USER'S MANUAL

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Fire Emergency Evacuation Broadcast

GB350E

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Thank you for choosing the high-quality products produced by Shenzhen Fanhai Sanjiang Electronics Co., Ltd.!

Before using this device, make sure you have read this manual in detail. After commissioning and acceptance, the manual shall be in charge of special personnel and kept properly for future reference!

Chapter I Product introduction

1.1 Product features

1) Integrated design and less occupied space.
2) High-power output capability.
3) Silica gel button, beautiful appearance, good hand feeling and long service life.
4) Output of constant voltage 120V.
5) Direct access to USB stick or card reader, compatible with USB 2.0 device.
6) Perfect overload, over-temperature and short-circuit protection, ensuring the system with safe and reliable operation.
7) Interlock with control device by means of 485 communication mode.
8) Equipped with auxiliary 24V emergency remote control wire interface.
9) Reserved with standby 220V port for external connection with backup power supply.

1.2 System wiring diagram

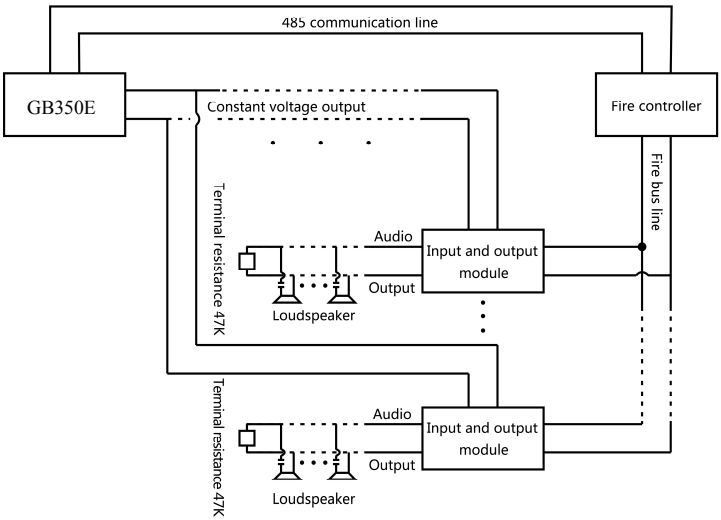


Fig. 1.1 System wiring diagram

1.3 Technical parameters

1) Power supply: AC 220V (+10%,-15%, 50Hz)
2) Remote control trigger mode: 24V level trigger
3) Line input sensitivity (rms): 200mV (external line 1), 900mV (external line 2)
4) Frequency response range: 80Hz ~ 8kHz
5) Total harmonic distortion: <5%
6) SNR: 70dB
7) Monitoring power: 1 W
8) Rated output voltage: 20V (constant voltage mode)

9) Rated output power: 350W

10) Operating environment: Temperature 0 ~ + 40 ℃, relative humidity 95%

11) Insulation strength: a) AC input to the chassis greater than 50M (DC500 V)

b) Constant voltage output to the chassis greater than 50M (DC500 V)

12) Electrical strength: AC input to the chassis leakage less than 10mA (AC 1 ,250V)

1.4 Logistic schematic diagram

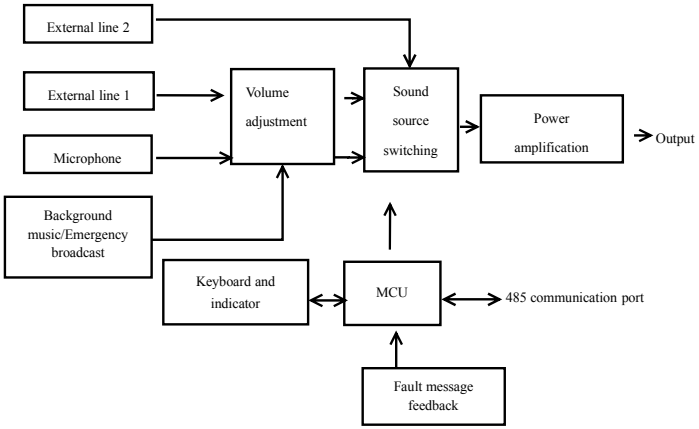
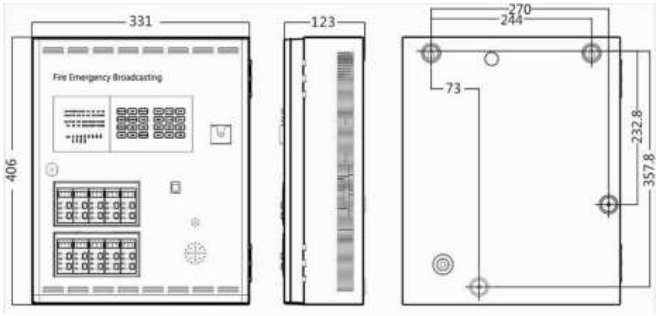


