TG7100

Broadcast Control Panel
Installation and Operation Manual

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1 Introduction

1.1 Overview

The fire emergency broadcast control panel is a special system for fire communication. In the event of fire, it can make notification and evacuation fast. Complying with national standard GB16806-2006 Automatic Control System for Fire Protection (containing Modification No.1), TG7100 Fire Emergency Broadcast Control Panel constitute a emergency broadcast system together with power amplifiers, and speakers. The fire emergency broadcast control panel connects with a fire alarm control panel through RS485 or CAN to detect and alarm fire.

1.2 Features

- Three start mode: auto, manual and contact input
- Support multiple audio inputs, such as emergency broadcast, U disk, MIC, external line 1, external line 2
- Provide MP3 and WMA formats
- Supports 10-level cascaded power amplifiers
- Large reserved space for broadcast sound, and broadcast sound can be synthesized and imported
- Automatically detect U disk and MIC
- LED for emergency broadcast
- Black and white 128×64 LCD, displaying 32 characters.

1.3 Technical Specification

Compliance	GB 16806-2006(containing Modification No.1)
Rated Voltage	24VDC（20VDC ~28V）
Operating Current	≤500mA,Standby Current<100mA
MP3 Bit Rate	supporting up to 320kpbs
Audio Output	＜0dB
External Line1 Input	-10dB ,Input Impedance≥47KΩ
External Line2 Input	＜0dB
Maximum Recording Length	9-hour length recording,saving for almost 10 years,and overwriting 100,000 times
Recording Segment	up to 999
Supporting Zone	up to 210
Communication Mode	RS485/CAN
Dimensions Lx W x H	483mm×160mm×133mm
Weight	2.9kg
Temperature	0℃~+40℃
Relative Humidity	0 to 95% Relative Humidity, Non condensing

1.5 System Configuration

TG7000 Fire Emergency Control Panel includes the following equipment.

- TG7100 Broadcast Control Panel
- TG7300/TG7301/TG7302 Power Amplifier

Note: Refer to corresponding manuals for Installation and operation of TG7300/TG7301/TG7302 Power Amplifier.

2 Structure

2.1 Appearence and Function

The appearance of broadcast control panel is shown in Fig. 2-1.

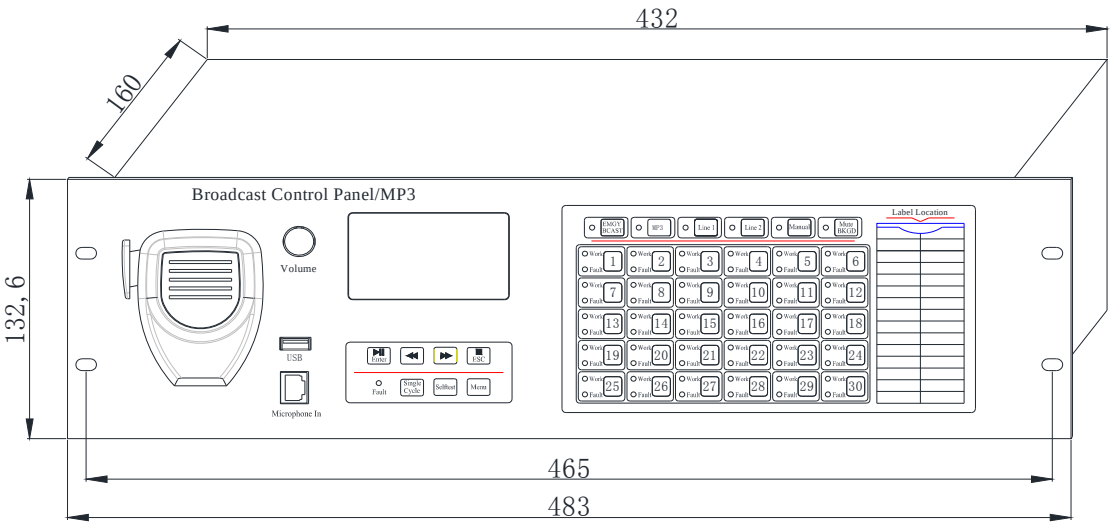

Fig. 2-1

Broadcast control panel is plugged into a rack-type or console-type fire alarm control panel. Front Panel is shown in Fig. 2-2

