# NAYA

Wireless Full Duplex Intercom System Base Station

AFDI-BS450

User's Manual

Please read the manual carefully before operation

Interface Description
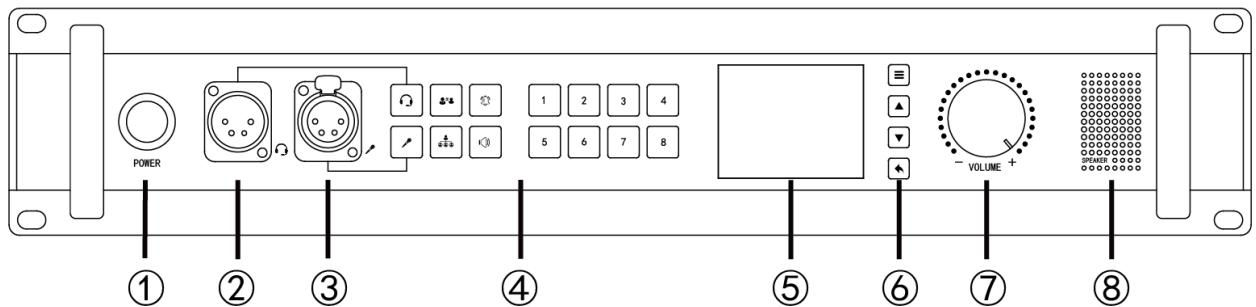
| No.	Item	Description
1	Power button	Press the Power button, the button light is on and the device is started. Press again the device is turned off.
2	Headset interface	External cannon-type headset
3	MIC interface	External gooseneck shaped microphone
4	⌂ (headphone icon)	Use headphone to speak and listen.
	✎ (microphone icon)	Use gooseneck shaped microphone to speak
	⧉ (belt-packs icon)	Belt-packs isolated mode. Turn on the button light, all belt-packs are unable to talk with each other except base station.
	⧉ (group icon)	Group mode. Turn on the button light, now the digital keypad numbers indicate group numbers. Each group could talk internally, but unable to talk with other groups.
	🔔 (bell icon)	Base station notices belt-packs. The selected belt-packs screen will flash when pressing the key continuously.
	🔊 (speaker icon)	Base station speaker button. The speaker is turned on when the button light is on.
	Digital keypad（1-8）	You can talk to any person or groups no more than 8 at the same time by pressing certain digital buttons.
5	LCD Screen	Display related data
6	≡	"Confirm" button. Press to enter menu
	▲	"Up" button. Move left to change data
	▼	"Down" button. Move right to change data
	↰	"Exit" button. Exit menu
7	VOLUME	Adjust volume of the headset/speaker. Screw clockwise to enlarge volume.
8	SPEAKER	When using a gooseneck shaped or handhold microphone, sound could be played by SPEAKER.
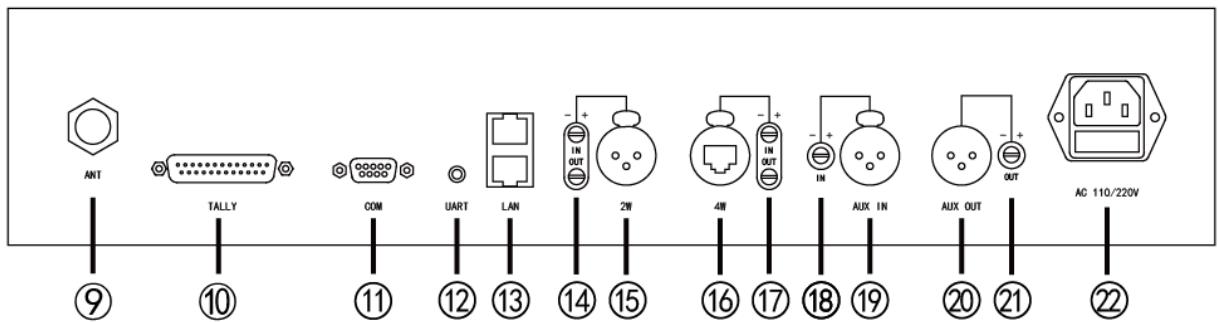
No.	Item	Description
9	Antenna interface	External N type connector antenna interface
10	Tally interface	External tally cable to connect with video switcher
11	COM port	RS232 port. Connected with computer by configuration cable.
12	UART port	UART tally input.
13	LAN interface	Connect Internet. Connected with Ethernet cable.
14	2W gain knob	2-wire audio gain knob. IN is audio gain input. OUT is audio gain Output
15	2W interface	2-wire audio interface
16	4W interface	4-wire audio interface and RS485 communication interface
17	4W gain knob	4-wire audio gain knob. IN is audio gain input. OUT is audio gain output
18	AUX IN gain knob	Audio input gain knob
19	AUX IN interface	Audio input interface
20	AUX OUT interface	Audio output interface
21	AUX OUT gain knob	Audio output gain knob
22	Power interface	AC 110/220V power interface

Note: This device must operate with a minimum distance of 20 cm between the radiator and user body.

Preparations

Step 1

Antenna installation. Install the antenna on the base, then plug the connector into the ANT interface of the base station.
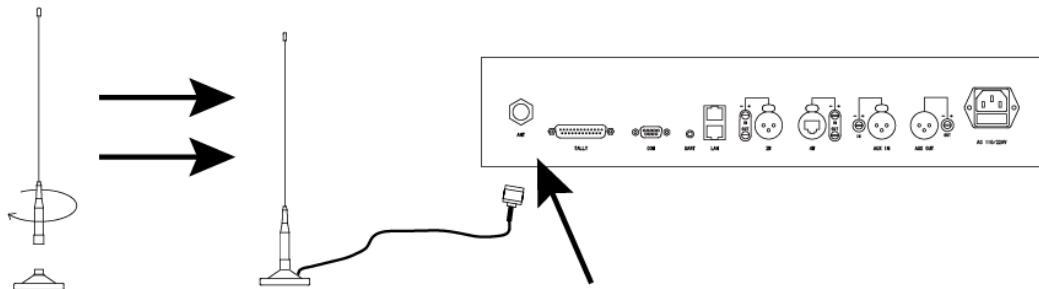
Step 2

