

# TX7331

## Intelligent Graphic Repeater Panel Installation and Operation Manual



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## Product Safety

To prevent severe injury and loss of life or property, read the instruction carefully before installing the Intelligent Graphic Repeater Panel to ensure proper and safe operation of the system.



### European Union directive

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points.



For more information please visit the website at [www.recyclethis.info](http://www.recyclethis.info)

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## 1 Introduction

### 1.1 General

TX7331 Intelligent Graphic Repeater Panel is designed with built-in MCU processor and it can fast relay response with simultaneous audible and visual signal output. This repeater panel can also program to limit the zone display from All Zones into a particular zone or device. Also it can supervise and indicate the groups as well as device. The unit is connected through the communication loop of TX7004 Intelligent control panel along with the devices and can install up to 254 units per loop. The repeater panel can be used whenever there is a need to relay information to multipoint informing key personnel.

The unit is manufactured base on the requirement of EN 54 part 2, European Standard. The unit is compact size and aesthetically pleasing with unobtrusive design that will complement modern building designs. The unit is compatible to the TX7004 Analogue Intelligent Fire Alarm Control Panel, produced by single manufacture T&A, to avoid addressable communication compatibility problem.

### 1.2 Features and Benefits

- EN54-2 Compliance
- Fire display passive repeater panel
- Built-in MCU processor and digital addressing
- Fast response of audible and visible signal from the panel
- Programmable Zone Display a particular zone or device and indicate the groups or device
- Supervise information and indicate the specific device type for 68/69/70 of activate information (maximum support 100 groups supervise or activate information at the same time)
- LED status indicator
- Onsite Adjustable Parameter
- Loop sited wiring with external 24V supply
- Compact size and aesthetically pleasing design

### 1.3 Technical Specifications

- |                         |   |
|-------------------------|---|
| • Compliance            | EN 54-2: 1997+A1: 2006  |
| • Input Voltage         | Loop Power: 24VDC [16V to 28V]<br>External PSU: 24VDC [20 to 28V]                                     |
| • Current Consumption   | Loop: Standby: 1mA, Alarm: 1.2mA<br>External PSU: Standby: 25mA, Alarm: 80mA                          |
| • Memory Capacity       | Up to 256 fire event history  |
| • Number per loop       | Up to 254 units (ideal)   |
| • Material / Colour     | Flat sheet Metal / black  |
| • Dimension / LWH       | 394mm x 274mm x63mm (Can according to user requirements, the dimension should be amended accordingly) |
| • Operating Temperature | 0°C to +40°C  |
| • Humidity              | 0 to 95% Relative Humidity, Non condensing  |

## 2 Installation

### 2.1 Installation Preparation

This Intelligent Graphic Repeater Panel must be installed, commissioned and maintained by a qualified or factory trained service personnel. The installation must be installed in compliance with all local codes having a jurisdiction in your area or BS 5839 Part 1 and EN54.

**Warning:** The electronic components inside the panel are vulnerable to damage by electrostatic discharges. It is recommended to wear a wrist strap designed to prevent the build-up of static charges within the body, before handling any electronic circuit board.

