GST-FT64 Fire Telephone Panel

Installation and Operation Manual

Issue 1.01

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1 System Overview

GST-FT64 Fire Telephone Panel is a two - bus non - polarity - specific fire telephone communication system that meets the GB16806 - 2006 standard. This system consists of the Fire Telephone Panel (GST-FT64), Fire Telephone (P-9913(F), P-9913(M)), Fire Telephone Jack Socket (P-9913(J)), Network Module (NM-R1, NM-C1, NM-C16),Network Card, Switch and communication lines.

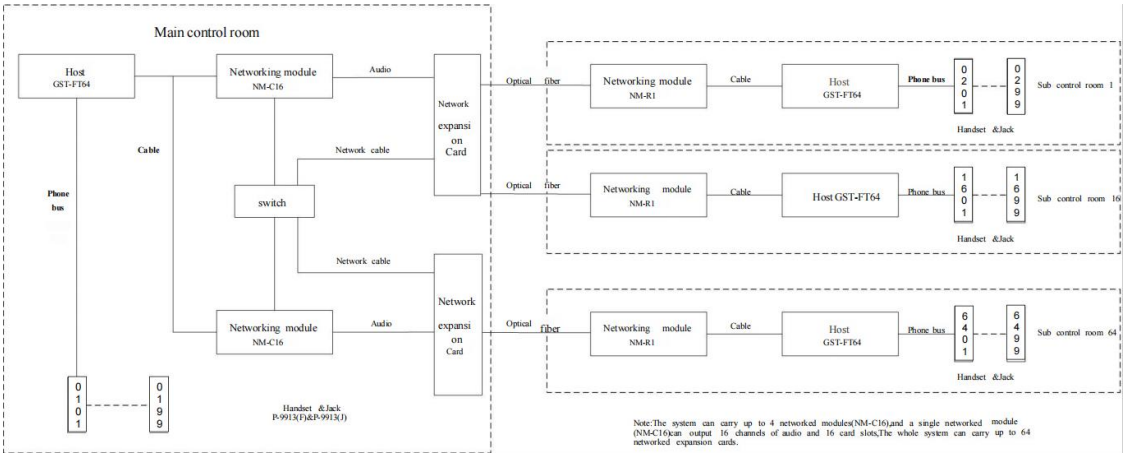

Fig. 1-1 Networking System Diagram

The system has the following performance characteristics:

1. The Fire Telephone Panel supports the master-slave mode or the peer-to-peer networking mode；
2. The maximum number of networking nodes is 64 (including the master units and slave units)；
3. Each networking module (NM-C16) provides 16 audio output interfaces and 16 ways card slot, and can be expanded to a maximum of 4 units；
4. Each networking module (NM-R1) provides one audio input interface and one optical input interface；
5. Both the master and slave control panels can support 99 telephone handsets or telephone jacks. This system can support up to 64 * 99, which is approximately more than 6300 points；
6. Communication objects: between master and slave panels, between the master panel and the handset, and between the slave panel and the handset. A maximum of 4 units (master panel, slave panel, handset) can communicate simultaneously；
7. The transmission distance of the optical fiber is greater than 20KM；

2 Main Parameters

- Working power supply: DC24V ± 10%; The monitoring current of the control panel under full load is less than 0.3A; The maximum current is less than 0.55A.
- Bus - line loop resistance: ≤70Ω
- The coding capacity for connectable handsets：A maximum of 99 non - duplicate coding addresses.
- Bus length: ≤1500 meters
- Voice frequency range: 300～3400Hz
- Working environment: Temperature: 0～40℃，Relative Humidity: ≤ 95%
- Installation: 2U standard rack - mounted structure.
- Dimensions：482.6mm×88.1mm×155.0mm(Width × Height × Thickness)
- Weight：1.5kg

3 System Application

3.1 Wiring and system configuration

The wires used for the fire telephone bus wiring should be two - color twisted - pair wires with a cross - sectional area of not less than 1.5 mm^2. To ensure the stable and reliable operation of the bus - type telephone and clear sound during calls, the following conditions are recommended:

1.The length of the line from the control panel to the farthest handset shall not exceed 1,500 meters.