Power cable connection. Plug one end of the power cable connector into the base station power interface, and another end into AC 110/220V power socket.
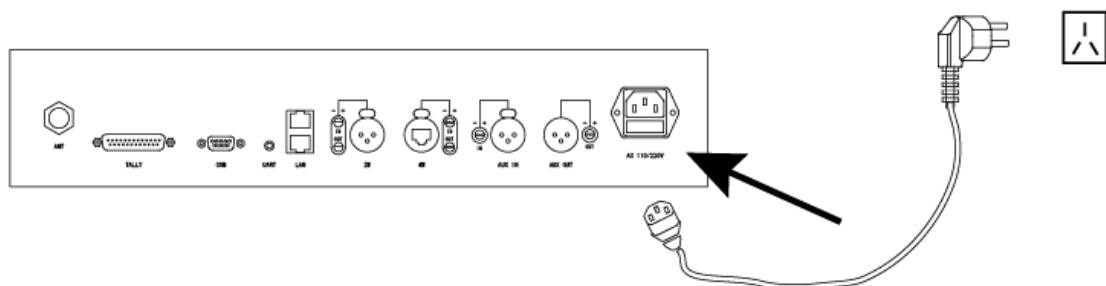
Step 3

Headset and microphone installation. Plug connectors of headset and microphone into corresponding interface as required.
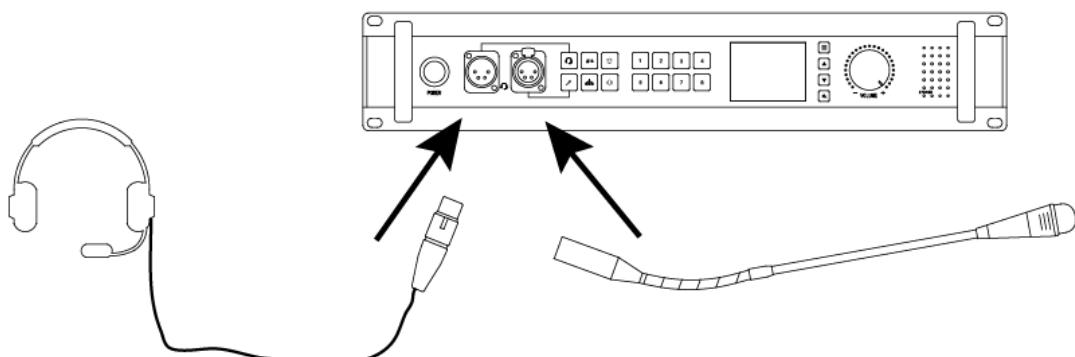
Step 4 (Please ignore this step if you don't need tally function)

Base station and switcher connection. Plug one end of the tally cable connector into the base station tally interface, and another end into video switcher tally interface.
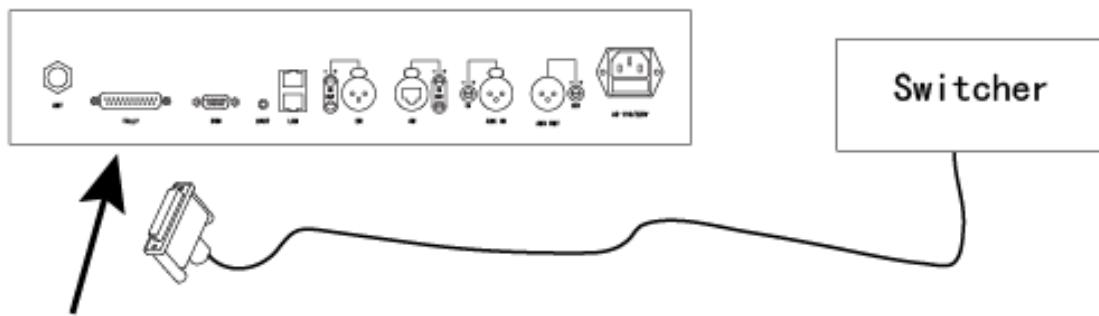
Step 5

Turn on the base station. The lights of digital keypad (1-8) will be lit up. Then press 🎧 or 🎙 button to speak by headphone or microphone. Press 🔊 button to turn on the speaker. Adjust the VOLUME knob to a certain level.
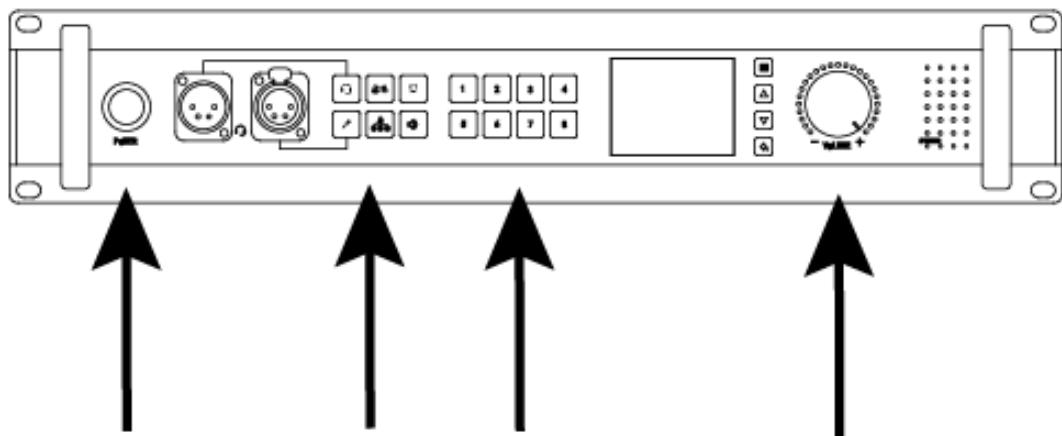
Step 6

Speak by headphone microphone or goose-neck shaped microphone.