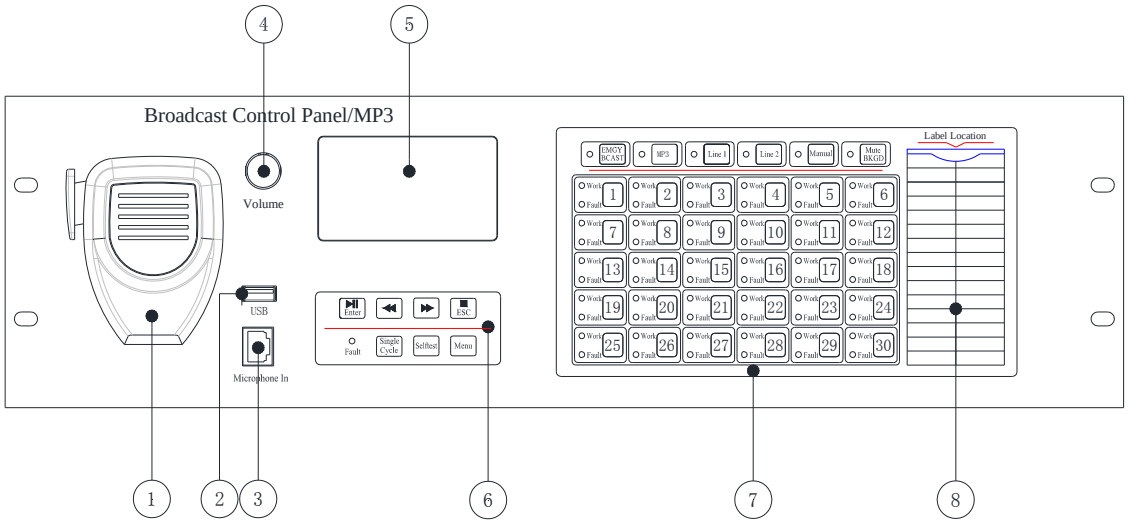

Fig. 2-2

Description:

①Microphone is used for yelling in background mode or for evacuation in emergency broadcast mode
② U disk port
③ The holder of the handset and the interface of the microphone
④ Volume Knob: It is used to turn up and down the sound
⑤ LCD
⑥ Functions keys (refer to 2.2 for details)
⑦ Zonal Keys and Indication (refer to 2.2 for details)
⑧ Paper Inserting

2.2 Keys and LEDs

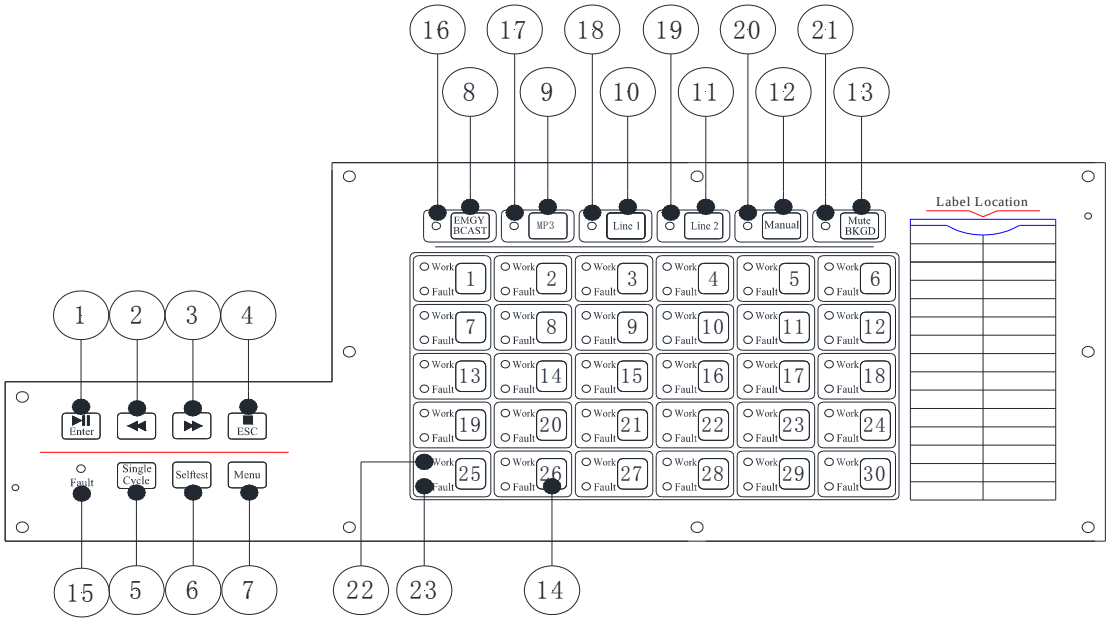

Fig. 2-3

① Enter : Press it to confirm in menu mode. In addition, press it to play/pause while playing the sound or playing the recording back.