### 2.2 Installation and Wiring

1. Appearance of the repeater panel is shown in Fig. 1.

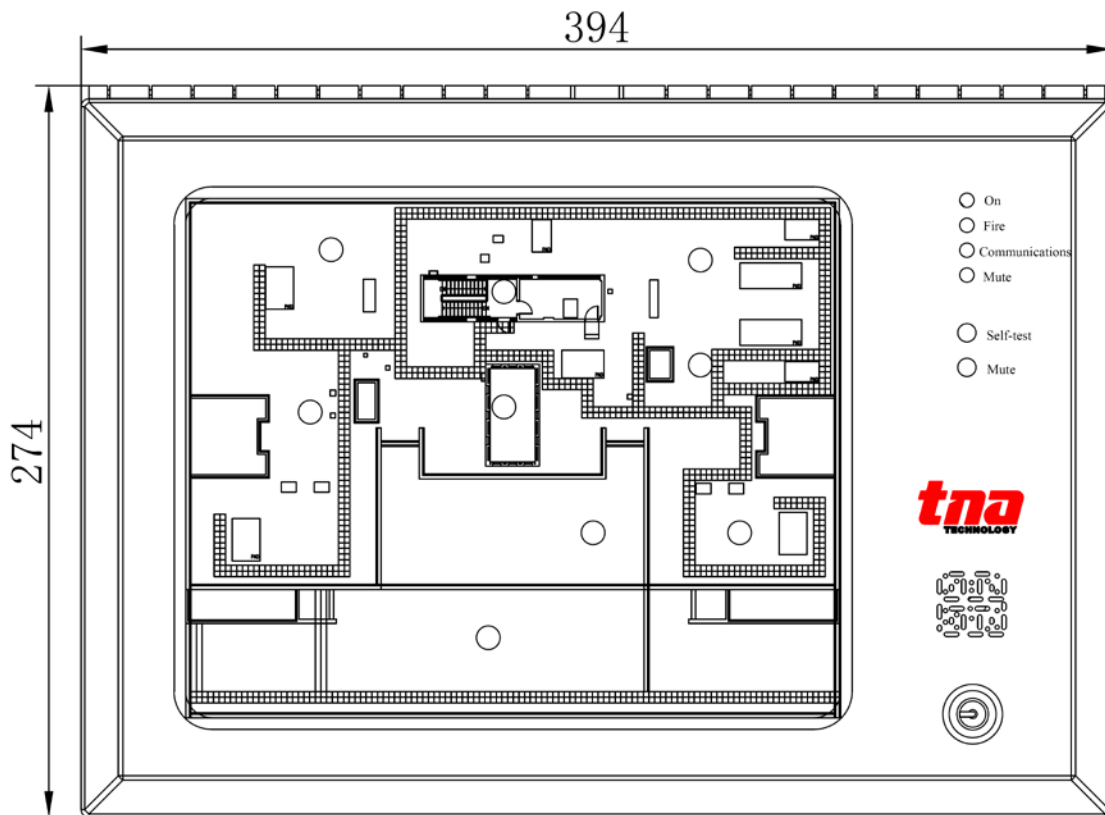


Figure 1

(1)LED Indicators

Aside from the LED Board's Indicator, the TX7331 LED indicator indicate the working status of the unit as refers to the below table.

LED Indicator	Colour	Description
<b>On</b>	Green	When illuminated it indicates the power supply is present
<b>Fire</b>	Red	When illuminated it indicates that a FIRE or Supervise information has been detected in the protected location
<b>Mute</b>	Green	When illuminated it indicates that the Mute button has been pressed
<b>Communication</b>	Green	When illuminated it indicates that the repeater panel is online communication with the control panel

(2)Description of Keys

**MUTE:** This button mutes the buzzer of the repeater panel. Pressing the mute button will stop the internal panel buzzer.

**Self-test:** In standby state, pressing this key the repeater panel will start self-test.

2. The front panel is shown in Fig. 2.

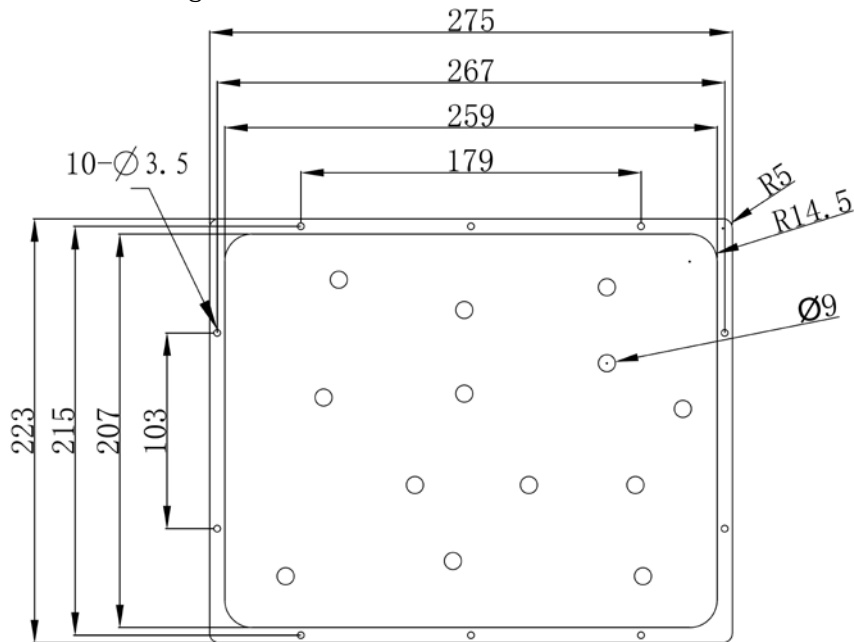


Figure 2

3.Mounting of the Main board

Installation method is shown in Fig.3. See Appendix 1 and 6 for more information.