2.The total number of P-9913(F) Fixed Fire Telephone and Fire Telephone Jack Socket that can be connected to the Fixed Fire Telephone should preferably not exceed 99.

3.2 Wire connection

When wiring, refer to the wiring terminals. The "24V Power and 24V Backup Power" should be connected to an external DC 24V power supply. The "Earthing" should be connected to the external ground terminal. The "Bus Talking H+, H-" should be connected to the bus and networking module (NM-C1, NM-C16);The "Single-channel Talking T+, T-" should be connected to the single-channel call line (regardless of polarity); "RS-485"is a reserved terminal; "Encoding Interface "connects the encoding line to encode telephone handsets and jacks; The "Expand Interface" is connected to the networking module (NM-C16).

Fig. 3-1

3.3 On-site debug

All Fixed Fire Telephone and Fire Telephone Jack Socket installed on site must be coded with non-repetitive addresses. The coding method is explained in "5.2.3 Handset Address". The range of the coding address setting is from 1 to 99. Encoding 0 and values greater than 99 are invalid addresses.

Both the Fixed Fire Telephone and Fire Telephone Jack Socket connected to the bus line must be set to the online state through the control panel.

After the on-site wiring and equipment installation are completed and they are set to be online through the host, the system can operate normally. For the handsets and jacks that are operating normally, their working indicator lights will flash.

After the system is powered on, if there are any abnormal situations (such as wiring errors, coding errors, setting errors, etc.), the panel will give corresponding prompts. Only after all the problems have been eliminated will the system operate normally and stably.

4 Description of Appearance and Panel

4.1 Appearance

The appearance of the GST-FT64 Fire Telephone Panel is of a 2U standard rack - mounted structure. There is a telephone handset and an operation & display area on the panel. The operation & display area includes a LCD screen, indicator lights and buttons.

Fig. 4-1

4.2 Buttons and Indicators

In the operation and display area, the descriptions of each indicator light are shown in Table 4-1. The descriptions of the function keys and digital keys are shown in Table 4-2.

Table 4-1：Descriptions of Panel Indicator Lights

Indicator light	Color	Description
Main	green/ yellow	The main power of the panel is normally connected, and the main power indicator light is green and always on. In other situations, this light is yellow.
Backup	green/ yellow	When the backup power of the panel is normally connected and the main power is not connected, the backup power indicator light is green and always on. In other situations, it is yellow.

Call	red	When there's call-in from a handset, the indicator light is always on; during other cases, it will be off.
Talk	red	When the panel and handsets are in a call, the light will be on; in other cases, it will be off.
Record	red	When the panel and handsets are in a call, the light will be on; in other cases, it will be off. （When the storage for the recording becomes full, the light will be on）
Fault	yellow	The light will be on when there's a fault; in other cases, it will be off.
Mute	yellow	When silencing, the light will be on; in other cases, it will be off.

Table 4.2 Panel Button Description

Button	Description
[▲]or[▼]	Select the previous or next menu or record
[Play]/[Query]	Perform playback/query
[Stop]/[Exit]	Stop playing the recording or exit the selected menu
[Reset]	When a fault occurs, press it to restore it to normal state.
[OK]	Confirm the operation performed or enter the selected menu
[Turn on]	Answer the incoming call or call the handset at the target address.
[Hang up]	Hang up the call or stop calling the target handset.
Key 0-9	Used to enter the handset number, time, password, etc.

5 Operation

5.1 Power-on, automatic registration and duplicate code detection

The panel will automatically turn on when powered on. The "Main" indicator light on the panel stays on constantly. The display screen shows the date, time, and the words "Fire Telephone". When the time runs normally, the panel can automatically recognize the addresses of registered handsets and display the number of handsets currently connected to different addresses (non-zero addresses) in the upper right corner of the screen. If a handset with a duplicate address is connected at this time, the display screen will prompt the corresponding duplicate handsets and their quantity.

When the system is running normally, the LCD display screen will always show the startup screen. If there is no key operation within approximately 60 seconds, the device will enter the power-saving mode, the backlight of the display screen will be turned off, and only the "Main" indicator light will stay on constantly. At this time, you can press any key to reactivate the display screen.

