

Automatic Mixer

Contractor/Program-
ming Manual



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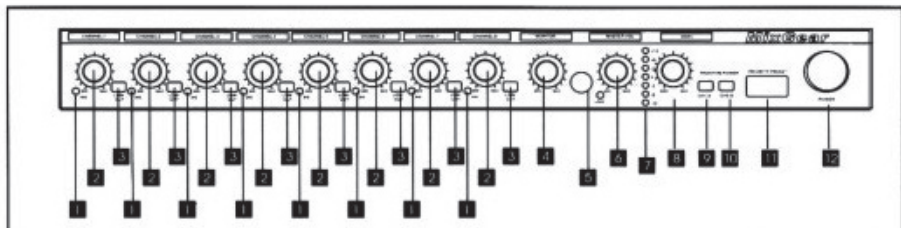
Description

Smart Mixing with function of inputting 8CH, turning on any signal input CH auto and adjusting CH level by hand or auto. with special NOMA function, it can cut down the level auto when it is necessary. With prior CH function and be with limit. It can work with RS-232C connector signal and connect Max. 16 mixings together, which means that can extend Max. 128 Mic at the same time. Rear-board has output pin of external controller and work with camera as an whole audio system by its control agreement.

Features

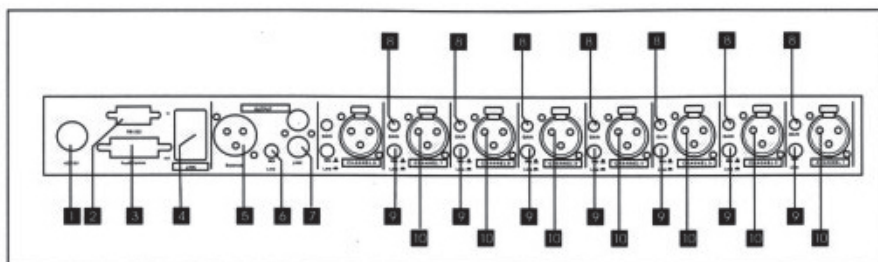
- ① 8CH input, the input CH can turn on automatically and the CH level can adjust when it is necessary.
- ② CH can be set in prior mode, when prior CH is on, others are turn off auto.
- ③ It can input different CH level according to the equipments and adjust each CH Gain.
- ④ Volume of each CH can be set in different and be with 75 Hz low-freq circuit which can cut off the signal disturb.
- ⑤ With 48V phantom power supplier which is in 2 switches, CH1-4 is controlled by one switch, CH5-8 is by the other. Fit for many input of audio equipments/NOMA function
- ⑥ NOMA (Number of open MIC attenuated) function: when the using CHs are over, it can adjust the output level auto, in order to prevent the noise when necessary.
- ⑦ With AUX & control plugs, can control external signal lamp or camera controller, can output 1-7CH signal for living recording by reporter.
- ⑧ With RS -232 connector which can connect centre-controller and external controller. Includes large potential extend ability. Can be auto or by hand for choosing.
- ⑨ Every CH not only has Balance and Unbalance's primary output but also has MIC pre-output, headset function, monitor output. Each MIC can be turned off by external controller.

Front-board



1. CH on / off indicator
Indicates the input signal.
2. CH volume switch
Controls the volume of the channel input.
3. CH low-freq level switch
Help eliminate low frequency noise.
4. Monitor Switch
Controls the volume of the 6.3 earphone output.
5. 6.3 earphone plug
Connection of 6.3 earphone.
6. Master volume switch
Controls the mixer's output signal level.
7. Level indicator
Displays output signal level in decibels, ranging from -12 (green) to +12 (red)dB.
8. CH level switch
Controls the opening time of speaker.
9. 1-4 CH phantom power switch
Control the 48V phantom power supplier of channel 1-4.
10. 5-8 CH phantom power switch
Control the 48V phantom power supplier of channel 5-8.
11. Prior Switch
Control the prior channel, you can select one to be the prior channel.
12. Power switch
Push to turn on, Push to turn off.