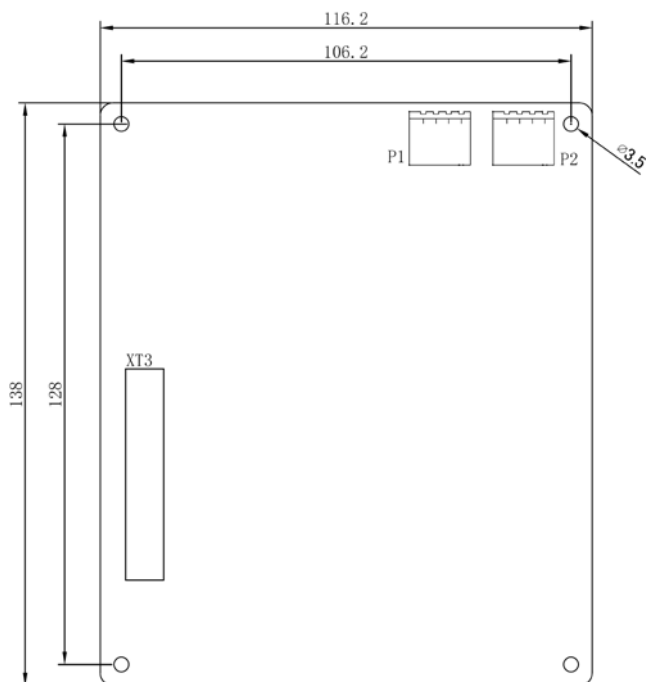


Figure 3

#### 4. Mounting of the LED Board

Installation method is shown in Fig.4. See Appendix 2 and 6 for more information.

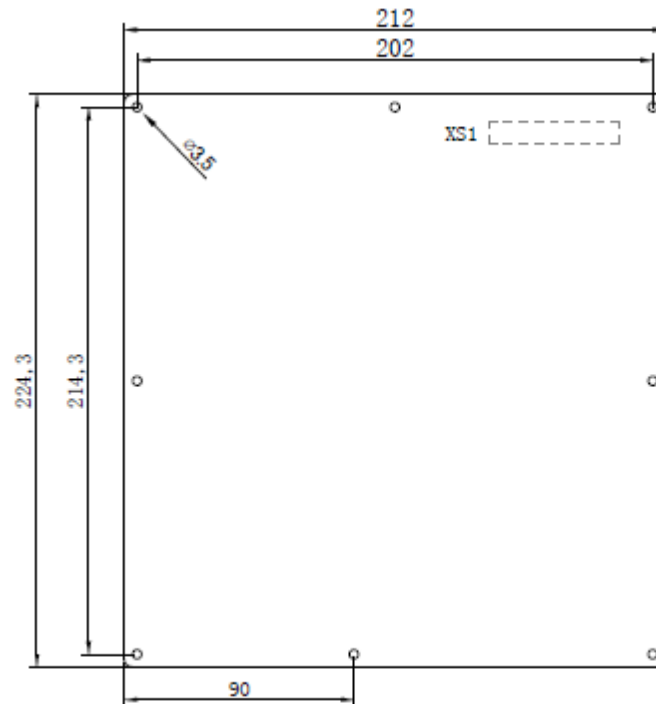


Figure 4

#### 5. Mounting of the Key Board

Installation method is shown in Fig.5. See Appendix 3 and 6 for more information.

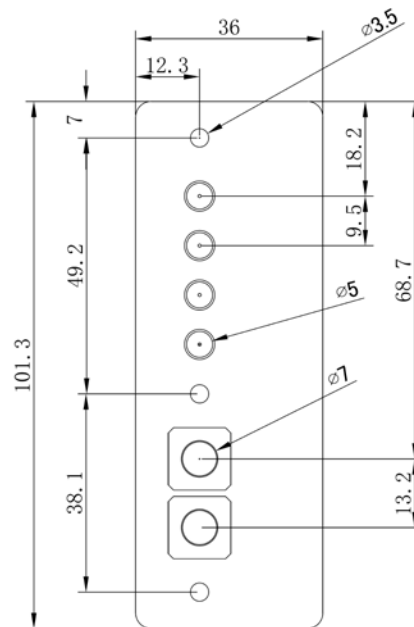


Figure 5

## 6. Mounting of the Buzzer

Installation method is shown in Fig.6. See Appendix 4 and 6 for more information.

