Ethos

Operations Manual

TVL No. 273

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Note:
Manual created for Ethos software version CSV9.28.
Not all Ethos controllers or Ethos Lite controllers will have all the features described in this manual.

1. Introduction

The TVC Ethos controller is a sophisticated but easy-to-use lift control system. Ethos is user-friendly for the installer, tester, service and call-out engineer whilst offering lifetime value to the end-user.

Ethos provides helpful test and faultfinding routines to enable fast installation, commissioning, and trouble-shooting. Ethos is equipped with a clear and intuitive phone-style User Interface with short cuts for fast and easy menu navigation.

1.1 General

All incoming wiring to the Control Module is at 110Vac with the exception of Car and landing push feeds that are 24V dc. All outgoing wiring for Indicators and pushes is at 12/24V dc (other voltages available on request).

1.2 Connector Access

All external shaft and car signaling to the Ethos Control Module is by two part terminals.
Landing and car call risers connection are to the associated 16/32Way call modules; two sets of two part connectors provided for group interconnection between elevators.

Systems requiring extra features may utilize up to five 8way feature modules, with the respective features wired directly to these modules. Terminals within the controller for indicator feed and supply return current paths.

1.3 Getting Started

During the installation, you will confirm the settings within Ethos, please take time to familiarize yourself with the MMI operation.

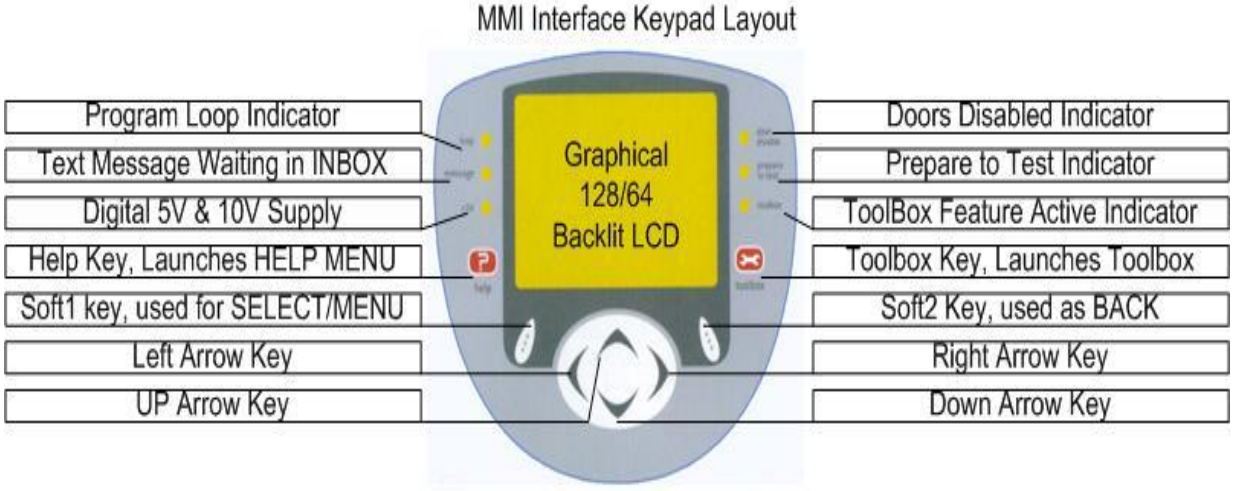
1.4 General Fault Finding

Ethos provides a number of software tools designed to assist the engineer in fault finding, these tools are simple to use, and a description of each tool is within this manual.

- ❑ The STATUS screen display STATE and MODE will indicate an active fault or operating service. Refer to "Status Screen Data Layout" for more information
- ❑ Press the **Toolbox** Key if the toolbox LED is flashing and scroll to Clear Faults to view or clear the manually reset faults. Refer to "Tool Box Menu *Commissioning Tools*" for more information
- ❑ From the **STATUS SCREEN** press the **LOGGER** key and scroll to View Current Events.
Refer to "Event Logger Menu's" for more information on View Current Events
- ❑ From the **STATUS SCREEN** press the **LOGGER** key and scroll to View Event Log.
Refer to "Event Logger Menu's" for more information on view event log
- ❑ Take note of the input/output LED's, Refer to "Construction" for more information on input/output indicators, this will be needed to reference the LED status with the wiring diagrams.
- ❑ Refer to "Position Verification" section of this manual for details shaft signals
- ❑ Refer to "Normal Mode Operation" section of this manual for more details on Test/LAR control

1.5 Menu Operation & Layout

The drawing below gives the general arrangement of the MMI interface and a brief description of associated keys and status LED's



1.6 Changing Parameters

To change parameter values in Customer settings follow the procedure below: -

- Log-In with Access Level and User Name (See Log In / *Out*)
- Check Elevator is in Safe Mode (See Safe Mode Operation)
- Change desired Parameter(s) (See Main Menu *Customer Settings*)
- Revert Elevator to Normal Mode (See Normal Mode Operation)
- Log-Out (See Log In / *Out*)

Note: You can also log in using your smart card (See Main Menu *Smart Card Services*)

1.7 Log In / Out

Ethos has been equipped with a Logging in/out mechanism to prevent unwanted access to your system parameters.
When you log "IN" Ethos, a prompt for an USER ACCESS LEVEL is given. A five digit PASSWORD validates this level.

Ethos provides five types of ACCESS LEVEL as described below.

Access Level	Password	Notes
➢ Public Access	(Default Access Level)	(No parameter changing access)
➢ Support Access.	123456	(Access to some areas)
➢ Technician Access.	ABCDEF	(Access to Customer Settings)
➢ TVC Engineer Access.	Request Details	(Access to Factory Settings)
➢ TVC R&D Access.	Request Details	(Access to Full system)

Once logged "IN", Ethos will reveal a number of menus within the MAIN MENU system and provide access to certain parameters, depending upon your access level.

A quick and easy way to Login or Logout is to use the TVC smart card, see Smart Card Services.

1.8 Login Procedure

Login Menu Structure		
From the Status Screen Press the menu key	⇒ Log In/Out.	Log-In/Out (Choose an Access Level) Support Access, Technician Access, TVC Engineer Access, TVC R&D Access

Your access level is now set, use the **Arrow** keys to select a character and the **ENTER** key to insert it into the password string.

The **Arrow** keys move the cursor position vertically between characters "A" to "?".

The **Arrow** keys move the cursor position horizontally between characters "A" to "5"

Placing the cursor over the word "SHIFT" and pressing the **ENTER** key will toggle the character set between upper and lower case. Placing the cursor over the word "DEL" and pressing the **ENTER** key will move the cursor back one.

Pressing the **ENTER** key whilst over any character will automatically enter that character into the password string and place the cursor at the next location.

To Log in a password and access level stored password need to match.

1.9 Log-out Procedure

To Log-Out of Ethos, follow the next procedure.

From the **STATUS SCREEN** Press the **MENU** key,
MAIN MENU

- Log In/Out. >Log IN/OUT

You can confirm your choice by selecting **YES** key to Log-OUT or **NO** key to return to the previous menu**.**

1.10 Changing Your Password.

Follow the next procedure to change your password from a logged in state.

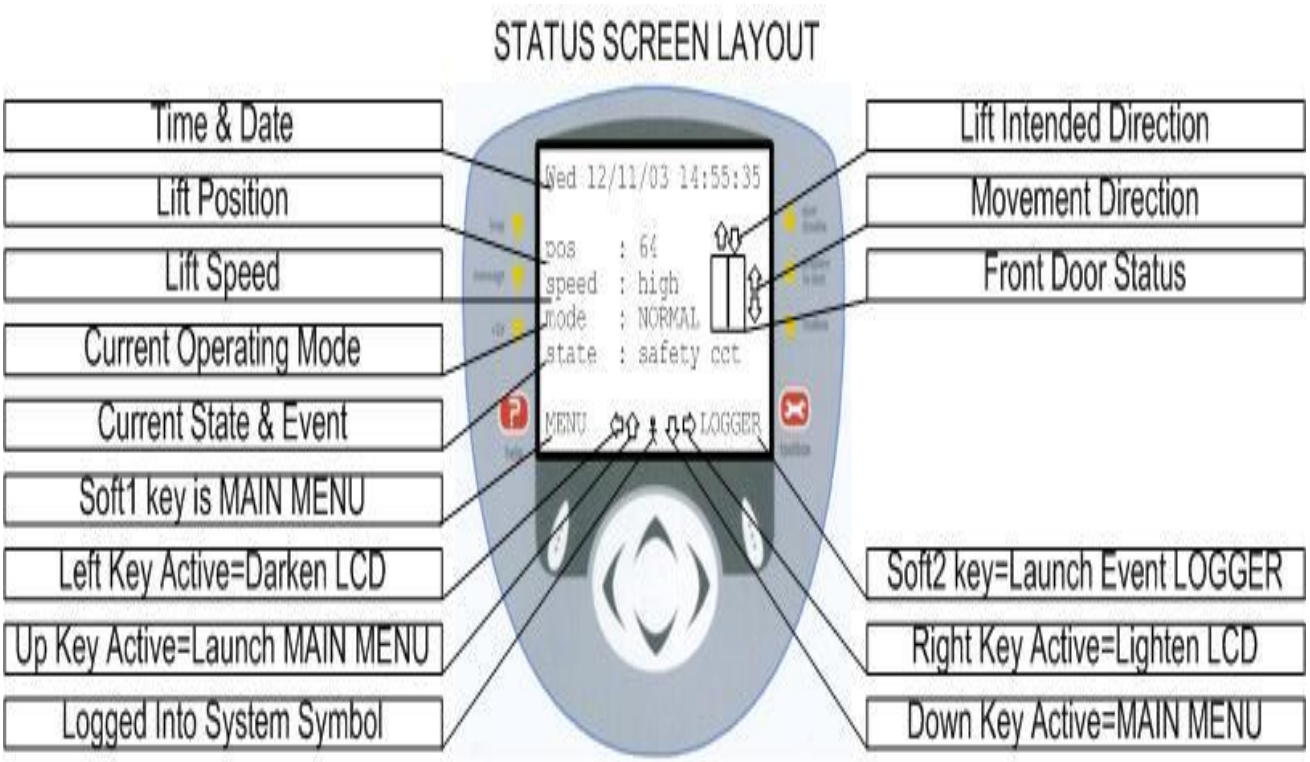
From the **STATUS SCREEN** Press the **MENU** key,
MAIN MENU

- >Log In/Out. >Change Password

Enter your **new** password

You have now changed your password; please keep a record of it. If you have forgotten your passwords, please check the manual or contact TVC customer services for assistance.

2. Status Screen Data Layout



2.1 MODE Text

The “MODE” line of the Status Display indicates the current operating mode.

If more than one mode is active the MODE line cycle to display a text message for each active mode.

MODE	Text Description
AutoRun	Auto-Run Service active
Bus Stp	Bus-Stop, car is servicing a fixed pattern of floors
Bypass	Landing calls are being bypassed, WS95% input active
Diving	Lift requires or is performing a position reset run
Dn Peak	Down peak is active
DorPark	Dormant parking is active. Hydraulic lifts only
Dr Dis	Doors disabled, Toolbox Door Disable function is active
EcoMode	Eco mode is active
Emr1Rec	Emergency Recall 1 Service active, EMR1 input has been activated
Emr2Rec	Emergency Recall 2 Service active, EMR2 input has been activated
Emr3Rec	Emergency Recall 3 Service active, EMR3 input has been activated
Emr Sup	Emergency supply active
Esp Ret	Emergency Supply Return
Fire Re	Fire Alarm Recall Service active, FAM input has been activated
Fire S	Fire Service active, FSR input has been activated
Fpreflt	Front Pre-Flight, Ethos is requesting or performing a front gate lock short test
Hos. Sv	Hospital Service active
Hy Ther	Hydraulic thermal service active
K-Weigh	K-weigh service active
LiftIsol	Lift isolation has been activated
Lob Ret	Lift is returning to the Lobby
LowPres	Low hydraulic pressure activated.
Ltd. Sv	Limited Floor Service active
Milkman	Milkman service active
Non Op	Non-operational, not on normal or test control, check LAR and TTR inputs
Normal	Normal operation
Parking	Lift is auto-parking
RemRcal	Remote recall active
PPTT	Prepare To Test Service active, enable/disable via Toolbox menu
Rpreflt	Rear Pre-Flight, Ethos is requesting or performing a rear gate lock short test
Self Tt	Self Test, Ethos is performing a self test or is in the idle period between self tests
Special	Special Service control, SSR input has been activated
Test	Test Control, the TTR input is on and the LAR input off
TTL Rec	Top Final Limit service active
Up Peak	Up peak is active
Ups Rec	UPS recall active
UrineRe	Urine Recall service active
V Learn	VCOM shaft learn is active
ValveRt	Valve test Return active
ValveTt	Valve test active
WintRun	Winter run service active. Hydraulic lifts only

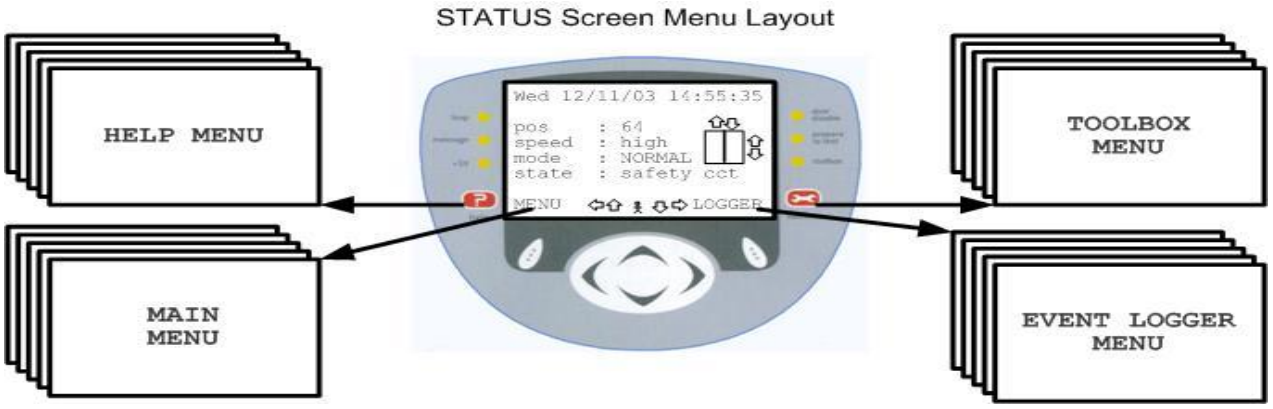
2.2 STATE Text

The "STATE" line displays the lifts' service status and active fault conditions. The display toggles between service status and fault conditions every 1.5 seconds. If more than one fault, a line of text is output for each active fault. If no faults then the service status is displayed. Detailed information on current and previous faults is available within the event logger. Context sensitive help is available within the logger menu whilst viewing individual events. A full description of each event is in this manual. The lift may be out of service due to a serious breakdown or activation of a mode that inhibits normal landing service e.g. fire service.