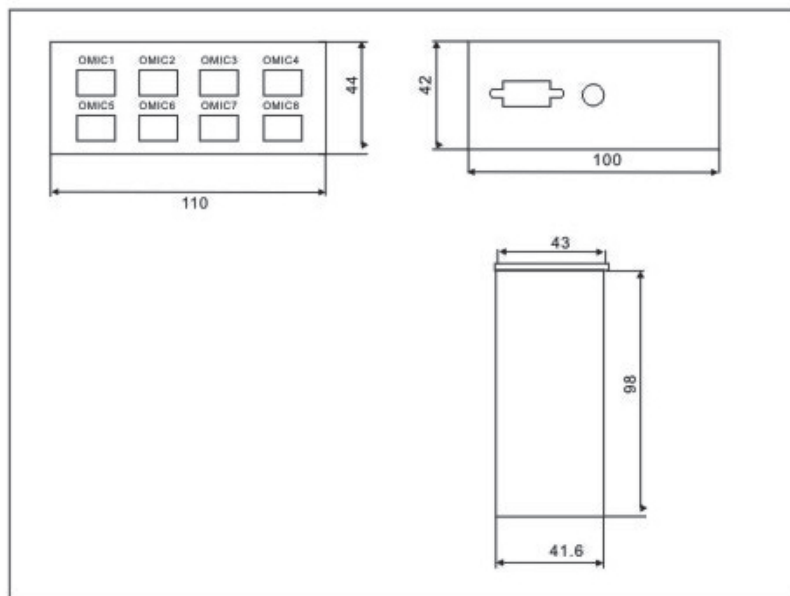
Rear-board



1. (AC 15V) power input plug
Mixer power supply input Accept a 4-pin DIN connection from an 15VCT 1.5 Amp transformer.
2. RS-232 pin
Location for installing RS-232.
3. Aux&Control pin
Connection points for DC remote control and insert patching and linking.
4. Extend system plug
Connection points for RJ-45 net wire.
5. Audio master XLR pin
Balanced male XLR jack for master bus output.
6. Audio level switch (LINE and MIC)
Bush to be the Line level, push to be the Mic level.
7. Audio output RCA switch
Stereo Line level input connections.
8. CH gain switch
Adjusts gain of input stage over a range of 40dB.
9. CH input level switch
Selects mic level (-50 dB) or line level (0 dB) for corresponding channel.
10. CH input plug
Balanced male XLR input connection, one per channel.

External controller

Nexkon have four external controller for you to choose



external controller

1. External controller front board switch : MIC1 MIC2 MIC3 MIC4 MIC5 MIC6 MIC7 MIC8 can turn on / off relative the open or off of the CH 1-8.
2. Press down Ch1 (red light be off), 48 phantom power is off now.
3. Turn down CH1 switch again (red light is on) : CH 1 is on work. Method for connecting external controller. Use our line connect both matches RS-232 pin. DC12V adapter power can supply power to the controller.

Quick Start for mixer

Unpack and connect

- ① Check mixer for shipping damage.
- ② Turn both mixer and amplifier volume controls to zero.
- ③ Connect inputs and set the input pad switch for each channel at the appropriate level.
- ④ Connect output and set the output pad switch at the appropriate level.
- ⑤ Press low cut filter switch "on" for all active channels.

Power and set up

- ① Connect mixer's AC power supply.
- ② Power up mixer and amplifier.
- ③ Enable automatic mixing by pushing the engage button to the "in" position.
- ④ For basic operation ensure that all Prior channel switches are down.

Pine turning

Adjust the gain screw on the back of the mixer for each individual channel so that the clip LED is steady on at "normal" voice level. Make sure to adjust the individual channel gains so that each mic is "isolated". Adjust attenuation time and amount pots on the if desired.

Setting

Preliminary steps:

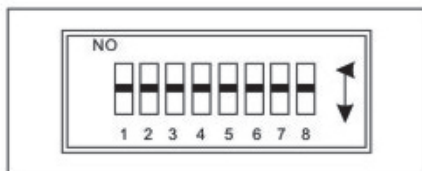
- ① Connect audio sources to channel inputs.
- ② Connect the mixer output to an external amplifier.
- ③ Set input mic/line switches for each channel and the output.
- ④ Turn on phantom power switch (if condenser microphones are in use.)
- ⑤ Turn the master volume control to "0"

For each channel follow these steps:

- ① Set the channel volume control to "0".
- ② While driving the channel input at its normal level, adjust the rear panel input gain/trim control clockwise until the red LED goes out. Note that the signal present green LED will stay lit during this procedure.
- ③ Turn on the master output volume knob.
- ④ Adjust external amplifier volume to the desired acoustic level.
- ⑤ Adjust individual channel volume knobs to the desired levels, as indicated on the bar graph.