②◀◀: Press it to play the last audio while playing the sound or playing the recording back. And press it to minus one while setting passwords, time or numbers. In addition, it can be used to select the last option in menu.

③ ▶▶: Press it to play the next audio while playing the sound or playing the recording back. And press it to add one while setting passwords, time or numbers. In addition, it can be used to select the next option in menu.

④ ESC : Press it to return in menu mode and press it to stop while playing MP3.

⑤Single Cycle: Press it to play only one audio over and over again in MP3 mode.

⑥Self-test: Pressing it and entering the correct password, the emergency broadcast control panel starts self-test.

⑦Menu: Pressing it in standby state can enter menu selection mode.

⑧EMGY BCAST: Press it to enter the emergency broadcast mode.

⑨MP3: Press it to enter the MP3 mode.

⑩Line1: Press it to connect with external line 1.

⑪Line2: Press it to connect with external line 2.

⑫ Manual: Press it to make the emergency control panel in manual mode, disabling the start and stop commands of the panel.

⑬ Mute BKGD: Press it to silence the buzzer. Press it a little longer to enter the background mode (in this mode, the zone is started and the emergency broadcast control panel can't switch to the emergency broadcast mode automatically).

⑭ Zone: Press it to start or stop the related zone.

⑮Fault LED: It lights yellow as an amplifier occurs fault.

⑯ EMGY BCAST LED: It lights red in emergency broadcast state.

⑰MP3 LED: It lights green in MP3 mode.

⑱ Line1 LED: It lights green when line1 is connected.

⑲Line2 LED: It lights green when line2 is connected.

⑳Manual LED: It lights green when the emergency broadcast control panel is in manual mode.

㉑Mute BKGD LED: It lights green in background mode and flashes in mute state.

㉒Work LED: The related Work LED lights green as a zone is started.

㉓Fault LED: The related Fault LED lights yellow as a zone is in fault condition.

2.3 Terminals/Ports

External terminals of the emergency broadcast control panel is shown in Fig. 2-4.

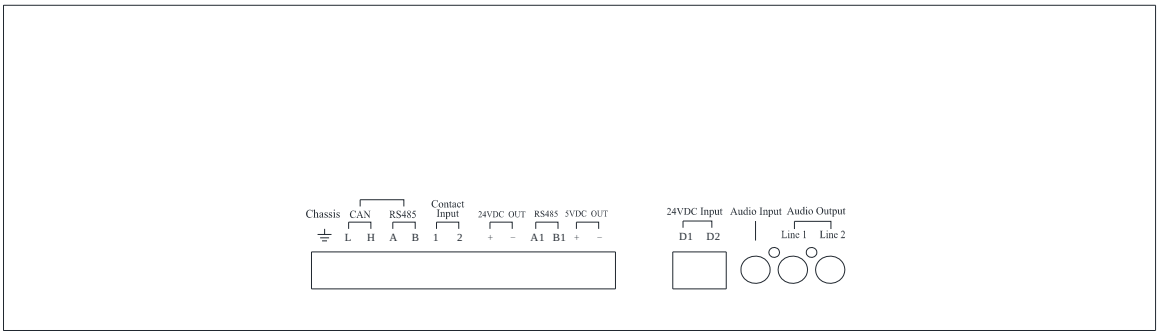

Fig. 2-4

- Line1: Audio input port，attenuation 10dB, connecting with the device with LINE OUT such as a CD player, a radio and etc.
- Line 2: Audio input port, connecting with the device with LINE OUT such as a CD player, a radio and etc.
- Audio Output: Lotus head port, connecting with the input of power amplifier.
- 24VDC Input（D1,D2）: Power input, non-polarized.
- 5VDC OUT（+, -）: 5VDC power input terminals.
- RS485（A1, B1）: RS485 communication port, connecting to the RS485 of the power amplifier or broadcast distribution panel.
- 24V DC OUT（+, -）: 24VDC power output terminals, for starting the power amplifier forcedly and connecting the remote input of the power amplifier.
- Contact Input: 1 and 2 are contact inputs. Shorting 1 and 2 makes the broadcast control panel in emergency broadcast mode.
- Remote Communication: RS485/CAN bus, communication with a fire alarm control panel.
- ⏚: Earth terminal of the chassis.