5.2 Menu setup

In the normal monitoring state (screen locked state), press the [OK] , and the panel

will enter the password (the initial password is 11111) input interface. After the correct password is entered, the panel will enter the menu setting interface, which includes the following contents: time setting, password setup, host ID setting, network setting, network registration, handset registration, record inquiry, current handset fault, record query, host information, handset address, display setup, and shut down.

5.2.1 Time setting

After entering the time setting interface, select and input the time and date according to the position of the cursor. Press the [OK] to save the current time and exit the interface. Press the [Exit] key to directly exit the interface without saving the currently set time.

5.2.2 Password setup

In the menu selection interface, enter the password modification interface to set and modify the operation password and the recording deletion password (the operation password and the recording deletion password are the same password). Firstly, input the original password (11111). After it is entered correctly, input the new password and then press the [OK] to OK the new password. If the two passwords are consistent, the screen will prompt that the password has been set successfully. If the new password and the OKed password are inconsistent, it will jump to the new password input interface.

5.2.3 Host ID setting

In the menu selection interface, enter the host ID setting interface. According to the position of the cursor, press the keys to set the panel ID. Press the [OK] to complete the setting. By pressing the [▲] or [▼] keys, the host ID can also be changed. The ID range is from 1 to 100. When setting an ID number outside the setting range and pressing the [OK], there will be no change in the interface. Press the [Exit], and the interface will exit to the system setting interface, and the host ID will still be the one before modification.

If the host ID is modified again after the system is successfully networked, network registration needs to be carried out again.

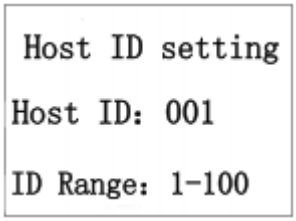

Fig. 5-1

5.2.4 Network setting

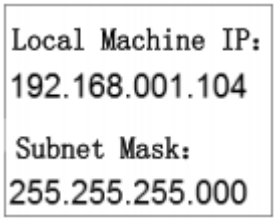

Fig. 5-2

In the menu selection interface, enter the network setting interface. According to the position of the cursor, press the keys to set the local machine IP and subnet mask. Press the [OK] to save the current network settings and exit the interface. Press the [Exit] to exit the interface directly without saving the current network settings. In the networked system, the setting range of the IP address is from 2 to 255 (Note: 192.168.1.2 is the fixed IP address of the host).

After changing the network settings, this machine needs to be shut down and restarted so as to re-communicate with the network card.

5.2.5 Network registration

In the menu selection interface, enter the network registration interface. There are four setting items in the interface: registration of network, query of network, networking mode and call forwarding.

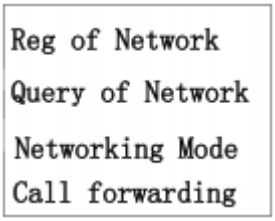

Fig. 5-3 Registration of Network Interface

1. Registration of network

Select the registration of network and enter the registration of network interface. After the password is successfully entered, press the [Exit] to return to the network registration interface; press the [OK] to enter the registration of network and the system registration countdown interface will be displayed. After the registration is completed, the query of network interface will be displayed.

2. Query of network

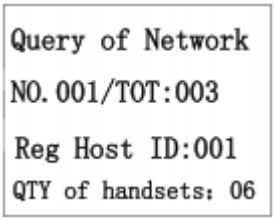

Fig. 5-4 Query of Network Interface

Select the query of network, enter the query of network interface, and by pressing the [▲] or [▼] , you can query the total number of handsets carried by each host in the network system. 001 after the NO.：001 means: the first one currently displayed, and tot 003 means: there are a total of 3 networked machines currently; the Reg Host ID means: the ID number of the networked host; the QTY of handsets means: the total number of handsets carried by the host displayed on the current interface.

3. Networking mode

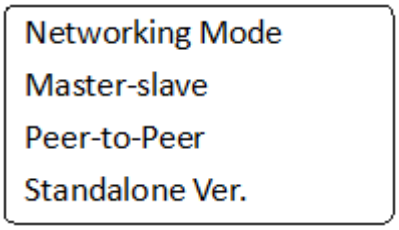

Fig. 5-5 Networking Mode Interface

Select the networking mode, enter the networking mode interface. By pressing the [▲] or [▼] keys, you can choose different network modes. Press the [OK] to save the current network mode and exit the interface. Press the [Exit] to directly exit the interface without saving the current network mode setting.After configuring the networking mode, the telephone host must restart to save the current settings.

