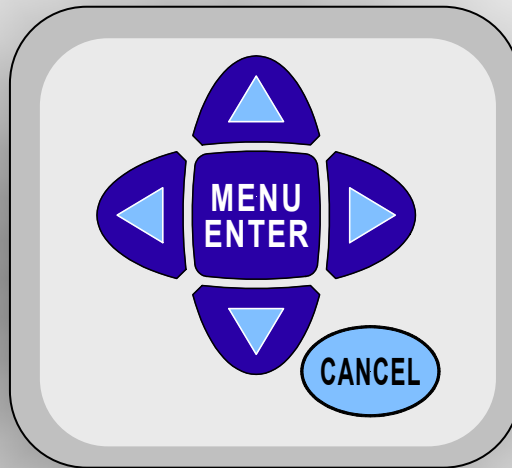




# Operation & Programming

# ZoneSense *PLUS*



## EN54 -2 & 4: 1997 **Fire Alarm Control Panel**

*"Our aim is to provide ' **Consistently Excellent Service** ' in the eyes of our customer "*



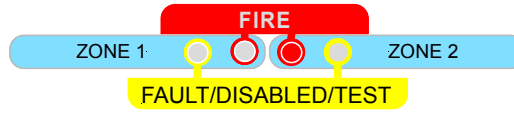
<b>Table of Contents</b>	<b>Page No.</b>
<b>RESPONDING TO AN ALARM .....</b>	<b>1</b>
<b>Section</b>	
<b>1 Introduction.....</b>	<b>2</b>
<b>2 Controls - Front Panel Controls, Indicators &amp; Testing .....</b>	<b>2</b>
2.1 System Controls & Indicators .....	2
2.2 Levels Of Access.....	2
2.3 Passwords.....	2
2.4 System Controls .....	3
<b>3 Indicators – Front Panel.....</b>	<b>4</b>
3.1 Status Indicators .....	4
3.2 Common Indicators.....	5
3.3 Zone Indicators .....	5
3.4 Liquid Crystal Display.....	5
3.5 Normal Operation .....	6
3.6 Main Menu .....	6
<b>4 Level 1 Access .....</b>	<b>6</b>
4.1 Status.....	6
4.2 Faults .....	8
<b>5 Level 2 Access .....</b>	<b>8</b>
5.1 Tests .....	8
5.2 Disables .....	10
<b>6 Level 3 Access Programming.....</b>	<b>11</b>
6.1 Password Entry .....	11
6.2 System.....	11
6.3 Program.....	12
<b>7 Appendix A: EN54 MENU STRUCTURE .....</b>	<b>18</b>
7.1 Status.....	18
7.2 Faults .....	18
7.3 Test .....	19
7.4 Disable .....	19
7.5 System.....	20
7.6 Program.....	21
<b>8 Appendix B: EN54 ABS Front Panel Configuration Labelling .....</b>	<b>22</b>
<b>9 Appendix C: Simple Example Wiring Diagram of a Basic FACP .....</b>	<b>23</b>

## Responding to an Alarm

### 1. Indicators



Common Fire Indicator  
( Steady )

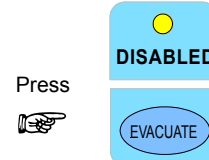


Zone Fire Indicator  
( Steady )

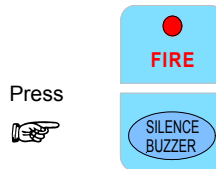


First Zone in Alarm.  
( Displayed )

### 2. To Disable External Sounder and / or Sound Evacuation



### 3. To Silence Buzzer



ALARM LED steady

### 5. To Reset Panel

Press



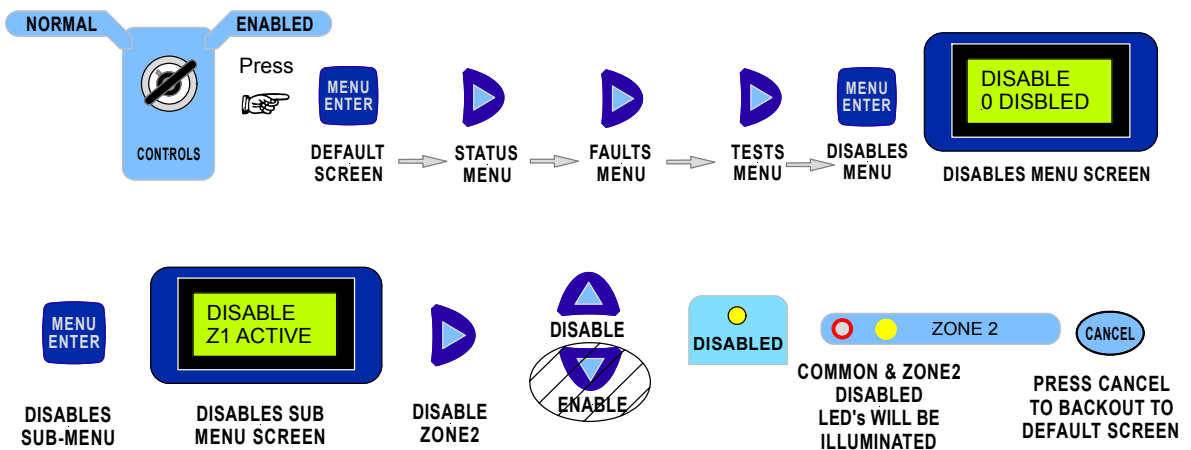
1<sup>st</sup>. LCD Screen Displayed



2<sup>nd</sup>. LCD Screen Displayed


## Disabling a Zone

The following example DISABLES ZONE 2. Place the keyswitch to the ENABLED position.



## 1 Introduction

Using 3 levels of access the **ZoneSense PLUS** Fire Alarm Control Panel ( FACP ) is controlled and programmed this through the keypad on the front panel.

 **Note** To assist in the programming process the screens or Menus presented to the operator are digramatically shown as an Appendix at the end of the document.

## 2 Controls - Front Panel Controls, Indicators & Testing

### 2.1 System Controls & Indicators

For EN54 all controls with the exception of the buzzer silence will operate at access level 2 or higher. The buzzer silence will operate at access level 1 and higher. The normal Access State of the panel is level 1.

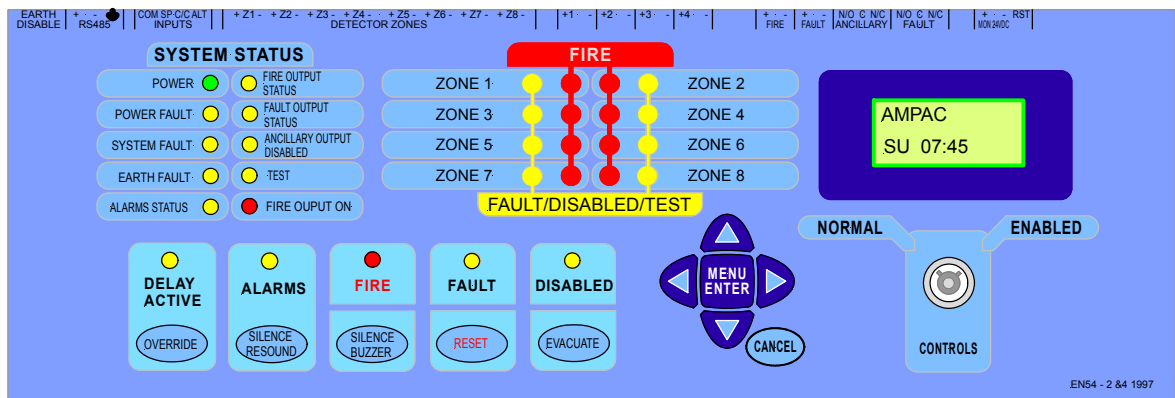


Figure 1: EN54 8 Zone Front Panel Controls and Indicators

### 2.2 Levels Of Access


It is a requirement that access to a Fire Alarm Control Panel be restricted to trained authorised operators and technicians. To meet this requirement;

- Levels 1 access is view only, pressing the Menu button at level 1 gives access to the read only Fault and Status display menus.;
- Levels 2 access is restricted by way of keyswitch control. Access to level 2 is gained by switching the control switch from Normal to Enable.;
- Level 3, passwords are entered using the keys on the front panel.

### 2.3 Passwords

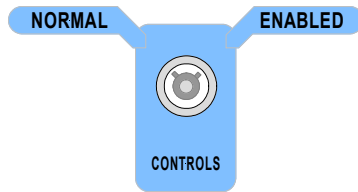
Passwords for level 3 are a fixed 4 digit number (precommissioning factory set to 3333).

The metal cabinet version of **ZoneSense PLUS** with an outer front door but no control enable key switch fitted has a link across the key switch terminals.

 **Note:** Sequential button presses must take place within 10 seconds of each other otherwise the display will return to its normal state.

## 2.4 System Controls

The front panel consists of thirteen push button controls and a key switch.



**Controls, Normal – Enabled (Key Switch)** A key switch for controlling system access between levels 1 and 2. All Control Enable key switches fitted to EN54 panels are keyed alike. This key is unique to Ampac.



