USER'S MANUAL

Read the installation and user's manual before installing and using the product.
Keep this manual properly for future reference.

泛海三江

Fanhai Sanjiang

CRT-9000 fire control room

General user’s manual for graphic display unit

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Chapter 1 System introduction

1.1 System features:

The CRT-9000 fire control room graphic display unit (hereinafter referred to as "CRT-9000") is a system platform integrating all information of the fire alarm control system, enabling its information to be displayed intuitively, and facilitating its operation and control - allowing it to have good extendibility. As such, it is fit for distributed network applications and realizing real-time network monitoring. This system uses highly real-time and highly reliable CAN (control area network) bus technology to realize communications with alarm hosts on the network, ensuring stable and reliable system communication. The system software interface is nice and attractive, and the fire control monitoring terminal (such as the fire detector and control modules, etc.) uses the structural plan of the building to display related information, enabling it to reflect abnormal information (fire alarms, linkages and faults, etc.) of the system's terminal equipment in a more intuitive way. The operation is simple and convenient, and fit for different kinds of users.

1.2 System functions:

The CRT-9000 has a real-time monitoring function, which can indicate the specific position where an alarm occurs via the layouts intuitively and accurately under monitoring mode, and display the layouts of several alarm floors by scrolling through automatic switching. It can jump to the plane of the zone and the plane of the building where it is located by double-clicking the alarming icon.

1.3 System configurations:

Minimum configurations of the host:

CPU	Basic frequency 1.5G or above
Memory	Above 256M
Mainboard	With PCI slot
Hard disk	80G or above
Graphic card	16K color, above 800X600
Bus interface card	PCI-CAN bus interface card（Installed on the PCI slot of the host）
Operating system	Windows2000 or above

Chapter 2 System installation

2.1 Software installation:

Double-click CRT9000-setup.EXE to enter the setup interface. Follow the setup prompt. The program will be installed smoothly. CRT-9000 has 8 subdirectories:

- ..\Config: Save the plane probe and module position description file;
- ..\ Help: Save the general user's manual for the CRT-9000 graphic display unit;
- ..\History: Save history fire alarm, history feedback, history fault and history operating files;
- ..\Host: Save host setting data file;
- ..\Image: Save CRT-9000 background picture file;
- ..\Wd: Save CRT-9000 driving program file;
- ..\ PCSet: Save and set CRT-9000 and host data program files;
- ..\ ShareFiles：Save custom user files sent to the monitoring center after communicating with the center.

2.2 Connection means:

- Connection means 1: The monitoring system is connected to the 9-pin communication line of the alarm host TO-CRT via a 9-pin serial port plug (two to two and seven to seven).
- Connection means 2: The monitoring system is connected to CAN_L and CAN_H of the alarm host CAN2 respectively by a twisted pair line via Pin 2 and Pin 7 of the serial port line.

2.3 System startup and exit:

Click Start under WinXP ⟶ CRT can start the system to enter the monitoring interface.



Start up the system

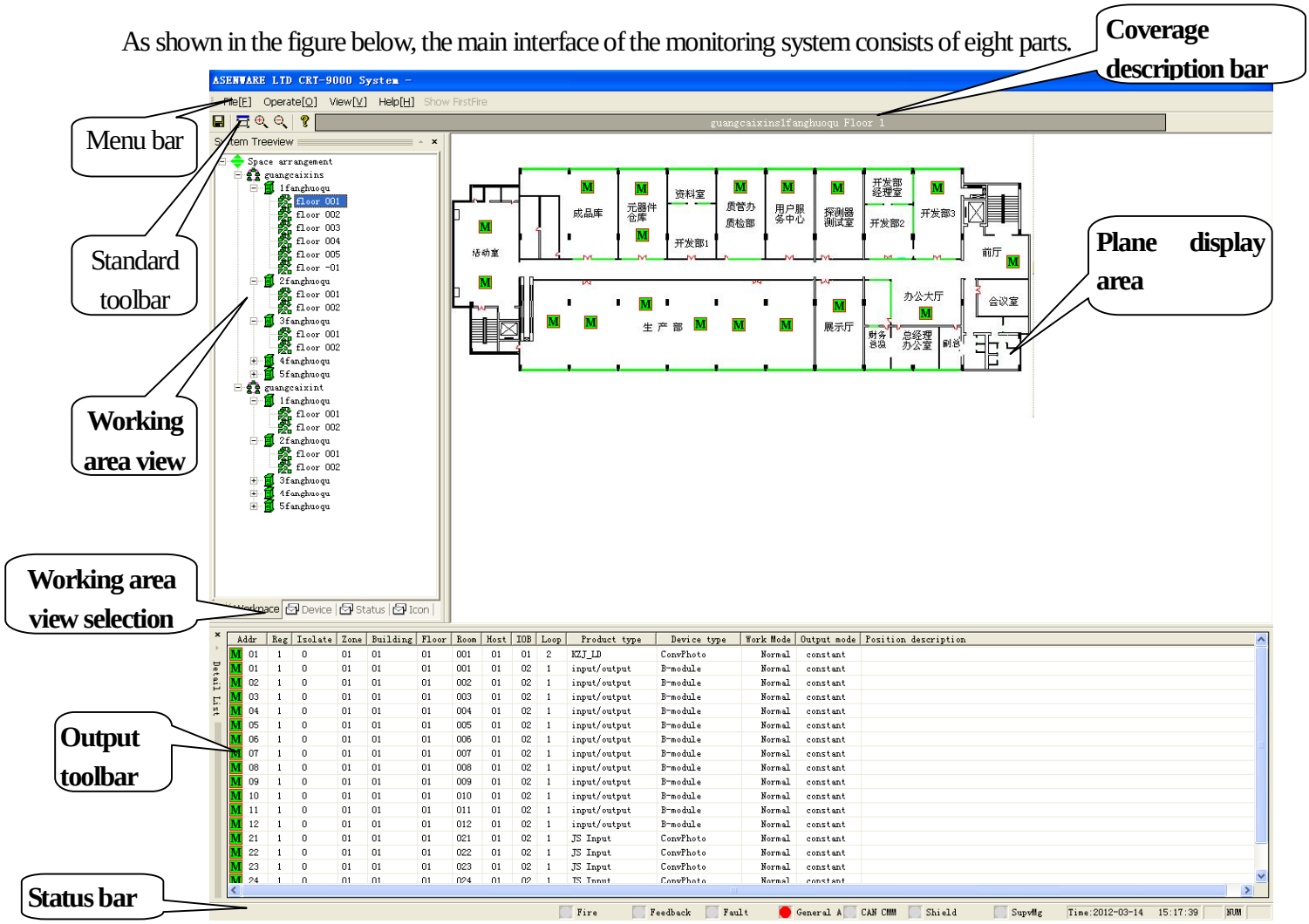
Click the File bar ⟶ Click Exit (pressing the Shift key) three times to quit CRT-9000 and close the Windows operating system.



Chapter 3 System operating environment

3.1 Main operating interface of the system:

As shown in the figure below, the main interface of the monitoring system consists of eight parts.



Main interface of the system

Menu bar: it consists of four menus, File, Operation, View and Help; it includes all operating commands for CRT-9000. Click the pull-down menu to select one option to perform the corresponding operation.

Standard toolbar: Common command shortcut button. Click the picture button of a certain command to perform the corresponding operation.

Working area view: Display space view, equipment view, status view and icon view via the graphic tree structure.

Working area view selection bar: Select one display form from four views

Output toolbar: Display corresponding equipment and alarm information according to the tree graph.