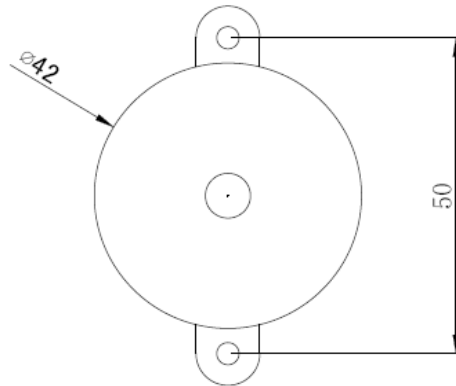


Figure 6

## 7. Mounting of the LED

Installation method is shown in Fig.7. See Appendix 5 and 6 for more information.

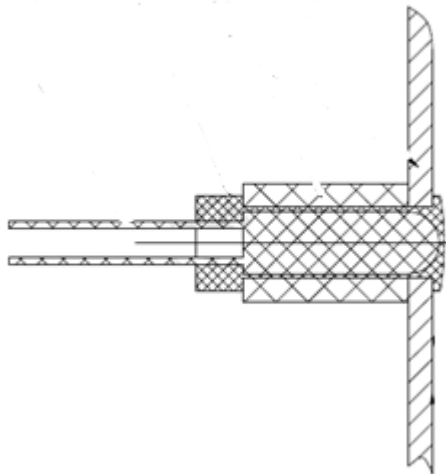


Figure 7

## 8. Terminals

Terminals are shown in Fig.8.

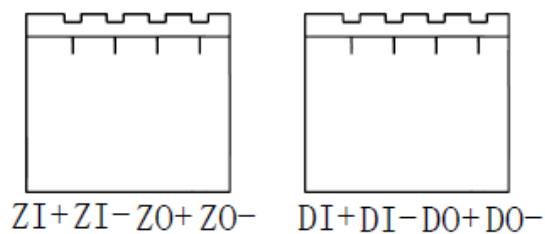


Figure 8

ZI+, ZI-, ZO+, ZO-: The communication cable terminals connecting with the fire alarm control panel.

DI+, DI-, DO+, DO-: 24DC power supply wiring terminal, non polarized.



### 3 Operation

#### 3.1 Preparation

The TX7930 handheld programmer is used to configure Intelligent Graphic Repeater Panel soft address. This tool is not included, must be purchased separately. The programmer is packed with twin 1.5V AA battery and cable, ready for usage once received.

It is mandatory for the commissioning personnel to have programmer tool in order to adjust the Intelligent Graphic Repeater Panel conferring to the site situation and environmental requirements.

Program a unique address number for each device according to the project layout before placing from the Terminal Base.

**Warning:** Disconnect the loop connection whilst connecting to the handheld programmer.

#### 3.2 Repeater Addressing

1. Connect the programming cable to ZI+ and ZI- (or ZO+ and ZO-) terminals (Figure 9). Press **"Power"** to switch on the unit.
2. Switch-on the programmer, then press button **"Write"** or number **"2"** to enter Write Address mode (Figure 10).
3. Input the desire device address value from 1 to 254, and then press **"Write"** to save the new address (Figure 11).

**Note:** If display **"Success"**, means the entered address is confirmed. If display **"Fail"**, means failure to program the address (Figure 12).

