

Vigilon Plus

Basic Commissioning Training



Contacts and Resources

Technical Support Helpline

0203 4091779 Option 2

E-mail: technical.services@honeywell.com

www.gentexpert.co.uk

www.gent.co.uk

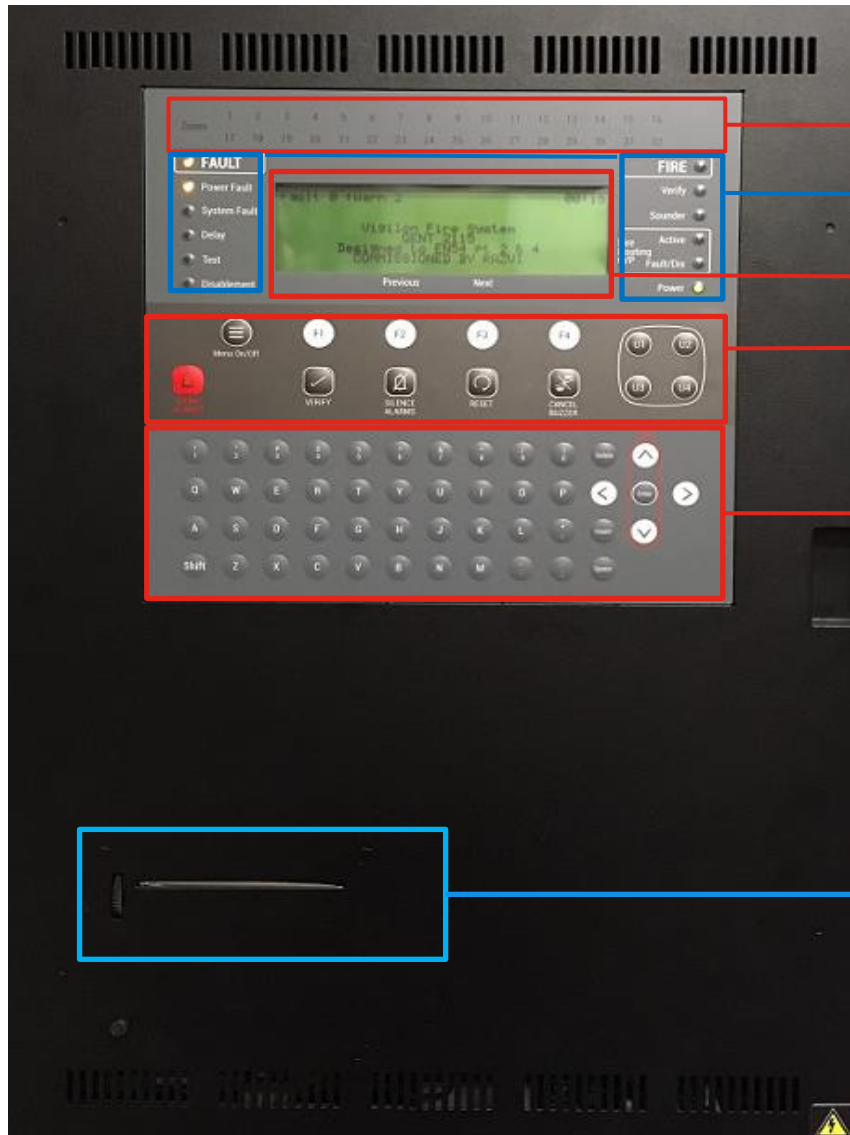
Part 1 – Pre-Requisite eLearning

This section of the Vigilon Basic Commissioning Course consists of four self-paced pre-attendance eLearning modules:

- ❑ VBC Pre-Attendance Module A – *Vigilon Panel Hardware.*
- ❑ VBC Pre-Attendance Module B – *Vigilon Loop Architecture and the Loop Cards Allocation Process for both Soft and SAFE Addressed Loops.*
- ❑ VBC Pre-Attendance Module C – *S-Quad Visual Identifiers, Part Numbers and Wiring.
S-Cube Visual Identifiers, Part Numbers and Wiring.
Principles of Dual Angle Optical Sensing.
Loop Breaker and Voltage Status.
Digital and Analogue Channels of Devices.
Vigilon Standard Signals and Voice Alarm Messages of S-Quad/SCube Devices.*
- ❑ VBC Pre-Attendance Module D – *Panel Menu navigation, Card Status, Loop Control and Loop Card Status, Find Device, more detailed Loop Allocation Process and Loop Map Interpretation and setting the Panel's Date and Time.*

Vigilon Plus 4 & 6 Loop Panels

Vigilon Plus – Inner Door



Zone LEDs (Zones 1 to 32)

System Indication LEDs

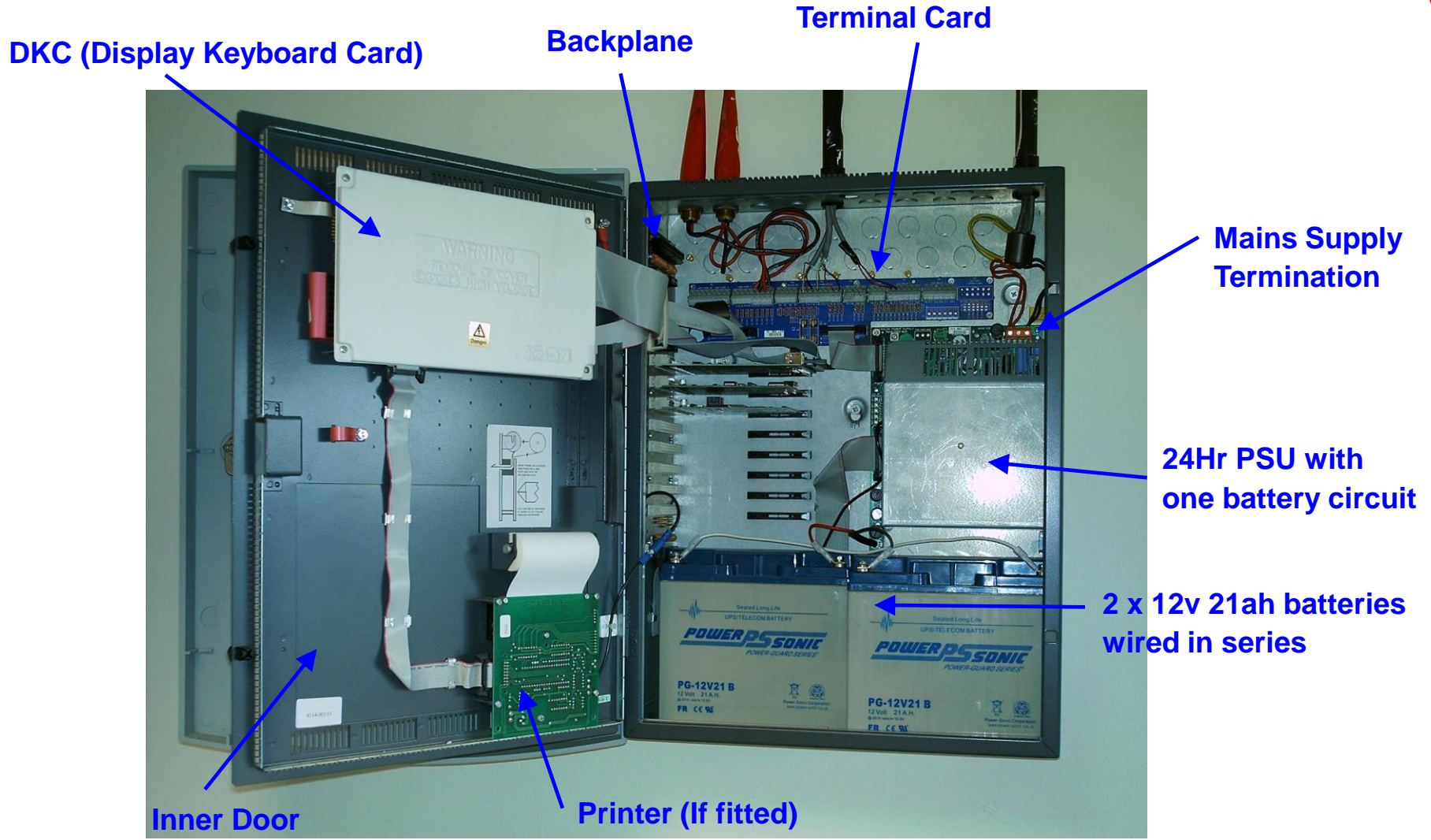
8 Line LCD Display

Control and Function Buttons

Full QWERTY Keyboard

Printer aperture

Vigilon Plus 24 (1-4 loop Control Panel)

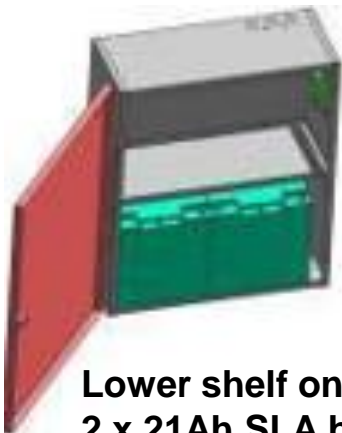


Vigilon Plus 72 (1 to 6 Loop Control Panel)



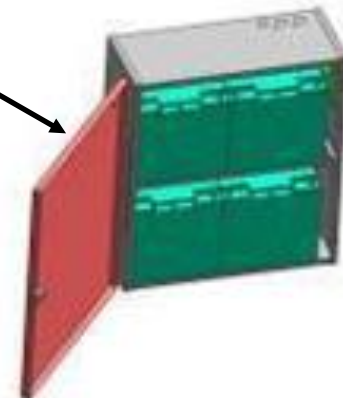
72 Hrs PSU
Two Battery Circuits

Battery Filter PCB providing
cable terminations to external battery box
PCB



Lower shelf only populated with
2 x 21Ah SLA battery pairs

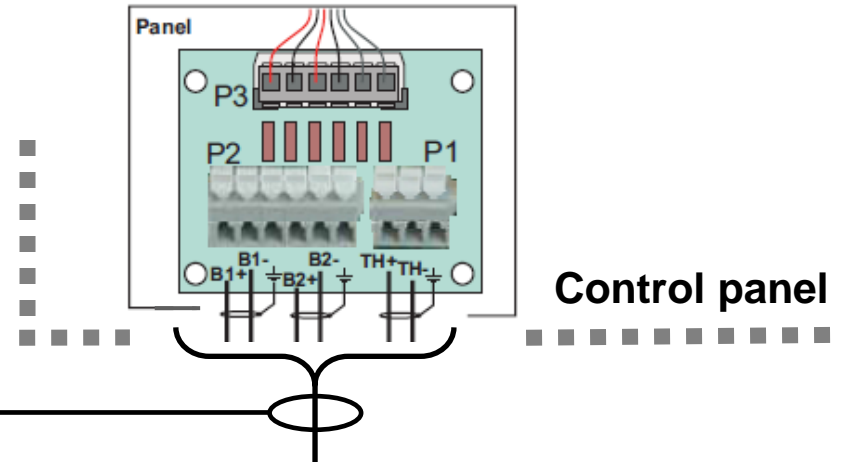
External Battery Box configurations
The configuration to be used will be
determined by the Battery Standby
and Loop Load Calculation.



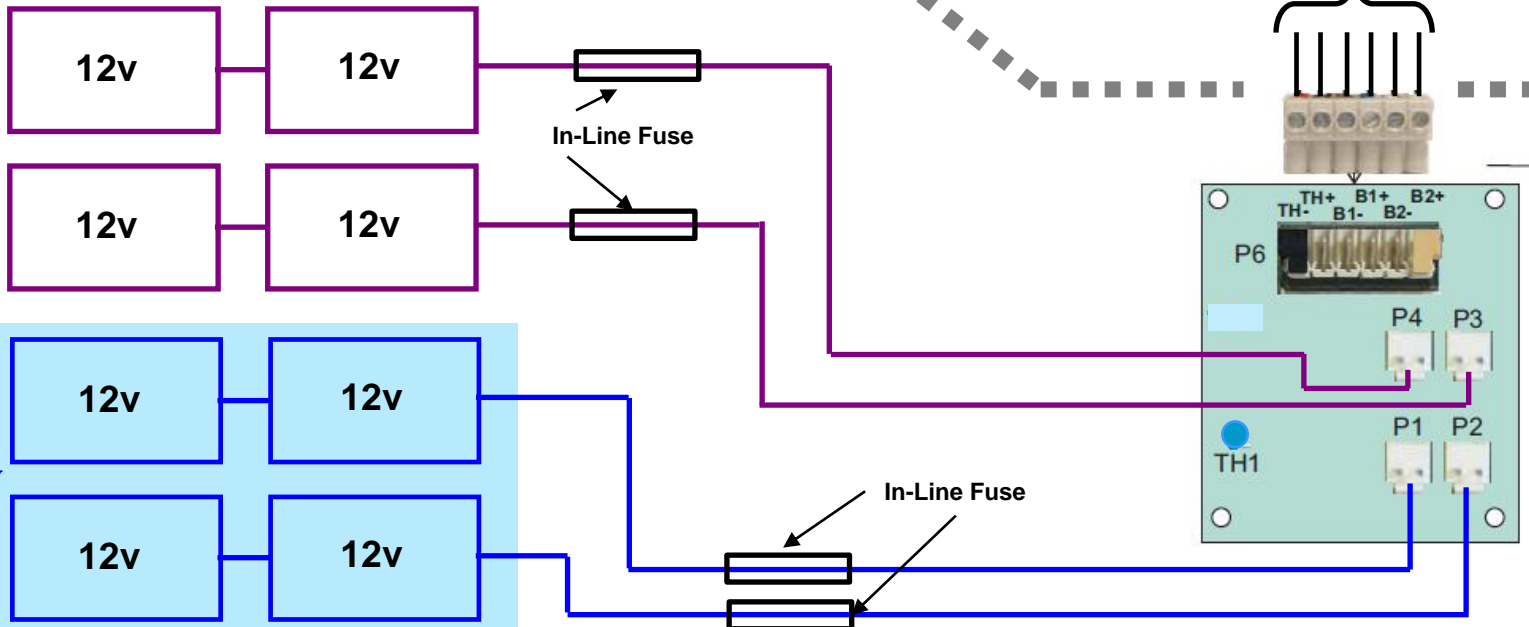
Both Upper & Lower shelf
Populated with 4 x 21Ah SLA battery pairs

Vigilon Plus 72 – Battery Box Connections

3 x 2 core pairs
1.5mm² – 10m maximum
2.5mm² – 15m maximum



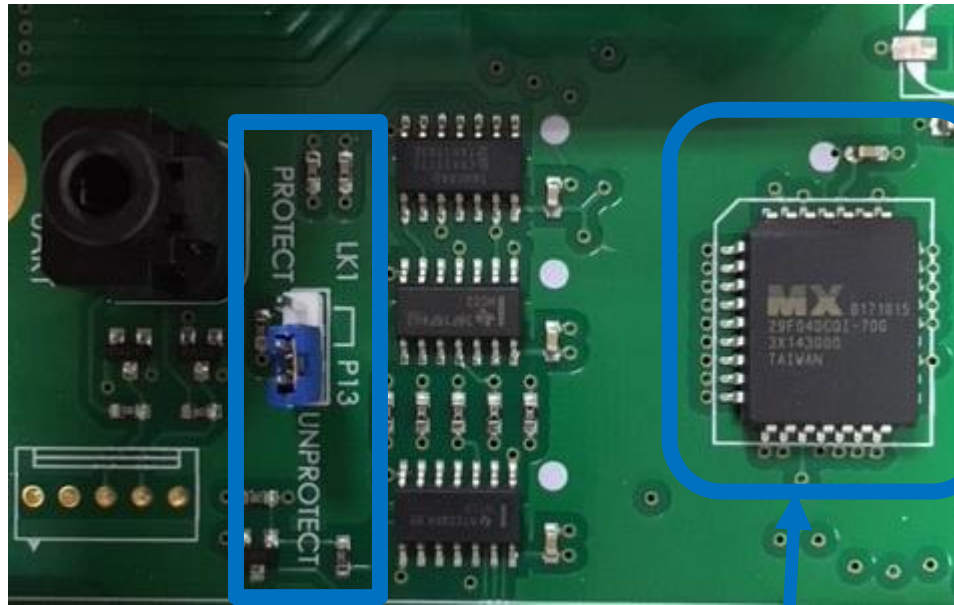
Remote battery box



Note:
When Using
4 batteries only
use P1 & P2

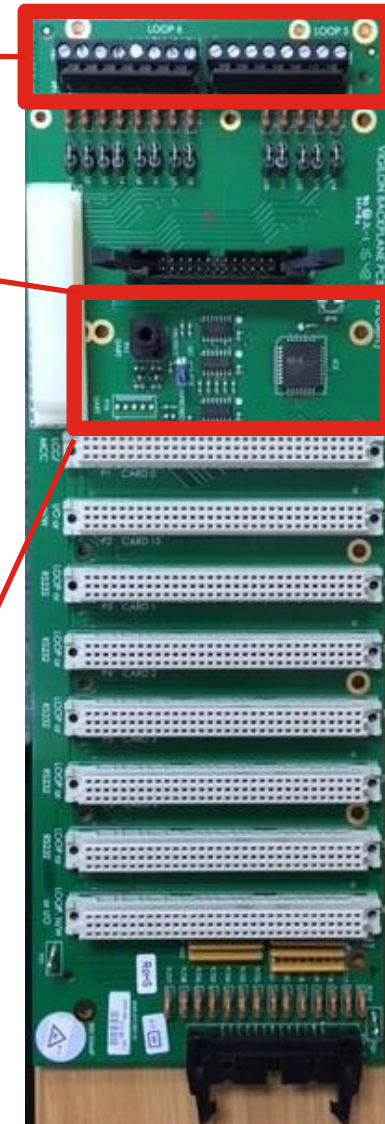
Backplane and Non-Volatile Memory (Card14)

Terminations for cards fitted in Slots P7 & P8



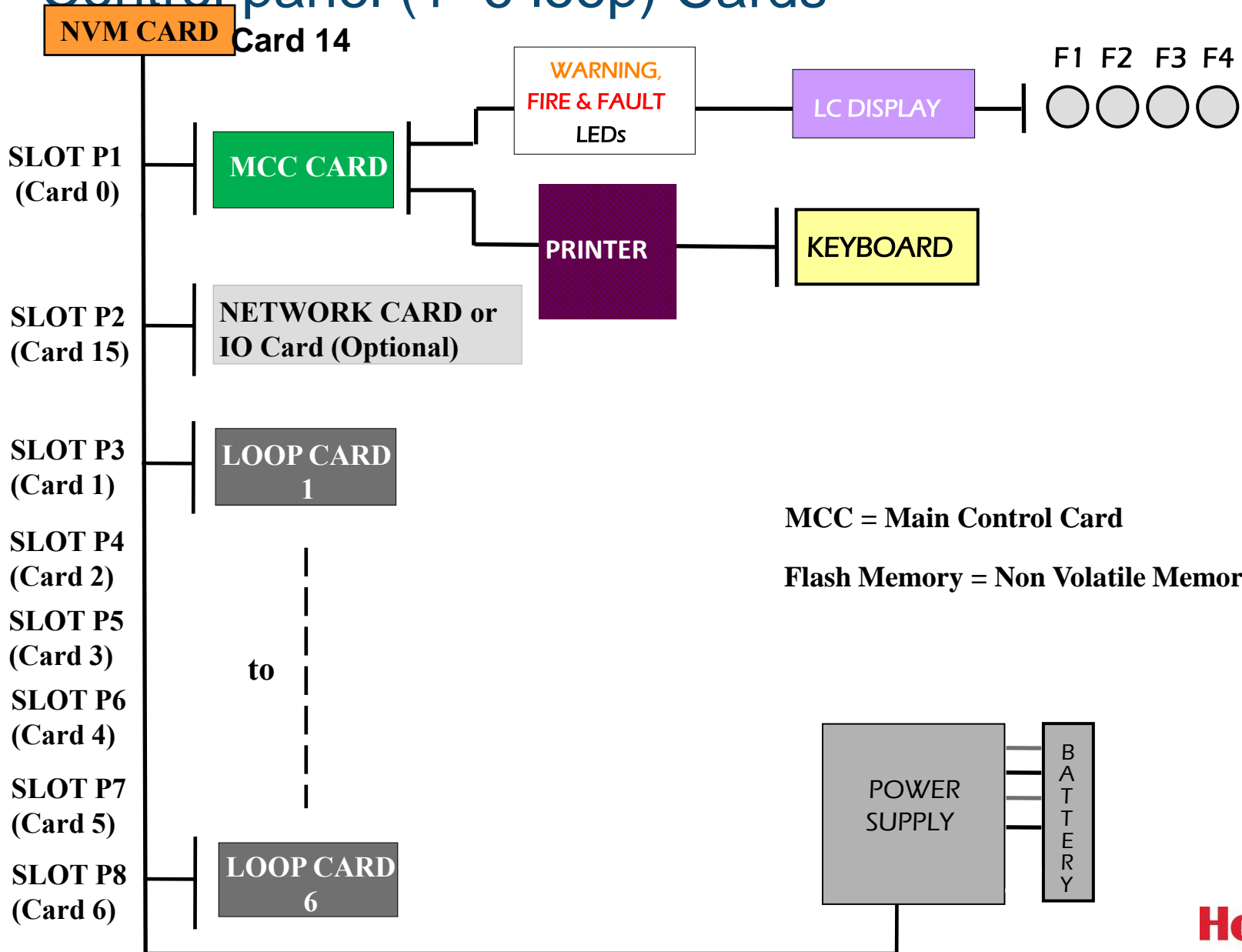
NVM Protection Link

Non-Volatile Memory (NVM)
(Card 14)



Card Slots

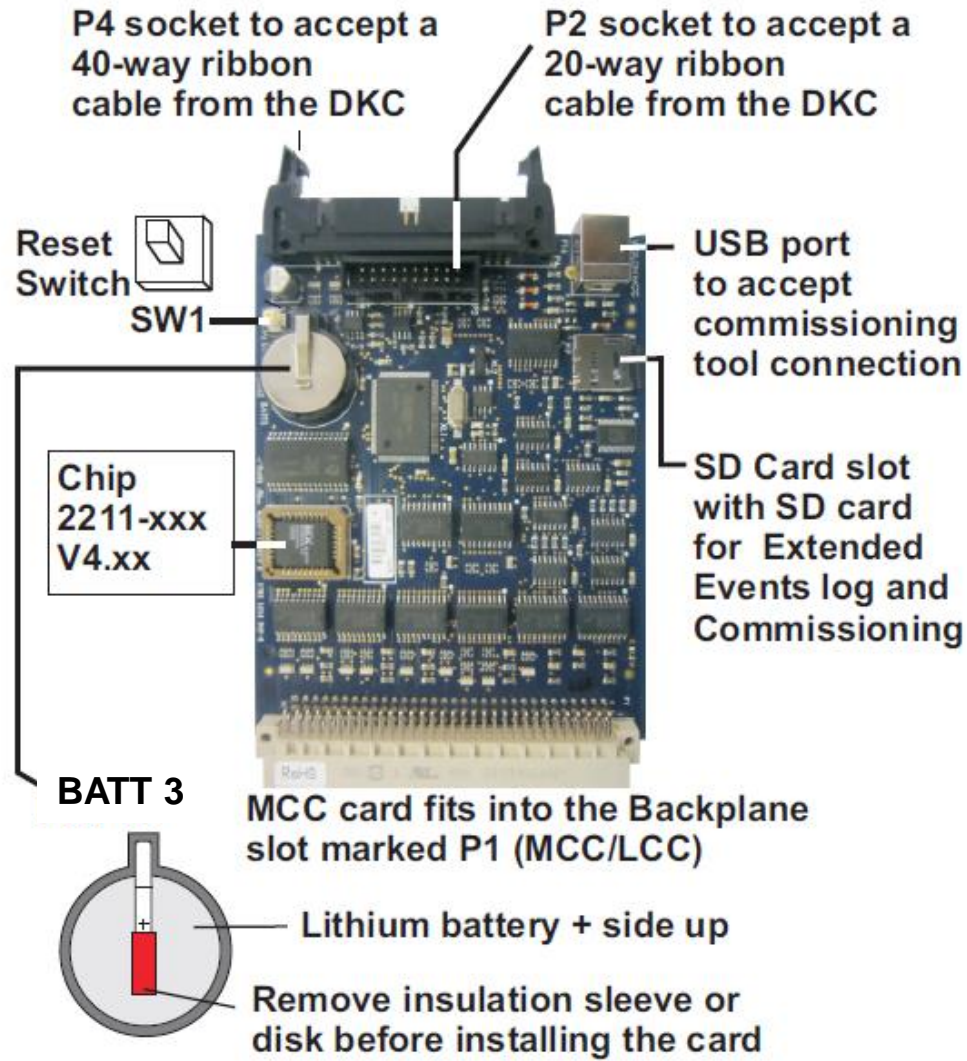
Control panel (1–6 loop) Cards



MCC = Main Control Card

Flash Memory = Non Volatile Memory – NVM Card

Main Control Card (MCC) – Card 0

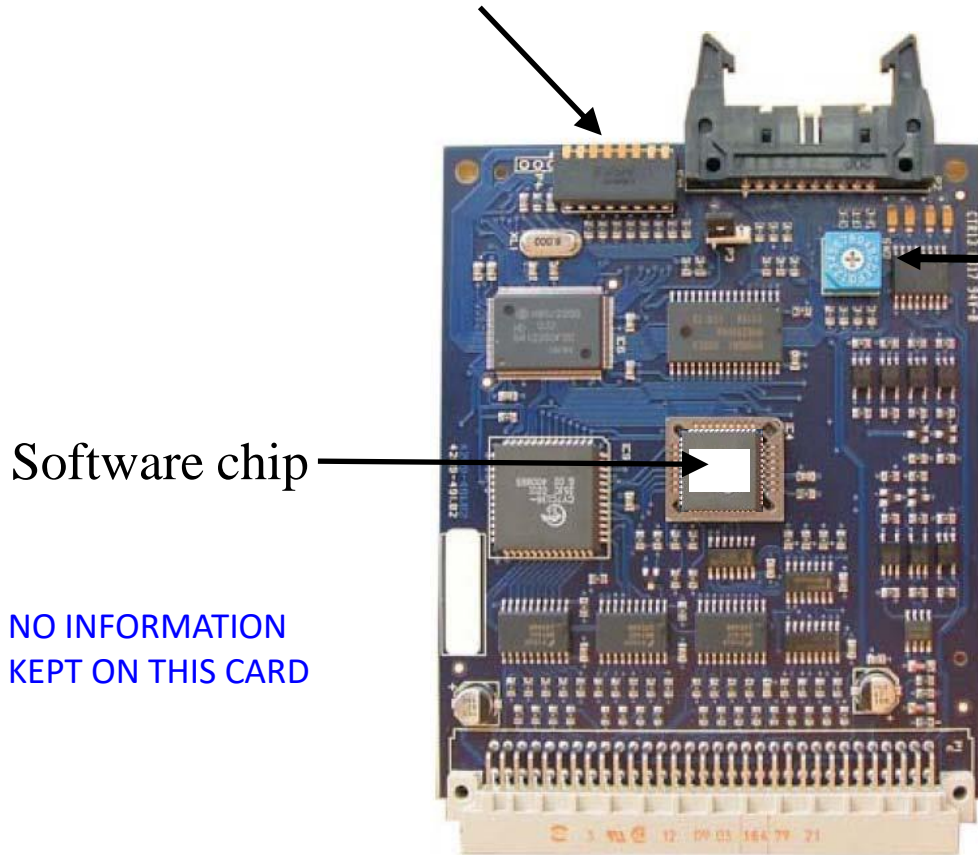


Information held on card:

- Panel address
- Sector linking
- Delay block
- Time slot
- Zones
- Command Builds
- Auxiliary relays

Input/Output Card (IOC) – Optional Card for Vigilon Plus 24 or 72

This card provides the panel with 1 x RS232 serial Port and 1 x RS485 Port
DIL switches all set to 'up' (off) position
DKC switches used instead