STATE	State Text Description
110% Overload	Car is overloaded, WS110 input active
BFR/TFR Error	Top and bottom floor position reset error. BFR and TFR inputs indicate the lift at the top and bottom
Brake Conf Er	Multiple brake confirmation errors reported, reset via Toolbox menu
Call Transfer	Landing calls transferred or cancelled, the car has been delayed
Car Call Req	A car call is needed to reset a fault condition
Car Net. Fail	Serial call car network has failed. Door node or car node not functioning.
Car Push Flt	Lost CPF feed
DJR Tripped	Double journey timer expired, reset via the Toolbox menu
Drive Fault	Drive fault bit set within serial drive
Drv Coms Fail	Communication between Ethos and Drive failed
Dor Limit Err	Front or rear door limit error, contradictory DOL/DCL input states
E² Corrupt	Parameter memory corruption
E –SE Map Err	E-SE shaft map error
ESUP No Duty	Emergency supply but not the duty car
FDr Close Flt	Front door close protection timeout, front doors have failed to close fully
F-Dr Open Flt	Front door open protection timeout, front doors have failed to open fully
Frnt Door Jam	Front door unable to fully open or fully close
Lnd Net. Fail	Serial call landing network has failed. More than 50% nodes lost.
Land Push Flt	Lost LPF feed
Lift Alert Sig	Unintentional movement detection active
Lift in Serv.	Lift is in service.
Lock Short	Front or Rear gate lock short detected, reset via Toolbox menu
Low Pressure	Low pressure indicated
LTLR Tripped	Low speed protection timer tripped
LU/LD/DZ Lost	Leveller or door zone input lost whilst stationary, reset via Toolbox menu
MC Stuck	The main contactor is stuck in (see section 33)
Miss BFR/TFR	Missing BFR/TFR position resets, reset via Toolbox menu
MRT Tripped	Motor/Motor-room over-temperature, MRT input activated
MMI Serv Actv	An service has been activated via the MMI
Multi Hed Err	Multiple head errors, reset via Toolbox menu
Multi Lev Err	Multiple leveller errors, reset via Toolbox menu
Multi PreLock	Multi-prelock failure, doors has failed to lock on a number of occasions
MultiStart Er	Multi-start errors, lift has failed to move a number of times
NERR IP Lost	The NERR input has been lost
No Dispatcher	Group landing push feed failure.
Out of DZ Stp	Lift has stopped outside of doorzone
Out of Serv.	Lift is out of service.
PS Missing	PS Ethos input is missing.
R_Dr Open Flt	Rear door open protection timeout, rear doors have failed to open fully
RDr Close Flt	Rear door close protection timeout, front doors have failed to close fully
Rear Door Jam	Rear door unable to fully open or fully close
Recall Failed	Fire Service, Fire Alarm Recall or Emergency Recall has failed to return car to the recall floor
Rope brake fl	Rope brake fault
Safe Gear Flt	Safety gear fault
Safety Chain	Safety chain fault, LAR and TTR inputs are both on or both off
SE Coms Fail	Communications failure to the shaft encoder
Se Dive Fail	Shaft encoder dive failure
SelfTest Fail	A self test has failed and no subsequent lift journey has been observed
Stuck AU/AD	The APX (AU/AD) input has not changed state during a terminal to terminal floor run
Stuck SU/SD	The SPX (SU/SD) input has not changed state during a terminal to terminal floor run
TFL Shutdown	Top final limit service active. TFL input lost. Reset via the Toolbox menu
TU Limit Flt	Test up limit fault. TU input lost on TFR or active on BFR. Reset via Toolbox menu in test
Valv Tst Fail	Valve test has failed
VCOM Com Fail	VCOM communication failure
VCOM Map Err	VCOM shaft map error
VCOM Para Err	VCOM parameter error
VCOM PS Missg	VCOM PS (power) signal missing
VCOM/E-SE Sek	VCOM or ESeries power up seek. Looking for a both resets.
VCOM Rep.Flt	Repeat fault from VCOM
Watchdog Fault	External watchdog disabled.

2.3 Menu Layouts Description

There are four menu systems within ETHOS, each with a specific task. The HELP and TOOLBOX Menus can be accessed at any time, within any other menu system and will automatically layer itself on top of the previous menu to preserve your last menu position.



2.4 MAIN Menu Layout

From the **STATUS SCREEN** Press the **MENU** key,

- Log In/Out — Log in to alter settings
- View Enter Calls — View and enter car & landing calls
- System Information — View system counters
- Smart Card Services — Register/load and save your settings [NOT ETHOS LITE]
- Read/Write Message — Send/receive text messages
- Customer Settings — Customer Accessible Settings
- VCOM Tools — VCOM settings
- Serial Node Tools — Serial Call Network Screens
- Memory Management — Restore user settings
- Factory Settings — *Factory settings*
- R&D System Tools — *TVC tools*

2.5 LOGGER Menu Layout

From the **STATUS SCREEN** press the **LOGGER** key,

- View Event Log — View events in chronological order
- View Current Events — View all active double sided events
- Search for Event — Search for events, group, type etc.
- Engineers Event — Add engineers event to event log
- Trace Menu — Trap an event, view the trace log
- Clear Event Log — Clear the event logger buffer

2.6 TOOLBOX Menu Layout (designed to give quick access to the commissioning tools)

From **any screen** press the Toolbox Key.

- Clear Faults — Clear manually events
- Door Disable — Enable/Disable Doors
- Prepare to Test — Remove lift from service
- Set Top Car Call — Set a top floor car call
- Set Bottom Car Call — Set a bottom floor car call
- AutoRun Control — Commissioning AutoRun Tool
- Car Gong Test — Enable/Disable Car Gong Test

2.7 HELP Menu Layout (gives the user access to help files for the most commonly used activities)

From **any screen** press the HELP key at any time.

- Help with Main Menu — Description of Main Menu items
- Help with Toolbox — Help with Toolbox items
- Help with Contrast — Help with LCD contrast
- Help with Events — Description of each event
- Help with Faults. — How to clear faults, such as DJR
- Help with Trace — Setting up the trace feature

3. Main Menu View/Enter Calls

The MMI has been equipped with a graphical view/enter call screen for the setting and clearing of car & landing calls for both front and rear risers.

View/Enter Calls Menu Structure		
From the Status Screen Press the menu key	⇒View/Enter Calls	View/Enter Front
		View/Enter Rear

To View/Enter Front or Rear Calls,

Press the **SELECT KEY** to enter the view calls screen.

Use the **Arrow** keys to move the cursor position between Car Calls (Left), Up Landing Calls (Middle) and Down Landing Calls (Right).

Use the **Arrow** keys to move the cursor position from level to level, the display will only reveal six levels at any one time, but will scroll beyond the sixth level to your number of floors via these keys.

Pressing the **TOGGLE** key will assert the call if de-asserted or de-assert if asserted, when asserted, the empty call box cursor will automatically fill to indicate the selected call has been accepted.

Levels displaying a symbol over the associated car or landing call indicates that the selected call type at the specific floor is a secure floor and calls of this type are not accepted.

Levels displaying a symbol next to the selected level indicates that this floor has been configured as a “blind hatch or blank floor”. Car and or landing calls are not accepted at levels indicating symbol

The arrow symbol next to the floor level markings indicate the current lifts position and direction.

3.1 Quick Call Entry

A quick and easy way to enter a terminal floor car call:

From any location, Press the **Toolbox** Key,
TOOLBOX MENU

- Set Top Floor Call
- Set Bottom Floor Call

Press the **SELECT KEY** to enter your call.

4. Main Menu System Information

The System Information menu gives you access to set the Time & Date and gives viewing access only to system counters such as journey counters.

System Information Menu Structure		
From the Status Screen Press the menu key	⇒System Information	⇒Time & Date
		⇒View Counters
		⇒Contract Info
		⇒Build Information
		⇒Group Network Status
		⇒Energy Consumption

4.1 Date & Time

The Date and Time used for Event logging is adjustable through the MMI, the Date and Time will normally be factory set and should not need setting, however, it may be necessary to reset if the CPU board is changed. There is also the option for automatic date adjustment for Daylight Saving Time (DST).

4.2 Selecting the Date & Time screen

The **Arrow** keys move the cursor horizontally between each section of the time or date.

The **Arrow** keys adjust the value indicated by the cursor position up or down.

4.3 Journey Counter

The journey counter increments by one each time the lift starts in either direction giving a total journey count since installation, this can be useful to take note of during maintenance.

4.4 Re-Level Counter

The re-level counter increments by one each time the lift starts a re-level operation in either direction giving a total re-level count since installation, this can be useful to take note of during maintenance.

4.5 Front / Rear Door Counter(s)

The door counter increments by one each time the doors complete one cycle, giving a total count of door operations since installation, this can be useful to take note of during maintenance.

4.6 Self Test Counter

The Self Test Counter increments automatically whenever a LISI-Self Test call is entered into the system by Ethos.

4.7 AutoRun Counter

The AutoRun counter is incremented automatically whenever the system is running AutoRun, and the AutoRun feature enters a car call. The AutoRun counter is refreshed each time the AutoRun feature is enabled.

4.8 Build Information

Provides information on the contract software version installed on the Ethos

4.9 Group Network Status

Provides information on all the Ethos panels within a group sharing a common CAN network, such as which panel is the master and which are the slaves.

4.10 Energy Consumption

Used to provide data on how much energy used to drive all the lifts components. Requires appropriate hardware.

5. Main Menu Smart Card Services *[NOT ETHOS LITE]*

Ethos has provision for saving/loading "Customer" settings to and from the smart card. This feature also enables multiple elevators to be "Configured" with the same settings as the original elevator.

Smart Card Services Menu Structure	
From the Status Screen Press the menu key	⇒Smart Card Services

5.1 Smart Card Insertion

Insert the Smart Card into the Ethos Controller, with the Card Contacts facing the MMI LCD (Left) and with the contacts on the leading edge of the Smart Card (Furthest away from you).

5.2 Registering Smart Card.

Before you can save or load your Customer settings to the Smart Card, you must register the smart card first.
Follow the procedure below to register your smart card: -

Log In using your access level and password

- Enter Your Smart Card.
- Select Register Card from Menu
- Log-Out.
- End.

5.3 Copy Settings >-Card.

To save the Customer settings to the Smart Card, Follow the procedure below: -

- Enter Your Smart Card.
- Ensure the elevator is in "Safe Mode".
- Select Copy Settings >- Card from the menu
- Revert the elevator back to "Normal Operation".
- Remove the Smart Card

5.4 Copy Card > Settings.

To copy your Smart Card Customer settings to the Ethos Customer Settings, follow the procedure below: -

- Enter Your Smart card.
- Ensure the elevator is in "Safe Mode".
- Select Copy Card >- Settings from the menu
- Revert the elevator back to "Normal Operation".
- Remove your Smart card.

5.5 Version Information

The "Version Information" menu reveals possible differences between the data stored on the Smart card and Ethos.

The Settings within Ethos and the Smart Card are stored in a file which has a particular data structure, called a template, this template has a version number, Data from a Smart card with a different version number cannot be copied into Ethos.

Select this option when copying settings from one elevator to the next; ensure that the version numbers are the same.

6. Main Menu Read/Write Message

Ethos provides facilities for sending and receiving text messages from the outside world through the E-Pack Ethernet Module or via SMS GSM Mobile technology.

Text messages can be left for the next user of ethos, these predefined text messages selected through the MMI and sent through to the inbox. The message light on the MMI will flash if an unread message is pending.

To clear the flashing message light on the MMI but not delete the received message, go to the inbox and select the "ACK" function.

Read/Write Messages Menu Structure			
From the Status Screen Press the menu key	⇒Read/Write Messages	⇒Inbox/Read Message	
		⇒Write Message	Message Understood All Faults Cleared Returned to Service Unable to Fix Fault Please Send Help Please Call Me ASAP Answer=Yes / No / OK
		⇒Clear Message	

7. Main Menu Customer Settings

Customer Settings gives the user access to all the customer settable parameters, for quick reference these parameters are itemised below.

To make changes to these parameters follow the simple procedure below: -

- Log-IN using your correct access level and password
- Find the required parameter from the list below. Then make your adjustments.
- Log OUT.