Topological diagram

Switcher

Base Station

Channel 75

Beltpacks

Tally Lights
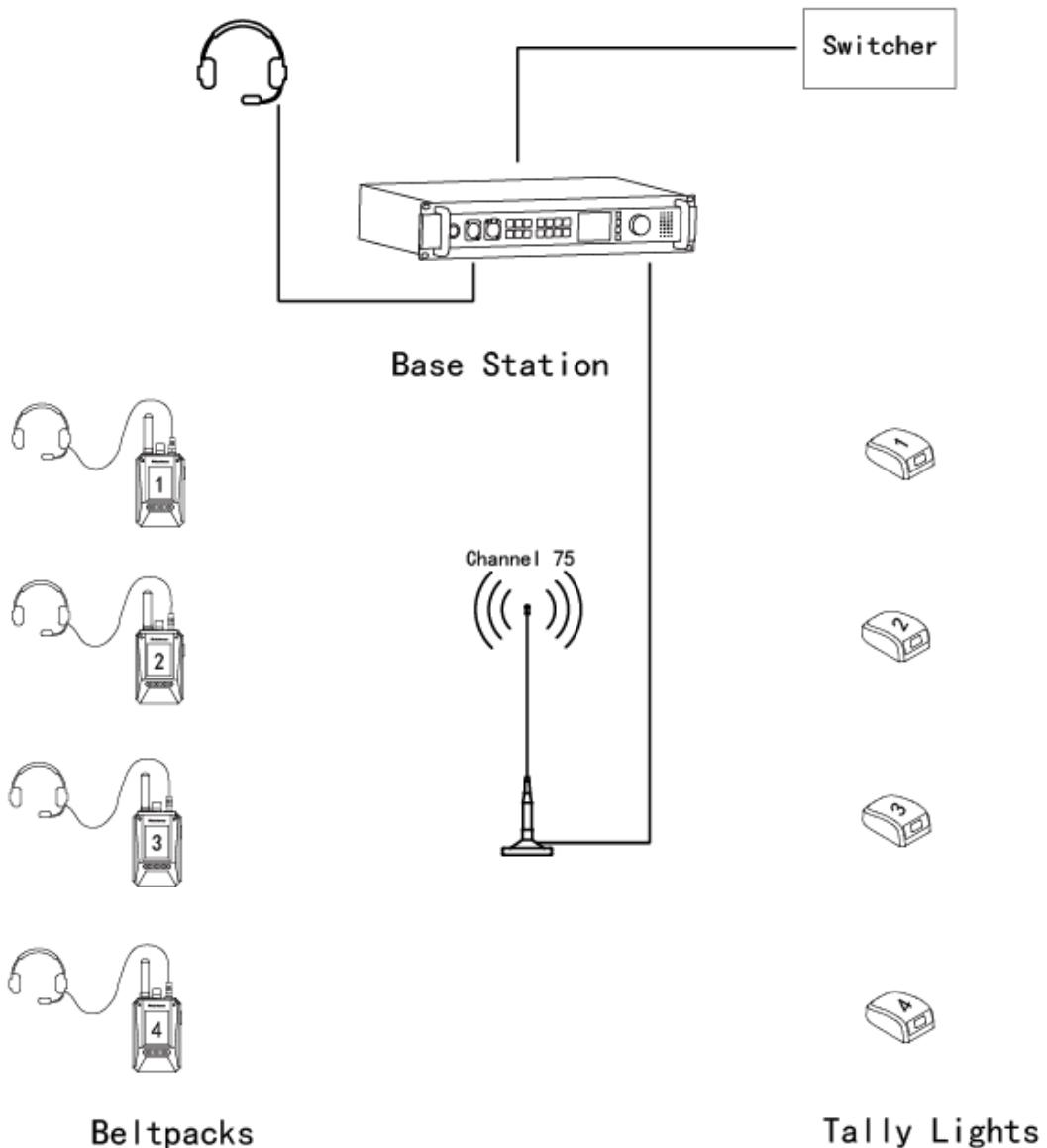
Intercom System

No limit for belt-pack quantity. It supports 8 belt-packs to talk simultaneously.

Tally System

It supports 12 red and 12 green tally signals. It could support 15 red and 15 green or 32 red tally signals in special situation.

Interface Description

Headphone Interface is XLR Male, which connected with headphone.

① MIC + —— ④ Speaker −

② MIC − —— ③ Speaker +
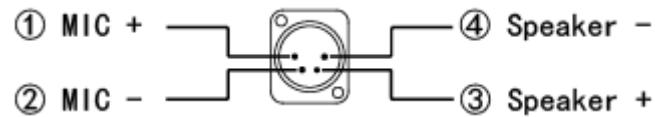
Microphone Interface is XLR Female, which connected with Goose-neck shaped Microphone.

④ LED − —— ① MIC −

③ LED + —— ② MIC +
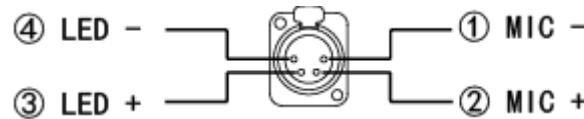
Tally Interface is DB25 Male, which connected with common tally cable to receive tally signal from video switcher. It supports 12 red and 12 green tally signals.

TALLY
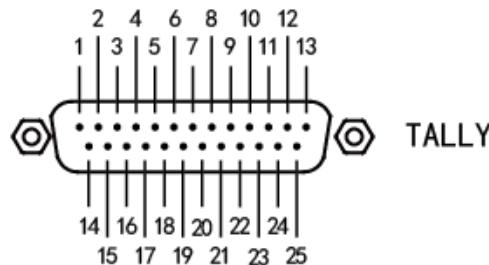
NO.	Description	NO.	Description
1	1 Red	14	1 Green
2	2 Red	15	2 Green
3	3 Red	16	3 Green
4	4 Red	17	4 Green
5	5 Red	18	5 Green
6	6 Red	19	6 Green
7	7 Red	20	7 Green
8	8 Red	21	8 Green
9	9 Red	22	9 Green
10	10 Red	23	10 Green
11	11 Red	24	11 Green
12	12 Red	25	12 Green
13	GND		

Interface Description

RS232 Interface is DB9 Female, which connected with RS232 cable to receive RS232 tally signal.
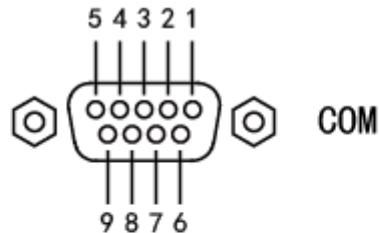
NO.	Description	NO.	Description
1	–	6	–
2	RXD	7	–
3	TXD	8	–
4	–	9	–
5	GND		

