

451 Manual

Power Supply.

- 1.)Backup battery: 12Vdc, 7AH, Sealed Lead Battery, exchange 3~5 years.
- 2.)Energy consumption up to 16 hours with a single keypad panel consume 250mA
- 3.)Battery Rechargeable current maximum 350mA
- 4.)Total current consumption for keypad, backup current and siren must be less than the system panel power supply.
- 5.)AC/DC adapter must install to a power socket permanently without on/off switch gadget.
- 6.)Before replacing system fuse, please switch off all the power connected to the system.

System Indicator Light.

- 1.)Use 16AWG ground wire, green color and connect the system body to the ground.
- 2.)EOL for zone or end of zone termination, please add 2.2K resistor as terminator.
- 3.)Zone - 1 to 16
- 4.)Normal - 1.8Vdc - 2.1Vdc
- 5.)Short circuit - 0- 0.3Vdc
- 6.)Open Circuit - 4.6Vdc - 5.0Vdc

*******Alarm System Main Panel*******

The 451 alarm has 4 unique separate zoning areas, support 16 wired zones, 24 wireless zones, and 24 keypad bus addressing, and independently managed. It can connect up to 8 external LCD display keypad panel devices via RS485 protocol, each panel accommodates 3 wired zones and each zone is a delegated area. The system supports 6 remote listening devices. Each zone area' s can set the timer for arming and disarming.

Features:

Zone: 16 wired zone, 24 wireless zones, and 24 zones external keypad panel

Remote Keypad and Remote Controller: 8 units of remote controller, LCD Display panel via RS485 protocol

System User: 1 x System Administrator, 1 x Supervisor, and 8 x Users

CMS: 2 x CMS, Each center has 2 TOL free numbers for Arm/Disarm

Voice: Up to 8 numbers of voice settings

Remote Listening: 6 x Remote Listening, and 1 x Distance Listening

Event Log: record 150 event logs.

Zone: 4 programmable zone areas, distribute to any of the zone or subzone, with devices for keypad, password assignment, remote voice listening, arm/disarm timer according to zoning requirement, alarm triggering on intrusion via calls or to CMS, periodic zoning system diagnostic with self test mode for system performance.

Basic Operation:

Keypad

LED Indicator:

Power Indicator: Battery Fault - LED Flash, Power failure - LED off,
Normal - LED on

Fault Indicator: System Fault - LED on permanently

Arm Indicator: All - LED on, Partial Arm - LED slow flashing, Alarm -
LED flash constantly.

Disarm Indicator: LED - on

Setting Indicator: All LED - flash constantly.

Exit/Return	Page down	Page up	Emergency
1	2	3	Arm
4	5	6	Disarm
7	8	9	Standby
*	0	#	Zone

Standby, Arm, Disarm and Zones: When in multiple zones area management or single zone area in a different location from the main system. The operations apply to “Standby”, “Arm”, “Disarm” and “Zones”. This is depended on the user right and password is assigned to the desire zone and areas on system user management configuration. Thus a supervisor or user can perform a single action to multiple zones area or assigning a user for a particular zone for that designated keypad in that area.

The 451 alarm has two interface, system interface and user interface. The system interface is for system configuration, and the user interface is for user configuration.

1.)**Password Setting** - press [Enter] key and display this menu:-

- a. System password setting
- b. Supervisor password setting
- c. User password setting
- d. User right setting

a.)System password setting: Press [Enter], display

Please enter the 6 digit code:

012345

Press [Enter] to save

And change the code to your desire number, it only allow 6 digits; please keep this number in a safe way after you have changed. This system password allows you to access to all the system parameter.

(Note: This is a factory default password)

b.)Supervisor password setting: Press [Enter], display

Please enter the 4 digit code:

1234

Press [Enter] to save

And change the code to your desire number, it only allow 4 digits; please keep this number in a safe way after you have changed. This Supervisor password allows you to access to the supervisor parameter.

(Note: This is a factory default password)

c.)User password setting: Press [Enter], display, it has 8 users password.

Please enter the 4 digit code:
000

Press [Enter] to save

And change the code to your desire number, it only allow 4 digits; please keep this number in a safe way after you have changed. This user password allows accessing to the user parameter only and it can configure up to 8 users, for different user to assign to different zones on arm and disarm. (Note: 0000 indicate user has no password setting.) If user password is forgotten, it can retrieve from system or supervisor menu.

d.)User right setting: Press [Enter], display, it has 8 user rights assignment.