Software chip

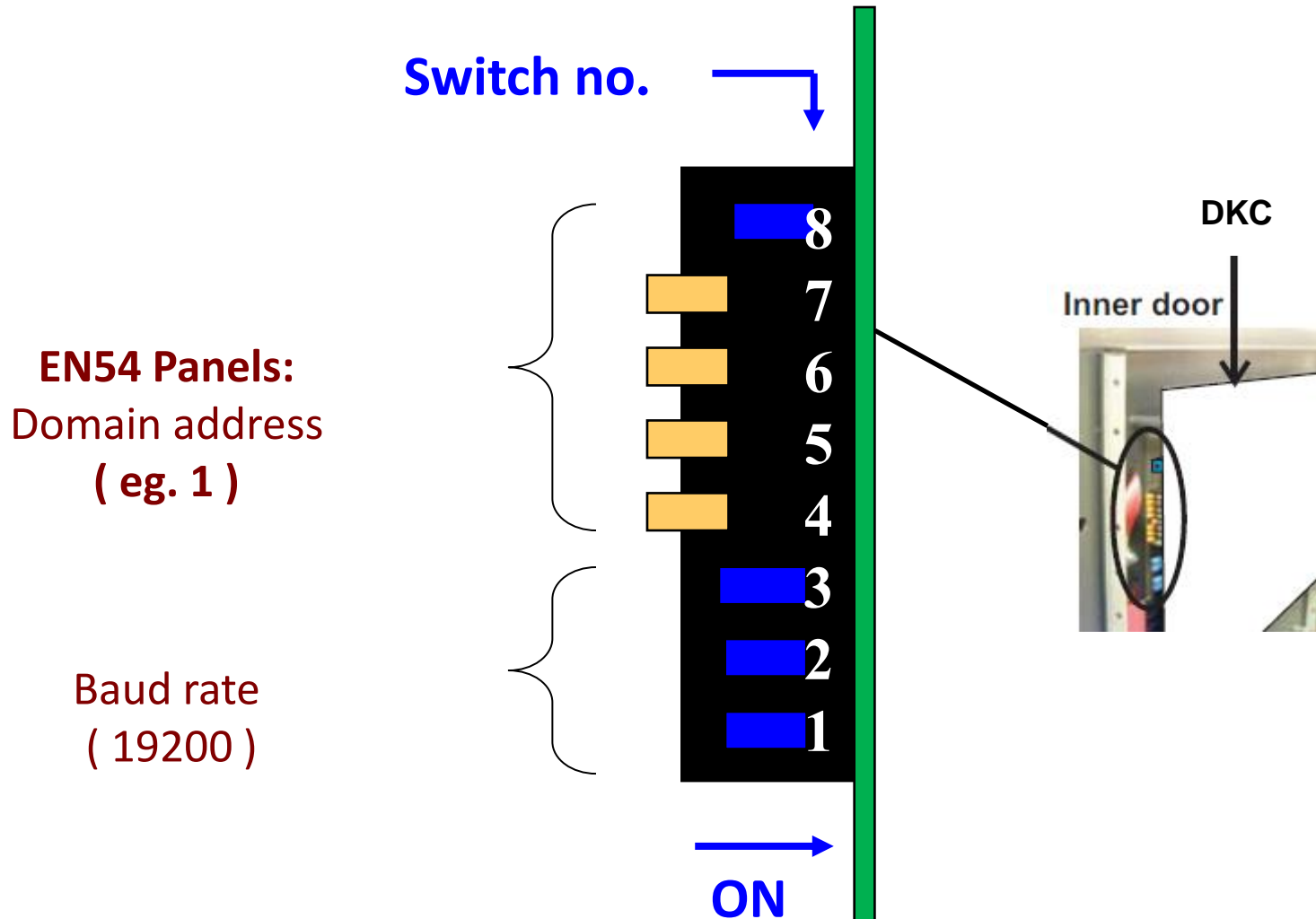
NO INFORMATION
KEPT ON THIS CARD

Rotary switch
alters card type



- 0 Half duplex
- 1 Slave
- 2 Remote Printer
- 3 Universal, half duplex
- 4 Ascom pager
- 5 **Domain bridge, full duplex**
- 6 Universal, full duplex

DKC (Display Keyboard Card) DIL Switch Setting EN54



Loop Processor Card (LPC)



**Information kept on card:
(while powered up)**

Device labels

Device status

Device states

Loop map

Sectoring

Software version

Vigilon Plus – Terminal Card

Terminations for Loop 1 to 4

Common 0v block for IOC if fitted

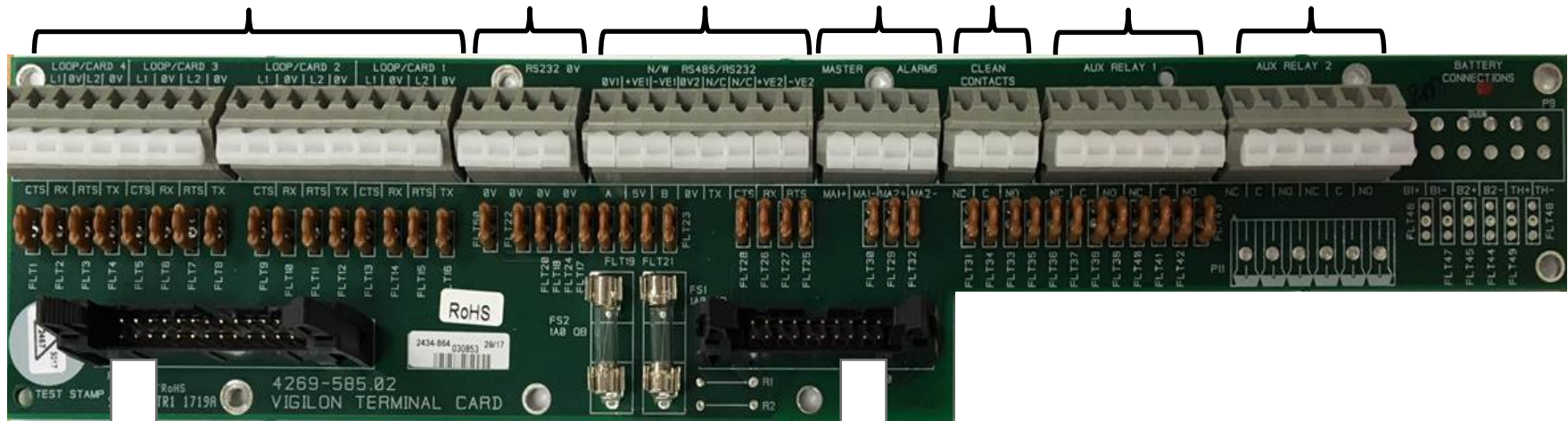
Terminations for Card 15 (Slot P2) I/O or Network Card

2 x 24VDC Master Alarms Circuits 400mA per Circuit 22KR EOL Required per circuit

Clean Contacts (SPCO) Rated at 1A 24VDC

Auxiliary Relay 1 DPCO (Fire) Rated at 1A 24VDC

Auxiliary Relay 2 DPCO (Fault) Normally Energised Rated at 1A 24VDC



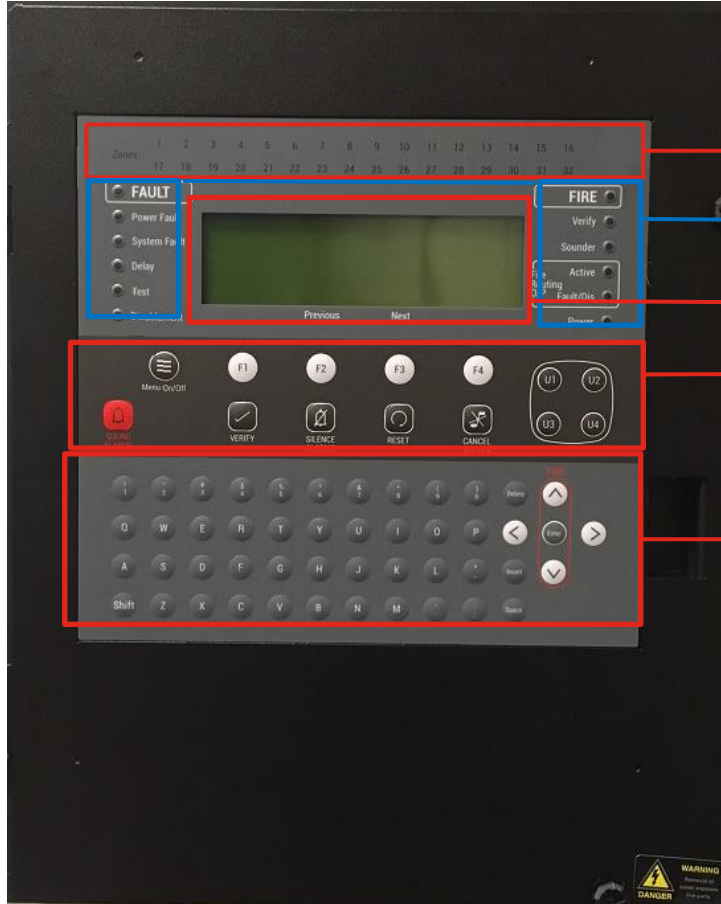
Ribbon Cable to the top connector of the Backplane

Master Alarms Fuses

Ribbon Cable to the top of the PSU

Compact Plus – 2 loops

Compact Plus – Inner Door



Zone LEDs (Zones 1 to 32)

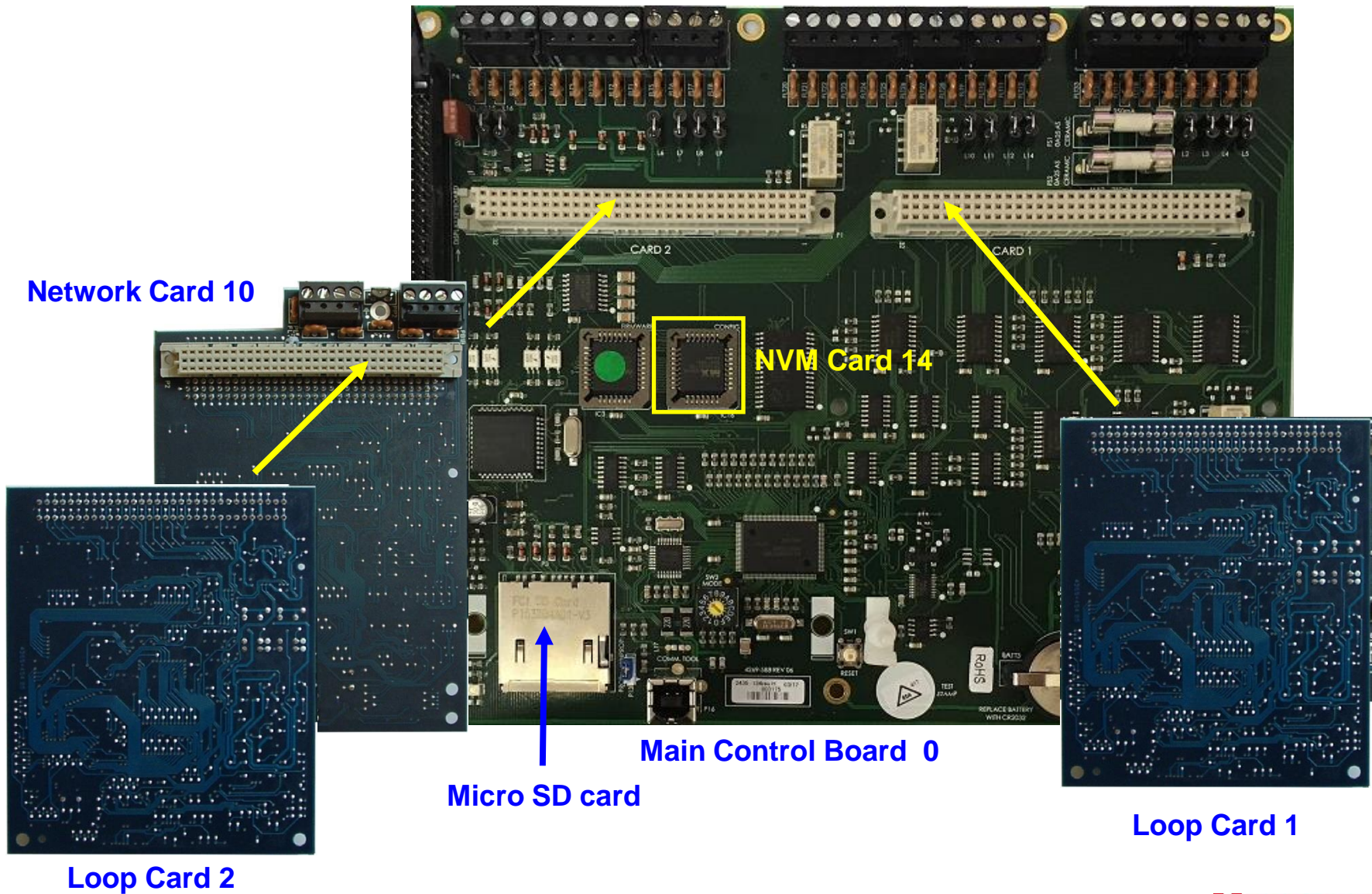
System Indication LEDs

8 Line LCD Display

Control and Function Buttons

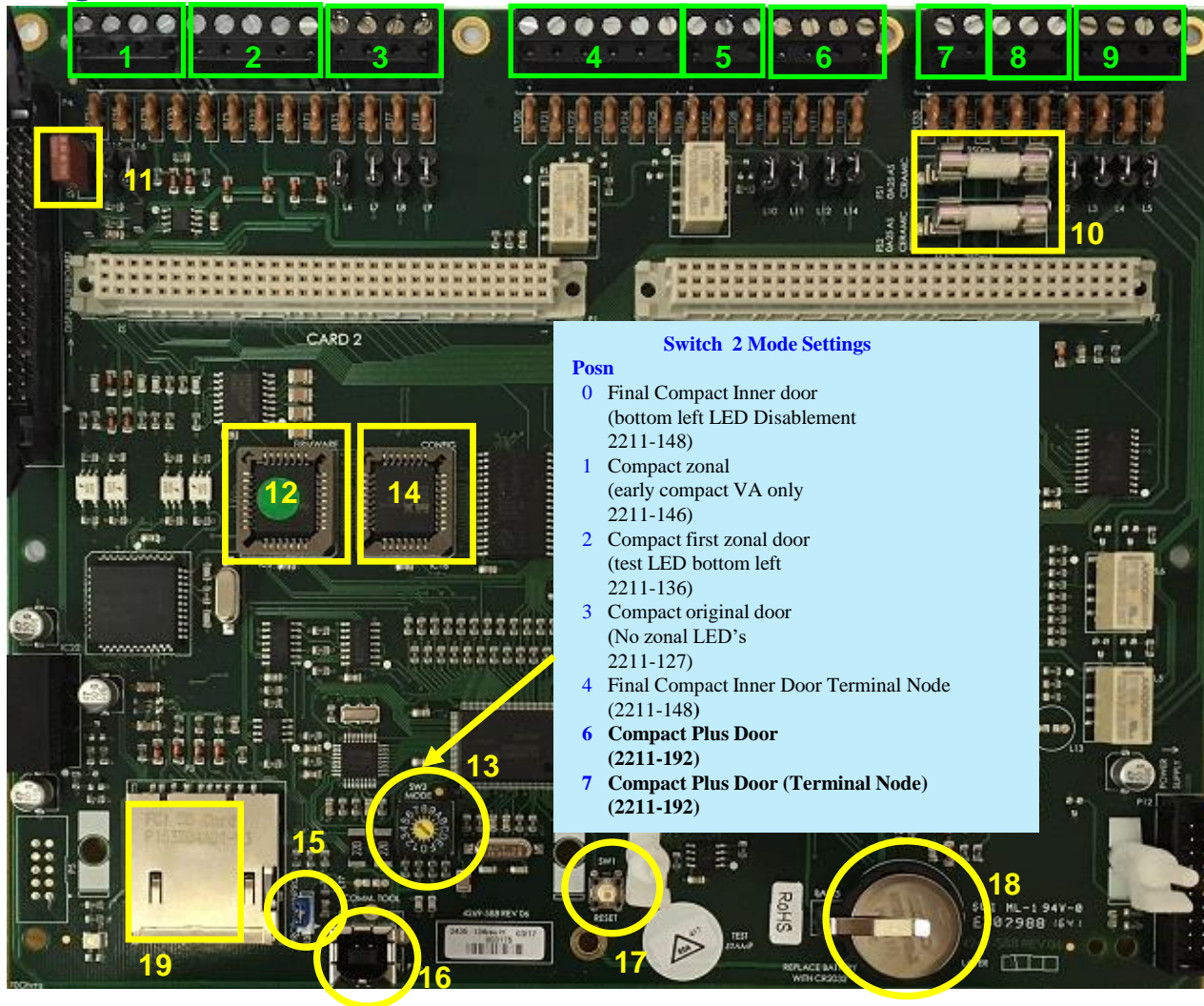
Full QWERTY Keyboard

Compact Plus Cards



Compact Plus Main Control Board (MCB) – Card

0



Switch 2 Mode Settings

Posn

- 0 Final Compact Inner door (bottom left LED Disablement 2211-148)
- 1 Compact zonal (early compact VA only 2211-146)
- 2 Compact first zonal door (test LED bottom left 2211-136)
- 3 Compact original door (No zonal LED's 2211-127)
- 4 Final Compact Inner Door Terminal Node (2211-148)
- 6 Compact Plus Door (2211-192)
- 7 Compact Plus Door (Terminal Node) (2211-192)

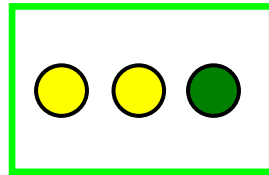
- 1 – 24VDC Supply & RS485
- 2 – Port 1 & 2 RS232 Comms Ports
- 3 – Loop 2 Connections
- 4 – Aux Relay 1 (Fire) DPCO
- 5 – Aux Relay 2 (Fault) SPCO
- 6 – Loop 1 Connections
- 7 – Monitored I/P (10K EOL)
- 8 – Clean Contacts (SPCO)
- 9 – Master Alarms ccts 1 & 2
- 10 – Master Alarm Fuses
- 11 – FS3 Protecting 24VDC Supply
- 12 – Firmware Chip
- 13 – Mode Switch (SW2)
- 14 – NVM (Card 14)
- 15 – NVM Protection Link
- 16 – USB Comms Port (3)
- 17 – Processor Reset switch
- 18 – Lithium Cell (Battery 3)
- 19 – SD Card slot

Compact Plus PSU

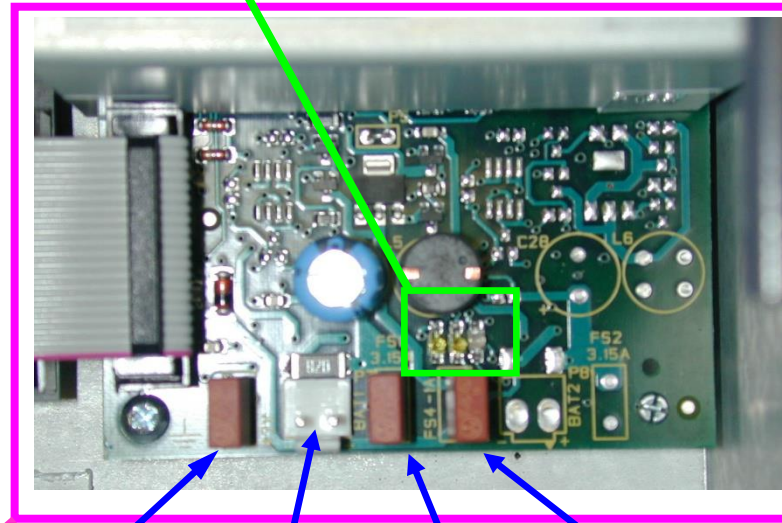
230vac Mains
input terminals



Y1 Y2 G1



| Description | Y1 (yellow LED) | Y2 (yellow LED) | G1 (green LED) |
|---|--------------------|--------------------|-------------------|
| Normal condition (no faults in the system) | | | fast flash |
| Mains out of limit | | | slow flash |
| 24VDC failure only | | fast flash | fast flash |
| Battery 1 failure only | | slow flash | fast flash |
| Battery 1 and 24VDC failure | | slow flash | fast flash |
| 43VDC failure only | fast flash | | fast flash |
| No power to PSU | | | |
| Earth fault only | On | On | On |



FS6
43v 1A

Batt 1
- +

FS1
3.15A

FS4
24v 1A

Your Turn – Power Up

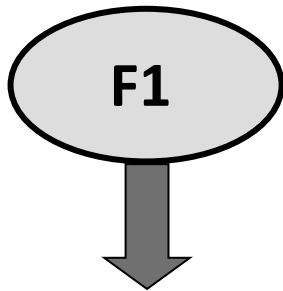


Menus



MENU ON/OFF

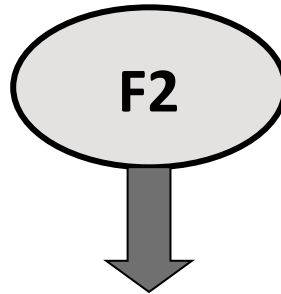
CONTROL



This menu is used to control the system functions.

ie enable / disable sectors, devices, auxiliary relays etc.

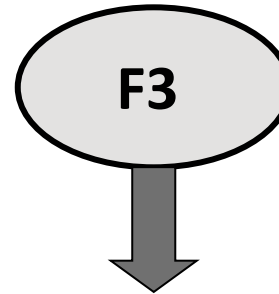
SET UP



This menu is used to set up system Configuration.

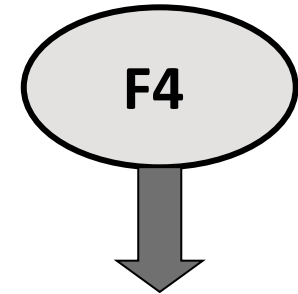
ie set clock, labelling, assigning devices to either sectors, zones or groups etc.

INFO



This menu is used to retrieve all the relevant information about the system.

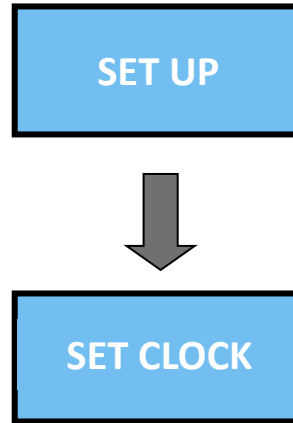
TEST ENG



This menu is used by trained engineers.

ie allocate or 'stop' loops, use system test mode & setup Passwords etc.

Setting The Clock



The Set Clock option will allow the setting of the time and date at the panel.



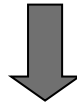
If the Time has drifted and is subsequently corrected and the adjustment is less than 15 minutes, the panel will 'learn' from this adjustment.

If the adjustment is by greater than 15 minutes the adjustment is considered as a time change

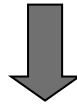
Card Status



INFO



STATUS



CARD



Type in a card number in the range of 0-15



ENTER

Card Status

Card 0: Fault 0 Disable 0 Warning 0
Controller (2) Version 4.37 21/11/06
Node 1 Domain 1
Port 0: 1200 Off
Port 1: 38400 None
Port 2: 38400 None
Port 3: 38400 None

Card 1: Fault 0 Disable 0 Warning 0
Sounder – Fault 0: Disable 1
Loop Card (2) Version 4.51 31/10/17
Loop Started ; Loop Complete
11Devices 1 Teebreakers
0V resistance is 3.5R, L is 1

Card 2: Fault 0 Disable 0 Warning 0
Loop Card (1) Version 4.48 5/6/14
Loop Started ; Loop Complete
9 Devices 2 Teebreaker

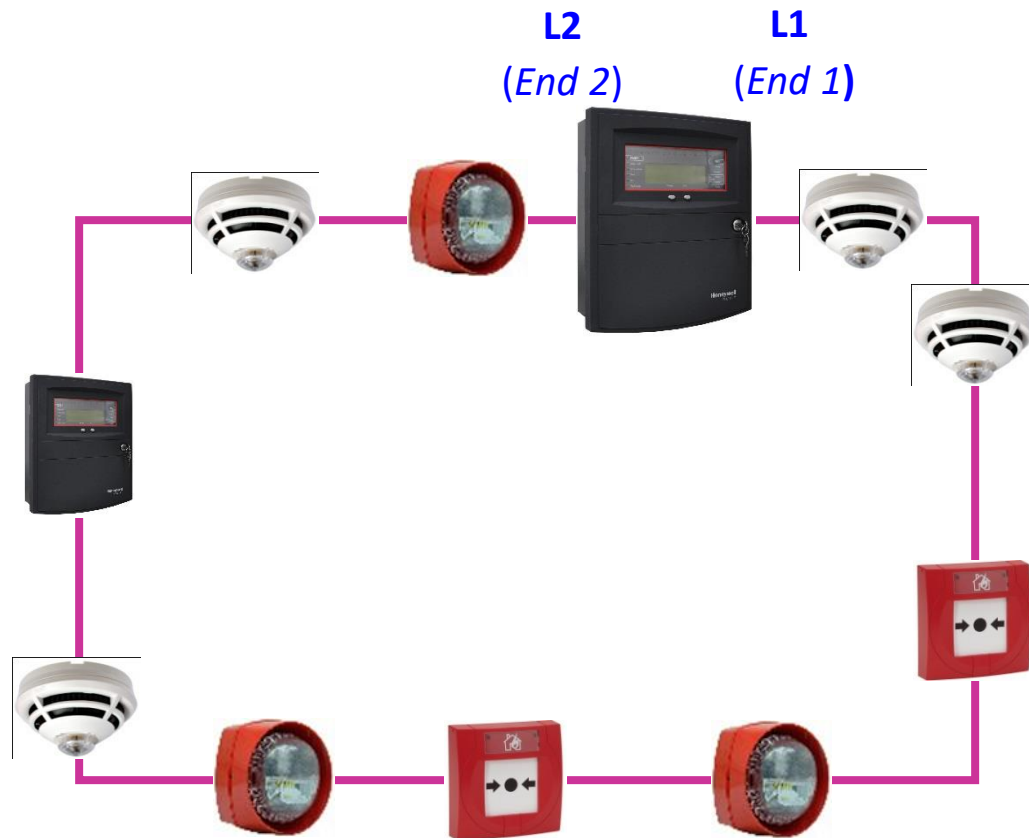
High Power Loop card
will also show the
Loop resistance and
Inductance

Next Generation or
High Power Loop Card
Note the (2)

Legacy Loop Card
Note the (1)