UART Interface is 3.5mm socket, which connected with special cable to receive UART tally signal.
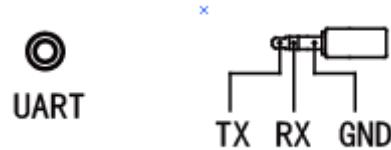
2W Interface is 3 wire XLR Male for audio signal.
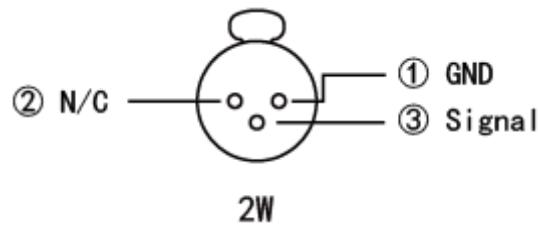
Interface Description

4W Interface is XLR internet socket for 4 wire audio signal or RS485 communication.

4W
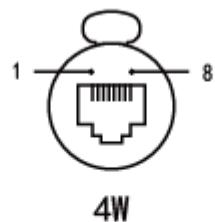
1	2	3	4	5	6	7	8
N/C	RS485 Data −	Audio OUT +	Audio IN +	Audio IN −	Audio OUT −	RS485 Data +	N/C

AUX IN Interface is 3 wire XLR Female for analog audio input.

② Signal +
③ Signal −
① GND

AUX IN
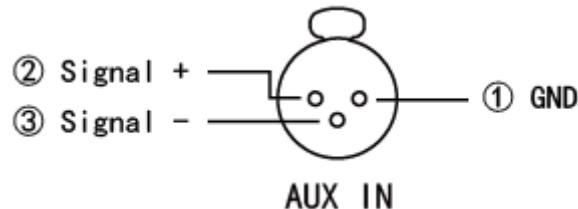
AUX OUT Interface is 3 wire XLR Male for analog audio signal output.

① GND
② Signal +
③ Signal −

AUX OUT
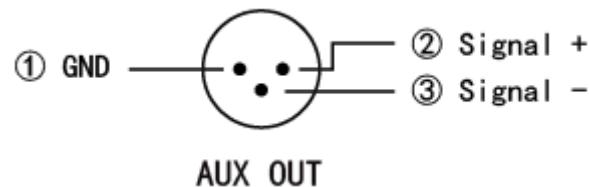
Screen Prompt Description
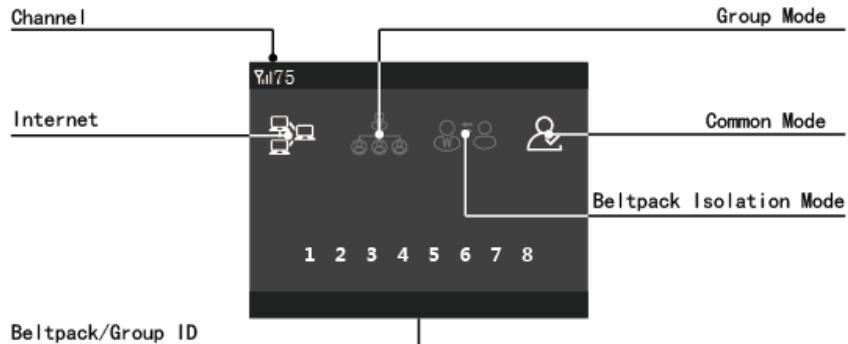
Channel

Display base station channel.

Internet

Display Internet status. It will be lit up when connected internet.

Group Mode

Display the status of group mode. It will be lit up when group mode is turned on. In this situation, the numbers on digital keypad indicate Group ID. Group mode and belt-pack isolation mode can't be turned on at the same time.

Turn on group mode, one group can't talk with another group. Each member of group could talk within his group. Base station could talk with all member of any group.

If a group ID on digital pad is turned off, the group can't communicate with the base station. But the member of group could talk within group.

Belt-pack Isolation Mode

Display the status of belt-pack isolation mode. It will be lit up when belt-pack isolation mode is turned on. In this situation, all belt-packs are unable to communicate with each other. Belt-pack isolation mode and group mode can't be turned on at the same time.

Common Mode

It will be lit up if group mode and belt-pack isolation mode are turned off. In this situation, the numbers on digital keypad indicate belt-pack ID. All belt-packs and base station are able to communicate with each other.

If a belt-pack ID on digital pad is turned off. The belt-pack can't communicate with each other.

Belt-pack / Group ID

Display belt-pack ID or group ID that are sending audio signal. It indicates group ID if group mode is turned on. It indicates belt-pack ID if group mode is turned off.

If group mode is turned off and a belt-pack microphone is turned on, the belt-pack ID will be lit up. If a belt-pack ID is turned off and the belt-pack microphone is turned on, the belt-pack ID will also be lit up. In this situation, the base station and the belt-pack couldn't communicate with each other.

If group mode is turned on and any belt-pack microphone in the group is turned on, the group ID will be lit up. If a group ID is turned off and any belt-pack microphone in the group is turned on, the group ID will also be lit up. In this situation, the base station and the group couldn't communicate with each other.

Settings

Press the ▣ button, the screen will prompt "Press Return Key into menu". Then press the ◄ button to enter the menu. Select the following settings by pressing ▲ and ▼ buttons. Includes Channel Setting, Background Sound Level, Noise Suppression Level, MIC Return, TALLY Setting, two wire setting, Language Setting, Preload configuration, etc.　Press ▣ button to enter a setting. Press ◄ button to return to the previous menu after setting. Press ◄ button again to exit menu.

Channel Setting

Enter the menu and choose "Channel Setting". Then press "Confirm" button to enter the setting. Choose channel by pressing "Up" and "Down" button. Press "Exit" button to return to the previous menu after setting.

It is advised to set a big channel spacing (30 channels or more) if two or more channels are used for different teams at same place.

Menu | Channel Setting

Channel Setting

Press Confirm button to enter and Exit button to return

Channel:75

Channel Range: 25 - 110.

Note: Beltpacks, base station and tally lights must be set at the same channel for cooperation.