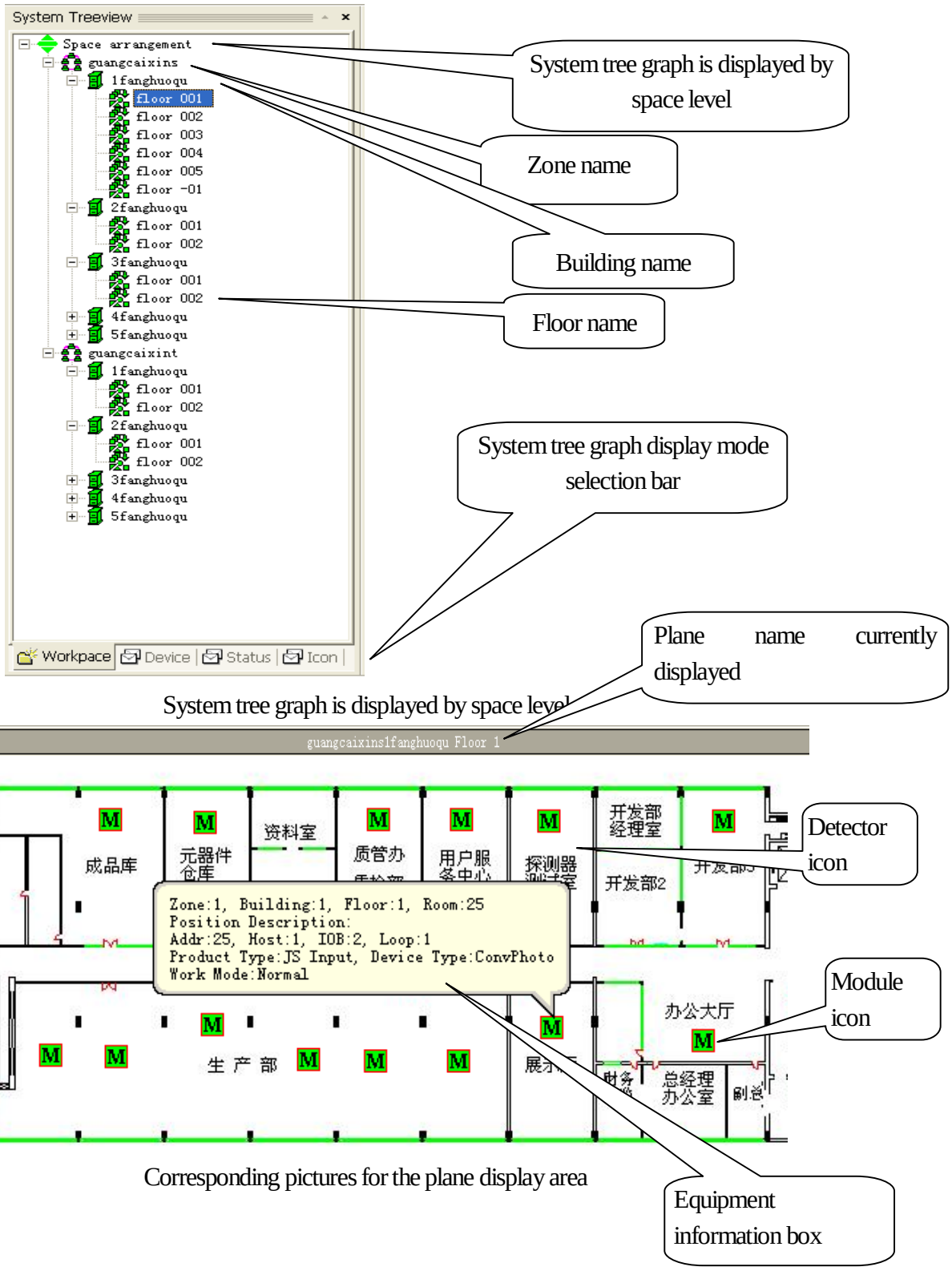
Coverage description bar: Display the description of the current project background picture.

Plane display area: Display the background picture of the alarm floor or pictures of the floor selected.

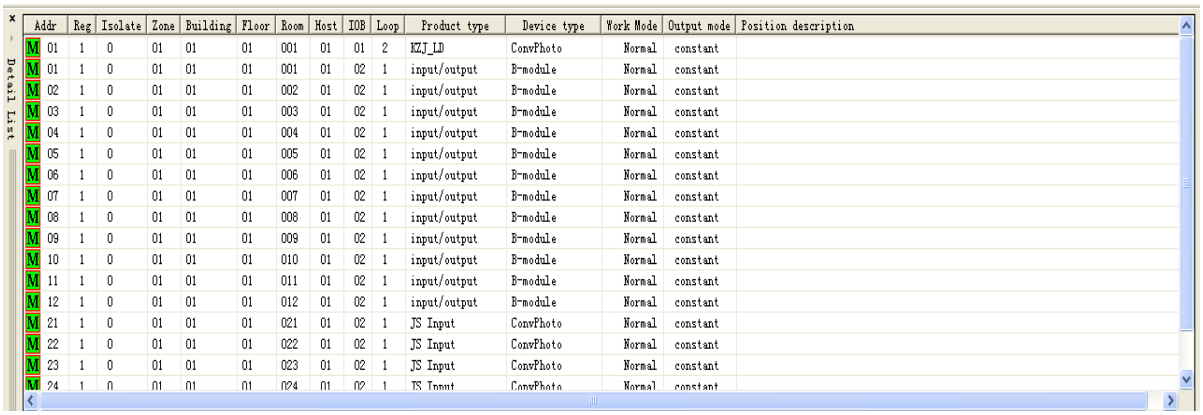
Status bar: Display the current operation prompt, technical support, CAN communication status, fire alarm, linkage, fault communication indication, or common linkage manual/auto state.

3.2 Space level view and floor plane:

As shown in the diagram below, the system space view covers the zone (or project) name, building name, and floor name, which clearly displays the structure of the project. The floor plane clearly displays the equipment placement position for the floor. When a fire alarm, equipment action feedback, or a fault occurs, the layouts of the specific floor will pop up automatically and the equipment icons will also flicker. When equipment on several floors reacts, the floor planes will be displayed by scrolling.



Corresponding pictures for the plane display area



	Addr	Reg	Isolate	Zone	Building	Floor	Room	Host	IOB	Loop	Product type	Device type	Work Mode	Output mode	Position description
M	01	1	0	01	01	01	001	01	01	2	KZJ_LD	ConvPhoto	Normal	constant	
M	01	1	0	01	01	01	001	01	02	1	input/output	B-module	Normal	constant	
M	02	1	0	01	01	01	002	01	02	1	input/output	B-module	Normal	constant	
M	03	1	0	01	01	01	003	01	02	1	input/output	B-module	Normal	constant	
M	04	1	0	01	01	01	004	01	02	1	input/output	B-module	Normal	constant	
M	05	1	0	01	01	01	005	01	02	1	input/output	B-module	Normal	constant	
M	06	1	0	01	01	01	006	01	02	1	input/output	B-module	Normal	constant	
M	07	1	0	01	01	01	007	01	02	1	input/output	B-module	Normal	constant	
M	08	1	0	01	01	01	008	01	02	1	input/output	B-module	Normal	constant	
M	09	1	0	01	01	01	009	01	02	1	input/output	B-module	Normal	constant	
M	10	1	0	01	01	01	010	01	02	1	input/output	B-module	Normal	constant	
M	11	1	0	01	01	01	011	01	02	1	input/output	B-module	Normal	constant	
M	12	1	0	01	01	01	012	01	02	1	input/output	B-module	Normal	constant	
M	21	1	0	01	01	01	021	01	02	1	JS Input	ConvPhoto	Normal	constant	
M	22	1	0	01	01	01	022	01	02	1	JS Input	ConvPhoto	Normal	constant	
M	23	1	0	01	01	01	023	01	02	1	JS Input	ConvPhoto	Normal	constant	
M	24	1	0	01	01	01	024	01	02	1	JS Input	ConvPhoto	Normal	constant	

Output toolbar

When clicking the space level view, the output toolbar will display information about the zones registered in the system and about buildings registered in every zone, etc.