When the Master-slave networking is selected, machine No. 1 is the master panel, and the others are slave panels. When the master panel has operations such as time modification, reset, self-test or mute, the slave panels will also automatically perform the same operations. However, the above operations of the slave panels only take effect on themselves. The master panel displays the fault information of the networked slave panels, while the slave panels only display their own fault information. Miss calls for the handsets of the slave panels can be transferred to the master panel for answering, while miss calls for the handsets of the master panel will not be transferred.

When the Peer-to-peer networking is selected, when any panel in the networked system performs operations such as time modification, reset, self-test or mute, other machines will also automatically carry out the same operations. The fault information of other panels can be queried on each host. Miss calls for the handsets of any panels can be transferred to other panels in the network for answering.

When the Standalone Ver. networking is selected,The telephone panel works independently and does not connect to the relevant devices of the networking module.

4. Call forwarding

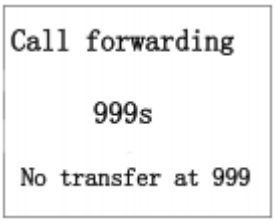

Fig. 5-6 Call Forwarding Interface

Select the call forwarding and enter the call forwarding interface. According to the cursor position, press the digital keys to set the time for an incoming call to a handset that has not been answered to be transferred to other hosts in the network. Press the [OK] key to complete the setting of the call transfer time for this machine. By pressing the [▲] or [▼] keys, this time can also be changed. When the time is set to 999, incoming calls to the handsets of this machine that have not been answered will not be transferred to other hosts in the network.

5.2.6 Handset registration

In the menu selection interface, enter the handset registration interface, where you can choose to register handset, online set/query (online handset settings, online handset queries), location information (location information selection, information settings, location queries), and location delete options.

Register handset: Enter the register handset option, select OK to achieve one click registration function. Display registration handset information after registration.

Online set/query: Enter the online set/query option to perform online handset settings and online handset queries.

Online handset settings: Select the handset number, press [▲] to set it online, and press [▼] to set it offline. After setting up, press [Exit] to directly exit the interface. (Long press [▲] to directly set all 99 machines online; long press [▼] to directly set all 99 machines offline).

5.2.7 Record inquiry

On the menu selection interface, enter the recording query interface, and options for record playback and delete record will appear. (On the lock screen and unlock interface, press [Playback/Query].)

5.2.7.1 Record playback

Select "Record Playback" and enter the record playback interface. Press [OK] to play the content of the current recording. Press [Stop] or [Exit] to stop playing the content of the current recording. Press the [▲] or [▼] keys to query the recording records. After the query is completed, press [Exit] to exit the current interface.

5.2.7.2 Delete record

Select "Delete record" and enter the delete record interface. At this time, the interface will display the recording storage and space occupancy status. Press [OK], and after entering the correct password, press [OK] again to carry out the recording deletion operation. After the deletion is completed, you can exit automatically, or press [Exit] to exit the current interface.

5.2.8 Current handset fault

On the menu selection interface, enter the current handset fault interface. By pressing the [▲] or [▼] keys, you can view the handset fault information of different hosts in the networked system. The number in the upper right corner indicates the total number of handset faults in the current networked system. In the figure above, it indicates that there is 1 handset fault in the current system, and there is 1 handset fault for the host No. 2, with the handset number being 60.

Fig. 5-7 The Interface for Current Handset Fault.

5.2.9 Record query

On the menu selection interface, enter the record query interface. By pressing the [▲] or [▼] keys, you can query the device operation records, including records such as handset incoming calls, hang-ups, and faults. The records will display the time when the events occurred and the current number of records.

5.2.10 Host information

Enter the host information query. Press the [OK] key to set the address of No. 99 as "able" or "unable" (After setting to block the address of handset No. 99, the handset will not report faults when it is online).version：24022810.

