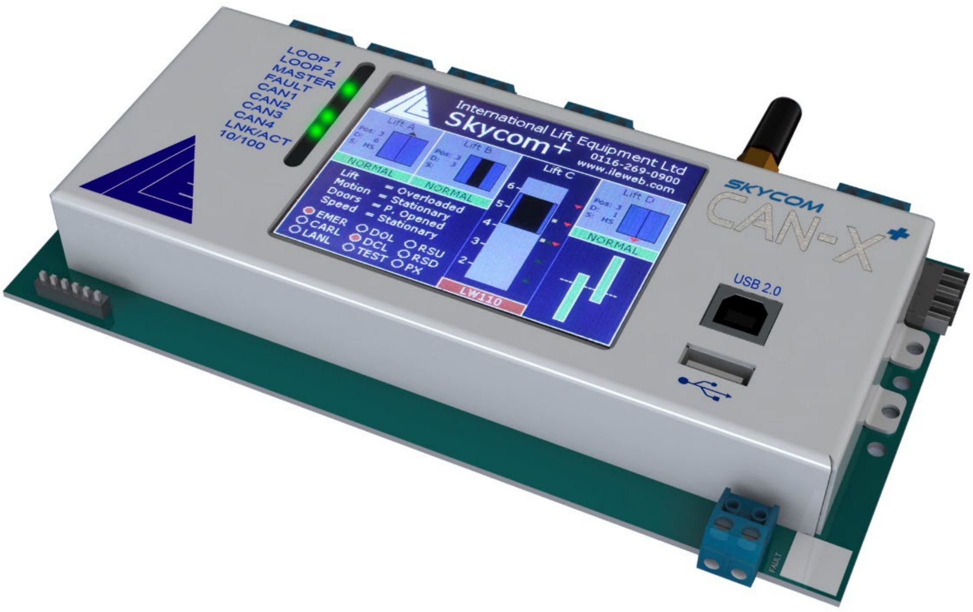
Skycom CAN-X⁺ Manual



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Contents

Introduction

This manual gives details on the Skycom CAN-X⁺ lift controller, detailing the hardware that makes up the controller along with instructions for the setup of the lift. The CAN-X⁺ is a modular system which allows variable lift configurations. It is designed to be a fully distributed system, but can be integrated fully into the control panel for a traditional style lift controller.

CAN-X⁺ consists of a CPU board, with expandable I/O via the addition of I/O and RELAY Nodes. The controller is fully configurable and all peripherals connected to the processor via the CAN networks are also configurable.

The processor has a full colour 3.5” TFT touch screen to help in both the setup and fault diagnosis of the lift. All operations necessary to diagnose, setup, setup optional absolute shaft encoder, edit I/O, configure the Fuji drive and configure the controller are carried out via this TFT touch screen.

The processor connects directly via a CAN network to all ILE peripheral products such as serial indicator, LCD indicator, TFT indicator and speech unit.

The CAN-X⁺ is capable of running as an 8 car group, with up to 8 risers of landing pushes, 32 floors at speeds up to 4m/s (with optional shaft encoder)

There is an on board RS232 port, Micro SD card slot, USB A connector, USB B connector, Ethernet port, Speaker and local Wi-Fi. All of these are used for interfacing with the user and peripheral devices (see relevant section for each).

The Hardware

The CAN-X⁺ CPU is a dual processor system, it shares the same main CPU with the CAN-X system, this CPU is dedicated to running the lift and communicating with the various CAN ports. The second processor deals with the group information in multi car installations and the interface full colour TFT touch screen. This dual processor system means that no matter how much group information is being processed by the display processor, the processor that makes the lift go up, down and stop is never bogged down, it is just waiting to be told which floor to go to.

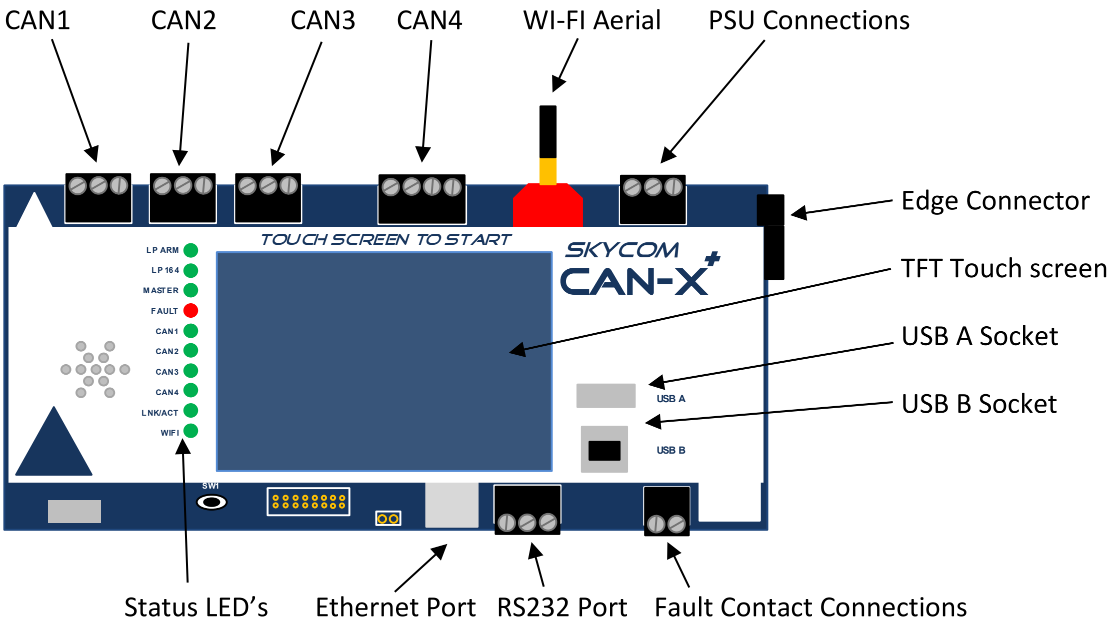
The CPU has 3 CAN ports that have flexible functions but generally are used as below, and 1 CAN port dedicated to the control of the drive in a traction system.

- CAN 1 generally dedicated to the local landing network
- CAN 2 generally dedicated to the car network
- CAN 3 generally dedicated to the control panel network
- CAN 4 Always used for drive communication

The CPU is supplied from a dedicated 500mA fuse within the control panel and also has a built in fault relay which triggers from internal faults and external faults from the drive in a traction system.

A general layout diagram of the CAN-X⁺ CPU is shown overleaf.

Basic CPU board layout



Connection/Port details

CAN1 & CAN1 Status LED

CAN 1 connections CH and CL. Used for communication to the local landing network or bridge node (in a group installation). The status LED blinks green as communication messages are sent and received.

CAN2 & CAN2 Status LED

CAN 2 connections CH and CL. Used for communication to the car network. The status LED blinks as communication messages are sent and received.

CAN3, Edge connector & CAN3 Status LED

CAN 3 connections CH and CL. Used for communication to the control panel network. These are also reproduced via the edge connector. The status LED blinks green as communication messages are sent and received.

CAN4 & CAN4 Status LED

CAN 4 connections +V, CH, CL and 0V. Used for communication with the drive in a traction installation. This is an isolated CAN port so it requires an external supply from the drives 24VDC. The status LED blinks green as communication messages are sent and received.

Wi-Fi Aerial & Status LED

The Wi-Fi Aerial is for communicating Wi-Fi data to the ILE commission and maintenance tablet and mobile phone applications. It is a local port only so doesn't connect to the internet. The status LED illuminates green when the Wi-Fi is activated from the relevant menu. (See Wi-Fi section of this manual)*

PSU Connections

The PSU connections DC+, DC-, Earth. Used for the incoming 24VDC power supply to the CPU. The CPU is protected by a 500mA fuse in line with the DC+ connection within the control panel.

TFT Touchscreen

The 3.5” full colour touch screen is used for all button and interface functions with the CPU. It is an industrial grade touchscreen with a resistive membrane so needs a more positive touch than the average smartphone. If finer operations are needed then a stylus can be used. (Not supplied)

USB A Socket

The USB A socket is for use with an USB memory stick. This will allow the customer to obtain a copy of the controller drawings and relevant manuals. These are stored as PDF files on the Micro SD card. It is also used to load/save the parameters of the CPU to allow transfer to a new CPU.*

The same port will allow ILE Technical support engineers to access a data logging feature.*

USB B Socket

The USB B socket is for connection to a computer for loading/saving parameters to a PC.

Fault relay connections & Status LED

The fault relay connections A and B. Used for connecting the fault relay into the safety circuit. This relay opens if there is a major fault with the controller or drive. When the fault relay is tripped the status LED illuminates red.

RS232 Port

The RS232 Ports is used for external serial communication. Not implemented at present.

Ethernet Port

The Ethernet port is for connection to an external broadband connection for remote communications. Not implemented at present.

Status LED’s

The status LED’s not discussed above are;

- LP ARM, this is the loop LED for the display processor. It blinks green once a second if the processor is running correctly. If it is not on or blinking rapidly there is a fault with the display processor. **Note;** The lift will run if the display CPU is not running or faulty. The touch screen will be disabled and any group function will not work.
- LP 164, this the loop LED for the main processor. It blinks green once a second if the processor is running correctly. If it is not on or blinking rapidly there is a fault with the display processor.
- MASTER, this LED illuminates green if this controller is the master in the group of lifts. If the master is switched off another lift in the group will assume the role of the master.
- LNK/ACT, this LED illuminates green when there is an Ethernet connection.

CAN-X⁺ System

To make a full controller function obviously there needs to be I/O boards connected to the CPU. 6 different I/O boards are available, they are 8 way I/O, 2 way I/O, 4 way relay, Bridge, Multi I/O and APS shaft encoder. A typical traction CAN-X⁺ distributed system up to 5 floors will comprise of the following.

Control Panel

- 2 x 8 way IO (or 1 Multi IO)
- 1 x 4 way relay IO (or 1 Multi IO)
- 1 x APS Shaft encoder
- 1 x bridge

The I/O in the control panel will typically be used for the I/O dealt with in the motor room e.g. Emergency electrical operation inputs, thermistor inputs (motor room or motor), fire alarm signals or high voltage inputs (via solid state relays) for monitoring the safety circuit.

Car

- 3 x 8 way IO (or 1 Multi IO)
- 1 x 4 way relay IO (or 1 Multi IO)

Landing

- 5 x 2 way IO

Extra 2 and 8 way IO can be added for additional floors.

Each IO board in the system will be pre-set with a unique address which will be displayed in the IO viewer. The maximum number of IO in a system depends on the network they are connected to. They are as follows;

- CAN1 (Landing) simplex up to 34 IO boards, group, up to 49 IO boards on the front entrance and up to 50 IO boards on the rear.
- CAN2 (car) up to 8 individual IO boards.
- CAN3 (control panel) up to 8 individual IO boards.

NOTE: a maximum of 2 Multi IO boards are usable on a network and can ONLY be connected to CAN2 or CAN3.

See additional data sheets for the nodes for connection details.

IO BoardAddressing

2 way IO, 8 way IO, 4 way relay

All the IO boards in this section are addressed in the same way and can be easily fitted to ANY of the CAN networks (apart from Multi IO). A CAN network can be populated with a variety of IO boards e.g. a control panel network may have 2 x 8 way IO boards and 2 x 4 way relayss etc.

The IO boards are addressed in binary via the on board DIP switches. In addition to the binary address, 2 DIP switches define which network the board is on, 1 DIP switch indicates if a board is to be used for rear doors in a selective door system and 1 DIP switch is to terminate the network.

IO Boards Location DIP's

The table below shows the settings of the IO boards location DIP switches. (Switches 8&9) This relates to all of the boards in this section. If a boards location DIP is set wrong a bus error is shown next to the relevant board in the I/O viewer section of the CAN-X+ CPU. This board will still function (as long as it's unique address is not in conflict with another board) it is just a warning that the location DIP is set incorrectly.

IO Location	Panel	Car	Landing(simplex)	Landing (Group)
DIP number 8	0	1	0	1
DIP number 9	0	0	1	1

Front or rear door location DIP

**The table below shows the setting of the door location DIP switch. (Switch 7) If the system has selective doors both landing nodes at that floor are addressed the same, but the node that deals with the call for the rear doors has this additional DIP set and is programmed in the landing riser I/O editor of the CAN-X+ CPU as a rear call.

Push Location	Front	Rear

DIP number 7	0	1

Termination DIP

The table below shows the setting of the terminating resistor to identify the end of the CAN network (see CAN architecture section of this manual for more detail) if the node is at the end of the network the resistor must be set to the on position.

Node Location	Mid	End
DIP number 0	0	1

Node address DIP's

Each node on a network needs an individual address. This is achieved by giving the node a unique binary address via the address DIP switches. (Switches 1-6) If 2 or more nodes on a network are programmed with the same address a conflict is displayed in the I/O viewer of the CAN-X⁺ CPU. The nodes that are in conflict will not function correctly so are removed from the network by the CAN-X⁺ CPU and if they contain critical I/O for the functioning of the lift the fault relay will trip and the lift will go out of service.

Node Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DIP number 1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
DIP number 2	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0
DIP number 3	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0
Dip number 4	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0
Dip number 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Dip number 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Node Number	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
DIP number 1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
DIP number 2	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0
DIP number 3	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0
Dip number 4	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0
Dip number 5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Dip number 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Multi I/O

The multi I/O combines 3 nodes onto 1 board. All CAN-X⁺ distributed I/O systems have 2 x 8 way nodes and 1 x 4 way relay node in both the control panel and the car top I/O unit. A decision was made to combine these 3 nodes onto 1 board to eliminate connections between nodes and to streamline production time. The multi I/O is still recognised in the menu structure as 3 individual nodes and can be addressed as nodes 1, 2, & 3 or as nodes 4, 5 & 6 via the DIP switches. The multi I/O can only be fitted to a car or control panel network and this is again selected via the DIP switches. There is also 1 DIP switch to terminate the network.*

Node location DIP

The table below shows the setting of the node location DIP switch. (Switch 1) If a nodes location DIP is set wrong a "BUS" error is shown next to the relevant node in the I/O viewer section of the CAN-X+ CPU. This node will still function (as long as it's unique address is not in conflict with another node) it is just a warning that the node location DIP is set incorrectly.