3 Basic Functions and Keys

3.1 Access Level

3.1.1 Unlock the Keypad

The broadcast control panel enters level I as it is powered on. Playing MP3, mute, recording browse can be done under level 1 without password. Setting and programming can be done under level II, requiring the user password to unlock the keypad. The higher operation under level III needs the manger password.

3.1.2 Lock the Keypad

After completing all operation, change the Level II to the Level I before leaving.

Note: Passwords at all levels are the “keys” for the user to set TG7100. Therefore, as the user uses it, it should be kept by a special personnel to prevent others from modifying TG7100. We are not responsible if TG7100 is started or by mistake or occurs faults because the password is disclosed.

3.2 Start-up

Switch on the power to start the broadcast control panel after wiring. Then the system initiates with power on. It also makes self-test while initializing and logging. Refer to "Self-test" for details. After self-test, it shows total quantity of on-line devices, the quantity of power amplifiers and specific addresses (On-line power amplifies are highlighted). Refer to Fig.3-1.

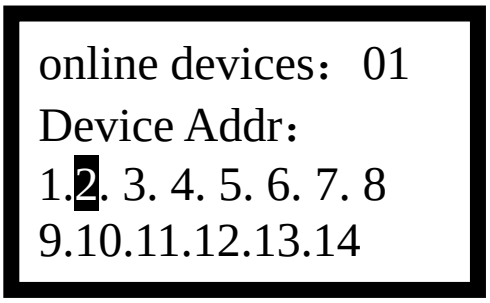

Fig.3-1

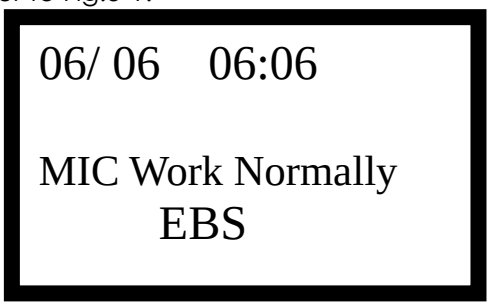

Fig.3-2

About 2s later, the system returns to normal standby state as shown in Fig.3-2.
As MIC is not on line, "MIC" will flash. As U disk is not on line, "USB" will not be displayed. In normal standby state, the screen shows "USB" and "MIC" if U disk and MIC is connected. Refer to Fig.3-3.

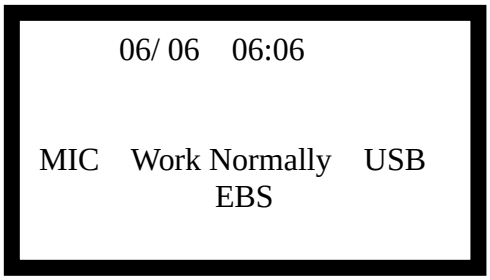

Fig.3-3

As the system is running normally, the LCD will always display the screen of startup. However, if there is no operation within 1 minute, the broadcast control panel enters the power saving mode and the backlight of the LCD is turned off. At this moment, press any key to activate the LCD again.

3.3 Address, Amplifier Address Setting and Amplifier Configuring

Before using the broadcast control panel, set the communication address and amplifier configuration (configuring zones) of the RS485 of the local panel according to the actual situation. Once the setup is completed, the settings are saved on the local panel, not affected by power on/off.

Set RS Communication Address:

Ex-factory setting is 118. Press "Menu" to show the screen of Fig.3-4. Pressing"▶▶" or "◀◀" selects "System Setup" and pressing " ⏯ Enter" enters the screen of Fig.3-5 for requiring password.

Fig.3-4

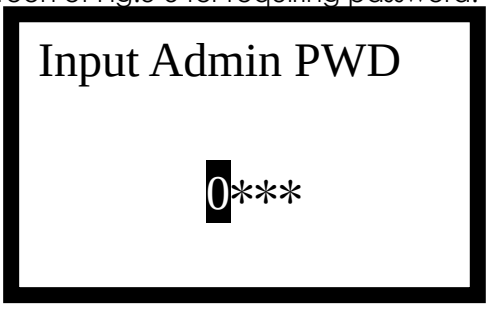

Fig.3-5

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TANDA DEVELOPMENT

In Fig.3-5, enter the password correctly to shows the screen of Fig.3-6. Pressing "▶▶" or"◀◀" selects "Local Setup". Then pressing " Enter " shows the screen of Fig.3-7.

Fig.3-6

Fig.3-7

Selecting "2. Local Addr" and pressing Enter shows the screen of Fig.3-8 for setting the local address.