**Delay Override** Used to turn Off the delays to outputs programmed in to the panel. The actual delays are programmed at level 3 and delay the action of Alarms and / or FBR outputs. The switch only operates when the panel is in alarm and a delay is active. Operating this switch under these circumstances will override delays to all zones sounding the alarms immediately and cause the Delay Active LED to turn off. ( Refer also to Delay Active LED ).

Each zone can be individually programmed with Delay to Outputs and have individual time selection of 30 to 210 seconds.



**Silence / Resound Alarms** Active at access level 2 and is used to turn the “Alarms output” Off/On once they have been operated by an alarm condition. In the event of a new alarm being received the alarms will again operate. The same control is used to toggle on the “Alarms Output” once they have been silenced to reactivate the alarms that were originally operating.



**Silence Buzzer** Is used for silencing either the audible fault warning or audible alarm warning (buzzer). For faults at access level 1 operation of the control will cause the buzzer to operate intermittently at 10 sec intervals. At access level 2 operation of the control will mute the buzzer though it will resound on any new event.

**In Fault** the buzzer automatically silences on clearance of the fault.

**On Alarm** the Buzzer Silence will only be active at access Level 1 and manually silenced as there is no automatic silencing of the fire condition.



**Reset** The Reset button is operational at access level 2 and is only used to return the control panel back to a Normal state from the fire Alarm condition. It will not reset a disablement condition.



**Evacuate** Turns on and latches Alarm outputs, internal buzzer and the Fire LED at access level 2. The Silence Alarms and or Reset button silences the alarms activated by the Evacuate button.

It does not operate the Ancillary relay though a programmable option allows the “Evacuate” to operate the “FBR” output.

For the purposes of this explanation the following indicators perform these functions;



**Enter** or **Menu** is used to update the program once the control settings have been set and to access the various menus and sub-menus.



**Move Left**



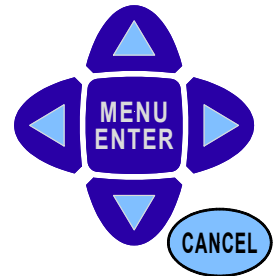
**Move Right** allows the operator to move left or right through a menu or the options to be set.



**Move Up**



takes the cursor up or down through the menus and / or options.



**CANCEL STEPS BACK THROUGH THE MENU**

### 3 Indicators – Front Panel

All indicators are visible at access level one. If flashing indicators are used the on / off periods are >0.25 seconds and the flash frequencies are not less than:

- > 1Hz for Alarm indications
- > 0.2Hz for fault indications.

If the same indicator is used for fault and disablement (isolate) then the fault indicator flashes and the disablement (isolate) will be steady and has priority.

All indicators are steady unless otherwise stated.

#### 3.1 Status Indicators

There are ten indicators within the system status area of the front panel.

- 1. Power – Green** Indicates that the FACP is supplied with power (mains or battery). Flashes when mains has failed.
- 2. Power Fault – Amber** Common fault to the system power supply. Either mains or battery.
- 3. System Fault – Amber** Indicates a failure of the FACP to provide mandatory functions, eg software failure.
- 4. Earth Fault – Amber** Is an indication only to warn of a fault to earth that may affect a mandatory function.
- 5. Alarms Status– Amber** Illuminated (flashing) if any Alarm Output is in fault or disabled.
- 6. Fire Output Status– Amber** Illuminates when the monitored open collector “Fire Out” output is in a fault condition (flashing) or disabled (steady).
- 7. Fault OutputStatus– Amber** Illuminates when the monitored open collector “Fault Out” output is in a fault condition (flashing).
- 8. Ancillary Output Disabled – Amber** Illuminates when the “Ancillary Out” output relay is disabled (steady).
- 9. Test – Amber** Indicates that the panel is in Walk Test mode.
- 10. Fire Output On – Red** Illuminates (steady) when the monitored open collector “Fire Output” is on.

### 3.2 Common Indicators

There are five indicators within the control area of the front panel.



**1. Delay Active / Override – Amber** When one or more zones are programmed with delay this indicator shall be “On” (steady) with the panel in the normal state or with a zone on the panel in alarm which is not programmed with Delay. The LED will flash when a zone programmed with Delay goes into an alarm state. If the Delay Override switch is not pressed prior to the pre-set Delay timing out, the indicator will continue to flash until timeout, at timeout it shall extinguish. This indicator is integral with the “Delay Override” button. A master reset will reset the original programmed state and delays on the panel.



**2. Silence / Resound Alarms – Amber** An indicator to show whether or not the Alarms have been silenced after they have been activated in response to an alarm condition. This indicator is integral with the “Alarms Silence / Resound” button.



**3. Fire – Red** Common Fire indicator. ( Also illuminated by operation of the Evacuate button ).



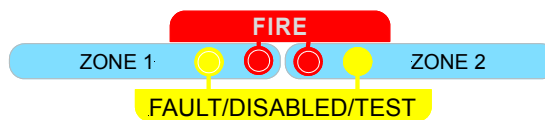
**4. Fault – Amber** Common Fault indicator illuminated by the presence of any fault.



**5. Disabled – Amber** Common Disablement indicator illuminated by the presence of any disablement.

### 3.3 Zone Indicators

There are two indicators for each alarm zone fitted to the panel.



**1. Zone Fire – Red**

Indicator showing individual zone/s in the condition fire (steady).

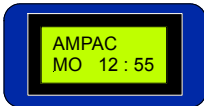
**2. Zone Fault / Disable / Test – Amber**

Illuminated by a fault condition on individual zone (flashing), disablement of the zone will change the LED condition to (steady). A zone in fault that has been disabled will flash at a different rate than when only in fault, the off period shall be the same with the on period being x 3 of the fault flash rate.

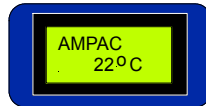
### 3.4 Liquid Crystal Display

The panel is fitted with an 8 x 2 LCD. The primary purpose is to display Zone alarm / fault / disable information and prompts for system commands come programming. Alarm, Fault and Isolate information is accessed through the Main Menu. When the FACP is in its normal state a default screen will be displayed.

Examples of possible LCD Displays



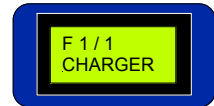
Default Screen 1



Default Screen 2



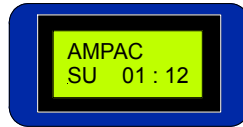
Fault 1 off 2  
Battery Fault



Fault 1 off 1  
Charger or Power Fault

### 3.5 Normal Operation

During normal operation the panel LCD default screen will display the panel name, the day and the time.



Abbreviations: SU - SUNDAY  
MO - MONDAY  
TU - TUESDAY  
WE - WEDNESDAY  
TH - THURSDAY  
FR - FRIDAY  
SA - SATURDAY

To access the Main Menu press **Enter**.

**Note:** If the keypad controls are not used for a period of 2 minutes the display will return to the default screen.

### 3.6 Main Menu

The Main Menu consists of;

Level 1	Level 2 Activate Control	Level 3 Enter Password
<b>STATUS</b>	<b>FAULTS</b>	<b>TEST</b>
	<b>DISABLES</b>	<b>SYSTEM</b>
		<b>PROGRAM</b>

Press the **▶ Move Right / ◀ Move Left** key to move through the menu.  
Press **Enter** to access the sub – menus.

**▶ Move Right** to access **STATUS**

## 4 Level 1 Access

Is a read only menu that allows the operator to;

- interrogate the panel to determine the state of selected outputs; **STATUS**
- view any faults that may be present on the FACP. **FAULTS**

**Note:** Use **Cancel** at any time to step back out of the current Menu.

### 4.1 Status

Press **Enter** to view the Status Menu. Press **▶ Move Right** to move through the menu or **Enter** to access the Status sub-menus.

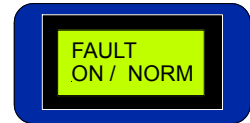
**Note:** The sub-menu headings are in *Italic*.

O/Ps	Brigade	Relays	Fire Fan	Agent	Snders	I/Ps	Voltage	Software
Alarm 1	On	On	On	On	On	On	Battery volts	Version
Alarm 2	Off	Off	Off	Off	Off	Off	Charger volts	
Alarm 3							System Volts	
Alarm 4								
Fire								
Fault								
AUC out								

### Outputs

Press **Enter** then **▶ Move Right** or **◀ Move Left** to view the monitored *Alarm 1 to 4, Fire, Fault ro AUC Outputs* status.

The LCD readout will indicate if the selected Output is;  
*On and Normal, or Off and Normal, or Off and Disabled, or On and Disabled or Output is On and in Fault or Off and in Fault.*



Sample Output Screens

Meaning: *The O/P is either On (activated ) and Normal, or Off (de- activated ) and Normal, or On (activated) and Disabled, or Off (de- activated ) and Disabled.*

**Note:** The following are examples of some of the sub-menu but not all of them.

**Relays**

Press **Enter** then ◀ Move Left or ▶ Move Right to select the required Relay (1 – 8). The LCD read out for each relay will indicate if the selected relay is On, Off or Disabled OR Press ▶ **Move right** to access **Sounders**.