Node Location	Panel	Car
DIP number 1	0	1

Node address DIP

Each multi I/O node needs a unique address on the network. This is either address 1, 2 & 3 or address 4, 5 & 6 achieved by setting the node address DIP switch. (Switch 2)

Node address	1, 2 & 3	4, 5 & 6
DIP number 2	0	1

Termination DIP

The table below shows the setting of the terminating resistor to identify the end of the CAN network (see CAN architecture section of this manual for more detail) if the node is at the end of the network the resistor must be set to the on position.

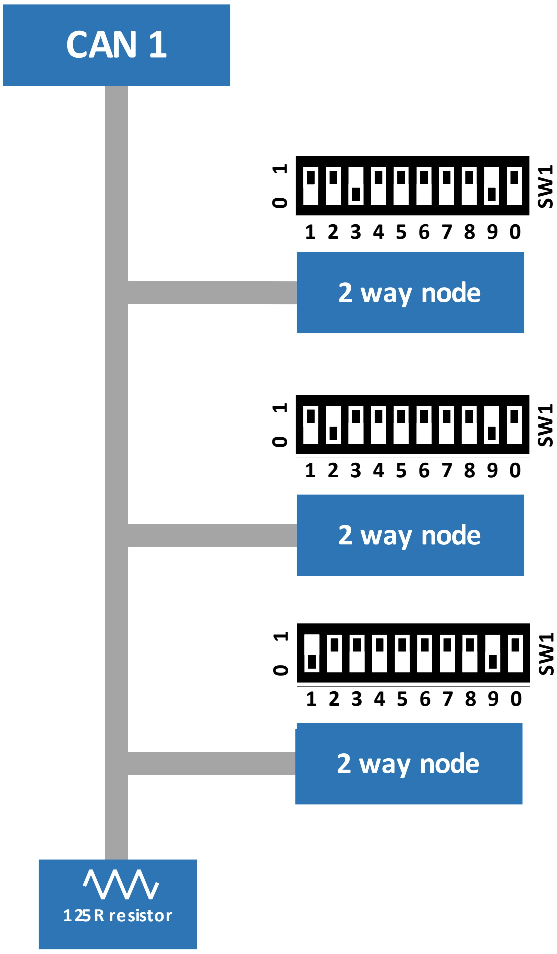
Node Location	Mid	End
DIP number 0	0	1

CAN architecture and switch setting examples

This section deals with the CAN architecture of the CAN-X⁺ control panel when in a distributed system.

CAN 1 - Landing network (Simplex)

Generally the landing network in a CAN-X⁺ control system is connected to CAN 1 of the CPU. To keep some continuity between controllers we always address the lowest floor node, which is handling calls, in a landing network as node 1. We then address the other landing nodes as 2, 3, 4 etc. A typical network for a 3 floor simplex lift is shown below.



Switch 3 & 9 in the on position indicating that this is a landing network node and its unique address is 3.

Switch 2 & 9 in the on position indicating that this is a landing network node and its unique address is 2.

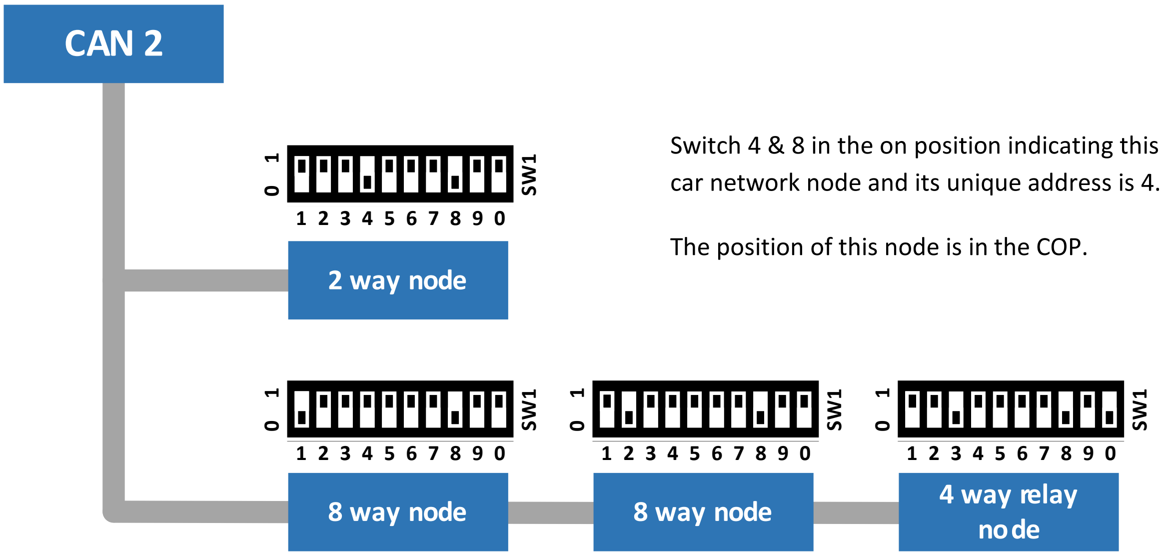
Switch 1 & 9 in the on position indicating that this is a landing network node and its unique address is 1.

Terminating resistor is plugged into the loom. (Plug can be removed for extending the network pit inspection control (if required))

Peripheral devices such as indicators and speech units installed on the landing network have no effect on the node addresses as long as they are fitted before the terminating resistor. Indicators fitted on the network have addresses but that is only used for landing gong firing.

CAN 2 - Car network

Generally the car network in a CAN-X+ control system is connected to CAN 2 of the CPU. To keep some continuity between controllers we always address the 1st car top node in the network as car node 1. We then address the other car top nodes as 2, 3, 4 etc. The node addresses for the COP then follow on from these. Because of the way the CAN-X+ distributed I/O system is wired the COP nodes are on the centre of the network this means the last node on the car top I/O rail has the terminating resistor switched on. A typical network is shown below.

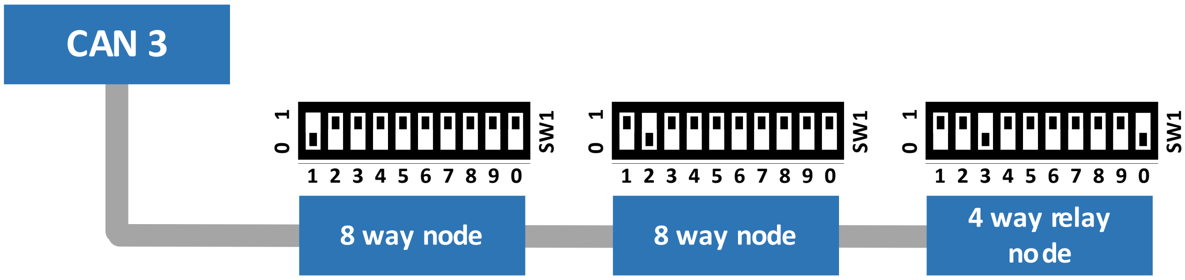


The switches on the 3 nodes above are addressed as car network nodes 1, 2 & 3. Switch 8 is on indicating it is on the car network and the last node in the network has switch 0 on to terminate the network.

Peripheral devices such as indicators and speech units installed on the car network have no effect on the node addresses as long as they are fitted before the terminating resistor and off the same drop as the COP nodes. Indicators fitted on the network have addresses but that is only used for car gong firing.

CAN 3 - Control panel network

Generally the control panel network in a CAN-X⁺ control system is connected to CAN 3 of the CPU. To keep some continuity between controllers we always address the 1st control panel node in the network as control panel node 1. We then address the other control panel nodes as 2, 3, 4 etc. Because of the way the CAN-X⁺ distributed I/O system is wired generally there are no drops from the centre of the network this means the last node in the control panel has the terminating resistor switched on. A typical network is shown below.



The switches on the 3 nodes above are addressed as control panel network nodes 1, 2 & 3. Switch 8 & 9 are off indicating it is on the control panel network and the last node in the network has switch 0 on to terminate the network.

Group architecture

The CAN-X⁺ control system is capable of controlling up to an 8 car group of lifts with up to 8 sets of landing risers. Each of these risers is wired into the control panel relating to the shaft that they are in. The information is then passed to all controllers via a CAN connection. The supply between controllers is also interconnected. These are the only interconnections between control panels.

Bridge node

To separate the group wide functions (landing calls, fire return etc.) from local lift functions (indicators, speech and gongs) in a group system an extra node is fitted in each control panel in the group. This node is called the bridge node. The bridge node sits on the CAN 1 network inside each control panel as the first node in the network. It is addressed with a unique address (1-8) corresponding to the lift number in the group.

The bridge node also has 2 inputs available so that any group wide function can be connected in the motor room (fire return, evacuation etc.) ALL functions that act on the whole group must be wired into either the bridge node inputs or the group landing nodes.

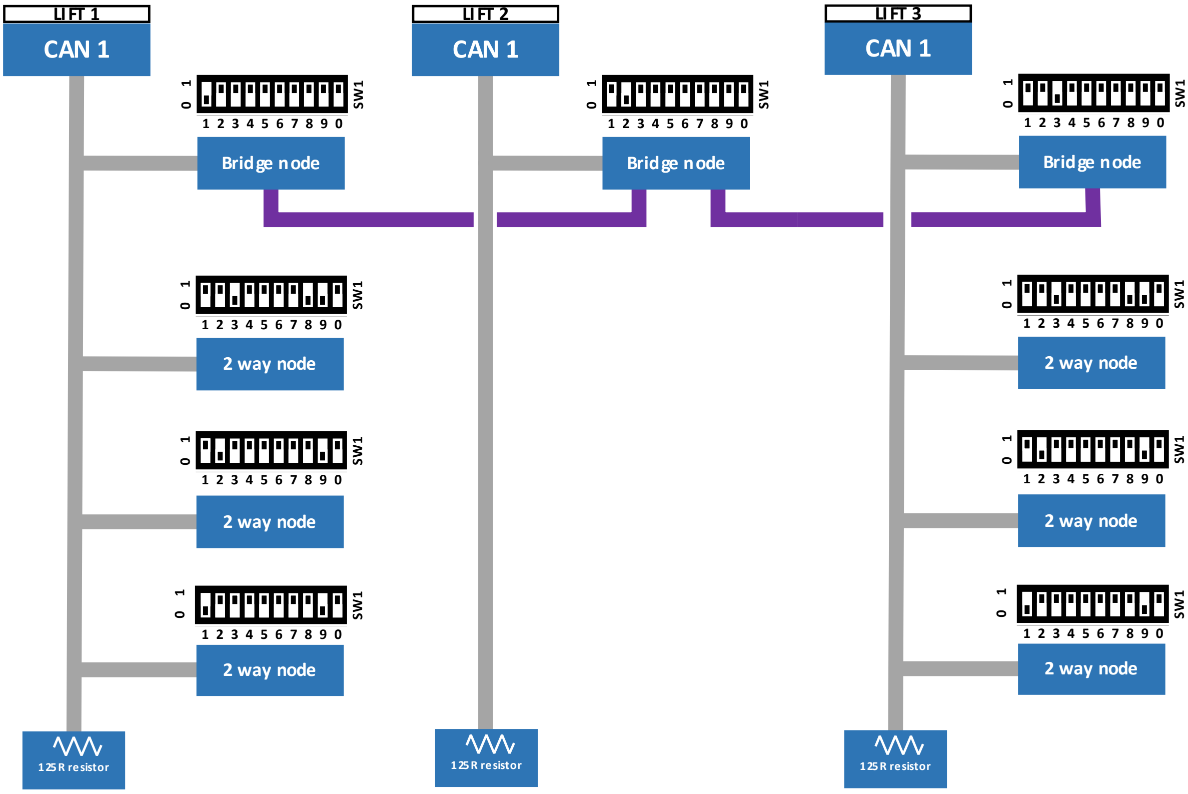
The power supply for the riser of pushes fed from the LNF fuse and terminal is diverted through the bridge node so if the control panel in which it resides is switched off the riser will be fed from another controller in the group.

The landing nodes in a group system need to have their node location set as group landing. See table on page 8.

The architecture and example switch settings for a multi riser 3 floor installation is shown overleaf.

CAN 1 – Landing network (group)

The group landing network in a CAN-X+ control system has to be connected to CAN 1 of the CPU. To keep some continuity between controllers we always address the lowest floor node, which is handling calls, in a group landing network as node 1. We then address the other landing nodes as 2, 3, 4 etc. The bridge nodes are addressed in a similar manner with the bridge node in lift 1 addressed as 1 etc. A typical network is shown below.



The bridge node address DIP switch settings for each controller in the group are shown in the table below. All of the bridge node setting should be pre-set at the ILE factory.