5.2.11 Handset address

On the menu selection interface, enter the online handset setting interface. Ensure that the panel bus H+, H - is unloaded, and connect the coding interface to a single handset or jack (one end of the coding wire is connected to the host coding jack, and the other end is connected to the handset power interface (jacks H1, H2)). Press the digital key to select the handset address to be set, and then press [OK] to complete the setting of the current handset address. When there is no operation, the coding interface will automatically jump to the normal monitoring state after waiting for about 60 seconds. (After connecting a handset, the panel will automatically recognize the current handset address and display it above. If a handset with an address of 0 is connected after startup, the host will display the words “Uncoded handsets”.)

5.2.12 Display setup

On the menu selection interface, enter the display setup interface. Adjust the brightness by using the [▲] or [▼] keys. After the setting is completed, press [Exit] to directly exit and save the current brightness value.

5.3 Bus call operation

5.3.1 Call between panels

When the telephone on the panel is off hook and the password is entered correctly, the panel’s receiver will emit a dial tone until input the digital keys, or the telephone hangs up. Input the address of another panel that needs to be called and presses the [Connect] button. The called panel will produce an incoming tone, and the incoming indicator light will remain on. Before establishing a call, it will display the address number of the outgoing panel, and the panel’s receiver will sound a ringback tone. The panel supports calling two

other panels simultaneously. After establishing a call, both the panels stop ringing, and the other panel will display the address number of the calling panel.

5.3.2 Call from a panel to a fire telephone under another panel

When the telephone on the panel is off hook and the password is entered correctly, the panel's receiver will emit a dial tone until input the digital keys, or the telephone hangs up. Inputs the address of a handset under another panel that needs to be called, presses the [Connect] to dial, and the dialed a handset under another panel will produce a ringing tone, while the working indicator lights of a handset under another panel will flash. Before establishing a call, the panel will display the address numbers of the handset under the other panel for outgoing calls, and the receiver will sound a ringback tone. The panel supports calling a single handset under two other panels at the same time. After establishing a call, the panel and the handset under the other panel being dialed enter the call. The ring will stop. At the same time, the panel displays the address numbers of the handset under the other panel being dialed.

5.3.3 Call from a panel to its connected fire telephones

5.3.3.1 Call a single telephone

When the telephone on the panel is off hook and the password is entered correctly, the receiver will emit a dial tone until input the digital key or the telephone hangs up. Input the address of the telephone to be called and presses the [Connect]. The telephone being called will generate a ringing tone, and at the same time, the working indicator light of the telephone will flash. Before the call is established, the panel will display the address number of the telephone being called out, and at the same time, the receiver of the panel will emit a ringback tone. The panel supports calling five telephones simultaneously. After the call is established, the panel and the telephone enter into the conversation. The ring will stop, and at the same time, the panel displays the address number of the handset in the conversation.

5.3.3.2 Call multiple telephones

When the panel and the telephone have not established a call, it can call any online telephone. When there is already a telephone in conversation, the panel can continue to call other telephones. During the call, the conversation lights, recording and working lights on the panel will always be on.

5.3.4 Hang up the telephone

When the panel and the telephone have already established a call, input the address number of the telephone and then presses [Hang Up]. Then, the telephone will generate a busy tone, and at the same time, the panel screen will no longer display that the telephone is in conversation. The conversation and recording indicator lights will go out. If, after the panel hangs up, the telephone still hasn't hung up, the panel will display the corresponding telephones which haven't hung up.

5.3.5 Call a panel through a telephone

The telephone can call a single panel or multiple panels. When calling the panel from a telephone while the panel fails to connect in a timely manner, the panel will display the

telephone address and the words' Missed call 'after hanging up the telephone. When the call is established for a missed call, the words "Missed call" disappear. If the panel is currently in a call, it should be able to receive calls from other telephones and enter into a conversation.

5.3.6 Hang up the panel

During the call between the panel and telephone, if the telephone hangs up, the panel screen will no longer display that the telephone is in a call. The conversation and recording indicator lights will go off, and at the same time, the receiver emits a busy tone.

6 Abnormal Situation Handling and Maintenance

The panel will monitor the running status and report fault immediately, including Bus short/open circuit, Mains failure, Battery failure, and Record full.

