Syncro AS

Analogue Addressable Fire Control Panel

User Manual

Index

1 Introduction

The **Syncro AS** is an analogue addressable fire detection and alarm control panel that conforms to the requirements of Australian Standards AS7240-2 and AS7240-4.

It is capable of covering a maximum of 16 zones (500 zones on a network) with 127 devices per loop for Hochiki protocol.

Syncro AS also supports loop-powered sounders & beacons.

Any number of devices can be allocated to any zone ensuring that any system configuration can be easily accommodated.

Each detection device is allocated a message of up to 40 characters (including spaces) to assist in the location of the devices.

The **Syncro AS** control panel offers an extensive list of features and options for the control and monitoring of plant, equipment and sounders.

The range of compatible devices includes optical and ionisation smoke sensors, heat sensors, multi-sensors, switch monitors and relay or bell controllers. Interfaces to conventional detection systems can also be catered for using zone-monitoring devices.

2 Safety

Suppliers of articles for use at work are required to ensure as reasonably as is practical that the article will be safe and without risk to health when properly used. An article is not regarded as properly used if it is used 'without regard to any relevant information or advice' relating to its use made available by the supplier.

This product should be installed, commissioned and maintained by trained service personnel in accordance with the following:

(i)   Local regulations for electrical equipment in buildings

(ii)   Codes of practice

(iii)   Statutory requirements

(iv)   Any instructions specifically advised by the manufacturer

As an installer you are requested to take such steps as are necessary to ensure that you make any appropriate information about this product available to anyone concerned with its use

This equipment is designed to operate from 230V 50Hz mains supplies and is of class 1 construction. As such it **must** be connected to a protective earthing conductor in the fixed wiring of the installation. A readily accessible double pole disconnect device with a disconnect air gap of at least 3mm and conforming to AS3000, shall be incorporated in the fixed wiring.

Failure to ensure that all conductive accessible parts of this equipment are adequately bonded to the protective earth will render the equipment unsafe.

3 Panel Controls

3.1 Access Level 1

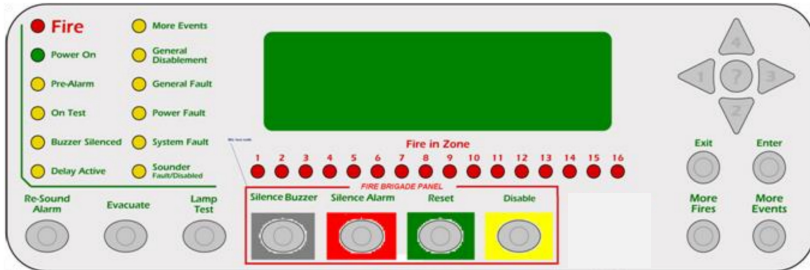The front panel contains controls for operating the panel.

Fig 1 – Syncro Front Panel

3.1.1 Lamp Test

Press this button to illuminate all front panel indicators and validate correct operation.

3.1.2 Silence Buzzer

This button will silence the internal buzzer, and will illuminate the Buzzer Silenced panel indicator. No other sounder outputs will be affected by this button operation.

3.1.3 More Fires

This button is used to view suppressed fire events. In the case of multiple fire activations, or when fire activation information has been temporarily suppressed for menu navigation, the fire events can be quickly restored and viewed by pressing this button.

3.1.4 More Events

This button is used to view all other suppressed events. In the case of multiple panel events or when any event information has been temporarily suppressed for menu navigation, this button is used to display the view events list.

3.1.5 Menu Navigation (up / down / left / right / enter / exit)

These are used to enter the password for access level 2 and are also used to navigate the Access 2 Facilities Menu.

3.1.6 Help (?)

This button offers additional information relating to the current status of the control panel. e.g. if the panel is in an alarm or fault condition then advice on the recommended action will be displayed or if a menu function is being accessed then help relating to that function will be displayed.

3.2 Access Level 2 – Enable Keyswitch

Access level 2 can be reached by operating the Enable control keyswitch or by pressing any of the menu navigation (1, 2, 3 or 4) buttons. Pressing a menu button will then request the user to enter the correct Access level 2 password (a 4 digit number) followed by the Enter button.

The factory default password for Access level 2 is 2222.

The Access level 2 password can be changed at commissioning to meet customer's requirements. Enter the Access level 2 password in the space below for future reference.

Access level 2 will be required by the end user to acknowledge alarms and reset the system.

Any persons responsible for the fire alarm system should be aware of the Access level 2 password to enable the panel controls.