Fig. 1.2 Logic schematic diagram

Chapter II Installation, dimensions and appearance

2.1 Appearance and dimensions of GB350E



Weight: 13kg

Fig. 2.1 Dimensions of chassis

2.2 Description of wiring terminals

Terminal label	Usage
Mains 220V	Used for external connection with 220V mains supply when working properly
Backup power 220V	Externally connected to 220V fire control power supply, used for power supply in case of mains failure.
Constant voltage output (+, -)	Used for outputting the sound source and driving the external speaker to produce sound.
485 (A, B)	Used to connect to communication port of external control panel .
Remote control input (+, -)	Used to connect external excitation signal and trigger emergency broadcast remotely.
External line 1	Used to input external sound source to the equipment for playing. (Volume adjustable).
External line 2	Used to input external sound source to the equipment for playing.
Telephone trunk (L1, L2)	Reserved
Telephone terminal (A, B)	Reserved
24V input (+, -)	Reserved

2.3 Installation and commissioning

1) Wires shall be correctly connected according to wiring instruction.
2) Power on and the power indicator (green) is turned on.
3) When the wires are normal after commissioning, operate pursuant to the operation instruction.
4) Address setting of broadcast host:
   The broadcast host has a four-digit address code consisting of JP1, JP2, JP3 and JP4, and the encoding table is shown in Table 1: ("*" indicates that the position is connected to ON).

Table 1 Address coding of broadcast host

Address No.	JP1	JP2	JP3	JP4
1	*			
2		*		
3	*	*		
4			*	
5	*		*	
6		*	*	
7	*	*	*	
8				*
9	*			*
10		*		*
11	*	*		*
12			*	*
13	*		*	*
14		*	*	*
15	*	*	*	*

2.4 Wiring instruction

1) Power line connection:
   (1) Connect 220V AC power cord to the "mains 220V" terminal, and pay attention to the N/ L/ PE line sequence.
   (2) Connect backup power output to the "standby 220V" terminal, and pay attention to the N/ L/ PE line sequence.
2) Input line connection:
   (1) When external sound source input is required, connect external sound source and "external line 1" and "external line 2" with high-quality shield wire.
   (**Note: Do not turn on "external Line 1" or "external Line 2" without an external sound source.**)
   (2) 24V remote control trigger signal connection: connect the 24V level signal given by the control device to the "remote control input" terminal, and note the positive and negative

polarity.

3) Output line connection:

(1) Constant voltage output: the constant voltage is output to an external sound generating circuit, and can be directly connected with a constant pressure horn or connected with an input output module.

(2) 485 Output: When connected to external control equipment, connect to "Broadcast terminal 485", ensure that the polarity of this signal corresponds to the control device.

