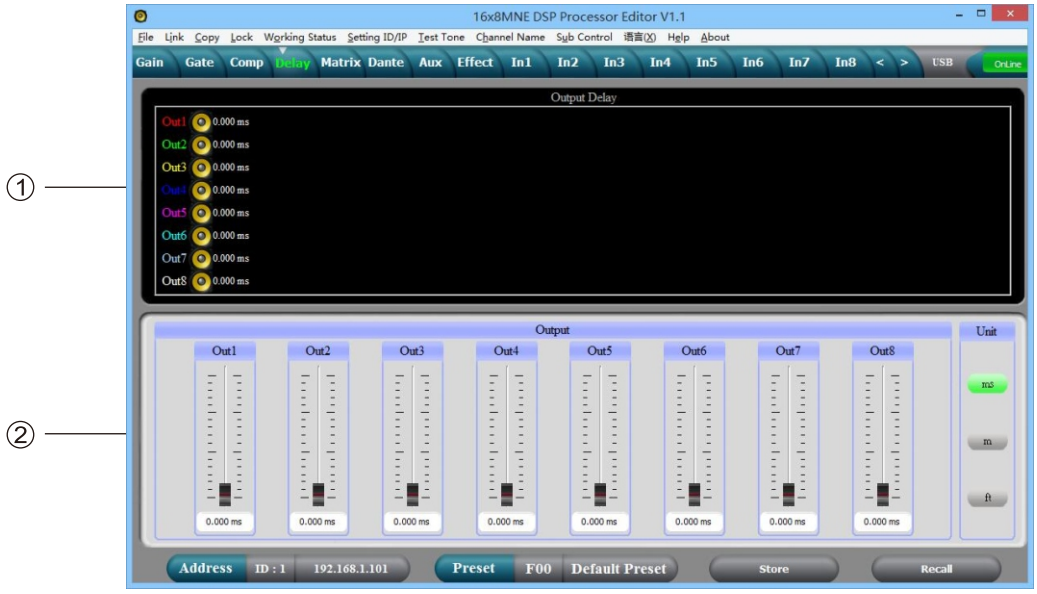
1. Show threshold curve, as well as all channels level indicator.
2. Setting noise gate parameters for all input channels, the threshold is -90dB--0dB, start Time is: 1- 999ms, recovery time is 10- 3000ms, hold time is 1-999ms.

(3). COMPRESSOR INTERFACE



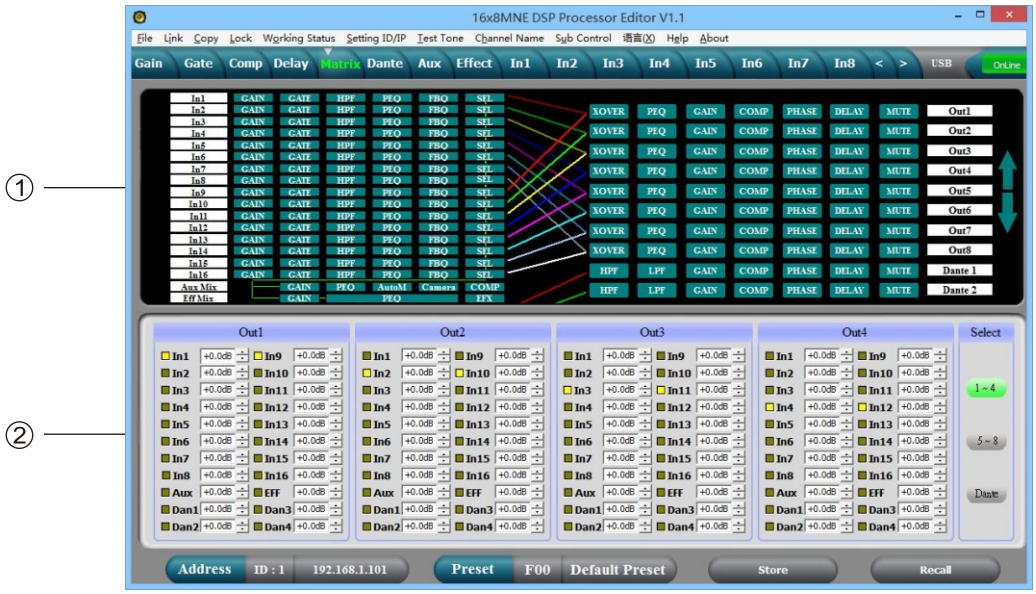
1. Show compression status level indicators and compression status of all channels.
2. Set the whole compression parameters for output channels, the compression range is -60dB--+20dB, ration is 1:1, 1:10, LIMIT, start time is: 1-999ms, recovery time is 10-3000ms.

(4). DELAY INTERFACE



1. Show the delay parameter status of all channels.
2. Can adjust delay parameter of all channels, the scale is 0-680ms, there are millisecond, meter and feet units for choose.