Without this password it will not be possible to acknowledge alarms or reset the system so it is <u>most important</u> that the responsible person knows the password.

ACCESS 2 PASSWORD	…………………………….

3.2.1 Silence Alarm / Acknowledge

This button is normally used to mute any fire warning sounders fitted to the Syncro AS panel. These sounders are installed throughout the protected premises and are used to evacuate the premises.

In some cases, the fire warning sounders may be delayed; to allow a search time before building evacuation commences. In this case, the "Delay Active" panel indicator will be illuminated. If the Acknowledge Alarm button is pressed during the Delay Active period, the sounders may either be permanently muted or the delay may be extended to the second stage delay time. This will depend upon the panel configuration and cannot be amended by the end user.

If there is a second fire activation during an Active Delay, then all delays are cancelled and outputs will operate in accordance with the building fire strategy.

3.2.2 Re-sound Alarm

If any fire warning sounders have been muted using the Acknowledge Alarm button, then pressing the Re-sound Alarm will re-energise all muted sounders.

3.2.3 Reset

This button is used to reset any activation that is defined as a latching input type. These will include fire and pre-alarm events. In general, fault events are non-latching and cannot be cleared by operation of the Reset button. These events will clear when the fault input is cleared.

3.2.4 Disable

This button will disable any zones (and their respective points) which are active and have been silenced.

3.2.5 Evacuate button

Operation on the Evacuate button will cause all sounders on the system that are configured to respond to an evacuate command (default) to sound continuously.

4 Panel Operation

4.1 Fire Event

In the event of a fire, the red FIRE lamp and the appropriate Fire Zone indicator (if fitted) will flash. Details of the fire activation (address and location text) will be given in the LCD Status display.

The fire warning sounders will sound throughout the building and the panel fire contact, alarm contact and fire routing outputs will be energised.

The panel buzzer will be pulsing, but can be silenced by pressing the **Silence Buzzer** button.

To silence the fire warning sounders, either turn the Enable Controls keyswitch or press any of the menu navigation buttons and enter the Access 2 password (given in section 3.2) then press the Enter button.

The panel controls will now be enabled and will remain enabled for about 1 minute after the last key has been pressed.

Pressing the **Silence Alarm / Acknowledge** button will now silence the sounders. The sounders can be started again if required by pressing the **Re-Sound Alarm** button

The system can be reset by pressing the **Reset** button.

If there are more than two zones in fire on the system then these may be viewed in the text display by pressing the **More Fires** button.

4.2 Fault Event

If there is a fault on the system, the yellow **General Fault** indicator will be flashing and there may be other fault LED indications which identify the nature of the fault.

The Fault Contact will be energised and the panel buzzer will be sounding continuously.

Details of the fault will be described in the text display.

The panel buzzer can be silenced at any time by pressing the **Silence Buzzer** button.

If there are more than two fault events on the system then these may be viewed in the text display by pressing the **More Events** button.

4.3 Pre-alarm event

Sensors or inputs can generate a pre-alarm. A pre-alarm is used to warn of a slow change in the analogue level from detection devices, typically due to a smoldering fire. When a pre-alarm is generated, the control panel will illuminate the pre-alarm LED and will sound the internal buzzer continuously. The address and location of the source of the pre-alarm will be indicated in the LCD status display.

The source of the pre-alarm input should be investigated.

The panel buzzer can be silenced at any time by pressing the **Silence Buzzer** button.

If there are more than two fault events on the system then these may be viewed in the text display by pressing the **More Events** button.

4.4   Evacuate event

An input on the system can be configured to create an Evacuate event. Operation of an evacuation input or the Evacuate button will cause the red FIRE lamp to illuminate and all sounder devices to be operated continuously

The panel buzzer will sound continuously and the source of the evacuation event will be shown in the LCD status display.

The panel buzzer can be silenced at any time by pressing the **Silence Buzzer** button.

To silence the fire warning sounders, either turn the Enable Controls keyswitch or press any of the menu navigation buttons and enter the Access 2 password (given in section 3.2) then press the Enter button.

The panel controls will now be enabled and will remain enabled for about 1 minute after the last key has been pressed.

Pressing the **Acknowledge Alarm** button will now silence the sounders

If the source of the event is a latching input, then pressing the **Reset** button will reset the system.

4.5   Alert event

An input on the system can be configured to create an Alert event. Operation of an Alert input will cause all sounder devices to be pulsed on a 1 second cycle.