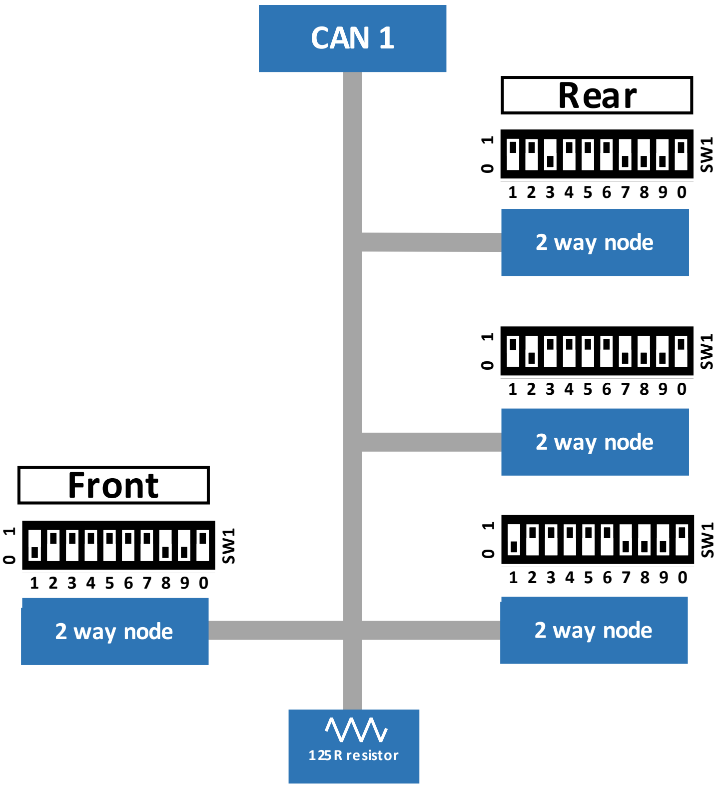
Bridge node Location	Lift 1	Lift 2	Lift 3	Lift 4	Lift 5	Lift 6	Lift 7	Lift 8
DIP number 1	1	0	1	0	1	0	1	0
DIP number 2	0	1	1	0	0	1	1	0
DIP number 3	0	0	0	1	1	1	1	0
DIP number 4	0	0	0	0	0	0	0	1

Group I/O

All I/O that acts upon the whole group is programmed in the group I/O section of the CAN-X+ CPU NOT the local lift section. See relevant section on I/O editing.

CAN 1 architecture when using selective doors

To keep symmetry in the landing node numbering system in the architecture of a selective door system, where you may have a call at the same physical floor level, but they are treated as individual floors with front and rear doors the CAN-X⁺ control system requires that the rear floor node is identified by the use of DIP switch 7. (See table on page 8) When a selective door system is required it is treated and programmed as if it were a group system even if the lift is a simplex. A typical selective door network is shown below.



Both nodes at floor 1 have the same unique address (group node 1) but the rear side has DIP switch 7 on to identify it as being related to the rear calls and doors.

Selective door I/O

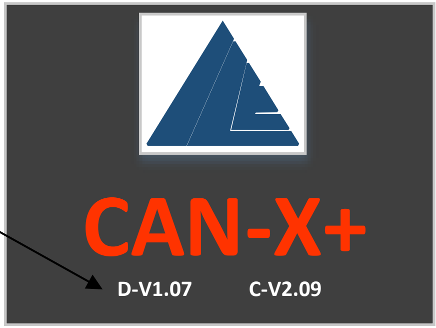
All I/O related to the landing calls for a selective door system is programmed in the group I/O section of the CAN-X⁺ CPU NOT the local lift section. See relevant section on I/O editing.

Menu system

All the menus are entered via the 3.5” TFT touch screen. All button functions required to scroll through the menus are reproduced on screen. After a period of inactivity the TFT screen switches off to save energy, a touch of the screen switches it back on.

Once the screen is awoken you are greeted with the ILE splash screen. Customer specific graphics can be added to this screen on request and held on the on board micro SD Card.* 1 touch on this screen takes you into the menus.

The software versions of the 2 processors are displayed on this screen D for display processor and C for main control processor.



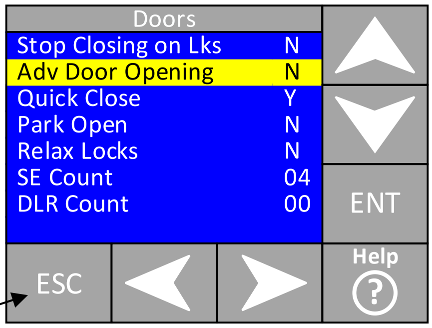
Basic menu structure and button functions

The menu structure is split up into 3 areas;

1) Title bar of current menu:

2) Main display area:

3) Button function area:

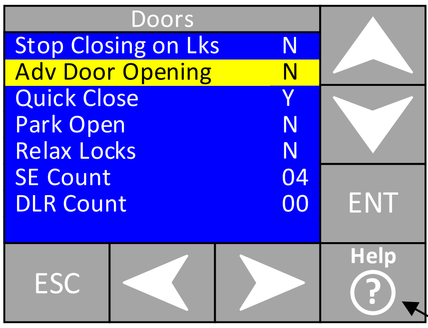


The title bar shows the name of the menu that the user has entered.

The main display area shows all the parameters or functions available in the menu the user has entered. The parameters are then highlighted yellow once they have been selected.

When buttons become available they appear in the button function area. So if you can only navigate downwards the up arrow is not displayed etc.

A parameter or function can be highlighted using the up or down arrow buttons or by touching the relevant parameter on the screen. The parameter can then be expanded by touching the highlighted parameter again or by pressing the **ENT** button. The **ESC** button takes the user back 1 step.



The **help** button appears if there is an audio help file available to explain the highlighted function*

Passwords and password entry

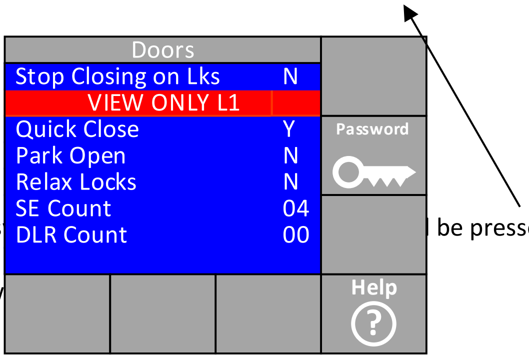
Certain menus and the changing of all parameters are password protected. There are various levels of password dependent on how they can affect the performance of the lift. So if something simple like speech unit volume would have a lower level password than something in the I/O structure. There a 3 levels of password;

- Level 1: Password level 1 is the minimum protection, this password is the same for all the CAN-X⁺ controllers. The value is **111111**
- Level2: Password level 2 protects all user adjustable parameters that sit above the password level 1 category. This parameter is contract specific and is generated using the 4 digit contract number that is programed into the CAN-X⁺ CPU. To obtain this password the user must call the ILE technical support team and give the team member the 4 digit contract number.
- Level 3 or factory level password: This is a software version specific password and is used to access hidden menus within the CAN-X⁺ to help our technical support engineers diagnose issues. This password may be given to a site engineer by one of technical support team over the phone but should NOT be written down anywhere as the whole system can be set back to defaults once this has been entered.

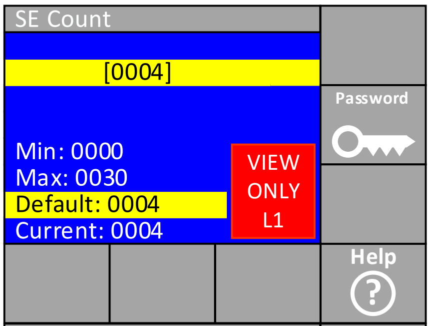
After a password has been entered the relevant level is unlocked until the power to the CAN-X⁺ CPU is cycled or after 30 minutes of inactivity.

When the user tries to edit a highlighted parameter, dependent on the type of parameter, one the following screens is displayed;

This screen is displayed if the parameter to be changed is a simple YES/NO



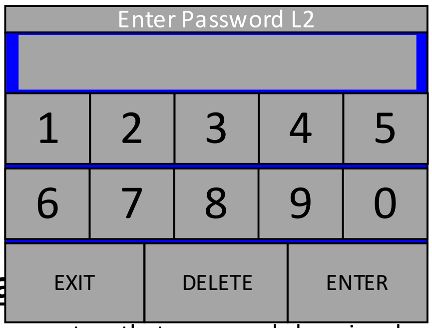
This screen is displayed if the parameter to be changed has a range that can Be adjusted.



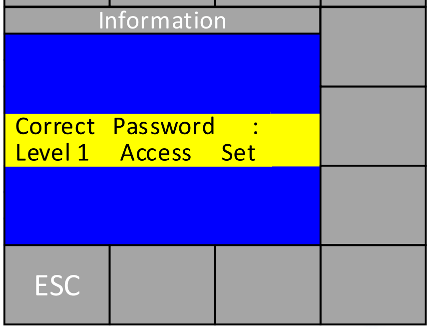
To enter the pass be pressed.

The screen below

Once in the password entry screen type in the relevant 6 digit password & press **ENTER**



If the password is correct this screen will be displayed for a few seconds reverting back to the chosen parameter.



Changing a pa

There are 2 types of parameters that may need changing dependent on their function.

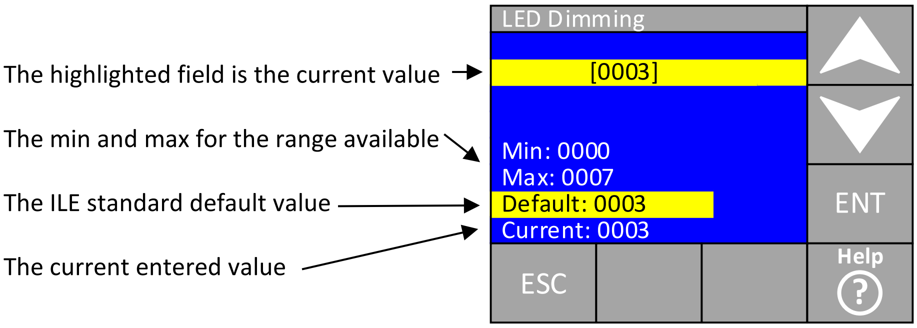
- Parameters that have a YES or No: e.g. Advance door opening is either required or not, YES or NO.
- Parameters that have a range or time: e.g. No. of self-tests has a range from 0 – 10 or Self-test time has a time from 0 – 600 seconds.

YES/NO parameters

To change a YES/NO type parameter, the parameter in question is first highlighted on screen either by touching the desired field or scrolling to it via the direction buttons. Once highlighted, pressing **ENT**, or by touching the highlighted field on the parameter will change it from YES to NO or vice versa. (As long as the relevant password has been entered, see password entry on page 17)

Range or time parameters

To change a range or time parameter, the parameter in question is first highlighted on screen by either touching the desired field or scrolling to it via the direction buttons. Once highlighted, pressing **ENT**, or by touching the highlighted field on the parameter will take the user to the range or time parameter adjustment screen below. (As long as the relevant password has been entered, see password entry on page 17)



The value can now be changed by scrolling up or down using the direction buttons. The minimum, maximum, current or default value can be entered quickly by touching the desired field and the value will change accordingly. Once the desired value is highlighted in the new value field, press **ENT**.

Once entered the screen will reset to the previous screen and the new value will be displayed and applied to memory.

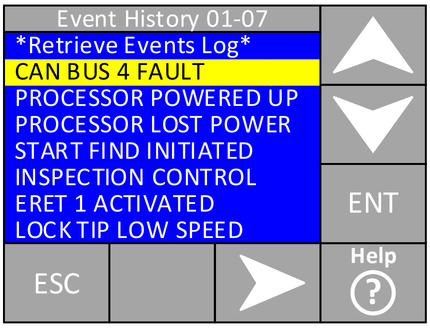
Parameter and I/O architecture

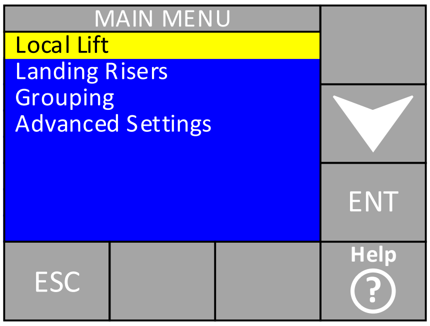
The parameter and I/O architecture are defined into 3 categories;

- Local lift: Parameters in this group apply to this lift only. If the lift is part of a group any changes made in this set apply to this lift. So if they are timer or performance related the user may need to change these in each controller. The event logger in this group deals with events generated by this lift only.
- Landing risers: Parameters in this group apply to the landing risers if the lift is part of a group. If the parameters are changed in the master controller in this set they will automatically be applied to the whole group.*
- Grouping: Parameters in this group apply to all lifts in the group. The event logger in this group displays events that have occurred on a group wide basis. The group lift viewer in this group allows the user to view all lifts status in the group simultaneously. Random landing calls that are to be applied to all lifts can be entered in this menu on the master lift. If the parameters are changed in the master controller in this set they will automatically be applied to the whole group.*

Local lift

To make any changes to this lift only the local lift menu shown below has to be entered.





Once entered, the user is faced with the local lift main menu.

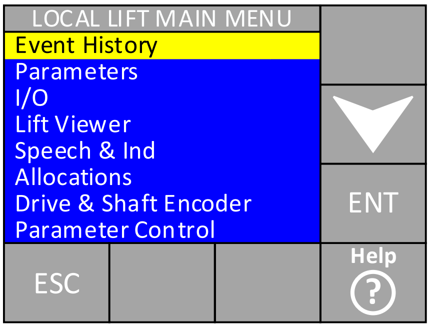
Local lift main menu

From this menu all parameters that relate to this lift in the group are viewed or changed. The menus are shown below.

Event History: Shows events related to this lift.

Parameters: Parameters are adjusted and viewed here.

I/O: Inputs and outputs are adjusted and viewed here.



Speech & Ind: Speech and indicator messages are adjusted and viewed here. (ILE indicators and speech only)

Allocations: Parameters relating to the allocation of local lift calls are adjusted and viewed here.

Drive & Shaft Encoder: Parameters relating to the drive and shaft encoder are adjusted and viewed here. (if fitted)

Parameter Control: Data verification, password resetting and testing settings are adjusted and viewed here.

Event history

Event Log

All events that occur to the local lift (apart from the shaft encoder) are dealt with in this menu. All events are time and date stamped and up to 50 events are stored in the CAN-X⁺ non-volatile memory. Events can be categorized into 3 groups;

1) Pure event: An event that is logged to time stamp it, but has not had any detrimental effect on the running of the lift, so it may be a lift function. E.g. Service control activated.
2) Fault event: An event that is related to a fault on the system, but has not taken the lift permanently out of service. This type of event would need investigation to cure it on the next service visit. E.g. Lock tip
3) Fault: This type of event is a permanent fault, it has taken the lift out of service and needs an engineer's presence to fix the fault before putting the lift back into service.