4. Press **"Exit"** key to go back Main Menu. Press **"Power"** key to switch-off the programmer.

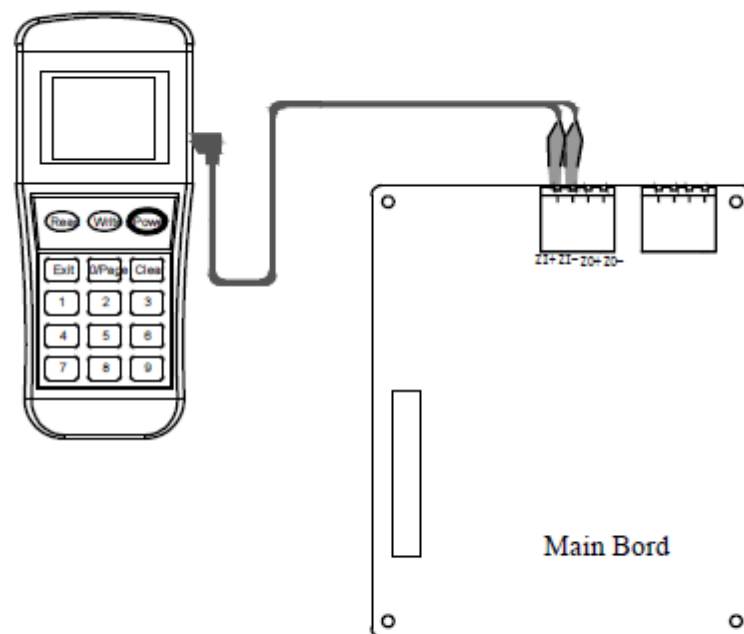


Figure 9: Programmer Connection Detail

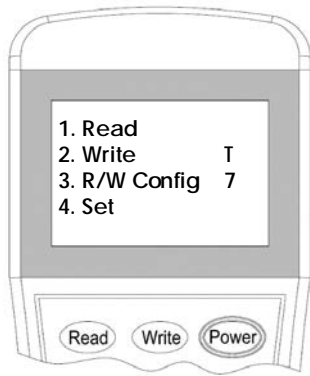


Figure 10



Figure 11



Figure 12

### 3.3 LED Panel Operations

Set up the system according to the project requirement.

As shown in the figure of the Repeater Panel, Adjust the the dip switch install to configure the required pattern. The figure in the lower right of the Repeater Panel's Main board as shown below:

Function	configuration	NormalWork
Connect	1 <input type="checkbox"/> <input checked="" type="checkbox"/>	1 <input checked="" type="checkbox"/> <input type="checkbox"/>
	2 <input type="checkbox"/> <input checked="" type="checkbox"/>	2 <input checked="" type="checkbox"/> <input type="checkbox"/>
	3 <input checked="" type="checkbox"/> <input type="checkbox"/>	3 <input type="checkbox"/> <input checked="" type="checkbox"/>
	4 <input checked="" type="checkbox"/> <input type="checkbox"/>	4 <input type="checkbox"/> <input checked="" type="checkbox"/>
	L R	L R

Figure 13: DIP Switch (SW1) connect

#### Configuration mode:

Programmable Zone Display a particular zone or device, and indicate the groups or device Supervise information.

##### (1) Configuration Preparation

According to the figure 13 configuration. Switched on the 24VDC power to the Repeater Panel's Main board and the USB connect with computer.

##### (2) Configuration and Download

Download the pre-configured data base from TX7810 programming software through a computer to the control panel. Refer to the TX7810 Defining Tool manual for more details.

#### NormalWork mode:

In the configuration model is complete, please according to the figure 13 configure the DIP switch to normalWork mode, The model for the normal work of Graphic Repeater Panel.

#### 4 General Maintenance

1. Inform the suitable personnel before conducting the maintenance.
2. Disable the Intelligent Graphic Repeater Panel on the control panel to prevent false alarm.
3. Do not attempt to repair the circuitry of the Intelligent Graphic Repeater Panel, it may affect the operation to respond to a fire condition and will void the manufacturer's warranty.
4. Notify again proper personnel after conducting the maintenance and make sure to enable the Intelligent Graphic Repeater Panel and confirm if up and running.
5. Perform the maintenance on semi-annually or depending on the site conditions.

#### 5 Troubleshooting

What you notice	What it means	What to do
Address not enrolling	The wiring is loose The address is duplicate	Conduct maintenance Re-Commission the device
Unable to commission	The damage the electronic circuit	Replace the device

#### Appendix 1

##### Installation of the Main Board

As shown in the figure below is Main Board with Box weld nut Connection.

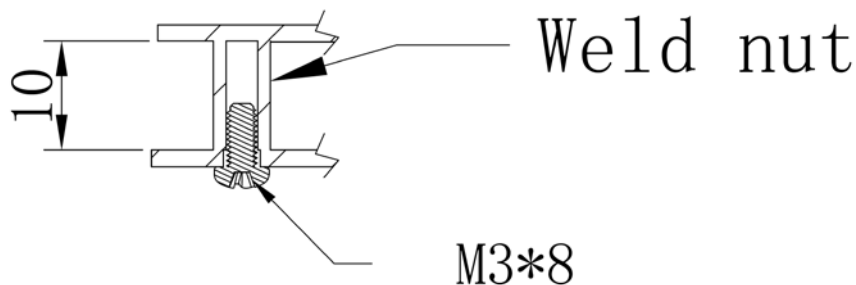


Figure 14

#### Appendix 2

##### Limitation of the LED Board

As shown in the figure below is LED Board with front panel weld nut Connection.