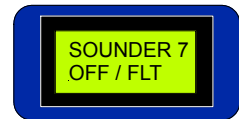
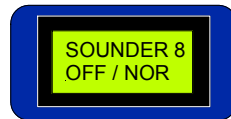
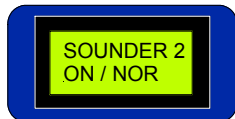
Sample Relay Screens

Meaning: A Relay is either On ( activated ), or Off ( deactivated ) or Disabled.

**Note:** *The relay's control function is identified in the configuration documentation*

**Sounders**

Press **Enter** then ◀ Move Left or ▶ Move Right to select the required Sounder ( 1 – 8 ). OR press ▶ **Move right** to access **Voltage**. The LCD readout will indicate if the Sounder is;

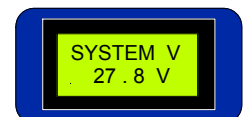
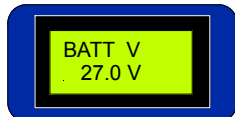


Sample Sounder Screens

*Off and Normal, or Off and in Fault, or On and Normal, or On and in Fault, or Disabled and Normal, or Disabled and in Fault.*

**Voltage**

Press **Enter** press and the Battery Voltage will be displayed, pressing ▶ Move Right will display the Charger Voltage (≈27.2volts ), pressing ▶ Move Right again will display the System Voltage OR Press ▶ **Move right** to access **Software**.



Voltage Screens

**Software**

Displays the installed version of software. ( This is for information only )



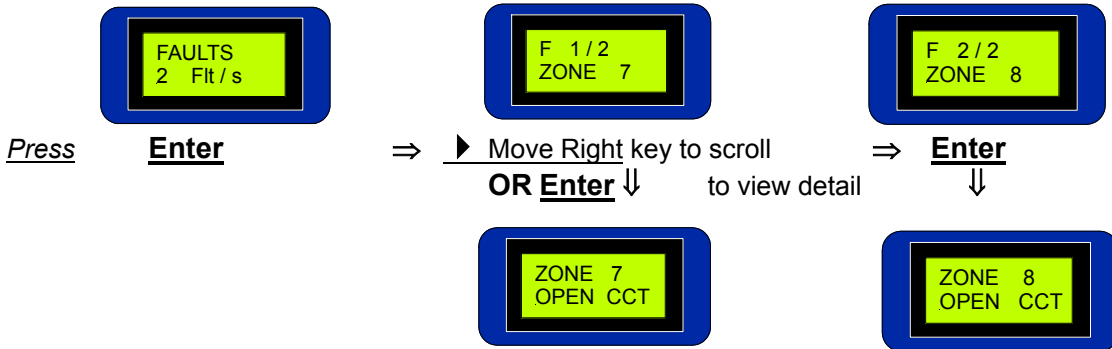
End of Sub – Menu

Returning to **STATUS** in the Main Menu ▶ **Move Right** to access **FAULTS**

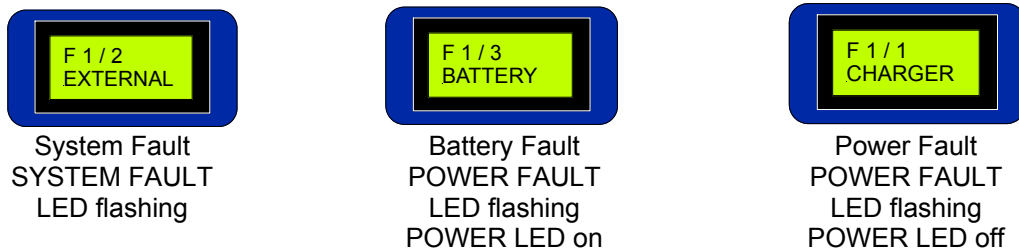
### 4.2 Faults

Pressing **Enter** will display all faults in a sequential order. If there is more than one fault on the system the operator can scroll through each fault by using the ◀ Move Left and ▶ Right keys. Pressing Enter again at each Fault will display more detailed information.

#### Accessing information on 2 Faults



#### LCD Screen Examples of System Status Faults



**Note:** FAULT LED will be flashing ( for all 3 FAULTS )

## 5 Level 2 Access

At this level the operator is expected to have undergone training so as to be able to;

- test crucial elements of the system and; **TEST**
- disable dedicated facilities that may be in fault. **DISABLE**

**Enable the keyswitch** then in the Main Menu from **FAULTS** ▶ **Move Right** for **TEST**

### 5.1 Tests

Press **Enter** to access the available menus.

The available menus are;



To initiate one of the above tests press the ▶ Move Right / ◀ Move Left key to move through the menu. Press **Enter**, then select the Zone by using the ▲ Move Up and / or ▼ Move Down keys until the desired Zone number is displayed, press **Enter** to start the test.

#### Alarm Test of each Zone

Once the test is commenced the Buzzer will sound and the common Fire and Zone Fire LED's will flash. Press **SILENCE BUZZER**, the Buzzer will be silenced and the common Fire and Zone Alarm LED's will be steady. Press **Reset** to return the panel to normal. The LCD will indicate the alarm has occurred and then toggle to display the Zone and descriptor of that Zone.

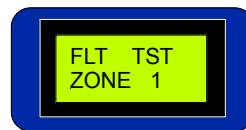


Fire LCD Sequence

**Note:** If a Zone has been programmed to be Non Latching the panel will only go into alarm for the normal time out period of 2 minutes and then automatically reset.

**Fault Test of Each Zone**

Once the test is commenced the Buzzer will rapidly turn on and off and the common Fault and Zone Fault LED's will flash. Press **SILENCE BUZZER**, the Buzzer will be silenced and the common Fault and Zone Fault LED's will continue to flash. Press **Reset** ( Reset complete will be indicated on the LCD ) to return the panel to normal **or Cancel** to go back to the Test Menu. The LCD will indicate the Fault Test has been implemented on the selected Zone.

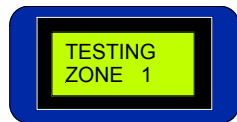


**Walk Test**

**IMPORTANT:** The Brigade, Agent Release and any other system specific signalling should be **DISABLED** prior to initiating this test.

A Walk Test, sets the Zone to Non latching and allows the technician to test detectors and MCP's on that Zone. When a detector or MCP is put into alarm the "Alarm Outputs" will operate, the corresponding "Zone Fire" LED will flash and the buzzer will sound.

The Zone will stay in Alarm until the MCP, or detector under test is reset or, the test is aborted by pressing Cancel. The LCD Display will toggle through the screens shown below.



Press **Enter**



**Cancel**

In the TEST END screen the operator has ten ( 10 ) seconds to enter the time before the test will commence OR, the test can be started by pressing **Enter**.

Only one zone at a time can be in test mode, all other zones will operate as normal.

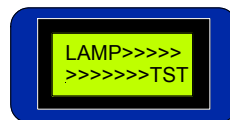
The LCD will display which Zone is the in Walk Test mode.

**Visual / Audible Indications - Lamp Test**

Press the **Move Right** and / or **Move Left** key to move to the Lamp Test menu, press **Enter** and each LED on the panel will be sequentially turned on for one second and then off again. The Buzzer will sound at the completion of the test.



Press **Enter**



Indicates the Test Progress

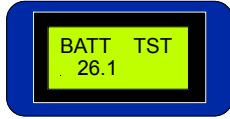


Test Successful

**Note:** The operator has to visually confirm each LED illuminates.

### Battery Test

Press the ▶ Move Right and / or ◀ Move Left key to move to the Battery Test menu, Press **Enter** and the Battery Test will commence, that is the Charger will be disconnected from the battery and a dummy load placed across the battery for 60 seconds. The battery voltage should be above that specified ( 23.5 volts ) at the end of the testing period, if not a FAILED message is displayed.



Battery Test Underway



Test Successful



Battery Failure

**Back in the Main Menu From TEST Move Right to DISABLES**

### 5.2 Disables

To display the number of Disables press **Enter** to access the menus then ◀ Move Left or ▶ Move Right to select the required menu. The number of Disable will be displayed.

Zone	Outputs	Relay	Sounder
Zones 1 to 8 are Active or Disable		Relays 1 to 8 are Active or Disable	Sounders 1 to 8 are Active or Disable
	Alarm 1 - 4	Fire	Fault
			Anc. Out

#### Zone, Relay or Sounder

Press **Enter** and use the ◀ Move Left or Move Right keys to select the Zone, Relay or Sounder number then the ▲ Move up to key disable or ▼ Move Down key to make active (set) the required Zone, Relay or Sounder.



Press **Enter** ◀ ▶ Select Zone Number set, ▼ Active or ▲ Disabled

**Note:** X denotes the Zone number, substitute Relay or Sounder for those menus.

If a Zone or Zones are Disabled the Disabled LED for that Zone and the common Disabled LED will be illuminated. If a Relay or Relays, Sounder or Sounders are disabled only the common Disable LED will be illuminated. The Disable can be deactivated while in the Output menu or repeating the steps above to enable ( make Active ) individual Zones.

### Outputs

Press **Enter** to access the Disable - Outputs sub-menus as seen below

Alarm 1 to 4	Fire	Fault	Anc. Out
--------------	------	-------	----------

Use the ▶ Move Right or ◀ Move Left keys to select the required menu and the ▲ Move Up key to Disable or ▼ the Move Down key to active.