See Appendix C of this manual for a full list of events and their meanings or, press the help button on the highlighted event.*

An example event log screen is shown overleaf.

This shows the current events being viewed, 01-07, 01 being the latest event. Touch the right arrow to see events 08-15 etc. and move up or down to highlight the event.

Various example events are shown here.

CAN BUS FAULT: this would be a fault that would take the lift out of service
INSPECTION CONTROL: this is a pure event, just logging the time and date the lift was on inspection.
LOCK TIP LOW SPEED: this is a fault event, the lift is not out of service but does need an engineer's attention at some point.

See Appendix C of this manual for a full list of events and their meanings

Once an event has been highlighted pressing **ENT** will expand the event to give a brief description of the event, the date & time it occurred, the lift position (if it was in normal service at the time of the event) and the number of occurrences.

The number occurrences increments if there are a number of the same events one after the other rather than filling the event log up with multiple occurrences of the same event.

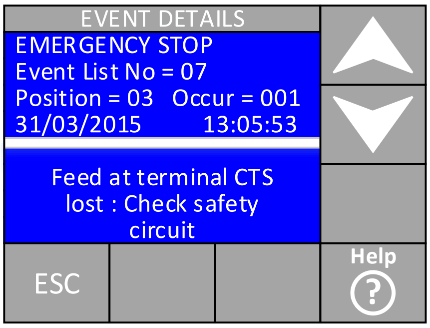
An example expanded event log screen is shown below.

Event type

Position and number of occurrences
Date and time of event

Brief description of event

The help button can pressed to give an audio description of the fault.*



Event viewer

The event viewer is a monitoring screen for watching live events as they happen. When this menu is entered the lift can be running with an engineer watching in the motor room. When an event occurs it is displayed on screen and also logged in the event log.

Clear event log

The 50 event log is cleared by entering this menu. Once cleared the events cannot be retrieved. (Password level 1 required)

Journey counter

The total number of successfully completed journeys is logged here. It can be cleared by entering the menu and reset by pressing **ENT.** (Password level 1 required)

Door cycle counter

The total number successfully completed door cycles is logged here. It can be cleared by entering the menu and reset by pressing **ENT.** (Password level 1 required)

Number of power ups

The total number of times the CAN-X⁺ CPU has powered up is logged here. It can be cleared by entering the menu and reset by pressing **ENT.** (Password level 1 required)

Drive fault log

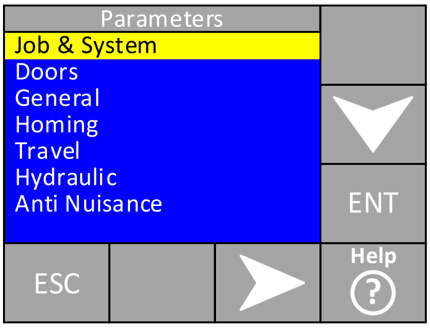
This is the fault log for the Fuji drive. (Traction controllers only) for full description of the drive fault log see the CAN-X/CAN-X⁺ Fuji drive manual. If another type of drive is fitted the fault log for the drive may be accessed by the drive keypad.

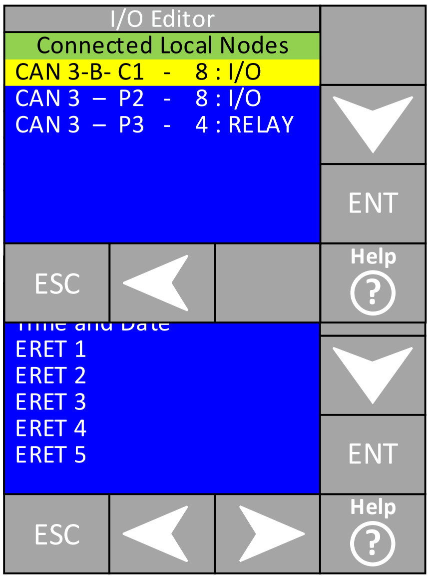
Parameters

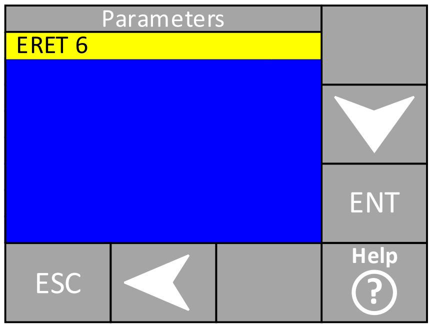
Within the parameter menu all parameters pertaining to this lift (not the group) are adjusted and viewed.

There are 3 screens of parameters available and are shown below.

See page 18 for information on how to change a parameter and appendix A of this manual for a full list of parameters and their meanings.







I/O

As described in the introduction section of this manual the CAN-X$^+$ CPU has no inbuilt I/O. All I/O is distributed amongst the 3 CAN networks. The nodes available are put into 2 categories whether it is viewing or editing them.

- Connected nodes
- Unused nodes

When a node is removed from a network either physically or via the CAN-X$^+$ CPU it goes from the connected section in to the unused section. If it gets re-connected it goes back into the connected section.

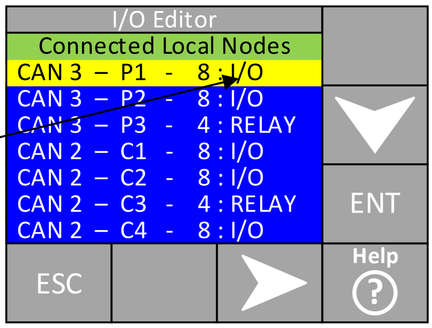
Node viewing and editing

When viewing or editing connected nodes a few things should be noted. The list of nodes should look like the example below. The list starts with CAN 3 for the control panel, then CAN 2 for the car, followed by CAN 1 for the local landing connections (not group) See example below.

CAN 3 has 3 nodes connected & addressed as panel location, unique address 1 - 3.

CAN 2 has 4 nodes connected & addressed as car location, unique address 1 - 4.

A second page of connected nodes is available indicated by the presence of the right arrow button.



If a nodes location is in conflict with the actual CAN bus that it is connected to, a bus warning is displayed. As long as the unique address is not in conflict with another node on this network the lift will run. See example below.

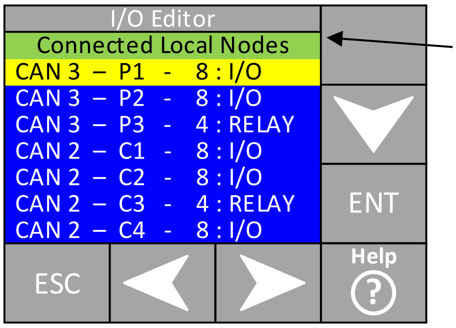
CAN 3 is showing a bus conflict as an 8 way I/O node is programmed as a car node (indicated by the C1) the lift will still be able to run in this instance as there is no other node C1 connected in the system.

Viewing connected nodes

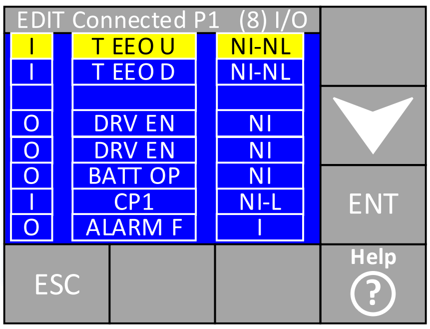
To view a connected node press **ENT** on the view connected nodes menu. A list of connected nodes is then displayed. See example below.

Highlight the node that the user wishes to view and press **ENT.**

A list of the programmed I/O associated with that node is then displayed. As this node has inputs and outputs some are displayed (in the 1^{st} column) as O (outputs) and some as I (inputs)
the 2^{nd} column shows what the I/O is programmed as and the 3^{rd} column shows If it is linked, non linked or inverted.
(see I/O editing for I/O link type)

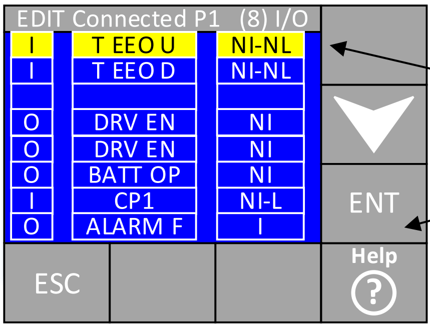


When an input or output is active it is highlighted in yellow.



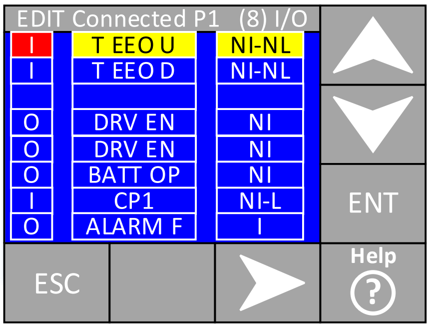
Editing connected nodes

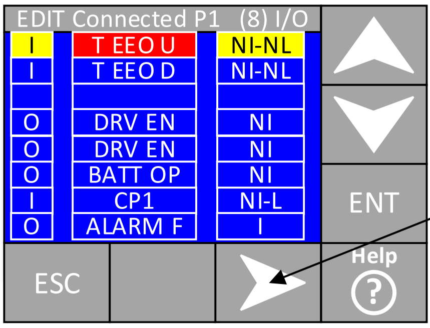
To edit a connected node press **ENT** on the edit connected nodes menu. (Requires level 2 password or above) A list of connected nodes is then displayed. See example overleaf.



Move up and down to highlight to the parameter that needs editing and press **ENT**.

Once entered the 1st column is Highlighted in red.





The up and down arrow buttons can now be used to change the I (input) to O (output)

Pressing the right arrow button will highlight the centre column. In this column the up and down arrow buttons can be used to navigate to the desired parameter. (Only parameters in the input or output group will be displayed dependent on the 1st column) Once the desired parameter is entered press **ENT** to write to memory.

In the 3rd column the type of input or output can be selected. The choices are for inputs;

- NI-NL: Non inverted, Non linked: This type of input is not inverted so when the input pin is high the function is applied and an output is not sent back down the input pin.
- NI-L: Non inverted, Linked: This type of input is not inverted so when the input pin is high the function is applied and an output is sent back down the input pin.
- I-NL: Inverted, Non linked: As above but the when the input pin is low the function is applied.
- I-L: Inverted, Linked: As NI-L but the when the input pin is low the function is applied.

Linked outputs are generally used for car and landing calls to illuminate the call acceptance and for dual illumination of the pushes.

The choices for outputs are as follows;

- NI: Non inverted: This type of output is not inverted so when the function is active the output is set high.
- I: Inverted: This type of output is inverted so when the function is active the output is set low.

See appendix D for the list of inputs available and their function and appendix E for the outputs.

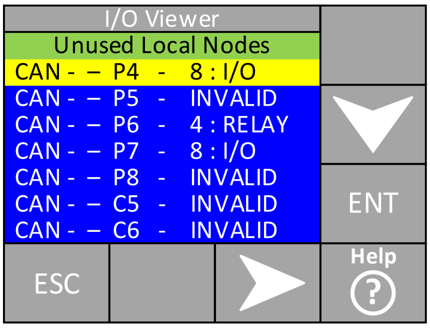
View unused nodes

In this menu all nodes that are not connected to a network are listed, now these may be nodes that were programmed and have now been disconnected from the network or nodes that have not been programmed yet. In this menu all nodes that are available on each network will be displayed. (8 for the control panel, 8 for the car and 34 for the local landing)

Once a board with an unused address is connected to the network it will automatically set the board type and move itself to the connected node list. If it is then disconnected the unused node list will show the last board type to be connected with this unique address.

By entering on the unused node in question the list of I/O programmed on that node will be displayed. (if anything has been programmed) A typical unused node screen is shown overleaf.

This example unused node viewer screen shows that panel node 4 and 7 (P4, P7) have been connected to the network at some point as it has auto-detected them as 8 way nodes. P6 has been connected at some point as it has been auto-detected as a 4 way relay node.



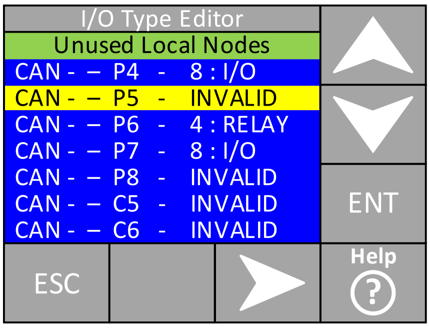
P5, P8, C5 and C6 are shown as INVALID. This means that nodes with these addresses have never been connected to network so no auto-detect has occurred.

It is possible to pre-program the node type. This is done via the edit unused node type and edit unused node menus.

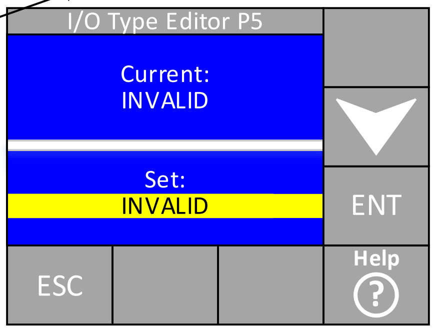
Edit unused node type.

Generally when a new node needs adding to a network the best way is to address the node, connect it to the desired network and then program it in the edit connected node menu. But if the user needs to pre-empt the arrival of the node and pre-program the I/O so when the node arrives it can be addressed and then connected to the network the 1st step is to tell the CAN-X⁺ CPU which type of node is going to be connected and on which network. This is done in the edit unused node type menu. An example is shown below. (Password level 2 protected)

Highlight the INVALID node that needs a board type allocating to it and press the **ENT** button.