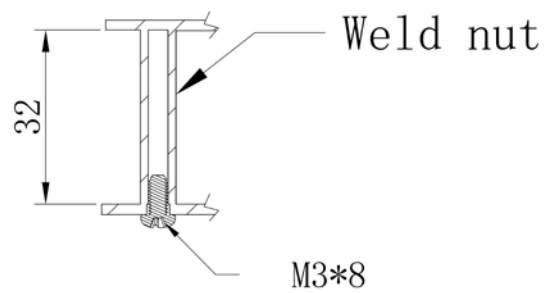


Figure 15

### Appendix 3

#### Limitation of the Key Board

As shown in the figure below is Key Board with the door weld nut Connection.

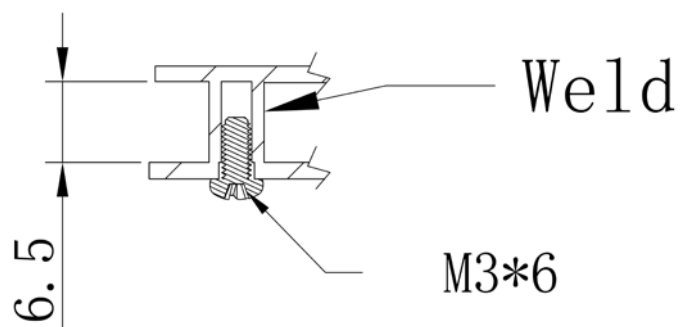


Figure 16

### Appendix 4

#### Limitation of the Buzzer

As shown in the figure below is Buzzer with the door weld nut Connection.

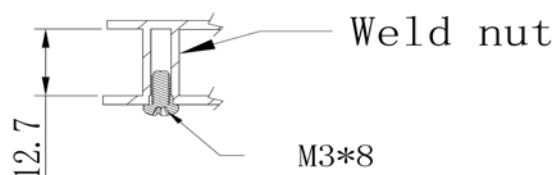


Figure 17

## Appendix 5

### Limitation of the LED

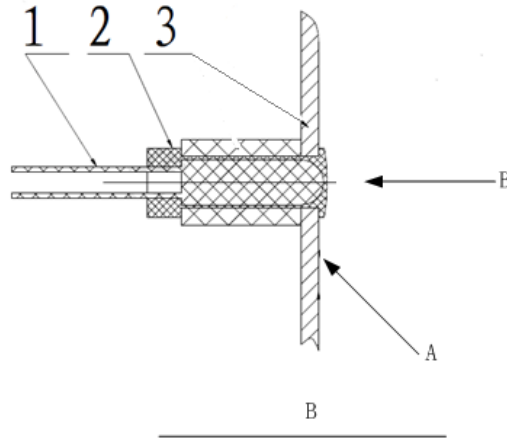


Figure 18

1. Light emitting diode
2. Nylon sleeve of light emitting diode
3. front panel

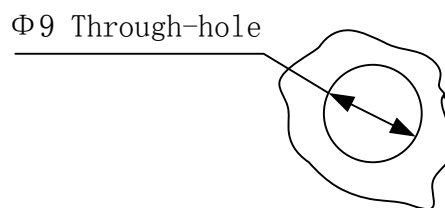


Figure 19

### Assembly steps:

Please put lights in accordance with the directions in the hole

According with the B indicate directions, will the Light emitting diode put in the front panel of Φ9 Through-hole.