When clicking the zone name, it will display the building number of the zone and floor number of each building, and the plane display area will display the appearance picture of the zone. When clicking the building, it will display the floor number of the building, equipment quantity of each floor, as well as the appearance picture of the building, etc.

When clicking a certain floor, the plane view area will display the corresponding plane and the output toolbar will display the equipment information of the corresponding floor.

When the cursor points to spedific equipment in the plane, the information box for the equipment will pop up automatically, displaying all setting information for the equipment (as shown in the above diagram).

Note: Detector and module positions in the plane will be determined by the zone number, building number, and floor number of the detector and the module. Position description is only for reference. When the system sends out an alarm, a dialogue box will pop up separately from the upper right corner of the main interface, displaying the first fire alarm information. Jump to the plane where the equipment is located for the first fire alarm directly by clicking the first fire alarm button on the dialogue box.

3.3 Equipment level, status level and icon view:

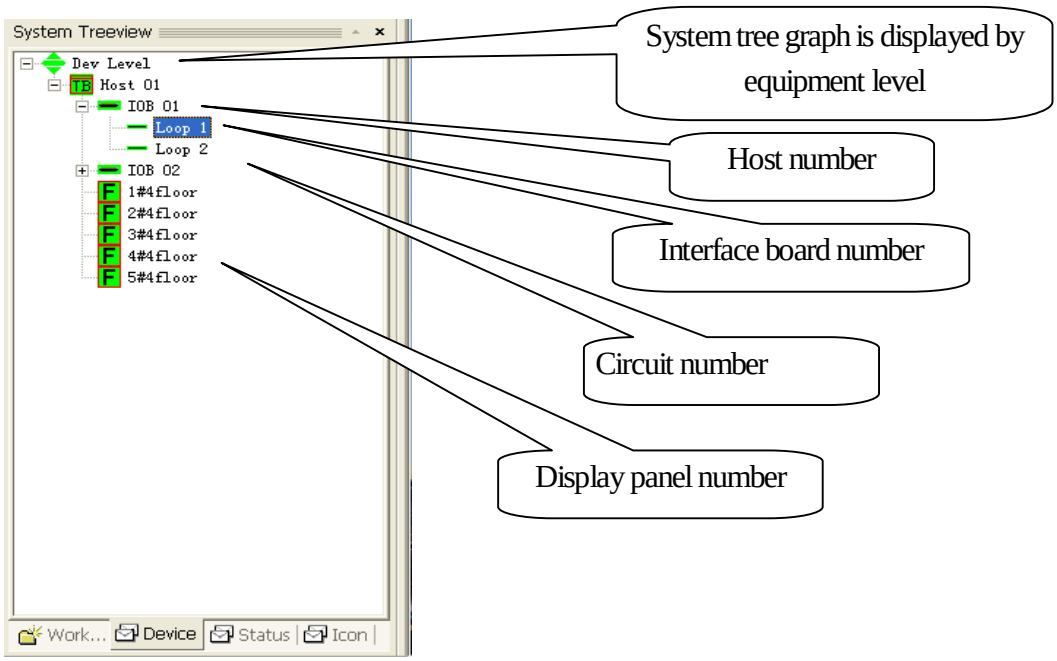
Equipment level view covers host number, interface board number, and circuit number. When clicking the equipment level, host number, interface board number, and circuit number, the output toolbar will display corresponding information.

For example: When clicking the equipment level, it will display the number of the alarm host of the system, the interface board number, and display panel number of every host.

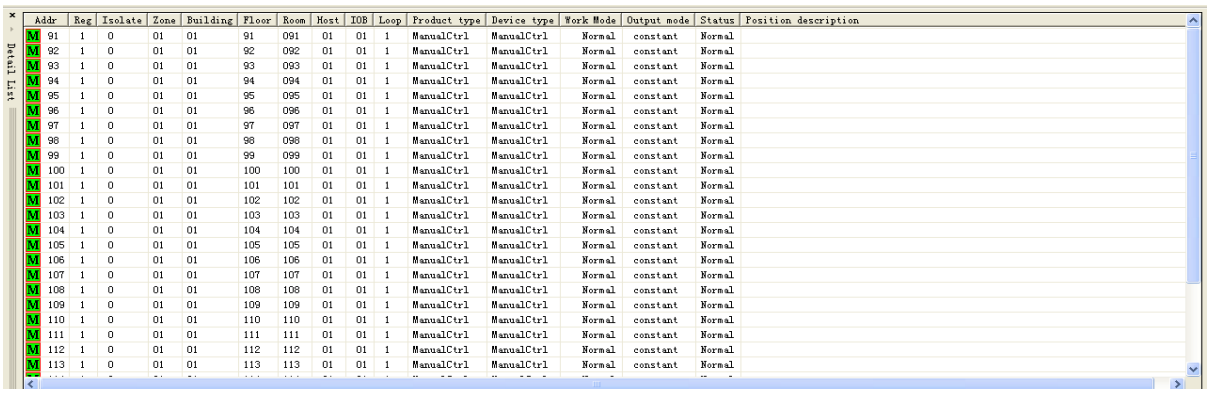
When clicking the host number, it will display the registered interface board number of the host.

When clicking the interface board number, it will display the equipment number of Circuit 1 and 2 of the interface board.

When clicking a certain circuit of a certain interface board, the output toolbar will display detailed setting information of all registered probes and modules of the circuit (as shown in the diagram below).