Prior CH setting

- ① Prior function: The prior set MIC can be used under any situation, can't be disturbed by others, fit to used by meeting holder.



- NO . 1: for setting CH1 to be prior CH
- NO . 2: for setting CH2 to be prior CH
- NO . 3: for setting CH3 to be prior CH
- NO . 4: for setting CH4 to be prior CH
- NO . 5: for setting CH5 to be prior CH
- NO . 6: for setting CH6 to be prior CH
- NO . 7: for setting CH7 to be prior CH
- NO . 8: for setting CH8 to be prior CH

- ② Without setting Prior CH, just the turned on CH can work. With setting Prior CH, many Chs can work together when others are working at same time. And the others MIC will be but down -40dB auto. When prior CH is using , other CH can't be worked . After prior CH stop speaking other CH can refresh. When all CH are setting Prior, main output level will cut down auto to prevent feedback. (Advice: MAX. 4 Prior CH at the same time will be better. In order to prevent any noise.

Connecting

CH input

When you connect equipments should do:

- ① If connect with Phantom power MIC, please choose the input level in MIC position and turn GAIN to 7/10 then turn on the phantom power in mixing front-board.
- ② If connect with Dynamic or Condenser MIC, please choose the input level in MIC position and turn GAIN to 5/10 then turn off the phantom power (otherwise the MIC will be broken)
- ③ If connect with others such as wireless MIC, pay attention to output level. If the equipment level is LINE, please turn on the Mixing LINE level at same time. (notice: connecting with 48V phantom MIC is the best effect.)

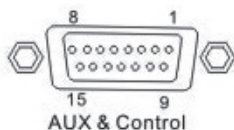
Aux&Control (external controller output pin)

Pin 1-8 are CH 8-1 signal, open CH output high level. Close CH with low level.

Pin 9-1 are CH 7-1 AUX audio output (refer to below picture):

Pin 1-15 can connect LED; external controller, signal lamp and camera

To control the external distributors



1. Switch control signal of channel 8
 2. Switch control signal of channel 7
 3. Switch control signal of channel 6
 4. Switch control signal of channel 5
 5. Switch control signal of channel 4
 6. Switch control signal of channel 3
 7. Switch control signal of channel 2
 8. Switch control signal of channel 1
 9. Pre video output of channel 7
 10. Pre video output of channel 6
 11. Pre video output of channel 5
 12. Pre video output of channel 4
 13. Pre video output of channel 3
 14. Pre video output of channel 2
 - Pre video output of channel 1
- (The shell should be connected to ground)

Audio Master output

With RCA plug (output level 650mV, impedance 2.2 K Ω)

With XLR plug (LINE: 6V, impedance: 100 Ω ; MIC: 40mV, impedance: 15K Ω)

Audio AUX output

For output solo CH audio, PIN 9-15 can output CH 7-1 audio, but this audio signal is not controlled by CH switch . (it means that there will be have signal output if the MIC is on) , output level $\leq 550\text{mV}$, impedance $2.2\text{K}\Omega$

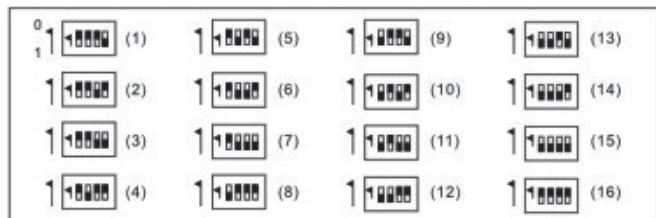
External Connect

- ① Use external power to supply power for Mixing.
- ② Connect MIC to CH1-8.
- ③ Connect Amplifier and then the audio can output from Balance XLR or Unbalance RCA..
- ④ Connect Record equipment by AUX OUT pin on rear-board.
- ⑤ Connect external controller by 9P wire (RS-232C to RS-232C of both matches).
- ⑥ Connect camera or other linking by Aux&Control pin on rear-board.