Pressing " Enter " selects the bit needed to be set. Then pressing "▶▶" or "◀◀" add or minus the number. After setting, press " Enter " to confirm. Press" ESC " to exit and save the setting.

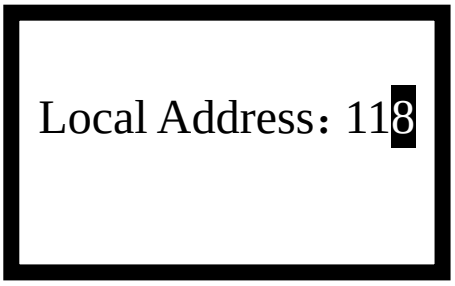

Fig.3-8

Register Power Amplifier:

Following the above mentioned way and entering Fig.3-4, press "▸▸" or "◂◂" to select "Enroll Devices". Then press" Enter " to register devices. The screen of Fig.3-9 is shown after registration.

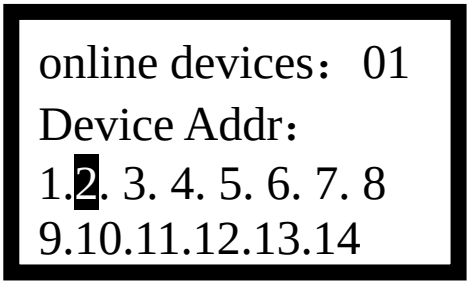

Fig.3-9

Set Power Amplifier:

Following the above mentioned way and entering Fig.3-6 selects "PA Setup" to show the screen of Fig.3-10.

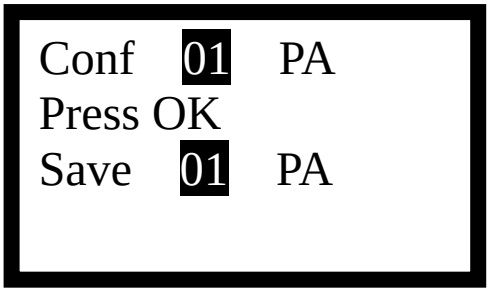

Fig.3-10

In Fig.3-10, pressing "▸▸" or "◂◂" selects the amplifier needed to be set. Pressing the related zone, the zone LED lights. After selecting the zone needed to be set, press " ▶II Enter " to save the setting. After that, the related zone LED turns off.

Note: If a power amplifier occurs fault, the zones configured based on the power amplifier report faults, and the corresponding zone lights are all lit.

3.4 Auto/Manual Mode

This button can be used to set manual or auto mode. In Manual mode, the Manual LED lights. At the moment, start or stop messages from the fire alarm control panel can be disabled. Faults only can be uploaded to the local panel by the fire alarm control panel.

In Auto mode, the associated fire device can automatically start the broadcast control panel to enable the emergency broadcast through the bus. As emergency mode is started, "24VDC OUT" outputs +24V signal, associated devices such as power amplifier are activated.

3.5 Emergency Manual Control

The duty person presses zone key or EMGY BCAST key and enters the manger password to emergency broadcast mode when there is an emergency. In this mode, "24VDC OUT" outputs +24V signal, and associated devices such as power amplifier are activated. At the same time, you can press the MIC button to directly broadcast for emergency.

Note: In non-background music, directly press zone to enter the emergency broadcast mode. Only press EMGY BCAST to enter the emergency broadcast mode but not starting zones. In this case，the zone key you want to start is needed to press manually.

3.6 Contact Input Control

When shorting terminals 1 and 2 of contact input, the broadcast control panel enters the emergency broadcast state and starts all configured zones. "24VDC OUT" outputs +24V signal, associated devices such as power amplifier are activated.

3.7 Broadcast Mode Selection

- The microphone broadcast takes priority. As long as the device is normal, pressing MIC button, the broadcast control panel plays voice with EMGY BCAST LED on, and saves the recording automatically. When releasing the MIC button, the broadcast control panel automatically returns to the state prior to the MIC broadcast. In MIC broadcast mode, the monitoring speaker does not play any audios.
- MP3: Inserting the U disk with MP3 or WMA files, pressing"MP3" key enters the MP3 mode. Pressing "▸▸" or "◂◂" selects the music and pressing " ■ ESC " or " ▶II Enter " stops playing.

Note: It only supports USB2.0 with maximum space of 16GB.

- Line1 or Line2: Pressing "Line1" or "Line2" plays external sources with LINE-OUT function.
- EMGY BCAST mode: Pressing "EMGY BCAST" key records the audios to the local files in advance.