Then use the up and down buttons to select the board type required and press the **ENT** button. We have now told the CAN-X⁺ CPU to expect a node addressed as P5 of the desired board type will be added to the panel network.



Node P5 will now show in the unused I/O section as the desired node type and can be edited for its new functions in the same way that a connected node would but via the edit unused node menu.

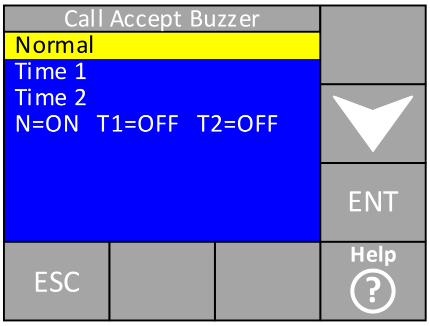
Set critical I/O

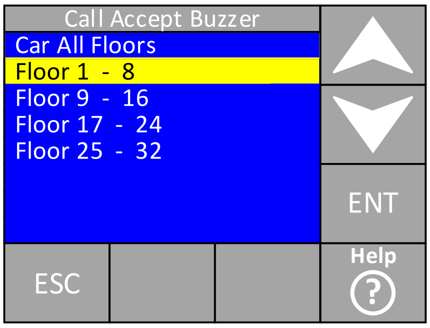
Once a node has been on a network with I/O programmed into it, the parameters programmed are checked by the CAN-X⁺ CPU as to their nature and if they are critical to the function of the lift they are added into the critical I/O list. This means if a node containing critical I/O is disconnected the lift will shut down with "I/O Lost" and open the fault contact. To re-evaluate the critical I/O list this menu needs to be entered and confirmed. (Level 2 password or above)

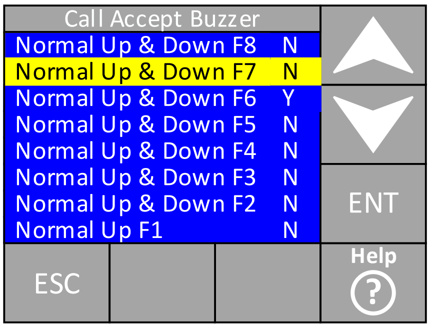
This critical I/O should NOT be reset without consulting a member of the ILE technical support team.

Call accept buzzer

Each 2 way or 8 way node has a buzzer on board to act as the call accept buzzer. These acceptance buzzers can be switched off as a whole or individually via this menu at 2 different times of day. (Generally at night in residential buildings) Individual landings or the whole set of car buzzers can also be turned off. Examples of how to manipulate the call accept buzzers is shown overleaf.







Screen 1 shows the allocations available for the call accept buzzers they are

- Normal: Call acceptance buzzers available during any time outside the range of Time 1 or Time 2.
- Time 1: Call acceptance buzzers available during the Time 1 period.
- Time 2: Call acceptance buzzers available during Time 2 period.

The bottom line shows which allocation period is active in this case normal.

Screen 2 shows the next level screen. This screen is reproduced for all the buzzer allocations Time 1, Time 2 and Normal. Use the up and down arrows to highlight the call accept buzzers that the user wants to change and press **ENT**.

Screen 3 shows the next level screen when the floor 1-8 menu has been entered. To change a parameter from Yes to No press **ENT** on the highlighted floor.

Note; Up and down landing calls can only turned off on a per floor basis and individual car calls cannot be turned on or off. If it is a group system all lifts will need the same changes to disable the buzzer.

See the main allocation parameters from the main menu to set the Time 1 and Time 2 start and stop times.

Lift viewer

The lift viewer is a screen where as its name implies allows the user to watch the status of the local lift. The lift viewer shows the state of various critical I/O for the operation of the lift as well as certain status events, they are listed below.

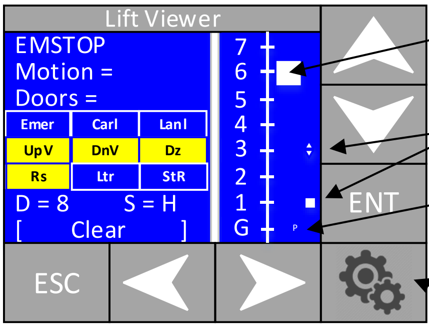
- Lift and drive out of service status
- Motion
- Doors status
- Emergency safety circuit, car lock and landing lock input status
- Vane status for the state machine and reset signal
- Speed monitoring, stop limit and run status.
- Next destination
- Speed selected or measured via the absolute shaft encoder system.*
- Local call entry

A typical lift viewer screen is shown overleaf.

From here the lift status can be viewed as detailed on the previous page.

Destination and speed can be viewed here.

Calls can be entered in to run the lift from here. Use the right and left arrow buttons to scroll through the options (listed below)



Current lift car position is Shown here.

Landing, car and homing calls Allocated to the lift are shown here.

Config button is used as short cut to commonly used functions. (See config button section of this manual)*

To enter calls use the right or left arrow buttons to scroll to the type of call to enter. Once the type of call you want to enter is highlighted use the up and down arrow button to select the desired floor. The options are below.

- Car: This enters car calls into this lift only. Car I/O must be connected and programmed for the call to be accepted.
- LanU: This enters an up landing call. This is only used if the lift is a simplex. Again Landing I/O must be programmed and connected. Group landing calls are entered through the group lift viewer.
- LanD: As above but for down calls.
- Car All: Enters all car calls. If anti nuisance is set the car calls may be reset if nobody gets in or out of the lift. Car I/O must be connected and programmed for the calls to be accepted.
- LanU All: Enters all up landing calls, again local lift only.
- LanD All: Enters all down landing calls, again local lift only.
- Car T-B: Enters the top and bottom car calls. Car I/O must be connected and programmed for the call to be accepted.
- Lan T-B: As above but for local landing calls.
- Random C/L: Enters random car or local landing calls for as long as the timer is set for.
- T=0h:00m: Timer for random calls.

Config button

The config button allows shortcuts that may be of use whilst despatching the lift from the lift viewer to be accessed quickly and once adjusted it will revert back to the lift viewer.* The shortcuts available are;

- Prepare to test park open, park closed and disable.
- Various door functions including disable doors.
- Enable WiFi for smartphone applications.
- Various travel timers.
- Journey timer adjustment both low and high speed.

Speech and Indicator

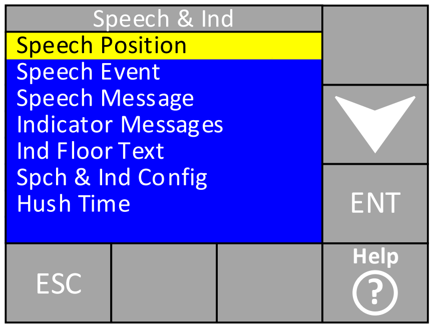
As its name suggests, in this series of menus all parameters relating to ILE speech and indicators are adjusted.

The 1st three sub menus deal with the speech position, events and messages

The next two sub menus deal with the indicator messages and floor text.

The next sub menu deals with the configuration of the speech and indicators.

The next sub menu deals with the hush times for the speech unit.



Speech position and speech event

Both of these menus are broken down in to view and edit sub menus. Both sub menus deal with different things but are viewed and edited in a similar manner. All speech messages are built up from a standard list of phrases that can be added together to say the desired message. Up to 3 phrases can be put together to make the message. See appendix B of this manual for speech messages available. Any special messages that may be required can be recorded and added to the list by means of special recordings. (Contact the PCB department for lead times and pricing for these)

- Speech Position; as its name suggest deals with the speech unit message for the lift position.
- Speech Event; deals with the speech unit message for the lifts fixed events.

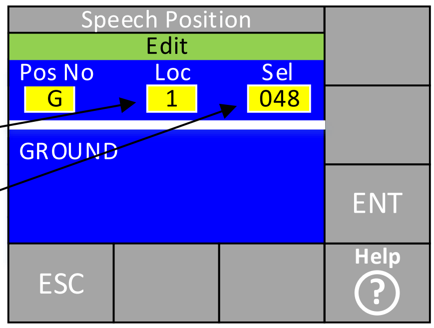
<u>Speech Position/event edit and View</u>

Once the position edit sub menu is entered the following screen is displayed.

The 1st selection box deals with the floor position, in this case floor G.

The 2nd selection box is location of the phrase, in this case 1 of 3.

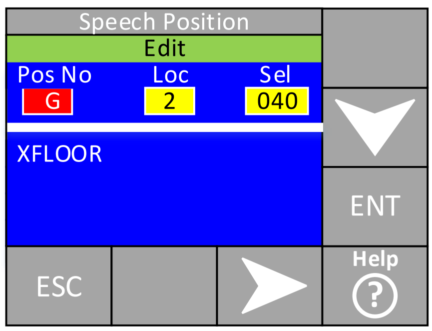
The 3rd box is the phrase number in this case 048 (GROUND)



Pressing **ENT** will then highlight the 1st selection box as shown below, the **RIGHT** arrow button can then be used to scroll to the 2nd and 3rd location boxes. Once the desired box is highlighted the **UP** and **DOWN** arrow buttons can be used to scroll between position, location and phrase number.

Once the desired phrase is selected press the **ENT** button to save the phrase to The CAN-X⁺ CPU memory.

The example shown here is the speech position message for floor position G its message is made up from phrase 048 (GROUND) in location 1 and phrase 040 (XFLOOR) in location 2. The X in the floor message indicates where the pause between phrases is.



The speech event sub menu is the same in both looks and functionality. The only difference is that the **Pos No** box becomes the **Event box** and instead of containing the editable floor positions it contains the editable speech events. They are;

- DO: this message is what is announced when the doors start opening.
- DC: this message is what is announced when the doors start closing.

- IU: this message is what is announced when the lift sets an up direction.
- ID: as above for the down direction.
- MTD: this is what is announced immediately before the doors start to close. The doors do not start to close until this message is announced.
- GU: this is what is announced as a up direction landing call is answered (used for gong sounds via the speech unit)
- GD: as above but for the down direction.

To view the above is the same procedure as for editing but changes are not permitted.

Speech message edit and view.

The speech message edit is pretty much the same as the speech position and speech event process and the whole phrase is built up the same, e.g. 3 locations built up from 3 phrases. The difference is that the messages are linked to a certain I/O or process within the CAN-X+ CPU. Up to 10 messages can be linked this way and they have a priority associated with them so if 2 or more messages are activated at 1 time the message with the highest priority is played.

If the message is to be announced as part of a process its I/O ref starts with a #.

An example of a process message rather than an I/O message would be LW110 (lift overloaded) this I/O is analysed at floor level and announced if necessary via the process message. (The I/O ref for this would be #LW110 not LW110) If it had been programmed as LW110 the message would announce every time this I/O becomes active which could happen in travel as the load is accelerated and decelerated.

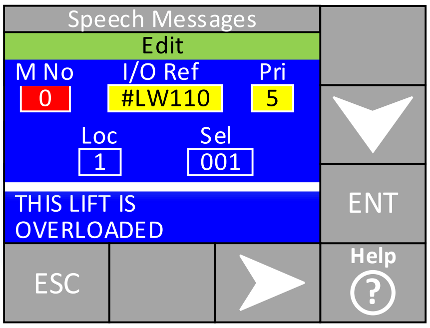
Message priorities are used to help prioritise the speech messages an example would be;

The lift is on service control (ERET3) and announcing “This lift is on service control” the lift is now being loaded and the overload level is reached we now want the lift to announce “This lift is overloaded” so the lift overloaded needs a higher priority than ERET3. An example of the speech message edit screen is shown below.

Message 0 is highlighted showing that we are editing message 0. The **RIGHT** arrow button is then pressed to highlight the I/O ref for the message, in this case #LW110. The **RIGHT** arrow button can be pressed again to highlight the priority. Once these are set press **ENT** and they are stored to the CAN-X+ CPU’s memory.

Pressing the **DOWN** arrow button will now highlight the loc and sel boxes and again these can be edited to make up the phrase required as described in the speech position edit section of this manual. The correct selection is shown in the area at the bottom of the screen.

To view the above is the same procedure as for editing but changes are not permitted.



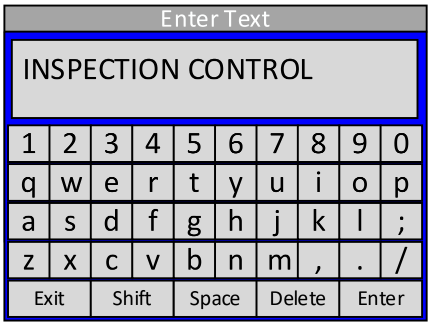
Indicator message edit and view.

The indicator message edit process is similar to the speech message editor. It has up to 10 messages which are linked to I/O references and have priorities associated with them. (See speech message section of this manual for description of priorities)

The difference between speech and indicator messages is that any message can be displayed on the indicator, you are not restricted to a set phrase list. Once the text you wish to change is highlighted and entered a full qwerty keyboard is displayed so anything can be typed in. See screen below.