Customer Settings Menu Structure		
From the Status Screen Press the menu key	⇒Customer Settings	⇒Door/Drive Settings
		⇒Feature Settings
		⇒Floor Setting
		⇒Speed Settings
		⇒E-SE Position Menu
		⇒Indicators & Speech
		⇒View I/O Assignments
		⇒GSM Phone Tools
		⇒Service Activation

7.1 Door/Drive Settings.

The door/drive settings menu contains door operation parameters and drive timers etc. All settings are password protected; please ensure you are logged in before attempting changes.

Door/Drive Settings Menu Structure				
From the Status Screen Press the menu key	⇒Customer Settings	⇒Door/Drive Settings	⇒Front Door Settings	F/Door Dwell F/Door Protection F/Door Operation
			⇒Rear Door Settings	R/Door Dwell R/Door Protection R/Door Operation
			⇒Drive Timers	

7.1.1 Timers

Timer	Mnemonic	Range (seconds)	Remarks
Drive Disable Delay	NDRVH	0 - 1.5	Vec/VF/DCSCR only
Brake On Delay	NBKRL	0 - 3	Vec/VF/DCSCR only
Low Speed Timeout	NLTLR	3 - 30	
DJR Runtime Timer	NDJT	1 - 45	
Drive Power Up Time	NPWUD	5 - 120	Vec/VF/DCSCR only
Speed Delay Timer	NSDT	0 - 5	DCSCR only
OSG Pulsed Op. Time	NOSGO	2 - 10	
WS110 Delay Stopping	NWSDS	10 - 50	
Algi VVVF Drive Enb	NDRVE	0 – 10	
Pump Motor Delay	NPUMD	0 – 3	ELRV only
Soft Brake	NSBK	0 – 3	ELRV only
Escape Floor Time	NESFT	1 – 8	2.1 for application => 1m/s 4.2 for application <1m/s

7.1.2 Door Dwell Menu Items (front or rear)

Timer	Range (s)	Remarks
Car Call Dwell	0 – 15	Sets the time the doors keep open prior to reversing when answering a car call
Landing Call Dwell	0 – 15	Sets the time the doors keep open prior to reversing when answering a landing call
Combined Door Dwell	0 – 15	Sets the time the doors keep open prior to reversing when answering a car and landing call
SE Rev Door Dwell	0 – 15	Door dwell used if doors open due to a safety edge reversal
Door Hold Delay	10 – 900	Sets the time that the doors will stay open if invoked with a door hold input DHP – factory configured

7.1.3 Door Protection Menu Items (front or rear)

Timer	Range (s)	Remarks
Open Prot Time	0 – 60	Monitors the time the doors take opening
Close Prot Time Sht	10 – 60	Monitors the time the doors take to close. This setting will be used 3 times if a call is on, then the lift will use this time multiplied by Close Pro.Lng Factor, to check for a door close.
Close Pro Lng.Factor	2 to 5 x Pro-Time	Multiplication of close protection time short, used on final attempt to close doors, after this timer expires the lift will park doors open, out of service.
SE_Protection Time	0 – 60	Monitors the time the safety edge has been on preventing the doors closing
Pre_Lock Protection	0 – 60	Checks the landing gate locked contact is active in response to the car gate closing under journey start conditions
Pre_Lock Delay Time	0 – 3	Delays the brake release output on manual applications to avoid drive tripping on start up
Max Door Open Time	20 -60	Time allowed before nudging will be invoked due to the doors remaining open
SE Revs Before Nudge	2 to 5 Reversals	Number of door reversals allowed, caused by safety edge, before doors ignore the safety edge and nudge close
GOWB Duration	0 – 120	Turns on GOWB (factory configured) for a set duration after GOWB Delay has timed up
GOWB Delay	0 – 120	Timer begins when gates are open and a demand on the lift is active

7.1.4 Door Operation Menu Items (front or rear)

Timer	Range (s)	Remarks
Anti Quick Reversal	0 -3	Time delay from doors opening disallowing a quick reversal of the doors
Contactor Delay	0 -3	Built in reversal delay to cater for electronics
Door Close Warning	0 – 10	Set DCWB output (factory configured) to alert users that the doors are about to close.
Advance Door Open Tim	0 – 5	Adjusts the time the doors can open prior to the lift stopping when finishing a journey, but within door zone.
Adv Open On/Off	ON OFF	Turns on/off feature. Must have appropriate panel circuitry.
Speech Close Delay	0 – 4	Delay when doors are about to close, this gives time to announce speech “Doors Closing” warning.
Door Nudging	ON OFF	Turns on/off feature. Must have appropriate panel circuitry.

7.2 Feature Settings

Feature Settings allows the customer to alter the behavior of a particular type of feature, these features are all accessible by the customer with the correct access level and password.

Feature Settings Menu Structure				
From the Status Screen Press the menu key	⇒Customer Settings	⇒Feature Settings	⇒Emergency Services	⇒Fire Control ⇒Emergency Recall ⇒Emergency Supply
			⇒Special Services	⇒Hospital Service ⇒Lift Isolation ⇒Special Service ⇒Priority Control ⇒AutoRun Control ⇒Remote Recall Control ⇒Urine Detection ⇒Lobby Return ⇒Milkman’s Service
			⇒Normal Services	⇒Limited Floor Service ⇒Anti-Nuisance Ctrl ⇒Load Weighing ⇒LISI Self Test ⇒Car Light Control ⇒Eco-Mode Control ⇒Call Preferences ⇒Winter Auto Run ⇒Cabinet Fan Control ⇒Limit Checking ⇒OSG Solenoid Interface ⇒Brake Lift Confirm ⇒Dual Safety Valve Enb ⇒Valve Enrg Confirm ⇒Dual Valve Monitoring ⇒Rope Brake Monitor ⇒Lift Alert Mon (UMD) ⇒Landing Door Reopen ⇒Cancel Call on Lev ⇒Advance Brake En ⇒Auto Recovery
			⇒Leveling Features	
			⇒Dispatcher Features	

7.2.1 Fire Control

Motherboard Inputs
FSR Fire service input
FAM Fire recall input
FP1T Fire phase 1 indicator on test

Factory configured outputs
FCI Fire Service Indicator
FP1 Fire service phase 1 indicator

Menu Location Customer Settings > Feature Settings > Emergency Services > **Fire Control**

Fire Control Menu Items	
Main Fire Floor	Specifies the recall floor when FSR input active
Type of Fire Control	Sets to Firefighting, Evacuation or FAM
Fire Recall Enable	Turns on/off feature
Recall Park Open	Sets the lift to park open or closed once recalled
Alternate Fire On/Off	Turns on/off feature
Alternate Recall On/Off	Turns on/off feature
Alternate Fire Floor	Specifies the alternate fire floor when AFR input active
Car Switch Enable	Turns on/off feature
ABP Binary Position	Used for full firefighting lifts to give an absolute lift position to the Ethos
ABP Even Parity Check	Used for full firefighting lifts to verify the ABP Binary Position value
FP1T Operation Type	Set to Test only or both Test and Safe mode
Recall Lights FCI	Output FCI when fire service active
Phase 1 Lights RTM	Output when on phase 1 of fire service
Recall Lights RTM	Output when on phase 1 of fire recall

7.2.2 Emergency Recall

Emergency recall takes the lift out of normal service and parks the lift at its recall floor. Three emergency recall inputs provide recall to specified recall floors.

Factory configured inputs
EMR1 Emergency Recall Input 1
EMR2 Emergency Recall Input 2
EMR3 Emergency Recall Input 3

Factory configured outputs
EMRI Emergency Recall Indicator

Menu Location Customer Settings > Feature Settings > Emergency Services > **Emergency Recall**

Emergency Recall Menu Items	
EMR1 Feature On/Off	Turns on/off feature
EMR1 Recall Floor	Specifies the recall floor when EMR1 input active
EMR1 alt message	Used to direct the serial speech message under EMR1
EMR1 Park Open	Sets the lift to park open or closed once recalled
EMR2 Feature On/Off	Turns on/off feature
EMR2 Recall Floor	Specifies then recall floor when EMR2 input active
EMR2 alt message	Used to direct the serial speech message under EMR2
EMR2 Park Open	Sets the lift to park open or closed once recalled
EMR3 Feature On/Off	Turns on/off feature
EMR3Recall Floor	Specifies the recall floor when EMR3 input active
EMR3 alt message	Used to direct the serial speech message under EMR3
EMR3 Park Open	Sets the lift to park open or closed once recalled
EMR Landing Reopen	Allows the landing push to reopen the doors at the recalled floor
EMR Lights RTM	Outputs EMRI when recalling only. Switches to Lift out of service (LISI) when recalled

7.2.3 Emergency Power Operation (Group Network Mode)

Factory configured inputs
ESUP wired to all cars in parallel.
FSR wired to cars that are full firefighting only.
FAM or EMR wired to other cars if necessary.

Menu Location Customer Settings > Feature Settings > Emergency Services > **Emergency Supply**

Emergency Power Menu Items	
Feature OFF/ON	Turns on/off emergency supply, duty car sequencing and emergency supply return operation also emergency supply event notification. This is set on a per car basis, but must be set on all cars.
Duty Option Type	This is a selection menu: - First option the car "always" has duty (for simplexes or dedicated fire lifts with their own supply). Second option is via input, movement allowed only when "FDC input" is active. In addition, the last is "Network Duty Car", the ethos dispatcher decides duty car. (Note ESUP feature must be on, on all lifts for this to work).
Number of Duty Cars	This is the number of cars in the group allowed to move at the same time under emergency power.
Return List	This list gives the order that cars will return once Emergency Supply is active.
Fire Duty Car	This is the car chosen to be the fire duty car once all cars are returned.
Nominal Duty Car	This is the car chosen to go into normal service once all cars are returned; if set to 0 all cars will stay out of service.
ERET Return Floor	This is the floor to return to, Fire and Emergency Recall floors override this in order.
ERET Park-Open	Parks open when on emergency supply return, if not duty car the lift will park closed with DOP active.
Revcon On Delay Time	Revcon unit delay switching time
ESUP O/p Delay off tm	Delay ESUP op when emergency supply is activated
Stall Timer	This timer is the time limit given to each car to return to their designated return floor. If a car fails to return, the dispatcher will give duty to another car, each car has 3 chances of becoming the duty car and if they fail to return will be left where they are.

Operation

ESUP input activation: -
Puts all cars in emergency power mode, so they stop at next floor and wait for next command. Lifts will display Emergency Power in the Mode entry on the status screen.
If the car does not have the duty flag, it will additionally display No duty Car as a fault in the state line.

Dispatcher then selects Duty Car: -
If dispatcher sets "duty car" across the network then we follow the next three inputs or flags from dispatcher. The dispatcher gives duty to a car; this would then return to either the fire floor or the emergency return floor if FSR, FAM or EMR are active. If not the dispatcher will request a recovery to the emergency supply return floor. The recover flag from dispatcher causes the car to return to emergency supply floor only if duty car. FAM or FSR would also return to fire floor only if duty car. EMR would return car to emergency floor if duty car.

FSR (Firefighting) phase 2: -
If a car is already on fire phase 2 when ESUP is activate then this is automatically the duty car and will stay that way.

When all cars are returned to their relevant floors or have been found to have stalled 3 times the fire duty car will become Duty Car if it has not stalled.

7.2.4 Hospital Service

On entering a Hospital call the dispatching function will determine which lift will go on to Hospital service, all other lifts in the group will stay on normal service. Only lifts capable of performing the service will be available. If a lift has a fault, is on a higher priority service or is overloaded, then it is unavailable. A Hospital call cannot be placed at a blank floor.

The lift on hospital service will cancel all its car calls and landing calls, and temporarily remove any floor security in place. The lift will then travel to the floor the hospital call has been place, if the doors are currently open then it will close them directly using nudging (if available), DOP to be ignored.

On arriving at the recall floor, the lift will open its doors and wait for a constant pressure car call to be placed onto the lift. The doors will close and the lift will service the call. If no call is placed the service will time out and the lift will return to normal service. On arriving at the selected floor, the lift will return to normal service.

If at any stage the lift develops a fault condition then it will cancel Hospital service.

Factory configured inputs
HSP Hospital Service

Factory configured outputs
HSI Hospital Service Indicator

Hospital calls are configured on a call module.

Menu Location Customer Settings > Feature Settings > Special Services > **Hospital Service**

Hospital Service Menu Items	
Hospital Service On/Off	Turns on/off feature
Cancel Hospital Time	Cancels the service after a period of lift inactivity

7.2.5 Lift Isolation

Lift isolation takes the lift out of normal service, parking it at the next available floor.

Factory configured inputs
LISL Lift Isolation input

Menu Location Customer Settings > Feature Settings > Special Services > **Lift Isolation**

Lift Isolation Menu Items	
Lift Isolation On/Off	Turns on/off feature.
Lift Isolation Park Open	Parks open when enabled.

7.2.6 Special Service

Special service takes the lift out of normal service and places control to a driver of the car. The driver places single car calls to drive the lift to its required destination.

Motherboard inputs
SSR Special Service

Factory configured outputs
SSI Special Service Indicator

Menu Location Customer Settings > Feature Settings > Special Services >**Special Service**

Special Service Menu Items	
Special Service On/Off	Turns on/off feature
Constant Pressure	If enabled the car call has to be constant to close the doors.

7.2.7 Priority Control

This Feature is not present.

7.2.8 AutoRun Control

Menu Location Customer Settings > Feature Settings > Special Services > **AutoRun Control**

AutoRun Control Menu Items	
AutoRun Floor Pattern	Sets of the calls are distributed during activation
AutoRun Test Zone	Autorun settings under test conditions
AutoRun Door Select	Sets either front, rear or both doors to cycle at floor
AutoRun Starts Per Hour	How many lift runs per hour
AutoRun Hours To Run	Sets how many hours the autorun event is active for

7.2.9 Remote Recall Control

Remote recall takes the lift out of normal service and parks the lift at its recall floor. It is control by TVC's E-Manager system.