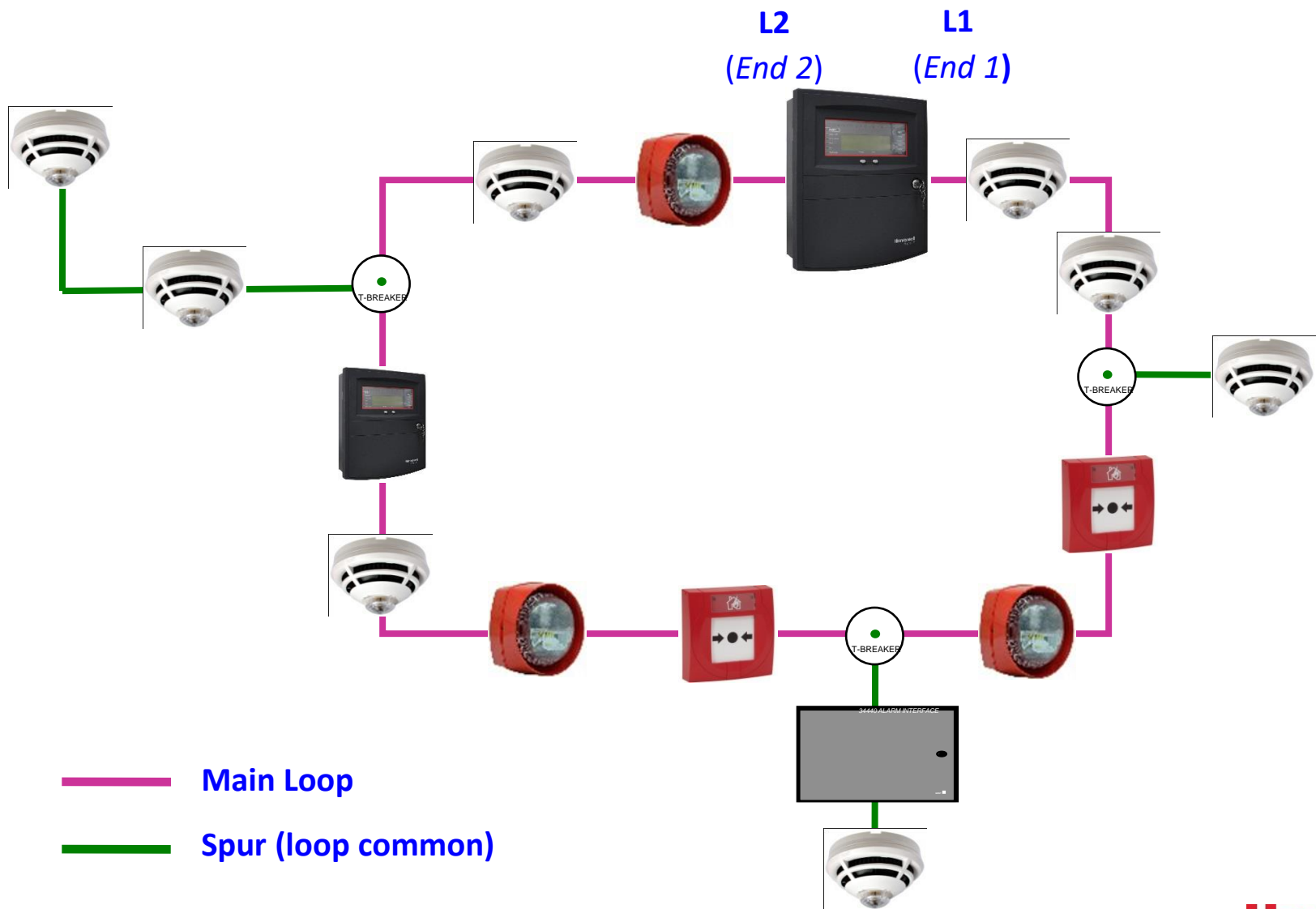
Vigilon System Loop Architecture

Vigilon System Loop Architecture

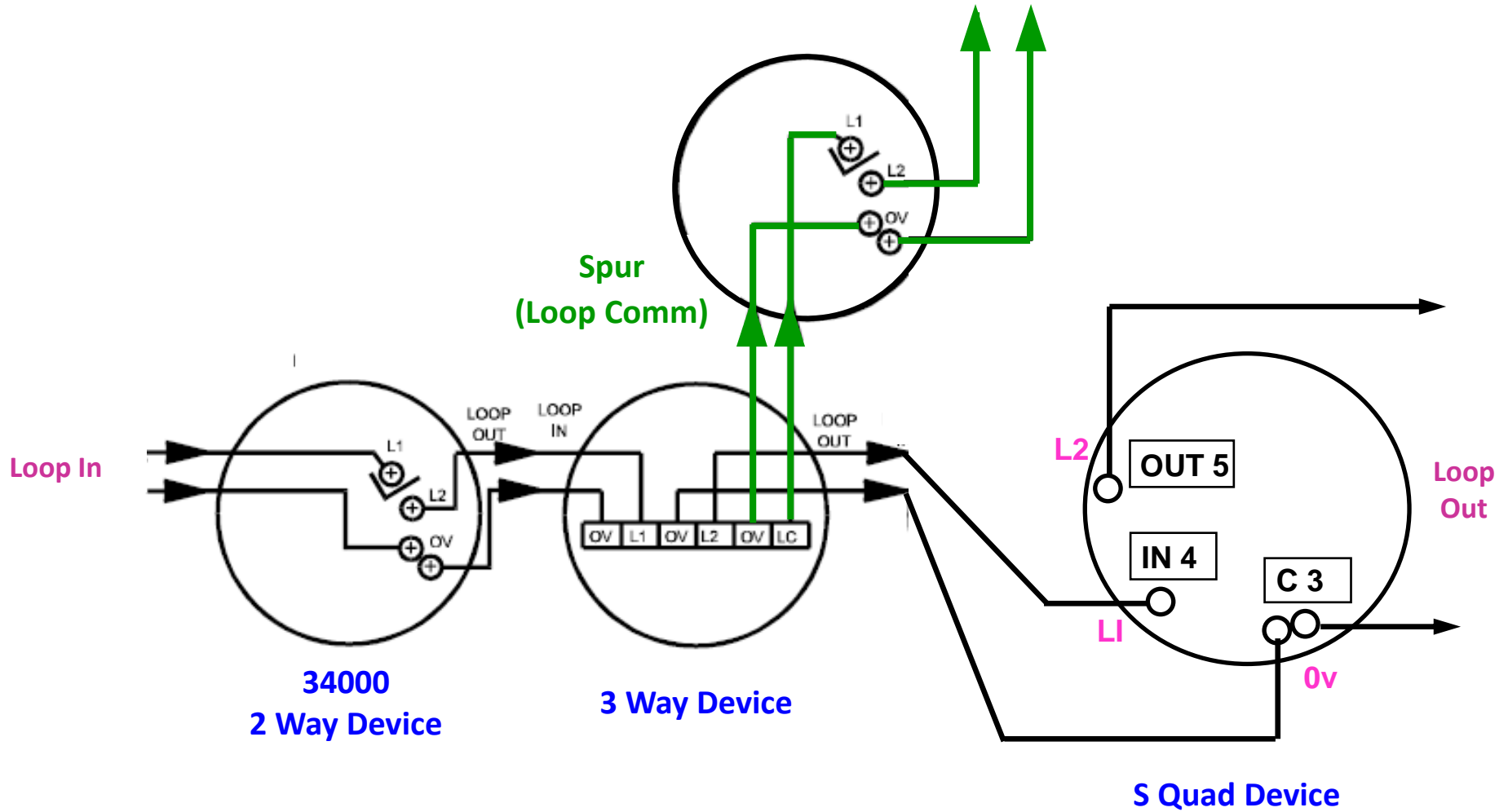


— Main Loop

Vigilon System Loop Architecture



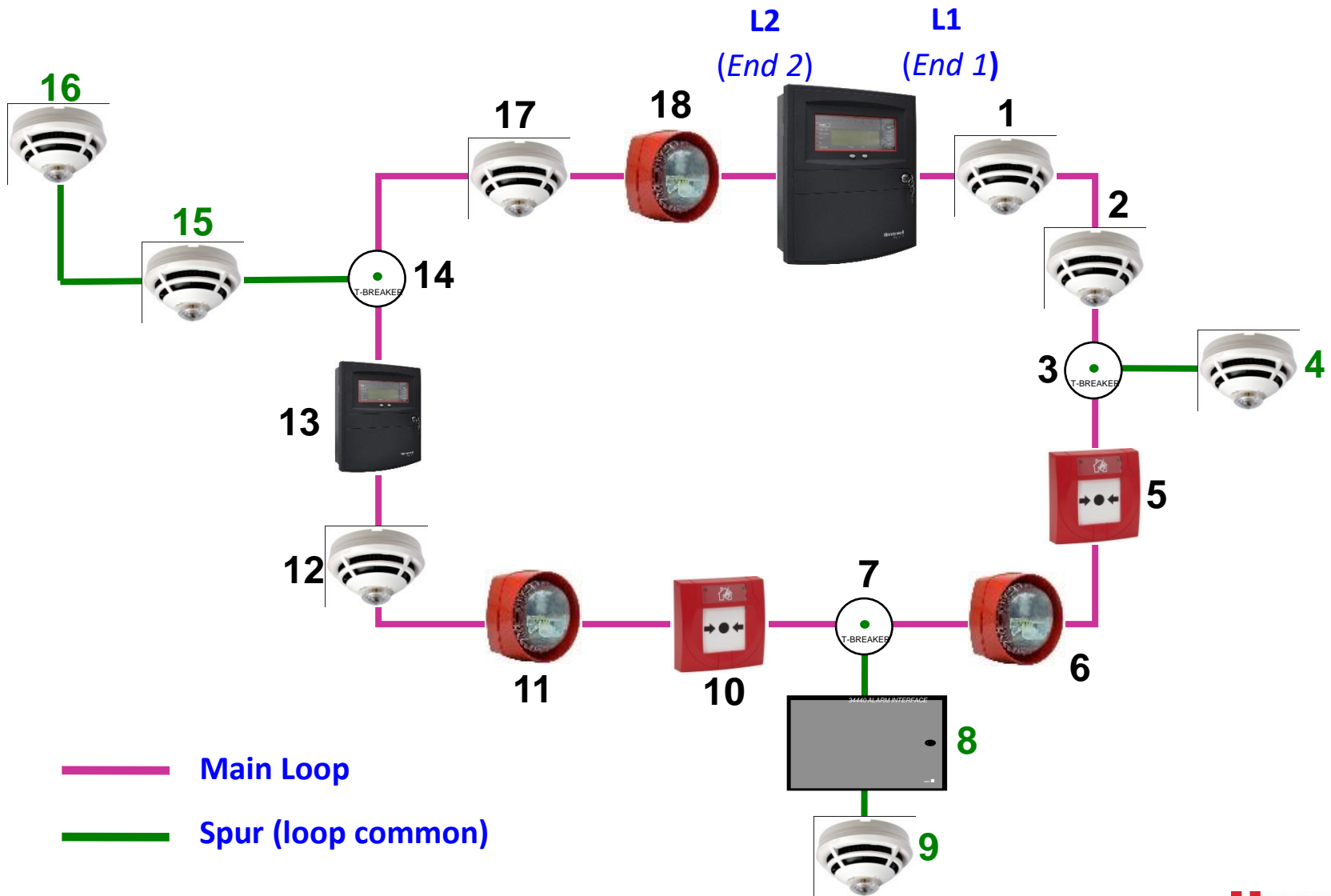
Device terminals



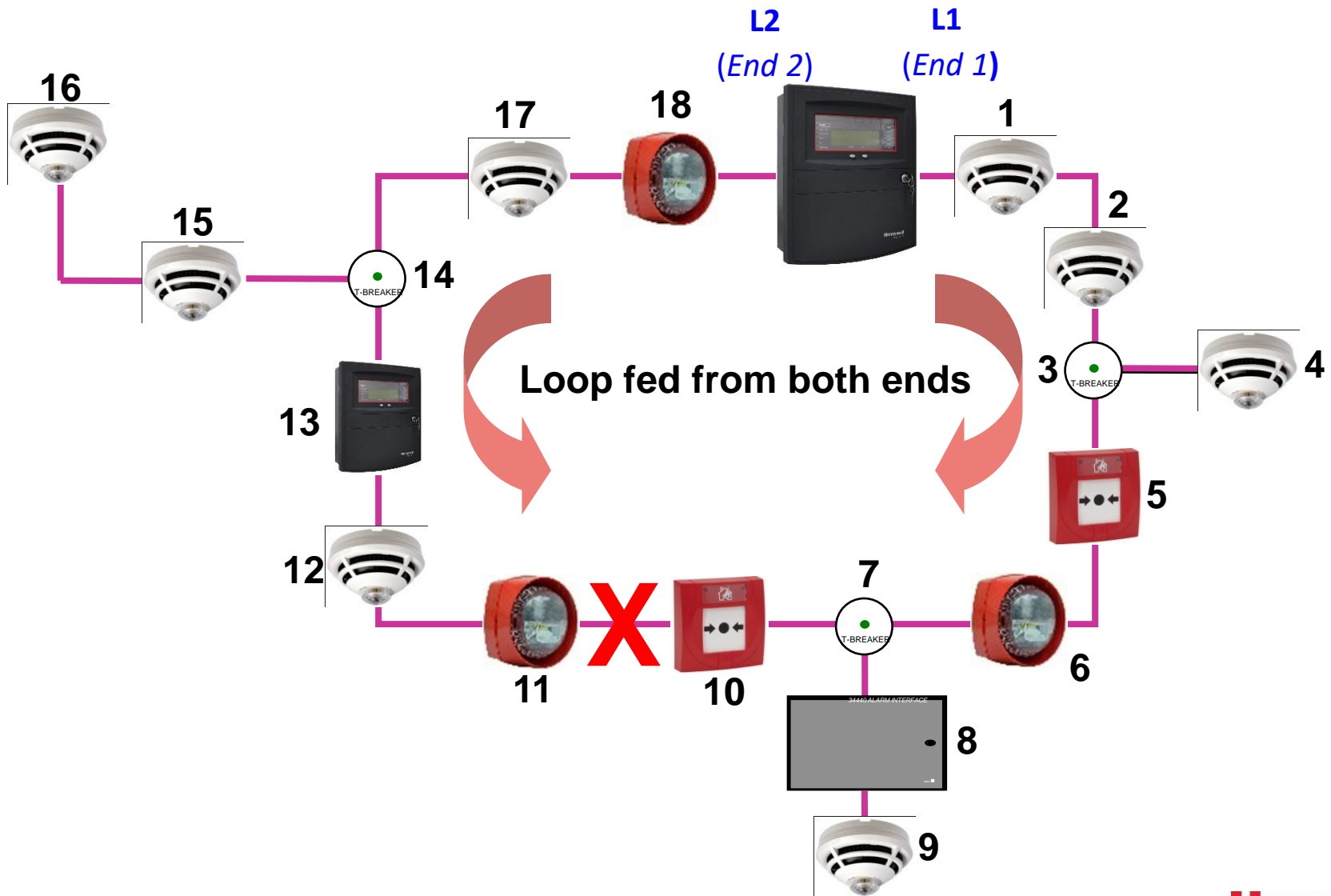
Soft Addressing



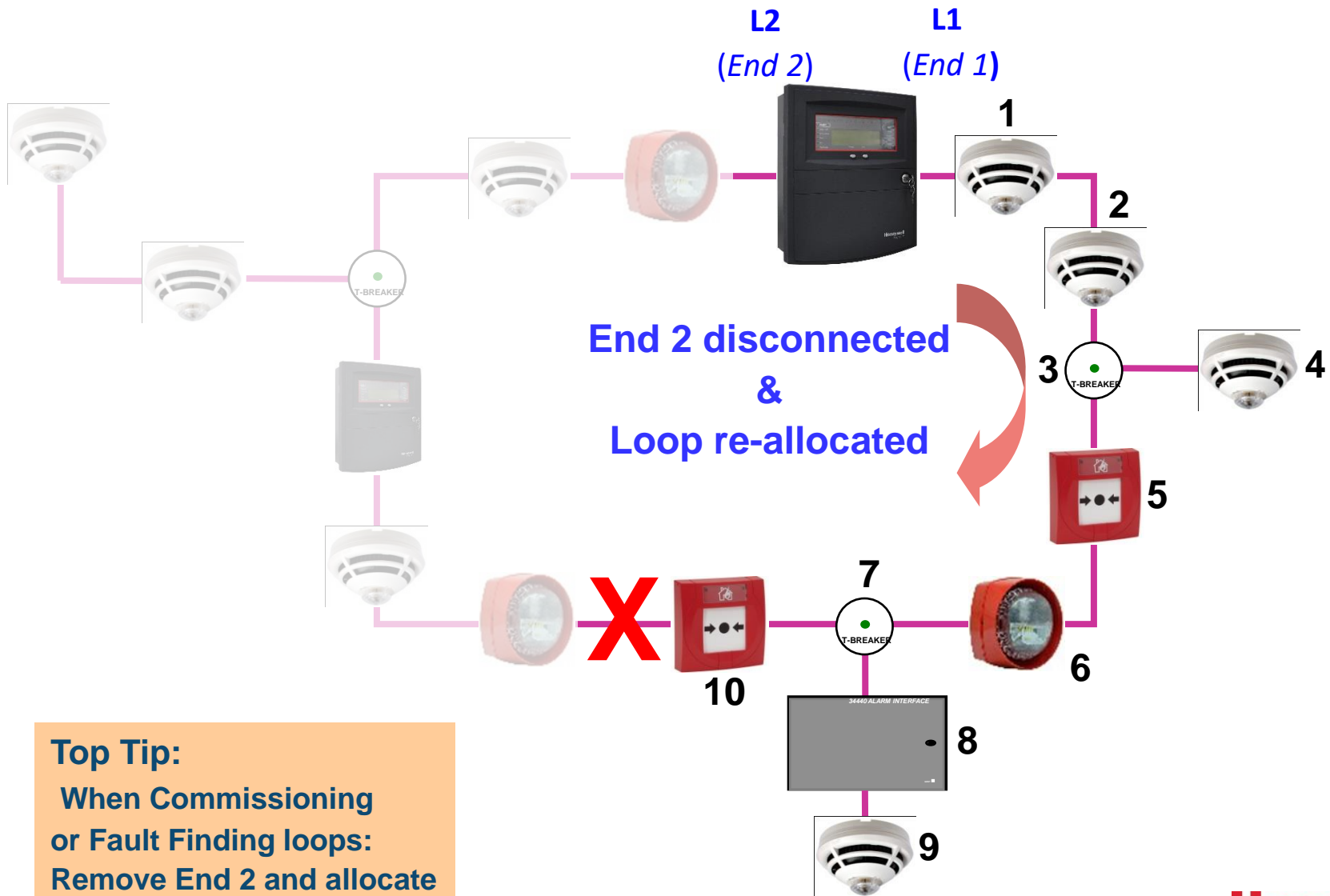
Device Soft Addressing



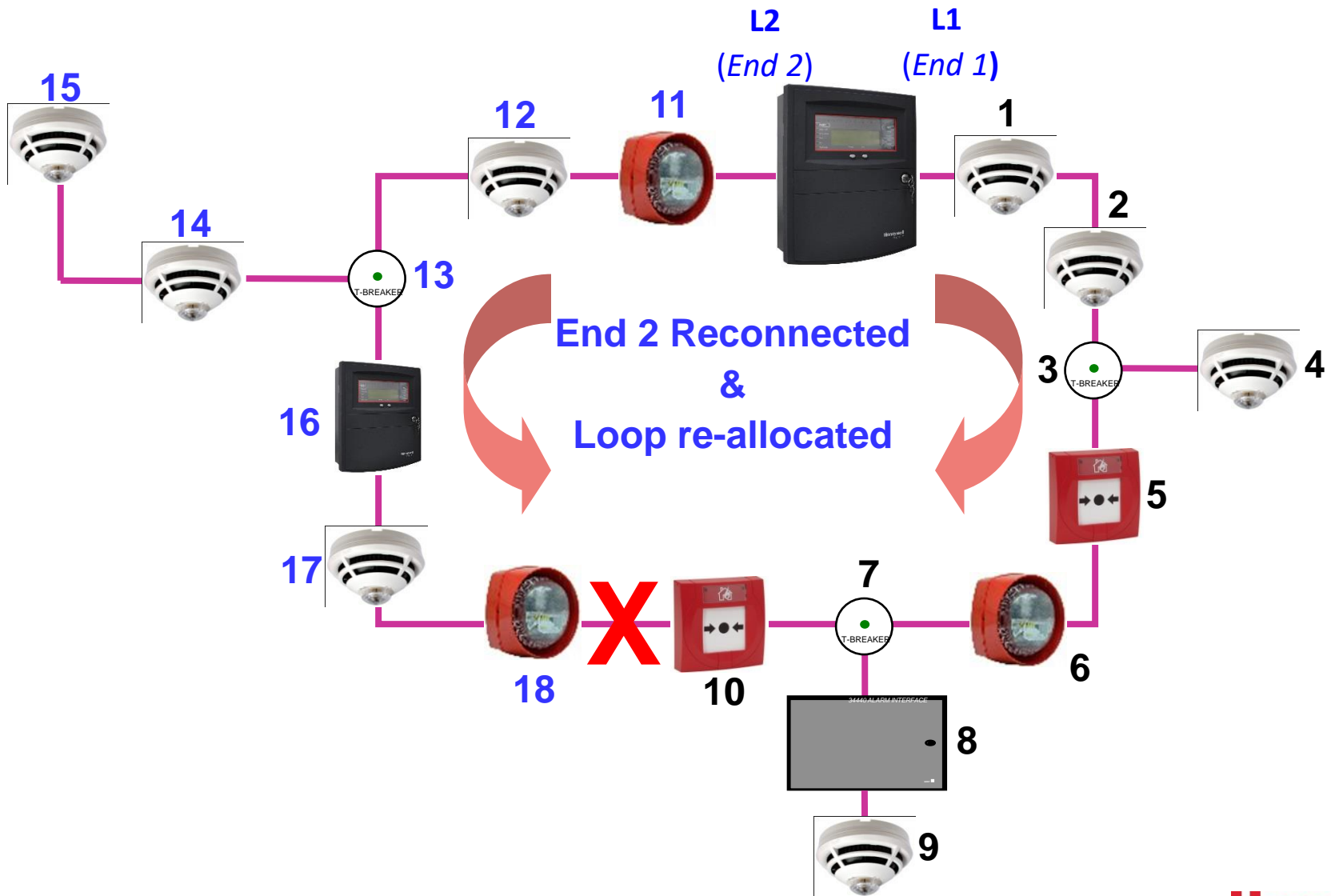
Device Soft Addressing & Faults



Device Soft Addressing & Faults



Device Soft Addressing & Faults



Loop Control

- **Post 2012 - Stop a loop Using Loop>Stop:**
- Test/Eng > Loop > **STOP**, <*Type Loop number or range of Loop numbers*> then press Enter (F2)

*This option has the advantage of retaining any Sector disablements

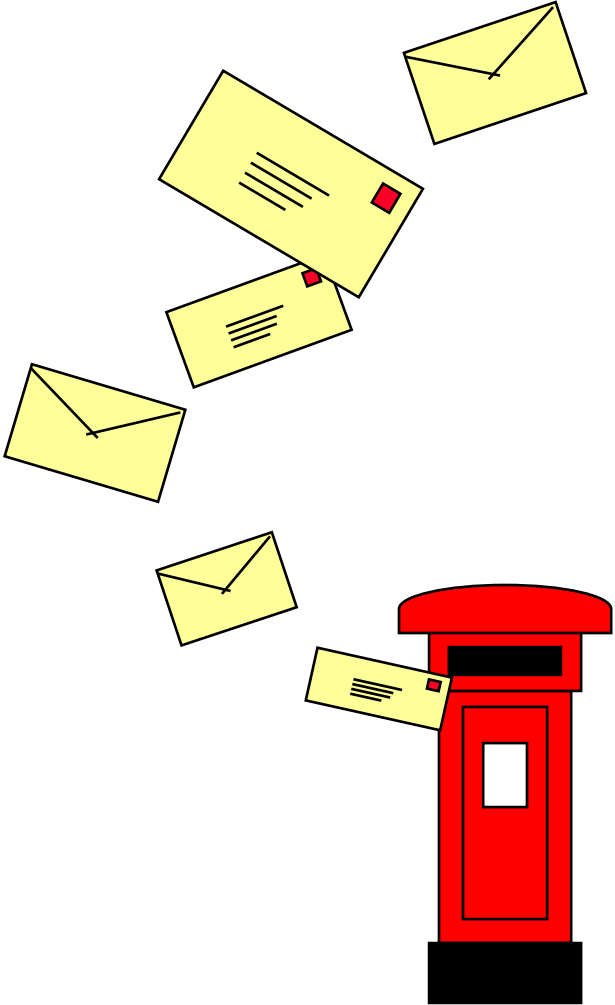
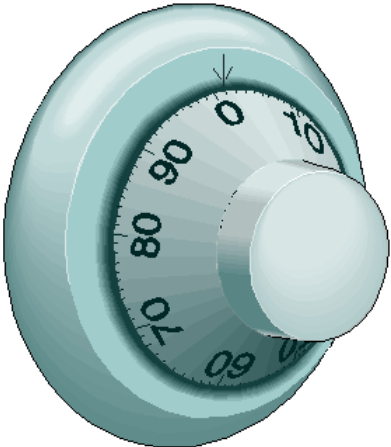
- **Pre 2012 - Stop Loop by Card > Reset:**
- Test/Eng > Card > Reset <*Type Loop number or range of Loop numbers*> then press **Enter Enter**



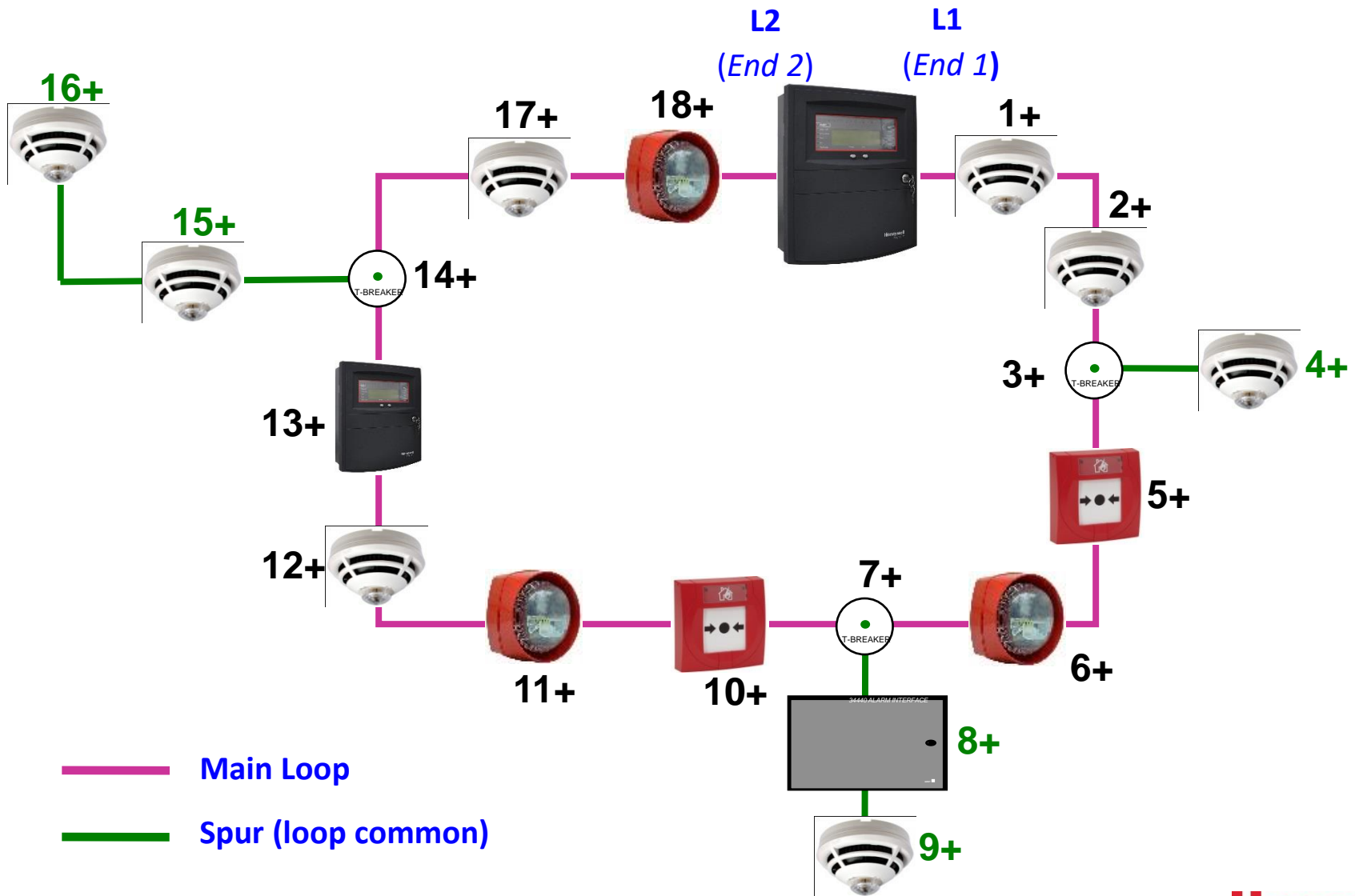
Within 1.5 secs

- **To restart the loop;**
- Test/Eng Loop
Allocate : loop 1,2,3,4 : Enter

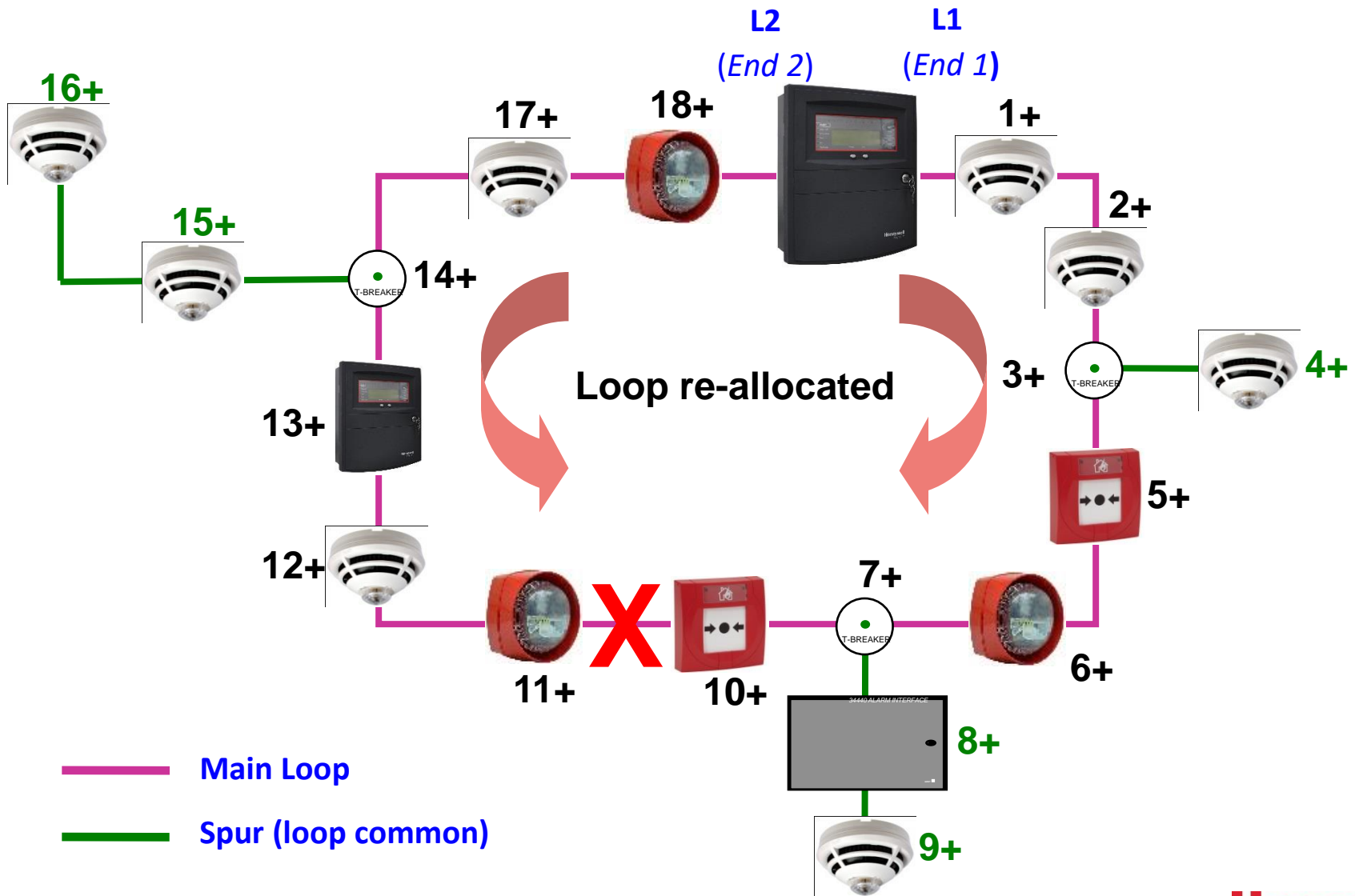
SAFE Addressing



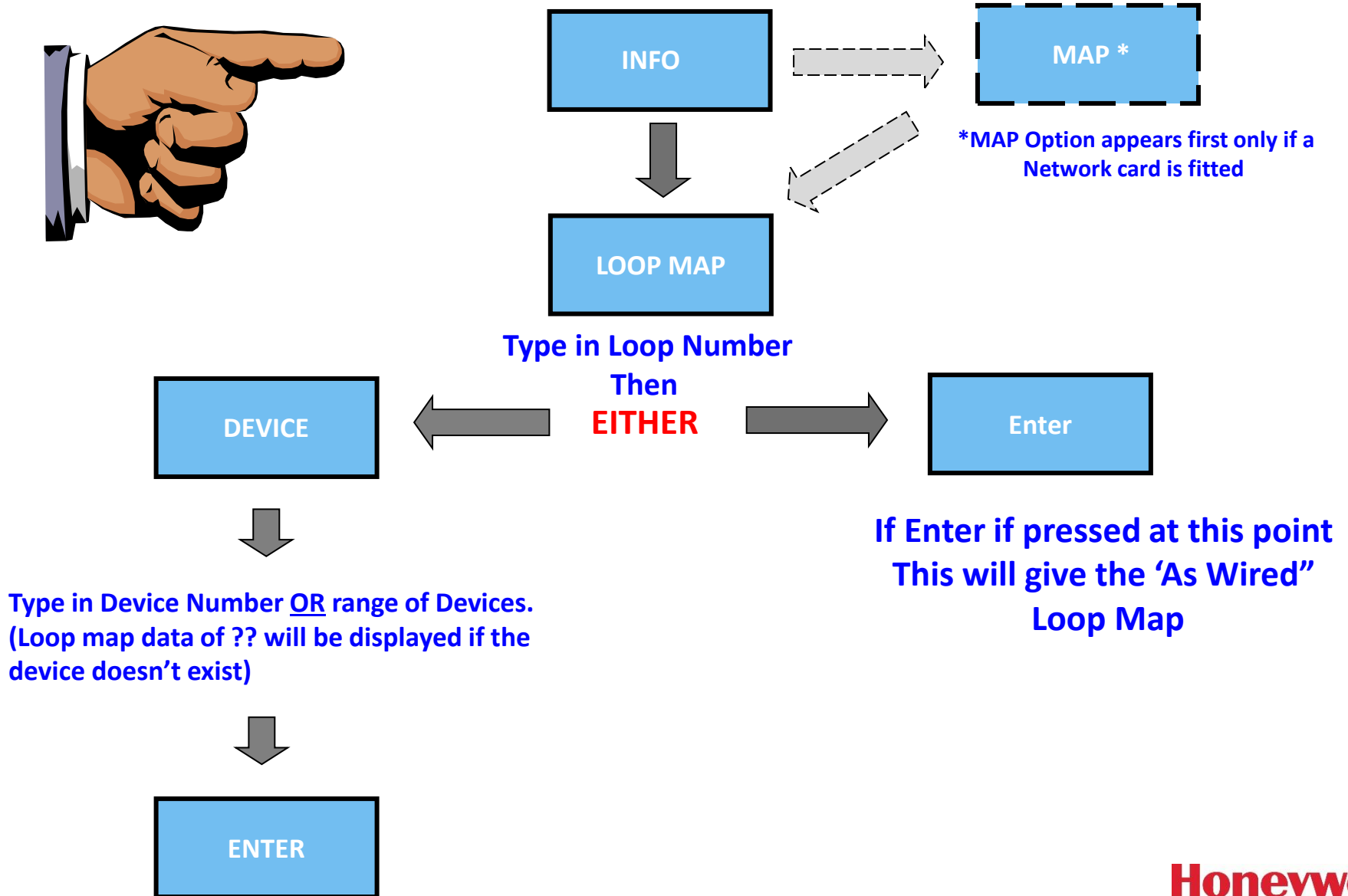
Device SAFE Addressing



Device SAFE Addressing & Faults



Loop Map



Soft Addressed Loop

Map information for Loop 1

| Addr | Prev | Next | Common | Position |
|------|-------|-------|--------|-----------|
| 1 | End 1 | 2 | | Main Loop |
| 2 | 1 | 3 | | Main Loop |
| 3 | 2 | 4 | | Main Loop |
| 4 | 3 | 5 | | Main Loop |
| 5 | 4 | 6 | L2 O/C | Main Loop |
| 6 | 5 | 7 | | Main Loop |
| 7 | 6 | 8 | | Main Loop |
| 8 | 7 | End 2 | | Main Loop |