Zone: 1234 *Select

Right: NNNN

[Y] = Access right [N] = No access right

There are 4 manageable zones in the system that is 1, 2, 3 and 4, press [↑], or [↓] key to make the selection on Zone or Right. Please press [*] to choose [N] or [Y] to representing 4' s zone areas rights. For example, you can set 1234 to NNNN, or 1234 to YYNN. It means, 1 and 2 can access, and 3 and 4 cannot access.

2) CMS setting- press [Enter] and [↓] key and display this menu:-

- a.) To CMS Phone -1
- b.) To CMS Phone -2
- c.) TOL free Arm number
- d.) TOL free Disarm number
- e.) User Access number 1
- f.) User Access number 2

a.) To CMS Phone - 1

Press [Enter].LCD display

CMS Phone - 1: *Delete

User can key in 15 digit numbers to CMS telephone, press * to delete number, and press [Enter] to save.

b.) To CMS Phone - 2

Second CMS phone - 2, same procedure as (a).

c.) TOL free Arm number. Press [Enter].LCD display

TOL free Arm number - 1: *Delete

This is a TOL free feature utilize the CSID (Caller Subscriber Identification), provided your phone company has this feature added into your phone line. When your alarm system received this phone number, the system wills response to do the arming action without phone charges.

d.) TOL free Disarm number. Press [Enter].LCD display

TOL free Disarm number - 1: *Delete

This is a TOL free feature utilize the CSID (Caller Subscriber Identification), provided your phone company has this feature added into your phone line. When your alarm system received this phone number, the system wills response to do the disarming action without phone charges.

(Note: The TOL free functions allow 4 ~ 8 users according to its user identification from the system setting in (e) User Access Number -1 or (f) User Access Number -2)

e.) User Access Number - 1. Press [Enter].LCD display

User 4~ 8 Access Numbers 1: *Delete
0000

f.)User Access Number - 2. Press [Enter].LCD display

User 4~ 8 Access Numbers 2: *Delete
0000

3.) Voice Setting

This menu allows the user to configure 8 numbers of voice response telephone numbers.

Enter menu "Voice number 1, Press [Enter], LCD display.

Enter Phone Number: * Delete

When the LCD flashing, enter the phone number, press [Enter] to save or [*] to delete, and follow with the next number to assign.

4.) System Setting

Press [Enter], [↓] key, LCD display the menu.

- a.) System Clock setting.
- b.) Entrance Delay Timer setting.
- c.) Exit Timer setting.
- d.) Alarm Timer setting.
- e.) Phone Ringing setting
- f.) Sensor Lost Diagnostic
- g.) Communication Test report
- h.) Arm/Disarm report setting
- i.) Force Arming setting
- j.) Others setting

a.) System clock setting: Press [Enter], LCD displays.

Please Enter Clock

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Please use the arrow key [←] or [→] to change or select the time and date, and press [Enter] to save.

b.) Entrance Delay Timer setting: Press [Enter], LCD displays.

Delay Timer: 15

(00~99) Sec

This is a system entrance delay timer before alarm triggered; the user has ample time to enter into a guarded system before disarm.

c.) Exit Delay Timer setting: Press [Enter], LCD displays.

Delay Timer: 15

(00~99) Sec

This is a system exit delay timer before alarm triggered; the user has ample time to exit from a guarded system after arming.

d.) Alarm Timer setting: Press [Enter], LCD displays.

Delay Timer: 10

(00~99) Min

This is a system alarm timer to call out within the time range 0~30 mins.

e.) Phone Ringing setting: Press [Enter], LCD displays.

Ring Counter: 02

(00~99) 00 No Ring

This is a phone ringing setup, 00 means no ring.

f.) Sensor Lost Diagnostic: Press [Enter], LCD displays.

Sensor Lost Diagnostic: 01

(00~24) Hour 00 Disable.

This setting will enable the system to diagnose the sensor communication to the system if it is lost contact. The default is 01 hour routine test, 00 no diagnostic test.

g.) Communication Test report. Press [Enter], LCD displays.

Communication Test:01

(00~24) Hour 00 No Test.

This is a setting to determine if there were a communication line errors, the default is 1 hour routine test.

h.) Arm/Disarm report setting. Press [Enter], LCD displays.