Chapter III Operation Instruction

3.1 Functional keys and indicators

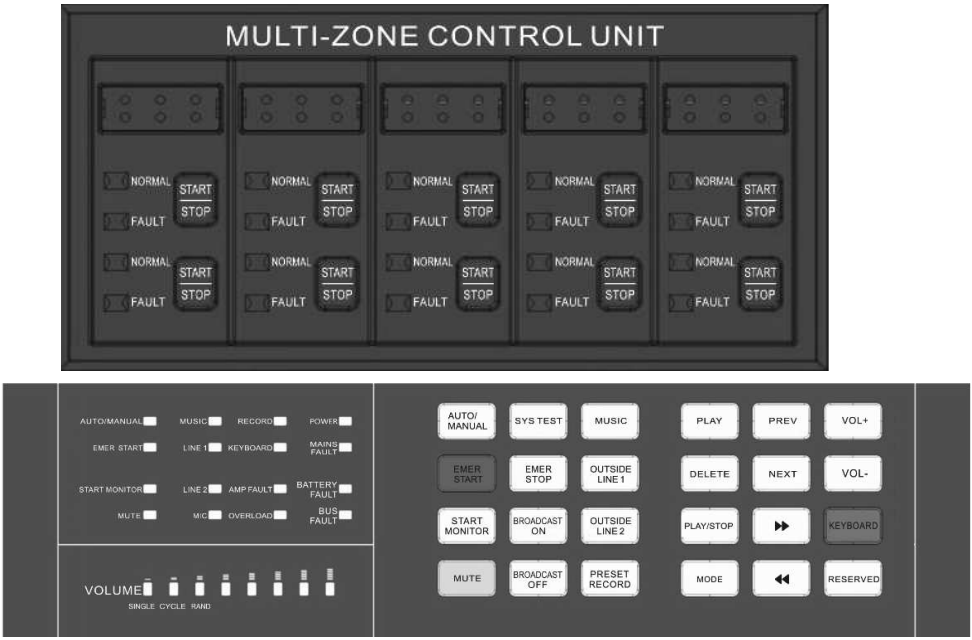


Fig. 3.1 Keys and indicators on the panel

3.2 Emergency broadcast function

Emergency broadcast includes the following statuses:

1) Emergency broadcast play status: The "EMER START (Emergency Start)" indicator is always on, and the system plays the emergency broadcast.
2) Emergency broadcast pause state: The "EMER START (Emergency Start)" indicator flashes and the system waits for the play command.
3) Emergency broadcast stop state: The "EMER START (Emergency Start)" indicator lamp is normally off and the system exits to the standby state.

The emergency broadcast is applicable to fire alarm. When the emergency broadcast is triggered, if a user-preset emergency broadcast recording is present in the machine, the recording will be broadcast; otherwise, the ex-factory default emergency broadcast recording is automatically broadcast, and the volume of power amplifier is automatically set to the maximum state and cannot be changed.

There are two ways to enter the emergency broadcast state:

1) Upon receipt of the "Fire alarm" signal sent by the external control panel, the product will automatically enter emergency broadcast state.

2) When the fire-fighting broadcasting host is in the non-emergency state, press “EMER START” button, the broadcast host will, after the external fire control panel returns the information, enter the emergency broadcast playing state, and then is in the manual mode.

3.3 Microphone broadcasting function

1) Non-emergency broadcast status: In this state, when the microphone is pressed, the "MIC" indicator is always on, the current playing sound source and alarm sound will be temporarily interrupted, and then using the microphone will not trigger recording; 3s after the microphone is released, the microphone is restored to the state before microphone broadcasting, and the "MIC" indicator is normally off.

2) Emergency broadcast status: In this state, when the microphone is pressed, the "MIC" indicator is normally on, the emergency broadcast and other alarm sounds are automatically interrupted, and the product will be in the emergency recording status. The corresponding "RECORD" indicator flashes, the recording is automatically stopped when the microphone is released, and both the "RECORD" and "MIC" indicator are normally off, and the product returns to the state before the emergency recording.

(**Note: Please keep the interval of 1 second or more while the microphone is “pressed/released”, and do not switch too frequently.**)

3.4 (User-preset recording) Record and playback operation

1) Recording operation: In the standby mode, press and hold the "PRESET RECORD"button, press the"MODE"button within 4 seconds to enter the recording waiting state (Repeat the recording operation to exit the recording waiting state.) , and the "RECORD" indicator will cyclically flash, that is, being on 0.5s and off 2 seconds; if the error occurs, the product will give alarm prompt and exit to the standby mode. After the microphone is pressed, the recording starts and the "RECORD" indicator cyclically flashes, that is, being on 0.5s and off 0.5 second. If the microphone is released or recording lasts for more than 1 minute, the product will automatically exit to the recording standby state. (**The monitoring function in this mode is turned off and cannot be started manually; the preset recording recorded by the user will take effect only when manually exit from the preset recording operation.**)

2) Playback operation:

(1) In the recording standby state, press "PLAY" key and if the User-preset Recording exists, the product will enter the audition state, "Recording" indicator is always on. If the microphone is pressed in the state, the product will start a new round of recording and automatically override original recording; current preset recording will be deleted if the "DELETE" key is pressed in the audition state, and the current preset recording will be played back if the "PLAY" key is pressed again. If no user-preset recording, the product will give a warning sound prompt and exit to the record waiting state.