3.8 Pre-record Audio File

Copy the files (remove the expanded name of MP3 or MP4 formats) to the root directory of U disk. Then name them after eme（without any expanded name）. Inserting the U disk into U port and pressing "Menu" selects "File Setup"（refer to Fig.3-4）. After that, pressing " ▶II Enter " enter the screen of Fig.3-11. In the screen of Fig.3-11, pressing "◀◀" or "▶▶" selects "3 Import Files". Then pressing " ▶II Enter " and entering the password shows the screen of Fig.3-12.

Fig.3-11

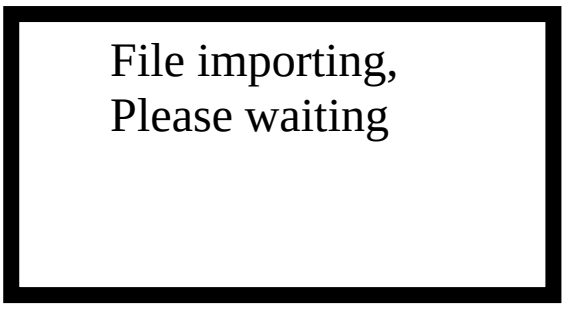

Fig.3-12

After importing the file, it shows the screen of Fig.3-13. Press " ■ ESC " to exit.

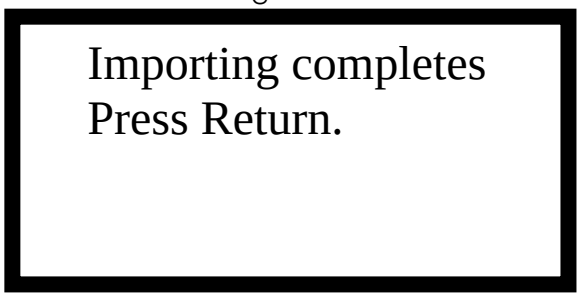

Fig.3-13

Note: All operations are prohibited while importing a file. Delete files of eme in the U disk after the importing is done to avoid playing by mistake. It only supports USB2.0 with maximum space of 16GB.

3.9 Browse and Re-play the Recording

Following the above mentioned way and entering Fig.3-11 selects "1.Query Record" to show the screen of Fig.3-14.

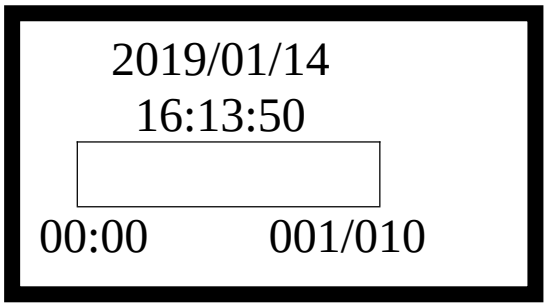

Fig.3-14

In Fig.3-14, the date and time is when the recording is made. The rectangle box is playback progress bar.The lower left is how long the playback is and the lower right before "/" is recording serial number and after "/" is the total quantity of recording.

Pressing "◀◀" or "▶▶" selects the playback recording you want to browse. Then pressing " ▶II Enter " plays it. Now the sound can only be played by the speaker rather than the amplifier.

3.10 Erase Recording

Recording can be erased by both ways: erase one by one and erase all.
Erase one by one: Following the above mentioned way and entering Fig.3-11, selects "2.Delete Record" and enters the password to show the screen of Fig.3-15.

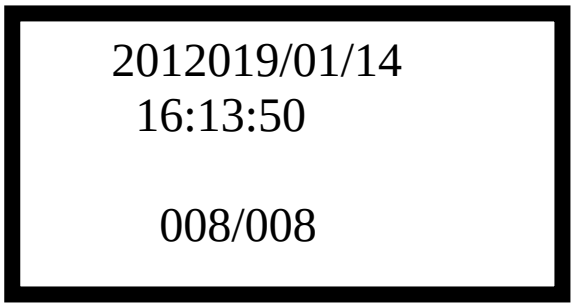

Fig.3-15

Description: Prior to "/" is the serial number of segment, and after "/" is the total quantity of recording. Pressing "◂◂" or "▸▸" selects the recording you want to erase. Press " ▶II Enter " to confirm deletion.
Erase All: In Fig.3-11 selecting "4. delete All" and pressing " ▶II Enter " enters the correct password to erase all recording. Press " ■ ESC " to exit.