Extension connection.

Use RJ-45 net wire to connect Mixers, one side connect Lick In pin ,the other side connect Lick Out pin , can be hand in hand to MAX, 16 units (notice: when you want to extend mixers, you must edit an address code for each Mixing) Details : at the bottom of Mixer, there is a 4 number DIP switch for setting the address code. Totally 16 address codes, after setting each code , please reset the Mixing power.

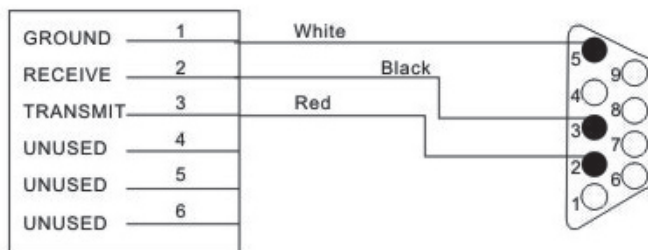
Notice about external controller. Use first Mixing to output audio and connect the external Controller. When extend several mixers , the external controller can be made according to special demands (can be 8CH switch, 16CH switch, 24CH switch,32CH switch, please tell us to detail , we can fit to your demands) Max 16 mixers , 128 MIC connecting.(extending connect indication) — can extend MAX.16 units.



Address codes

RS-232 connection

The RS232 pin is used to connect an RS232 controller to the mixer. This is done by connecting controller's output to the mixer's RS232 RJ12 port. The wiring diahram for this adaptor is shown below. A typical connection is at bottom.



RS-232 Protocol

1. Centre-controller Protocol

Transmission speed: 9600 bps, data manner: 1,8,1,1, one start bit, eight data bits, one non-check bit, one stop bit, effective control commands are all 8 data bits.

After extension connection, set a fixed address codes for mixer (see page 9 Address codes), centre-controller connect to the RS-232 pin of the first mixer.

Sending close bit of MIC

0A5H+ XXH (mixer address) + XXH (close bit of MIC)

0A5H is LCL checking code

mixer address: 0 add the DIP switch number in the bottom of the mixer, a intergrater address codes is 8 data bits, the bottom is low 4 bit, the high 4 bit is non-set, instead of zero. For example : the first mixer is 01H, the second mixer is 02H, the fifteenth mixer is 0FH, the sixteenth mixer is 00H.

Close bit of MIC

8 bit control data:	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
corresponding MIC:	Mic8	Mic7	Mic6	Mic5	Mic4	Mic3	Mic2	Mic1

2. Communication of each mixers

Query the next mixer, edit address, upload address, sending MIC switch communication manner.

Final Test

After connecting and setting job, we can have a final test of whole equipment.

- ① Turn all the level to be lowest , set 8CH GAIN in 8/10 position on rear-board.
- ② Turn on power, Mixing can open each CH automatically.
- ③ Turn on Amplifier and make all the CH volume be in 12 o'clock position first , then adjust 8 CHs at the same volume by hand.
- ④ The normal Chs testing : (without Prior CH on) By headset monitor or LED of front- board. You can test the CH working state : just one signal CH can open at that time . Only LED indicator is on .
- ⑤ The Prior CHs testing: (Prior CH 1-3 are on at the same time) By headset monitor or LED of front-board. You can test the CH working state:3 Prior H can work at the same time. 3 LED indicator are on at that mode ,other normal CH4-8 are off automatically.
- ⑥ The external controller testing:After giving mixing power. MIC1-8's LED are open at the same time. When push down CH1 switch, the phantom power of CH1 will be off , MIC is turn off. Push down CH1 switch again, phantom power turn on again, MIC is turn on.
- ⑦ After above testing points, you can adjust your favorable volume and level.
- ⑧ In normal practice , set the Chairman MIC to be Prior CH , and keep it away from the louder speaker! In order to prevent the feedback noise.