6.1 Bus short circuit

6.1.1 Monitor mode

If the bus communication line is short circuited under normal monitoring status, the panel will generate a fault sound, turn on the yellow fault light. You can press the [Mute] button to mute. The display screen shows the words "Bus short circuit". After removing the short circuit, it will be restored to normal monitoring status.

6.1.2 Call mode

If the bus communication line is short circuited when the panel and a telephone is in a call, the panel will report a bus short circuit fault, end the call end, generate a fault sound, and turn on the yellow fault light. You can press the [Mute] button to mute. After the fault disappears, the panel will return to normal monitoring mode, and the telephone will still call the panel.

6.2 Bus open circuit

6.2.1 Panel bus open circuit

If the panel bus line is disconnected, the panel will report faults for all online telephones after a period of time (depends on the number of connected phones). At the same time, a fault sound generated and the yellow fault light turned on. At this point, you can press the [Mute]] key to mute the panel, and at the same time, the mute indicator light will be on. After the fault was eliminated, everything returned to normal.

6.2.2 Telephone bus open circuit

If one telephone bus line is disconnected, the panel will report a fault for the telephone after a period of time (depends on the number of connected phones). At the same time, a fault sound generated and the yellow fault light turned on. At this point, you can press the [Mute]] key to mute the panel, and at the same time, the mute indicator light will be on. After the fault was eliminated, everything returned to normal.

6.3 Power failure

6.3.1 Main power failure

When the main power is disconnected, the main power indicator light turns yellow, the backup power indicator light turns green, and the screen shows a main power under-voltage fault. After the fault was removed, everything returned to normal.

6.3.2 Battery failure

When the back up battery is disconnected, the back up power indicator light turns yellow, the main power indicator light turns green, and the screen shows a back up power under-voltage fault. After the fault was removed, everything returned to normal.

6.4 Record full

When all four recording storage zones are full,the panel will report a record full fault, the yellow fault light will turn on and the sounder will alarm, you can press the [Mute] button to mute. The display screen will show 'Record full'. After deleting the recording, everything returned to normal.After the deletion operation is completed in the current zone, the system will automatically start recording from the next storage zone, cycling sequentially through zones 1 to 4.

7 Reset and Self-test

7.1 Reset

Under normal monitoring conditions, press [Reset] on the panel to reset it. When there is a fault or missed call shown on the panel, they will be disappeared by pressing [Reset] (the duplicate code telephone will not disappear). If the fault has not been removed, the panel will still report the fault after resetting.

7.2 Self-test

In the unlocked state, long press the [Reset] button to enter the self-test state. The screen will refresh, all indicator lights will remain on, and the speaker will emit a ringing sound. After self-test, the panel will reset.

7.3 Shut-down

Enter the "System setup", select "Shutdown", a soft shutdown will be achieved after confirmation (the screen sleeps and the system stops running). Press and hold the [Connect] key to turn on the panel after a soft shutdown. Or you can turn it on by reconnecting the power supply.

8 Notes

1. The telephones connected to the panel (≤ 99) should be set online;

2. The panel can only work normally and stably after eliminating all faults;

3. This product is a two - bus non - polarity - specific fire telephone communication system, which do not have positive or negative polarity. The wires used for installing should

be two-color twisted pair wires with a cross-sectional area greater than 1.5mm2.

9 Accessories

1. Fire telephone jack coding line: one
2. Fire telephone handset coding line: two
3. User manual: one

Interface Explanation Table：

NO.	Interface	Explanation
1.	BAT	Battery
2.	HS	Handset
3.	REC	Record
4.	LEN	Length
5.	RD	Total Remaining duration
6.	Cur z	Current zone
7.	Del z	Deletable zone
8.	Rn	Remaining duration
9.	Comm	Communication
10.	Network reg	Network registration
11.	Reg	Registration
12.	Main Power UV MPS UV	Main power undervoltage
13.	Number 99 disable	Number 99 has been blocked
14.	Uncoded handsets	Access of unencoded handsets
15.	DUP code	Duplicate code handsets
16.	Net err	Network disconnection
17.	z	Zone
18.	enable	unblocked
19.	Cur	Current
20.	R	Query
21.	W	Set

Limited Warranty

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