(5). MATRIX INTERFACE



1. Show connections of the device, users can enter and edit relevant channel by clicking the square button, every channel name is revisable.
2. All analog 1-16 channels and Dante 1-4 channels can be routing freely, and the matrix mixing gaie can be adjustment.

(6). DANTE INTERFACE (This function must be configured DANTE card)



1. Can desplay Dantel-4 output channel low/high cut curve, compressor curve and delay parameters.
2. Dantel-4 channel input/output gain is adjustable, and with mute and phase function.
3. Parameters interface of Gain, X-over, Compressor and delay can be converted, then adjust different function parameters.

(7). AUX CHANNEL INTERFACE



1. Select “Mag” interface, you can adjust the PEQ, High-cut and Low-cut parameters, select “PHASE” Interface, you can adjust the phase curve.
2. Adjustable Gain, Q, Frequency and Type for all PEQs, Bypass function is an option, we can choose PEQ style: Balance, High-shelf, Low-shelf, High-cut, Low-cut, Phase 180° or 360°of phase.
3. The Gain, Q, Frequency of PEQ can be adjusted by fader, and can be controlled by pressing the Up, Down, Left, Right key on the computer's keyboard.
4. Camera tracking ON/OFF switch, click"Set"button,enter camera tracking parameters setting: choose the corresponding input channel which want to enter the camera tracking first(only the Chosen channel can enter to tracking channel),then choose the proper parameters of threshold (-50-0dB), start time(0-5000ms),recovery time(0-5000ms), when the any one channel signal is over the threshold, the channel will open automatically and camera start to track according to the Priority Order from input CH 1~ CH16.
5. Input selection switch, can choose the input 1-16 channels to mix in Aux channels.
6. Auto-mixing ON/OFF switch, click "Set" button, enter auto-mixing parameters setting: choose The input channel which want to enter the auto audio mixing first(only the chosen channel can enter automixing channel),then choose the proper parameters of threshold(-50-0dB), start time(0-5000ms), recovery time(0-5000ms). The several channels can enter auto-mixing status when any More than 2 channels signal are over the threshold, Aux channel's volume comes down when more Channels get into the mixing channel, the range of attenuation can be chosen at -3dB- -6dB.
7. Aux's Gain controlling fader, mute&level indicators.
8. With compression adjusting fader on Aux channel, click" Set " button , enter compression parameters setting: the compression range is: -90dB- +20dB,ration is :1:1, 1:10,LIMIT,start time: 1-200ms, recovery time: 1-999ms, the compression indicators be showed too.

(8). EFFECT INTERFACE



1. Select "Mag" interface, you can adjust the effect channel PEQ. Select "Phase" interface, it can display effect channel phase curve.
2. Adjustable Gain, Q, Frequency, Type of all PEQ, Bypass key is optional. We can choose PEQ style: Balance, High-shelf, Low-shelf, Hight-cat, low-cut, Phase 180° Phase 360°, PEQ Gain, Q, Frequncy also can be adjusted by pushrod or controlled by pressing the UP, DOWN, LEFT, RIGHT key on the keyboard.
3. Effect channel echo parameter Gain, Repeat, delay, pre delay can be adjustment. REVERB Gain, Reflect, Time, Pre delay adjust independent.
4. Input channel mix select, can select IN1-16 enter effect channel to process.
5. Effect direct sound on-off select. It without direct sound when select OFF, and when select ON, it with sound on-off effect.
6. Effect channel with master volume and mute control, and channel electric level indicate light.

(9). INPUT INTERFACE



1. Select “Mag" interface,you can adjust the PEQ,High-cut,Low-Cut for the input channel, select "PHASE" interface, you can adjust the current phase channel, also you can choose the non-current PEQ and phase curve to show in sync.
2. Adjustable Gain, Q , Frequency, Type for all PEQ, Bypass function is an option,we can choose PEQ style: Balance, High-shelf, Low-shelf, High-cut, Low-cut,180° or 360° of phase.
3. The Gain, Q, Frequency of PEQ can be adjusted by fader, and can be controlled by pressing the Up,Down, Left, Right key on the computer's keyboard.
4. Low-cut frequency 20HZ-20KHZ is adjustable, you can choose slope rate : Butterworth, Bessel, the scale is: -6dB- -24dB.
5. Input channel feedback inhibition function switch, it has 4 gear range to choose.
6. The MIC and line input switch, +48V phantom power switch, Gain, Mute, Phase of the input channels can be control separately, as same as the level display lights.