If the:

- Alarm is Disabled the Alarm LED will be illuminated.
- Warning System is Disabled the Warning System LED will be illuminated.
- Fault is Disabled the Fault / Disable LED will be illuminated.
- Anc. Out is disabled the common Disabled LED will be illuminated.

Press **Cancel** to back out of the Disable Menu to the Main Menu.

**Move Right to Enter the PASSWORD for level 3 Access**

**Reminder:** Press **ENTER** at the end of each selection to update the program.

**6 Level 3 Access Programming**

Level 3 is a technical level that allows a technician to;

- initialise the FACP so it is capable of recognising how the system is constructed; and **SYSTEM**
- program how it will present information as well as how it will react to a change of state of an input and / or output. **PROGRAM**

**6.1 Password Entry**

**Returning to Faults in the Main Menu, Move Right for Password Entry to Level 3.**

Press **Enter** and a flashing cursor will appear below the word **PASSWORD**. By using the ▲ Move up and ▼ Move down keys the number on the screen will be incremented accordingly. Once the first password number has been set use the ▶ Move right key to move to the next number to be set. This operation has to be repeated four times as the **PASSWORD** is a four digit code. If a number is incorrect it can be changed by using the ◀ Move Left and ▶ Right keys to position the cursor over the incorrect number. Once the four numbers have been set pressing **Enter** initiates the verification of the **PASSWORD** that has been entered. An incorrect **PASSWORD** will be displayed as **REJECTED** and return the operator to the first menu.



Press **Enter**



Enter **Password**



Correct Password Entry

If the **PASSWORD** is accepted the screen will display **STATUS**. Use the ▶ Right keys to move through the menu to **SYSTEM** OR **PROGRAM**.

**Note 1:** *The operator has 2 minutes to complete Password entry. Failure to enter the Password in this time results in the panel reverting to the default screen.*

**Note 2:** *The System and Program Menus are not accessible if an Alarm condition exists even if the correct Password is entered.*

**6.2 System**

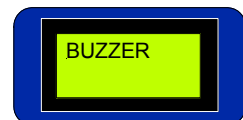
After entering the Level 3 Password and moving to the **SYSTEM** menu press **Enter** and the;

1. Zone **DISABLED** LED's will illuminate;
2. common **DISABLED** LED will flash; and the
3. LCD will display;



**SYSTEM DISABLED**

And then



**BUZZER**

Ignoring Buzzer, Mimic and Code menus ( explained below ) use the ▶ Move Right or ◀ Move Left keys to move through the menu and the ▲ Move Up key to set **YES** or ▼ Move Down key to set **No**. Yes meaning the facility / board / card has been fitted to the FACP and will be programmed in the Programming Menu, No meaning it has not been fitted and will not appear in the Programming Menu.



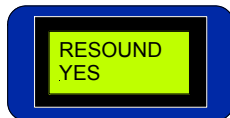
Typical Screen examples of the System Menu



**Buzzer**

This is the only facility in this Menu that has a Sub – Menu. Press **Enter** to access the Sub – Menu then the ◀ Move Left or ▶ Move Right key to select either; **Resound**, **Alarm** or **XTRA OUTPUT** then **Enter**. Set the **Resound**, **Alarm** by using the ▲ Move Up key to Yes (activate on alarm ) or ▼ Move Down key for No ( not activate on alarm ). Set the **XTRA OUTPUT** option to act as a Reset or Buzzer function as per the system design configuration.

If the **XTRA OUT** output is selected set as a Reset or Buzzer function by using the ▲ Move Up for Buzzer or ▼ Move Down keys for Reset. Press **Enter** to update the program.



Resound Set to YES



Alarm Set to YES



XTRA OUTPUT

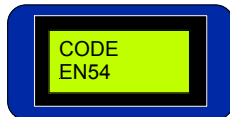
**Mimic**

This tells the FACP how many Zone Mimic Indicator Boards are on the system hence how many to look for. Set the number by using the ▼ Move Down and / or ▲ Move Up keys to increment to the desired number ( maximum of 8 ).



**Code**

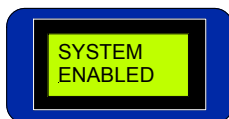
Code is the National Standard the Panel complies with. This is factory set and can not be altered.



Back out to the Main Menu using the CANCEL key and move from the **SYSTEMS** Menu to the **PROGRAM** Menu using the ▶ Move Right key. When the CANCEL key is pressed the LCD will display SYSTEM ENABLED for one second and all the Disabled LED's will be turned off.

**6.3 Program**

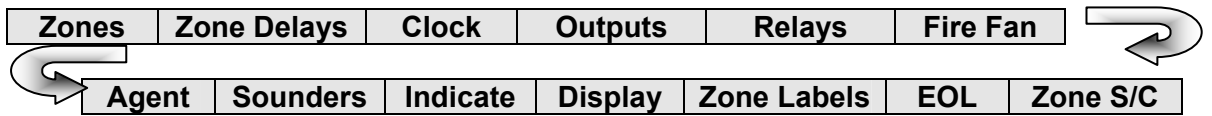
**Reminder:** From the Zones Menu use the ▶ Move Right key to advance through the



PROGRAM Menu.

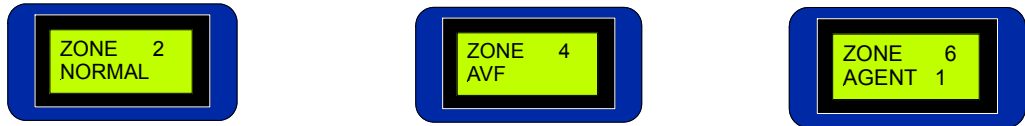
Pressing Enter to access the Program Menu will again disable the panel and the LED's will illuminate as they did in the Systems Menu.

The **PROGRAM** Menu consists of;



**Zones**

Press **Enter** and the Zones Menu will be displayed on the LCD screen. Pressing **Enter** again will access the Zones sub menu where first the **▶ Move Right** and **◀ Move Left** keys are used to select the Zone number and the **▲ Move Up** and



Sample Zone Screens

▼ Move Down keys are used to set the functions within that Zone. The functions are;

**Normal**

Normal is selected if the Zone is required to initiate an alarm and latch until reset.

**AVF**

If AVF, ( Alarm Verification Facility ) or Co-incidence is set active a delay and re-sampling period is initiated to confirm an alarm condition actually exists on that Zone.

**Non Latch**

Non Latch if set will initiate an alarm only when the Zone is in alarm.

**Agent 1      Agent 2**

Allows the selected Zone to initiate the release of a gas agent.

**Double Knock**

Sets Zones to output an Alarm condition from the Main Board Alarm Output when any 2 of the Zones selected in this screen go into alarm. Relay outputs are unaffected and will operate when any Zones goes into alarm.

**Zone Delay**

Press **Enter** to assign an alarm delay of between 30 and 300 seconds to a Zone using the **▲ Move Up** and / or **▼ Move Down** keys to select the Zone, ( 1- 8 ), then select the delay, then **Enter** to update the Program.



Press **Cancel** to return to the Zone menu and then **▶ Move Right** to access the Clock Menu.

**Clock**

To set the day and time press **Enter** and the day will be highlighted. Use the **▲ Move Up** or **▼ Move Down** keys to step through the days of the week, then the **▶ Move Right** key to access the hours and minutes. To access each digit use the **▶ Move Right** and **◀ Move Left** keys and to increment each digit use the **▲ Move Up** and **▼ Move Down** keys. Press **Enter** to set the time and then **▶ Move Right** to access OUTPUTS Menu.



**Outputs**

To assign Zones that will activate the monitored outputs press **Enter** and the sub menu will be made available for programming. The sub menu consists of;

<b>Alarm 1 to 4</b>	<b>ANC Out</b>	<b>BGD ALM 1</b>	<b>BGD ALM 2</b>	<b>Fire Out</b>
---------------------	----------------	------------------	------------------	-----------------

To move through the sub menu use the **▶ Move Right** and **◀ Move Left** keys. For each output press **Enter**, then the **◀ Move Left** and **▶ Move Right** to select the Zones that will



All 4 Alarms Selected



Alarms 1 and 4 Selected

Press **Enter** to Update the Program then **Cancel** to return to the Sub Menu and the **▶ Move Right** and or **◀ Move Left** keys to move through it. Repeat the above procedure to set or change the other Outputs as required.

**Relays**

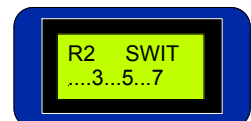
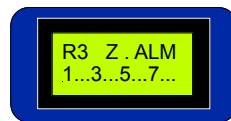
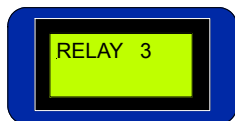
Press **Enter** then use the **▶ Move Right** and / or **◀ Move Left** keys to select a relay that will be operated by the selected functions in the sub - menu . Press **Enter** to access the sub – menu then **▶ Move Right** and /or **◀ Move Left** keys to toggle through the sub - menu structure. The sub menu consists of;

<b>Zone Alarm</b>	<b>Zone Fault</b>	<b>Zone Disable</b>	<b>Input</b>	<b>Switch</b>	<i>Reset</i>
-------------------	-------------------	---------------------	--------------	---------------	--------------

For:

<b>R# Zone Alarm</b>	<b>R# Zone Fault</b>	<b>R# Zone Disable</b>	<b>R# Input</b>	<b>R# Switch</b>	<b>R# Reset</b>
----------------------	----------------------	------------------------	-----------------	------------------	-----------------

Press **Enter** then **▶ Move Right** and /or **◀ Move Left** keys to select the *Zone Alarm / Fault / Disable, Input or Switch* then **Enter**. Use the **▶ Move Right** and / or **◀ Move Left** keys to select the Zones and the **▲ Move Up** or **▼ Move Down** keys to set it to be active or in-active. Active meaning the *Zone Alarm / Fault / Disable, Input or Switch* will operate the Relay where as in-active will prevent them from operating that relay.