Pressing the **SHIFT** button will change the Keyboard from lower case to upper case And changes the number keys to symbols (As they would be on a full keyboard)

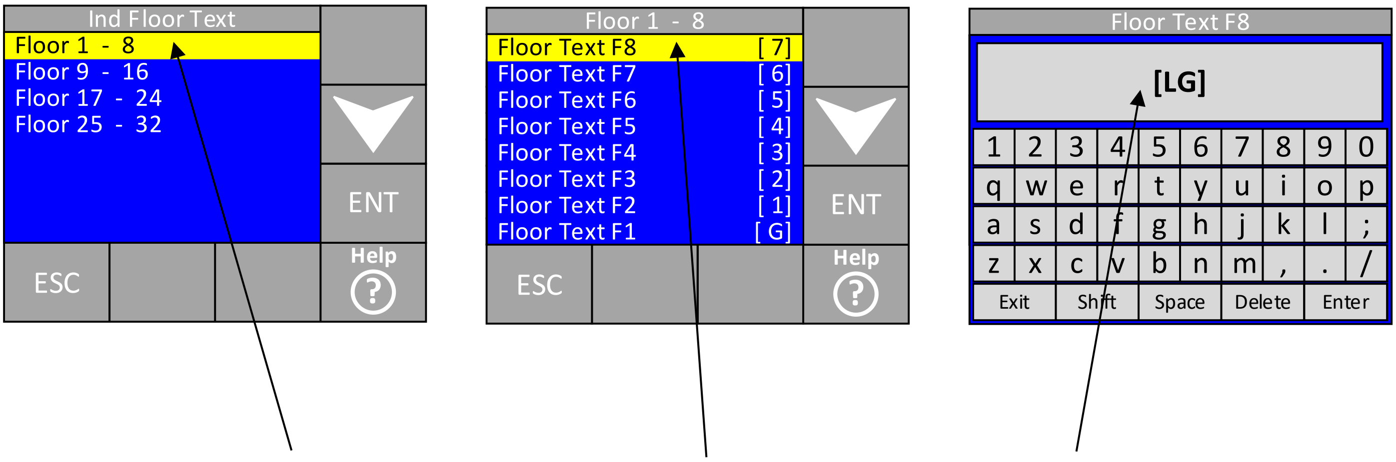
Once the message is displayed as required Press **ENTER** to save it to the CAN-X+ CPU Memory.



To view the above is the same procedure as for editing but changes are not permitted.

Indicator floor text

The indicator floor text is for the actual data that is displayed on the indicator at the current floor position. Up to 2 characters per floor can be displayed. They are edited in a similar manner to the indicator messages via the full qwerty keyboard. See screen below which highlights the process.



1st choose the set of floors to edit And press the **ENT** button.

2nd choose the floor to edit and Press the **ENT** button.

3rd Type the required text between The brackets and press **ENT**.

To view the above is the same procedure as for editing but changes are not permitted.

Speech and indicator configuration.

In this sub menu the configuration of parameters related to the speech and indicators are set. They are listed below.

- Pos in travel: if this is set to YES the speech unit will announce the current floor every time the lift steps to the next floor. If set to NO the speech unit will only announce the floor position on slowing into the next destination.
- Ind Hlr Enable: if set to YES the landing indicator will display a hall lantern arrow on arrival at a floor with an active landing call. (As long as the address is set correctly on the indicator)
- HLR & Gond Dly Time: If using the speech unit as a gong sounder this delay can be added so the gong sound is played when the doors are opening instead of at the point of deceleration.
- Spch & Ind Present: This can be entered to display the number of indicator and speech units present and their associated software version.
- Full Volume: When the universal speech unit is connected to a CAN-X⁺ CAN network its volume pots are disabled and the volume is now adjusted via this parameter. Therefore there is no need to access the COP (where we fit the speech unit) to adjust the volume. The full volume parameter is associated with the volume when you are <u>outside</u> of the hush times.
- Hush Volume: When the universal speech unit is connected to a CAN-X⁺ CAN network its volume pots are disabled and the volume is now adjusted via this parameter. Therefore there is no need to access the COP (where we fit the speech unit) to adjust the volume. The hush volume parameter is associated with the volume when you are <u>inside</u> of the hush times.

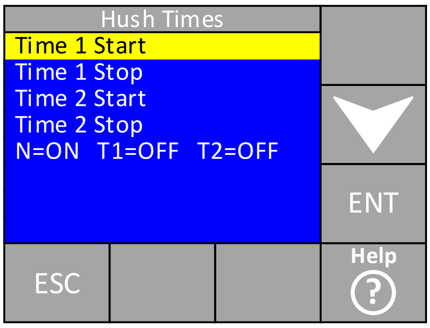
<u>Hush Times</u>

The speech unit's volume can be reduced to a lower level (set via the hush volume parameter) during 2 different times of day. The times you wish to turn on and off the hush volume can be set in the hush time's menu. See screen below.

Time 1 start/stop is where the times for starting/stopping timer 1 are set.

Time 2 start/stop is where the times for starting/stopping timer 2 are set.

This line shows the current time set that the controller is in. (N=ON, normal time)



See the main allocation parameters from the main menu to set the Time 1 and Time 2 start and stop times.

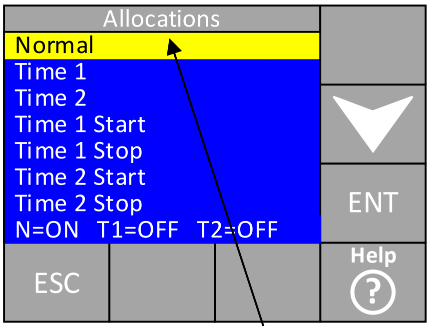
Allocations

Within the call allocations menu, the way this lift reacts to calls are set. The same menu is used to set up timers to turn calls on or off at certain times of the day or night. 2 sets of timers are available.

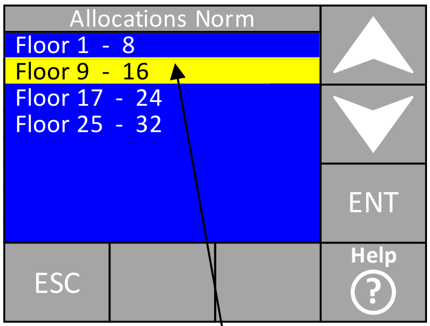
This menu would be used if the customer decided that they didn't want the lifts to visit a certain floor whilst a floor is renovated etc.

It could also be used to restrict building access at certain times of day.

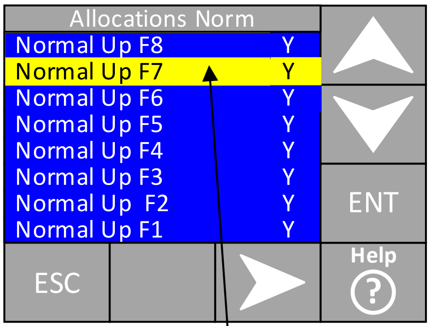
To check or change the allocations the following steps are taken as shown below.



1st choose the type of allocations to set And press **ENT.**



2nd choose the floor range to set and Press **ENT.**



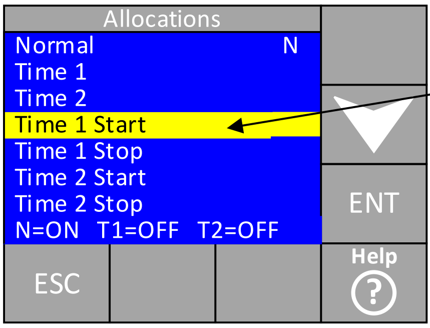
3rd choose the floor and type of call to be edited. By pressing the **RIGHT** button the screen will change to down calls and then to car calls. To change the Y to N press the **ENT** button.

By changing Normal up F7 to NO the lift will not accept up landing calls at floor 7 whilst in the normal operating times.

The same procedure is used for setting the allocations whilst under time 1 and time 2 conditions by selecting Time 1 or 2 from the initial menu.

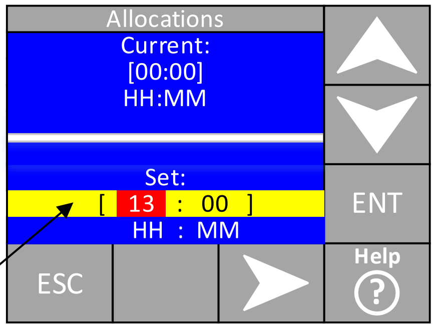
Setting the timers

To set a start or stop time for either of the 2 timers the following steps are taken.



Choose the required start/stop times from the sub menu and press the **ENT** Button.

The current time set is shown at the top of the screen and the new time to set at the bottom. Use the **UP, DOWN, LEFT** and **RIGHT** buttons to adjust the desired time then press the **ENT** button to save.



Once the desired start time is set a stop time needs setting by following the above procedure. The calls to be enabled or disabled then will need to be set up in the appropriate Time 1 or 2 allocation sub menu as described previously.

The bottom row of the allocations screen will show the current time period that the CAN-X+ CPU is in.

Parameter control

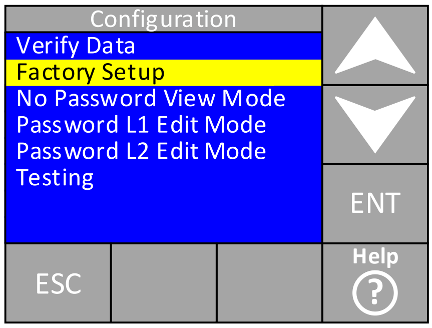
Within the parameter control menu various high level and testing functions are performed. In this menu passwords can be pre-entered in advance of changing parameters. (See password entry in this manual) Also the password can be reset when leaving site so the CPU is not left in an unprotected state. See screen below.

Verify data: This parameter is used to update the display CPU's parameters to the current values when the parameters have been set via the PC software.

Factory setup: Used to enter the L3 or factory setup password.

No password view mode: resets the CPU to a fully password protected state.

Password L1 and L2 edit mode: For pre-entering a password before editing.

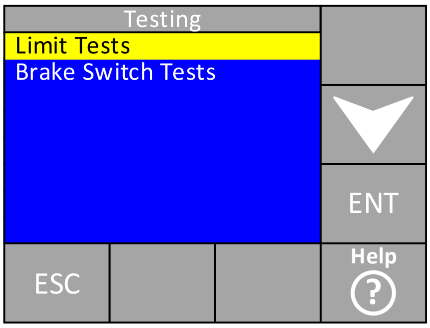


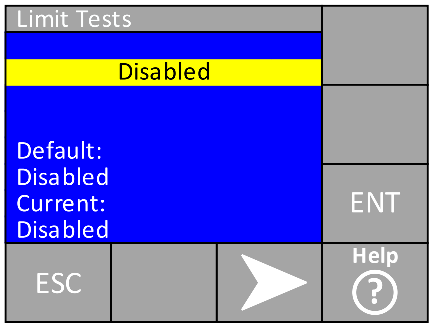
Testing

The CAN-X+ CPU has a feature to allow testing of certain type of functions. To enter the testing menu highlight the testing sub menu form the screen above and press **ENT.** (After entering the appropriate password) The following options are then displayed.

Limit tests: Allows the user to force the lift to slow or stop on various limits.

Brake switch tests: Allows the user to test the brake switches of the gearless machine in accordance with A3. (Fuji drive only)





Once the desired menu is entered the **RIGHT** arrow button can be used to scroll through the options. (Limit screen shown on the right). The options are as follows;

Limit tests:

- Disabled: disables any current tests taking place.
- Force slow on reset: forces the lift to slow on the reset. Once entered the lift can be sent to terminal floors to check the function of the reset signal. The event log will show slowed on reset.
- Force speed chk: forces the lift to stop on the speed check limit (if fitted). Once entered the lift can be sent to terminal floors to check the function of the speed check limits. The event log will show stopped on speed monitor limit.
- Force stop on limit: forces the lift to stop on the terminal limits. Once entered the lift can be sent to terminal floors to check the function of the stop limits. The event log will show stopped on terminal limit.

Once the checks are complete the limit test function needs to be disabled.

Brake switch tests.

To test the A3 brake switches highlight brake switch tests on the testing sub menu and press **ENT**.

Once the desired menu is entered the **RIGHT** arrow button can be used to scroll through the options. The options are as follows;

- Test A3 brk sw 1: tests brake switch 1. Once entered the lift can be sent to floors to check the function of the brake switches. The lift should fail with BBE error on the drive. To reset the fault see the CAN-X/CAN-X+ Fuji drive manual.
- Test A3 brk sw 2: tests brake switch 2. Once entered the lift can be sent to floors to check the function of the brake switches. The lift should fail with BBE error on the drive. To reset the fault see the CAN-X/CAN-X+ Fuji drive manual.

Once the checks are complete the limit test function needs to be disabled.

Group wide functions

This part of the manual deals with all the associated parameters and programing for group level functions.

Landing risers

As explained in the group architecture section of this manual from page 14 all group wide I/O has to be programmed on either a bridge node or on a landing riser. The landing riser is where the landing calls are connected and programmed. Each 8 car group can have up to 8 risers of pushes.

If the lift has selective front and rear doors they also have to be programmed at a group level (Even if the lift is a simplex) as all the front and rear call handling is dealt with via the display CPU.

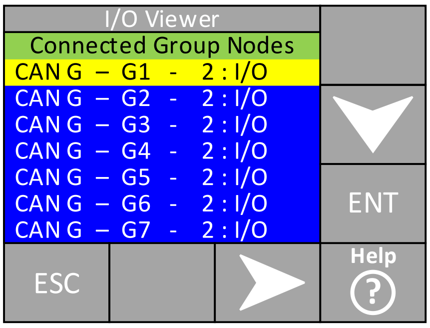
Programming/viewing riser I/O

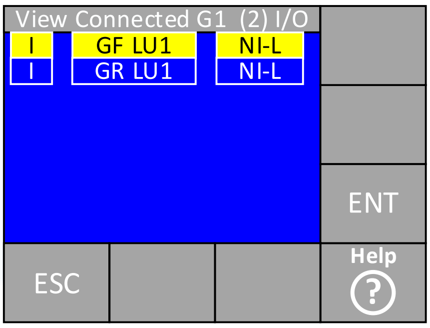
To view, edit or programme riser I/O the process is the same as for local I/O the only difference is that the call will be entered in a different manner. Where a local landing node would be programmed as L1 a group landing node is programmed as G1. Instead of a landing up 1 call (LU1) it would be programmed as group front/rear up 1 call (GF LU1 or GR LU1). See screens below for examples.

This screen shows nodes programmed as group nodes G1-7 all as 2 way I/O nodes.

When entered it shows input 1 programmed as LU1 on the ground front and ground rear.

All lifts in the group need the same information programmed in to each riser.





Grouping

This menu deals with all group wide parameters including the group lift viewer and group event viewer.

Event history

All events relating to group wide events are listed here. The same events are logged in all lifts in the group. See local lift viewer for a more details.