The panel buzzer will sound continuously and the source of the alert event will be shown in the LCD status display.

The panel buzzer can be silenced at any time by pressing the **Silence Buzzer** button.

To silence the fire warning sounders, either turn the Enable Controls keyswitch or press any of the menu navigation buttons and enter the Access 2 password (given in section 3.2) then press the Enter button.

The panel controls will now be enabled and will remain enabled for about 1 minute after the last key has been pressed.

Pressing the **Acknowledge Alarm** button will now silence the sounders

If the source of the event is a latching input, then pressing the **Reset** button will reset the system.

5 Access 2 Menu

There are a number of menu options available at access level 2. To view this menu, either turn the Enable Controls keyswitch or press the **Right (2)** pointing arrow key and enter the Access 2 password (given in section 3.2) then press the **Enter** button or operate the Enable controls keyswitch if fitted.

The panel controls will now be enabled and will remain enabled for about 120 seconds after the last key has been pressed.

When in Access 2, press any of the four navigation buttons to view the Access 2 menu.

To navigate the menu, use the **Up (1)** and **Down (3)** buttons to move the cursor to the required menu option, then use the **Right (2)** button to select the highlighted menu option. Use the **Left (4)** button to exit back to the main menu. Use the **Enter** button to input the required information and the **Exit** button to cancel any data selection. Pressing the **Help (?)** button will display the help screen appropriate to the current menu selection.

ACCESS LEVEL 2
Disablements
View devices
Test Zones
Set system time
Contamination Status
Access level 3

Main menu items available at access levels 2:

5.1 Disablements

Any disablements made using this menu will remain active until the disablement is cleared by manual intervention at the panel.

5.1.1 Disable Immediate Output Response

If any outputs are configured to be delayed (an Access Level 3 configuration operation), then AS7240 requires that these outputs are not delayed, unless set to do so at Access Level 2. This menu option allows delays to outputs to be activated, by disabling the immediate response facility.

5.1.2 Disable Zones

All detection devices, including manual call points, are disabled in the selected zone.

5.1.3 Disable Addresses

Any loop device can be disabled using this menu option. In devices with more than one input or output, then each sub-address may be individually disabled.

5.1.4 Disable Sounders

This menu option is used to disable all sounder outputs fitted to the control panel. A sounder output is defined as any output that has been set to respond to the Silence and Evacuate panel commands. Sounder outputs may be directly wired to the control panel (Sounder circuits 1 and 2) or loop driven devices.

The Sounder Fault / Disabled LED indicator will be illuminated, as well as the General Disablement Indicator.

5.1.5   Disable Panel Outputs

This menu option allows the following panel outputs to be independently disabled;

- Fire Contact
- Alarm Contact
- Fault Contact

When the Fire Routing output is disabled, the front panel Fire Routing Fault / Disabled indicator and General Disablement indicator will be permanently illuminated.

5.1.6   View / Restore Disablements

To cancel any disablements, there are two options. The first is to scroll through each individual menu option, then toggle any disablements to the normal condition. The second, preferred option, is to use the View / Restore Disablements option. This menu option will allow the user to scroll through all active disablements and individually enable each disablement by pressing the **Enter** button.

5.2   View Devices

This menu option permits the user to view all addresses connected to the detection circuit. For each address & sub-address, the LCD status display will give the device type, zone and location text. In addition, analogue devices will give an indication of the analogue value of the current device.

For digital input devices (Manual call points, switch monitor units etc) the input state is given, either as Normal or Activated. For output devices, the output state will be shown as either Normal, Intermittent of Continuous.

This menu is used by experienced personnel to investigate the current status of the system and may help in fault finding techniques.

5.3   Test Zones

5.3.1   Test Zones

Each zone may be individually put in to a Test Mode condition. When test mode is selected, the devices in the zone may be tested and the Syncro AS panel will automatically reset after 3 seconds. This is used for one man testing of the fire system.

When a zone is put in to test mode, the user is prompted to select the sounder response behavior for the selected zone. When set to the ON position, all sounder outputs will sound for the duration of the fire event. The sounders will be muted when the panel automatically resets.

NOTE: On systems with a high number of Loop powered sounders fitted, all sounders may not be able to activate within the 3 second fire period and therefore loop sounder confirmation may be intermittent.

5.3.2   View & Restore Zones in Test

To cancel any zones in test, there are two options. The first is to scroll through each zone in the Test Zone menu, then toggle any active zones to the normal condition. The second is to use the View / Restore Zones in Test option. This menu option will allow the user to scroll through <u>all</u> active zones in test and individually enable each disablement by pressing the **Enter** button.