Press Exit button to save and return
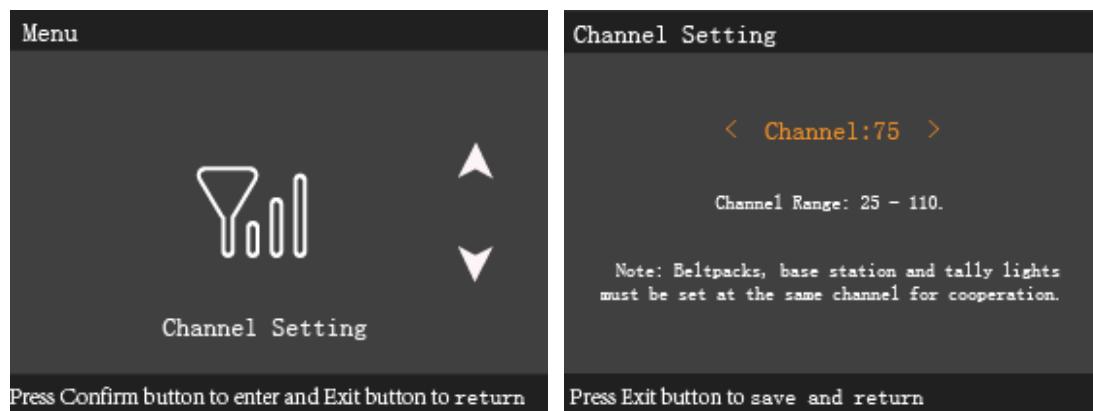
Background Sound Level

Enter the menu and choose "Background Sound Level". Then press "Confirm" button to enter the setting. Choose suitable level by pressing "Up" and "Down" button. There are 3 levels, namely 0, 1, 2. Select the suitable level according to the background noise level. Press "Exit" button to return to the previous menu after setting.

The factory default setting is level 1, which is suitable for most situation.

Level 0 is suitable for a silent situation, just speak with a low voice.

Level 1 is suitable for most situation, you should speak with a loud voice. (Factory default setting)

Level 2 is suitable for a noisy situation, you should speak with a roar.

(Note: No need to change the setting in general. The voice may be intermittent if the level is too high in a relatively quiet situation)
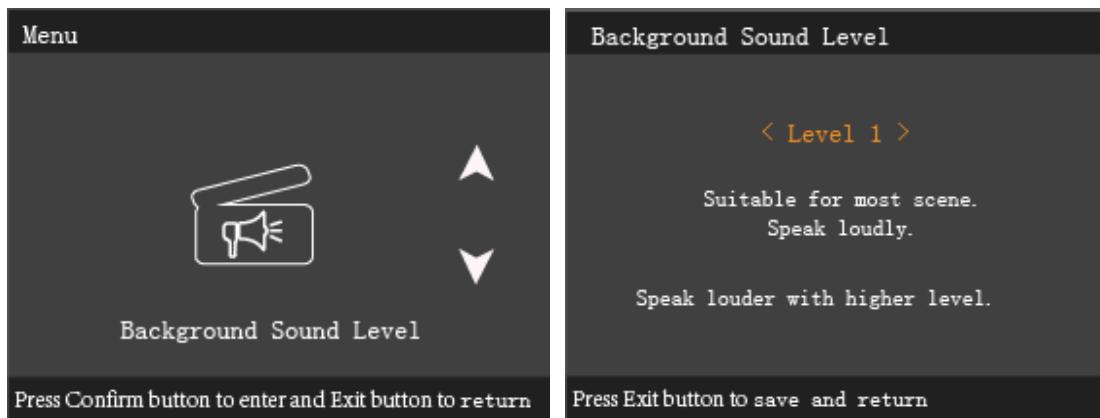
Noise Suppression Level

Enter the menu and choose "Noise Suppression Level". Then press "Confirm" button to enter the setting. Choose suitable level by pressing "Up" and "Down" button. There are 6 levels, namely 0, 1%, 2%, 3%, 4%, 5%. Choose the suitable level as required. Press "Exit" button to return to the previous menu after setting.

The setting allows the headset or speaker to suppress a certain level of the background noise received from other belt-packs or the base station. The default setting is level 5. (Suppress the noise lower than 5%. Only those voice volume surpass 5% will be heard.)
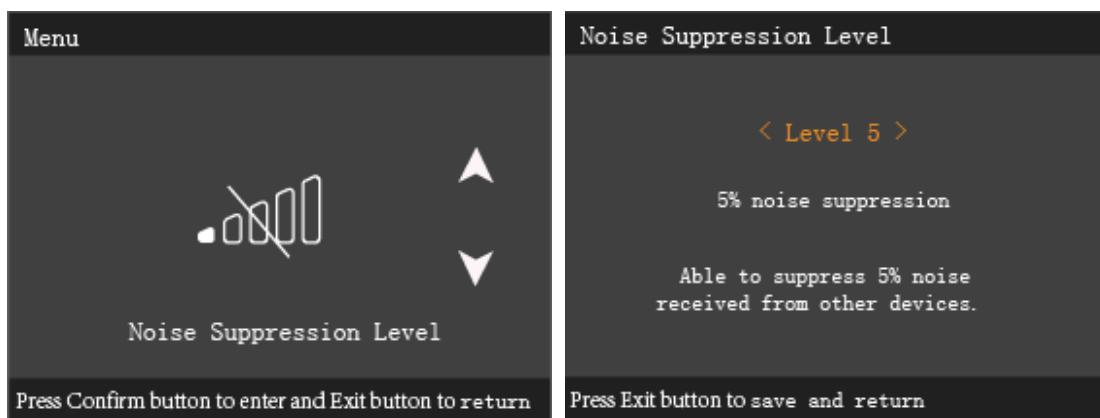
MIC Return

Enter the menu and choose "MIC Return". Then press "Confirm" button to enter the setting. Choose suitable level by pressing "Up" and "Down" button. There are 10 levels from 0 to 100%. Choose the suitable level as required. Press "Exit" button to return to the previous menu after setting.

Turn on the MIC Return function, you can hear your own voice returned by the microphone. Your return voice will be higher with a higher level.

It is usually advised to turn off the "MIC Return function", otherwise it may influence acoustic echo cancellation function.