Parameters

All events relating to group wide parameters are adjusted here.

Lift viewer

This lift viewer differs from the local lift viewer as it allows all lifts within the group to be viewed at the same time. Less data is displayed with just position, door status, event status destination and speed displayed.

Random calls

Random group wide landing calls are entered here. This has to be done on the master lift in the group. For more information see random call entry for the local lift.

Advanced settings

The advanced settings are for the ILE technical support team. The user may be asked to enter this menu but it will be with the assistance of a member of the ILE technical support team.

APPENDIX A – Parameter List

Job & System

Name	Type	Min	Max	Default	Step	Password Level
Job Number				xxxx		3
Customer Name	a-z					1
Site Name	a-z					1
System Type	Spec					
Collective Type	Spec			Full Collective		2
Prep to Test Control	Spec			Disabled		1
Number of Floors	0-32	2	32		1	2
Lift Number	1-8	1	8		1	2
Bottom Floor	0-31	1	31		1	2
Top Floor	0-9	2	32		1	2
Inspection I/P type	Spec			Double		2
Emer Supply Control	y/n					

Collective Type – Full Collective/Down Collective/Non Sel Collective/APB

Prep to Test Control – Disabled/PTT Park Open/PTT Park Closed

System type – Fuji LM1/Fuji LM2/Ziehl Abegg/discrete outputs/hydraulic

Inspection I/P type- Single/Double/Triple

Doors

Name	Type	Min	Max	Default	Step	Password Level
Door Type	Spec			Auto Car/Lan		2
Door operator	Spec			DO&DC signals		2
ACK Feedback	Spec			Door Limits		2
DCR on when Closed	Yes/No			No		2
DCR on when Running	Yes/No			No		2
DOR on when Opened	Yes/No			No		2
DCR on init	Yes/No			No		2
Stop Closing on Locks	Yes/No			No		2
Adv Doors Opening	Yes/No			No		1
Quick Close	Yes/No			Yes		1
Park Open	Yes/No			No		1
Relax Locks	Yes/No			No		1
SE Count	0-9	0	30	4	1	1
DLR Count	0-9	0	30	0	1	1
Norm Const Open	Yes/No			No		2
Norm Const Close	Yes/No			No		2
Open on Init	Yes/No			Yes		1
Open on Reset	Yes/No			Yes		1
Open on Homing	Yes/No			Yes		1
Open on Lost Dir	Yes/No			Yes		1
Disable Doors	Yes/No			No		1
Door Close on Rev	Yes/No			No		1

Door type - Auto CarLan/Auto Car Man Lan/Man Gates

Door operator- DO&DC signals/DC signal only/DO signal only

Ack Feedback – Door Limit/No Limits/DOL only/DCL only

Name	Type	Min	Max	Default	Step	Password Level
Reverse Time	MS	20	1000	100	20	2
Car Preference Time	MS	0	30	1	1	2
DCR Drop Time	MS	20	3000	400	20	2
Lock Time	MS	20	3000	1000	20	2
DOP Held Time	S	0	60	20	1	1
SE Held Time	S	0	60	20	1	1
DLR Held Time	S	0	60	20	1	1
ACK Time	S	0	10	2	1	2
Ramp Time	S	0	30	0	1	2
CAR LAN Dwell Time	S	0	60	7	1	1
LAN Dwell Time	S	0	60	5	1	1
CAR Dwell Time	S	0	60	3	1	1
DOP Dwell Time	S	0	60	4	1	1
SE Dwell Time	S	0	60	1	1	1
DLR Dwell Time	S	0	60	1	1	1
Hold Dwell Time	S	0	1200	45	1	1
Max lock open time	S	0	10	4	1	1
Landing Call Ignore	S	0	600	10	1	1
Close Prot Time	S	0	60	20	1	1
Open Prot Time	S	0	60	20	1	1
Nudge Release Time	S	0	60	5	1	1
Delay Open After Stop	S	0	10	0	1	1

General

Name	Type	Min	Max	Default	Step	Password Level
No of Self Test	0-9	0	10	5	1	1
Self Test Top Floor	0-9	1	24	8	1	1
Self Test Bot Floor	0-9	1	24	1	1	1
Self Test Time	S	0	600	120	1	1
Man Gate Late Cancel	Yes/No			No		1
Daylight Saving	Yes/No			Yes		1
LED Dimming	0-9	0	7	3		1
Pre Flite Checking	Yes/No			Yes		1
Reset Top Power Init	Yes/No			No		1
Seven Segment Start	0-9	0	1	0	1	1
Self Test Time	S	0	600	120	1	1
Position Outputs	Spec			Normal		1
ECO Mode 1 Time	MS	1	20	10	1	1
ECO Mode 2 Time	MS	1	20	10	1	1
Re-leveling	Yes/No			No		1
Show Limit Events	Yes/No			Yes		1
Car fan time	0-180	0	180	0	1	1
Shaft encoder mode	Spec			Disabled		1
Auto reset enable	Yes/No			No		1

Position Outputs – Normal/Binary/Gray Code/Seven Segment

Shaft encoder mode- disabled/SFR

Homing

Name	Type	Min	Max	Default	Step	Password Level

Homing Time	S	20	1200	360	1	1
Homing Floor	0-9	1	24	1	1	1

Travel

Name	Type	Min	Max	Default	Step	Password Level
Low Speed Prot Time	S	0	120	20	1	1
Start Fail Time	S	0	30	2	1	1
Stop Time	MS	20	3000	200	20	1
Journey Time	S	0	120	20	1	1
Pause Time	S	0	10	2	1	1
Ramp Fail Time	MS	20	5000	0	20	1
Enable Time	MS	20	3000	200	20	1
Stuck Vane Time	S	0	30	10	1	1
Re-Level Stop Time	MS	20	3000	200	20	1
STR Delay Time	MS	0	3000	200	20	1
UP Direction	Spec			Forward		2
Star delta time	MS	0	3000	0	20	1
Star delta C/O time	MS	0	3000	0	20	1
Delta off time	MS	0	3000	0	20	1
UPR DEL OFF Time	MS	0	3000	0	20	1
DNR DEL OFF Time	MS	0	3000	0	20	1
STR OPD ON Time	MS	0	3000	0	20	1
STR OPD OFF Time	MS	0	3000	0	20	1
Battery opp mode	Spec			SINGLE PHASE		1
Up HSR ON Time	MS	0	3000	0	20	1
Up HSR OFF Time	MS	0	3000	0	20	1

Dn HSR ON Time	MS	0	3000	0	20	1
Dn HSR OFF Time	MS	0	3000	0	20	1
Up SOL ON Time	MS	0	3000	0	20	1
Up SOL OFF Time	MS	0	3000	0	20	1
Dn SOL ON Time	MS	0	3000	0	20	1
Dn SOL OFF Time	MS	0	3000	0	20	1

UP Direction – Forward/Reverse

Battery opp mode- single phase/full ard

Hydraulic

Name	Type	Min	Max	Default	Step	Password Level
Hyd Homing Time	S	0	1200	0	1	1
Max Relev Period	S	0	60	20	1	2
Relev Yoyo Count	0-9	1	24	11	1	2
Relev Yoyo Period	S	0	120	60	1	2
H/S on TST	Yes/No			No		1

Anti Nuisance

Name	Type	Min	Max	Default	Step	Password Level
DOP Held Dump Calls	Yes/No			Yes		1
No of Reverse Calls	0-9	0	10	3	1	1
Fwd Calls Remaining	0-9	0	10	3	1	1
Stops No Light Ray	0-9	1	10	3	1	1
Stk Button Detect time	S	10	50	20	1	1
Stk Button Reinit time	M	1	20	2	1	1

OSI Indication

Name	Type	Min	Max	Default	Step	Password Level
Error In Position	Yes/No			Yes		1
Double Journey Time	Yes/No			Yes		1
Hydraulic Over trav	Yes/No			Yes		1
Start Failure	Yes/No			Yes		1
Relevel Error	Yes/No			Yes		1
Open Prot Fault	Yes/No			Yes		1
Close Prot Fault	Yes/No			Yes		1
Lan Lock Failure	Yes/No			Yes		1
Car Lock Failure	Yes/No			Yes		1
Motion Failure	Yes/No			Yes		1
Inspection	Yes/No			Yes		1
Drive Tripped	Yes/No			Yes		1
LW110	Yes/No			No		1
Thermistor Tripped	Yes/No			Yes		1
Prepare To Test	Yes/No			Yes		1
EMER Stop Broken	Yes/No			Yes		1
Both Resets	Yes/No			Yes		1
Pre Flite Failure	Yes/No			Yes		1
Stuck Vanes	Yes/No			Yes		1
Proving Circuit Failure	Yes/No			Yes		1
Ramp FB Failure	Yes/No			Yes		1

Time & Date

Name	Type	Min	Max	Default	Step	Password Level

Year	0-9	7	99	9		1
Month	0-9	1	12	1		1
Day	0-9	1	31	1		1
Hour	0-9	0	23	1		1
Minute	0-9	0	59	1		1

ERET 1-6

Name	Type	Min	Max	Default	Step	Password Level
Name	a-z					1
Drop off Floor	0-9	0	24	0	1	1
Return Floor	0-9	0	24	1	1	1
Const Press Open	Yes/No			No		2
Const Press Close	Yes/No			No		2
Park Open	Yes/No			No		1
Park Closed	Yes/No			No		1
LAN Call Open	Yes/No			No		1
Car Calls	Yes/No			No		1
Enable DLR	Yes/No			No		1
Dwell Time	0-9	0	180	5	1	1
Ph1 Clear Calls	Yes/No			No		1
Ph2 Activation	Yes/No			No		1
Find Power Init	Yes/No			No		1
No Entry Sign	Yes/No			No		1
OSI Indication	Yes/No			Yes		1
Ignore DOP	Yes/No			Yes		1

Appendix B – Speech List

1: THIS LIFT IS OVERLOADED
2: THIS LIFT IS UNDER MAINTENANCE CONTROL
3: THIS LIFT IS OUT OF SERVICE
4: THIS LIFT IS UNDER FIRE CONTROL OPERATION
5: THIS LIFT IS UNDER EVACUATION CONTROL
6: MAIN EXIT FLOOR
7: THIS LIFT IS RETURNING
8: TO

9: TO THE
10: THIS LIFT IS RETURNING UNDER FIRE SERVICE
11: THIS LIFT IS
12: ARRIVING AT
13: xxxxxxxxxx
14: THE ALARM HAS BEEN ACTIVATED
15: ACCESS
16: UNDER GOODS CONTROL
17: THIS LIFT IS UNDER SERVICE CONTROL
18: UNDER FIRE FIGHTERS CONTROL
19: CAR
20: PLEASE MIND THE DOORS
21: LIFT
22: ON TEST
23: FAILED TO START
24: COMING
25: DOORS OPENING
26: DOORS CLOSING
27: STAND CLEAR
28: STAND CLEAR OF THE DOORS
29: PLEASE REDUCE WEIGHT IN LIFT
30: PLEASE EXIT LIFT
31: GOING UP
32: GOING DOWN
33: UNDER EVACUATION CONTROL
34: UNDER PRIORITY SERVICE
35: UNDER FIRE SERVICE
36: UNDER FIRE CONTROL OPERATION
37: UNDER FIRE CONTROL
38: UPPERX
39: LOWERX
40: XFLOOR
41: FLOORX
42: XLEVEL
43: LEVELX
44: ZERO
45: MINUS ONE
46: BASEMENT
47: MINUS TWO
48: GROUND
49: ONE
50: TWO
51: THREE
52: FOUR
53: FIVE
54: SIX
55: SEVEN
56: EIGHT
57: NINE
58: TEN
59: ELEVEN
60: TWELVE
61: THIRTEEN
62: FOURTEEN
63: FIFTEEN
64: SIXTEEN
65: SEVENTEEN
66: EIGHTEEN
67: NINETEEN
68: TWENTY
69: TWENTYX
70: THIRTY
71: THIRTYX
72: FORTY
73: FORTYX
74: FIFTY
75: SUB BASEMENT
76: THIS WAY OUT
77: 1ST
78: 2ND
79: 3RD
80: 4TH
81: 5TH
82: 6TH
83: 7TH
84: 8TH
85: 9TH
86: 10TH
87: 11TH
88: 12TH
89: 13TH
90: 14TH
91: 15TH
92: 16TH
93: 17TH
94: 18TH
95: 19TH
96: 20TH
97: xxxxxxxxxx
98: A
99: B
100: C
101: D
102: E
103: F
104: G
105: H
106: I
107: J
108: K
109: L
110: M
111: BEING SERVICED
112: UNAUTHORISED CAR TOP ACCESS
113: PENTHOUSE
114: PODIUM
115: CAR PARK
116: MEZZANINE
117: RECEPTION
118: SERVICE
119: SHOP
120: FRONT
121: REAR
122: MINUS
123: BING
124: BONG
125: BING BONG
126: WAY OUT
127: PAUSE (100 MilliSeconds)