E-Manager provides a method of monitoring and controlling a lift from a PC.

Menu Location Customer Settings > Feature Settings > Special Services > **Remote Recall Control**

Remote Recall Control Menu Items	
Remote Recall On/Off	Turns on/off feature
Remote Recall Park Open	Sets the lift to park open or closed once recalled.
Remote Recall Floor	Sets the remote recall floor.

7.2.10 Urine Detection

Urine detection is a feature that detects the presence of urine and brings the lift to a recall floor. Typically used on railway station lifts.

Factory configured inputs
UDI urine detection input

Factory configured outputs
URO urine detection output

Menu Location Customer Settings > Feature Settings > Special Services > **Urine Detection**

Urine Detection Menu Items	
URD Feature On/Off	Turns on/off feature
URD Recall Floor	Sets the floor to recall once service is activated.
URD Park Open Timer	Once recalled will park open for an adjustable time (30 – 240 seconds) to allow time to clean the lift.

7.2.11 Lobby Return

When on Lobby Return, all landing calls are cancelled and the entry of further car and landing calls is inhibited, but existing car calls remain active. When the existing car calls are answered, the lift will then return to the predefined Lobby Return Level where it will park out of service.

Factory configured inputs
LRET Lobby Return Input

Factory configured outputs
LRO Lobby Return Output

Menu Location Customer Settings > Feature Settings > Special Services > **Lobby Return**

Lobby Return Menu Items	
Lobby Return ON/OFF	Turns on/off feature
Lobby Return Level	Specifies the recall floor when LRET input active and existing car calls have been answered
Lobby Return Park Op	Sets the lift to park open or closed once recalled

7.2.12 Milkman's Service

Milkman's service takes the lift out of normal service and places control to a driver of the car. The driver places single car calls to drive the lift to its required destination. Upon arrival at the destination, the lift will park open until either the Cancel Milkman's Service Timer expires or entry of a further call. The Cancel Milkman's Service Timer will start as soon as the milkman's input. Should the timer expire or the input is present for a second time, the lift will return to normal service.

Factory configured inputs
IMILK Momentary Milkman's Service Input

Menu Location Customer Settings > Feature Settings > Special Services > **Milkman's Service**

Milkman's Service Menu Items	
Service ON/OFF	Turns on/off feature
Constant Pressure	Toggles between Constant or Instant pressure call entry
Cancel Milk Serv Tim	Cancels the service after a period of time has elapsed since starting the service

7.2.13 Limited Floor Service

Limited floor service provides an extra security map that is activated via an input, the real time clock, or both.

Factory configured inputs
LTD Limited Floor Service Input

Menu Location Customer Settings > Feature Settings > Normal Services > **Limited Floor Service**

Limited Floor Service Menu Items	
Ltd Floor Enable	Turns on/off feature
Ltd Floor Map	Takes the user to the security map for the limited floors feature. See section 13.4 for detail on using this screen. This map is separate to the secure floors feature and any changes made here will not affect that feature
Ltd Flr Start Time	Sets the time at which the feature becomes active
Ltd Flr End Time	Sets the time at which the feature deactivates

7.2.14 Anti-Nuisance Ctrl

Monitors the lift use to determine if inappropriate call inputs are being set.

Menu Location Customer Settings > Feature Settings > Normal Services > **Anti-Nuisance Ctrl**

Anti-Nuisance Ctrl Menu Items	
Anti Nuisance Enable /Disable	Turns on/off feature
Set Car Call Threshold	Amount of calls required to trigger event

7.2.15 Load Weighing

Menu Location Customer Settings > Feature Settings > Normal Services > **Load Weighing**

Load Weighing Menu Items	
WS95 Control On/Off	Turns on/off feature
K-Weigh Reset On/Off	Turns on/off feature
K- Weigh Start Time	Initiate time for K-Weigh reset sequence
K-Weigh End Time	End time for K-Weigh reset sequence
K-W Settle Time	Period to allow lift to be stationary before resetting K-Weigh

7.2.16 LISI Self Test

Allows the lift to put calls on so that the lift status is checked.

Operation:
Only active if [Self Test Enable] is set and time is within [LISI Daytime Start] and [LISI Daytime Finish].

Once active waits until car has been idle for [Test Delay Timer] time. Then the processor will place a call and the lift will run to floor. Homing does not operate while in self-test mode.
Lift will then return to original floor after [Test Delay Timer] time. This will continue for [Max Number of Tests].

Menu Location Customer Settings > Feature Settings > Normal Services > **LISI Self Test**

LISI Self Test Menu Items	
Self Test Enable	Turns on/off feature
Test Time Limit	Time given to allow test to complete
Max Number of Tests	Number of tests
Test Delay Timer	Time between tests
LISI Daytime Start	Initiate time for LISI self test sequence
LISI Daytime Finish	End time for LISI self test sequence

7.2.17 Car Light Control

Car light control used to turn off the lift car's fan and light when the lift is not in use.

Factory configured outputs
CLT Car light output

Menu Location Customer Settings > Feature Settings > **Normal Services > Car Light Control**

Car Light Control Menu Items	
Car Light On/Off	Turns on/off feature
Car Light Timer	Sets the timer value (1 –15 mins). Timer begins when lift is at floor and reloads each time the lift goes on a journey

7.2.18 ECO Mode Operation

Factory configured outputs
PS1 power save 1 output: drive
PS2 power save 2 output: indicators

Programmable by time of day, with phased count down timers when active.
Any 'Wake-up' signal will cancel ECO-MODE and return the lift to normal service.
Wake-up signals include car or landing calls, special service, fire control, inspection operation and keypad activation. Phase 1 (Snooze) after an adjustable period of inactivity. The car light and fan will be switched off. Phase 2 (Sleep) after a second period of inactivity. Shutdown drive and unneeded control circuitry, turn off unnecessary LEDs and backlights. Phase 3 (Hibernate) after a third period of inactivity. Shutdown indicators, speech, call button dual-illumination and other peripherals.

During activated Eco-Mode periods, VCOM will select an economic ride profile, this is used if calls are below an adjustable level or the lift is on a homing run or other non-critical journey. VCOM mode is deactivated if multiple calls above the call limit are accepted.
Parameters under menu: -

Customer Settings -> Feature Settings-> Normal Services-> Eco-Mode Control.

ECO Mode Menu Items	
Eco Mode On/Off	Turns on/off feature
Eco Mode Start Time / End Time	Time window in which Eco Mode is allowed to be active, typically 18:00hrs to 07:00hrs.
ECO All weekend	Sets ECO mode on the weekend ignoring start/end time settings
Eco VCOM Call Limit	More calls than this on the system and the VCOM will switch to normal running parameters, below this the VCOM will run at half speed / acceleration rates.
Eco Snooze Time	After this timer the car light and fan output will switch off (CLT)
Eco Sleep Time	After this timer the PS1 output will switch off
Eco Hibernate Time	After this timer the PS2 output will switch off.
Energy Meter Fitted	Turns on/off feature

7.2.19 Call Preferences

Menu Location Customer Settings > Feature Settings > Normal Services **> Call Preferences**

Call Preferences Menu Items	
Car Call Reject	Car calls behind committed direction of travel
APB Car Call Preference	Time car call has preference over a landing call under APB control
APB Last Car Call	Option to be able to alter the APB collective car call whilst travelling
APB Call Gates Open	Allows an APB collective car call to be entered when doors are open

Automatic Push Button (APB) Operation

APB operation offers the simplest form of lift service whereby the car responds to a single call and inhibits insertion of further calls whilst the lift is in use. This mode of operation is suitable only for simplex installations and is typically limited to low-rise goods lifts particularly manual gates installations. A Lift In Use Indicator (LIUI) warns other users of the temporary unavailability of the car.

APB Car Call Preference (Time)
APB Car Call Preference temporarily inhibits landing calls to allow car call entry by the lift occupant. The APB Car Call Preference timer restarts on arrival at a landing or when the doors open or close. The timer period can be set in the APB Car Call Preference menu.

Resolution = 1 second Default = 8 seconds
Minimum = 1 second Maximum = 20 seconds

APB Last Car Call (On/Off)
The APB Last Car Call feature allows the lift occupant to change the current car call destination by pressing an alternative car push. With APB Last Car Call operation turned off the user is unable to change the car call destination once a car call has been accepted i.e. the existing car call must be serviced before another car call can be entered.

Setting = ON / OFF Default = ON

7.2.20 Winter Auto Run

Winter auto run places a top floor call on to the lift every 30 minutes that the lift has been idle. The lift will then dormant park to the bottom level. Used on Hydraulic drive lifts to ensure that the oil stays warm

Menu Location Customer Settings > Feature Settings > Normal Services **>Winter Auto Run**

Winter Auto Run Menu Items	
Auto Run On/Off	Car calls behind committed direction of travel
Auto Run Timer	Sets the time for the function to operate

7.2.21 Cabinet Fan Control

Factory configured outputs
CFAN Cabinet Fan Output

Menu Location Customer Settings > Feature Settings > Normal Services **> Cabinet Fan Control**

Cabinet Fan Control Menu Items	
Cab Fan Ctrl On/Off	Turns on/off feature
Cab Fan Start Time	Set the time the fan output is to come on
Cab Fan End Time	Set the time the fan output is to go off
Cab Fan Duration	Set the time the fan will stay on for , timed up from lift movement

7.2.22 Limit Checking

Top Final Limit
Required by Hydraulic type lift systems. On activation requires a manual reset.

Factory configured inputs
TFL Top Final Limit

Test Up Limit
Checks the status of the test up limit. On activation requires a manual reset.

Factory configured inputs
TUL Test Up Limit

Menu Location Customer Settings > Feature Settings > Normal Services **> Limit Checking**

Limit Checking Menu Items	
Top Fin Limit On/Off	Turns on/off feature
Test Up Limit On/Off	Turns on/off feature

7.2.23 OSG Solenoid Interface

Checks the operation of the Overspeed Governor pre-journey.

Factory configured outputs
OSGP OSG output control pulse

Menu Location Customer Settings > Feature Settings > Normal Services **> OSG Solenoid Int'fac**

OSG Solenoid Interface Menu Items	
OSG Sol. Int. On/Off	Turns on/off feature

7.2.24 Brake Lift Confirmation

Brake lift confirmation checks that the brake operation is correct during a lift journey by monitoring a confirmation output from the brake.

Factory configured inputs
BLC1 Brake Lift Confirmation input 1
BLC2 Brake Lift Confirmation input 2

Menu Location Customer Settings > Feature Settings > Normal Services **> Brake Lift Confirm**

Brake Lift Confirmation Menu Items	
Brake LiftConfirmType	Turns feature off / Single or Dual
Brake Lift Time	Time for the brake to confirm it has lifted/dropped at the start/end of a journey

7.2.25 Dual Safety Valve Enb

Disables relevelling if the lift stops out of door zone stopped.

Menu Location Customer Settings > Feature Settings > Normal Services **> Dual Safety Valve Enb**

Dual Safety Valve Enabled Menu Items	
Dual Safety Valve Enb	Turns feature on / off

7.2.26 Valve Enrg Confirm

Check the correct operation of the valves.

Menu Location Customer Settings > Feature Settings > Normal Services **> Valve Enrg Confirm**

Factory configured inputs
VC1 Valve Confirmation input 1
VC2 Valve Confirmation input 2

Valve Energise Confirmation Menu Items	
Valve Confirm Enable	Turns feature on / off
Valve Energise Time	Time for the valve to confirm it has operated correctly

7.2.27 Dual Valve Monitoring

Performs the Dual Valve self-test after dormant parking or forced recall.

Menu Location Customer Settings > Feature Settings > Normal Services **> Dual Valve Monitoring**

Factory configured outputs
VR1 Valve Release 1
VR2 Valve Release 2

Dual Valve Monitoring Menu Items	
Dual Valve Mon On/Off	Turns feature on / off
Valve Test Duration	Time spent within each test (Up and Down)
Inter-test Phase Dur	Time between tests (Up and Down)
Valve Test Check Time	Time to check valve operation

7.2.28 Rope Brake Monitor

Factory configured inputs
RBM Rope Brake Monitor input

Menu Location Customer Settings > Feature Settings > Normal Services **> Rope Brake Monitor**

Rope Brake Monitor Menu Items	
Rope brake On/Off	Turns on/off feature

7.2.29 Lift Alert Monitor (UMD)

Prevents the lift starting a new journey if the system detects unintentional movement.

Factory configured inputs
MLA Lift Alert Monitor input

Menu Location Customer Settings > Feature Settings > Normal Services **> Lift Alert Mon (UMD)**

Lift Alert Monitor Menu Items	
Lift Alert Mon On/Off	Turns on/off feature

7.2.30 Landing Door Reopen

Differential Landing Door Reopen

The maximum number of door reversals in response to landing calls assigned to a car with other calls waiting to be serviced can be limited via the menu item:

Menu Location Customer Settings > Feature Settings > Normal Services **> Land Door reopen**

Main Floor Max is the maximum number of door reversals permitted, per side, at the main floor. The main floor is defined as the first entry in the normal parking assignment table i.e. ParkAssign-1.

Main Floor Max default setting = 1 reopen (min = 0, max = 255)

Other Floors Max is the maximum number of door reversals permitted, per side, at floors other than the main floor.

Other Floors Max default setting = 1 reopen (min = 0, max = 255)

An idle car i.e. one that does not have any other call assignments pending has no limit on the number of landing door reversals.

7.2.31 Delayed Call Cancelling

Menu Location Customer Settings > Feature Settings > Normal Services **> Cancel Call on Lev**

Delayed Call Cancelling Menu Items	
Cancel Call on Lev	Turns on/off feature

This parameter selects the point at which calls are cancelled during the journey

OFF enables TVC's standard method of call cancellation, whereby the calls are cancelled at the point of slowing i.e. on the trailing edge of the stepping vane for the floor required completing the journey.