Menu	MIC Return
MIC Return	< Disable >
	Disable MIC Return. Unable to hear your own return voice.
Press Confirm button to enter and Exit button to return	Press Exit button to save and return
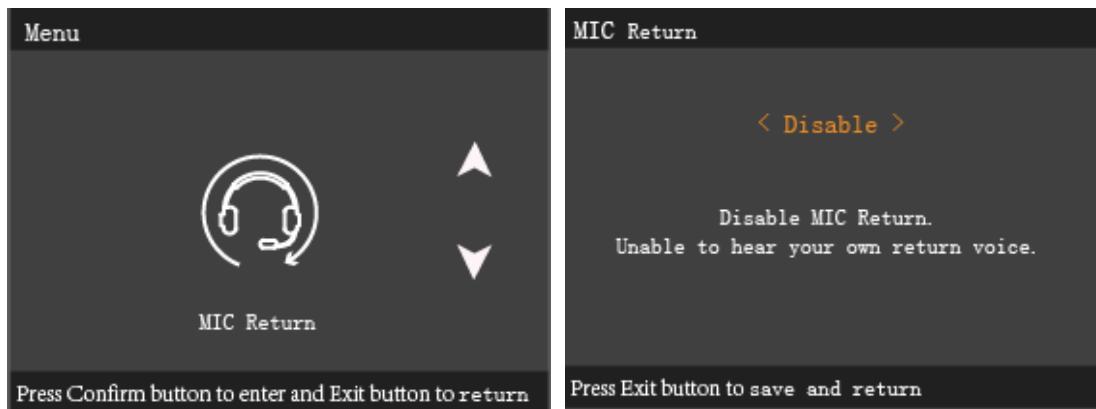
Tally Setting

Enter the menu and choose "Tally Setting". Then press "Confirm" button to enter the setting. Choose switcher brand by pressing "Up" and "Down" button. Then press "Confirm" button to enter video switcher model option. Choose video switcher model by pressing "Up" and "Down" button. Press "Exit" button to return to the previous menu after setting.

You should set the right video switcher brand and model, and choose the right switcher cable for the base station to receive switcher tally signal as required. Otherwise the base station may receive the wrong tally signal or even unable to receive tally signal.

| Menu	TALLY Type
TALLY	< Brand: SONY >
	< Model: MCS-8M >
TALLY Type	Attention: Please choose the right brand and model for your switcher.
Press Confirm button to enter and Exit button to return	Press Exit button to save and return
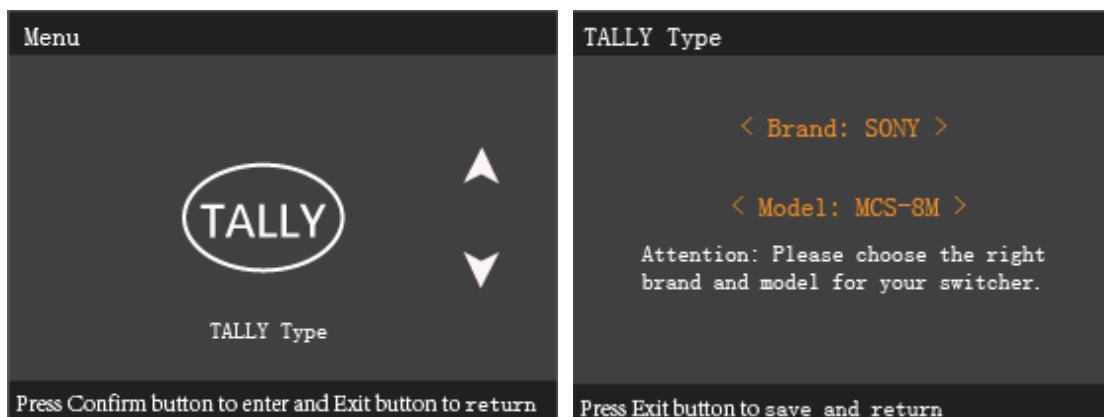
2 wire Setting

Enter the menu and choose "2 wire Setting". Then press "Confirm" button to enter the setting. Turn on / off the setting by pressing "Up" and "Down" button. Press "Exit" button to return to the previous menu after setting.

The default setting is turned off "2 wire Setting". In this situation, the 2-wire interface is unavailable, and the 4-wire interface is available. If you turn on "2 wire Setting", the 2-wire interface is available, and the 4-wire interface is unavailable.

2 Wire Setting

< Turn Off >

Turn Off 2 Wire Setting

Attention: Turn on 2 Wire Setting only be
connected with 2 wire intercom systems.

Press Exit button to save and return
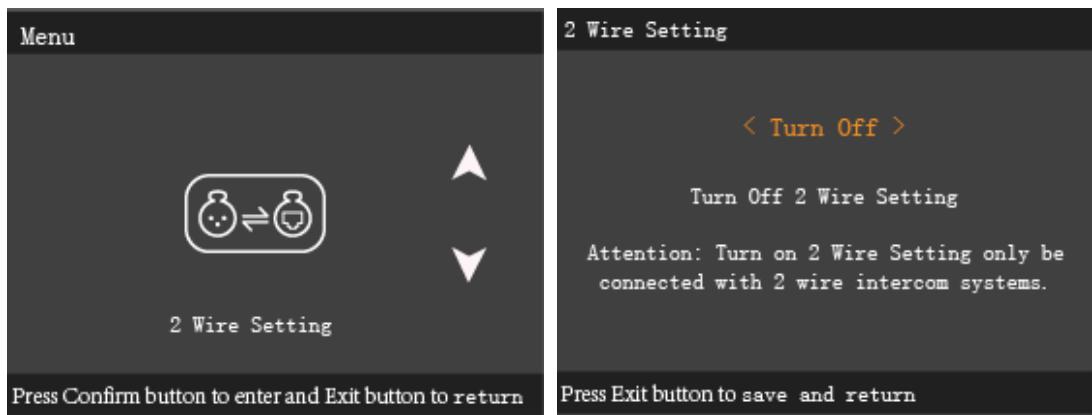
Language Setting

Enter the menu and choose "Language Setting". Then press "Confirm" button to enter the setting. Switch between Chinese and English by pressing "Up" and "Down" button. Press "Exit" button to return to the previous menu after setting.