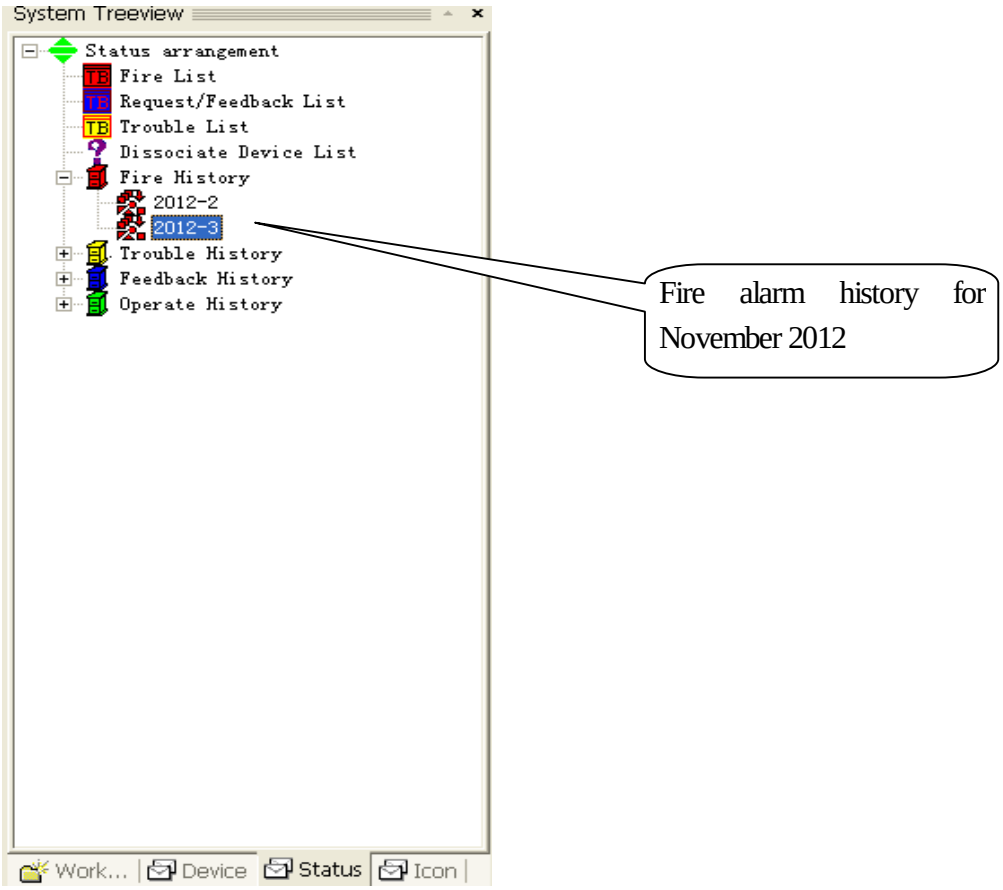
Equipment level view



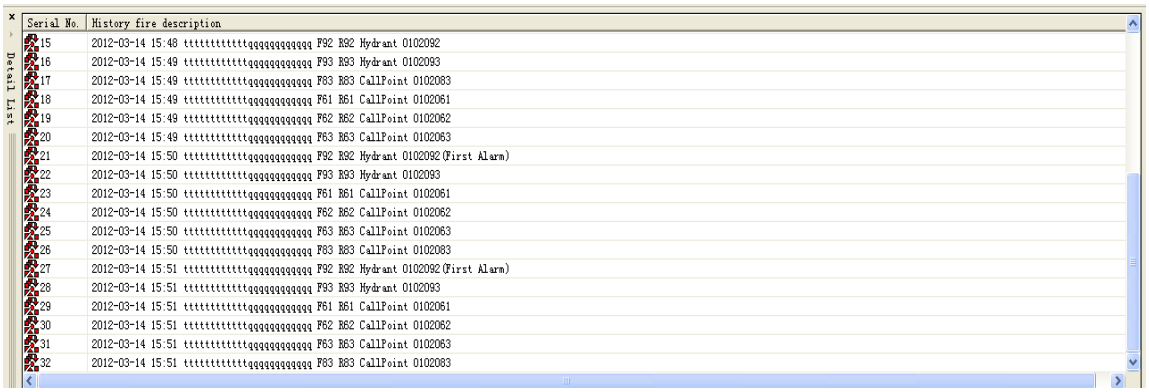
Addr	Reg	Isolate	Zone	Building	Floor	Room	Host	IOB	Loop	Product type	Device type	Work Mode	Output mode	Status	Position description
M 91	1	0	01	01	91	091	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 92	1	0	01	01	92	092	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 93	1	0	01	01	93	093	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 94	1	0	01	01	94	094	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 95	1	0	01	01	95	095	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 96	1	0	01	01	96	096	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 97	1	0	01	01	97	097	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 98	1	0	01	01	98	098	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 99	1	0	01	01	99	099	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 100	1	0	01	01	100	100	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 101	1	0	01	01	101	101	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 102	1	0	01	01	102	102	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 103	1	0	01	01	103	103	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 104	1	0	01	01	104	104	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 105	1	0	01	01	105	105	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 106	1	0	01	01	106	106	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 107	1	0	01	01	107	107	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 108	1	0	01	01	108	108	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 109	1	0	01	01	109	109	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 110	1	0	01	01	110	110	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 111	1	0	01	01	111	111	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 112	1	0	01	01	112	112	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	
M 113	1	0	01	01	113	113	01	01	1	ManualCtrl	ManualCtrl	Normal	constant	Normal	

Host 1, Interface board and equipment list for Circuit 1

The status level view includes fire alarm list, requesting feedback list, fault list, free equipment list, fire alarm history list, fault history list, feedback history list, and operation history list (as shown in the figure below)



Status level view



Detailed fire alarm history list

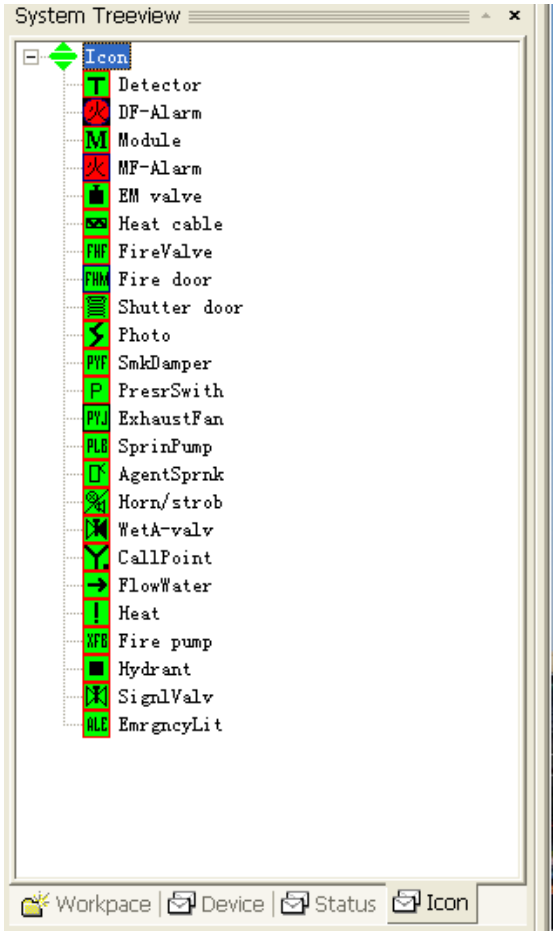
For example: Clicking different list items, the output toolbar will display the corresponding list information.

When clicking the fire alarm list, request feedback list, and fault list, display all current fire alarms, request feedback, and fault information in chronological order.

Free equipment list refers to registered equipment for which the zone, building and floor information can be set in the system (such as the water pump in the public area), i.e. equipment that floor planes cannot cover, so as to prompt possible problems in the user setting.

Fire alarm history, fault history, and feedback history list are history records for all alarm information received by CRT-9000. The records can be inquired about by each month. When clicking through the history records, the output toolbar will display the alarm times which have occurred for every month. Operation history list contains all operations recorded by CRT-9000, which can be inquired about month by month. To inquire about the fire alarm history, fault history, and feedback history or operation history of a certain month, click the corresponding month. Each history can be inquired about in the output toolbar in chronological order.

Icon view includes description of all alarm icons in the system

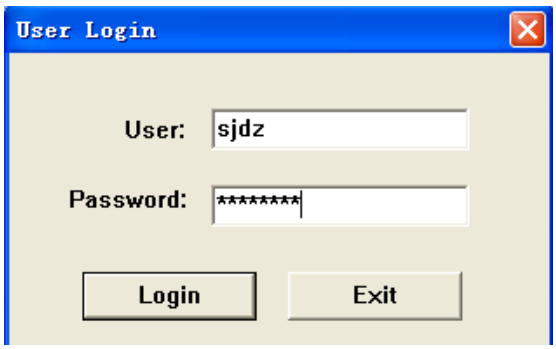


Notes: The display panel icon is F. Equipment icon defaults are represented by M (for module) and T (for detectors) respectively.

Chapter 4 Operation instructions for the system menu

4.1 File

Save: Save CRT-9000 system data modifications such as detector and module position information, system settings, user management, host registration, background filling color, etc.
Logon: Click to enter the user logon interface, enter the correct user name and password to access the corresponding user level. Users of different levels have different operation authority.
Logout: Log out and enter the common use state.