Appendix C – Events List

EMERGENCY STOP	The live voltage feed to input EMER was removed
LAN LOCK TIP HIGH SPD	The live voltage feed to input LANL was removed on high speed
CAR LOCK TIP HIGH SPD	The live voltage feed to input CARL was removed on high speed
LAN LOCK TIP LOW SPD	The live voltage feed to input LANL was removed on low speed
CAR LOCK TIP LOW SPD	The live voltage feed to input CARL was removed on low speed
LAN LOCK NOT MAKING	Landing lock failed to make contact whilst doors closing
CAR LOCK NOT MAKING	Car lock failed to make contact whilst doors closing
FAILURE TO START	No STR input to processor, check THERM, limit, RunContact, PFRR
RE-LEVELING ERROR	Lift error whilst releveling due to wrong or no vanes
RE-LEVELING TIMEOUT	Lift releveling error due to excess releveling time
RESET I/P ERROR	Reset input lost during initialisation chk RS input to node
LOW SPEED TIMER	Lift travelling on low speed exceeded low speed protection timer
JOURNEY TIMER	Lift travelling on high speed and exceeded journey time
DOOR OPEN PROT TIMER	Door timer exceeded whilst doors opening
DOOR CLOSE PROT TIMER	Door timer exceeded whilst doors closing
LAN LOCK FAILED	Landing lock failed to make contact 4 times consecutively
CAR LOCK FAILED	Car lock failed to make 4 times consecutively
RE-LEVEL FAULT	Releveling fault, check levelling vanes
110% OVERLOADED	The lift has been overloaded by 10% check car/load device
MOTION FAILURE	STR input lost when moving, check THERM, limit, RunContact, PFRR
90% OVERLOADED	The lift has been loaded with 90% load, check car/load device
RE-LEVELING YOYO ERR	Releveling error doe to excess yoyo levels in yoyo relev time
HYDRAULIC OVERTRAVEL	Hydraulic fault overtravel at top floor input HYDOTL asserted
UPV AND DNV STUCK	UPV DNV levelling proximity switches stuck on
UPV STUCK	UPV up levelling proximity stuck on
DNV STUCK	DNV dn levelling proximity stuck on
ALL NODES SET UNUSED	
ALLOW NODE CONNECTION	
TOP FLOOR SELF TEST	Lift has performed top floor self test
BOT FLOOR SELF TEST	Lift has performed bottom floor self test
SELF TEST PASSED	Self test performed by the lift passed
SELF TEST FAILED	Self test performed by the lift failed
LEVEL VANE FAULT UP	Processor seen the wrong vane going UP, DNV instead of UPV
LEVEL VANE FAULT DN	Processor seen the wrong vane going DN, UPV instead of DNV
THERMISTOR TRIPPED	Motor or motor room thermistors tripped
SLOWED ON UP RESET	Lift slowed on reset instead of PX pulses Check Vane signals
SLOWED ON DN RESET	Lift slowed on reset instead of PX pulses Check Vane signals
VANE FAULT	Incorrect behaviour of at least one input UPV/DNV/DZ
ERET 1	Lift operating according to ERET 1
ERET 2	Lift operating according to ERET 2
ERET 3	Lift operating according to ERET 3
ERET 4	Lift operating according to ERET 4
ERET 5	Lift operating according to ERET 5
ERET 6	Lift operating according to ERET 6
ERET 7	Lift operating according to ERET 7
PROCESSOR LOST POWER	The CPU was powered down at the recorded time
UP SPD MONITOR TRIP	The lift failed to decel before reaching the UP spd mon limit
PROCESSOR RE-BOOTED	The CPU has re-booted whilst power was still present
INSPECTION CONTROL	Lift operating under inspection control, engineer on site
PREP TO TEST CONTROL	Lift operating under prepare to test control

STUCK CAR BUTTON	Stuck button in lift car, check car pushes
STUCK UP LAN BUTTON	Stuck button on landing, check UP landing pushes
STUCK DN LAN BUTTON	Stuck button on landing, check DN landing pushes
STR INPUT HELD ON	STR input held on lift will not restart check, BKC, STR, MC
PRE FLITE CHK FAILED	Short circuit detected on the locks when doors fully open
NODE/NODES REMOVED	Lift travel inhibited due to removal of node
NODE/NODES ADDED	Lift travel inhibited due to addition of node
I/O BOARD TYPE CHANGED	IO Board Type number changed, poss faulty board or data corrupt
INSP/PAN TEST REMOVED	No Longer Operating on Inspection control or panel test
LAN LOCK FAILURE	Landing lock tip occurred four times or more in succession
CAR LOCK FAILURE	Car lock tip occurred four times or more in succession
DOOR OPEN PUSH HELD	Door open push held, all calls cancelled
SAFE EDGE HELD	Safe edge held all calls cancelled
DETECTOR EDGE HELD	Detector edge held, check door light ray
90% BYPASS REMOVED	The 90% bypass signal has been removed
110% BYPASS REMOVED	The 110% overload signal has been removed
RESET INPUT FAULT	Reset signal ON mid shaft or OFF at terminal floor
DCL/DOC NOT SEEN CL	Door open limit/doc feedback not present within ACK timer
DOL/DOC NOT SEEN OP	Door close limit/doc feedback not present within ACK timer
SE COUNT EXCEEDED	Out of service safe edge input repeatedly operated
DLR COUNT EXCEEDED	Door light ray seen repeatedly nudging enabled
DOOR CLOSE PROT FAULT	Repeated door close protection timeouts
START FAILURE	No STR input to CPU check BKC on traction STR on Hydraulic
LAN LOCK FAILURE	Lan locks not remade once opened before max lock open time
PRE FLIGHT CHK FAULT	Short circuit detected on the locks when doors fully open
DOOR OPEN PROT FAULT	Repeated door open protection timeouts
CRITICAL I/O LOST	Nodes with critical I/O have been removed re-connect or edit
FAULT RELAY DROPPED	
DRIVE TRIPPED	Check drive fault logger in event history
PROVING CIRCUIT FAULT	Check N/C contacts into proving circuit input on node
PROVING CIRCUIT FAIL	Check N/C contacts into proving circuit input on node
COUNTER/TIMER CLEARED	counter / timer cleared by down / enter or PC
UMR FAILURE	Pre-lock or unintended movement device failure
UMR TIP ON LOW SP	Pre-lock or unintended movement device tip at low sp
UMR TIP ON HIGH SP	Pre-lock or unintended movement device tip at high sp
CAN BUS 1 FAULT	Check for short or crossed wires on landing CAN network
CAN BUS 2 FAULT	Check for short or crossed wires on car CAN network
CAN BUS 3 FAULT	Check for short or crossed wires on panel CAN network
CAN BUS 4 FAULT	Check for short or crossed wires on drive CAN network
PANEL NODE x ADDED	An unconnected node has been detected and joined the network
CAR NODE x ADDED	An unconnected node has been detected and joined the network
LANDING NODE x ADDED	An unconnected node has been detected and joined the network
PANEL NODE x REMOVED	A connected node has been removed/rejected from the network
CAR NODE x REMOVED	A connected node has been removed/rejected from the network
LAN NODE x REMOVED	A connected node has been removed/rejected from the network
PANEL NODE x RE-BOOT	A connected node has lost supply momentarily
CAR NODE x RE-BOOT	A connected node has lost supply momentarily
LAN NODE x RE-BOOT	A connected node has lost supply momentarily
PANEL NODE x EDIT	A connected node I/O was edited via the keypad
CAR NODE x EDIT	A connected node I/O was edited via the keypad
LAN NODE x EDIT	A connected node I/O was edited via the keypad
ERET 1 DROP OFF FAILED	During ERET 1 drop off to the selected floor failed

ERET 2 DROP OFF FAILED	During ERET 2 drop off to the selected floor failed
ERET 3 DROP OFF FAILED	During ERET 3 drop off to the selected floor failed
ERET 4 DROP OFF FAILED	During ERET 4 drop off to the selected floor failed
ERET 5 DROP OFF FAILED	During ERET 5 drop off to the selected floor failed
ERET 6 DROP OFF FAILED	During ERET 6 drop off to the selected floor failed
CAN BUS1 NO HEARTBEAT	Check: Nodes connected and powered CAN wires not crossed
CAN BUS2 NO HEARTBEAT	Check: Nodes connected and powered CAN wires not crossed
CAN BUS3 NO HEARTBEAT	Check: Nodes connected and powered CAN wires not crossed
PROCESSOR POWERED UP	The CPU was powered up
LIMIT TRIPPED	The limit input has been tripped: Check UP/DN stop limits
LIMIT FEEDBACK ERROR	UP/DN stop or UP/DN spd mon limits failed during initialisation
DN LIMIT FAILED	DN stop limit failed during initialisation
UP LIMIT FAILED	UP stop limit failed during initialisation
FIND ERROR	Check lift movement in inspection. Check reset / limit / vanes
DOOR LIMITS LOST	Door feedback was lost during travel. Check door limits
ERET 1 RETURN FAILED	During ERET 1 return to the selected floor failed
ERET 2 RETURN FAILED	During ERET 2 return to the selected floor failed
ERET 3 RETURN FAILED	During ERET 3 return to the selected floor failed
ERET 4 RETURN FAILED	During ERET 4 return to the selected floor failed
ERET 5 RETURN FAILED	During ERET 5 return to the selected floor failed
ERET 6 RETURN FAILED	During ERET 6 return to the selected floor failed
EVENT LOG CLEARED	The event log was cleared at the recoreded time
CAR LOCK FAILURE	Car locks not remade once opened before max lock open time
DN SPD MONITOR TRIP	The lift failed to decel before reaching the DN spd mon limit
UMR FAILURE	Pre-lock or UMD failed at start of travel
UMR FAILURE	Pre-lock or UMD tip occured four times or more in succession

Appendix D – Local input list

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CPr32
DOP
DCP
STR
SE
DLR
EMER
CARL
LANL
PROVING

LMT TRP
TST CAR
TST EEO
TST PIT
T OPEN
T CLOSE
T CAR U
T EEO U
T PIT U
T CAR D
T EEO D
T PIT D
D OL
D CL
D OC
D HOLD
D DIS
D ZONE
HYDOTL
BATT OP
RESET
UP VANE
DN VANE
LW90
LW110
RAMP FB
THERM
ERET1
ERET2
ERET3
ERET4
ERET5
ERET6
xx1xx
xx2xx
xx3xx
xx4xx
xx5xx
xx6xx
FAULT
ENG OS1
ENG OS2
BCC
TCC
P DIR T
ALARM B
ALARM S
CAR FAN
BYPASS
ENC RUN
TOP HLF
LAST 2M
V DZ
CRPLS
* OSI *
* ENG *
*GATE *
LW110

Appendix E – Local output list

LU1
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CPr26
CPr27
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CPr30
CPr31
CPr32
DOP
DCP
HLRU
HLRD
UPR
DNR
UPR CHK
DNR CHK
UPR DEL
DNR DEL
DOR
DCR
NUDGE
D HOLD
D ZON I
DOL I
SE I
HSR
RELEV Z
N/A
STOP
TEST I
STR O/P
STR OPD
DRV EN
ECO M1
ECO M2
RAMP
OSI
LW90 I
LW110 I
NO E SI
RE-LEV
GATE OP
ERET1 I
ERET2 I
ERET3 I
ERET4 I
ERET5 I
ERET6 I
ALARM F
IU
ID
STAR
DELTA
POS 1
POS 2
POS 3
POS 4
POS 5
POS 6
POS 7
POS 8
RSD I
EMER I
CARL I
LANL I
LIMIT I
RAMP I
BATT I
CAR FAN
PAN FAN
EEO HS
EEO LS
BATT SP
HS UP
HS DN
UP SOL
DN SOL
MOV BZ

Appendix F – Group input list

GF LU1
GF LU2
GF LU3
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GF LU6

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GR LD32
S Cal 1
S Cal 2
S Cal 3
S Cal 4
S Cal 5
S Cal 6
S Cal 7
S Cal 8
G ERET1
G ERET2
G ERET3
G ERET4
G ERET5
G ERET6
Esupply

Appendix G – Group output list

GF LU1
GF LU2
GF LU3
GF LU4
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GF LU6
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GR LD32
S Cal 1
S Cal 2
S Cal 3
S Cal 4
S Cal 5
S Cal 6
S Cal 7
S Cal 8
ECO M
Fire
NO E SI

Appendix H – Group Events List

LOCAL BRIDGE PORT FLT	The Local Bridge has a wiring Fault.
LOCAL BRIDGE SW FLT	The Local Bridge has an Invalid Switch setting Fault
LOCAL BRIDGE NUM FLT	The Local Bridge and Local Controller have different Lift Number
LOCAL BRIDGE CONFLICT	The Local Bridge has the same number as at least 1 Remote Bridge
SIMPLEX ON BRIDGE	A Simplex Lift is connected to Bridge Number
LIFT TO GP ON BRIDGE	Lift Port connected to Group Port on Bridge Number
G TO LP ON BRIDGE	Group connected to Lift Port on Bridge Number
CONFLICT ON BRIDGE	At least two Bridges in number conflict
CONFLICT ON LIFT	Bridge and Controller Number conflict on Bridge Number
BRIDGE x ADDED	A Bridge has been added to the group
BRIDGE x REMOVED	A Bridge has been removed from group
CONTROLLER x ADDED	A Controller has been added to the group
CONTROLLER x REMOVED	A Controller has been removed from the group
THIS CONTROLLER MASTER	This controller is the call distribution master for the group
THIS CONTROLLER SLAVE	Call distribution for the group is from another controller
LOCAL BRIDGE REMOVED	The Local Bridge has been removed. Group Level Connections lost
LOCAL BRIDGE ADDED	The Local Bridge has been added
NO LOCAL BRIDGE	No Local Bridge is connected.
CONTROLLER CAN BUS FLT	No Grouping possible Check for short or crossed wires on landing CAN network
EVENT LOG CLEARED	The event log was cleared at the recorded time

<u>First x = Device Number</u>

NODE RxF-xx SLAVE REM
NODE RxR-xx SLAVE REM
NODE RxF-xx SLAVE ADD
NODE RxR-xx SLAVE ADD
NODE RxF-xx RE-BOOT
NODE RxR-xx RE-BOOT
NODE RxF-xx EDIT
NODE RxF-xx EDIT
NODE RxF-xx ADDED
NODE RxR-xx ADDED
NODE RxF-xx REMOVED
NODE RxR-xx REMOVED
NODE RxF-xx ALERT
NODE RxR-xx ALERT

<u>First x = Riser Number</u>
<u>Second xx = Node Number</u>

Version	Changes	Date	Author	Checked	Approved
V1.0	**Initial Version**	**08/04/2015**	**J. Colquhoun**	**J. Miller**	**J. Colquhoun**
V1.1	**Updates**	**20/04/2021**	**J. Colquhoun**	**M. Miller**	**J. Colquhoun**