Safe Addressed Loop

Map Information for loop 1

| Addr | Prev | Next | Com | Position |
|------|-------|-------|-----|-----------|
| 1+ | End 1 | 2 | | Main Loop |
| 2+ | 1 | 5 | 3 | Main Loop |
| 3+ | 2 | 4 | | Spur |
| 4+ | 3 | o/c | | Spur |
| 5+ | 2 | 6 | | Main Loop |
| 6+ | 5 | 7 | | Main Loop |
| 7+ | 6 | 8 | | Main Loop |
| 8+ | 7 | 9 | | Main Loop |
| 9+ | 8 | End 2 | | Main Loop |

Loop 2 **No. 6** Optical/Heat
LB1:C End1:Hi End2:Hi
I/O:...0 Anal:1,2
2nd:250 3rd:0 Short delay:0

Firm: 6

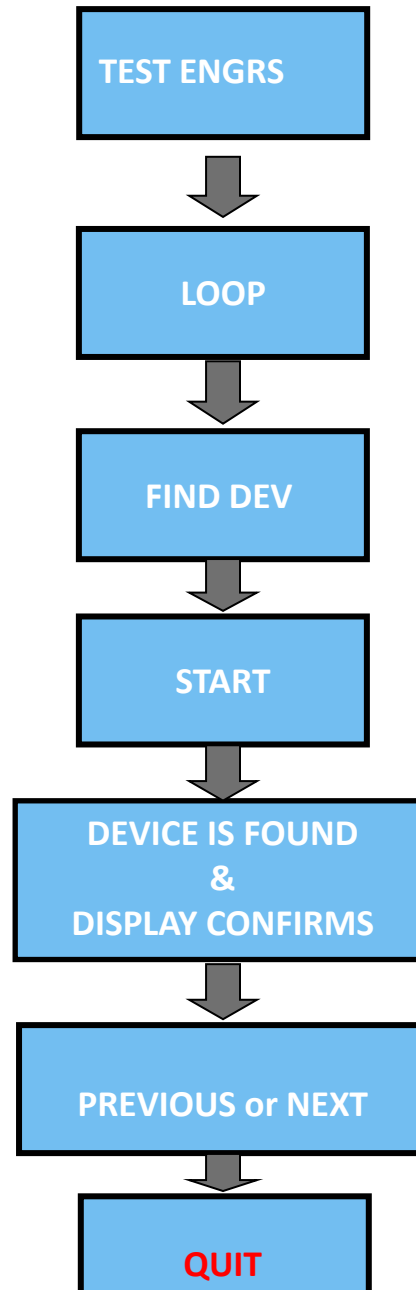
↑
Safe Address

Find Devices



Caution – Find Device will Pulse Interface Output Channels

Quit to exit Find Device but will timeout after a period



Type in Loop no.

Type in Address no.

Use to Locate adjacent Device.

Your Turn – Find Device



Your Instructor will now give you a separate Handout sheet showing the layout of the panel's loop devices.

Use the *Find Device* option to identify the device addresses and mark them up on the handout.

Analogue Detection

Decision Making within Panel

We use sensors Not detectors. What do you mean?

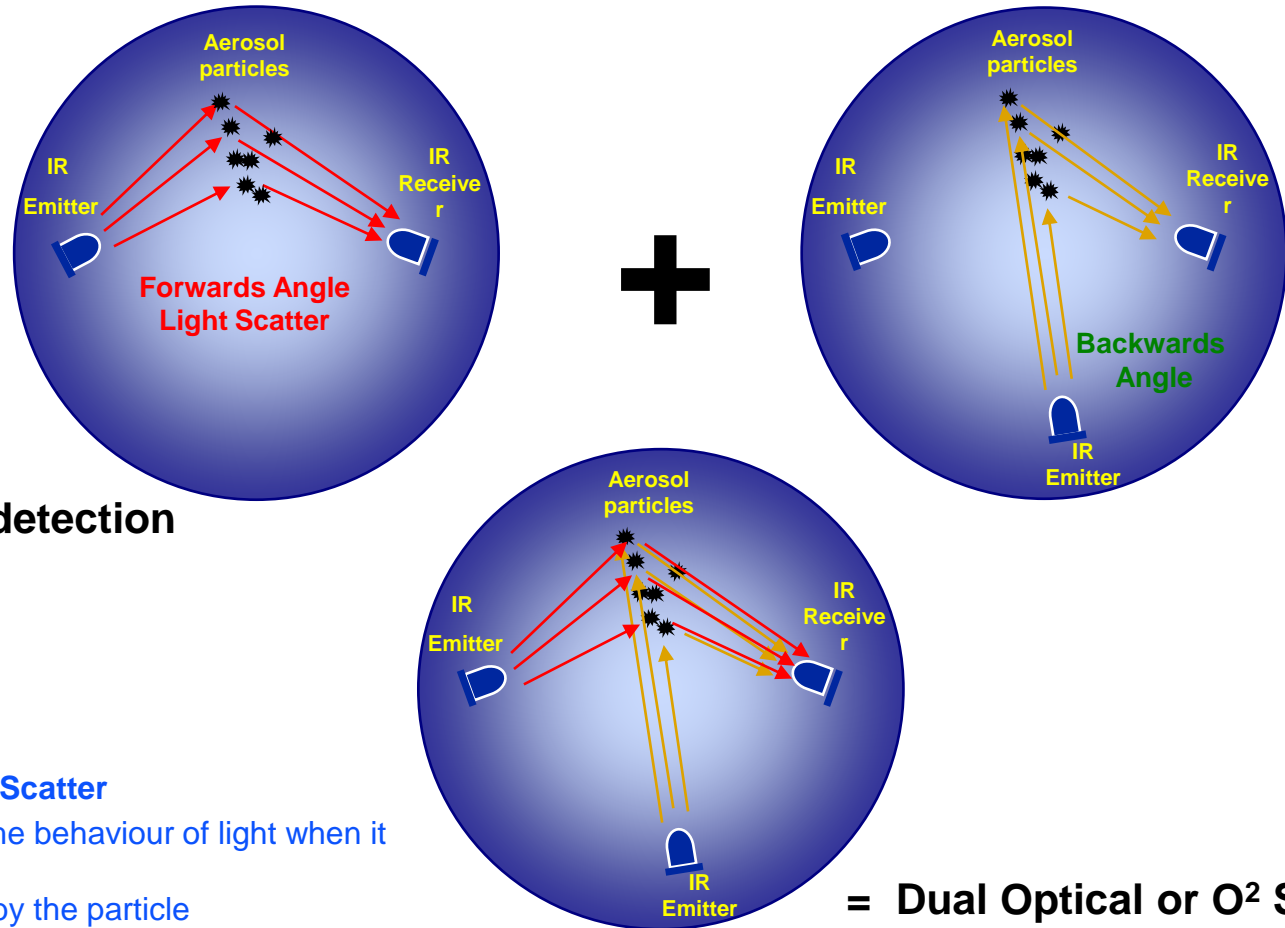
As the Panel scans a device on the loop, it will request the current data for its Analogue Channels e.g.

Optical Chan (1), Heat Chan (2), CO Chan (3), Optical Chan (4) (Backward)

The panel then uses this information to determine if there is a fire.

So it is the panel making the decision NOT the device

Principles of Dual Optical (O²) Sensor

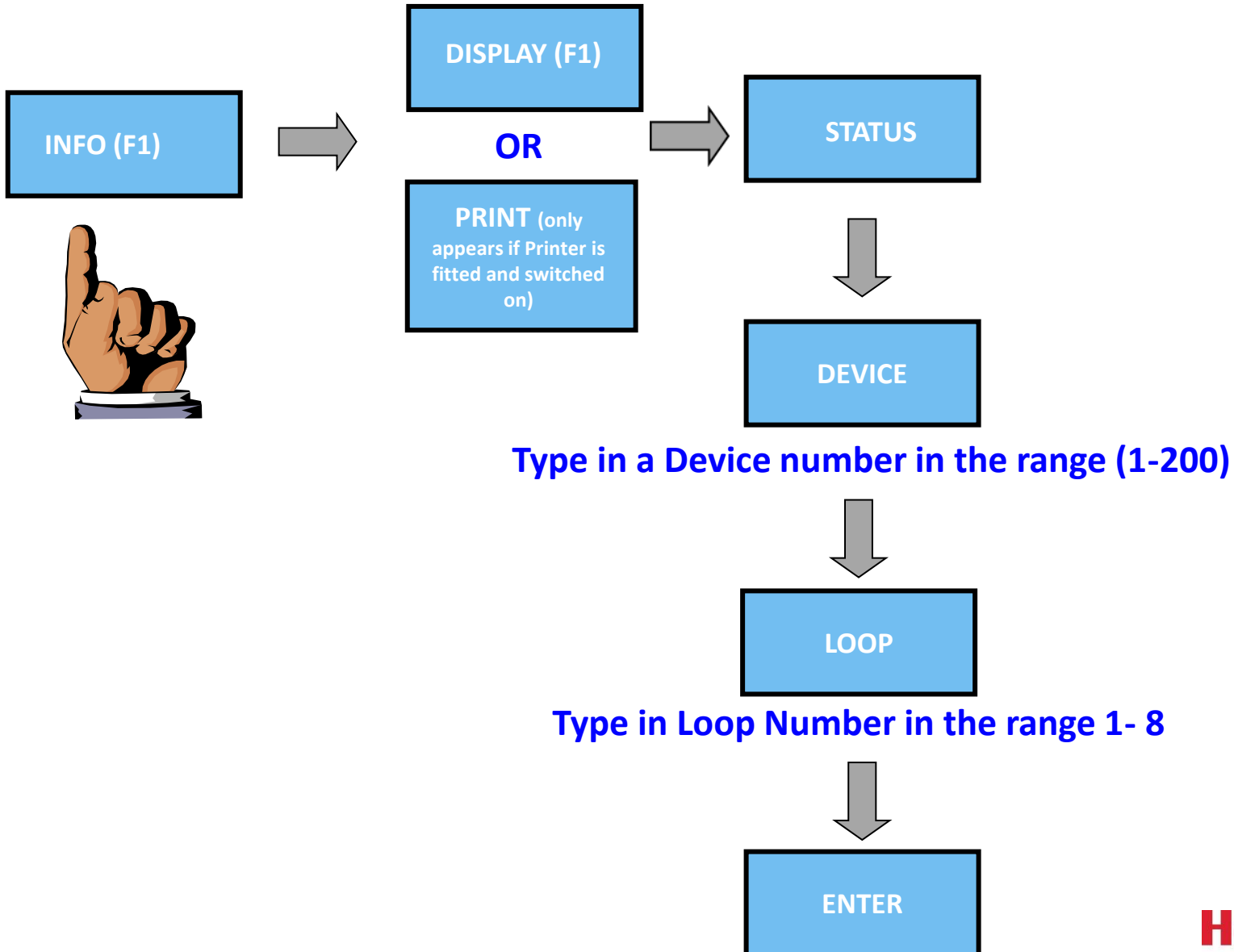


1. Standard Optical detection

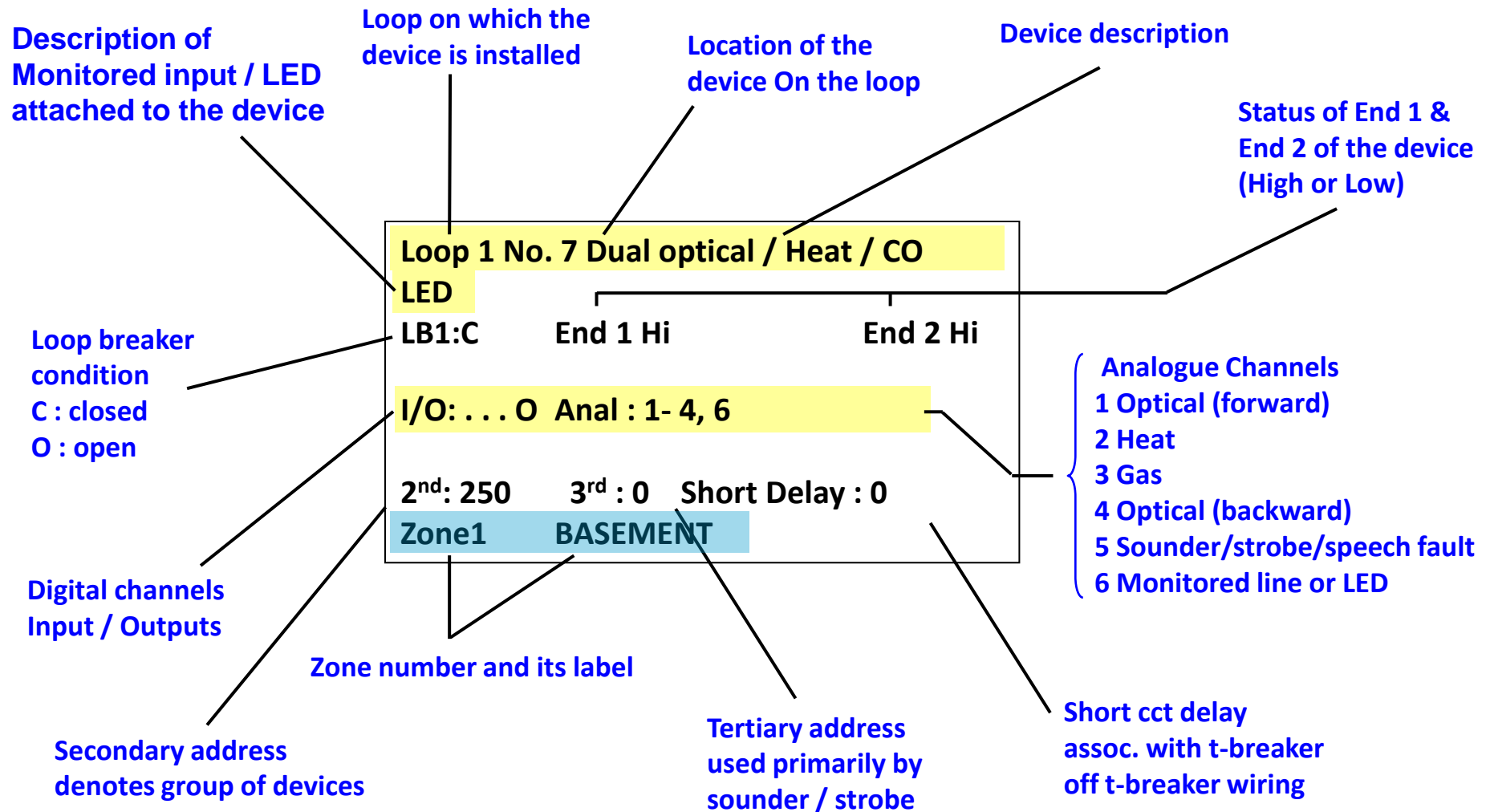
Optical (Light) Scatter

- Term used to describe the behaviour of light when it hits solid particles.
- Light beam is deflected by the particle
- Result is a number of beams in various directions.
- Different particles present different scatter patterns.
- Dual Optical, O₂, uses both forward & backward scatter data ratio

Device Status



Device Status



Digital Outputs and Analogue Channels

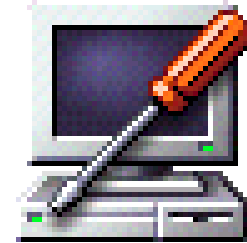
| Device | digital I / O | channels |
|--------------------------------|---|--|
| S cubed | 0 0 0 0 1- IR control 2 - Tone 3 - Power 4 - Strobe | 5 |
| Sounder | . 0 0 . 3 - On/Off, low tone 2 - Hi tone | |
| Repeat sounder | . 0 0 . | |
| Interface unit (mains powered) | all possible 1 - input 0 - output | 1-channel 1 2-channel 2 3-channel 3 4-channel 4 5-battery 6-mains |
| Optical | . . . 0 | 1 |
| Optical heat | . . . 0 | 1,2 |
| Heat | . . . 0 | 4 |
| Slave Relay | 0 . . 0+R | |
| Slave LED | . . . 0 +L | |
| Beam transmitter | . . . 0 | 2 |
| Beam receiver | . . . 0 | 1- raw data 2- average data |
| MCP | . . . 0 | 6 |
| Repeat panel | . . . 0 | - |
| Zonal mimic | . . . 0 | - |

| Device | digital I / O | channels |
|--|---|---|
| Mimic panel (standard A2 and A4 size) | . . . 0 | - |
| Loop interface | all possible 1 - input 0 - output | 1-channel 1 2-channel 2 3-channel 3 4-channel 4 5 |
| Single channel interface unit | 1 0 . 0 | 1,2,5 |
| Loop powered zone module | 1 . . 0 | 1,5 |
| Optical/Heat Sounder | . 0 0 0 | 1,2 |
| T-breaker O/S | . . . 0 | |
| S-Quads | | |
| S-Quad Heat Sensor | . . . 0 | 2 |
| S-Quad Heat Sensor Sounder | . 0 0 0 | 2, 5 |
| S-Quad Dual Optical Heat Sensor | . . . 0 | 1, 2, 4 |
| S-Quad Dual Optical Heat Sensor Strobe | 0 . . 0 | 1, 2, 4, 5 |
| S-Quad Dual Optical Heat Sensor Sounder | . 0 0 0 | 1, 2, 4, 5 |
| S-Quad Dual Optical Heat Sensor Speech Strobe | 0 0 0 0 | 1, 2, 4, 5 |
| S-Quad Dual Optical Heat Sensor CO | . . . 0 | 1, 2, 3, 4, 5 |
| S-Quad Dual Optical Heat Sensor CO Speech Strobe | 0 0 0 0 | 1, 2, 3, 4, 5 |
| + Monitored input | | 6 |
| + Monitored output | | 6 |

Part 2 – Classroom/Virtual Classroom Session

- In this Session you will learn how to:
 - Install the Commissioning Tool
 - Licence the Commissioning Tool
 - Retrieve the Configuration from a Vigilon Panel
 - Configure Site Info, Label Devices and Zones
 - Change Device Zone Assignments
 - Change the Zone Mode
 - Transmit the Configuration to the Vigilon Panel
 - Back Up the Panel's Configuration
 - Interpret Device Condition/Exception Codes
 - Configure Squad Sensors, Sounder VADs/SCubed Wall Mounted Sounder VADs
 - Add/Remove a Device to/from a SOFT or SAFE Addressed Loops
 - To Register and Navigate GENTEXPERT
 - Interrogate the Panel's Logs
 - Use the VigInSite Tool
 - Disable elements of the Panel and use Zone Test Mode
 - Assessment

Commissioning Tool



The Commissioning Tool software is -

- **Critical for the correct Commissioning of the Vigilon Fire Alarm System.**
- **Available to download from www.gentexpert.co.uk**
- **Is supported on both 32 bit and 64 bit Windows 7 & 10 Professional and Enterprise editions of Windows.**
- **Licensed for 90 day periods and the licence is *Brand Specific*.**

A licence can be obtained anytime by using the Online licence generator (via www.gentexpert.co.uk)

Or by contacting Technical Services

Mon – Fri 08:30 - 17:00


Commissioning Tool - Downloading and Installing

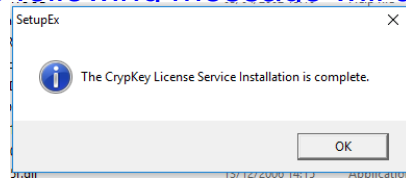
Commissioning Tool - Downloading and Installing

- Log into www.gentexpert.co.uk and select the **Download** Tab.
- Select the **Software, Commissioning Tools and Drivers** section
- Select the **Vigilon Commissioning Tool** section and then select the **Vigilon Commissioning Tool**.
- Click on the Download button and if prompted, Select **Save As** and browse to a desired save location.
- Browse to the location where the .zip file was saved and Extract the file.
- Determine whether your PC's Operating System is 32 bit or 64 bit.
- Browse to the extracted Commissioning Tool Folder then select the folder applicable to your Operating System.
- Run the setup program to install the Commissioning Tool – Accept the default locations.
- Do not start the Commissioning Tool yet.



Commissioning Tool – Install the Crypkey Service

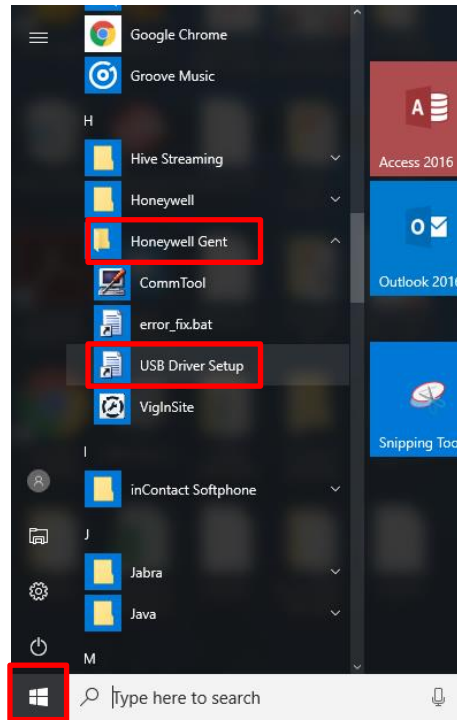
- Browse to the following folder on your PC
32 bit Operating Systems – **C:\Program Files\Honeywell\Commissioning Tool**
64 bit Operating Systems – **C:\Program Files (x86)\Honeywell\Commissioning Tool**
- Locate and run the setupex.exe program  SetupEx
- After a short interval the following message will appear:-



- Click the OK button and then Start the Commissioning Tool from the Desktop Icon
- You will now be able to Licence your Commissioning Tool.



Commissioning Tool – Installing USB Drivers



Click on the Windows Start flag and browse to the **Honeywell Gent** Group (Windows 10) and click on **USB Driver Setup**



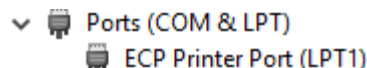
Note nothing will appear to happen

Repeat the process above.

The following screen will appear and confirm that the driver installation is complete:-

```
C:\Users\E351364\AppData\Local\Temp\DPInst_Monv64.exe
64-bit OS detected
"C:\Users\E351364\AppData\Local\Temp\DPInstx64.exe"
Installing driver..
FTDI CDM Driver Installation process completed.
```

If you now connect to the Fire Panel with a USB lead then check your PC's Device Manager > Ports (Com & LPT) to determine the COM Port to use:-



Licensing the Commissioning Tool

1. Open CommsTool

2. File / Licence form

*Unregistered
Demonstration
Version*

CommTool Authorisation Form - V1.28 General release (31/10/11)

To Authorise Package Enter Site Key Here

Install Licence Kill Licence Help

Register for Transfer Transfer Licence Out Transfer Licence In

To obtain your Site Key, complete the form below, Print it off, and Fax the information to GENT. You will then be sent your 26 digit Site Key to activate this package.

Your Company Information:

User Code **9763 C999 2386 B623 D6**

Serial Number 058888E080808

Your Name

Company Name

3. Use Internet conn to **gentexpert.co.uk** via PC or Smart phone



Copy / note the User code

4. Access Licence Generator

5. Logon

Website License Key Generator

GENT by Honeywell

Forum Downloads License Generator Learning Management

New Posts FAQ Calendar

Forum Technical Chat Website License Key Generator

Forum: Website License Key Generator

You are able to license your commissioning software using a Link on the main Forum page

Gent Commissioning Tool v 1.28 Service Pack 1
Nano Tool v 2.0.7.1

Sub-Forums

License Generator Application
Click on the link above to access the License Generator Web site

Guide for Website License Generator
Guide on how to use the Web based License Generator

Website License Generator Questions
Please feel free to ask questions on this service we are going to offer!

Honeywell

ABOUT

PLEASE LOG ON...

ENGINEER LOGON ADMIN LOGON

6. Enter your Engineering Code, Surname, Read and accept the agreement by ticking the box and then click the Submit Button

Honeywell

ABOUT

ENGINEER LOGIN

Please enter the following information and accept the license agreement.

Engineers Number 123456

Engineer Surname wright

SUBMIT

Please read and accept the agreement box

Honeywell Life Safety of 140 Waterside Road, Hamilton Industrial Park, Leicester, LE5 1TN ("Honeywell Life Safety" which expression shall include it's a Honeywell Life Safety, successors and assigns) is authorised to licence the software contained in this package comprising the commissioning software ("the Configuration Software") and/or the system support software ("the Graphics Software") (described generically as "the Software") and, by executing this Licence

I accept the license agreement

Licensing the Commissioning Tool (cont.)

7. Paste or type the USER CODE from Step 2.

8. Select the required Licence option

9. Click the Generate button

10. Return Site Key

Copy / note the Return Licence Key

11. Enter Licence Key, then click the Install Licence button

12. Licence Agreement appears, read / accept

13. Site Key accepted, Ok

14. Close License form and Restart the Commissioning Tool
CommsTool is now Licenced



Connecting the Commissioning Tool to the Panel

Before we can use the Commissioning Tool to communicate with the Fire Panel we need some details about the panel.

INFO > STATUS > CARD {0} > ENTER

Node Address

On power up, a new EN Panel (Without a Network card Fitted) the node address will not be set up.

To Change or Setup the Node Address:

TestEng > Usercode > Config > Comms > Address {type in required node address in the range of 1 to 32} > Enter

Version

3.xx = BS

4.xx = EN

Domain Number

On an EN Panel by default this will be set at Domain 1.

To Change the Domain Number if required:

TestEng > Usercode > Config > Comms > Domain {type in required Domain address in the range of 1 to 255} > Enter

Card 0: Fault 0 Disable 0 Warning 0

Controller (2) **Version 4.37** 21/11/06

Node 1 Domain 1

Port 0: 1200 Off

Port 1: 38400 None

Port 2: 38400 None

Port 3: 38400 None

**RS232 Ports
Compact Only**

Communication Port and Baud Rate:- Ports 1 & 2 (Compact Panel only) are the serial (RS232) Ports and Port 3 is the USB port. To change the baud rate use:-

TestEng > Usercode > Config > Comms > Card {0} Enter > {Type the Port No} > Enter > Baud > Enter > {Use the Previous and Next options to adjust the Baud rate} > Enter

Connecting the Commissioning Tool to the Panel

Step 1

Start your commissioning Tool then
Click on **File** then **Options**

Step 2

Select Long Labels (Tokenised Labels More about this later)

Step 3

Select according to your Panel's Loop Map(s), Are your devices SOFT or SAFE addressed?

Step 4

Enter your **PC's** COM port number here.
Use your PC's **Device Manager** to determine this.
If using USB lead, it must be plugged in to the PC and Panel.