(10). OUTPUT INTERFACE



1. Select “Mag” interface,you can adjust the PEQ,High-cut,Low-Cut for the output channels, select “PHASE” interface, you can adjust the current phase channel, also you can choose the non- current PEQ and phase curve to show in sync.
2. Adjustable Gain, Q, Frequency, Type of all PEQ, Bypass function is an option, we can choose PEQ style: Balance, High-shelf, Low-shelf, High-cut, Low-cut, Phase 180° , 360° of phase.
3. The gain, Q, frequency of PEQ can be adjusted by fader, and can be controlled by pressing the up, down,Left,Right key on the computer's keyboard.
4. Low-cut frequency 20HZ-20KHZ is adjustable, you can choose slope rate: Butterworth, Bessel, Linkwitz-Riley, the scale is: -6dB- -24dB.
5. High-cut frequency 20HZ-20KHZ is adjustable, you can choose slope rate: Butterworth, Bessel, the scale is: -6dB- -24dB.
6. The Gain, Mute, Phase of the output channels can be control separately, as same as the level Display, lights.

SPECIFICATIONS

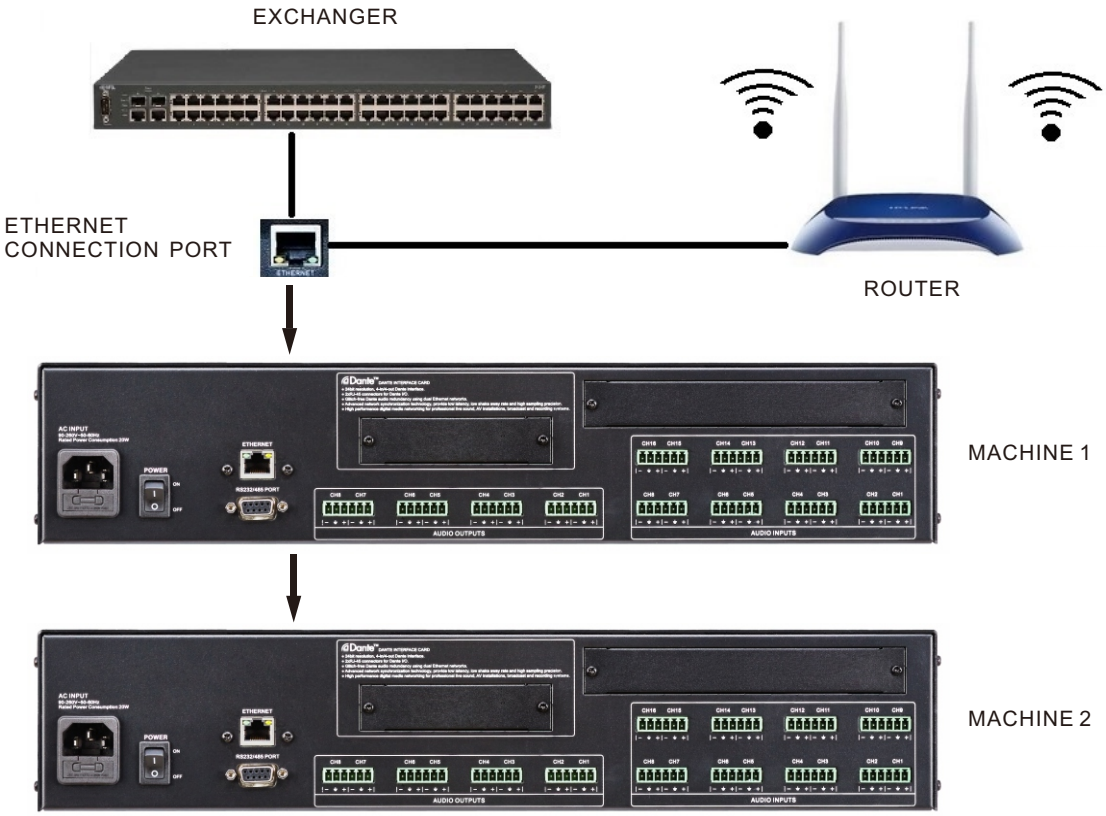
SPEC	Frequency Response	20Hz-20kHz,-0.3dB
	Dynamic range	115dBu
	THD	<0. 005% at 1kHz(0dBu)
	Crosstalk	>70dBu，20Hz-20kHz
	C.M.R.R	>75dBu 1KHz
MIC input	Type	Balance
	Phantom power	+48V DC
	Gain	50dBu
	Impedance	2kΩ
Music input	Type	Balance
	Gain	35dBu
	Max input level	+18dBu
	Impedance	>10kΩ
Output	Type	Balance
	Max output level	+18dBu
	Impedance	>500Ω
Digital processing	24bit sigma-delta A/D、D/A	
	32 bit DSP, 96kHz	
AC POWER	AC 95V-264V 50/60Hz	
Size(L,W,H)	482*253*88MM	
Weight	5.18KG	