ON enables the delayed call-cancelling feature, whereby the calls are cancelled on the leading edge of the first levelling vane for the floor required to complete the journey in the direction travelled i.e. the call would be cancelled on LU in the up direction and on LD in the down direction. Should either of these signals not be present, the call would cancel on the first door zone

7.2.32 Advanced Brake En

Factory configured inputs
LGC Landing Gate Closed

Allows the lift brake to be lifted prior to the doors being closed and locked to enable quicker floor exit. This feature would require additional panel circuitry, additional door limit and Drive tuning.

Menu Location Customer Settings > Feature Settings > Normal Services **> Advance Brake En**

Advanced Brake En Menu Items	
Advance Brake On/Off	Turns on/off feature
LGC Filter Time	Time before the signal is true

7.2.33 Auto Recovery

The Ethos will attempt to put the lift back into service where a car call is normally required

Menu Location Customer Settings > Feature Settings > Normal Services > **Auto Recovery**

Auto Recovery Menu Items	
Number of Attempts	Specifies how many times the Ethos will try to recovery the lift.
Recovery Delay Time	Time before an attempt is performed

7.3 Levelling Features

Requires the appropriate circuitry to be present for this feature to work. Used to ensure lift stays at floor level.

Menu Location Customer Settings > Feature Settings > **Levelling Features**

Levelling Features Menu Items	
Relevelling On/Off	Turns on/off feature
Relevelling Timer	Time relevelling allowed to occur for (1 –15 seconds)
Relevel Delay Up	HYV control to allow for mechanical inertia (0-1 seconds)
Relevel Delay Down	HYV control to allow for mechanical inertia (0-1 seconds)
Relevel Debounce Time	Time following a journey before relevelling occurs (0-5 seconds)
Relevel Error Count	Maximum relevel attempts
Anti-YoYo On/Off	Not available at present
Anti-YoYo Counter	Not available at present

7.4 Floor Settings (Securing Floors)

Floor Settings menu allows the customer to inhibit call access to car and or landing calls, access is controlled via customer access levels and passwords. Please login before making changes.

Parameters List & Menu Structure: -

From the STATUS SCREEN Press the MENU key,

MAIN MENU

- Customer Settings.
  - Floor Settings
  - Secure Front Calls
  - Secure Rear Calls

Press the **SELECT** Key; you will now enter the selected front or rear Secure Floors Screen.

The **Arrow** keys move the cursor position horizontally between Car Calls (Left), Up Landing Calls (Middle) and Down Landing Calls (Right).

The **Arrow** keys move the cursor position vertically from level to level, the display will only reveal six levels at any one time, but will scroll beyond the sixth level to your number of floors via these keys.

Pressing the **TOGGLE** key will secure the call if un-secured or un-secure if secured. A symbol is displayed in secured positions when that floor/call has been selected as secured.

Levels displaying a Symbol next to the selected level indicates that this floor has been configured as a “blind hatch or blank floor”. Car and or landing calls will not be accepted at levels indicating symbol.

Note: when the lift is equipped with selective doors at a floor, car calls for both doors must be secured to ensure floor security from a car call.

7.5 Speed Settings

The speed settings menu gives control over the slowdown points for contracts usually greater than 1.6m/s, changes to these parameters will require the correct access level and password.

Speed Settings Menu Structure		
From the Status Screen Press the menu key	⇒ Customer Settings	⇒ Speed Settings

7.6 E-SE Position Menu

E-SE Position Menu Structure			
From the Status Screen Press the menu key	⇒ Customer Settings	⇒E-SE Position Menu	⇒E-SE Position Tools ⇒E-SE Settings ⇒Handwind Screen

See Manual TVL 315 (Ethos E-Series Shaft Encoder Operation Manual) for the above settings.

7.7 Indicators & Speech

These menus give access to the control of the floor position indicators and control of speech settings.

Indicators & Speech Menu Structure			
From the Status Screen Press the menu key	⇒ Customer Settings	⇒ Indicators & Speech	⇒Lantern & Gong Settings ⇒Indicator Settings ⇒Speech Settings ⇒Serial Settings

7.7.1 Hall Lanterns, Arrival Gongs, Car Gongs and Direction Indicators

Parameters List & Menu Structure: -

From the STATUS SCREEN Press the MENU key,

Menu Location Indicators & Speech > Indicator Settings > **IU/ID Mode Selection**

- Committed Dir

The outputs IU/ID indicate the car's preferred direction of travel based on existing call assignments.

- Dir of Travel

The outputs IU/ID indicate the car's actual direction of travel i.e. neither indicator will be on when the car is stationary.

- Combination

This is a special combination of the committed and actual direction of travel modes. Whilst the lift is accelerating or travelling at high speed IU/ID indicates the car's actual direction of travel but when the car slows and stops the indicators output the car's preferred direction of travel. This combinatorial mode is useful when the persistence of committed direction is required but the early change of committed direction, as could happen on high-speed "advancing selector" type jobs, is not.

Functional overview:

Output	Operation	Menu Option (->Customer Settings)
HLU	preferred direction of travel, single pulse	No adjustment possible
HLD	preferred direction of travel, single or double pulse	->Indicators & Speech ->Lantern & Gong Setting ->Lantern Single Pulse
AGR	As per HLU/HLD	No adjustment possible

IU ID	direction of travel OR committed direction (HLU/HLD) OR a combination of both	->Indicators & Speech ->Indicator Settings ->IU/ID Mode Selection

CGU CGD	HLU/HLD mimic	

Hall Lantern, Arrival Gong and Floor Enunciation Trigger Delay Selection - SDTYP

Menu Location Customer Settings-> Indicators & Speech->Speech Settings->Trigger Timing->Trigger Type

Default setting 0 – Simple Timer
1 – VCOM Pattern ETA (VCOM pattern jobs)

Parameter mnemonic SDTYP
Access level customer technician
Safety level non critical

This parameter selects the logic for the triggering point for the hall lantern, arrival gong and speech enunciation message on approach to a destination floor.

Selecting SDTYP = 0 enables the simple timer delay operation. In this mode of operation, timers delay the trigger from the point where the advanced position equals the destination floor level. Timer NTDSF sets the delay for single floor journeys and NTDMF sets the delay for multi-floor journeys.

Selecting SDTYP = 1 enables the Estimated Time of Arrival (ETA) mode. In this mode of operation, the trigger point is in terms of time to destination. See section "VCOM Pattern ETA Threshold - NETAT" section for further details

This mode should be selected on installations equipped with a VCOM configured for pattern generation.

VCOM Pattern ETA Threshold - NETAT

Menu Location Customer Settings > Indicators & Speech >Speech Settings >Trigger Timing >**VCOM Pat ETA**

Default setting 40 (4 seconds)
Min 10
Max 200
Units 100 mSec (range 1.0 to 20.0 seconds)
Parameter mnemonic NETAT
Access level customer technician
Safety level non critical

This parameter controls the trigger timing for hall lanterns, arrival gongs and the speech synthesizer floor enunciation message when the VCOM Pattern ETA trigger delay mode is enabled (SDTYP = 1). The value defines the time delay between the trigger point and the car's arrival at the destination floor based on an Estimated Time of Arrival (ETA) calculation.
Triggering occurs when then VCOM calculated estimated time of arrival is less than the value of NETAT e.g.

ETA <= NETAT

ETA is calculated during slowing and decrements down to zero from an initial value generally in the range of 3 to 6 seconds. Prior to the onset of slowing ETA is held artificially high to inhibit false triggering. Setting a value of NETAT much higher than the time taken to decelerate will cause activation of the trigger on the first true calculation of ETA i.e. at the onset of slowing.

ETA calculations are not performed during re-levelling, emergency and position correction movements. ETA is an approximate theoretical guide to the car's arrival time and varies with acceleration (deceleration), jerk, lag, dwell and mechanical properties of the installation.

7.7.2 Position Display Type

The Ethos status screen can display the lift's position as either a level, as a floor legend, or a combination of both. The default display is to display the level (from 1 to x, where x is the number of floors). If set to display the floor legends, the level would be replaced by a two character, user defined legend. If set to display both, the level would appear as normal and the floor legend would appear alongside it, contained in brackets.

From the STATUS SCREEN Press the MENU key,

Menu Location Customer Settings > Indicators & Speech > Indicator Settings > **Position display typ**

7.7.3 Floor Legend Entry

From the STATUS SCREEN Press the MENU key,

Menu Location Customer Settings > Indicators & Speech > Indicator Settings > **Ethos Floor Legends**

The Ethos Floor Legends can be used on either the status screen of the Ethos MMI, or the internal handwind facility that can be used in conjunction with the E-Series and VCOM panels. The legends reflect the floor names as assigned to the building, and can be a maximum of two characters.

Upon entering this menu item, the user is presented with a list of current floor legends. Pressing the up or down keys will allow the user to scroll through this list. Once the relevant legend is found, pressing the SELECT key will change the display to the Ethos Legend character keyboard.

The **Arrow** keys move the cursor position vertically between characters "A" to "?".

The **Arrow** keys move the cursor position horizontally between characters "A" to "5"

Ethos Legend Character keyboard.

Placing the cursor over the word "DEL" and pressing the ENTER key will move the cursor back one.
Pressing the ENTER key whilst over any character will automatically enter that character into the password string and place the cursor at the next location.
When the second character is entered, the full entry will be stored.

7.8 View I/O Assignments

The I/O within Ethos systems is completely flexible, and allows changes to the I/O structure and positioning of particular I/O signals throughout the entire Ethos platform, Customers have read only access to these I/O assignment settings, please contact TVC Ltd for more information on making changes.

View I/O Assignments Menu Structure			
From the Status Screen Press the menu key	⇒ Customer Settings	⇒ View I/O Assignments	⇒View Module Inputs ⇒View Module Outputs

7.9 Service Activation

Service activation allows the lift installer/tester to place the lift on a choice of services replicating the physically switching of that service. The service will be activate until the function is turned off and is logically in parallel with the physical motherboard input.

Menu Location Customer Settings > Feature Settings > **Service Activation**

The services that can be activated are:
Fire Service; Fire Recall; Special Service; Emergency Recall 1; Emergency Recall 2; Emergency Recall 3

The MMI status screen will flash **MMI Serv Actv**

8. V-COM Tools

V-COM Tools Menu Structure		
From the Status Screen Press the menu key	⇒ VCOM Tools	⇒VCOM Toolbox ⇒Floor Trims/Overlap ⇒Pattern Speed Setts. ⇒Pattern Misc. Setts. ⇒Discrete Interface ⇒Encoder Data ⇒Handwind Options.

See Manual TVL 297 (V-COM Operation Manual) for the above settings.

9. Serial Node Tools

Serial Node Tools Menu Structure			
From the Status Screen Press the menu key	⇒ Serial Node Tools	⇒Car Node Tools	⇒Front Car/Door View ⇒Front Car Exp. View ⇒Rear Car/Door View ⇒Rear Car Exp. View
		⇒Landing Node Tools	⇒Riser 1 and 2 View ⇒Riser 3 and 4 View ⇒Riser 5 and 6 View
		⇒Serial Net. Status.	

9.1 Car, Car Expansion and Door Node View Screens

These screens show the various node's current status if the node has no problems it will show "OK", if it has a fault it will show "FT" if not present the status line will show "--". Call inputs, feature inputs and feature outputs are show on these screens also. These screens are useful for fault finding.

9.2 Landing Node, Riser View Screens

These screens show the landing node's current status if the node has no problems it will show "OK", if it has a fault it will show "FT" if not present the status line will show "--". Call inputs can be seen when pushed as up and down arrows. Risers can be configured to be front or rear calls. (See factory for details)

9.3 Serial Network Status.

This screen shows the status of the car and landing CAN networks. Networks can be OK or FAIL. Additional CAN port information can also be seen on this screen.

See Manual TVL 319 to 322 (Serial System Node Install Sheets) for additional information on serial call networks.

10. Main Menu Memory Management

Ethos provides three levels of protection for your parameter files, the User parameter file is accessed each time you make a change to the settings, the Backup file is used for saving your settings from the user file, and should things go wrong, restore your settings from backup to user. In the unlikely event of you corrupting your settings, the Restore from Defaults will revert the operation and parameters back to the factory defaults.

Main Menu Memory Management Menu Structure	
From the Status Screen Press the menu key	⇒ Memory Management

When you make permanent changes to the USER file, save this file to the Backup file by selecting Backup all settings.

10.1 Restore All Settings.

When you wish to revert back to your previous settings after making changes to parameters, select restore all settings.
The backup file will overwrite your User parameter file.
Note: Any previous modifications to parameters will be lost!

10.2 Restore From Defaults.

Should you wish to revert to the original factory settings, select restore from Defaults.
Your User and Backup files will be overwritten.

11. Tool Box Menu Commissioning Tools

Ethos has been equipped with a number of software tools designed to assist in the commissioning and fault finding of the elevator environment. These commissioning tools are within the toolbox menu and their descriptions are described below.

Follow the procedure below to Enable/Disable a desired toolbox feature.

From **any screen** press the Toolbox Key.

TOOLBOX MENU

- Clear Faults — Clear manually resetable events
- Door Disable — Enable/Disable Doors
- Prepare to Test — Remove lift from service
- Set Top Car Call — Set a top floor car call
- Set Bottom Car Call — Set a bottom floor car call
- AutoRun Control — Commissioning AutoRun Tool
- Car Gong Test — Enables/Disables Car Gong Test

11.1 Clearing Faults/ Manually Resettable Faults

Ethos has a number of manually resetable faults, which require manual intervention to clear.
The "Toolbox" led will flash if any of these resetable faults are active. A list of manually resetable faults are itemised below, please refer to Event definitions for more details.