Step 5

On the Panel **Info > Status > Card {0}** Enter

Step 6

Select the Baud Rate to match the Panel's COM Port

Card 0; Fault 0; Disable 0; Warning 0

Controller (2) Version 4.37 21/11/06

Node 3 Domain 1

Port 0: Baud = 1200; None

Port 1: Baud = 38400; None

Port 2: Baud = 38400; None

Port 3: Baud = 19200; None

Step 7

Select the Panel Type:
V4.xx = Vigilon EN54
V3.xx = Vigilon / 3400 V3+

Step 8

V3.xx (BS) without a Domain No Select **Half Duplex**
V4.xx (EN) or V3.xx (BS) with a Domain Select **Full Duplex**

Commissioning Tool Options

Settings

- Long Labels
- SAFE Addressing
- Manual Addressing

Port

Com Port No. : 4
Baud Rate : 19200

OK

Panel Type

- 3400 Version 3
- Vigilon/3400 V3+
- Vigilon EN54
- Senator Advance

Protocol

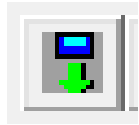
- Half Duplex
- Full Duplex

Cancel

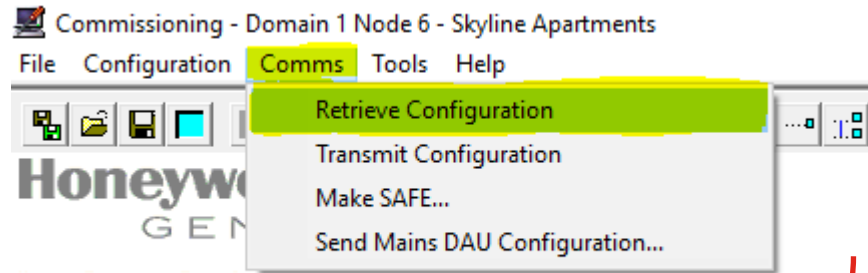
Step 9

Click OK Button

Retrieving the Panel's Configuration

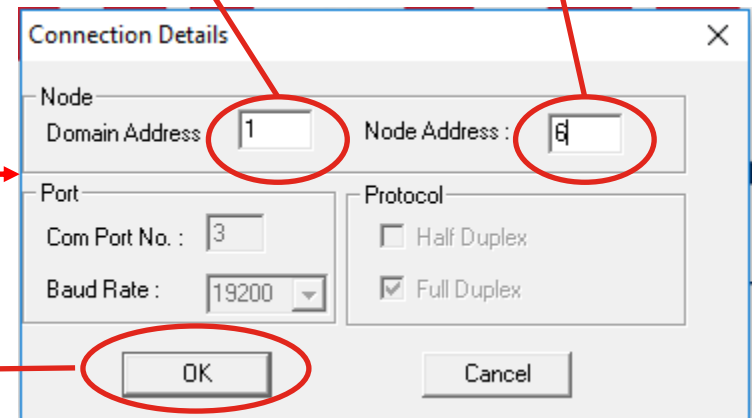
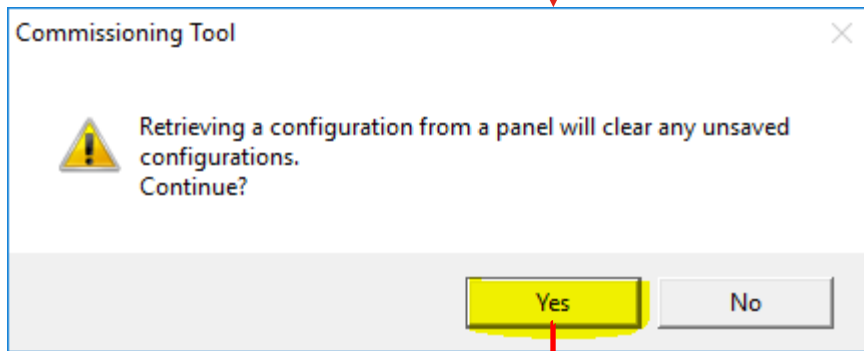


Or



Type in the Domain Number of the panel (Note If there is no Domain then type 0)

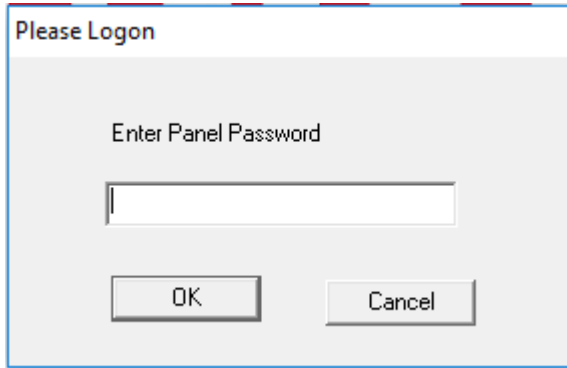
Type in the Node Address of the panel



Click OK Button

Retrieving the Panel's Configuration (cont.)

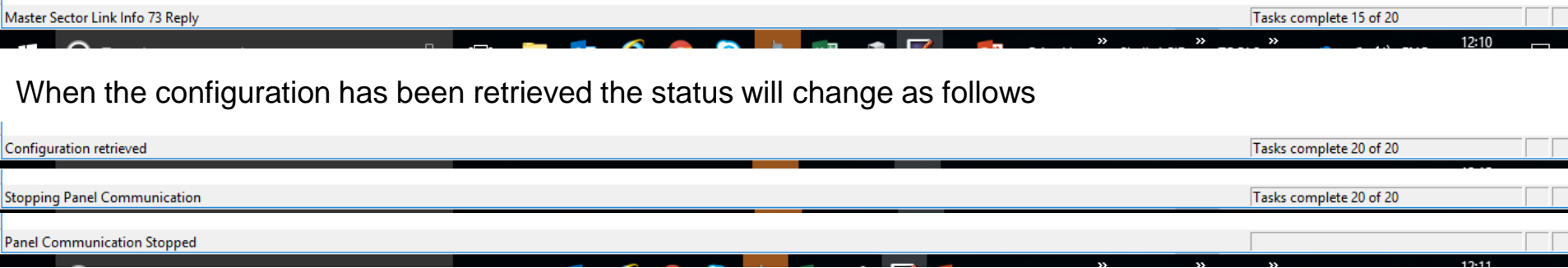
The Panel will now report:
Master Polling
CommTool Connected [*PCName*]



And if connection is successful the Commissioning Tool will now prompt for the Panel's Access Level 3 (AL3) Password. (This is known as the Usercode in the panel's menu)
More on Passcode/Usercode later in the course

If the AL3 Password has not been set up then just click the OK button or press the Enter key on your keyboard.

The Commissioning Tool will now start to retrieve the panel's configuration and you will see its Progress as it works through its 20 Tasks (*Bottom right of screen*) and the detail of the current task (*Bottom left of screen*) e.g.

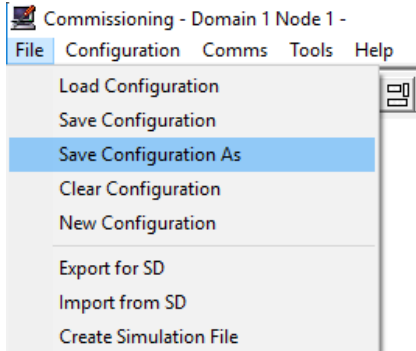


When the configuration has been retrieved the status will change as follows

The Panel will now report Communication Stopped at Port x

Saving the retrieved configuration – AKA a “SITE FILE”

Now that you have Retrieved the panel’s configuration it is best practice to Save this first retrieval.



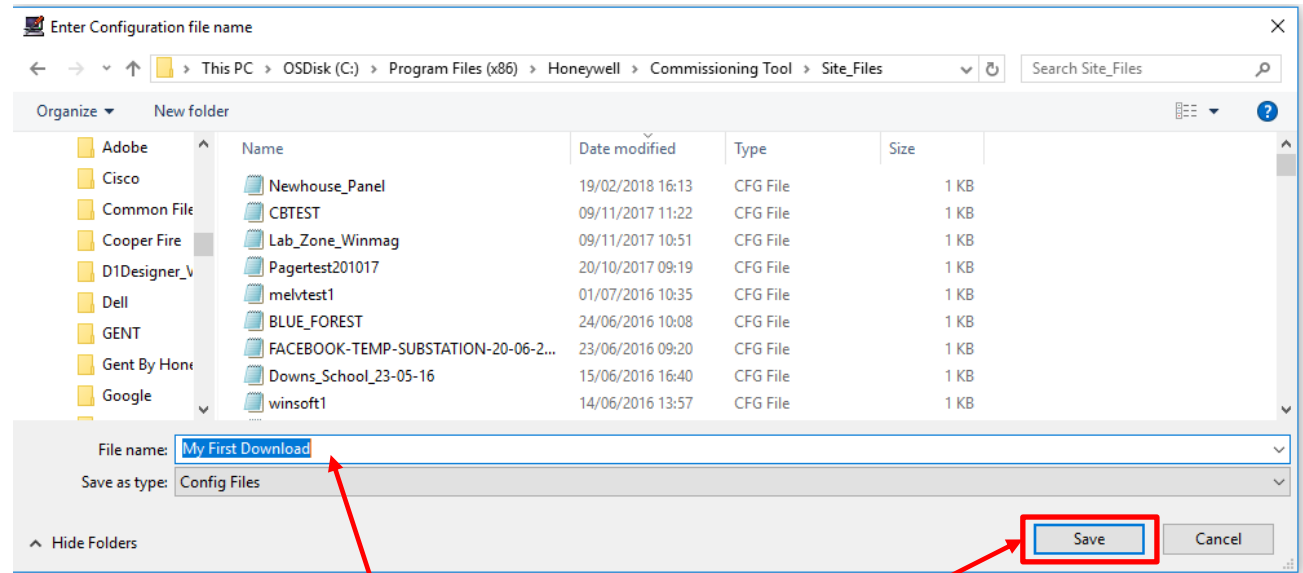
This will open up a location dialogue box.

Although the Site File can be saved anywhere on the PC our recommended location is

C:\Program Files\Honeywell\Commissioning Tool\Site Files

Or

C:\Program Files (x86)\Honeywell\Commissioning Tool\Site Files



Type a Site File name of your choice into the **File Name** field then click on the **Save** Button (Note: If the name you have provided contains spaces, you will be prompted if it is ok that spaces be replaced by an underscore “_”)

Site Information

Adding Site Information

Click on the Site Information Icon



Site Information

SITE NAME [REDACTED] Domain 1 Panel 3

ADDRESS [REDACTED] Comments [REDACTED]

Telephone [REDACTED]

Contact [REDACTED]

SITE REF. [REDACTED]

Automatic Fire Prefix [Fire] Manual Fire MCP MCP;

NODE LABEL [REDACTED]

Custom Label [REDACTED]

Auto Daylight Saving Adjustment

Adjustment 1 at 1:00 on the first Sunday on or after 25 March by +1 Hours

Adjustment 2 at 2:00 on the first Sunday on or after 25 October by -1 Hours

Zonal LED Indication Flash First Zone LED

| Card Summary | | | Loop Summary | | Outstation Summary | |
|--------------|---------|---------------|--------------|-----------|--------------------|--------------|
| 0 | LCC/MCC | 4.41 18/12/08 | Loop 1 has | 8 Devices | 2 | CALLPOINT |
| 1 | LPC | 4.45 23/07/12 | Loop 2 has | 9 Devices | 1 | KS INTERFACE |
| 2 | LPC | 4.45 23/07/12 | | | 4 | S402HSpSt |
| 10 | NET | 4.09 06/10/11 | | | 2 | S4H |
| 14 | FLSH | 1.00 18/12/08 | | | 2 | S402HSt |

Save Cancel

This configuration page allows the Commissioning Engineer to enter information about the site and configure some aspects of the panel.

The **SITE NAME**, **ADDRESS**, **SITE REF** and **NODE LABEL** Fields are mandatory

If a **Custom Label** is entered this will appear on the Panel's LCD Display

If **Auto Daylight Saving Adjustment** is ticked the panel's clock will adjust according to the Adjustment parameters

If **Zonal LED Indication** is ticked this enables the Panel's Inner Door Zonal LEDs to function. You then get the option to **Flash First Zone LED** that went into fire

Card Summary - Firmware versions of the installed Cards.

Loop Summary - Total number of devices on each loop.

Outstation Summary - Count of each type of device across all loops

Labelling

Device Labels

- Standard Labels:

 - 32 characters for devices

 - 28 characters for MCP devices

 - because MCP; prefixes the device label

- Tokenised (Long labels)

 - Extends labels to a possible 64 characters

 - Uses 3 word 'banks' of commonly used building

 - terms e.g. 'Basement' which 8 Characters can

 - be Tokenised to 1 or 2 characters

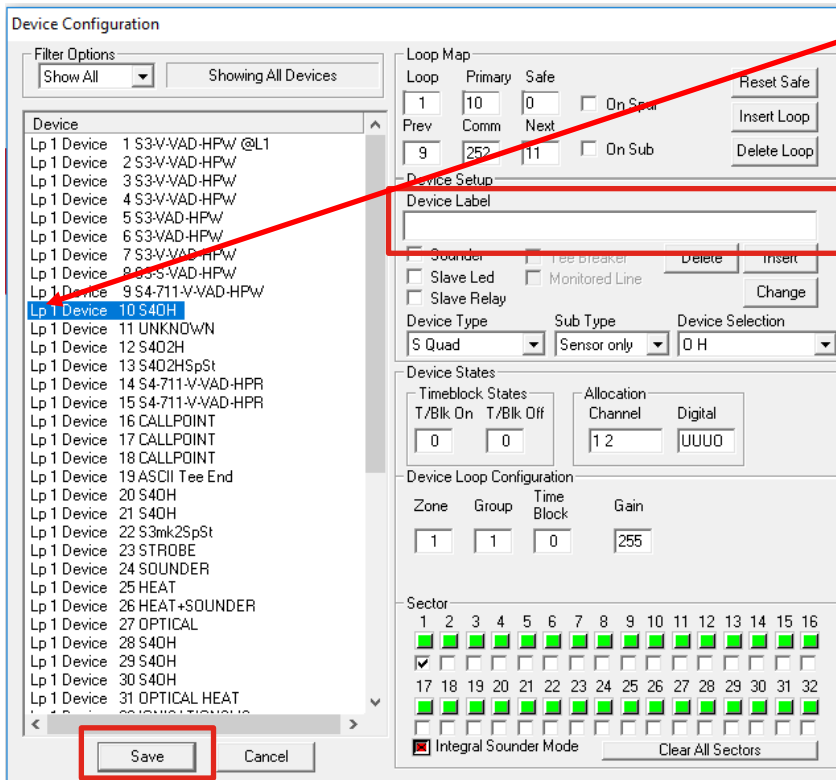
WE RECOMMEND USING UPPER CASE FOR LABELS



Labelling Devices using the Commissioning Tool

Method 1

Click on the **Device Configuration** Icon



Step 1. Click on the Device to be labelled

Step 2. Click into the *Device Label* Field

Step 3. Type in the Device label

Example of Label Tokenisation (Long Labels)

Click on any MCP in your device configuration
Then type in the following label (**In lower case**)

ground floor corridor leading to lift

Notice as your label exceeds 32 characters, any
words that can be tokenised go **UPPER CASE RED**

GROUND FLOOR CORRIDOR leading to LIFT

Notice the mix of Upper and Low case words
So type your labels in UPPER CASE

Click the Save button to Save your changes

Labelling Devices using the Commissioning Tool

Method 2

Click on the **Labels** Icon 

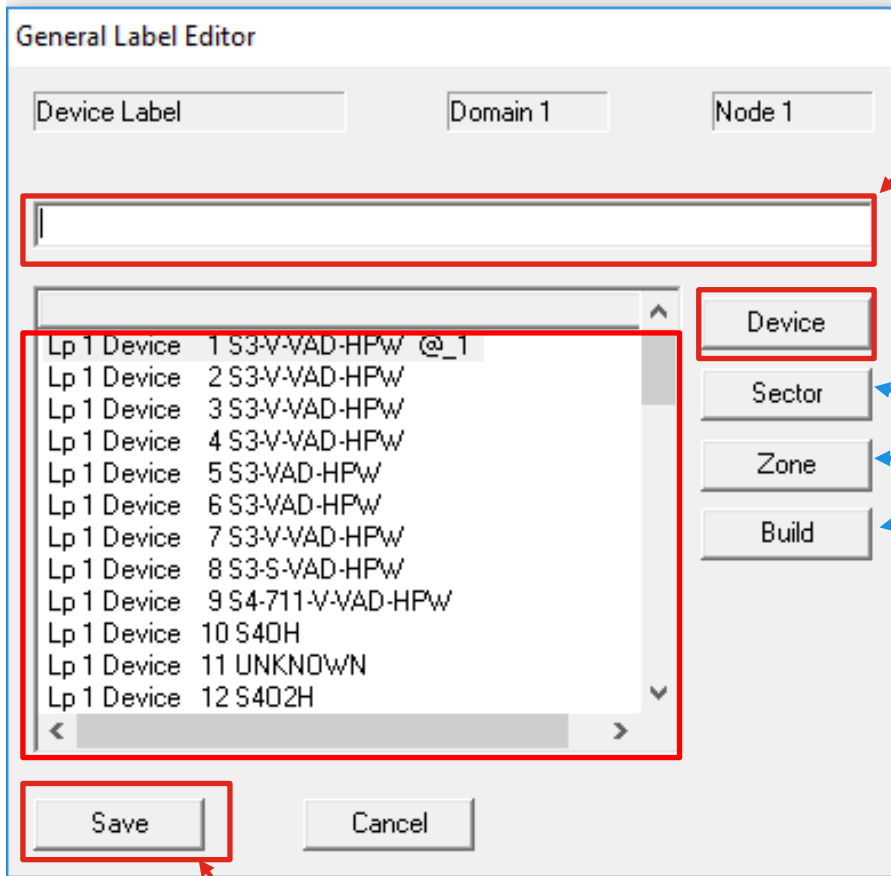
Step 1. Click on the Device button

Step 2. Click on the Device to be labelled

Step 3. Click into the *Device Label* Field

Step 4. Type in the Device label

Step 5. Save your changes



General Label Editor

Device Label Domain 1 Node 1

[Empty Label Field]

Lp 1 Device 1 S3-V-VAD-HPW @_1
Lp 1 Device 2 S3-V-VAD-HPW
Lp 1 Device 3 S3-V-VAD-HPW
Lp 1 Device 4 S3-V-VAD-HPW
Lp 1 Device 5 S3-VAD-HPW
Lp 1 Device 6 S3-VAD-HPW
Lp 1 Device 7 S3-V-VAD-HPW
Lp 1 Device 8 S3-S-VAD-HPW
Lp 1 Device 9 S4-711-V-VAD-HPW
Lp 1 Device 10 S40H
Lp 1 Device 11 UNKNOWN
Lp 1 Device 12 S402H

Device
Sector
Zone
Build

Save Cancel

Sectors, Zones and Command Builds can Also be labelled in this page

Click the Save button to Save your changes

Zones

Zones

- A Zone defines a physical area of the building (2000m² Max)
- Devices **MUST** be assigned to Zones for BS 5839 compliance
- **All** devices default to Zone 1 on power up
- There are 128 zones available
- A device can only be assigned one Zone
- Any number of devices can be assigned to a Zone
- Only Zones 1 to 32 will indicate on the LEDs above the panel's display identifying the Fire Zone (On the Local Panel Only)

What label is displayed on the panel when there is a fire ?

- By Default the Panel will display the Label of the Zone that it is assigned to.
- You have the option to setup each Zone individually to one of the following Modes to display the:-
 - (ZONE) Displays the Zone label that the device is assigned to.
 - (ALL DEV) The Device labels of all the devices in fire.
 - (1ST DEV) The Device label of the First device only that's in fire in that Zone.
- Setting up the Modes of the Zones is easier and quicker using the Panel's menu :-

***Setup > Setup > Zone {Type range 1 thru 128} > Mode
then select either > Zone, 1st Dev or All Dev > Enter***

Setting the Zone Mode with the Commissioning Tool

Click on the **Groups/Zones** Icon



Step 1. Select a Zone from the list

Step 2. Select the **Mode** dropdown

Zone – Will display the Zone Label.

First OS – Will display the Device Label of the First device in fire only in the Zone.

All OSs – Will display the Device Label

Note – The Commissioning Tool uses the old terminology for Devices called Outstations (OS) :-

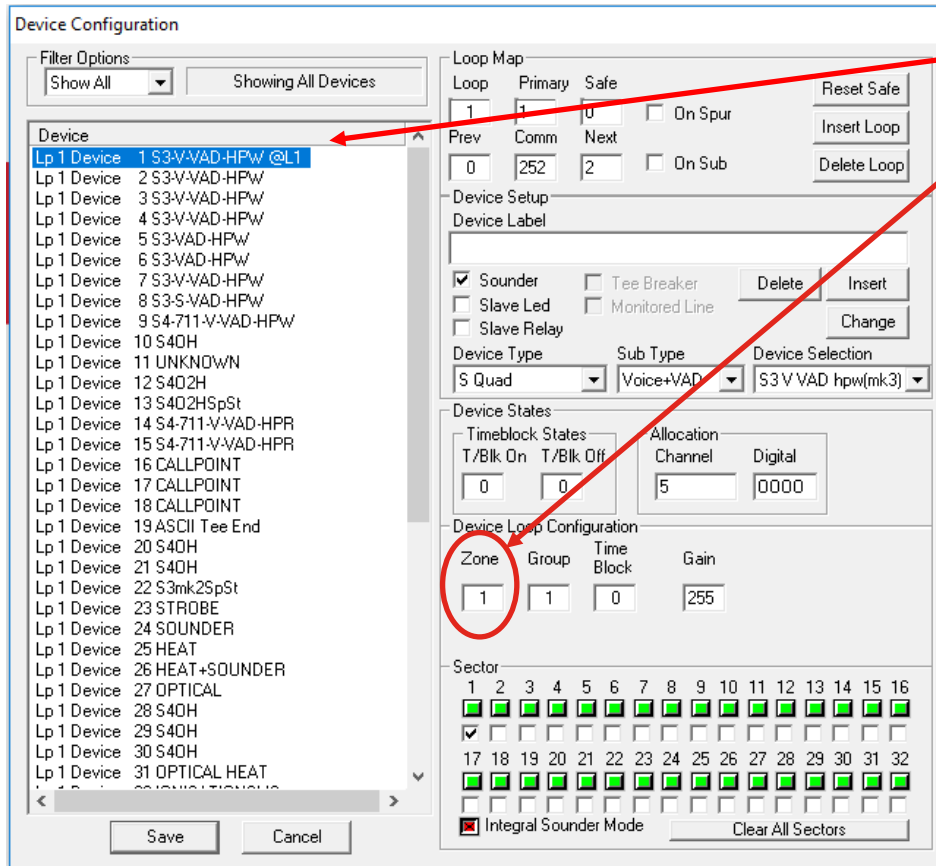
First OS = 1st Dev in the Fire Panel menu

All OSs = All Dev in the Fire Panel menu

| | Build Number | Super Fire Count | Fire Count | Pre-Fire Count |
|--------|--------------|------------------|------------|----------------|
| Task 1 | 0 | 0 | 0 | 0 |
| Task 2 | 0 | 0 | 0 | 0 |
| Task 3 | 0 | 0 | 0 | 0 |
| Task 4 | 0 | 0 | 0 | 0 |
| Task 5 | 0 | 0 | 0 | 0 |
| Task 6 | 0 | 0 | 0 | 0 |
| Task 7 | 0 | 0 | 0 | 0 |
| Task 8 | 0 | 0 | 0 | 0 |

Using the Commissioning Tool to Zone Devices

Click on the **Device Configuration** Icon



Step 1. Select the device to be zoned.

Step 2. Highlight (Do Not Delete) the currently assigned Zone number in *Zone* field.

Step 3. Overtyp e the existing highlighted zone Number with the desired Zone number.

Time Saving Tips

You can Select multiple devices in a continuous range by holding down the **Shift** key on your keyboard and clicking on the first and last device in the range.

Or

You can Select multiple devices that are not in a continuous range by holding down the **Ctrl** key on your keyboard and clicking on the required devices.

Zone your devices according to your Loop Layout Handout

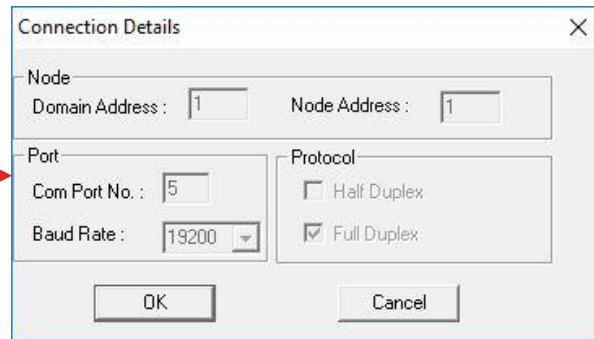
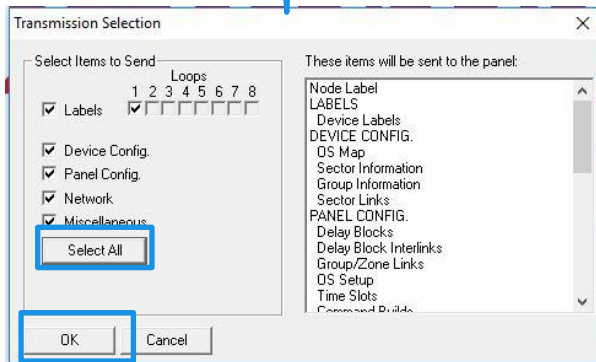
Transmitting your Configuration to the panel

Now that we have modified our default configuration use the **File > Save Configuration As** option to preserve the changes we have made and give the site file a different name

To Transmit the configuration into the Panel click on the Transmit Configuration Icon Or **Comm > Transmit Configuration** on the Menu bar



Click **Select All** button then the **OK** button



Note: That the Node Address, Domain Address, Com Port, Baud Rate and Duplex settings cannot be changed. Just click the **OK** button to continue or **Cancel** to abort the upload



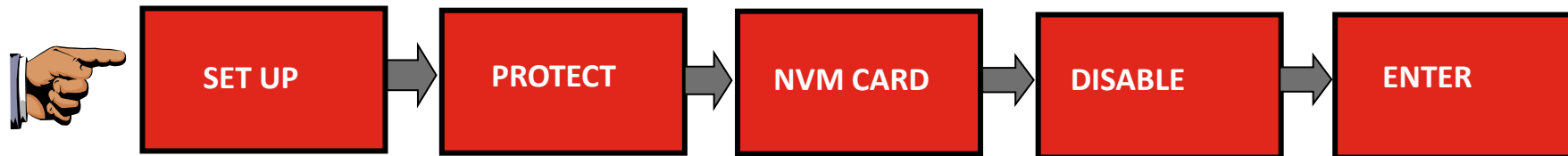
If connection is successful, the Commissioning Tool will now prompt for the Panel's Access Level 3 (AL3) Password.

If the AL3 Password has not been set up then just click the OK button or press the Enter key on your keyboard.

Backing Up Data on Cards to the NVM

Now that we have transmitted our new configuration into the panel and confirmed that it functions as expected the next stage is to back up the configuration to the Panel's Non-Volatile Memory (NVM). This done because if your panel reboots the cards will automatically recover the configuration from the NVM

Step 1. Unprotect The NVM



Step 2. Backup ALL Cards to the NVM



Controller backed up
Card 1 backed up
Card 2 backed up

Checksum written to card 14

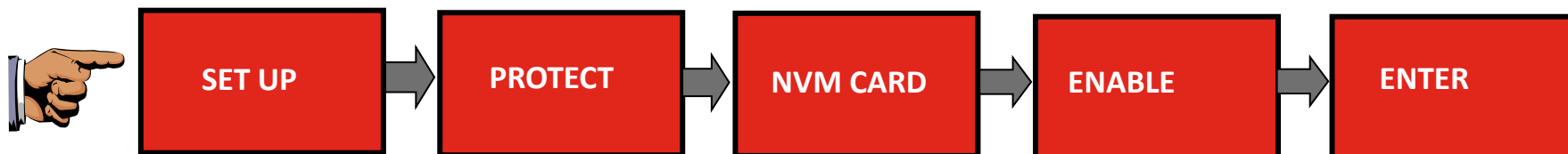
Panel display will confirm as each card is backed up



IMPORTANT:

YOU MUST WAIT FOR THE 'CHECKSUM' MESSAGE TO APPEAR BEFORE ENABLING THE WRITE PROTECT

Step 3. Protect the NVM



Condition Code Analysis

(Subfault / Exception)

BS panel V3

EN54 panel V4

CHECKING THE EXCEPTION CODES

An 'Exception' or condition code was previously known as 'Subfault'. These codes provide information about a sensor device. A code indicates small changes in the environmental condition, sensor mechanism and how the sensor performs in the system. To ensure sensor exception codes are meaningful, all existing codes must be cleared and the system left undisturbed for at least 24 hours.

Code definition

There are ten different conditions possible for each sensor type, although not all of them are defined. Each condition code has a range of 0-3.

Viewing Device Condition Codes

Info > Status > Device

Individual Device

```
Loop 2 No. 6 Optical/Heat  
LB1:C End1:Hi End2:Hi  
I/O:...0 Anal:1,2  
Condition 2 1 0 0 0 0 2 0 0 0  
2nd:250 3rd:0 Short delay:0
```

Info > Events > Exception

All Active Exceptions

```
Time: 11:00:00 Fri 22 June 2007  
Exception  
LINEN STORE  
Number 6 on Loop 2  
2 1 0 0 0 0 2 0 0 0
```

CONDITION CODES FOR S-QUADS (EXCEPTION / SUB FAULT CODES)

| Gen type | Pos. No. | Description | Exception codes | | | |
|---|----------|---|-----------------|---|---|----------------------------------|
| | | | Normal band 0 | Sub fault band | | Fault band 3 |
| | | | | 1 | 2 | |
| E N V I R O N M E N T | 1 | Optical subfire | None | Small signal sensed [Check location, state & type] | Subfire [Check location, state & type] | |
| | 2 | Heat subfire | None | Small signal sensed [Check location, state & type] | Subfire [Check location, state & type] | |
| | 3 | Gas subfire | | Small signal sensed [Check location, state & type] | Subfire [Check location, state & type] | |
| | 4 | | | | | |
| S E N S O R | 5 | Optical/Gas channel drift or out of range | OK | | Close to acceptable limit | Out of limits [Clean/replace] |
| | 6 | Heat channel drift or out of range | OK | | | Out of limits [Clean/replace] |
| | 7 | Optical/Gas channel noisy (High freq) | OK | Single HF noise event detected | Multiple HF noise seen (Check location and report) | |
| | 8 | Heat channel noisy (High frequency) | OK | Single HF noise event detected | Multiple HF noise seen (check location and report) | |
| D E V I C E | 9 | device firmware | OK | Isolated fault [Note/report] | Repetitive fault [Note / report / replace] | Total failure [Replace] |
| | 10 | device transmission | OK | Low error rate | Medium error rate [Report] | High error rate [Replace] |

Maintenance/Service Visit

Check Active Exceptions before performing and Smoke/Heat Tests
Info > Events > Exception > Enter

Address any issues
indicated by the Exceptions

Perform any
Smoke/Heat Tests

Clear off all Exceptions – **Test/Eng > Config > Clear > Exception > Enter**
Press the **Clear** option when Exception is displayed, then press **Next**
and repeat until all Exceptions have been cleared

S-Quad & S3 Mk2/Mk3 System setup

S-Quad / S-Cubed mk2-> (Voice/Sounder) Configuration

System

| Signals | Low/ Attn Tone | High/ Message | Audible On | VAD/Str Actioned | Speech Operation | VAD/Str Period# | PreSpeech Silence | PostSpeech Silence |
|----------|----------------|---------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------|-------------------|--------------------|
| Signal 0 | 00 | 04 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |
| Signal 1 | 00 | 03 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |
| Signal 2 | 00 | 05 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |
| Signal 3 | 00 | 02 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |

Device settings

Maximum Volume: 10 % Max. *
 Last Changed V1.33: 14/03/2018
 High FAB Mapping: Non-Turbo low tone
 Low FAB Mapping: Non-Turbo high tone
 Line Type: UnMonitored Output
 VAD Power: Low C-3-10

All Devices

- Flash Fire LED when scanned by panel
- Flash Repeat LED when scanned by panel
- Background Monitoring
- Compatibility mode for speech sounders**

Start Volume: 5 % Max. Increment: 5 % Max. Sounder resonance search

Speech Sequence Period: 10s

OK Cancel

** Note. Compatibility mode for speech sounders will set volume to 100%.

Sensor \ remote led in quiescent state

Always 10s, may be increased if long custom messages used

This will set the Attention Tone volume within 6dB of the Message volume.