ACCESSORIES

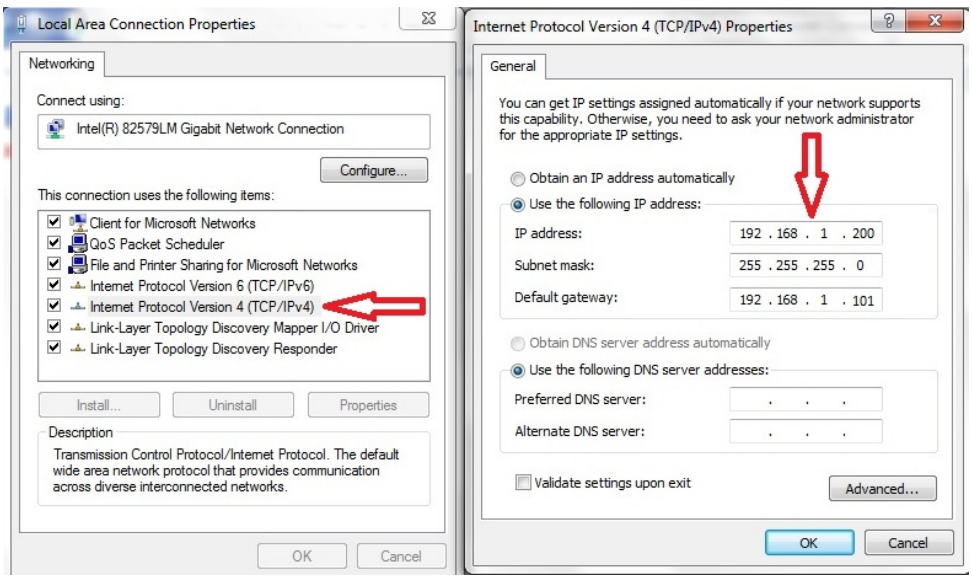
1. CD (Include PC software and user’s manual).
2. One USB cord.
3. One Power cord.

REAR PANEL CONTROL PORT CONNECTION

1. Ethernet connection port:you can choose to connect the computer by wire, connect several devices by switch, or use WIFI by router to control, but need to set different IP address and ID code for each device, otherwise, it might be can't connect successfully due to the IP addresses conflict.



ATTENTION: When using the network port to connect PC software, it need to set the IP address same as the machine's default IP (192.168.1.101), as the following chart:

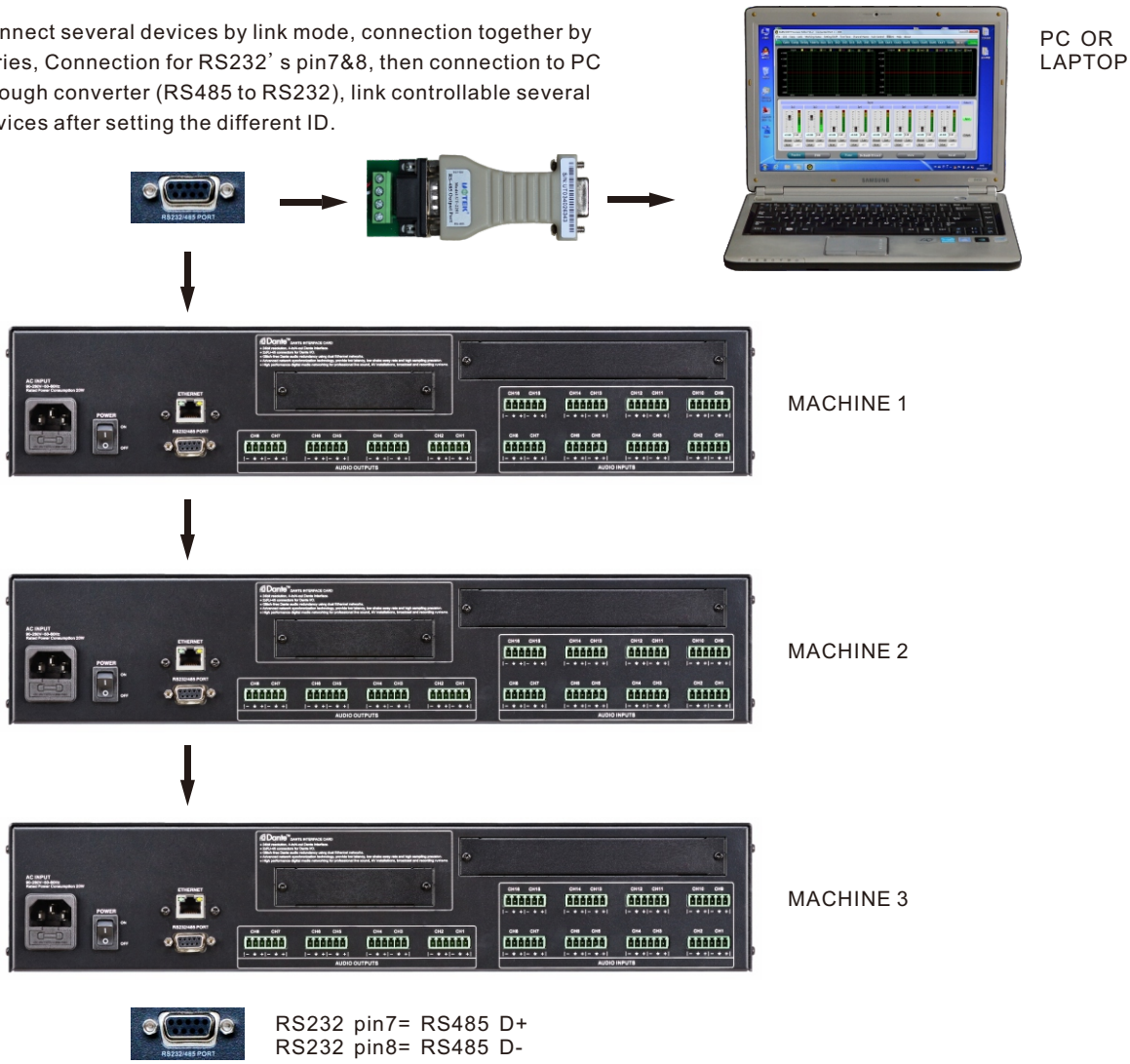


2. RS232 connection port: Central control and connect to PC through RS232 port.



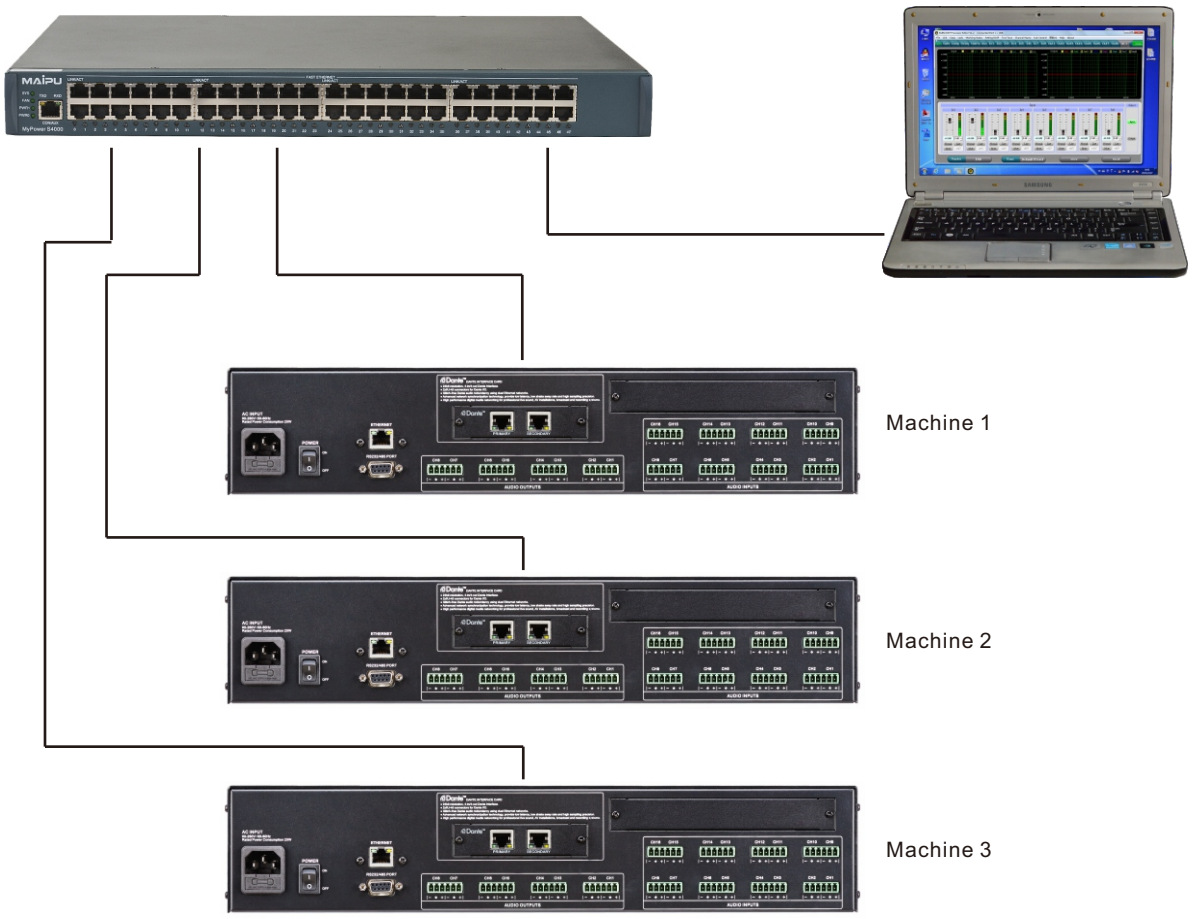
3. RS485 cascade control port: link connect several devices by RS485, you can choose different ID to control separately.