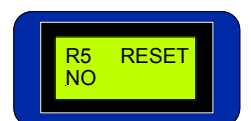
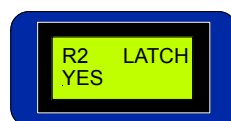
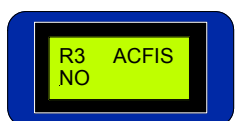


Press **Enter** to update the Program and the **Cancel** to back out to the previous menu.

For:

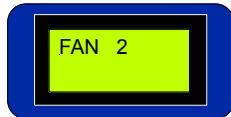
<i>Reset</i>	<i>Latch</i>
--------------	--------------

Press **Enter** then the **▶ Move Right** and /or **◀ Move Left** keys to select *Reset or Latch* then the **▲ Move Up** or **▼ Move Down** keys to set for Yes or No. Yes sets the Relays to be reset or Latched. Press **Enter** to update the Program and **Cancel** to back out to the previous Menu

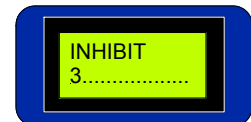


### Fire Fan

The sub menu consists off;

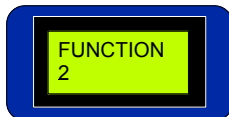


Press **Enter** then use the **▶** Move Right and / or **◀** Move Left keys to select the Fire Fan that will be controlled by the selected functions in the sub - menu . Press **Enter** to access the sub – menu then **▶** Move Right and /or **◀** Move Left keys to toggle through the sub - menu structure. Press **Enter** then **▶** Move Right and /or **◀** Move Left keys to select the Zone/s that will activate or deactivate the control when it is in alarm or inhibited. Use the **▲** Move Up or **▼** Move Down keys to set it to active or in-active. Active meaning the Zone will operate the control where as in-active will prevent that Zone from having control.



Press **Enter** and the cursor will flash over the number 0,1 or 2, then press the **▲** Move Up or **▼** Move Down keys to select the required Function. Selection relies on how the inputs / outputs have been physically wired as outlined below.

- 0:** equates to a 3 wire Start / Stop, Run & Common.
- 1:** equates to a 4 wire Start / Stop, Run, Stop & Common.
- 2:** equates to a 5 wire Start / Stop, Run, Stop, Fault & Common.



Press **Enter** to update the Program and then **Cancel** to back out of the Menu.

### Agent

If Yes was selected in the SYSTEM menu the Sub – Menu seen below will be available. Press **Enter** to access the sub-menu. The sub-menu consists off;

Release			Press Sw	Auto Delay	Man Delay	No LCP's
<i>Solenoid</i>	<i>Pyrogen</i>	<i>Metron</i>	<i>NO/NC/None</i>	<i>0 – 60s</i>	<i>0 – 60s</i>	<i>0 - 16</i>

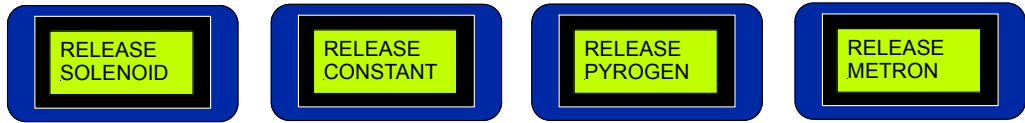
Using **▶** Move Right or **◀** Move Left select either **Release, Sense Switch, Auto Delay, Manual Delay** or the **Number of Local Control Panels ( LCP's )**, then the **Enter** key to access the menu and the **▲** Move Up or **▼** Move Down keys to set the required function or number.

In the **Delay** Menus the **▲** Move Up and **▼** Move Down keys are used to set or alter the time delay in 5 second increments.

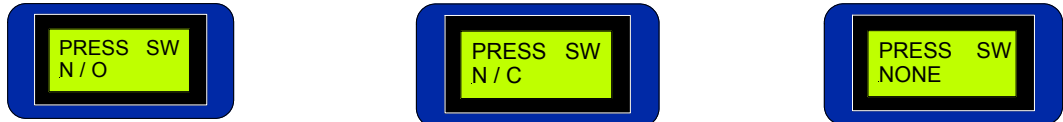
Press **Enter** to update each Program and **Cancel** to back out of the Menu.

**Release**

Identifies the type of release mechanism. [ Solenoid / Pyrogen / Metron ].

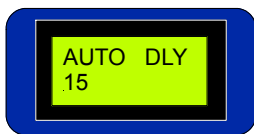


**Press Sw**



Sets the type of monitor release contact. [ NO / NC / None ]

**Auto Delay**



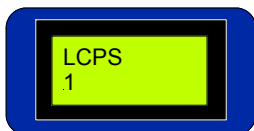
Sets the delay for the automatic release of the agent. [ 0 – 60 seconds set in 5 second increments ]

**Man Delay**



Sets the delay for when the agent is released manually. [ 0 – 60 seconds set in 5 second increments ]

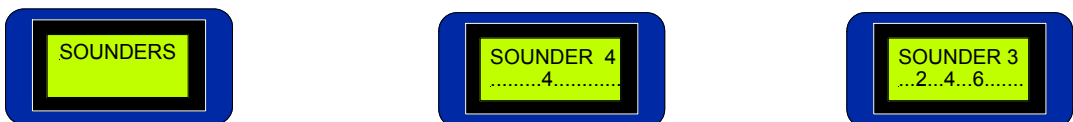
**No LCP's**



Tells the FACP how many Local Control Panels are in service. [ 0 – 4 ]

**Sounders**

Press **Enter** then use the ▶ Move Right and ◀ Move Left keys to select a sounder. Press **Enter** again and use the ▶ Move Right and ◀ Move Left keys to select a Sounder, Press **Enter** again and the ▲ Move Up and ▼ Move down keys to set that Sounder to a Zone to activate or not activate the selected sounder.

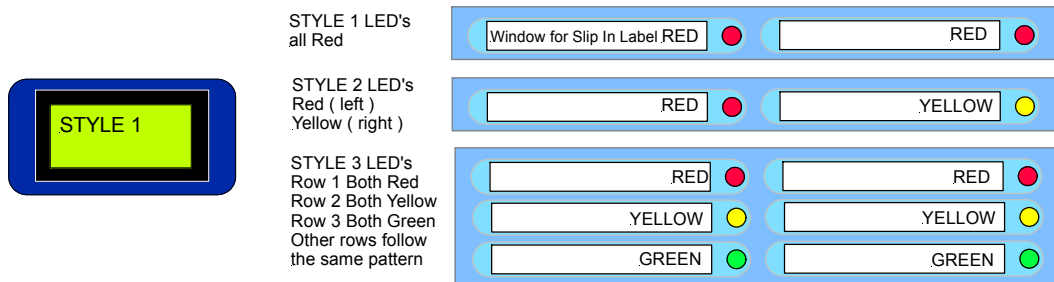


Press **Enter** to update each Program and **Cancel** to back out of the Menu.

**Indicate**

If a General Indicator Card is selected via the System Menu then all the tri-coloured LED's default to red. To alter the colour of the LED select Indicate then press **Enter**.

The LCD will display "Style 1". Use the ▲ Move Up and the ▼ Move Down keys to scroll through the different styles.

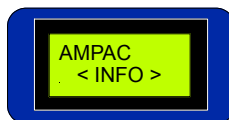


Examples of the different “ Styles “ available through the Indicate Menu are shown above. Note only the top display is shown in the first 2 examples where as the first 3 top displays are shown in Style 3

Once the “Style has been selected press **Enter** to update the Program and **Cancel** to back out of the Menu.

### Display

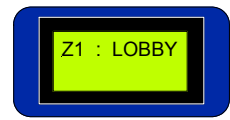
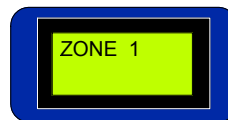
To set the message, FACP or company name press **Enter** and use the **►** Move Right and **◀** Move Left keys to move through the word to select a letter and the **▲** Move Up and the **▼** Move Down keys to move through the alphabet. A maximum of 16 characters are available for this message.



Press **Enter** to update each Program and **Cancel** to back out of the Menu.

### Zone Labels

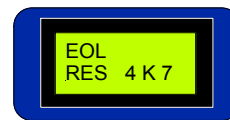
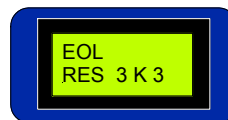
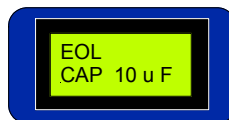
To name the Zones press **Enter** then the **►** Move Right and / or the **◀** Move Left keys to select a Zone. Press **Enter** and use the **◀** Move left and / or **►** Move Right keys to move the cursor through the structure of the word and the **▲** Move Up and **▼** Move Down keys to move through the alphabet.