Sounder test
 After Loop allocation:

- 5 min then 24hrs
- Every 6 hrs Pt 23 and Every 1 hr for old Type
- Off

'Ramp up' sounder volume on start up to max volume
 New SoundersVADs (strokes) – this is fixed

After allocation, Run Sounders for 45 secs so each sounder finds its optimum sound level.
 No Search performed

S-Quad & S3 Mk2/Mk3 Voice messages (Defaults)

| | | |
|----------|--|------------|
| Signal 0 | This is a test message no action is required. <i>(female Voice)</i> | Message 04 |
| Signal 1 | An incident has been reported In this building please await further instructions. <i>(female Voice)</i> | Message 03 |
| Signal 2 | This is a fire alarm please leave the building immediately by the nearest available exit. <i>(male voice)</i> | Message 05 |
| Signal 3 | Attention please this is an Emergency please leave the building by the nearest available exit. <i>(female Voice)</i> | Message 02 |
| | | |

Message 01 – Recording of a 6" Bell

S-Quad & S3 Mk2/Mk3 Sector setup

For Standard Panel Signals (No Voice Messages) set **Low/Attn Tone AND High/Message** to **00**. Also Ensure that **Speech Operation** is unticked.
 To use Voice Messages (Voice Enabled Devices) set **Low/Attn Tone** to **00** and set the **High/Message** to the required Message. Ensure that **Speech Operation** is ticked.

Codes: **00** = standard tone for signal

01 = message 1 (bell ring)

02 to 05 = voice message 2 to 5

Note: If no Sounder/Voice Devices are in this Sector the Low/Attn Tone and High Message will have the value of FF

For any Sounder to make a sound, **Audible On** must be ticked against that Signal.

If Speech is to be used, Speech Operation must be ticked against that Signal.

VAD/Str Actioned if ticked will flash any VADs or Strobes for that Signal.

Note: A Combined Sounder/VAD must have at least one output working.

S-Quad / S-Cubed mk2-> (Voice/Sounder) Configuration

- [-] System
 - [-] UnSectored
 - [+] Lp1 Sector 1
 - [+] Lp2 Sector 1
 - (2) S3mk2SpSt *
 - (3) S4O2HSt
 - (4) S4OH
 - (5) S4H
 - (6) S4O2HSpSt *
 - (8) S4-711-V-VAD-HPR *

| Signals | Low/ Attn Tone | High/ Message | Audible On | VAD/Str Actioned | Speech Operation | VAD/Str Period# | PreSpeech Silence | PostSpeech Silence |
|----------|----------------|---------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------|-------------------|--------------------|
| Signal 0 | 00 | 04 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |
| Signal 1 | 00 | 03 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |
| Signal 2 | 00 | 05 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |
| Signal 3 | 00 | 02 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |

Device settings

Maximum Volume: 10 % Max. *

Last Changed: 30/06/2017

V1-33

Strobe period: (2 seconds between Flashes)
Pre speech & post speech: Gap between attention tone and message

*Sndr - Sector can be setup

E.g. Sector 1 Loop 2; on receipt of a sig 2 instruction, all 'sounders' will provide standard 'evac' attention tone followed by message 5 in a loop and VAD/Strobes will flash with a 2 sec on/off rate



Warning – Do not use Voice Messages if you have a mix of Voice and Non-Voice enabled devices in the same sector.

S-Quad & S3 Mk2/Mk3 Sensor/Sounder setup

Device 8 loop 2 default settings:

Device volume

| Signals | Low/ Attn Tone | High/ Message | Audible On | VAD/Str Actioned | Speech Operation | VAD/Str Period# | PreSpeech Silence | PostSpeech Silence |
|----------|----------------|---------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------|-------------------|--------------------|
| Signal 0 | 00 | 04 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |
| Signal 1 | 00 | 03 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |
| Signal 2 | 00 | 05 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |
| Signal 3 | 00 | 02 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 0 | 0 |

Device settings

Maximum Volume: 100 % Max. *
Line Type: UnMonitored Output

Last Changed: 30/06/2017

High FAB Mapping: Non-Turbo low tone
Low FAB Mapping: Non-Turbo high tone
VAD Power: Low C-3-10

All Devices

Flash Fire LED when scanned by panel
 Flash Repeat LED when scanned by panel
 Background Monitoring
 Compatibility mode for speech sounders**

Start Volume: 45 % Max. Increment: 25 % Max. Sounder resonance search

Speech Sequence Period: 10s

OK Cancel

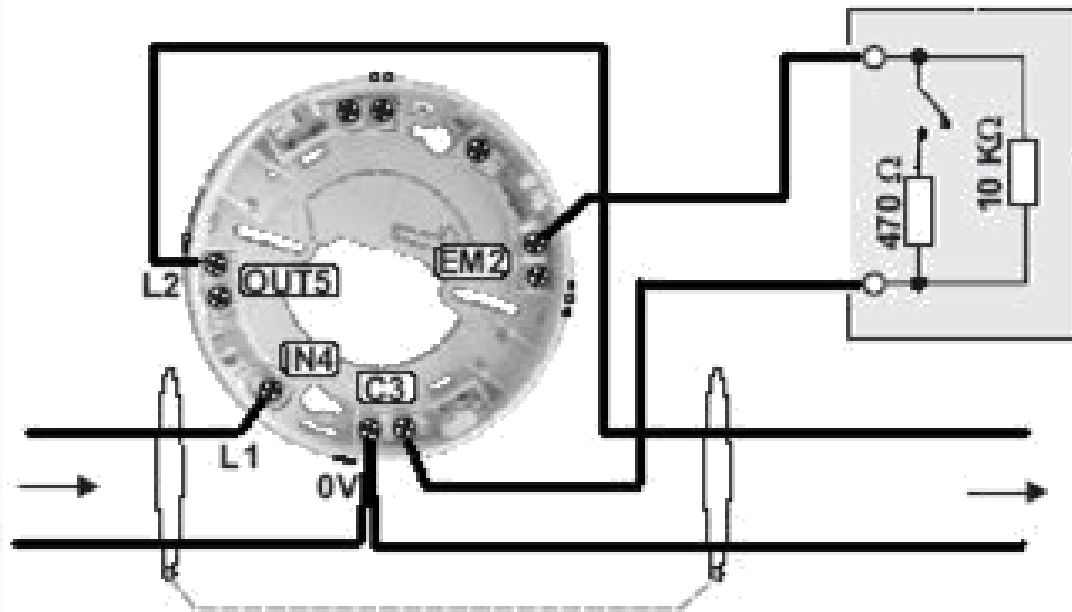
* Note. To comply with En54 pt3, the min volume of a sounder should be at least 65dBA, which equates to 16% of max volume for SQuad devices

Commissioning date updated automatically when changes are made to:

System, Sector or Sounder

S-Quad - Monitored Input/Output

- A configurable input for:
Fire, Fault or Supervisory (non-fire)
- Monitored for s/cct & o/cct wiring fault



S-Quad & S3 Mk2/Mk3 Monitored Line

S-Quad / S-Cubed mk2-> (Voice/Sounder) Configuration

| Signals | Low/ Attn Tone | High/ Message | Audible On | VAD/Str Actioned | Speech Operation | VAD/Str Period# | PreSpeech Silence | PostSpeech Silence |
|----------|----------------|---------------|--------------------------|--------------------------|-------------------------------------|-----------------|-------------------|--------------------|
| Signal 0 | 00 | FF | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 3 | 3 |
| Signal 1 | 00 | FF | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 3 | 3 |
| Signal 2 | 00 | FF | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 3 | 3 |
| Signal 3 | 00 | FF | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | 3 | 3 |

If Monitored Input is selected a *Type* field appears. You can then select the Type

Once selected, Changes occur in the **Device Configuration Page** and **+ML** appears next to the device and Channel 6 below

Line Type: Monitored Input
Type: Fire Detector

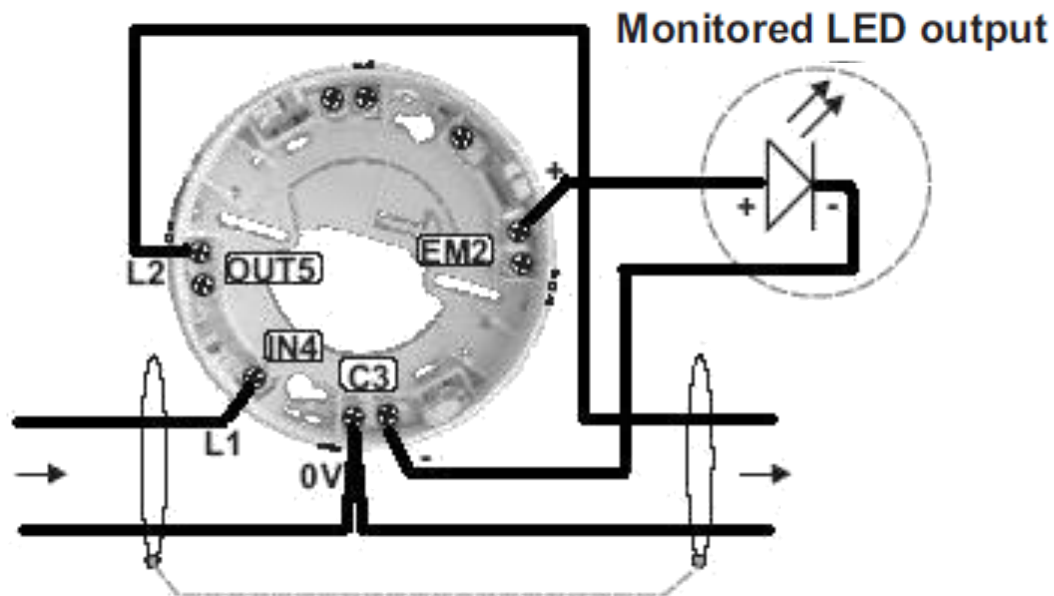
Speech Sequence Period: 10s

* Note. To comply with En54 pt3, the min volume of a sounder should be at least 65dBA, which equates to 16% of max volume for SQuad devices

| Device |
|---|
| Lp 1 Device 1 S402H+ML @L1 Channel 6 |
| Lp 1 Device 2 S402H |

S-Quad Remote LED

- Output can be configured to control a remote LED (13449-01)
- Monitored or un-monitored wiring



MCP

Frangible Glass element or Plastic resettable element options

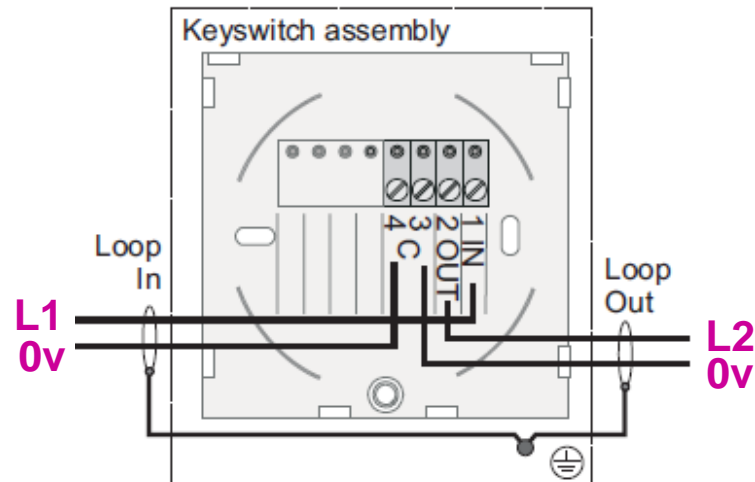


Hinged Plastic Protection Covers

Key Switch version available

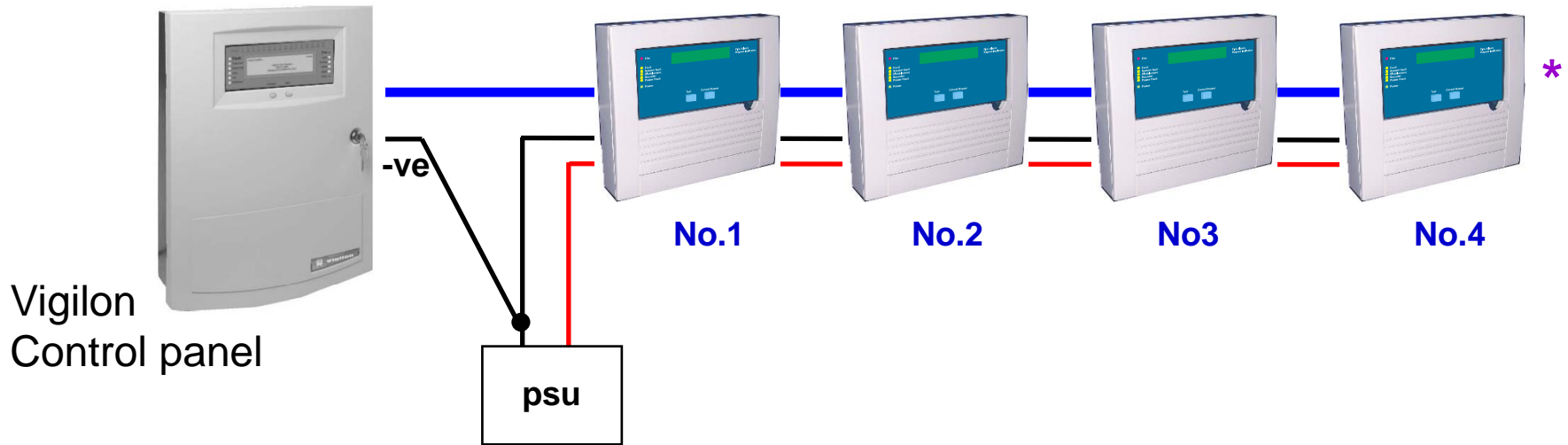
Test key

Replaces 34000 MCP without conflict



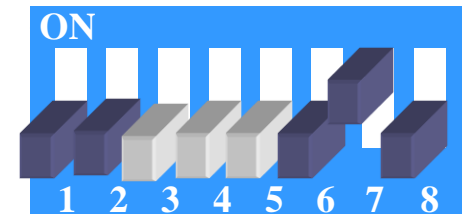
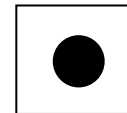
Non-loop repeat indicator panel

* Fit EoL on jumpers J2 J3 J4 on last repeat panel



Set switch in each repeat panel

Reset Sw



RS485 AB 

24vdc supply  

Sw 1 & 2 set Baud rate (1200)
Sw 8 down to 6 set indicator address
Sw 5 down to 3 are not used

Device Insertion and Removal on Soft addressed Panels (Practical session)

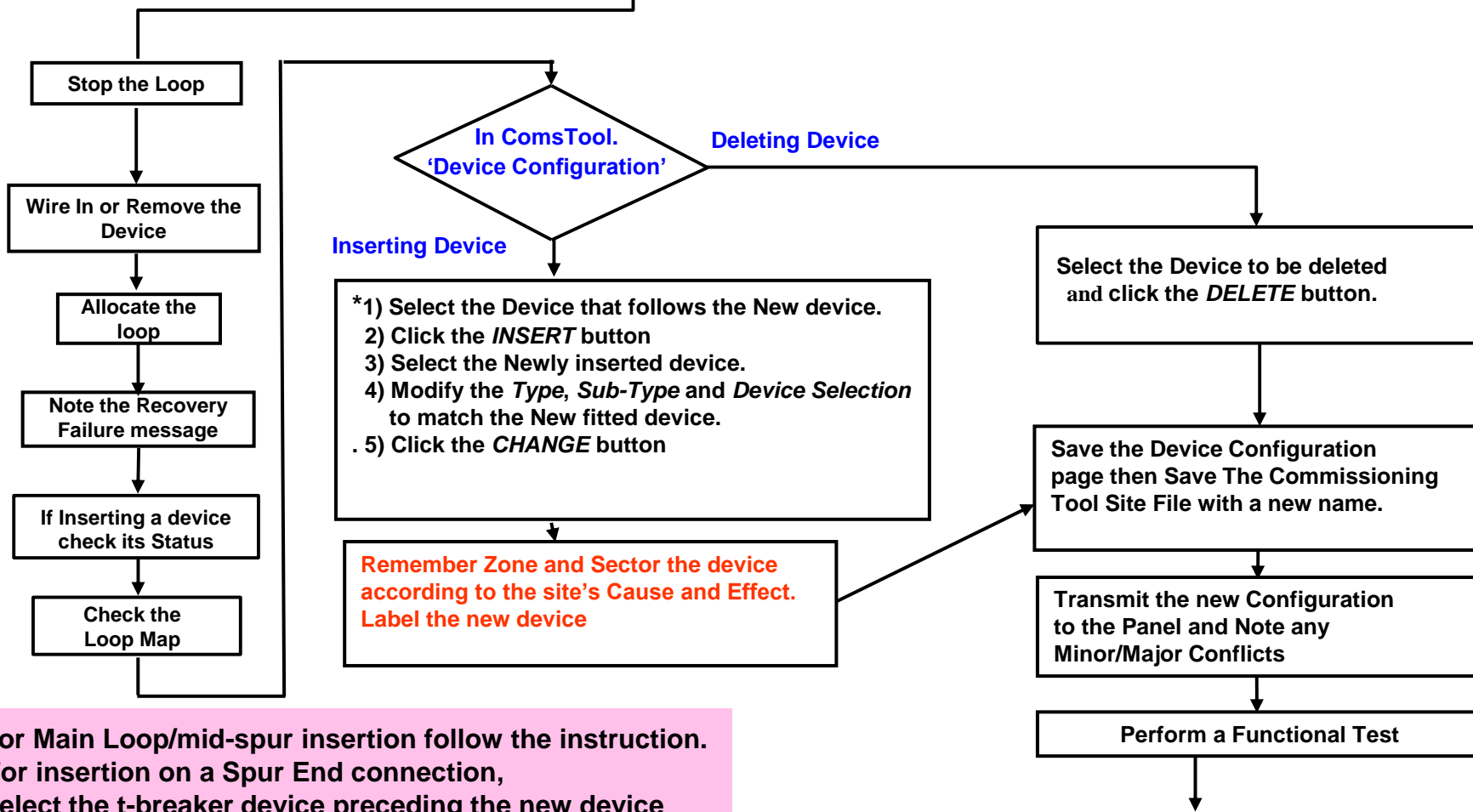
Using the Flowchart on the following slide we will work through the following scenarios using a spare device on a Loop of your panel :

- Scenario 1 – Soft Addressed loop (Device Insertion)**
- Scenario 2 – Soft Addressed loop (Device Removal)**

Soft Addressing - Inserting / Deleting Devices

CAN ONLY BE CARRIED OUT USING COMMSTOOL SOFTWARE & PC

⚠ Retrieve the Panel with the Commissioning Tool
Ensure SAFE Addressing is NOT Ticked in Options Page



* For Main Loop/mid-spur insertion follow the instruction. For insertion on a Spur End connection, select the t-breaker device preceding the new device and the CommsTool will ask for confirmation of the new device location.

⚠ Important Backup ALL Cards to the NVM

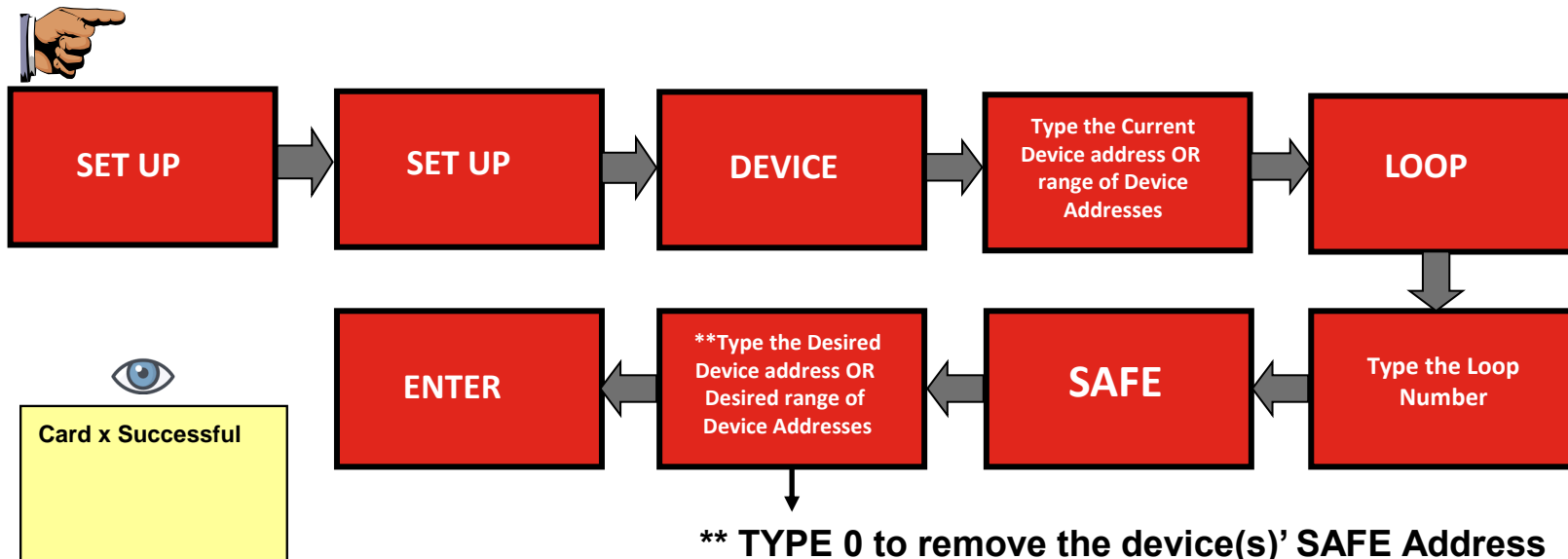
SAFE Addressing

SAFE (**S**oftware **A**llocated **F**irmware **E**ncoded) addressing - Is a method of loop device addressing whereby the EEPROM of a device stores the address. This address is not lost even if the device is removed physically.

A device has to be initially allocated an address by the loop card and then can be SAFE addressed ONLY via the Panel's Setup Menu.

A device can be SAFE addressed with the address it has been allocated **or** any other address that currently doesn't exist on the loop in the range 1 to 207.

A single device or range of devices can be SAFE addressed or unSAFE'd via the panel's setup Menu



Your Turn – SAFE Address your Loops

- SAFE address both loops on your panel
- View the Loop Map for both loops



e.g.

Map Information for loop 1

| Addr | Prev | Next | Com | Position |
|-----------|-------|-------|-----|-----------|
| 1+ | End 1 | 2 | | Main Loop |
| 2+ | 1 | 5 | 3 | Main Loop |
| 3+ | 2 | 4 | | Spur |
| 4+ | 3 | o/c | | Spur |
| 5+ | 2 | 6 | | Main Loop |
| 6+ | 5 | 7 | | Main Loop |
| 7+ | 6 | 8 | | Main Loop |
| 8+ | 7 | 9 | | Main Loop |
| 9+ | 8 | End 2 | | Main Loop |



Notice the **+** symbol next to the device address.

This indicates the device is SAFE addressed.

Device Insertion and Removal on SAFE addressed panels (Practical session)

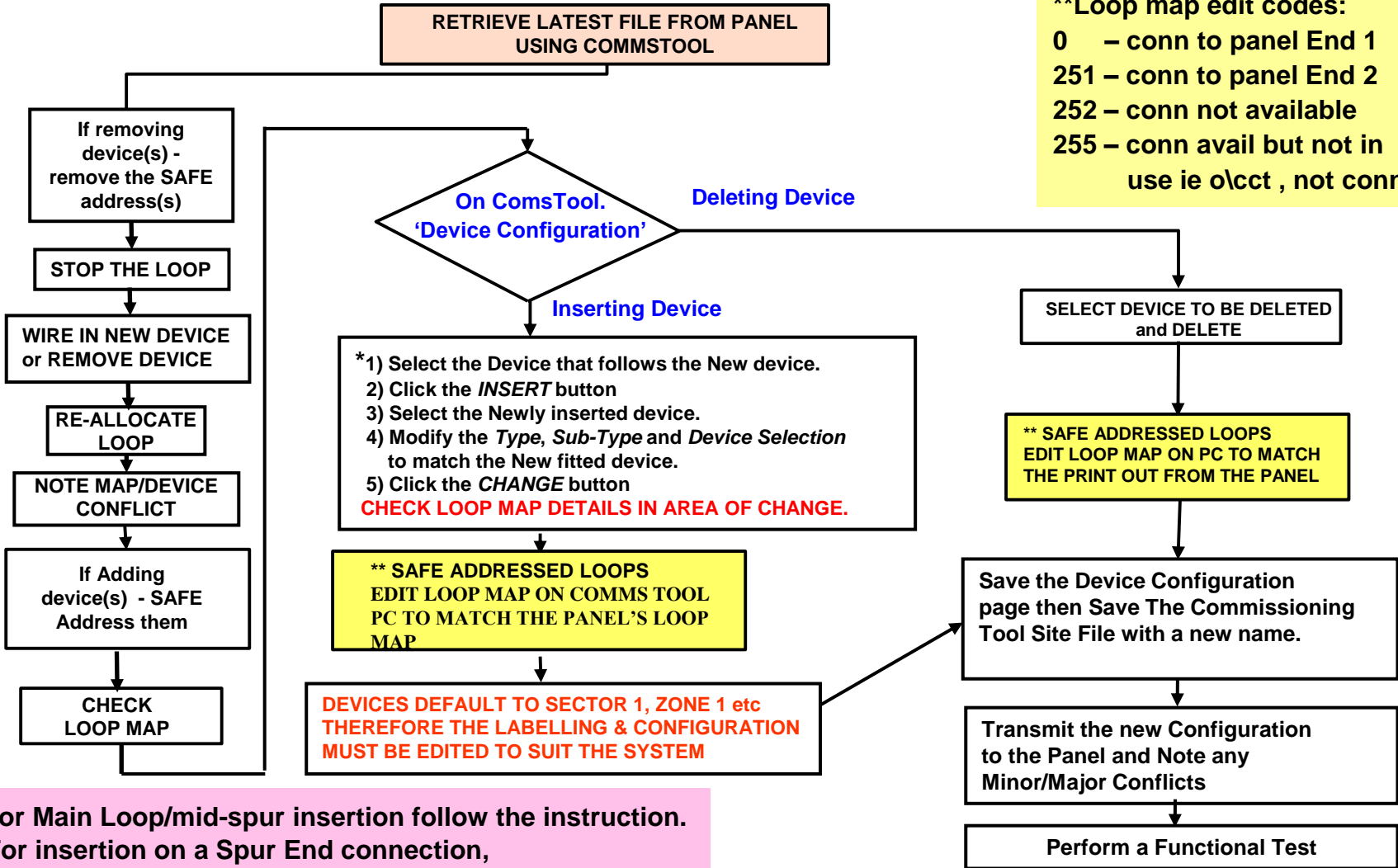
Using the Flowchart on the following slide we will work through the following scenarios using a spare device on loop 1 of your panel :

- Scenario 1 – SAFE Addressed loop (Device Insertion)
- Scenario 2 – SAFE Addressed loop (Device Removal)

SAFE Addressing - Inserting / Deleting Devices

CAN ONLY BE CARRIED OUT USING COMMSTOOL SOFTWARE & PC

****Loop map edit codes:**
 0 – conn to panel End 1
 251 – conn to panel End 2
 252 – conn not available
 255 – conn avail but not in use ie o\cct , not connected



* For Main Loop/mid-spur insertion follow the instruction. For insertion on a Spur End connection, select the t-breaker device preceding the new device and the CommsTool will ask for confirmation of the new device location.