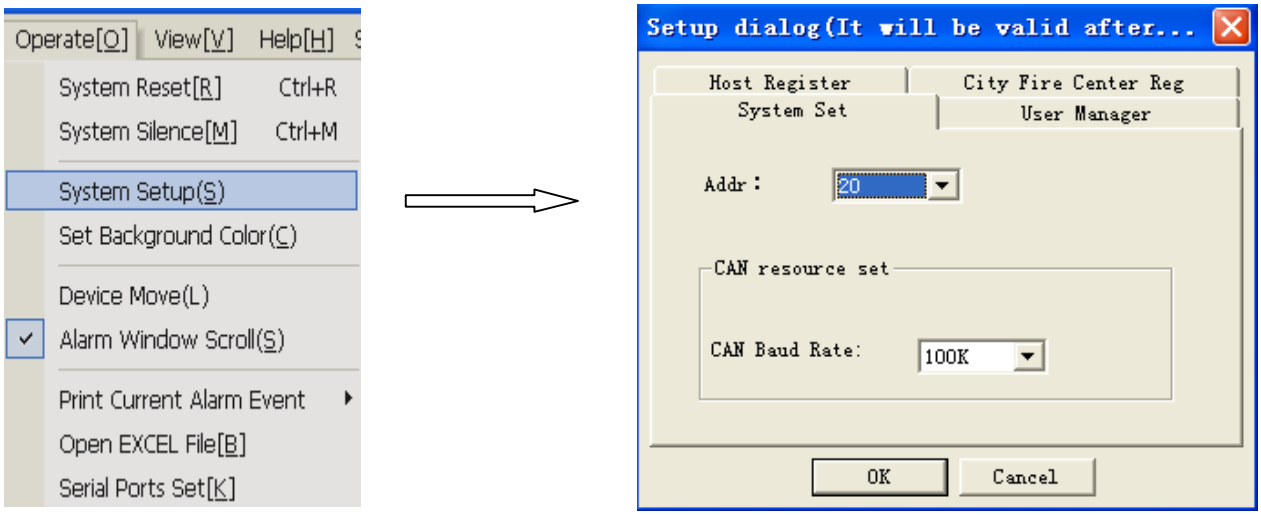


User login interface

Exit: Exit the monitoring system and power off the host (by pressing Shift key to perform three times).

4.2 Operation

System restoration: Remove the alarm, feedback and failure of the CRT-9000 system and get alarm information from the host again.
System noise silencing: Silence all alarms of the CRT-9000 system (fire alarm tone, feedback tone and failure tone).
System setting: Set the host number, CAN card, user management, and network host registration monitored by the CRT-9000 system.



System setting interface

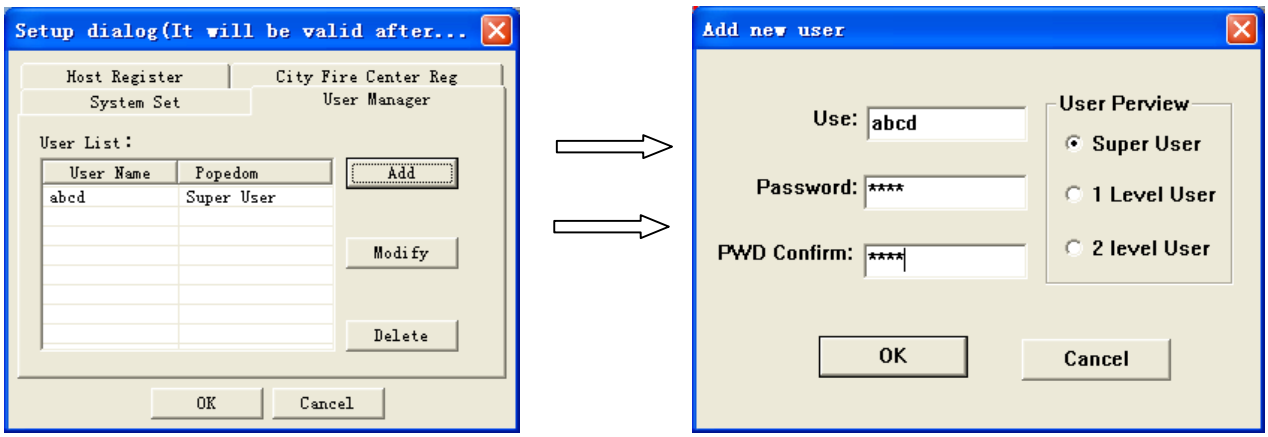
Operations for the system setting dialogue window:

System setting:

The host address can be selected from 2 to 20; however, repeated number should not appear in the network host.

Note: Baud rate factory default setting for the CAN card is 100KBPS.

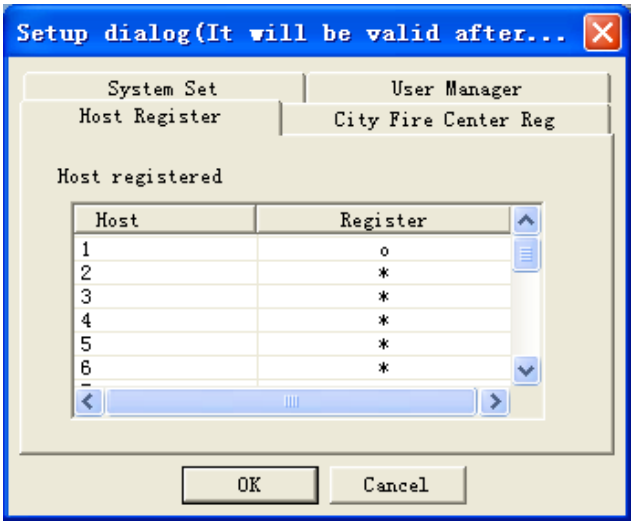
User management: Enter the user management interface and record the name and authority of various users' levels. A new user name can be added, user password and authority can be modified, and users can be deleted.