Press **Enter** to update each Program and **Cancel** to back out of the Menu.

### EOL ( END OF LINE )

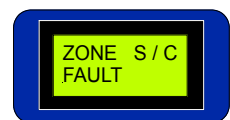
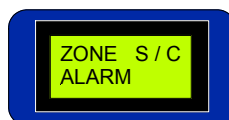
Press **Enter** and use the **▲** Move Up and **▼** Move Down keys to select the EOL option. The options are CAP 10µf, RES 3K3, 4K7, 6K8 & 10K.



Press **Enter** to update each Program and **Cancel** to back out of the Menu.

### Zone S/C

Press **Enter** and use the **▲** Move Up or **▼** Move Down key to set the panel to initiate either an Alarm or Fault when a Zone short circuited condition exists.

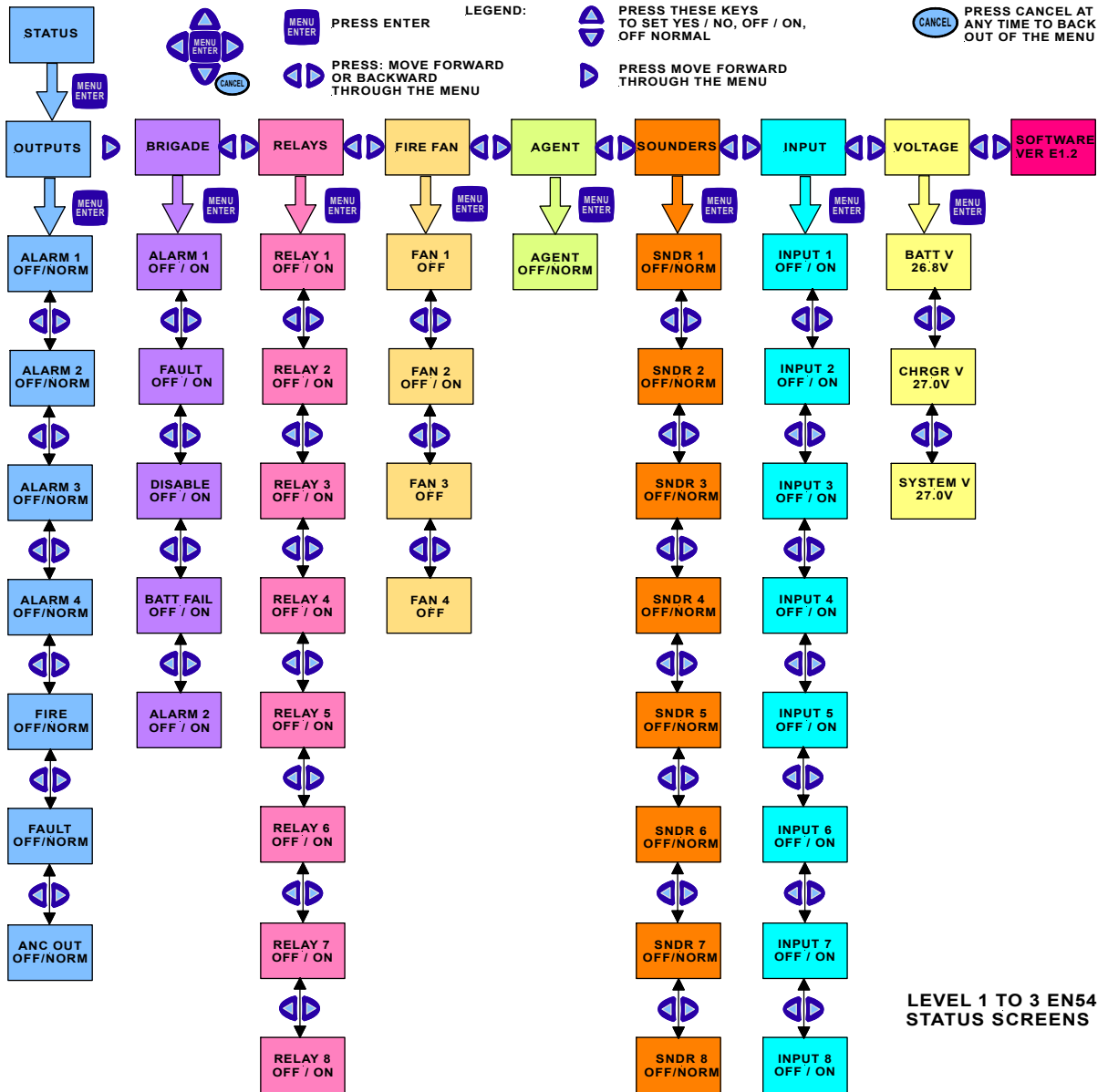


Press **Enter** to update each Program and **Cancel** to back out of the Menu.