Menu

中 EN

Language Setting

Press Confirm button to enter and Exit button to return

Language Setting

< English >

English Mode

Note: The prompt language will
change to English.

Press Exit button to save and return
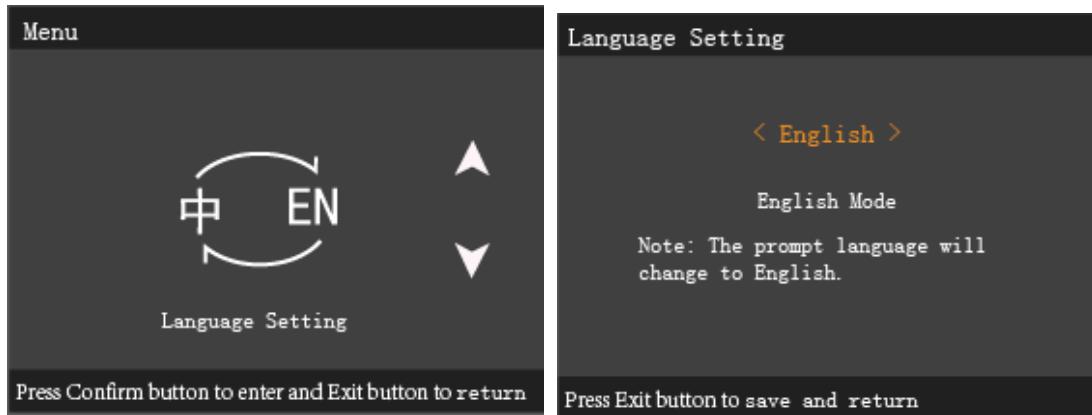
Quick Setting

Enter the menu and choose "Quick Setting". Then press "Confirm" button to enter the setting. Change the setting by pressing "Up" and "Down" button. Press "Exit" button to return to the previous menu after setting.

Keep current Settings: Keep all the current setting data.

Restore Factory Settings: Restore all factory data.

Quiet Background Settings: All the data will be set automatically to match quiet background.

Noisy Background Settings: All the data will be set automatically to match noisy background.

Menu

Quick Setting

Press Confirm button to enter and Exit button to return

Quick Setting

< Keep Current Settings >

Keep all the current
setting data.