5.4   Set System Time

This menu option is used to set the panel date and time. This is necessary so that any events are accurately logged in the event log and on the panel printer (if fitted). The panel automatically compensates for daylight saving time.

5.5   Contamination Status

Any detection devices that exceed 85% of the limit for the manufacturers working range during the daily calibration sequence are added to a contaminated device menu. At this stage, the panel will not notify the user of a fault for the contaminated devices.

This menu option allows the user to see any devices approaching their maintenance fault limits and to prevent unnecessary faults being reported from dirty detection devices.

This menu is typically used as a preventative maintenance feature.

5.6   Access Level 3

This menu option is used to enter the access 3 password for the engineering function menu.

Details of the options available at Access level 3 can be found in the Syncro AS Product manual.

6   Routine Maintenance

Syncro AS control panels do not require any specific maintenance but should the control panel become dirty it can be wiped over with a barely damp cloth. Detergents or solvents should not be used to clean the panel and care must be taken that water does not enter the enclosure.

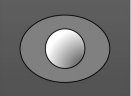The control panel contains sealed lead acid batteries to provide standby power in the event of mains failure.
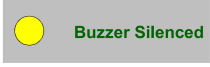
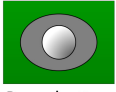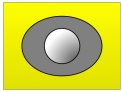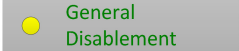These batteries have a life expectancy of around 4 years. It is recommended that these batteries be annually tested in accordance with the battery manufacturer's recommendations to determine their suitability for continued standby applications.

Routine testing of the fire alarm system in accordance with AS1851 will identify any malfunction of the control panel and any malfunction should be reported to the fire alarm maintenance company immediately.

Detection devices are automatically calibrated on a daily basis and any devices that fail the detector manufacturer requirements will be notified as a maintenance fault. The contamination status menu is also useful in determining detection devices that are approaching their working range limits (see 5.5 above).

7 Revision Details

Revision Number	Reason	Date of issue
v1.0	Initial Release	
v1.1	Updated front page picture & company details	12/07/2016

How To	Do This	Display	Comments
Silence buzzer	**Silence Buzzer** Press button	Buzzer Silenced	Buzzer will resound on next event.
Test lamps	**Lamp Test** Press button	All lamps and display on	Buzzer sounds whilst button is pressed
Enable Level 2 Access	**Enable Control** Open the Access Door		Display shows ACCESS LEVEL 2
Silence alarms	**Silence Alarm** Press button	Buzzer Silenced	Sounders will resound on the next alarm. Buzzer will resound on the next event.
Sound alarms	**Re-Sound Alarm** Press button	**Fire**	Buzzer pulses rapidly
Reset	**Reset** Press button		Alarms MUST be silenced before resetting. Ensure source of fire event is cleared before resetting.
Disable a zone in Alarm	**Disable** Press button		Zone MUST be silenced before disabling.
Disable a zone	• Obtain Level 2 Access by opening the Access Door. • Press an arrow key. • Use the Up/Down keys to point to "Disablement/Select Delays" • Press the right Arrow • Use the Up/Down arrows to point to "Disable Zones" • Press the right arrow. • Use the Up/Down arrows to point to the required Zone. • Press the right arrow. • Press Enter	General Disablement Zone XX – Disabled Zone	

How To	Do This	Display	Comments
Put a zone into test mode.	• Obtain Level 2 Access by opening the Access Door. • Press an arrow key. • Use the Up/Down keys to point to "Test Zones" • Press the right Arrow • Use the Up/Down arrows to point to "Test Zones" • Press the right arrow. • Use the Up/Down arrows to point to the required Zone. • Press the right arrow. • Use the Up/Down arrows to select Sounders ON or OFF • Press The right Arrow • Press Enter	🟡 On Test	
Enable a disabled Zone or Sounder	• Obtain Level 2 Access by opening the Access Door. • Press an arrow key. • Use the Up/Down keys to point to "Disablement/Select Delays" • Press the right Arrow • Use the Up/Down arrows to point to "View & Restore Disablements" • Press the right arrow. • Use the Up/Down arrows to point to the required item. • Press Enter		
Disable sounders	• Obtain Level 2 Access by opening the Access Door. • Press an arrow key. • Use the Up/Down keys to point to "Disablement/Select Delays" • Press the right Arrow • Use the Up/Down arrows to point to "Disable Sounders" • Press the right arrow. • Press the right arrow. • Press Enter	🟡 General Disablement Sounders Disabled	
Activate/De-Activate delays	• Obtain Level 2 Access by opening the Access Door. • Press an arrow key. • Use the Up/Down keys to point to "Disablement/Select Delays" • Press the right Arrow • Use the Up/Down arrows to point to Activate/De-Activate Delays • Press the right arrow. • Use the UP/Down arrows to select local or all nodes • Press the right arrow. • Press Enter		No Delayed Outputs will be displayed if there are no delays set.
Return system to normal	Close the Access Door		Secures the system against unauthorised operation.
For service contract:		Telephone:	