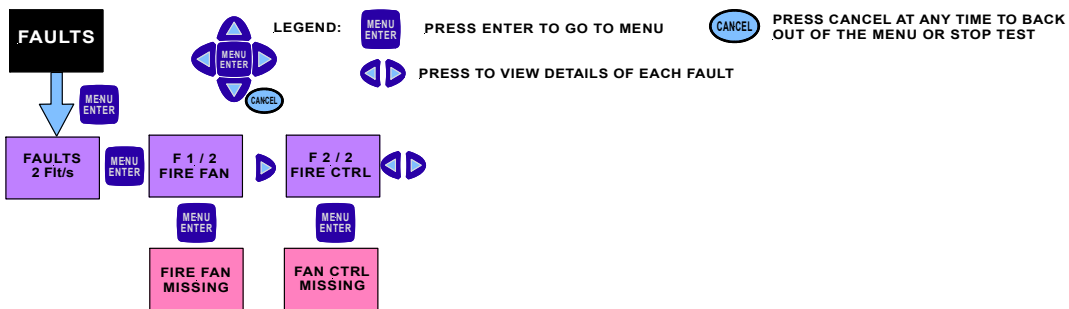
## 7 Appendix A: EN54 MENU STRUCTURE

**STATUS    FAULTS    TESTS    DISABLES    SYSTEM    PROGRAM**

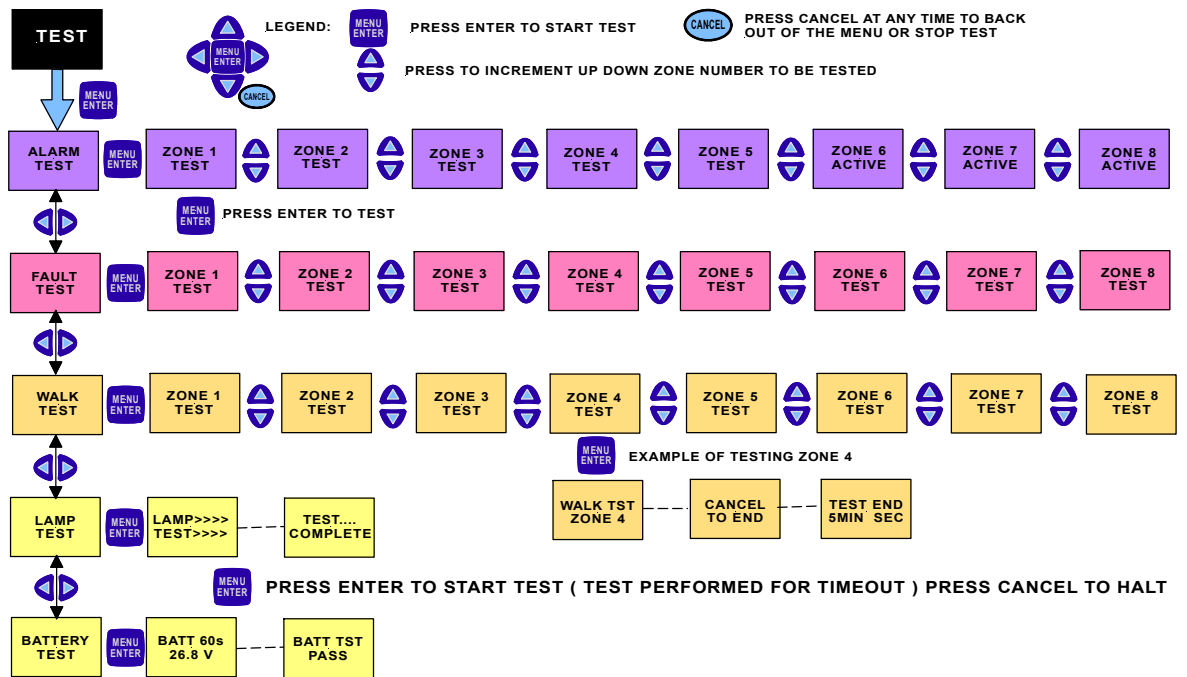
### 7.1 Status



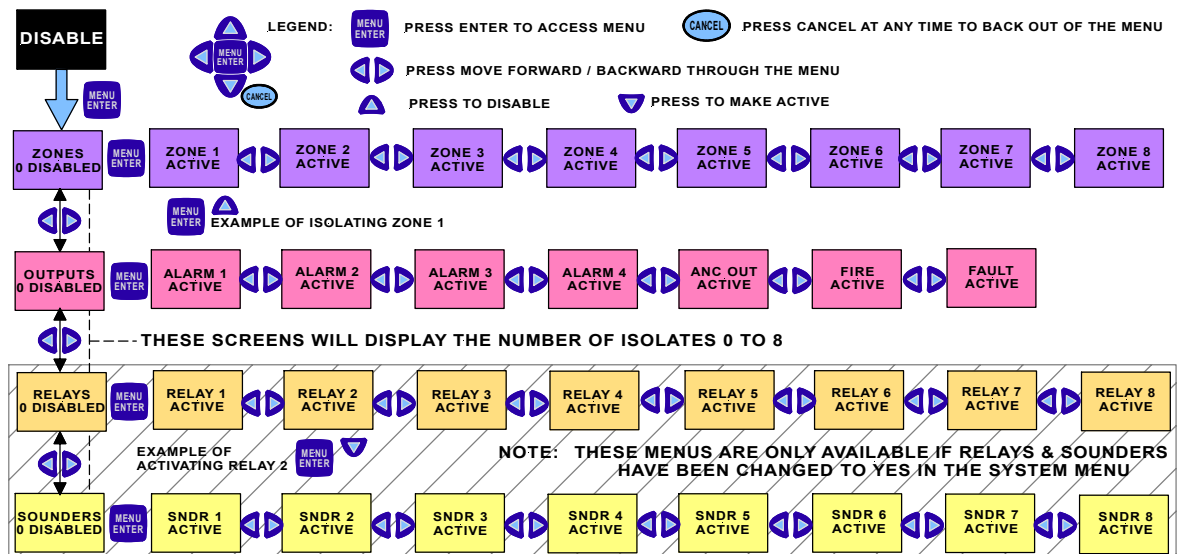
### 7.2 Faults



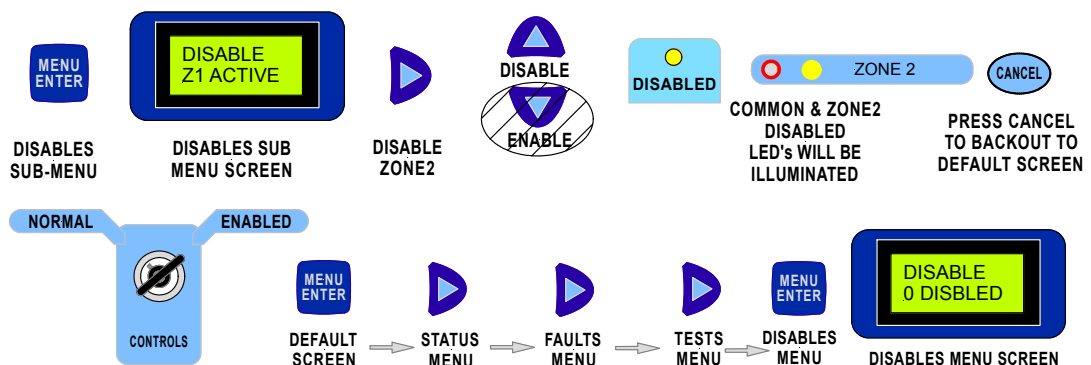
### 7.3 Test



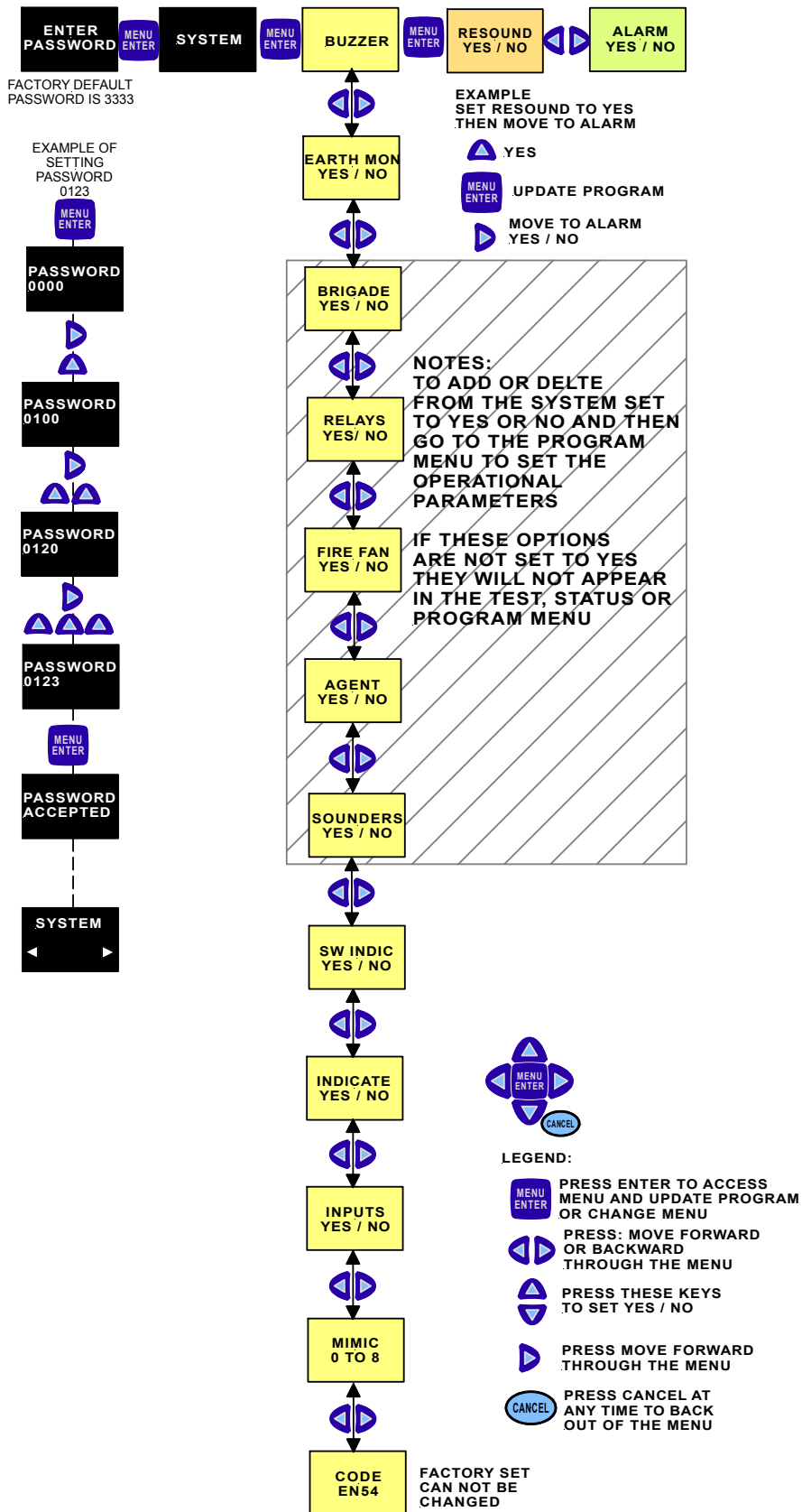
### 7.4 Disable



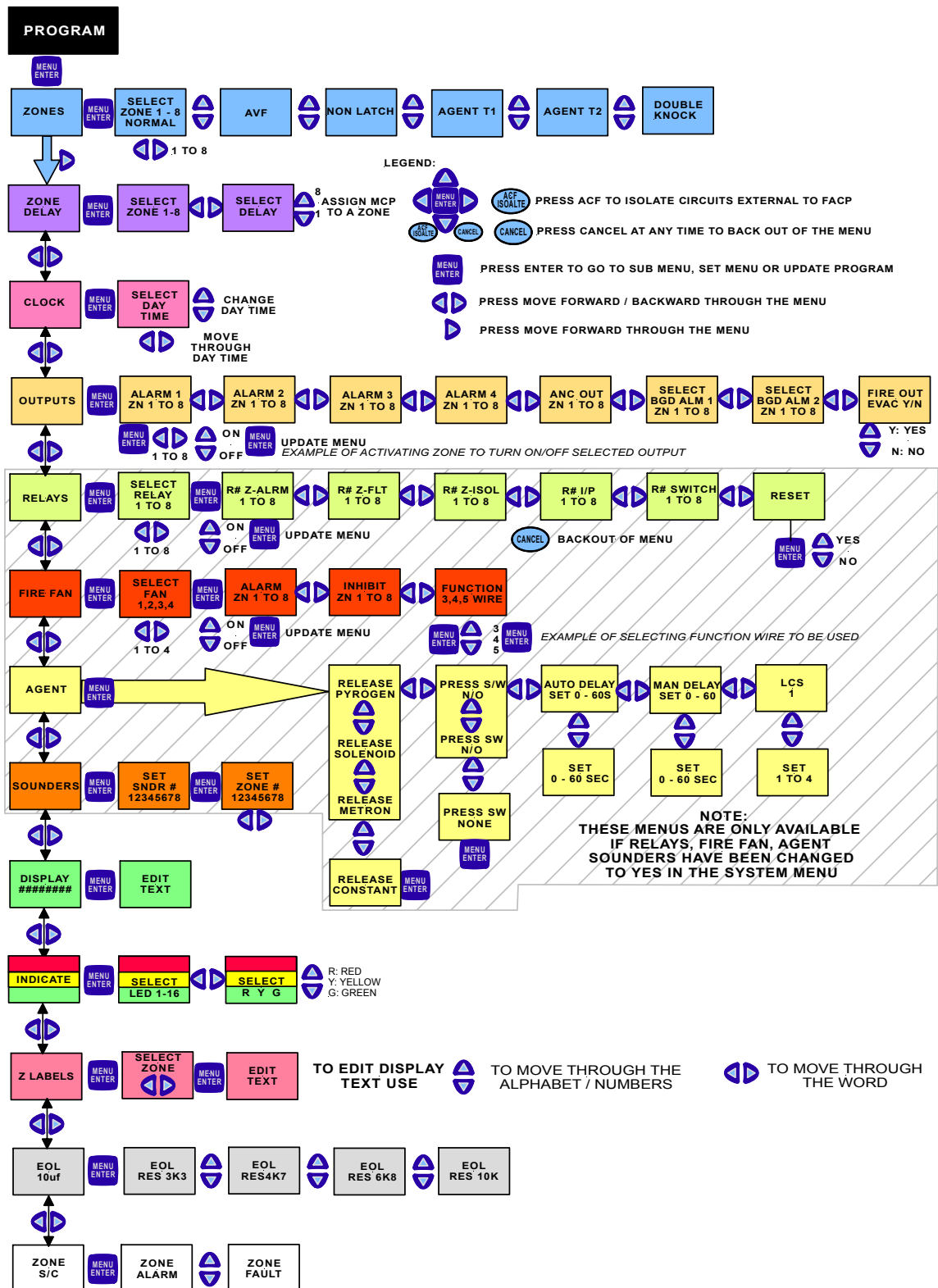
eg.: The following example DISABLES ZONE 2. Place the keyswitch to the ENABLED position



### 7.5 System



## 7.6 Program



**8 Appendix B: EN54 ABS Front Panel Configuration Labelling**

ZONE	CONFIGURATION	ALARM 1	ALARM 2	ALARM 3	ALARM 4	ALARM	ALARMI 1	ALARMI 2	RELAY 1	RELAY 2	RELAY 3	RELAY 4	RELAY 5	RELAY 6	RELAY 7	RELAY 8	SOUNDER 1	SOUNDER 2	SOUNDER 3	SOUNDER 4	SOUNDER 5	SOUNDER 6	SOUNDER 7	SOUNDER 8	FAN 1	FAN 2	FAN 3	FAN 4	INHIBIT ZONES
1	NORM / COIN / NON / SELF / AT1 / AT2								A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D													
2	NORM / COIN / NON / SELF / AT1 / AT2								A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D													
3	NORM / COIN / NON / SELF / AT1 / AT2								A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D													
4	NORM / COIN / NON / SELF / AT1 / AT2								A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D													
5	NORM / COIN / NON / SELF / AT1 / AT2								A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D													
6	NORM / COIN / NON / SELF / AT1 / AT2								A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D													
7	NORM / COIN / NON / SELF / AT1 / AT2								A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D													
8	NORM / COIN / NON / SELF / AT1 / AT2								A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D	A/F/D													
EOL VALUE	3K3 / 4K7 / 6K8 / 10K / CAP	<b>AMPAC</b>							INPUT SWITCH								AGENT RELEASE	SOLENOID / PROGEN / METRON								INHIBIT ZONES			