Connect several devices by link mode, connection together by series, Connection for RS232' s pin7&8, then connection to PC through converter (RS485 to RS232), link controllable several devices after setting the different ID.

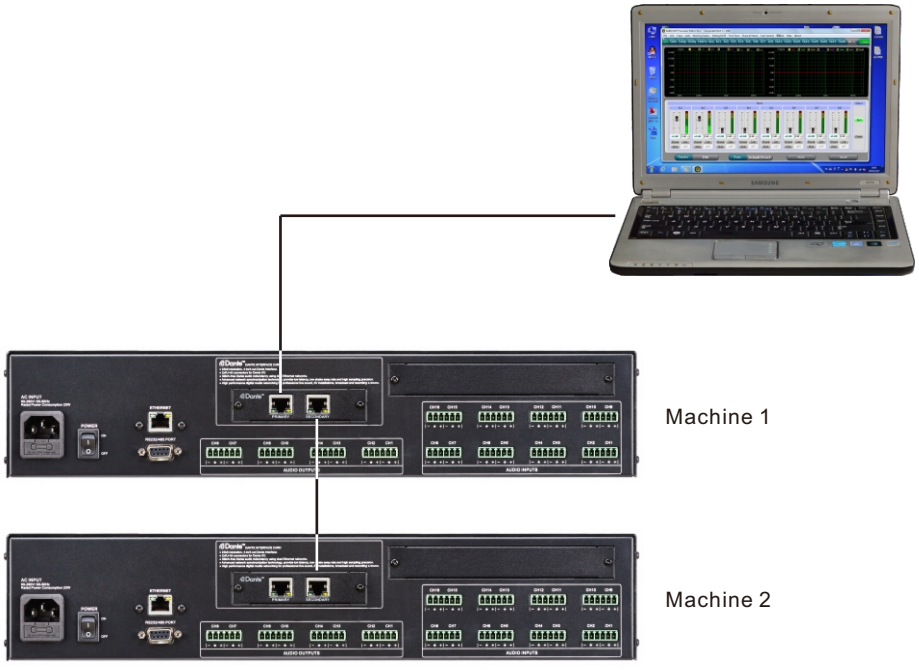


4. Dante network port connection diagram. (The connection type for equipped Dante card)

a). Can make more than multiple machines transmitting network audio through switch connection.



b). Can receiving and transmitting the network audio through series connection.



Processor Extend Remote Control Protocol V2.7

1. Control Package Format

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Data1	Data2	Date3	STX	DLE
Packet	0x7B	0x7D	1~254	0X40~0X5E	0x??	0x??	0x??	0x7D	0x7B

2. Command Detail

(1) Load Preset Matrix (0x40)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Factory/User	Preset	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x40	F:0, U:1	0~12	0	0x7D	0x7B

Example (Load Preset Matrix U02) : 7B7D01400101007D7B

(2) Gain Control（0x41）

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	In/Out	Channel	+/−	STX	DLE
Packet	0x7B	0x7D	1~254	0x41	In:0 Out:1	00~15	+:0, −:1	0x7D	0x7B

Example (In1 Gain +) : 7B7D01410000007D7B

(3) Mute Control(0x42)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	In/Out	Channel	No/Yes	STX	DLE
Packet	0x7B	0x7D	1~254	0x42	In:0 Out:1	00~15	No:0 Yes:1	0x7D	0x7B

Example (Out1 Un Mute): 7B7D01420100007D7B

(4) Load Preset Control(0x43)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Factory/User	Preset	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x43	F:0, U:1	0~12	0	0x7D	0x7B

Example (Recall user's preset U01) : 7B7D01430100007D7B

(5) Input Volume Control (0x44)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Channel	HI-VOL	LO-VOL	STX	DLE
Packet	0x7B	0x7D	1~254	0x44	00~15	0x??	0x??	0x7D	0x7B

Example (Set In1 Volume +0.0dB): 7B7D01440001187D7B

(6) Output Volume Control (0x45)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Channel	HI-VOL	LO-VOL	STX	DLE
Packet	0x7B	0x7D	1~254	0x45	00~15	0x??	0x??	0x7D	0x7B

Example (Set Out2 Volume -3.0dB): 7B7D01450100FA7D7B

(7) Sub Volume Control (0x46)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	In/Out	Gain	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x46	In:0 Out:1	0~100	0	0x7D	0x7B

Example (Sub Input Volume 90%): 7B7D0146005A007D7B

(8) Sub Gain Control (0x47)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	In/Out	+/-	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x47	In:0 Out:1	+:0, :-1	0	0x7D	0x7B

Example (Sub Input Gain+): 7B7D01470000007D7B

(9) Get Now Gain(0x48)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	In/Out	Channel	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x48	In:0 Out:1	00~15	0	0x7D	0x7B