## Appendix 6

### Configuration of the Whole

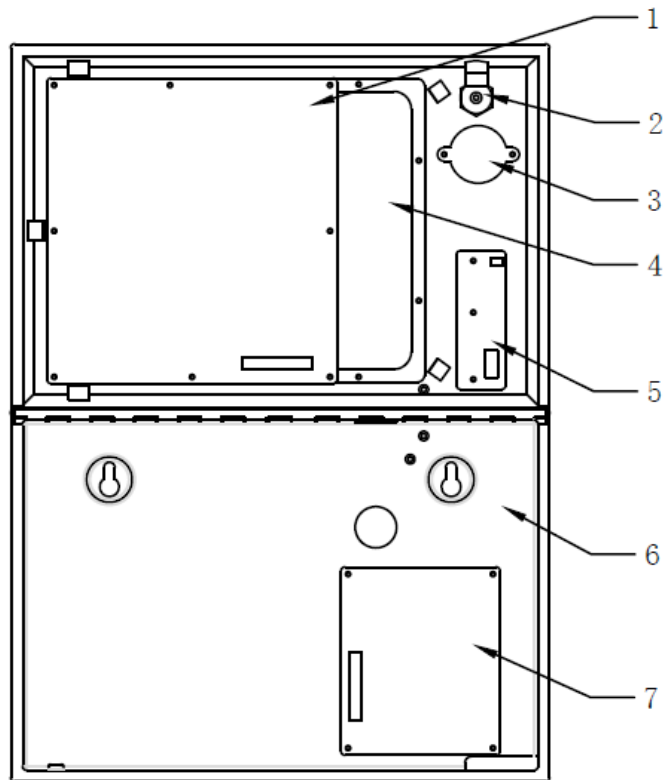


Figure 20

NOTE:

- 1 LED Board
- 2 Lock
- 3 Buzzer
- 4 front panel
- 5 Key Board
- 6 Box
- 7 Main Board

[Appendix 7](#)

[Connection of Repeater Panel](#)

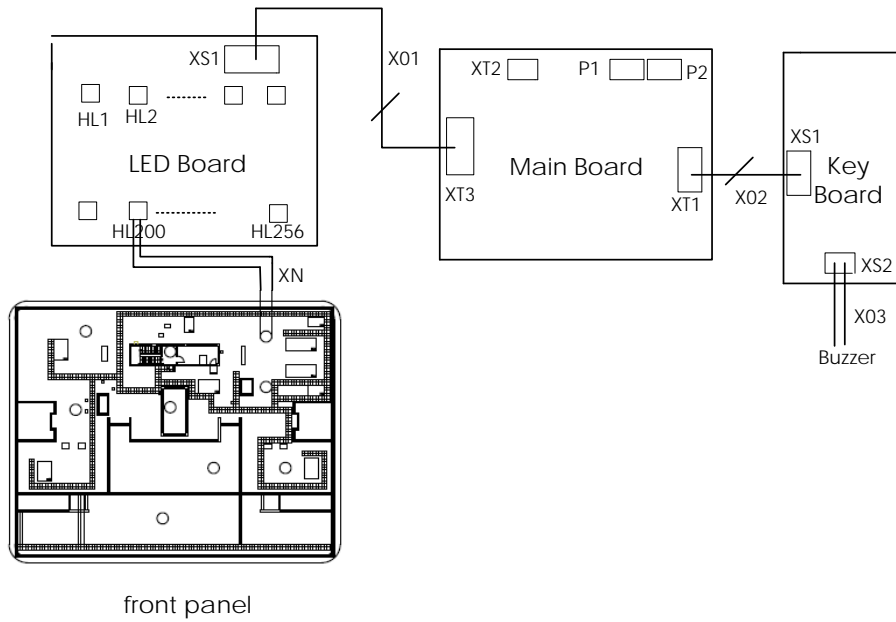


Figure 21

Name	Cable No.	Model and Size	Length	Remarks
Ribbon Cable	X01	Flat Cable 34P	360mm	Connecting XT3 on Main Board and XS1 on LED board
Ribbon Cable	X02	Flat Cable 10P	320mm	Connecting XT1 on Main Board and XS1 on Key board
Buzzer Cable	X03	UL1007 AWG26	130mm	Connecting XS2 on Key board and Buzzer
Lamp Cable	XN	UL1007 AWG26	500mm	Connecting HL1-HL256 on LED board and LED Indicators

## Appendix 8

### Limitation of Interface Module

The Intelligent Graphic Repeater Panel cannot last forever. In order to keep the Intelligent Graphic Repeater Panel working in good condition, please maintain the equipment continuously according to recommendations from manufacturers and relative nation codes and laws. Take specific maintenance measures on the basis of different environments.

These Intelligent Graphic Repeater Panel contain electronic parts. Even though it is made to last for a long period of time, any of these parts could fail at any time. Therefore, test your repeater at least every half-year according to national codes or laws. Any Intelligent Graphic Repeater Panel, fire alarm devices or any other components of the system must be repaired and/or replaced immediately as they fail.