To clear manually resetable faults, please follow the procedure below: -

From any location Press the **Toolbox** key,
TOOLBOX MENU

- Clear Faults
  - DJR Runtime Trip
  - Multi-Level Error
  - Multi-Head Error
  - LU/LD/DZ Lost Stop
  - Missing TFR BFR
  - Top Final Limit
  - Test Limit
  - Gate Lock Bridged.
  - VCOM repeat Fault
  - Brake Confirm Fail
  - Valve Test Failure
  - No DZ Relev Err. A3
  - Contactor Chk.Fail
  - Safety Gear Tripped

11.2 Door Disable (Commissioning Tool)

When enabled through the MMI, Door Disable inhibits normal operation of the door operator, illuminates the "door disable" led on the front panel MMI and an event is recorded in the event logger.

To Enable or Disable this function,

From Any Location, Press the **Toolbox** Key,

TOOLBOX MENU >Door Disable Press the Enter key to enable/disable this function.

11.3 Prepare To Test (Commissioning Tool)

When enabled through the MMI, Prepare to Test assists in the commissioning or maintenance by inhibiting landing calls and responding only to car calls, Doors Park closed in the absence of car calls, the "prepare to test" led will be illuminated and an event recorded in the event logger.

To Enable or Disable this function,

From any location, Press the **Toolbox** Key

TOOLBOX MENU >Prepare To Test Press the **ENTER** KEY to Enable/Disable this function.

11.4 Set Top Floor Car Call (Commissioning Tool)

A quick and easy way to enter a terminal floor car call:

From any location, Press the **Toolbox** Key,

TOOLBOX MENU >Set Top Floor Call Press the **SELECT KEY** to enter your call.

11.5 Set Bottom Floor Car Call (Commissioning Tool)

A quick and easy way to enter a terminal floor car call:

From any location, Press the **Toolbox** Key,

TOOLBOX MENU >Set Bottom Floor Call Press the **SELECT KEY** to enter your call.

11.6 AutoRun Control (Commissioning Tool)

Refer to section: "Commissioning (AutoRun *Control)*"

11.7 Car Gong Test feature (Commissioning Tool)

Enabling this overrides all contract specific methods of gong operation until such a point as it is disabled. Under test operation the gongs will operate from a defined time (see following settings) after the doors have started to open at a floor where a car call was answered. If the lift travelled upwards to that car call, the up gong will be sounded first followed by the down gong. If the lift travelled downwards to that car call, the down gong would sound first, followed by the up gong.

Menu Location Toolbox > Car Gong Test > **Gong Test Delay Time**

This adjustable timer sets the delay before the first gong output is given by the processor. The timer starts from the point at which the doors begin to open. When the timer expires, the first gong is given for a period equal to the setting of the "Gong Duration Timer" and the "Between Gong Delay Timer" is started.

Menu Location Toolbox > Car Gong Test > **Between Gong Delay Tmr**

This adjustable timer sets the delay between the first gong output being given, and the second gong output being given. When this timer expires, the gong will be given for a period equal to that set by the "Gong Duration Timer".

Menu Location Toolbox-> Car Gong Test-> **Gong Duration Timer**

This adjustable timer sets the amount of time each of the two gongs stays illuminated. There is just the one timer for both outputs, meaning they both use the same load value, but they do time up independently of each other.

12. Dispatcher Features

12.1 Dispatching Over View

Put simply the dispatching algorithm employed by Ethos aims to assign the oldest call to the best car. Special processing routines bias the assignment of calls to close cars or cars with coincident car and landing calls. The net result is a balance between the fair distribution of lift service to all floors and an intuitive assignment of cars.

Installers may adjust call preference and parking assignments for normal, up and down peak traffic. Additional priority can be given to calls at the main floor during an up peak and a Lobby Car feature may be used to keep a single car at the lobby for an extended period.

Dispatching functionality may be provided by a per car controller (dispatcher-less operation) or by a standalone dispatcher. Conceptually Ethos uses a master / slave dispatching model where the dispatch master assigns landing calls to all controllers in the group. The dispatch master / slave concept is applied to installations large or small. A simplex controller is always a dispatch master, a duplex installation has one dispatch master and one slave, a triplex installation has one dispatch master and two slaves and so on. Selection of the dispatch master controller is completely automatic and does not disrupt service.

Each controller's current dispatch master / slave status can be viewed in the *System Information→Group Network Status* menu. In the *Group Network Status* screen on the row beginning "DS" an 'M' indicates dispatch master and an 'S' dispatch slave.

The five main dispatching options available to the user for configuration are:

Parking & Bus-Stop - Parks cars at predefined levels, separate parking assignments are available for normal, up and down peak traffic. Bus-Stop service provides rudimentary lift service during landing riser failure.
Up Peak Settings- Defines the up peak traffic start conditions, choose between input, time clock or automatic initiation. Provides a boost for calls at the main floor during up peak traffic.
Down Peak Settings – Defines the down peak traffic start conditions; choose between input, time clock or automatic initiation.
Lobby Service – Delays cars leaving the lobby floor to encourage higher occupancy.
Floor Preference Boost – Provides user settable boosting of calls at individual floors.

On delivery to site, controllers are preset with default settings. The default settings provide a good level of service for a wide variety of conditions however; Installers may choose to configure the dispatching features for optimum performance on each site. All configurable parameters relating to dispatcher features are described in detail in this section of the manual.

12.1.1 Parking & Bus-Stop

Menu Location >Customer Settings >Feature Settings > Dispatcher Features > **Parking & Bus-Stop**

Ethos provides discrete parking assignments for normal, up and down peak traffic conditions. For each of the three traffic conditions an ON / OFF control, parking timer and parking assignment table has been provided.

- Parking ON/OFF
- Parking Timer
- Parking Assigns

- Parking ON/OFF

Select ON to park idle cars or OFF to leave idle cars at their current floor level (default = ON).

- Parking Timer

The Parking Timer determines the period of time in seconds between the car becoming idle and assignment of the parking call (default = 10 seconds).

- Parking Assignments

The Parking Assignments screen lists a table of parking levels in descending order of priority i.e. the first idle car will park at the level entered for ParkAssign-1 the second idle car will park at the level entered for ParkAssign-2 and so on.

The floor entry for ParkAssign-1 is also known as the Primary Parking Assignment it receives a higher level of coverage than the other parking assignments. A car parked at any of the other parking assignment levels can be moved to the Primary Parking Assignment level if it becomes unoccupied. A car parked at the Primary Parking Assignment level will not be re-homed to any other parking level.

The parking assignment table is scanned for non-zero entries from ParkAssign-1 through to ParkAssign-8. A value of zero is ignored if there are fewer non-zero entries than the number of cars in service the number of cars allowed to park is reduced to the number of non-zero ParkAssign-levels.

By way of example the following configuration for a 5 car group assigns the first 3 idle cars to levels 1-3-5, the 4th and 5th idle cars will not receive a parking assignment whilst the parking levels 1-3-5 are occupied:

ParkAssign-1	1	(Primary Parking Assignment)
ParkAssign-2	3	
ParkAssign-3	5	
ParkAssign-4	0	
ParkAssign-5	0	
ParkAssign-6	0	
ParkAssign-7	0	
ParkAssign-8	0	

The Primary Parking Assignment (ParkAssign-1) also specifies the Lobby Floor (see Lobby Floor below). The parking assignment levels are unique to each site and should be adjusted as necessary by the installer.

- Lobby Floor

No explicit parameter is provided for setting the Lobby Floor. The Lobby Floor is defined as the level entered for **Normal Parking ParkAssign-1**. During an Up Peak calls entered at the main floor can be boosted with the Up Peak Lobby Boost Time parameter (see Up Peak Options below).

- Bus-Stop On/Off

Bus-Stop service provides limited service to all floors in the absence of master dispatcher functionality or on loss of the car push feed input. Service is maintained via a preset pattern of car calls spanning all floors spread over a series of terminal-to-terminal floor runs. Select ON to permit or OFF to inhibit Bus-Stop service (default = ON).

12.2 Peak Traffic Processing

The Ethos has special call processing routines for up and down peak traffic. By selectively “aging” landing calls preference can be given to a particular direction of landing call (also known as boosting).

During an up peak idle cars can be made to park at specified up peak parking levels (refer to earlier section on parking) plus landing calls at the lobby and up landing calls at all floors can be boosted.

During a down peak idle cars can be made to park at specified down peak parking levels (refer to earlier section on parking) and down landing calls at all floors can be boosted.

By default, peaks are disabled and must be enabled by the installer once site traffic conditions have been assessed.

A full description of all parameters relating to peak processing follows.

- Peak Invocation

Peak processing is invoked by one of three triggers:

1. Input activation, peak processing begins on activation of the relevant input (refer to job specific wiring diagrams) and persists until the input is deactivated.

2. Timer activation, peak processing starts and ends at user definable times.

3. Automatic activation, peaks begin when the appropriate start conditions have been met and persist for the duration of the peak traffic condition or at least as long as the user definable peak duration time.

- Peak Prioritisation

When up and down peaks coincide activation adheres to the following sequence (highest to lowest):

- Input activated down peak
- Input activated up peak
- Timer controlled down peak
- Timer controlled up peak
- Automatic down peak
- Automatic up peak

12.3 Up Peak Options

Menu Location > Customer Settings > Feature Settings > Dispatcher Features > **Up Peak Settings**

- Peak ON/OFF

Select between ON to permit up peak processing and OFF to immediately abort an existing up peak and disable future up peak processing (default = OFF).

- Lobby Boost Time

Lobby Boost Time is the additional time added to the wait time for landing calls entered at the lobby floor during an up peak. The default Lobby Boost Time is 0 seconds. During an up peak this parameter is used in place of any floor preference boost entered for "Boost Floor 1" (first table entry) in the Floor Preference Boost Menu (see following section).

- Peak Start Time / Peak End Time

A 24-hour time clock is provided for definition of up peak start and end times. Ethos initiates up peak processing when the time displayed on the main status display matches the Peak Start Time. Conversely, the up peak terminates when the Peak End Time is reached. No timer initiated peak occurs if the start and end times are the same (default start = end = 0800hrs)

- Max Down Calls / Min Car Calls / Min Loaded Cars

Up peak processing started automatically when the three following conditions have been met:

1. The total number of down landing calls is less than **Max Down Calls** (default = 2).
2. Cars in the lower half of the building travelling upwards must on average be answering at least **Min Car Calls** (default = 8).
3. There are at least **Min Loaded Cars** meeting the criteria set out in 2 (default = 8).

The default factory settings for Max Down Calls / Min Car Calls / Min Loaded Cars are unlikely to trigger an automatic up peak.

- Peak Duration

Peak Duration defines the duration in seconds of an automatically triggered up peak. The peak will persist for Peak Duration seconds after the automatic peak conditions have been lost i.e. Peak Duration is a delay-off timer parameter.

- Up Peak Weighting

This parameter determines the boost time added to landing up call timers during an up peak (default = 0).

- Car Pooling

Turns the feature on or off.

Normal up peak operation parks all cars at the lobby when the normal parking time expires. Optionally, a number of cars may be pooled at the lobby during up peak. The number of cars pooled is based on the number of cars currently available in the group. Pooled cars are selected first from cars already at the lobby, second from cars heading towards the lobby and thirdly from any other available cars. A car selected for pooling is immediately given an assignment to the lobby which will be answered along with its other assignments (selective collectively). This pooling assignment will appear as a parking call on the dynamic display. When determining how many cars should be pooled at the lobby, use caution since cars pooled at the lobby will be un-assignable to other traffic in the building while the car is at the lobby. It is recommended to never pool all the cars available. Leave at least one car free to answer the other traffic in the building. The term available indicates the car is in the group and available for hall call assignments. A car on independent will not be considered available thus you should establish pool values for 1 to x cars available where x is the number of cars in the group.

- Cars to Pool

Number of Cars allowed to Pool – Sets the amount of cars allowed to pool dependant upon the number of cars available and in service.

- Cars to Express

Express cars can only be used in conjunction with car pooling, so for this feature to be available, the car pooling feature must be enabled (see above). As with the number of cars to pool, this feature selects the number of cars to express dependant upon the number of cars available and in service.

A car expressing to the lobby will continue to answer car calls but will not receive any hall call assignments. Thus you could decide to pool 5 cars and express 3 of them if there are 7 cars available. Cars selected to express will remain express cars until the proper number of cars are at the lobby or the car is removed from automatic operation. You can distinguish express cars from non express pooling cars by the assignments shown on the dynamic display. All pooling cars will show a parking assignment at the lobby. The express cars will not have any hall call assignments but the non- express cars will.

We recommend that you Pool no more than half the number of available cars. Also, we suggest you Express about 1 less than you Pool.

Refer to **Step By Step Guide To Dispatcher Configuration** below for more advice on configuring peaks.

12.4 Down Peak Options

Menu Location > Customer Settings > Feature Settings > Dispatcher Features > **Down Peak Settings**

- Peak ON/OFF

Select between ON to permit down peak processing and OFF to immediately abort an existing down peak and disable future down peak processing (default = OFF).

- Peak Start Time / Peak End Time

A 24-hour time clock is provided to manually set down peak start and end times. Ethos enters a down peak when the time displayed on the main status display matches the Peak Start Time. Conversely, the down peak terminates when the Peak End Time is reached. No timer initiated peak occurs if the start and end times are the same (default start time = end time = 1600hrs)

- Max Up Calls / Min Down Calls

Automatic down peak processing begins when the following conditions have been met:

1. The total number of up landing calls is less than or equal to **Max Up Calls** (default = 2).
2. The total number of down calls is greater than or equal to **Min Down Calls** (default = 14).