User management interface

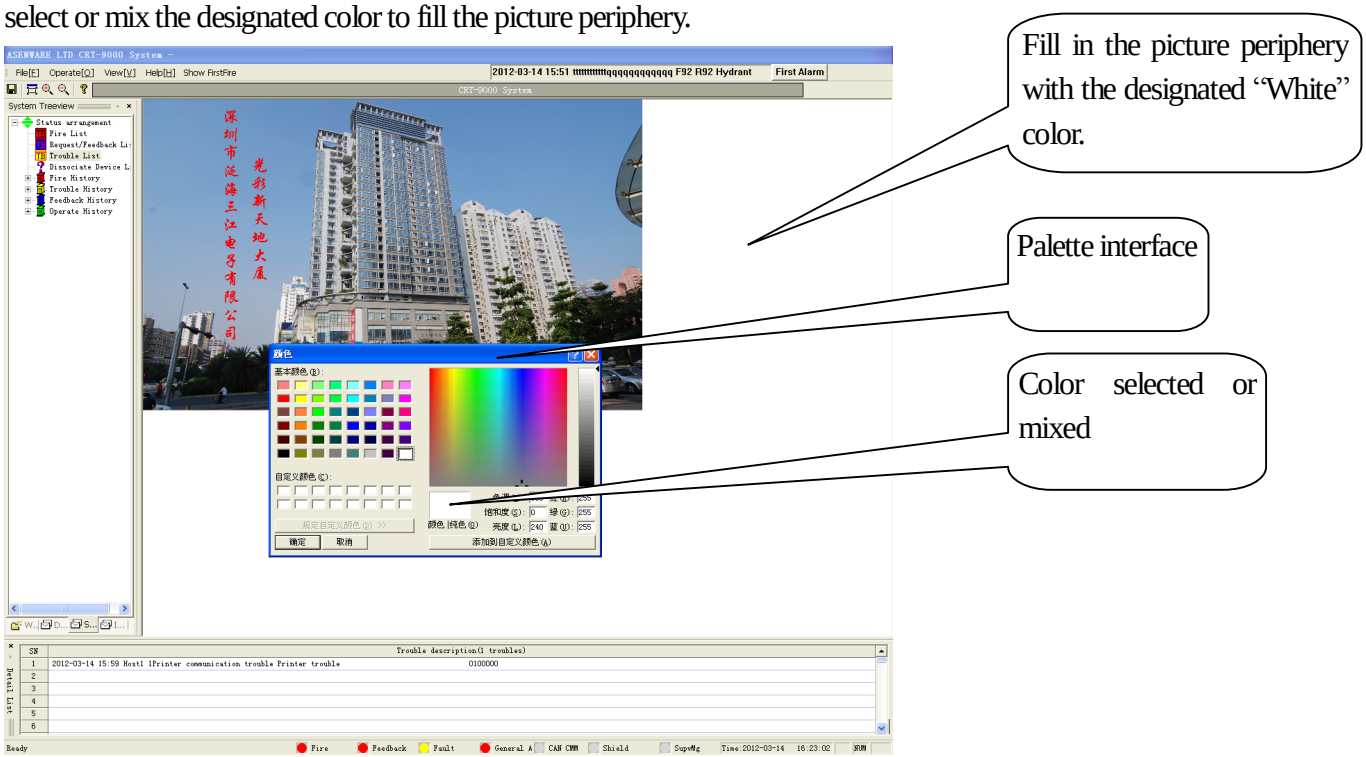
Add and modify user interface

Host registration: The maximum network host number for the system is 20. Host numbers needing to be connected can be registered through this interface. 1-20 hosts are available. "O" indicates that the host is a registered network host and "X" indicates that the host is not a network host. Only when an alarm host is registered and the host has registered the address number of the CRT-9000, can the monitoring system receive the alarm information from the alarm host.



Registration interface for the network host

Background color setting interface: Set small pictures which cannot be displayed on the full screen or fill in the periphery of zoomed-out pictures with a designated color. Click the menu to enter the palette interface and select or mix the designated color to fill the picture periphery.



Modify the background filling color setting interface

Equipment dragging: Click this menu to drag the detector and module into the plane; when the detector or the module is dragged to the desired position, click "Save" in the File menu, the system will memorize its position.

Alarm window scrolling: Click to display or hide (tick or untick) on the left. When it is displayed (ticked), it indicates that background pictures of different floors will be circularly scrolled in case of any alarm information such as a fire alarm, feedback or fault, etc; otherwise, the background picture of the last alarm floor will be displayed or only the background picture designated in the space will be displayed.

Open an EXCEL sheet: Click this menu, a preset EXCEL sheet will pop up, on which such information as being on-duty, operators, and product maintenance, etc, can be recorded.

Notes: The system needs to install OFFICE software to open EXCEL files.

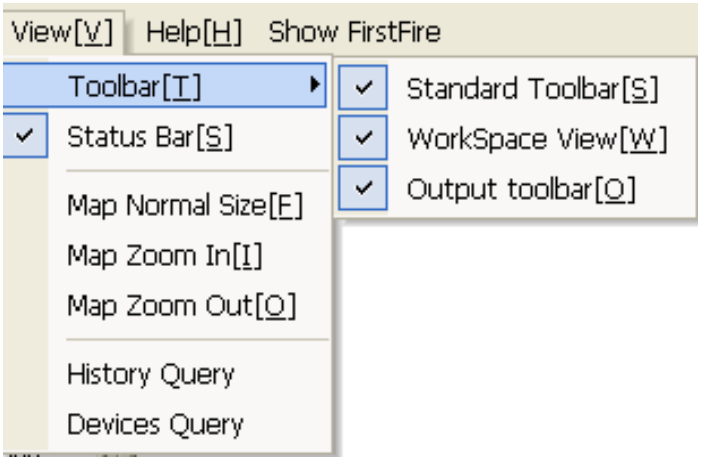
Serial port setting: Click this menu. A dialogue box will pop up in which such informtion as serial port open/close, baud rate, and serial port number, etc, can be set. It can communicate with the background of the central control room after the serial port is open. The central control room can acquire abnormal field information records.



Serial port setting interface

4.3 View menu

Toolbar: It can hide or display the standard toolbar, working area view, and output toolbar windows. Tick or untick the corresponding submenu to display or hide the corresponding window.



View menu interface

Status bar: Click the menu to tick or untick it to display or hide the status information bar at the bottom.

Floor plane normal size: CRT-9000 can zoom-in/out background pictures. Click the menu to display the picture of the current display area by its original size.

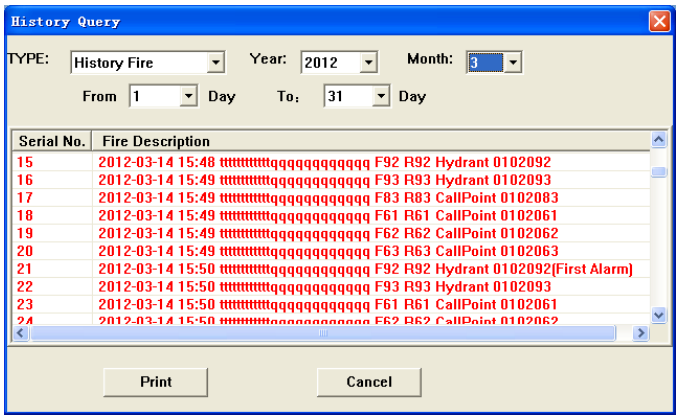
Floor plane zoom-in: Zoom in the pictures within the current display area

Floor plane zoom-out: Zoom out the pictures within the current display area.

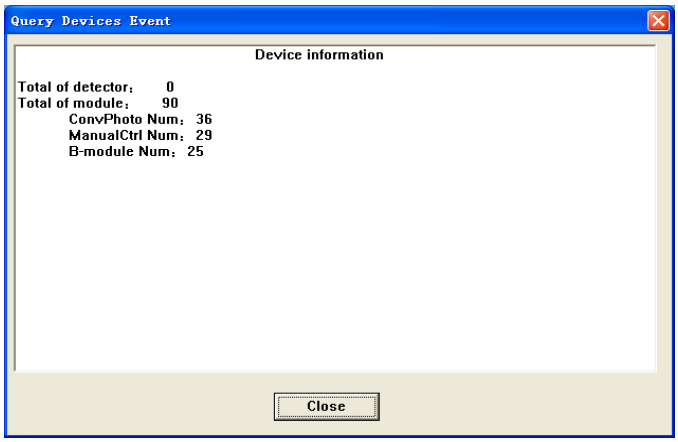
History inquiry window: Click to pop up the window inquiry window. Select to inquire about fire alarm, feedback, fault or operation by type, time (month/year) in chronological order.

Equipment information inquiry: Display information of all registered equipment such as detectors, modules, manual alarms, fire hydrants, and display panels, etc, in the system in the popup window to facilitate system volume viewing.

About: Display CRT-9000 version information and company information. (Identical to "About" under the Help menu).