Tech Data

Input impedance	MIC 4300 Ω ,AUX 50K Ω
Output impedance (Balance)	MIC 15K Ω , LINE 220 Ω
Output impedance (Unbalance)	1K Ω
AUX output impedance	3.3K Ω
Max, input level	MIC-18dBV AUX 6dBV
Max. Output level (Balance)	MIC-18dBV LINE21.5dBV
Normal input level (Balance)	MIC-28dBV Unbalance AUX 2.5dBV
Normal output level (Balance)	MIC-25dBV LINE0dB
AUX output level	-4.4dBV
GAIN	62dB
Frequency	20Hz-20KHz
Noise	-85dB
THD +N	$\leq 0.5\%$
SINAD	75dB
Phantom power	+48V
Output voltage	+5V
Voltage	AC 220V
Power	25W
Dimension	430X220X43 (mm)
Weight.	3.2kg

Safety Notice

- ① Don't open the machine without engineer instruction.
- ② Connect the electric wire in correct method.
- ③ Keep away Heat , Moisture, Dust and Shock.
- ④ Make sure the power supply is suitable , otherwise the machine will be broken.

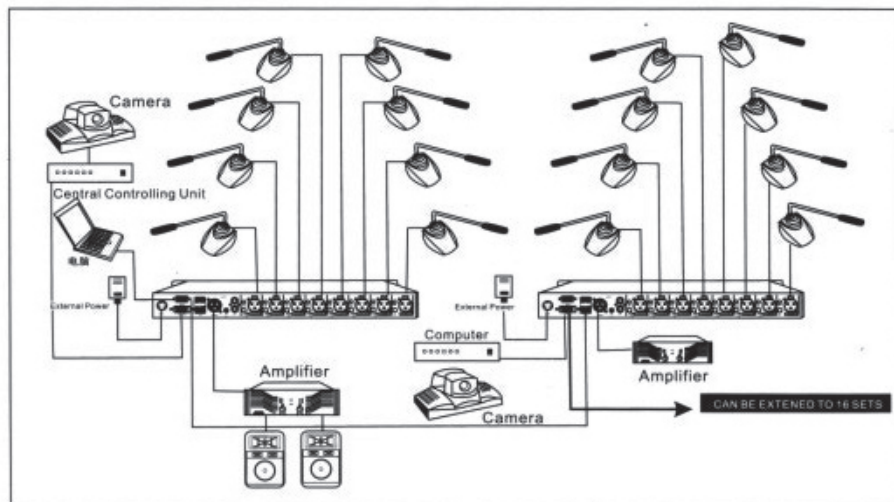
Appendix

Product accessory

- ① Power wire 1pc
- ② adapter 1pc
- ③ RJ-45 net wire 1pc
- ④ Balance audio output wire 1pc
- ⑤ Fixing angles 2pc
- ⑥ Using manual 1book

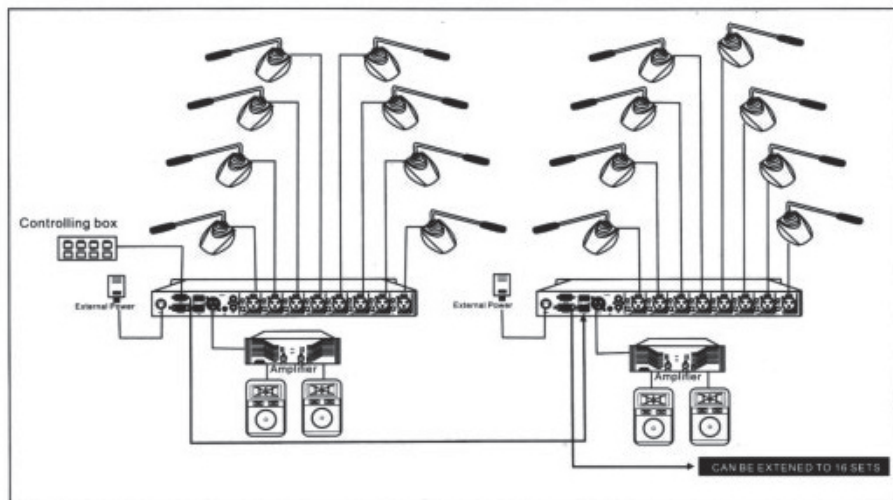
Allocation plan

- ① Connect several Mixings:



(From left to right)
External control box
External power
Amplifier
Extend to MAX. 16 units

② Connect intelligent centre controllers



(From left to right)
Camera
External controller box
External power
Amplifier

extend to MAX. 16 Mixings