The default factory settings for Max Up Calls / Min Down Calls are unlikely to trigger an automatic down peak.

- Peak Duration

Peak Duration defines the duration in seconds of an automatically triggered down peak. The peak will persist for Peak Duration seconds after the automatic peak conditions have been lost i.e. Peak Duration is a delay-off timer parameter.

- Down Peak Weighting

This parameter determines the boost time added to landing down call timers during a down peak (default = 0).

Refer to **Step By Step Guide To Dispatcher Configuration** below for more advice on configuring peaks.

12.5 Lobby Service Options

Menu Location > Customer Settings > Feature Settings > Dispatcher Features **> Lobby Service**

Lobby service aims to increase car utilisation at the main floor (lobby level) by delaying the departure of cars.

The lobby level is the value entered in the Parking Assignment table for Normal Parking ParkAssign-1 (See section on parking above).

In itself, Lobby Service does not move cars to the lobby therefore Parking must be enabled whenever Lobby Service is required.

Lobby Service is not peak or time clock dependent.

- Lobby Service Type

The type of lobby service may be selected from one of the following options (default is Off):
Off, lobby service is disabled (default).
Time Dr Open, the lobby car parks doors open at the lobby floor and is not allowed to leave the lobby for the duration of the Lobby Wait Time. Once the Lobby Wait Timer has expired, the doors remain open and the car is allowed to depart the lobby in response to a car call.
Timed Dr Close, the lobby car parks doors closed at the lobby floor. The Lobby Wait Timer is started when the doors open e.g. on assignment of a landing call at the lobby level. Once the Lobby Wait Timer expires, the doors close and the car is allowed to leave the lobby in response to a car call.
Wait Car Call, the lobby car parks doors open until a car call is entered. The Lobby Wait Time is not used in this mode.

- Lobby Wait Time

Lobby Wait Time specifies the minimum period of time a lobby car is held at the lobby level in the **Time Dr Open** and **Time Dr Close** modes (default = 20).

Note – During a Down Peak, the lobby wait time is 3 seconds.

12.6 Floor Preference

Floor Preference adds a time bonus to landing calls at selected floors to make them appear older. Prematurely aging calls raises their priority hence floors designated as preference floors receive an elevated level of service.

Menu Location > Customer Settings > Feature Settings > Dispatcher Features > **Floor Pref. Boost**

Floor Pref. Boost (0-30 seconds)
Floor Preference Boost is the additional time added to landing call wait timers on a per floor basis. Setting the relevant Floor Preference Boost time to a non-zero value may increase Service at a particular level. The higher the value of Floor Preference Boost the greater the preference at that floor. A value of zero is the default "no preference" setting.

Note that the floor preference time for the lobby level during an up peak is determined by the Lobby Boost Time (refer to section on Up Peak Settings).

The lobby level is defined as the level entered in Normal Parking ParkAssign-1 (refer to section on Parking).

12.7 Step By Step Guide To Dispatcher Configuration

The following guide is an optional series of steps that may be followed by the installer to tune group performance. Peak configuration should be performed with all cars in service. Knowledge of traffic patterns and building population is a prerequisite to dispatcher tuning. An Ethos group that is not tuned on site will still provide good service. Incorrect configuration may produce a serious reduction in group performance.

Step 1. Check normal homing levels have been defined appropriately and homing is enabled.
A homing time of 10 seconds is typical.

Step 2. Define parking levels for up and down peak traffic. If peak parking levels are not required, ensure the peak parking assignments are set to the same levels defined in the normal parking assignment table.

Step 3. Depending upon which peak activation trigger is used (input, timer or automatic) set peak timers or automatic detection parameters as required.

The active peak mode is displayed on the Ethos main status display.
Events are stored in the event log to mark the start and end of each peak.

If automatic peak detection is required, use the following guidelines.

For automatic up peak activation start out by increasing **Max Down Calls** and reducing **Min Car Calls** and **Min Loaded Cars** from their default values**.** By monitoring the number, duration and time of up peak events in the event log optimal sensitivity of the system can be obtained. Similarly, for automatic down peak activation **Max Up Calls** should be increased and **Min Down Calls** reduced from the default settings until the required sensitivity has been reached.

Be conservative with Up and Down peak weighting. It is recommended that these parameters be left set at the default value of zero. Even moderate values can lead to an increase in the number and duration of long wait times for reverse traffic flow.

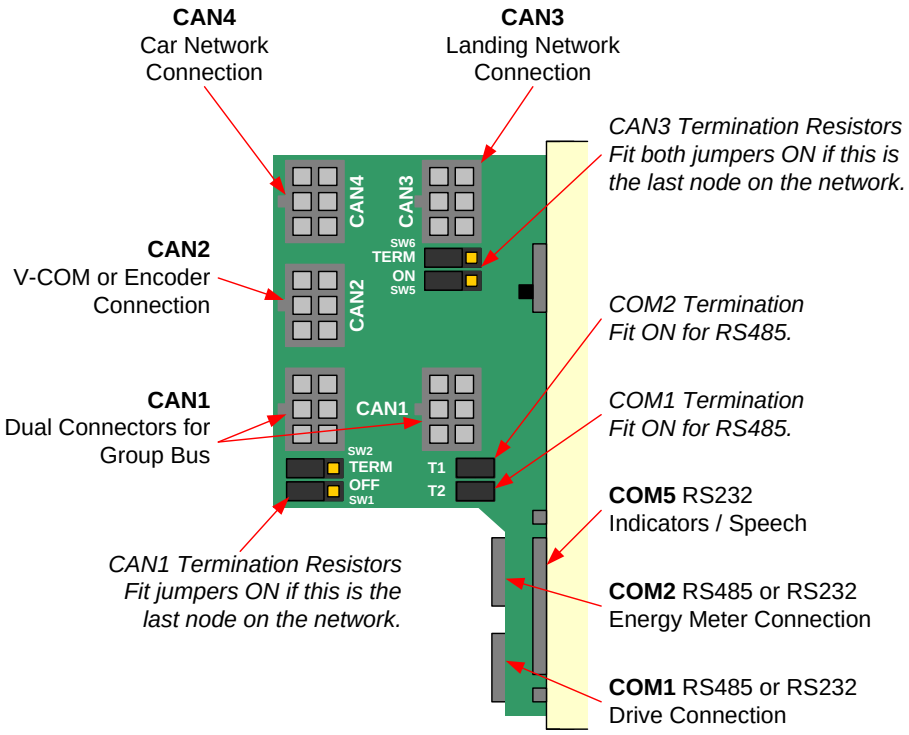
Step 4. For ad hoc boosting of specific floors, use Floor Preference. Set Floor Preference back to zero when boosting is no longer required.

Step 5. Use Lobby Service to increase utilisation of cars at the lobby if necessary.
Note that whilst parked at the lobby level the lobby car will not be assigned landing calls from other levels.

12.8 Communication Cables for Ethos with quad CAN serial card (.5)

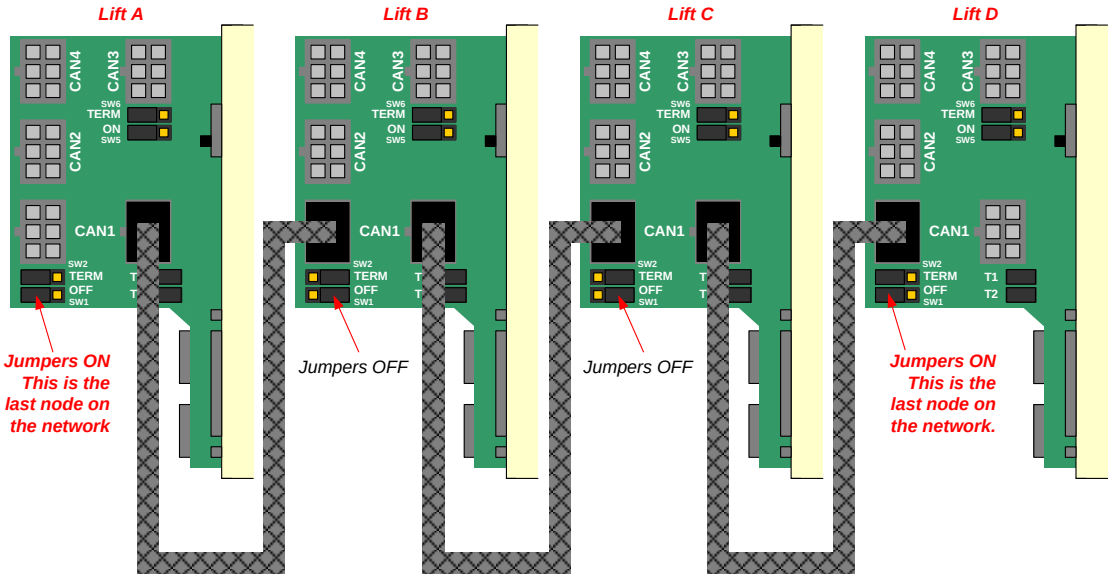
Dispatcher-less systems are supplied with one serial cable per elevator. The serial cable usually runs from lift-A CAN1 socket to lift-X CAN1 socket as pictured below, and so on for each elevator.
Note: - The serial cable routing must avoid being run in parallel with hoist motor power cables and switching cables. CAN Serial ports can be found on the left hand side of the ethos platform.

12.8.1 Location of Communication Connectors.



12.8.2 Group Cable & Termination Details

Ethos has been fitted with a cable impedance matching system, which must be configured on two lifts. Usually the lifts with the highest and lowest lift numbers. These are fitted using the on-board jumpers as below.



13. Event Logger Menu's

Ethos has several powerful debug tools, many of these tools reside in the Event Logger Menu, which can aid the user in tracing difficult intermittent faults, as well as providing the normal features you'd expect from an event logger.
To access the event logger, follow the next procedure: -

From the STATUS SCREEN press the LOGGER key,

EVENT LOGGER MENU

- View Event Log — View events in chronological order
- View Current Events — View all active double sided events
- Search for Event — Search for events, group, type etc.
- Engineers Event — Add engineers event to event log
- Trace Menu — Trap an event, view the trace log
- Clear Event Log — Clear the event logger buffer

14. Event Logger Menu - View Event Log

To view the event log from the youngest or oldest events, follow the procedure below: -

From the **STATUS SCREEN** Press the **LOGGER** key
EVENT LOGGER MENU

- View Event Log
  - View Youngest Event
  - View Oldest Event
  - View Bookmark
  - Set Bookmark

Press the **SELECT** key; you are now in the VIEW EVENT LOGGER menu.

Use the **Arrow** keys to scroll through to the desired event, (the youngest event will be at the top of the list!)

Press the **SELECT** key; you will now be viewing your chosen event as shown below.

Use the **Arrow** keys to scroll through to the event log in DETAIL.

Press the **MORE** key, to review more information stored in that particular event.

Press the **BACK** key, to return to previous menu or detail.

View of Screens overleaf!

15. Event Logger Menu - Event Bookmarks.

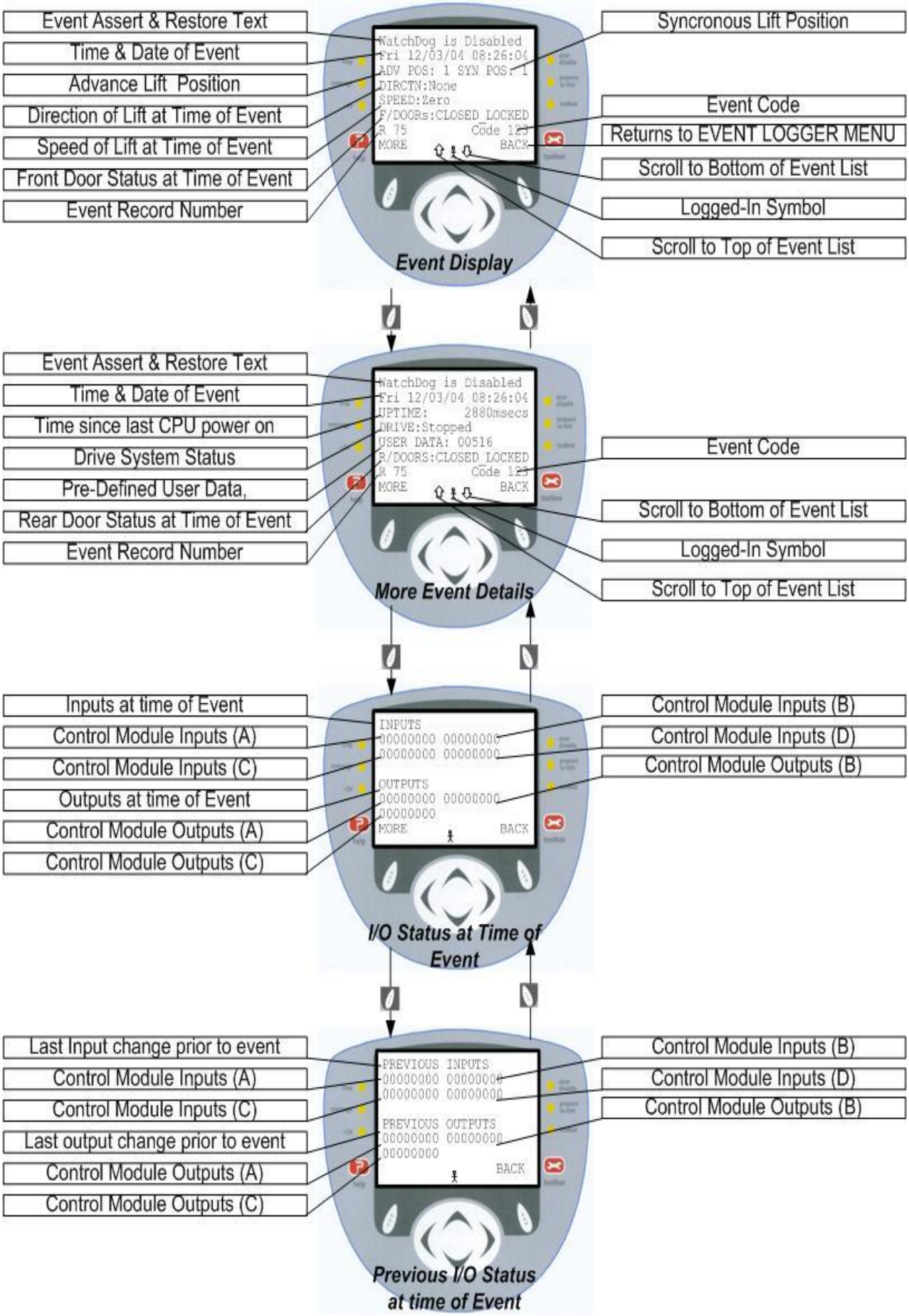
The Ethos event logger provides as facility for "Book Marking" individual events, enabling the user to locate his last known place within the view event screens.