MCU Return: 1st Byte: In/Out, 2nd Byte = Channel, 3rd Byte: 0-80(-60~-20): 0.5dB/Step,
80-280(-20~0): 0.1dB/Step, 280-400(0~+12): 0.1dB/Step
Example (read In1 Gain Parameter): 7B7D01480000007D7B

(10) Get Now Mute (0x49)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	In/Out	Channel	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x49	In:0 Out:1	00~15	0	0x7D	0x7B

MCU Return: 1st Byte: In/Out, 2nd Byte = Channel, 3rd Byte: 0x00 or 0x01 = Un-Mute or Mute
Example (read In1 Mute Parameter): 7B7D01490000007D7B

(11) Get Now Preset (0x4A)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	0x30	0x00	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x4A	0	0	0	0x7D	0x7B

MCU Return: 0x00 ~ 0x0C = 0 : F00, 1-12: U01~U12
Example (read Preset Parameter): 7B7D014A0000007D7B

(12) Get Now Sub Parameter (0x4B)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	In/Out	0x00	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x4B	In:0, Out:1	0	0	0x7D	0x7B

MCU Return: 1st Byte: 0 ~ 100%, 2nd Byte = 0x00 or 0x01 = Un-Mute or Mute
Example (read Sub Input Parameter): 7B7D014B0000007D7B

(13) Sub Mute Control (0x4C)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	In/Out	No/Yes	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x4C	In:0 Out:1	No:0, Yes:1	0	0x7D	0x7B

Example (Sub Output Mute) : 7B7D014C0101007D7B

(14) Get Now Level (0x4D)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	In/Out	Channel	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x4D	In: 0 Out:1 Aux: 2 Effect: 3	00-15	0	0x7D	0x7B

MCU Return: 1st Byte: In/Out, 2nd Byte = Channel, 3rd Byte: -128 ~ -1, 0~ +127dB = 0x80 ~ 0xFF, 0x00 ~ 0x7F

Example(Read In1 Level): 7B7D014D0000007D7B

Example(Read Out1 Level): 7B7D014D0100007D7B

Example(Read Aux Level): 7B7D014D0200007D7B

Example(Read Effect Level): 7B7D014D0300007D7B

(15) Matrix Control (0x4E)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Channel	In	On/Off	STX	DLE
Packet	0x7B	0x7D	1~254	0x4E	00~15	00~15	On: 1, Off:0	0x7D	0x7B

Example (Out4 Matrix In2 On): 7B7D014E0301017D7B

(16) Get Matrix (0x4F)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Channel	In	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x4F	00~15	00~15	0	0x7D	0x7B

MCU Return: 0x00 or 0x01 = Off or On

Example (Read Out3 Matrix In3 Parameter): 7B7D014F0202007D7B

(17) Aux Gain Control (0x51)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Aux/Effect	0x00	+/−	STX	DLE
Packet	0x7B	0x7D	1~254	0x51	Aux: 0x02 Effect: 0x03	0x00	+:0, −:1	0x7D	0x7B

Example (Aux Gain+): 7B7D01510200007D7B

(18) Aux Mute Control (0x52)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Aux/Effect	0x00	No/Yes	STX	DLE
Packet	0x7B	0x7D	1~254	0x52	Aux: 0x02 Effect: 0x03	0x00	No: 0,Yes: 1	0x7D	0x7B

Example (Aux Mute): 7B7D01520200017D7B

(19) Aux Volume Control (0x53)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Aux/Effect	HI-VOL	LO-VOL	STX	DLE
Packet	0x7B	0x7D	1~254	0x53	Aux: 0x02 Effect: 0x03	0x??	0x??	0x7D	0x7B

Example (Aux Volume +0.0dB): 7B7D01530201187D7B

(20) Aux On Off Control (0x55)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	0x02	Select	On/Off	STX	DLE
Packet	0x7B	0x7D	1~254	0x55	0x02	1: Camera 2: AutoMix 3: Effect	0:Off 1:Yes	0x7D	0x7B

Example (Aux Camera On): 7B7D01550201017D7B
Example (Aux AutoMix On): 7B7D01550202017D7B
Example (Effect Direct On): 7B7D01550203017D7B

(21) Aux Channel Select Control (0x56)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Select	Ch 16~9	Ch 8~1	STX	DLE
Packet	0x7B	0x7D	1~254	0x56	0: Aux 1: Camera 2: AutoMix 3: Effect	Bit0 ~Bit7: 0:No 1:Yes	Bit0 ~Bit7: 0:No 1:Yes	0x7D	0x7B

Example (Aux In1&In3): 7B7D01560000057D7B
Example (Aux Camera In2&In4): 7B7D015601000A7D7B
Example (Aux AutoMix In5&In6): 7B7D01560200307D7B
Example (Effect In1&In3): 7B7D01560300057D7B