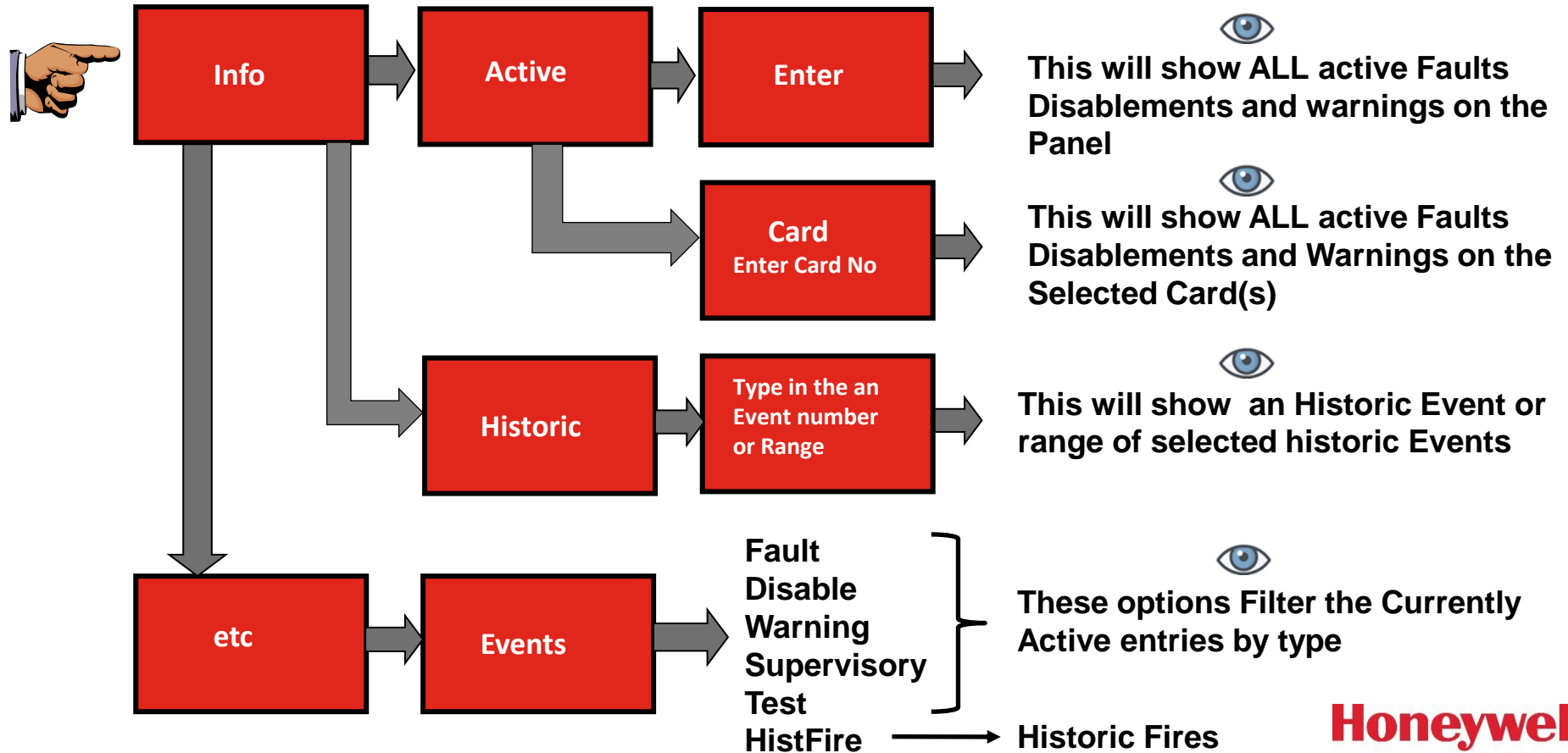
⚠ Important Backup ALL Cards to the NVM

'Other' Panel Functions


Panel Event Logging

The fire panel can store information about the last 100 fires and last 255 events

To View these logs use the *Info* Menu



Extended Panel Event Logging using SD Card

If panel is fitted with an SD card, the panel can be set up to also write the logs to the SD card. The number of Events and Fire Events can be dramatically increased by storing these on the SD card. This facility needs to be switched on 

Test/Eng > UserCode > etc > Test > Freeblok > Next {Controller} > Enter

Test/Eng > UserCode > Card > Log > On

Test/Eng > UserCode > etc > Test > Freeblok > Previous {Off} > Enter

A *Logs Folder* will now be created on the SD Card. Should the panel be rebooted or factory defaulted the presence of the Logs folder will automatically switch on SD Card logging

Viewing the Logs on the SD Card:-

Step 1 – Eject the SD Card

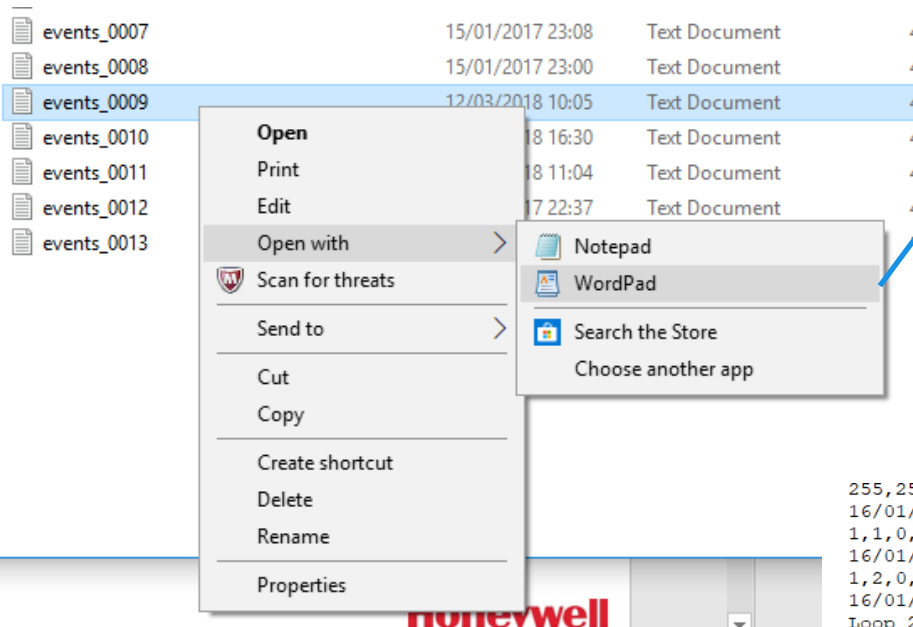


Test/Eng > UserCode > Card > Eject > SD Card > Enter

Step 2 – Remove the SD card from the Panel and insert it into your PC's SD Card reader

Step 3 – Using Windows Explorer, browse to the \Vigilon\Logs folder on the SD card.

Extended Panel Event Logging using SD Card



Step 4 – Right-click on any of the event Log files then choose Open with and select Wordpad

```
255,255  
16/01/2017,00:00:42,[0207],Loop 1: 0V resistance is 0.7R; L is  
1,1,0,0,5,4  
16/01/2017,00:00:42,[0207],Loop 2: 0V resistance is 0.7R; L is  
1,2,0,0,4,4  
16/01/2017,00:00:57,[0201],Allocation OK at card 2;Number 9 on  
Loop 2,2,9,0,0  
16/01/2017,00:01:00,[0201],Allocation OK at card 1;Number 12 on  
Loop 1,1,12,0,0  
16/01/2017,00:01:25,[0206],,2,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0  
,0,0,0,0,0,0,0,0,0,0  
16/01/2017,00:01:25,[0202],Loop Started OK at card 2;Number 9 on  
Loop 2,2,9,0,0  
16/01/2017,00:01:27,[0206],,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0  
,0,0,0,0,0,0,0,0,0,0  
16/01/2017,00:01:27,[0202],Loop Started OK at card 1;Number 12 on  
Loop 1,1,12,0,0  
16/01/2017,02:00:23,[0000],New log for panel,domain 1,node 1  
16/01/2017,02:00:23,[1807],Device Battery Fault;Number 9 on Loop  
2,2,9,6  
16/01/2017,02:56:52,[0000],New log for panel,domain 1,node 1  
16/01/2017,02:56:52,[0502],Communications started,0,0,1,250  
16/01/2017,02:56:52,[0503],Master Polling,0,0,250,1  
16/01/2017,03:01:45,[1902],Lost Device;Number 4 on Loop 1,1,4,0,3  
16/01/2017,03:01:50,[0101],Device Replaced;Number 4 on Loop  
1,1,4,0
```


Panel Passcodes

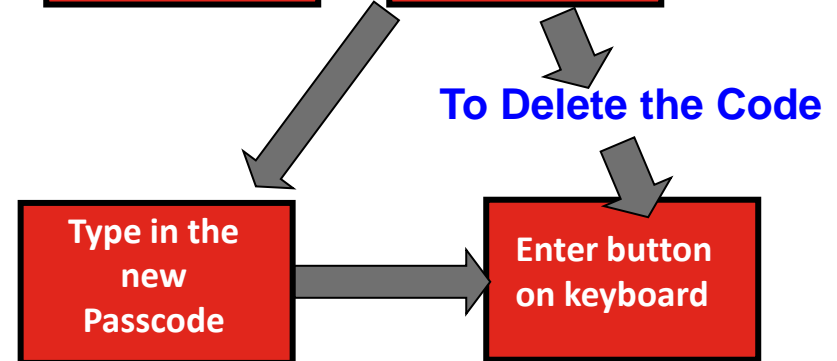
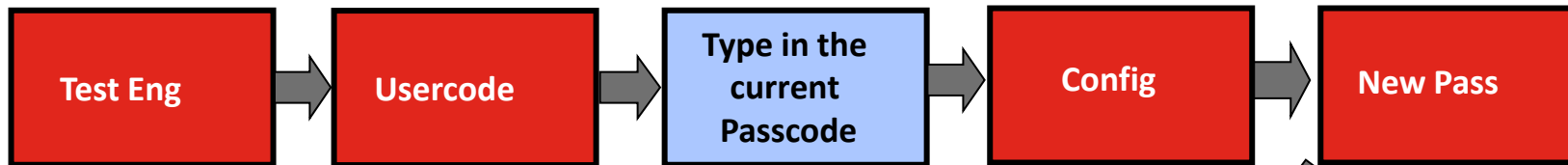
- 3 levels of security access :-
 1. Door key
 2. Customer passcode (Only enabled after engr pass)
 3. Engineering passcode (Must be set first)
- Passcode minimum 1 characters
- Passcode maximum 15 characters
- Backup MCC/MCB (Card 0) to NVM
- The Passcodes on other Panels and Repeat Panels on the Network have to be set up individually
- A Daily Passcode is available for the current calendar month on www.gentexpert.co.uk

Setting, Changing and Deleting a Panel's Engineering (AL3) and Customer (AL2) Passcodes

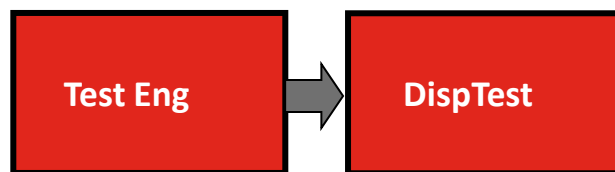


Once the Engineering Passcode has been setup this will then automatically enable the Customer Passcode (AL2). If MCC/MCB is **V4.36 >** then code is **2222**. if **<V4.36** then code = **2**

To change either the Engineering or Customer Passcode:-



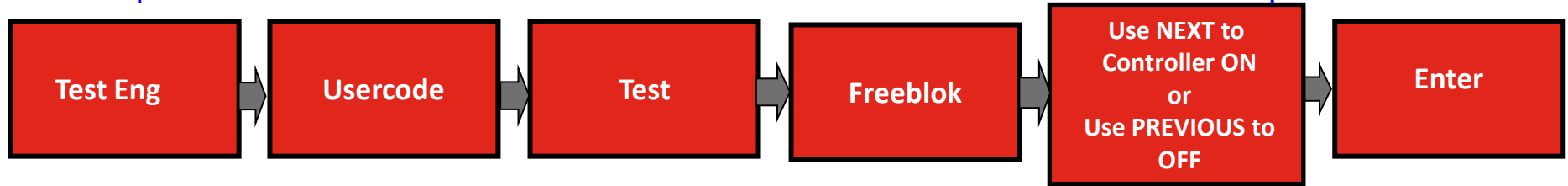
To Logout of the Panel:-



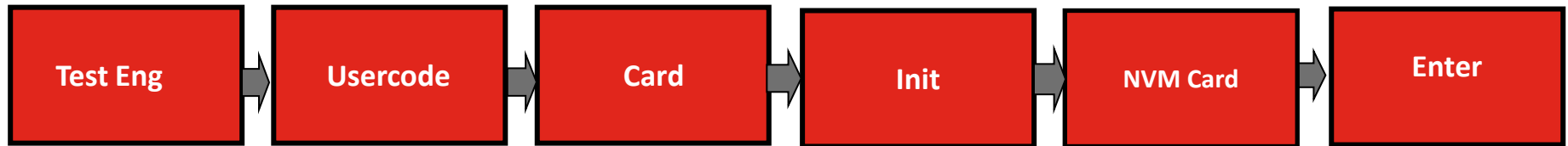
Initialising the NVM

- If the NVM card becomes full it will need initialising (wiping clean)

Step 1 - 'Freebloks' will need to be switched onto reveal a hidden menu options:-



Step 2 - Initialise the NVM:-



- The Panel will Report 'NVM Being Initialized – 512k

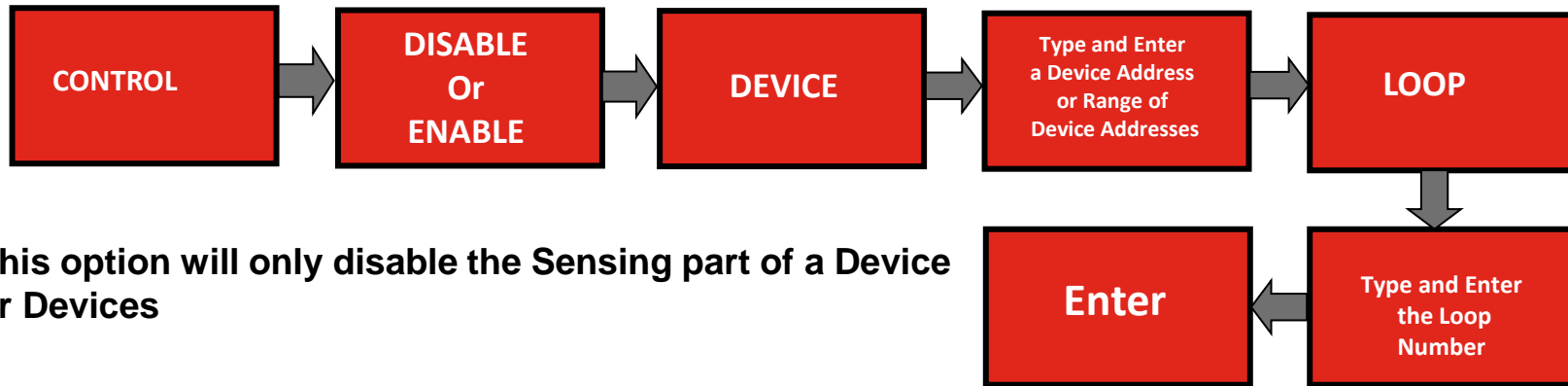
Step 3 - Switch OFF Freebloks using Step 1

Step 4 - Backup **ALL** Cards to the NVM

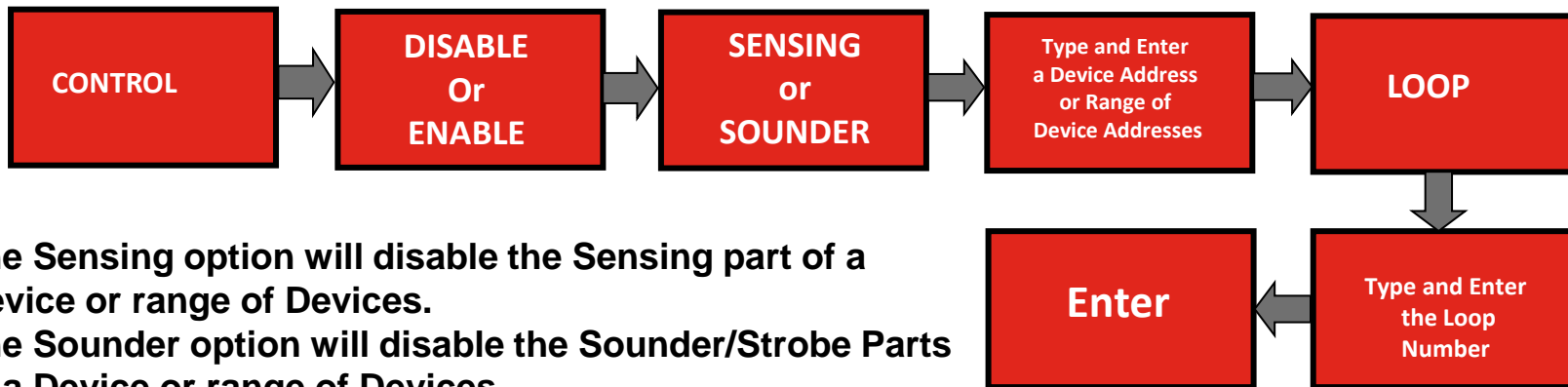


How to Disable Loop Devices

Disabling and Enabling a Device – Vigilon Panels with MCC V4.39 or Lower



Disabling and Enabling a Device – Vigilon Panels with MCC V4.40 or Higher



DISABLING DEVICE OR SENSING OF A RANGE OF DEVICES WILL NOT DISABLE MCPs

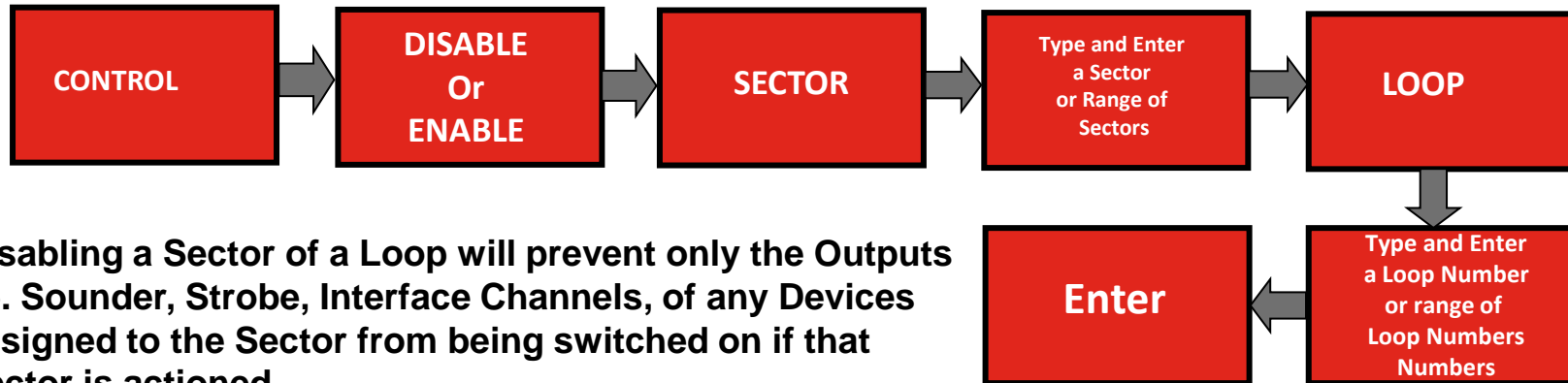
How to Disable Zones and Sectors

Disabling and Enabling Zones



This option will disable ALL Sensing parts of a Device or Devices Including MCPs

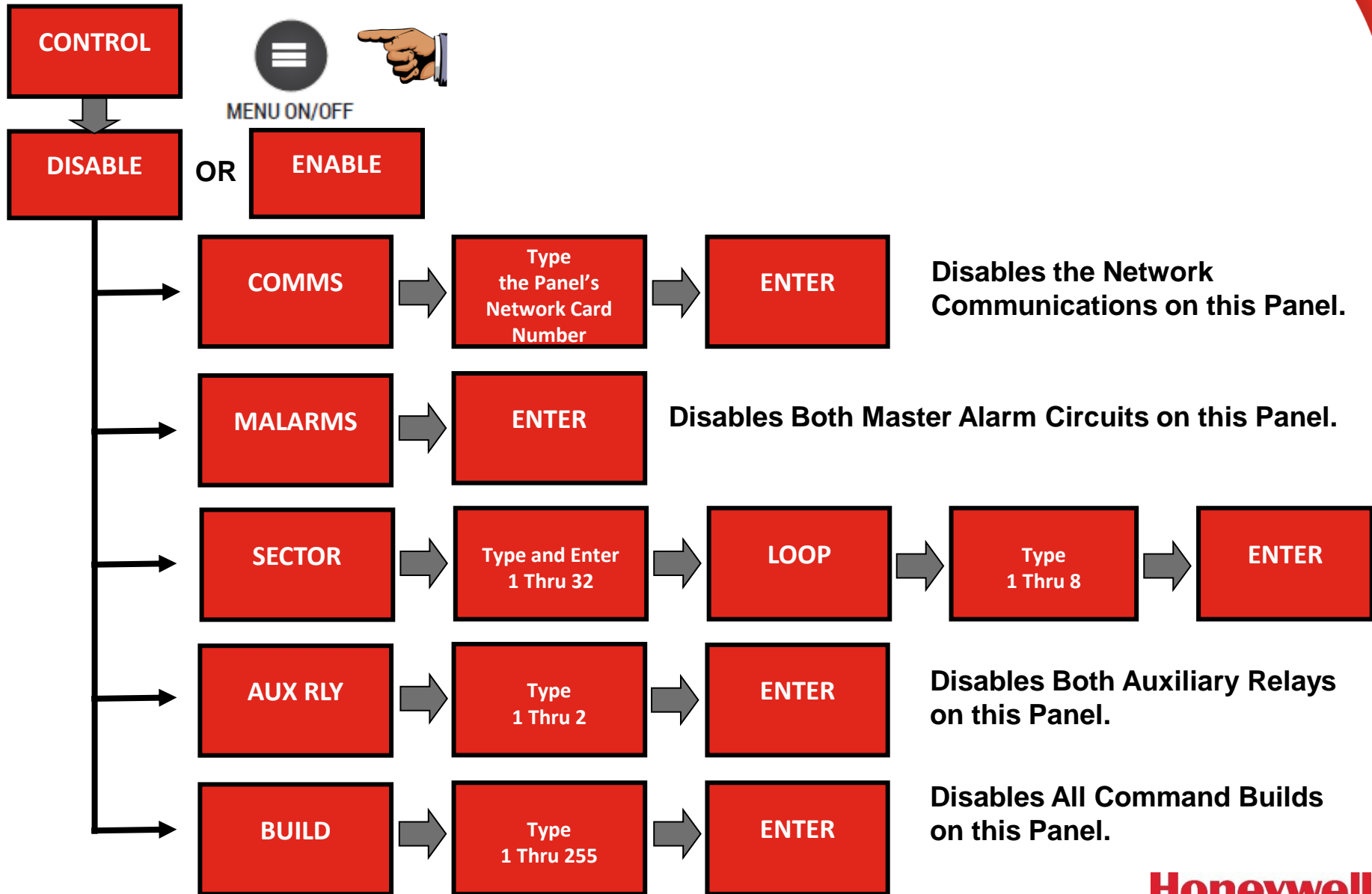
Disabling and Enabling Sectors



Disabling a Sector of a Loop will prevent only the Outputs i.e. Sounder, Strobe, Interface Channels, of any Devices assigned to the Sector from being switched on if that Sector is actioned.

Each Loop has 32 Sectors

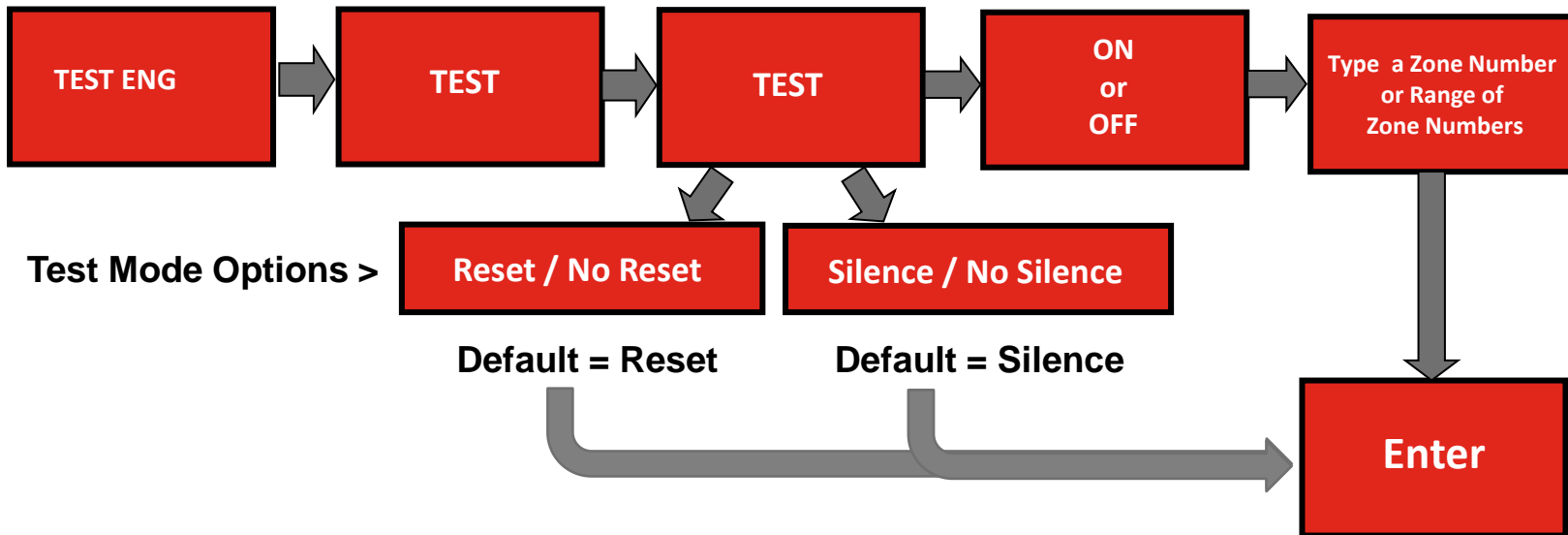
Disabling/Enabling During Commissioning, Servicing and Maintenance



Zone Test Mode

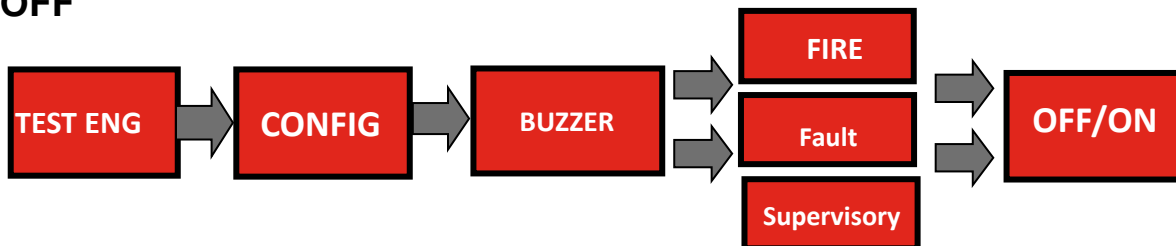
To Test Devices without triggering the Panel's Cause and Effect Zone Test Mode is used

To Switch Test Mode On/Off:



Devices can now be Tested and by Default the Panel will Automatically Silence and Reset the Fire

If it is required that the Panel's buzzer also be silent throughout the Tests it can be Configured OFF



CAUTION – Remember to Configure The Buzzers On After Completion of Tests

Where to go from here

Now that you have completed the Basic Commissioning Course the following eLearning modules are available to you on My Honeywell Buildings University (MyHBU) (<https://myhoneywellbuildingsuniversity.com/training/login>):

S4 Training:

S4 Loop Powered Interfaces (Module D) – (1 Hour)

S4 Mains Powered Interfaces (Module E) – (1 Hour)

S4 Beam Detectors

SAFE System Button – (1 Hour)

Commissioning Tool Basics – (45 Minutes)

Vigilon Advanced Commissioning Course:

VAC Introduction, VAC Module 1 to 7 – (6 Hours)

VigInSite



VigInSite

The VigInSite Tool is designed for use by commissioning and maintenance Engineers, for faster turnaround of resolution to work on site and to resolve issues. When connected to a panel it is possible to view panel and loop device health information for ease of maintenance. The tool may also be used to program Loop Simulators to connect to an Off site system to simulate an On Site system.

VigInSite Licences

Unlicensed

You can view event logs, panel build (cards in the panel) and loop device build (devices on loop circuits). The About provides information on VigInSite version number plus customer service and technical support contact information.

Standard Licence - licensed by Vigilon Commissioning Tool

In addition to the no licence functions you can view loop device health, active disablements, domain and panel list and software version of cards in the panel.

Advanced Licence - licensed by Vigilon Loop Diagnostic Tool

In addition to the Standard licence functions you can view advanced information associated with devices to include label, map, condition codes, states, zones and sectors information. There is also device health data with flags to show if they need maintenance work. This information can be saved as a text as well as Excel report. Additionally with the Excel report you can view the information graphically.

Engineering Licence - licensed by Credits

This is a future functionality

Connecting and starting VigInSite



Connect your PC to the Fire panel using a serial or USB Lead run the VigInSite Application. VigInSite will scan for a active Licences on your PC i.e. Commissioning Tool or Loop Diagnostic Tool (LDT). VigInSite will then confirm what active Licence (if any) as been found before presenting the Communication screen:-



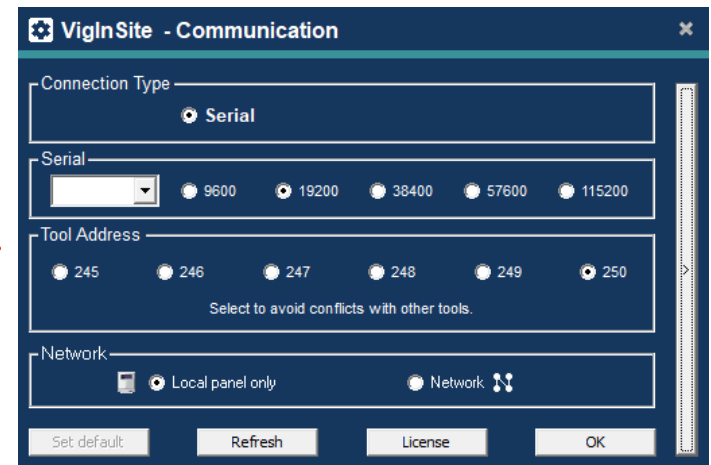
No Active Licence found



Commissioning Tool Licence found



Loop Diagnostic Tool Licence Found



Connecting and starting VignSite



Select the Baud Rate to match the Fire Panel's COM Port you are using.

Click the OK Button. If communication is successful the following Card Summary screen will be presented for a short period.