Press Exit button to save and return
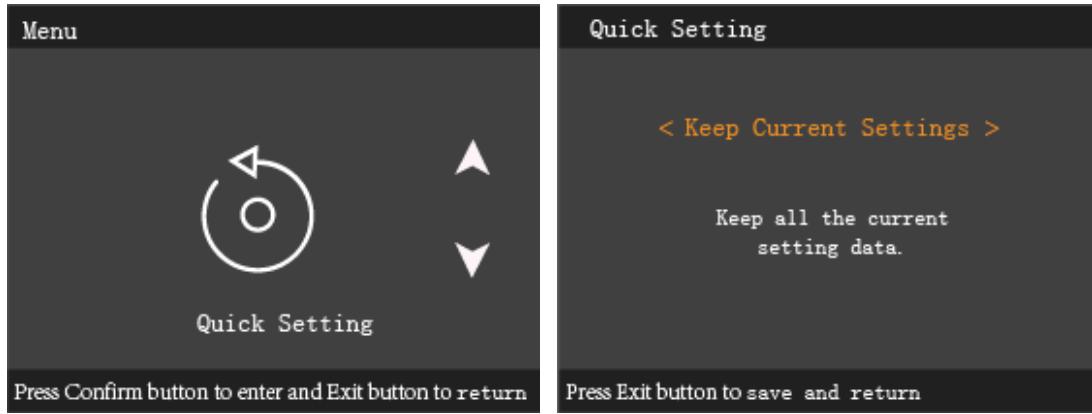
LAN Networking Communication Diagram
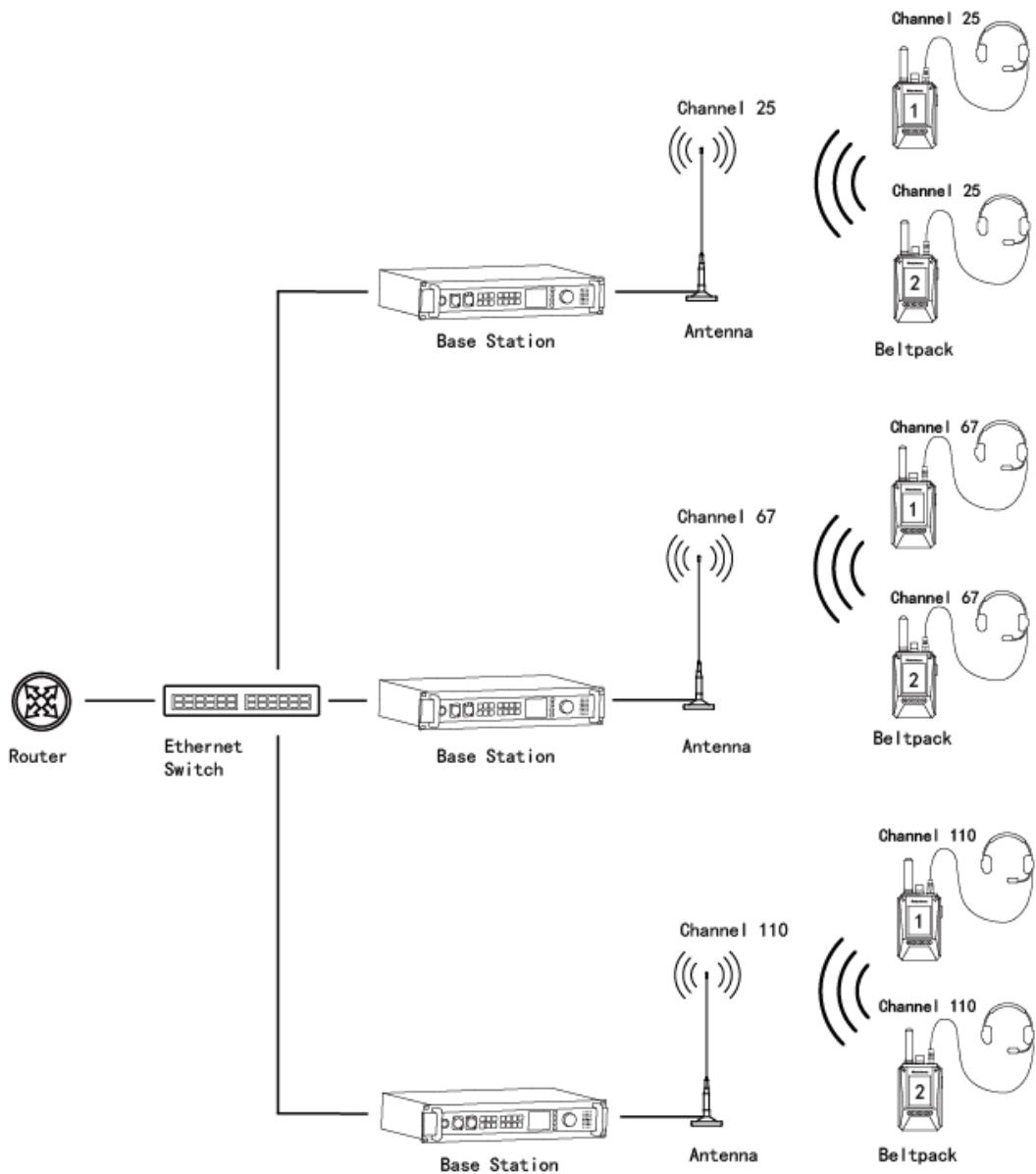
WAN Networking Communication Diagram
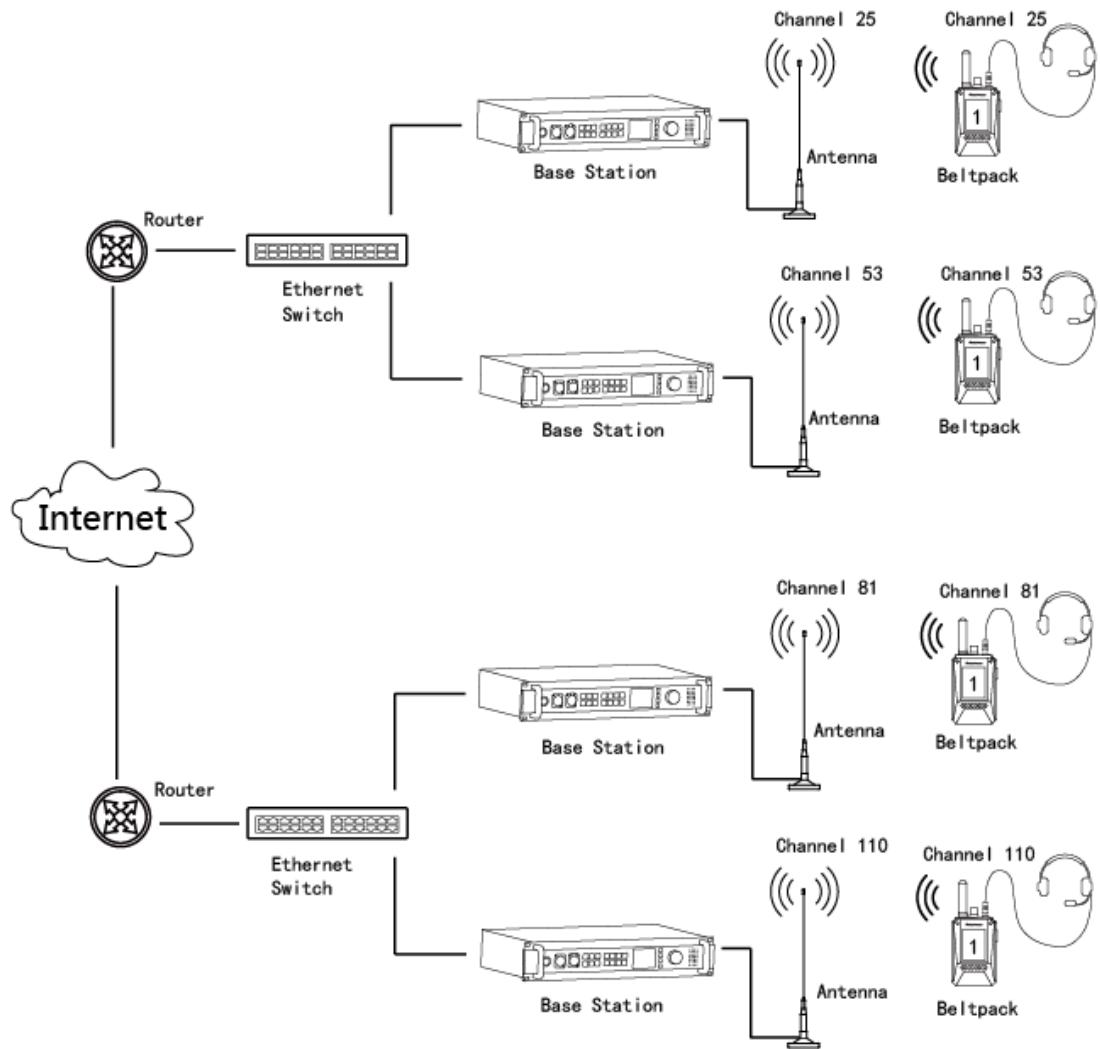
Attention

1. Router port mapping function is specially designed for Wan connection. The mapping port number is 23458. Please contact network engineer to configure router port mapping.

2. Public network IP address must be fixed. Don't use dynamic IP address.

3. Please contact the dealer to config proxy server IP address of the base station.

Quality Commitment and Maintenance Terms

Warranty services for material and manufacturing process defect under normal operation since purchase date.

Warranty Scope and Duration

12 months for the base station and belt-packs

6 months for headphones

Warranty Claim

You should provide product warranty card or valid purchase invoice to apply repair. The product mark should be kept clean and intact during the warranty period.

Warranty Card

In order to protect your benefits, please fill in the following table carefully and keep it properly as a evidence for maintenance.

Agency Information	
Agency Name	
Product Model	
Sale Date	
Telephone	
Customer Information	
Customer Name	
Telephone	
Address	
E-mail	

NAYA

WeChat Subscription

Number

Shanghai NAYA

Intelligence Technology

Co. Ltd.

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