3.11 Time Set

Following the above mentioned way and entering Fig.3-7 selects "1.Time Setup" . Then press " ▶II Enter "to show the screen of Fig.3-16.

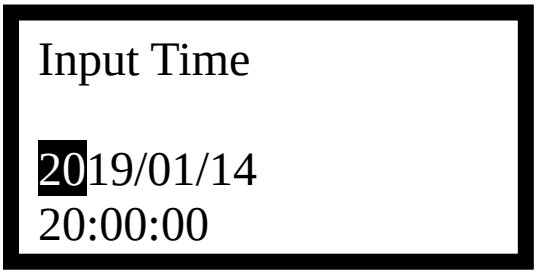

Fig.3-16

Pressing " ▶II Enter "lects the time you want to enter. Then pressing "◂◂" or "▸▸" modifies the time. After modifying the second, pressing " ▶II Enter " completes time. At the moment , no highlight exists and press" ■ ESC " to exit.

3.12 Password Set

Following the above mentioned way and entering Fig.3-6 selects "3.Password Setup" . Then press " ▶II Enter "to show the screen of Fig.3-17.

Fig.3-17

3.12.1 User Password

In Fig.3-17, selecting "1.User PWD" and pressing " Enter " enters the screen of Fig.3-18 for setting the user password.

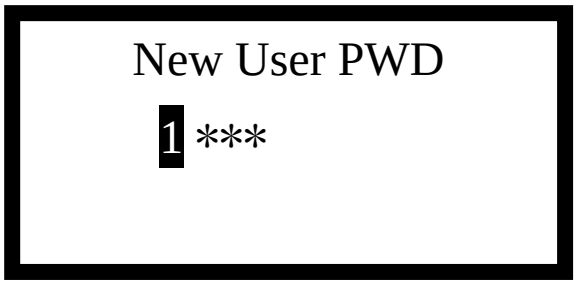

Fig.3-18

Description: Pressing " Enter " selects the bit needed to be set. Then pressing "▸▸" or "◂◂" add or minus the number. After setting the last bit, press " Enter " to confirm. Press " ESC " to exit.

3.12.2 Admin Password

In Fig.3-17, selecting "2.Admin PWD" and pressing " Enter " enters the screen of Fig.3-19 for setting the Admin password.

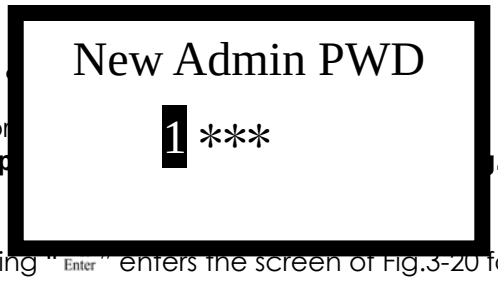

Fig.3-1

Refer to the method of modifying user password for

Note: The user password is 0000 and the manager p .

3.12.3 shield Password

In Fig.3-17, selecting "3.Shield Password" and pressing " Enter " enters the screen of Fig.3-20 for disabling the password.

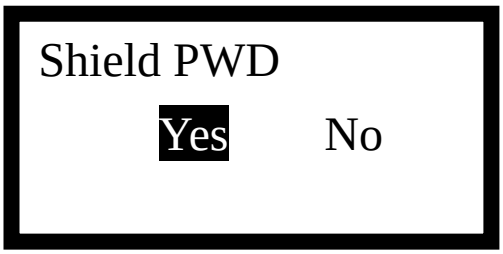

Fig.3-20

Description: Pressing "◂◂" or "▸▸" selects whether the password is disabled. Press " Enter " to complete setting. Starting zones by manual, and starting emergency broadcast don't need passwords when the password is disabled. Starting zones by manual, and starting emergency broadcast need passwords when the password is enabled.

3.13 Battery Fault

In Fig.3-7, selecting "3.Battery Fault" and pressing " Enter " enters the screen of Fig.3-21 for disabling the BAT fault of the amplifier.

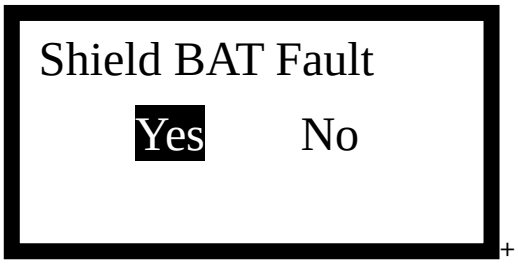

Fig.3-21

Pressing "◄◄" or "►►" selects whether the BAT fault of amplifier is disabled. Press "▶II Enter" to complete setting. The power amplifier can't check battery state any longer when the BAT fault of amplifier is disabled. The power amplifier can check battery state when the BAT fault of amplifier is enabled. In this case, the battery fault can be reported to the broadcast control panel.