Arm/Disarm Report: 1

1> Disable 2> Enable

This is to set the Arm and disarm report, 1> Disable, no report send, 2> Enable, send report, default is 1

i.) Force Arming setting. Press [Enter], LCD displays

Force Arming: 2

1> Disable 2> Enable

This allow user to perform force arm/disarm, default is 2.

j.) Others setting, Press [Enter], [↓] key, LCD displays

- 1.) Arm/Disarm Tone indicator
- 2.) Emergency Indicator
- 3.) Phone Line Diagnostic
- 4.) Battery Diagnostic

1.) Arm/Disarm Tone Indicator. Press [Enter], LCD displays

Remote Control Arm/Disarm Tone: 2

1> Disable 2>Enable

When arm/disarm, either set 1> disable or 2> enable, the siren to momentary acknowledge the alarm system is either in arm or disarm mode, the default is 2.

2.) Emergency Indicator. Press [Enter], LCD displays

Emergency Indicator tone: - -

---Disable--- - - Enable

When disable, no sound and if enable, the siren on continuously, the default is - -

3.) Phone Line diagnostic. Press [Enter], LCD displays

Phone Line Diagnostic: - -

---Disable--- - - Enable

When disable, no test and if enable, it test the phone line for faulty connection, the default is - -

4.) Battery diagnostic. Press [Enter], LCD displays

Battery Diagnostic: - -

---Disable--- - - Enable

When disable, no test and if enable, it test the battery for low voltage, the default is - - . If low voltage detected, the LCD will display “Battery Low”

5.2 Registered Sensor, Press [Enter], LCD displays

- 1) Auto Code Mapping
- 2) Manual Code Mapping

It is the same operation as code mapping for the remote controller, when in auto code mapping, triggered the sensor, or contact miniature switch, allowing the sensor to send a signal to the system appearing with the coding and follow by the [Enter] to save.

If manually enter the code, please look at the label behind the sensor device, where you can find the code located.

5.3 Delete the sensor code. Press [Enter], [↓] LCD displays

- 1.) Delete single remote controller
- 2.) Delete single sensor
- 3.) Delete all remote controllers
- 4.) Delete all sensors

- 1.) Delete single remote controller

Delete remote controller sequence number: 1
(1~8)

Enter the required remote controller sequence number to delete, when complete pressed [Enter]

- 2.) Delete single sensor

Same procedure as (1), in this menu, you can delete the 24 sensor devices sequentially.

- 3.) Delete all remote controllers

Press this menu, it delete all the 8 remote controllers

4.) Delete all sensors

Press this menu, it delete all the 24 sensor devices

5.4 Remote controller Rights: Press [Enter], LCD displays

Remote controller Sequence: 1
(1-8)

From the remote controller sequence number: 1, set the access right.

Zone: 1234 *Select

Right: NNNN

[Y] = Access right [N] = No access right

There are 4 manageable zones in the system that is 1, 2, 3 and 4, press [↑], or [↓] key to make the selection on Zone or Right. Please press [*] to choose [N] or [Y] to representing 4' s zone areas rights. For example, you can set 1234 to NNNN, or 1234 to YYNN. It means, 1 and 2 can access, and 3 and 4 cannot access.

6. Zone Setting. Press [Enter], [↓] LCD displays

- 1) Wired zone setting
- 2) Wireless zone setting
- 3) Keypad zone setting

6.1 Wired Zone Setting, menu

- 1) Zone type setting
- 2) Alarm Zone type

6.1.1 Zone type setting

Enter Zone number: 01

(01-16)

Enter the zone number to change: 01

(01-16)

Press [Enter] to change the desire zone number.

Zone 01, Zone type

1> Perimeter, 2> Delay, 3> Alarm, 4> SOS, 5> Fire, 6> Gas, 0>N/A

Use this menu to set the zone and its alarm type.

6.1.2 Alarm Zone setting

Enter Zone number: 01
(17-40)

Press [Enter] to select the zone type.

1> Continuous, 2> Periodic, 3> None.

Press [Enter] to save before exit after selected the zone alarm type.

6.2 Wireless Zone Setting

6.2.1 Zone type setting

Enter Zone number: 17

(17-40)

1.>Perimeter, 2> Delay, 3> Alarm, 4> SOS, 5> Fire, 6> Gas, 0>N/A

6.2.1 Zone type setting

Enter Zone number: 17
(17-40)

1.>Perimeter, 2> Delay, 3> Alarm, 4> SOS, 5> Fire, 6> Gas, 0>N/A

6.2.2 Alarm Zone setting

Enter Zone number: 17
(17-40)

Press [Enter] to select the zone type.