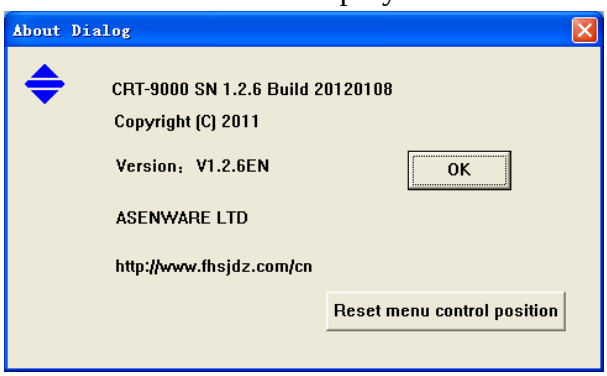
History inquiry window



Equipment information inquiry window

4.4 Help

About: Display CRT-9000 version information and company information



About dialogue box

Registration: CRT-9000 software system registration

I. Newly-installed CRT-9000 software system is an unregistered version. The following prompt will pop up when starting the system software:



II. Click the "Registration" button under the Help menu, the following dialogue box will pop up:



If no registered code key file has been acquired from the manufacturer or the agent, first select "Generate an application to acquire registered key file" option and click OK to generate the application for a registration code key file "Client_CRT.bin" (under the root directory where the system software is installed) and submit the application to the manufacturer or the agent, asking the manufacturer or the agent to furnish a registration code key file; after acquiring such file, select "Already acquired registration code key file" option and select importing of the file (enter the key file route or select the key file route in the file route input box under "Select registration code key file"), and click OK, the prompt "Registration successfully" will pop up.

III. Click "Registration" button under the Help menu after the registration is completed successfully. The following dialogue box will be displayed:

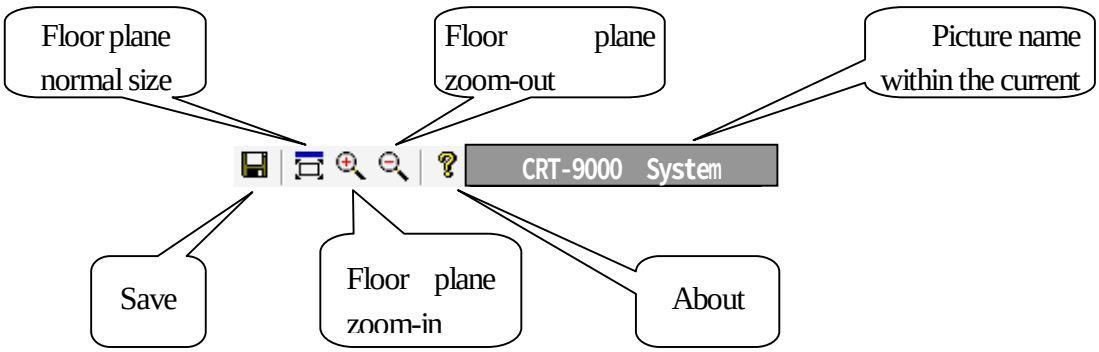


4.5 First fire alarm

The button is in inactivated grey and can't be clicked when CRT-9000 operates normally; when a fire alarm occurs, the button will be activated and the font color will become normal. Click to enable the plane display window to jump to the plane where the first piece of equipment with a fire alarm is located, thus enabling the on-duty personnel to determine the first fire alarm area in the shortest time and take proper measures.

Note: When the system is in the system setting window or the background color setting window, the first fire alarm button can't be clicked even though a fire alarm occurs. However, when the two setting windows are closed, the plane display window will jump to the fire alarm display interface automatically.

4.6 Standard toolbar



Interface the standard toolbar

Save button: Save the setting information to CRT-9000 (Identical to "Save" under the file menu)

Floor plane normal size: Click the button to display the picture of the current display area in its original size. (Identical to "Normal size of the plan of the floor" under the View menu)

Floor plane zoom-in: Zoom in on pictures within the current display area (Identical to "Floor Plane Zoom-in" under the View menu)

Floor plane zoom-out: Zoom out on pictures within the current display area (Identical to "Floor Plane Zoom-out" under the View menu).

About: Display CRT-9000 version information and company information. (Identical to "About" under the Help menu).

Chapter 5 Establishment of system projects

CRT-9000 cannot upload data to the host, or download data from the host, or modify host data. Therefore, CRT-9000 settings must be established on the alarm host or the special edition software launched by our company. Now illustrate the settings of the alarming host. Get familiar with CRT-9000's file directory structure and the data backup of the alarm host before a project is established.

5.1 CRT-9000 file director structure description

CRT-9000 includes 8 file directories, as follows:

Fire directory name	Files saved under file directory
Image	Used to save background picture files
Host	Used to save host device data files
Config	Used to save configuration files
History	Used to save history data files
Wd	Used to save driving program files (no description is made)
PCSet	Used to save CRT-9000 setting files and host data program files
Help	Used to save general user manual for CRT-9000
ShareFiles	Used to save files related to serial communication

The following will be detailed:

- Image directory:
  - background file list.txt (for user edition)

    Note: Specify the correspondence between graphic files, floor, building and zone.

    （ Note: Users can only modify the contents in the quotation marks）

    For example:

    Zone 1 ->"Guangcai building.jpg"

    Building 1->"Building 1.jpg"

    Floor 1->"Floor 1 Building 1.jpg"

    Floor 2->" Floor 2 Building 1.jpg"

    。。。。。。。。。。。。。。。。。。。。

    。。。。。。。。。。。。。。。。。。。。

    Floor 2->" Floor 2 Building 1.jpg"

    Building 2->"Building 2.jpg"

    Floor 1->"Floor 2 Building 2.jpg"

    Floor 2->"Floor 2 Building 2.jpg"

    。。。。。。。。。。。。。。。。。。。。

    。。。。。。。。。。。。。。。。。。。。

    Zone appearance picture file name

    Building appearance picture file name

    Floor plane file name

    - Floor 2 can be concluded in the similar way and the sequence is in a particular order

  - All background picture files (supports several graphic file formats such as .JPG and .BMP, etc.)

Note: Several of the same zones can not exist in the background file list and several of the same

buildings can not exist in the same zone, but several of the same floors can exist in the same building.

- Host directory:
  - **Host file directory list.txt** (for user edition)

    Note: Assign the directory for host data file saving.

    （Note: users can only modify contents within the quotation marks）

    For example:

    Host 1 ->"\Host1\"
    Host 2 ->"\Host2\"
    Host 3 ->"\Host3\"
    Host 4 ->"\Host4\"
    ……
    ……
    Host 20->"\Host20\"

    The subdirectory saving data of Host 1

    Note: If no such subdirectory is available under the host directory, right-click to create the new required subdirectory. Data for every host can be saved only under one subdirectory, rather than several hosts directing to the same subdirectory or one host directing to several subdirectories.

  - All host directory

    Note: The directory is used to save data files of host equipments, which can be read from TB_ARM 9000 via CF card and be placed under the director of respective host.

（Note: zone, building, floor registration information for the whole system, and network-based information of the host are subject to the data of Host 1）

For example:

Host1	Save all data files of Host 1
Host2	Save all data files of Host 2
Host3	Save all data files of Host 3
…..	……
…..	……
Host20	Save all data files of Host 20

- Config directory:

  Note: this directory is used to save system files, all of which are generated by the system automatically and its initial state can be null.
  - System setting files (Config.bin)
  - User setting files (User.bin)
  - Equipment icon position files for every host

    For example:

    IconPos_Host1.bin Equipment icon position files for Host 1
    IconPos_Host2.bin Equipment icon position files for Host 2

    ……

- History directory:

Note: this directory is used to save history data files, all of which are generated by the system automatically and its initial state can be null.

- History data files (by month/year)

  For example:

  HistoryFire_2009_3 Fire alarm data files for March 2009

  HistoryFault_2009_2 Fault data files for February 2009

  ……

- PCSet directory:

Note: The directory is used to save the configuration tool software for logon information settings for the host and CRT-9000, which can conveniently set the logon information set by the host and upload information sent to the 9000 series host via a CF card.