Notes to Technicians and Testers.

This incite Sigma and Syncro range of panels have been designed to meet AS7240.2 and AS7240.4

These standards are very different in both their panel operation and operating parameters from the old Australian standards, AS4428.1 and AS1603.4.

The main differences are outlined here as follows;

Access Levels: AS7240 allows for 4 different access levels as follows:

1. Public Access Level: This level is always active
   a. Silence the panel buzzer
   b. Perform a lamp test

2. Operator Access Level: This level is entered by the operation of a key, or by entering a code. This is the level accessible to the Fire Brigade.
   a. All the above plus
   b. Sound Alarm Devices, e.g. Activate and Evacuation signal
   c. Silence Alarm Devices
   d. Reset the panel
   e. Activate Delays
   f. Set Test mode
   g. Disable circuits

3. Technician Access Level: This level is entered by entering a code which is different from that used for Access Level 2, or setting a switch which is not normally available to an Operator, e.g behind a locked door.
   a. All of the above plus
   b. Changes to the configuration, e.g set delay times, add devices/modules to the panel.

4. Installer/Engineer Access Level: This level can only be entered by using an external device, e.g a Laptop computer.
   a. All of the above plus
   b. Changes to the configuration not permitted at Access Level 3 e.g upload, download, deleting devices from the panel.

Disablement: This is not an isolate! An isolate allowed the circuit to be monitored and indicate its condition without causing activation. A disablement, depending on the design, may or may not allow a circuit to be powered but will not indicate the state of the circuit. The circuit is disabled.

> **Care must be taken when enabling a disabled circuit to ensure that it is not active.**
> **It is good practice to perform a reset on any disabled detection circuit before enabling it.**

The standard list a disablement as: "Disablements shall inhibit all corresponding mandatory indications or outputs or both, but shall not prevent other mandatory indications and/or outputs."

Alarm and Fault Test: Under AS7240, neither alarm test nor fault test exists.   During maintenance, an installation is required to be tested by activating a detector on that circuit and ensuring that the panel and outputs operate successfully due to that activation. In this way, the integrity of the entire system is ensured.

Test: This is similar to a Walk Test, where the detector will activate and then reset approximately 5 seconds later, but the outputs will activate indicating that the entire system is working. Any outputs which must be maintained during a test, such as computer shutdown, will need to be disabled prior to performing any test.

Power Supplies: Under AS7240, the power supply must be capable of powering the panel, ALL alarm loads AND charge the batteries. In other words, the panel must be able to operate in all modes without any batteries connected.

Alarm Delays: AS7240 allows for alarm delays on sounders and outputs. The majority of panels in Australia will not use this function, but they are included here for completeness. These are configured at Access Level 3, but activated at Access Level 2. Up to 2 delay timers are permitted under AS7240, each up to 10 minutes in length.

Where only a single delay is provided and the delay is activated, the output will be delayed by this value after an alarm has been detected.

Where two delays are provided, the first delay activates on an alarm with only the panel buzzer operating, and if the silence button is not hit within the delay period, a full alarm will be generated. When the silence button is hit, the second delay timer begins and the operator has this period to investigate the alarm and perform the necessary actions. At the end of the second delay period, if no action has been taken such as a reset, a full alarm is generated. In this way, the operator has a period in which to acknowledge the alarm, and a period in which to investigate the alarm.

Refer to the Syncro AS Operation and Maintenance Manual for configuration options.

Earth Fault: An AS7240 panel will detect if there is an earth fault on the system

Alarm Verification: AS7240 does not have alarm verification

Sounders, Bells and Warning System: AS7240 does not discriminate between sounders, bells and a warning system. They are all sounders. Controls are provided to silence and re-sound sounders at access level 2.

Fire Fighters Facility: AS7240 does not have a Fire Fighters Facility, although the buttons required have been provided for ease of operation.

incite fire

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