NOTE:- This License button is for a future enhancements and not currently used

Choose the Address that VignSite will Use

| Card | Description | Date | Version |
|------|---------------------------------------|----------|---------|
| 0 | Local Controller - Vignion / Compact | 16/01/17 | 4.54.0 |
| 1 | Loop Processor Card - V4 EN54 Part 23 | 31/10/16 | 4.51.0 |
| 2 | Loop Processor Card - V4 EN54 Part 23 | 31/10/16 | 4.51.0 |
| 14 | Flash Storage | 12/04/18 | 1.0.0 |

Click the Dropdown box to Choose the PC COM Port

Connecting and starting VignSite



Select the Domain number, Panel Number and Loop Number of the Target Panel. (Note: The Loop Number Is only required for some of the advanced features)

Click anywhere in this area and the Password box will be presented

Enter the Site details in these fields and click the Save button.

Enter the Panel's AL3 code. If there is no code is set in the panel, leave blank and click the Enter button

VigInSite - Options

Double click any of the available options

The screenshot shows the VigInSite software interface. At the top, it displays 'VigInSite' and 'Domain 1 panel 1 - No label'. The main menu is divided into four columns: 'Unlicensed', 'Standard Licence', 'Advanced Licence', and 'Engineering'. The 'Unlicensed' column includes 'Active Log', 'Fire Log', 'Historic Log', 'System Treeview', and 'About'. The 'Standard Licence' column includes 'Loop Device Health', 'Disablingments', 'Domain & Panel', 'Software Versions', and 'Test Fire Log'. The 'Advanced Licence' column includes 'Advanced Loop', 'Find Device', 'Network Routing', 'Loop Simulator', 'Loop Builder', and 'Fire Simulator'. The 'Engineering' column includes 'Input Simulator', 'Sector Viewer', 'Command Builds', and 'SD Card'. Below the menu, there are input fields for 'Customer' (Honeywell Gent), 'Site' (Waterside Road, Leicester), 'Contractor' (HBS), and 'Engineer' (Ray Creasey). There are also dropdown menus for 'Domain', 'Panel', and 'Loop'. At the bottom, it says 'Engineer Access - Domain 1 panel 1 - Click to Logout'.

Your Instructor will now Demonstrate the Unlicensed and Standard Licence features of VigInSite

VigInSite – More Information

VigInSite is free and available to download from www.gentexpert.co.uk

Refer to the comprehensive user manual which is also available to download from www.gentexpert.co.uk

To open the Advanced Level options of VigInSite you will need to purchase an annual Loop Diagnostic Tool (LDT) Licence.

Loop Diagnostic Tool (LDT)



Loop Diagnostic Tool (LDT)

- **The Loop Diagnostic Tool (LDT) is a powerful PC tool that connects to the Vigilon fire panel's USB Port and works with the new Vigilon Enhanced Loop Card.**
- **Can help to quickly pinpoint problems such as poor connections and earth faults to within a few metres, saving time and money.**
- **Will provide real-time data on the condition of loop cabling and devices connected to it.**
- **Whilst commissioning new systems, the LDT allows you to check the condition of loops handed over to you by the installer and ensuring integrity of the commissioned loop even at full alarm load.**
- **Use of the LDT before starting a maintenance contract can confirm any problems that may be encountered.**
- **Built in reports can be generated to support engineers documentation.**

LDT – Compatibility and Licencing

Compatibility

Vigilon EN54 Panels with MCC/MCB V4.52 and above.

Only with Enhanced/High Power Loop cards - VIG-LPC-EN
and COMPACT-LPC-EN

Licencing

The LDT requires a Licence to connect to the Vigilon panel.

This Licence is a purchasable item and is valid for 365 days
from the purchase order date.

Software

The LDT is available to download from www.gentexpert.co.uk

LDT – Connecting to the Panel

Loop Diagnostic Tool

Connect To

COM Port: COM5

Connect

Create New Project

Project Name: Training Room

Change Location: C:\Users\E351364\Documents\Loop Diagnostic Tool Projects

Create & Retrieve

Loop Diagnostic Tool

Fetching Events for Loop 1 ...

Cancel

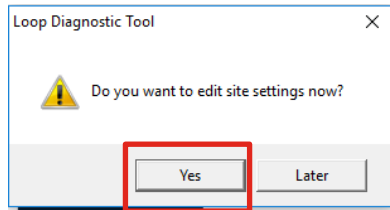
Select the PC COM Port

Click the Connect Button

Enter a Project Name

Click Create & Retrieve

LDT – Site and Panel Details



Enter the Site and Panel Details Now or Later

Loop Diagnostic Tool

Site Details Panel Details

Engineer's Information

Name

Telephone Number

System Integrator's Address

Name

Line 1

Line 2

City

Country

Post Code

System Integrator's Logo

GENT by Honeywell

Import Logo

Restore Default Logo

Site Information

Quote/Job Reference

Site Telephone Number *

Site Address

Site Name

Line 1 *

Line 2

City *

Country *

Post Code

OK Cancel

Loop Diagnostic Tool

Site Details Panel Details

Panel Description

Panel Description

Panel Type

Panel and Loop Cable Information

| | Main Loop Cable Length (m) | Total Spur Cable Length (m) | Type | Cross Section Area (sq mm) |
|--------|----------------------------|-----------------------------|------|----------------------------|
| Loop 2 | 0 | 0 | N/A | N/A |

OK Cancel

Enter as much detail as possible in these forms as this appears in the Customer and Engineering reports

LDT – Panel Overview

The screenshot shows the 'Panel Overview' section of the Loop Diagnostic Tool. The interface includes a navigation bar with 'Loop Diagnostic Tool', 'Panel Overview', 'Loop Dashboard', and 'Reports'. The 'Panel Overview' section is highlighted with a red box and contains a table with panel details. The 'Loop Overview' section is also highlighted with a red box and contains a table with loop card details. The 'Panel Card and Version' section is highlighted with a red box and contains a table with card details. Annotations with red arrows point to the 'View Loop Details' buttons in the 'Loop Overview' section and the 'Panel Overview' and 'Panel Card and Version' sections.

Panel Overview

| PANEL ADDRESS | STATUS |
|---------------|-----------|
| Panel 1 | Connected |

| DOMAIN ADDRESS | TOTAL DEVICES |
|----------------|---------------|
| 1 | 21 |

| PANEL LABEL | PANEL TYPE |
|-------------|-----------------|
| RECEPTI... | Vigilon Compact |

Loop Overview

| LOOP CARD | STATUS | DEVICE COUNT | FAULTS | View Loop Details |
|-------------|--------------------------|--------------|--------|-------------------|
| LOOP CARD 1 | Started Loop Complete | 12 | 0 | View Loop Details |
| LOOP CARD 2 | Started Loop Complete | 9 | 0 | View Loop Details |

Panel Card and Version

| MCB | V4.54 | 16/01/17 |
|-------------|-------|----------|
| Loop Card 1 | V4.51 | 31/10/16 |
| Loop Card 2 | V4.51 | 31/10/16 |

Annotations:

- Click the required 'View Loop' Button (points to 'View Loop Details' buttons)
- Panel Overview (points to the 'Panel Overview' section)
- Loop overview (points to the 'Loop Overview' section)
- Panel cards and versions (points to the 'Panel Card and Version' section)

LDT – Loop Dashboard

LOOP 2 ✓

REFRESH DATA | START AUTO REFRESH | SAVE LOOP DATA | ADVICE

LOOP MAP

End 1

1
2
3
4
5
6
7
8

Wiring Related Measurements

| LOOP RESISTANCE (Ω) | MEASURED | PREDICTED |
|-----------------------|-----------|-----------|
| Overall | 2.3R 4% ✓ | - -% |
| OV Line | 0.7R 3% ✓ | - -% |
| Positive Line | 1.6R 4% ✓ | - -% |
| Relay Breaker Total | 0.9R 5% ✓ | - -% |
| Relay Breaker Average | N/A -% ✓ | - -% |
| Partial Short Circuit | N/A -% ✓ | - -% |
| Loop Capacitance (nF) | N/A -% ✓ | - -% |
| Relative Inductance | 1 10% ✓ | - -% |

Loop Voltage Measurements

Advanced Loop Voltage Tests ? Sound Alarms

| | QUIESCENT | ALARM |
|--------|------------|-------|
| End 1A | 43.1V 0% ✓ | - -% |
| End 1B | 42.9V 0% ✓ | - -% |
| End 2A | 43.1V 0% ✓ | - -% |
| End 2B | 43.1V 0% ✓ | - -% |

Device Related Measurements

| | | | | |
|------------------|---------|-------|-----|---|
| Earliest Reply | [Dev 7] | 200µS | 75% | ✓ |
| Latest Reply | [Dev 2] | 167µS | 59% | ✓ |
| End 1 Reply | [Dev 1] | 4.6V | 23% | ✓ |
| End 2 Reply | [Dev 1] | 4.8V | 24% | ✓ |
| Pulse Distortion | | 7.0µS | 7% | ✓ |

Communication Errors

| | | | |
|----------------------------|---|----|---|
| Average Error Rate | 0 | 0% | ✓ |
| Allocation Errors | 0 | 0% | ✓ |
| Total Communication Errors | 0 | 0% | ✓ |

Loop Earth Fault Status

No Earth Fault Detected ✓

Locate Earth Fault

Predicted Location N/A

Prediction Confidence Level N/A

Measurement Analysis

Show Profile

Largest Δ from End 1 6@[Dev 1-End1]

Largest Δ from End 2 6@[Dev 9-End2] 1@[Dev 3-4]

Limits



Within



Outside recommended



Beyond

By clicking on the icon, the Tool will display context sensitive help and advice regarding the issue detected.

'Show Profile' will display the relative resistance of all devices from both ends of the loop

LDT – Earth Fault

Loop Diagnostic Tool | Panel Overview | **Loop Dashboard** | Reports

LOOP 2

REFRESH DATA | START AUTO REFRESH | SAVE LOOP DATA | ADVICE

LOOP MAP

End 1

1
2
3
4
5
6
7
8

Wiring Related Measurements

| LOOP RESISTANCE (Ω) | MEASURED | PREDICTED |
|-----------------------|-----------|-----------|
| Overall | 1.7R 3% ✓ | - -% |
| 0V Line | 0.2R 2% ✓ | - -% |
| Positive Line | 1.4R 3% ✓ | - -% |
| Relay Breaker Total | 1.2R 6% ✓ | - -% |
| Relay Breaker Average | N/A -% ✓ | - -% |
| Partial Short Circuit | N/A -% ✓ | - -% |
| Loop Capacitance (nF) | N/A -% ✓ | - -% |
| Relative Inductance | 1 10% ✓ | - -% |

Device Related Measurements

| | | | | |
|------------------|---------|-------|-----|---|
| Earliest Reply | [Dev 2] | 206µS | 72% | ✓ |
| Latest Reply | [Dev 2] | 168µS | 59% | ✓ |
| End 1 Reply | [Dev 1] | 4.6V | 23% | ✓ |
| End 2 Reply | [Dev 1] | 4.8V | 24% | ✓ |
| Pulse Distortion | | 7.0µS | 7% | ✓ |

Communication Errors

| | | | |
|----------------------------|---|----|---|
| Average Error Rate | 0 | 0% | ✓ |
| Allocation Errors | 0 | 0% | ✓ |
| Total Communication Errors | 0 | 0% | ✓ |

Loop Voltage Measurements

Advanced Loop Voltage Tests ? | Sound Alarms

| | QUIESCENT | ALARM |
|--------|------------|-------|
| End 1A | 42.9V 0% ✓ | - -% |
| End 1B | 43.1V 0% ✓ | - -% |
| End 2A | 43.1V 0% ✓ | - -% |
| End 2B | 43.4V 0% ✓ | - -% |

Loop Earth Fault Status

Earth Fault Detected

Locate Earth Fault

Predicted Location N/A

Prediction Confidence Level N/A

Measurement Analysis

Show Profile

Largest Δ from End 1 6@[Dev 1-End1]

Largest Δ from End 2 6@[Dev 9-End2]

Earth fault Detected

Click to Locate Earth fault – The Loop will now reallocate

LDT – Earth Fault

Loop Diagnostic Tool | Panel Overview | Loop Dashboard | Reports

LOOP 2

REFRESH DATA

START AUTO REFRESH

SAVE LOOP DATA

ADVICE

LOOP MAP

End 1

Wiring Related Measurements

| LOOP RESISTANCE (Ω) | MEASURED | | | PREDICTED | |
|-----------------------|----------|-----|---|-----------|----|
| Overall | 1.7R | 3% | ✓ | - | -% |
| 0V Line | 0.2R | 2% | ✓ | - | -% |
| Positive Line | 1.4R | 3% | ✓ | - | -% |
| Relay Breaker Total | 1.2R | 6% | ✓ | - | -% |
| Relay Breaker Average | N/A | -% | ✓ | - | -% |
| Partial Short Circuit | N/A | -% | ✓ | - | -% |
| Loop Capacitance (nF) | N/A | -% | ✓ | - | -% |
| Relative Inductance | 1 | 10% | ✓ | - | -% |

Device Related Measurements

| | | | | |
|------------------|---------|-------|-----|---|
| Earliest Reply | [Dev 2] | 206μS | 72% | ✓ |
| Latest Reply | [Dev 2] | 168μS | 59% | ✓ |
| End 1 Reply | [Dev 1] | 4.6V | 23% | ✓ |
| End 2 Reply | [Dev 1] | 4.8V | 24% | ✓ |
| Pulse Distortion | | 7.0μS | 7% | ✓ |

Communication Errors

| | | | |
|----------------------------|---|----|---|
| Average Error Rate | 0 | 0% | ✓ |
| Allocation Errors | 0 | 0% | ✓ |
| Total Communication Errors | 0 | 0% | ✓ |

Loop Voltage Measurements

Advanced Loop Voltage Tests

!

Sound Alarms

| | QUIESCENT | | | ALARM | |
|--------|-----------|----|---|-------|----|
| End 1A | 42.9V | 0% | ✓ | - | -% |
| End 1B | 43.1V | 0% | ✓ | - | -% |
| End 2A | 43.1V | 0% | ✓ | - | -% |
| End 2B | 43.4V | 0% | ✓ | - | -% |

Loop Earth Fault Status

Earth Fault Detected

Locate Earth Fault

Predicted Location: Dev [6-7]
actual values (4,4)

Prediction Confidence Level: Good

Measurement Analysis

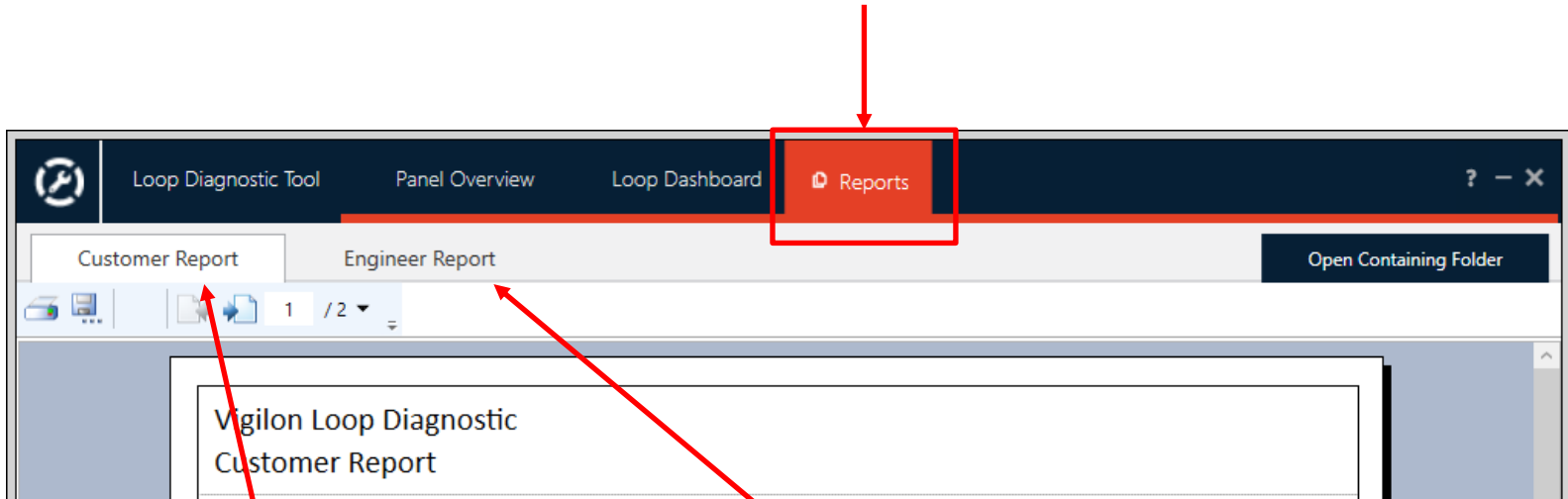
Show Profile

Largest Δ from End 1: 6@[Dev 1-End1]

Largest Δ from End 2: 6@[Dev 9-End2]

LDT – Reports

Using the *Reports* Tab both Customer and Engineer reports can be generated. These Reports can be saved in a PDF format



**Click to generate a
Customer Report**

**Click to generate an
Engineer Report**

LDT – Reports (cont.)

Extracts from an Engineer report

Vigilon Loop Diagnostic

Engineer Report

Engineer's Information

Engineer's Name : Ray Creasey
 Telephone Number : 01162462134

System Integrator's Address

Name : Home & Building Technology
 Address : 140 Waterside Road
 City : Leicester
 Country : UK Post Code : LE5 1TN

Site Information

Site Name : Honeywell
 Telephone Number : 01162462000
 Address : 140 Waterside road
 City : Leicester
 Country : UK Post Code : LE5 1TN

Panel Information

Domain Address : 1 Node Address : 1
 Panel Type : Vigilon Compact
 Panel Label : RECEPTION NODE
 Description : Reception Panel

Panel Card and Version

| | | |
|--------|-------|----------|
| MCB | V4.54 | 16/01/17 |
| Loop 1 | V4.51 | 31/10/16 |
| Loop 2 | V4.51 | 31/10/16 |

| Loop 1 | STATUS | DEVICE COUNT | FAULTS |
|--------|--------------------------|--------------|--------|
| | Started Loop Complete | 12 | 0 |

Loop Cable Details

Main Cable Length (m) : 0
 Spur Cable Length (m) : 0
 Cable Type : SoftSkin/FireProof Cable
 Cross Section Area (Square Millimetre) : 1.5

Advice

N/A

Wiring Related Measurements

| Loop Resistance (Ω) | Measured | Predicted |
|-----------------------|----------|-----------|
| Overall | 2.6 5% | N/A |
| 0v Line | 0.7 3% | N/A |
| Positive Line | 1.9 4% | N/A |
| Relay Breaker Total | 1.5 0% | N/A |
| Relay Breaker Average | N/A | N/A |
| Partial Short Circuit | N/A | N/A |
| Loop Capacitance (nF) | N/A | N/A |
| Relative Inductance | 1 10% | N/A |

Loop Voltage Measurements (V)

| | QUIESCENT | ALARM | QUIESCENT | ALARM |
|--------|-----------|-------|-----------|-------|
| End 1A | 42.7 0% | N/A | N/A | N/A |
| End 1B | 42.7 0% | N/A | N/A | N/A |
| End 2A | 42.9 0% | N/A | N/A | N/A |
| End 2B | 42.7 0% | N/A | N/A | N/A |

Advance Loop Voltage Tests

Device Related Measurements

| | | | |
|------------------|----------|-------|-----|
| Earliest Reply | [Dev 1] | 206µS | 72% |
| Latest Reply | [Dev 2] | 150µS | 65% |
| End 1 Reply | [Dev 12] | 6.1V | 31% |
| End 2 Reply | [Dev 1] | 6.1V | 31% |
| Pulse Distortion | N/A | 4.0µS | 4% |

Communication Errors

| | | |
|----------------------------|---|----|
| Average Error Rate | 0 | 0% |
| Allocation Errors | 0 | 0% |
| Total Communication Errors | 0 | 0% |

Measurement Analysis

| | | |
|----------------------|-------------|-------------|
| Largest Δ from End 1 | 1@[Dev 1-2] | 1@[Dev 2-3] |
| Largest Δ from End 2 | 1@[Dev 1-2] | |

Loop Earth Fault Status

No Earth Fault Detected

Loop Resistance Distribution

All relative resistance (Delta values) of devices are within the accepted threshold value.

EN54 Part 23 Overview

Overview of EN Part 23

- Standardise output levels from Visual Alarm Devices
- 0.4 Lux above room ambient light level
- Improve designs & safety through ensuring enough light is generated across an entire area to alert occupants the Fire Alarm has activated
- We now need to consider device spacing for light coverage as well as detection.

EN Part 23. Classifications

- **VADs** can be specified as one of the following categories:

Ceiling

Wall

Open

- **Ceiling and Wall**

at a given installation height, the area a device will cover is defined by the standard

- **Open**

the manufacturer can specify the light coverage where a device does not fall into the defined coverage of a ceiling or wall device.

Wall Mounted VADs

Wall Mounted

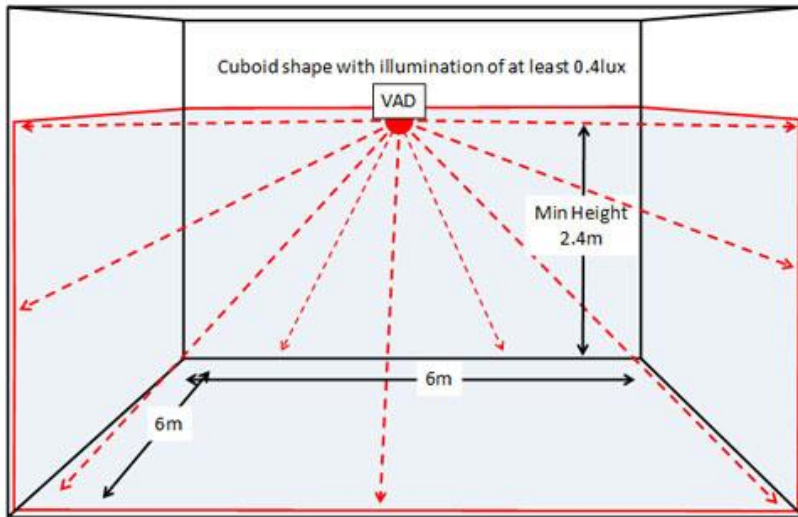
Width of the square which will meet the required light level.

W - x - y



Device max mounting height in metres

WALL MOUNTED
W-2.4-6



Ceiling Mounted

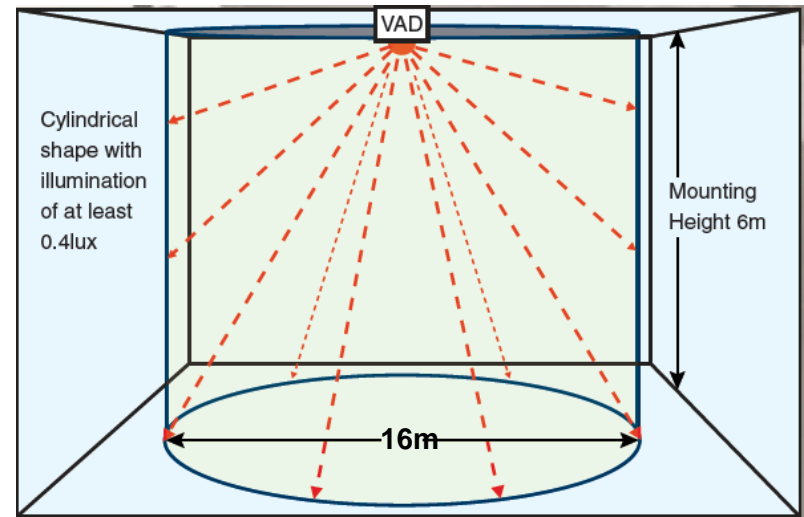
The diameter of a cylinder which will meet the required light level.

C - X - Y



Device max mounting height, 3, 6 or 9 metres.

CEILING MOUNTED
C-6-16



O category

O - 5 - 14 Open category

**Coverage volume which is specified by the manufacturer,
Whereas C and W are only from specific set heights,**

O type, the manufacturer can specify the data.

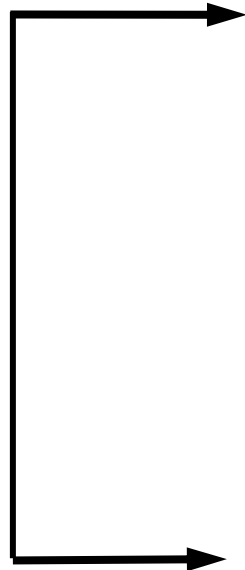
Device's data on coverage



Device label

Part number:
Visual Alarm Device
High power
Red

VAD coverage
at 3 power levels




| S4- 711- VAD- HPR (RED) | | | |
|-------------------------|---|--------|--------------|
| HIGH | C | 3 - 14 | O - 4.5 - 14 |
| MED | C | 3 - 13 | O - 4 - 13 |
| LOW | C | 3 - 10 | |

VAD design tool

Microsoft Excel - VAD design aid S-Quad - Final with summary [Read-Only]

GENT
by Honeywell

S-Quad Visual Alarm Estimator's Tool



To Continue with more rooms click *Add a Room*. Click *Save and Print* to End

1 Create new room

2 Add Room to List

Save and Print

Clear Summary

Room Summary

| Room ID | Room Name | Detector and VAD Spacing | Area of Room | Ambient Light | Device Colour | Line of Sight | Mounting Height | Device Type | Quantity | Device Category | *** Max Mounting Height | *** Max Spacing of VAD |
|---------|-----------|--------------------------|--------------|---------------|---------------|---------------|-----------------|-----------------------|----------|-----------------|-------------------------|------------------------|
| 2 | office | 6.0m | 24 m2 | 450 Lux | Red | Indirect | 3.0m | Red / High Output *** | 2 | C-4.5-14 | Max Height = 2.7m | Max spacing = 5.7m |
| 1 | Room 2 | 10.0m | 100 m2 | 350 Lux | Red | Indirect | 4.0m | Red / High Output *** | 4 | C-4.5-14 | Max Height = 3.6m | Max spacing = 7.6m |

3

The details should be transferred to the installation drawings enabling the VADs to be setup correctly

VAD Totals

| | |
|---------------------|---|
| Red / High Output | 6 |
| Red / Med Output | 0 |
| Red / Low Output | 0 |
| White / High Output | 0 |
| White / Med Output | 0 |
| White / Low Output | 0 |

Sensor Sounder
S-Cubed Mark 2
Manual Call Point Interface

Room Summary

| | | |
|----------------------------|-----------------------|--------------------|
| Room Name | office | |
| Length | 6.0m | |
| Width | 4.0m | |
| Area of Room | 24 m2 | |
| Mounting Height | 3.0m | |
| Ambient Light | 450 Lux | |
| Device Colour | Red | |
| Line of Sight | Indirect | |
| VAD Device Intensity | Red / High Output *** | Max Height = 2.7m |
| Detection Spacing Strategy | Smoke - Open Area | |
| Detection /VAD Spacing | 3.0m | Max spacing = 5.7m |
| Quantity of VADs | 2 | |

Design Summary Print

23:14
13/05/2014

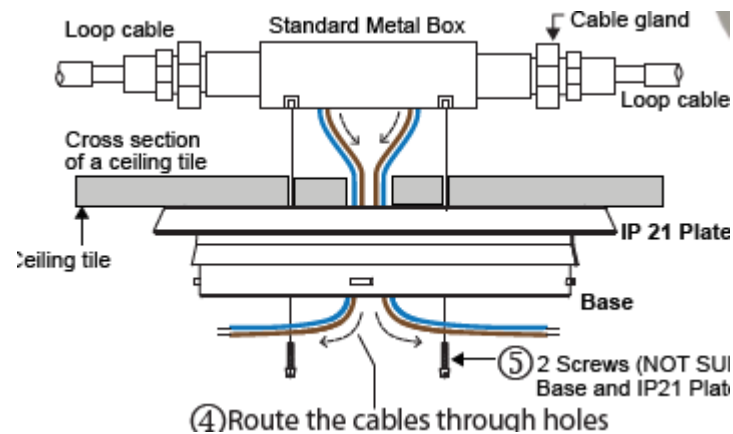
GENT

'As Installed' drawings

- **Your 'as installed' drawings should now not only show Sensor States required in rooms if not default State '0'**
but also
- **Show the power setting for the VAD as calculated in the design**

IP21 Plate & Base

- **SQuad Sensor VAD's require an IP21 Plate to be fitted (therefore cannot use the semi-flush mounting kit, S4-Flush)**



- **SQuad Sensors without a VAD do not require the IP21 Plate.**
- **IP21 plate provides compliance against water ingress to EN54 Part 23**
- **Ordering codes:**
 - **Standard base only – code S4-700**
 - **IP21 Plate only – code S4-705**
 - **IP21 Plate & base – code S4-701**

Caution

- **Resonance Search follows the Loop Allocation process (Optional)**
- **Not compatible with V3.XX software, BS panels**
- **Not compatible with 3400 devices**
- **Compatible with 34000 (But Not 34450 Interface) and S3 devices but at reduced power**
- **Beware of changing loop cards eg test purposes**
- **Beware of changing MCC cards at any time – risk of initialising NVM!!
Lose all data unless you Retrieve setup first**

How to Factory Default a Panel

1. **Take a Commissioning Tool Retrieval of the panel's config**
2. **Unprotect NVM** – *Setup > Protect > NVM Card > Disable > Enter*
3. **Switch On Freebloks** – *Test Eng > Test > Freeblok > Next > [Controller] > Enter*
4. **Initialise NVM** – *Test Eng > Card > Init > NVM Card > Enter*
5. **Switch Off Freebloks** – *Test Eng > Test > Freeblok > Previous > {Off} > Enter*
6. **Disconnect batteries from PSU**
7. **Isolate Lithium battery located on MCC or MCB**
8. **Disconnect USB Commissioning lead from panel**
9. **Press and release the MCC/MCB reset switch then QUICKLY remove mains supply**
10. **Leave panel powered down for at least 3 minutes**