MCP ZONE	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8								RESET	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	AUTO DELAY - SECS	0 / 15 / 30 / 60 /								FUNCTION			
No MIMICS	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8															MANUAL DELAY - SECS	0 / 15 / 30 / 60 /												
															PRESSURE SWITCH	NO / NC / NA													
															No OF LPCS	1 / 2 / 3 / 4													

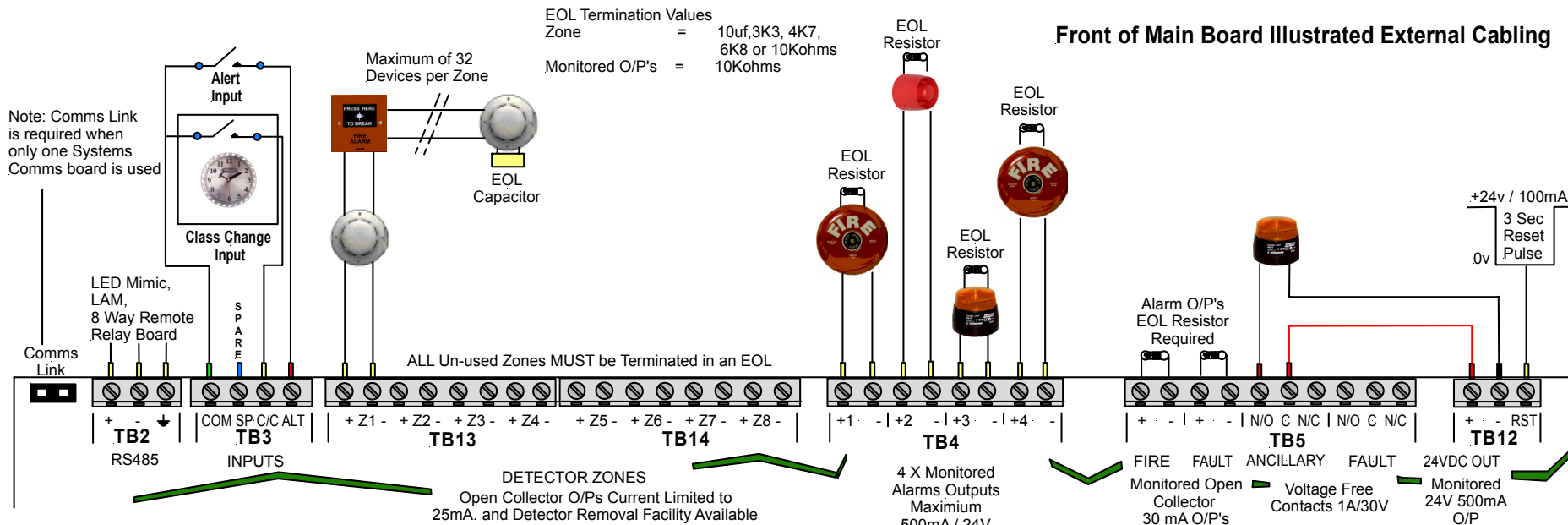
**Instructions to Installer**

**A, B, D, F & H** Using a permanent marking pen cross out the conditions that do not apply.

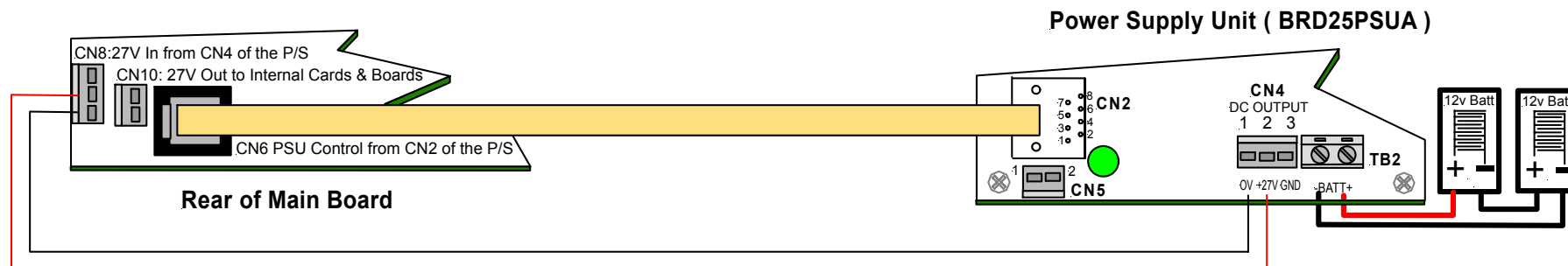
**C, E, & G** Using a permanent marking pen cross (X) the box for the option that is set for the Zone.

- A** Indicates the configuration of each Zone Normal (NORM), AVF, Non-latching (NON), Self latching (SELF) Agent 1 (AT1), Agent 2 (AT2).
- B** Indicates what EOL value has been selected, what Zone has MCP's, and the number of Mimics controlled by the FACP.
- C** Indicates what Zones controls what Main Card Output.
- D** Indicates if Alarm ( A ), Fault ( F ) or Isolate ( I ) controls the designated relay and the type of input it has.
- E** Indicates what Zones control what Sounders.
- F** Indicates the type of Agent Release fitted, the type and duration of delay and the number Local Control Stations fitted.
- G** Indicates what Zone controls what Fan circuit.
- H** Indicates the type of wire Function and whether or not latching and / or ACF Isolate is set.

9 Appendix C: Simple Example Wiring Diagram of a Basic FACP



Power Supply Main Board Internal Wiring







**[www.ampac.net](http://www.ampac.net)**

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**HEAD OFFICE**

**UNCONTROLLED DOCUMENT**

*NOTE: Due to Ampac's commitment to continuous improvement specifications may change without notice.*