- Help directory:

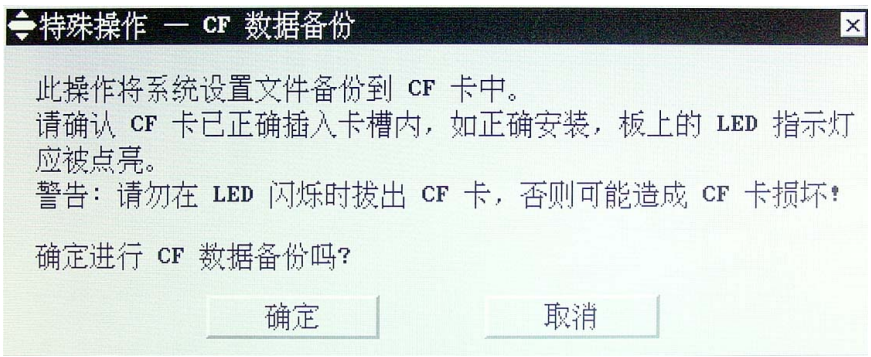
Note: The directory is used to save the Word version of this user manual.

- ShareFiles directory:

Note: Files downloaded from the monitoring center are allowed to be saved under this directory after a user communicates with the monitoring center via CRT-9000. File format, contents, and names, etc, are defined by the user.

5.2 Alarm host data backup description

Back up the system data of the alarm host to a CF card, which is standard equipment. The 9000 series alarm host provides a standard CF card interface. Use a CF card reader to get the CF card formatted on a standard PC before using it. The volume of the CF card used by the backup data should exceed 4M. The system will prompt you as follows:



Click "OK" to start data backup. When the host prompts you that data backup is completed, pull out the CF card and then use a CF card reader to copy the 39 data files backed up under the data directory of the corresponding Host\host?.

When using one CF card for data backup for several hosts, it will use the first three letters of the file name to distinguish the host number automatically. Later data will cover the original data backed up in case of repeated data backup.

For example: N01_ID01.BIN The first three letters "N01" shows it is the data of Host 1.

N02_ID01.BIN The first three letters "N02" shows it is the data of Host 2.

……

N20_ID01.BIN The first three letters "N20" shows it is the data of No.20 host.

The zone name and building name displayed by CRT-9000, and the registered zone, building, and floor information should be subject to that of Host 1. The CRT-9000 program can be started after the **backup file list.txt** and the **host file directory list.txt** have been set properly to enter the "Host logon" under the "System Setting" menu to log on the host; and then the host detector and the module positions can be arranged.

Note: Zone name and number, building name and number, and floor name and number in the background file list.txt must be consistent with those in the No.1 alarm host; otherwise, it will not display the background picture of that position correctly.

Chapter 6 Isolation-type PCI-CAN bus interface card introduction and hardware setting

6.1 Overview

The PCI-CAN bus interface card is a CAN bus card with a PCI interface and one CAN interface for two-way transmission. The PCI-CAN bus interface card can be considered as a standard CAN node, a powerful tool for CAN bus product development, and CAN bus equipment testing and data analysis. By applying this interface card, your PC can be connected to a standard CAN network via a PCI interface, which is applied to establish field bus testing, industrial control, intelligent building and automobile electronics, etc, for data processing, acquisition, and communication.

6.1.1 Performance and technical indicators

- PCI and CAN bus protocol conversion;
- PCI-CAN bus interface card has a single-channel CAN interface.
- Support CAN2.0A and CAN2.0B protocols; Support standard frame and extended frame;
- Support two-way transmission, CAN sending and receiving;
- Support data frame and remote frame format;
- CAN controller baud rate can be selected from 5Kbps to 1Mbps and can configure software;
- CAN bus interface adopts optical isolation and DC-DC power isolation;
- The maximum flow is 3000 frames per second CAN bus data;
- CAN receiving buffer capacity inside the driving program is 5000 pieces of CAN message;
- Isolation voltage for the insulation module: 2500Vrms;
- Industrial level working temperature: -20～85℃;
- Working current: 120mA; power consumption less than 600mW;
- Enclosure dimension: 132*90mm.

6.1.2 Typical applications

- Achieves data sending and receiving to the CAN bus network via the PCI interface of the PC;
- Rapid CAN network data acquisition and analysis;
- PCI interface to CAN network interface;
- CAN network data monitoring of industrial sites

6.2 Signal input/output sockets and switch definition

6.2.1 Definition of signal input/output socket for the PCI-CAN bus interface card

CAN signal interface is a DB9 pin interface, with pin definition as follows:

Pin No.	2	3	6	7
Pin name	CANL	GND	GND	CANH
Pin signal description	Communication signal low level	Ground	Ground	Communication signal high level

6.2.2 CAN card installation

As CAN is a kind of full-digital communication, signals are subject to reflection interference during communication cable transmission. Therefore, a 120Ω matched resistance cable should be added when configuring a CAN network,

A PCI-CAN bus interface card prohibits hot-plugging. Plugging, unplugging the terminal pin, switch setting, and jumper selection must be conducted when the power is off.

Installation procedures:

(1) Align the template vertically to any expandable PCI slot and press it downward to insert it into the slot.

(2) Fasten screws properly and connect the input/output cables.

Removal procedures:

(1) Disconnect the input/output signal cables and unscrew screws.

(2) Pull the template upwards vertically with both hands to pull it out from the slot.

6.3 Application considerations

Pay attention to the following questions when using a PCI-CAN bus interface card: don't touch the front IC chip of the card to prevent it from being damaged by static electricity. Proper high quality wiring needs to be selected when the application environment is so bad as to affect normal communications.

Chapter 7 Questions and answers

1、 How do I add a required floor, building or zone number to the CRT-9000 work view area?

Answer: Information such as floor, building and zone number in the CRT-9000 work view area comes from Host 1. If deletion or addition of such information as floor, building and zone number, etc, is required, it should be modified on Host 1. Use a CF card or a card reader to copy the modified file under the data directory of Host 1 after such information is modified. It can also be set conveniently via the PCset tools supplied with the installation package of the system. However, it must be ensured that the final data is consistent with Host 1; otherwise, it may result in severe consequences.

2、 How do I modify the zone name and the building name in the CRT-9000 work view area?

Answer: Modify the zone name and the building name in the CRT-9000 work view area (see CRT-9000 user manual for details). Copy the modified data under the data directory of Host 1 after it is modified (see Chapter 5 of this manual, 5-2 for details). It can also be set conveniently via the PCset tools supplied with the installation package of the system. However, it must be ensured that the final data is consistent with Host 1; otherwise, it may result in severe consequences.

3、Why does no background pop up in case of an alarm?

Answer: Please inspect the "Background file list.txt" under the software installation directory \CRT-9000\Image to see whether it has registered the background picture of the floor, building and zone required. If no, please add "Floor X>" "Floor X Plane picture.jpg" required under "Building X->", and "Building X Appearance Picture. jpg" under "Zone X->" "Zone X panoramic view. jpg". Start CRT-9000 program.

4、Why is normal communication unavailable or why is the communication quality so bad when hosts can be registered by other host (for instance: Host 1 has registered Host 2 while Host 2 has also registered Host 1).

Answer: First check whether the circuit is properly grounded, and whether the CAN_H and CAN_L hosts correspond to each other. If the above problem still exists, should consider whether the host is properly grounded. CAN communication is achieved by serial differential. Therefore, only one twisted pair line is needed to achieve long-distance communication. Generally, CAN parts can suppress the ground potentials of two hosts within the allowable range via the communication line. If the potential deviation between hosts is large, and when the ground potential exceeds the allowable range, communication may be not available or the communication quality may be very bad. At the time, confirm the grounding line of the power supply of the host is proper. Use wires to connect the grounding lines of two hosts when necessary.

5、What will be done when the communication quality is not good, sometimes the communication is normal and sometimes it is abnormal?

Answer: CAN communication needs to eliminate reflection and ensure communication quality. A 120ohm resistance needs to be added at either end of the communication line generally. Please confirm whether the above resistance connection is correct or not.