(22) In FBQ Control (0x57)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	0x00	Channel	FBQ	STX	DLE
Packet	0x7B	0x7D	1~254	0x57	0x00	00~15	0: Off, 1~4: Level	0x7D	0x7B

Example (In1 FBQ Level 4): 7B7D01570000047D7B

(23) Get Aux Now Gain (0x58)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Aux/Effect	0x00	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x58	Aux:0x02 Eff:0x03	0x00	0x00	0x7D	0x7B

MCU Return: 1st Byte: Aux/Effect, 2nd and 3rd Byte: 0-80 (-60~-20): 0.5dB/Step,
80-280 (-20~0): 0.1dB/Step, 280-400 (0~+12): 0.1dB/Step
Example (Get Aux Gain): 7B7D01580200007D7B

(24) Get Aux Now Mute (0x59)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	Aux/Effect	0x00	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x59	Aux:0x02 Eff:0x03	0x00	0x00	0x7D	0x7B

MCU Return: 1st Byte: Aux/Effect, 2nd Byte: 0x00 or 0x01 = Un-Mute or Mute
Example (Get Aux Mute): 7B7D01590200007D7B

(25) Get Aux Now On Off (0x5B)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	0x02	Select	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x5B	0x02	1: Camera 2: AutoMix 3: Effect	0x00	0x7D	0x7B

MCU Return: 1st Byte: Select, 2nd Byte: 0x00 or 0x01 = On or Off
Example (Get Effect): 7B7D015B0203007D7B

(26) Get Aux Now Ch Select (0x5C)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	0x02	Select	0x00	STX	DLE
Packet	0x7B	0x7D	1~254	0x5C	0x02	0: Aux 1: Camera 2: AutoMix 3: Effect	0x00	0x7D	0x7B

MCU Return: 1st Byte: Select, 2nd Byte: Matrix
Example (Get Aux Ch Select): 7B7D015C0200007D7B

(27) Get In Now FBQ (0x5E)

	0	1	2	3	4	5	6	7	8
	DLE	STX	Device Address	CMD	0x00	Channel	FBQ	STX	DLE
Packet	0x7B	0x7D	1~254	0x5E	0x00	00~15	0: Off 1~4: Level	0x7D	0x7B

MCU Return: 1st Byte: Channel, 2nd Byte = Level
Example (Get In1 FBQ): 7B7D015E0000007D7B

Mcu Will Return The “OK” For Correct Control Command: 0x4F 0x4B

Communicate Paramete	Baud Rate	115200	Stop Bit	1
	Data Bit	8	Step	>=200ms
	Parity	None	ID	Default 1

SAFETY INSTRUCTION

PLEASE READ THESE SAFETY MATTERS CAREFULLY BEFORE USE:

- This product must make sure connect to the ground correctly. If it has broken down, to avoid any electric shock, the device power cord and plug both equipped safety ground connection. The power cord should according to the requirement to install and ground connection.
  Warning: Incorrect ground connection might be caused electric shock happen!
  If you have any inquiry about the ground connection, please let qualified people checking it or fix it， do not change it by yourself. If the power plug is unsuitable, you can entrust electrician or professional staff to install the suitable power plug.
- To avoid the risk of injury, please close supervision when using the product near child.
- Please do not use the device at wet place, such as: near bathtub, washbasin, kitchen sink, wet basement or near swimming pool and lake.
- It should not be placed near the device which filled with liquids such as the vase.
- This product should install at draughty place or dry environment.
- The power source type must be match to the operation instruction or the volts type which on the product.
- The product must keep away from heat source, such as: electric heater, electric blanket or other heat source products.
- The product equipped one power cord that complied with safety certification. If you can't insert the power cord into the plug, please contact electrician or professional staff to change the old plug. Attention that should not break the power plug safety device.
- If the product not for operation for a long time. Please pull out the power cord from power plug. Don't drag the power cord
- This product use coupler as a make and break device, should be maintained convenient operation
- Please don't operate the product when following things opened, should call qualified people checking it or fix it:
  A.Power cord damaged.
  B.Objects or liquid get into the product.
  C.The product is sopping with rain.
  D.The product can not operate correctly or show obvious unusual.
  E.The product dropped down, damaged.
- Any inquiries about the product which not mentioned in the user manuals, please contact the eligible electrician or professional staff to repair.

• Only apply to security use which area below altitude of 2000m.



• Only apply to security use which condition except tropical climate.





Pay attention to the dangerous voltage of the insulation within the products. It may be considerable damage to human body.



Important Notices and Operation Instructions.

CAUTION



To avoid the electric shock, should not open it



Caution: to avoid electric shock, please don't remove the bottom. If it has any problems should not repair it by yourself, please entrust professional staff to repair it.

WARNING:

Please do not let the heavy extrusion or stamp on the power cord, avoid by all pull or distort the power cord. To avoid the risk of fire or electric shock, please do not use unqualified power cord.