2> Continuous, 2> Periodic, 3> None.

Press [Enter] to save before exit after selected the zone alarm type.

6.3 Keypad Zone Setting

6.3.1 Zone type setting

Enter zone number: 41
(41-64)

1.>Perimeter, 2> Delay, 3> Alarm, 4> SOS, 5> Fire, 6> Gas, 0>N/A

Enter Zone number: 41
(41-64)

Press [Enter] to select the zone type.

1> Continuous, 2> Periodic, 3> None.

Press [Enter] to save before exit after selected the zone alarm type.

7. Zone Area setting

Enter Zone Area: 01
(01-64)

Zone Area: 1234 *Select
Zone 01: NNYN

First select zone number 01, then follow by zone area, and press * to select. The above diagram means, Zone 01 belong to Zone area 3, and it does not fall in the domain of 1, 2 and 4 zone areas.

7.2 Keypad Zone setting

Enter Keypad address: 1
(1-8)

Manage Zone: 1234 *select
Keypad 01:NNNY

First select keypad number 01, follow by zone area. Example, keypad 01 belong to zone area 4, and it does not manage and belong to 1,2 and 3 zone areas.

7.3 Zone Telephone setting.

Enter Voice number: 2
(1-8)
Zone Area: 1234 *Select
Voice number 2: NNYN

First select voice number, follow by zone area. This is an example show that voice number 2 belong zone area 3, not others.

7.4 Remote listen Zone' s

Enter Remote listen number 1
(1-6)

Zone Area: 1234 *Select
Remote listen number 1: YNNN

First select remote listen number, follow by zone area. This is an example show that voice number 1 belong zone area 1, not others.

7.5 Zone Area Arm Timer

This allows 4 zone areas timer arming.

7.5.1 Routine Time Arming

Arm Time 1: 12:00 (Enter the time to arm)

Weekdays: 0123456 * Select

Routine: NYNNNNN

0 = Sunday, 1=Monday, 2=Tuesday, 3=Wednesday, 4= Thursday, 5= Friday, 6 = Saturday.

Zone Area: 1234 *Select

Routine Time 1: NNNY

First select the zone to be arm, follow by the weekdays to complete the setting and save it.

The above example shown that, zone area 4, is active arm on Monday at 1200 hours.

7.6 Zone Area Disarm Timer

Disarm Time 1: 01:00 (Enter the time to arm)

Weekdays: 0123456 * Select

Routine: NNYNNNN

0 = Sunday, 1=Monday, 2=Tuesday, 3=Wednesday, 4= Thursday, 5= Friday, 6 = Saturday.

Zone Area: 1234 *Select

Routine Time 1: YNNN

First select the zone to be arm, follow by the weekdays to complete the setting and save it.

The above example shown that, zone area 1, shall disarm on Tuesday at 0100 hours.

8. GSM Setting

9. System Maintenance

9.1 Battery Diagnostic

It takes 4 minute to do a diagnostic on the battery conditions, to detect any fault.

9.2 Communication Test

It takes 20 seconds to do a diagnostic on the battery conditions, to detect any fault.

9.3 Zone diagnostic

Zone diagnostic: [Disable] [Enable]

Press [Disable], no test, [Enable] to test

If [Enable] pressed, the system will do a diagnostic when you have exit from the system menu setting.

Clear All Event Log

Erase all events

[Enable] [Disable]

Press [Enable], all events are clear, [Disable], return to menu.

Exit system setting

[Enable] [Disable]

Press [Enable], exit system setting, [Disable], return to menu.

Press [*] for 5 sec to enter into user menu.

Enter Password: (*Delete)

Please enter 4 digit user password (Default 1234) press # to access

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1. Supervisor password setting
 2. User password setting
 3. User right setting
 4. System clock setting
 5. Voice setting
 6. Exit menu

The above menu operation are the same as the system menu, the User menu is to cater for user without the system administration right not to interfere with the system main setting, except this user menu options allow operation of the above from (1) to (6).

Attention:

451 Alarm, power protection circuit.

This system board has a build in power protection circuit system against any power surge or power intermittent line drop during its operation. Thus, when the system engages with power from the main line, within a minute no alarm will trigger.

This feature is to prevent and avoid sudden unstable power as a result of surge current, where it will cause false alarm triggering. If the user engages the system with power and arm within a minute, the system will only activate the alarm after 1 minute.