3.14 Volume Setup

In Fig.3-7, selecting "4.Volume Setup" and pressing "▶II Enter" enters the screen of Fig.3-22 for setting the volume.

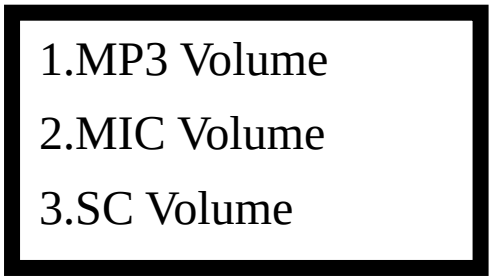

Fig.3-22

Before factory, MP3 and MIC are set to mid volume, self-test is set to low volume. Users can adjust the volumes of those devices according to actual situations.

3.15 Ex-factory Set

In Fig.3-4, selecting "4. Factory Reset" and pressing "▶II Enter", enters the correct password to make devices restore to the ex-factory set.

Note: Returning to the ex-factory set, all recordings and amplifier configuration will be deleted. Consider it carefully before you do it!

4 Troubleshooting

Simple faults can be solved according to the table below.

No.	Problems	Reasons	Solutions
1	LCD doesn't light.	The LCD flat cable is loose.	Connect the cable again or replace the flat cable.
		Power cord is loose.	Connect the power cord again.
2	No monitoring sound	Monitor Knob	Turn the knob clockwise to increase the volume.（TG7100, TG7302）
		Speaker	Replace the broken speaker with a new one.
		Broadcast Mode	In Micro mode, there is no monitor sound from the emergency broadcast control panel.
		Audio device is started or not	If not, start the audio device and choose the correct broadcast mode.
3	Fault LED of the broadcast control panel lights or Fault LED of a zone lights.	A defined amplifier has faults on the broadcast main circuit.	Turn off the power of the amplifier with fault, then check the broadcast main circuit.

5 Maintenance

5.1 Cautions

1. Operators should be trained and qualified.
2. People not authorized should not operate keys and buttons.
3. Wiring or wiring modification, plugging and unplugging various connectors can't be done until the power is off.
4. Shipment and Storage: The product should be well packaged and gently taken to avoid damage while transporting, handling and storing. The environment for storing the products should be ventilated and dry. However, open storage is not allowed in any way.
5. Used in Projects: After completing the construction of projects, the product can be unpacked and installed for system commission.
6. The ambient environment should be sun screen, heat proof, dust proof and damp proof.
7. The power cord should be laid along the wall. Do not expose it to the ground where many people walk around frequently. Do not stress the power cord.
8. Occasionally you should dust the unit all over with a soft cloth. For stubborn stains, use a soft cloth dampened with a weak solution of mild detergent and water. Dry the unit immediately afterwards with a clean cloth. Don't spray the detergent on the unit directly.
9. Don't disassemble the product by yourself.
10. Don't move this product with power.

5.2 Important Notes

1. People without authorization shouldn't operate this product.
2. Password should be kept by a special person. Don't disclose passwords.
3. The product should be shut down and maintained by a specialist or a person on duty. After ensuring that no fault exists, the product can be started.

6.Statement

This manual carefully introduces features and usage of TG7100 Emergency Broadcast Control Panel. We work to provide the latest information of our products. However, we still cannot cover all

applications or predict all requirements. Therefore, the product may be modified without prior warning. Please contact us if you need further messages.

Besides, please pay attention to the following instructions.

1. As a precise electronic equipment, this product should be kept by a special person. People without authorization shouldn't operate it freely.
2. When using this product actually, the capacity should not exceed the one that intend to design.
3. Do not increase the installed capacity by yourself after completing acceptance test of the project. If necessary, please contact our technicians for details. At the same time, new equipment needs a new system not affecting the current one.
4. Don't modify internal structure and external wiring of the product after completing acceptance test of the project. If necessary, please contact our technicians for details.
5. After reconstruction of the project site, the system where the equipment is located must be commissioned and inspected by professional staff again. The product can't be used until it has passed the inspection.
6. As the project passing the acceptance test is used, please dispose of it in time if on-site equipment occurs fault.

Tanda Company is not responsible for any losses or damages caused by violation of the above instructions.