(2) In standby mode, when the "PLAY" key is pressed, the emergency broadcast microphone recording is played in a list circulating mode from the first recording file. In this state, the "PREV" and "NEXT" operation are valid. Press the "PLAY" key again to exit the emergency broadcast recording state.

(3) Delete recording: press the Delete key in the recording standby state to delete the recordings currently preset by users; If no recording exists, the product will give a warning sound prompt and exit to the recording standby state.

3.5 Fault indication

1) AMP FAULT（Power amplifier fault）: When the fault feedback signal from power amplifier is detected, the "AMP FAULT" indicator (yellow) is normally on, and the buzzer sounds.
2) OVERLOAD (Power amplifier overload): When the overload feedback signal from power amplifier is detected, the "OVERLOAD" indicator (yellow) is normally on, and the buzzer sounds.
3) BUS FAULT : When the trunk open circuit and short-circuit signal is received from control panel, the "BUS FAULT" indicator (yellow) is normally on, and the buzzer sounds.
4) FAULT (Partition fault): When the fault partition information is received from the control panel, the corresponding "FAULT " indicator (yellow) is normally on, and the buzzer sounds.
5) MAINS FAULT (Mains supply fault): When the mains supply fault signal is detected, the "MAINS FAULT" indicator (yellow) is normally on, and the buzzer sounds; in the normal state, the indicator is normally off.
6) BATTERY FAULT (Backup power failure): When the Backup power failure signal is detected, the "BATTERY FAULT" indicator (yellow) is normally ON, and the buzzer sounds; in the normal state, the indicator is normally off.
7) MUTE: When the fault alarm sounds, press "MUTE" key or receive an external mute signal from 485, the "Mute" indicator is normally on, and the buzzer is muted; if there is a new fault in mute period, the buzzer works again and, upon receipt of mute signal, is silenced again. (**Note: The mute operation can only eliminate the buzzer sound, the corresponding fault indicators are not affected, and will not return to the normal state before the fault is eliminated.**)

3.6 Monitoring and self-checking functions

1) Monitoring: The monitoring function can be turned on or off by the key "START MONITOR", and the status is indicated by the corresponding indicator.
2) Self-check: Enable self-check function through the "SYS TEST" button, check the indicating device and alarm device, and then the product will automatically exit to the state before self-check after the check. Self-check is automatically aborted when additional responses are received during the check.

3.7 Manual/automatic switching function

1) Manual mode switching to automatic mode: This operation can take effect in emergency and non-emergency state respectively. After "Auto/Manual" button is pressed, the corresponding "Automatic/Manual" indicator will change from normally ON to normally OFF.
2) Automatic mode switching to manual mode: This operation can only take effect in the emergency state, and after the "Auto/Manual" button is pressed, the corresponding "Automatic/Manual" indicator will change from normally OFF to normally ON. (**Note: In case of emergency, the "Emergency stop" function and the start & stop of single partition**

can only be operated and controlled in manual mode)

3.8 Background music function

The background music play function is used for general broadcast playing in the non-emergency state, and when the "Music" button is pressed, the "Music" indicator will be normally on, and the product would automatically in the "Background music play" mode, if the key is pressed again, exit the background music mode, and the "Music" indicator is normally off. Other relevant keys in the background music play mode are described as follows:

1) Mode: After the "Mode" key is pressed, you can correspondingly switch among "Single cycle, Playlist cycle and Random play" mode, and the corresponding volume indicators 1 to 3 will flash with 0.5 second on and 0.5 second off.
2) Previous music: Press the "PREV" key to switch to the previous one.
3) Next music: Press the "NEXT" key to switch to the next one.
4) Fast forward: Press the " ▶▶ " key to perform the fast forward operation, and the "music" indicators would be alternately on and off every 0.5 second.
5) Rewind: press the " ◀◀ " key to perform the fast-backward operation, and the "music" indicators would be alternately on and off every 0.5 second. .
6) PLAY/STOP: Press the PLAY/STOP key. If the previous state is the play state, the pause operation would be performed, and the "Music" indicator is on for 1 second and off for 2 second alternatively; if the previous state is paused state, the Play operation will be performed, and the "music" indicator is normally on. (**Note: above operations can only be performed in the background music mode. If no USB stick is detected, an alarm sound prompt will be provided.**)

3.9 Broadcast partition

1) There are several states in the broadcast partition:
   (1) Startup state: In this state, the partition operation indicator is normally on, indicating the partition is in working state.
   (2) Startup application state: In this state, the partition operation indicator cyclically flashes, that is, being on 1 second, and off 2 seconds, indicating that the external control panel applies to the broadcasting host for partition startup.
   (3) Startup waiting state: In this state, the partition operation indicator is cyclically on for 0.5 seconds and off for 0.5 seconds, indicating that the external control panel is starting the corresponding partition linkage module, but does not return the startup success command.
   (4) Registration status: In this state, the partition operation indicators will be cyclically on for 1 second and off for 4 seconds, indicating that the partition has been registered with the external control panel, but not activated.

2) Single point operation: Press the Start/ Stop key corresponding to each partition, the registered partition, if currently being started, will be turned off, and vice versa. (**Note: in emergency state, this operation is only valid in the manual mode**)

3) Collective broadcast operation: Press the "BROADCAST ON" key, all registered partitions that are not started will be in the "Start-up waiting state" and after the external control panel returns the startup completion instruction, all waiting partitions will be in the "Start-up state".

4) On-off operation: Press the "BROADCAST OFF" key, all registered partitions that have been started will exit to the "Registration state".

3.10 Lock key function

Lock key function is used to enable and disable the function of keyboard keys. In the state of the lock key (**by default, the power-on reset is to lock the keyboard**), the "Keyboard" indicator is normally off and **except for the "MUTE" key**, all the keys fail; when the "Lock key" button is pressed, the "Keyboard" indicator is normally on, the product will exit the lock key state, and all keys related operations can be performed. **If there is no operation in five minutes, the product will automatically re-enter the lock state.**

Chapter IV Others

4.1 Precautions

1) When connecting the line, attention shall be paid to the positive and negative polarity of the power supply.
2) When in use, it should be noted that the chassis shall be grounded well.
3) In order to ensure stable operation of the system, the time interval of continuous switching shall be greater than 10 seconds.
4) **If the linkage control with external control panel is required, ensure that the operating frequency is not too fast.**

4.2 Fault analysis and troubleshooting

See Table 2

Table 2 Fault analysis and troubleshooting

Fault	Possible cause	Solution
Emergency start sound is abnormal	Misoperation causes the priority of the emergency source to be lower	Perform a recording delete operation until the deletion is complete
	The speaker connected to the bus does not have a blocking capacitor and the terminal board is faulty.	Disconnect the bus. During standby, the multimeter measures the DC voltage of the constant voltage output terminal above 50V, otherwise it is considered damaged.Then replace the terminal board to confirm.
	The motherboard recording module or audio transformer is damaged.	Replace the motherboard
	Amplifier failure	Replace the amplifier
Amplifier failure	The amplifier itself is damaged	Replace the amplifier
	The terminal board is damaged, causing the power amplifier to report a fault.	Check whether the speaker is handled with a straight block and replace the terminal block.

4.3 Accessories

Name	QTY	Unit	Remark
Specification book	1	Copy	
1A protective tube	2	pcs	5*20mm
5A protective tube	2	pcs	5*20mm
Certificate of quality (labeled on the product)	1	copy	
Line sleeve	6	pcs	
Door lock and keys	1	/	
Power line	1	/	
Handheld microphone	1	pcs	

Statement: This manual may change with the product upgrade without further notice, subject to the product in kind, please request the latest version free of charge from our company. Shenzhen Fanhai Sanjiang Electronics Co., Ltd. has the right of final interpretation and change!