From the **STATUS SCREEN** Press the **LOGGER** key,
EVENT LOGGER MENU

- View Event Log
- View Youngest Log
- View Oldest Log.
- Set Bookmark
- View Bookmark

View the Event you wish to log by selecting the youngest or oldest event, then press the back key and return to the menu detailed above, from there you will be able to set or view the selected bookmark.

Bookmarked events are shown alongside a bookmark symbol .


Event Assert & Restore Text
Time & Date of Event
Advance Lift Position
Direction of Lift at Time of Event
Speed of Lift at Time of Event
Front Door Status at Time of Event
Event Record Number
WatchDog is Disabled
Fri 12/03/04 08:26:04
ADV POS: 1 SYN POS: 1
DIRCTN:None
SPEED:Zero
F/DOORs:CLOSED_LOCKED
R 75 Code 125
MORE BACK
Syncronous Lift Position
Event Code
Returns to EVENT LOGGER MENU
Scroll to Bottom of Event List
Logged-In Symbol
Scroll to Top of Event List
Event Display
Event Assert & Restore Text
Time & Date of Event
Time since last CPU power on
Drive System Status
Pre-Defined User Data,
Rear Door Status at Time of Event
Event Record Number
WatchDog is Disabled
Fri 12/03/04 08:26:04
UPTIME: 2880msecs
DRIVE:Stopped
USER DATA: 00516
R/DOORS:CLOSED_LOCKED
R 75 Code 125
MORE BACK
Event Code
Scroll to Bottom of Event List
Logged-In Symbol
Scroll to Top of Event List
More Event Details
Inputs at time of Event
Control Module Inputs (A)
Control Module Inputs (C)
Outputs at time of Event
Control Module Outputs (A)
Control Module Outputs (C)
INPUTS
00000000 00000000
00000000 00000000
OUTPUTS
00000000 00000000
00000000
MORE BACK
Control Module Inputs (B)
Control Module Inputs (D)
Control Module Outputs (B)
I/O Status at Time of Event
Last Input change prior to event
Control Module Inputs (A)
Control Module Inputs (C)
Last output change prior to event
Control Module Outputs (A)
Control Module Outputs (C)
PREVIOUS INPUTS
00000000 00000000
00000000 00000000
PREVIOUS OUTPUTS
00000000 00000000
00000000
BACK
Control Module Inputs (B)
Control Module Inputs (D)
Control Module Outputs (B)
Previous I/O Status at time of Event

15.1.1 Event Log Contents Description

Event Parameter	Description	Expected values and ranges
ADV POS	Advance Position	Values between 1 and 56
SYN POS	Synchronous Position	Values between 1 and 56
DIRCTN	Actual Direction of Travel	UP, DOWN or NONE
SPEED	Actual Elevator Speed	Zero, Levelling, Medium, High, Test
F/R DOORS	Front/ Rear Door Status	UNKNOWN, CLOSED_LOCKED, PRE_OPEN, OPENING, FULLY_OPEN, PRE_CLOSE, CLOSING, CLOSING_NUDGE, CLOSED, CLOSED_NUDGE, IDLE_TEST
UPTIME	Elapsed time since last CPU reset.	Displayed in Milliseconds
DRIVE	Drive Status	OFF_LINE, STARTING, ON_LINE, HOLDING_ZERO, MOVING, PRE_BRAKE, BRAKE_ON, STOPPED, TTR_MODE
USER DATA	Extra Data within event	Stuck Hall/Car Push Floor reference
R	Log Record Number	1-65535 different record numbers, one for each new event
CODE	Event Code Number	Range from 0-199

15.1.2 Event Log I/O Status Map

Control Module Inputs	Details								
Control Module Inputs (A)	Name	LAR	TTR	NERR	GL	CG	MC	DZM	DZ
	Plug	PL12.1	PL12.2	PL12.3	PL12.5	PL12.7	PL12.9	PL12.10	PL12.11
Control Module Inputs (B)	Name	LU	LD	MUP	MDN	MRT	CFS	LFS	CPR
	Plug	Pl13.1	Pl13.2	Pl13.3	Pl13.4	Pl13.5	Pl13.6	Pl13.7	Pl13.8
Control Module Inputs (C)	Name	WS110	WS95	DCP	SSR	FSR	FAM	SI1	SI2
	Plug	PL14.1	PL14.2	PL14.3	PL14.4	PL14.5	PL14.6	PL14.7	PL14.8
Control Module Inputs (D)	Name	SPX	TFR	BFR	DOP	SE	DOL	DCL	ALM
	Plug	PL15.1	PL15.2	PL15.3	PL15.4	PL15.5	PL15.6	PL15.7	PL15.8
	Plug	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Plug	Pl3.2	Pl3.3	Pl3.4	Pl3.5	Pl3.6	Pl3.7	Pl3.8	Pl3.9
Control Module Outputs	Details	Bit 0	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7
Control Module Outputs (A)	Name	PUR	PDR	HSR	LSR	DRO	BRO	SAF	ARO
	Plug	PL1.1/2	PL1.3/4	PL1.5/6	PL1.7/8	PL2.1/2	PL2.3/4	PL2.5/6	PL2.7/8
Control Module Outputs (B)	Name	DOR	DCR	NUG	ZLR	MSR	SO1	SO2	SO3
	Plug	PL3.1/2	PL3.3/4	PL3.5/6	PL3.7/8	PL4.1/2	PL4.3/4	PL4.5/6	PL4.7/8
Control Module Outputs (C)	Name	SO4	SO5	SO6	SO7	SO8	SO8	SO10	SO11
	Plug	PL5.1	PL5.2	PL5.3	PL5.4	PL5.5	PL5.6	PL5.7	PL5.8

16. Event Logger Menu View Current Events Procedure

Double-sided events, events, which have a start and finish duration, can be read using the "view Current Events screen"

From the **STATUS SCREEN** Press the **LOGGER** key
EVENT LOGGER MENU

- View Current Events

17. Event Logger Menu Searching For Events.

The Search for events feature allows the user to search through the event logger for a particular event, or events within a group type, follow the procedure below to search for an event.

17.1 Searching by Event

To search for a particular event within the event log, follow the procedure below: -

Item Location: -

From the **STATUS SCREEN** press the **LOGGER** key,
EVENT LOGGER MENU

- Search for Event
  - Search by Event
    - Event List

17.2 Searching by Group

Events have been categorised into respective groups, an example of this is,
Dr Op PrTout R is categorised as events within the "DOORS" group.
The user can search for a particular group of events using the menus and procedures below.

Item Location: -

From the **STATUS SCREEN** press the **LOGGER** key,
EVENT LOGGER MENU

- Search for Event
- Search by Group
- User Group Events (See Next Section)
- Door Events
- Drive Events
- Motion Events
- Service Events
- Controller Events
- Memory Events
- VCOM Events

17.3 User Event Group Configuration.

A specific "user" group has been added to the event search engine; this "user" group can be tagged and untagged with events of your choice. Using the "Search by Group" option within the event logger menu will then allow you to search for the events of your choice.

To select events follow the menu tree below: -

STATUS SCREEN press the **LOGGER** key,
EVENT LOGGER MENU
>Search for Event
>User Group Selection
>Select User Events

To view your selected "user" events follow the menu tree below: -

STATUS SCREEN press the **LOGGER** key,
EVENT LOGGER MENU
>Search for Event
>User Group Selection
>View User Events

To reset your "user" group events follow the menu tree below: -

STATUS SCREEN press the **LOGGER** key,
EVENT LOGGER MENU
>Search for Event
>User Group Selection
>Reset User Events

18. Event Logger Menu *Trace Menu*

In the event logger there is an option called Trace Menu, which when selected will display a menu showing the following four options:

EVENT LOGGER MENU
- Trace Menu
  - Set Trace Trigger
  - View Trace Log
  - Jump to Trace Event
  - Re-Arm Trace Trigger

The basic premise of the Trace Menu is to allow the user to pick an event and record up to 100 changes of input or output until the event occurs. For example, the user could select a Lost LAR event and as soon as selected the trace log will start collecting information. The log will record a value of the Inputs and Outputs each time one the inputs or outputs changes state. This will continue until the event chosen occurs when the trace logging will stop.

18.1 Set Trace Trigger

Set Trace Trigger menu allows the user to select an individual event from the event listing. If the user selects an event that is double sided they will be asked to select the assert version or restore version of the event. Once selected, the user is informed that the trace event has been selected
To select the "Set Trace Trigger", follow the procedure below: -

From the **STATUS SCREEN** Press the **LOGGER** key,
EVENT LOGGER MENU
- Trace Menu
  - Set Trace Trigger

Press the **SELECT** key; you will now be viewing the SEARCH EVENT LIST screen

Use the **Arrow** keys to scroll through to the desired event.

Press the **SELECT** key.
If you have chosen a single sided event, then a pop-up message will display "Trigger Set".
If you have chosen a double-sided event, you will be presented with a selection for assert or de-assert event, make your choice.

Press the **SELECT** key. In addition, a popup- message will display "Trigger Set"

18.2 View Trace Log

This will display "No Event Trig Setup" if no trace event has been selected or occurred yet, or if it has occurred then the display will show the name of the event and the date and time it occurred. If the user selects the *more* option from the display, the last recorded inputs will be displayed. This will show the inputs for the motherboard and any feature cards. A 0 will indicate that the value read from the board was OFF and a 1 will indicate that the value was ON. The inputs read from left to right and then down e.g. 00001111 11110000 on the top line would indicate the first 8 bits of Control Module I/O port A followed by the 8 bits of Control Module I/O Port B. Selecting the More option will show the user the same screen but displaying the outputs this time. Selecting the Up or Down Key in either of these screens will take the user to the previous or next display of inputs or outputs. Inputs and outputs are only logged when either an input or an output has changed state. The input screen will show the position of the currently displayed inputs in the logger. The output screen will show the position of the currently displayed outputs in the logger along with the time since the system was last reset.
To select the "View Trace Log", follow the procedure below: -

From the STATUS SCREEN

Press the **LOGGER** key, which will present the EVENT LOGGER MENU

Use the **Arrow** keys to scroll through to >Trace Menu

Press the **SELECT** key; you will now be presented with the TRACE MENU screen.

Use the **Arrow** keys to scroll through to >View Trace Log

Press the **SELECT** key.

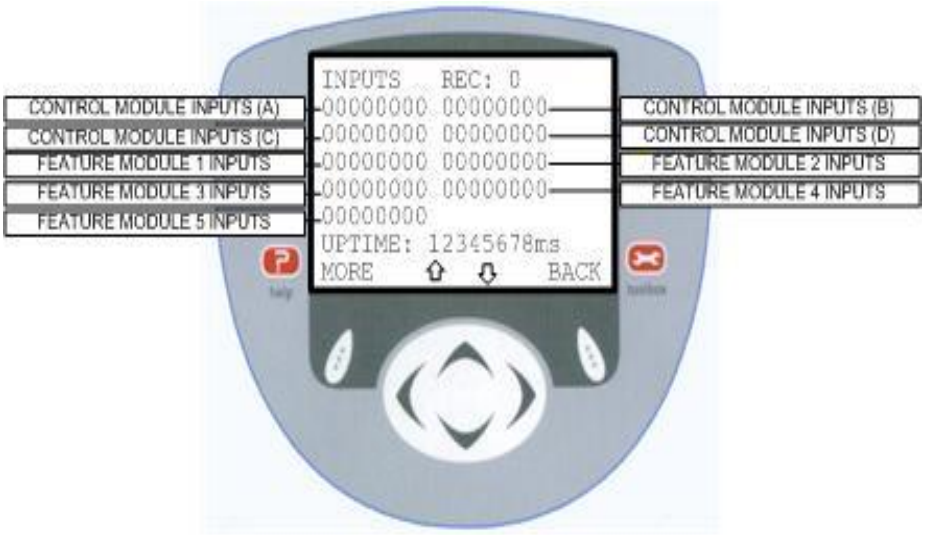
18.3 Jump to Trace Event

If selected the user will either be taken to the event log at the position where the event is logged, and from here the normal event log can be used to extract the details of the event and to scroll through other events etc., or be informed that Event Not Found or Trace Not Triggered.
Trace Not Triggered means that an event has been selected but has not occurred yet.
No Event Trig Setup means that an event has not yet been selected.

18.4 Re-Arm Trace Trigger-

This option will allow the user to retrigger off the last event chosen. For example if the user selected Lost LAR and the event occurs and they want to repeat the test then they can select the Retrigger Last Event option to save going into the Set Trace Trigger menu and selecting Lost LAR again. The screen will show the last event used or inform the user that no event had been used.

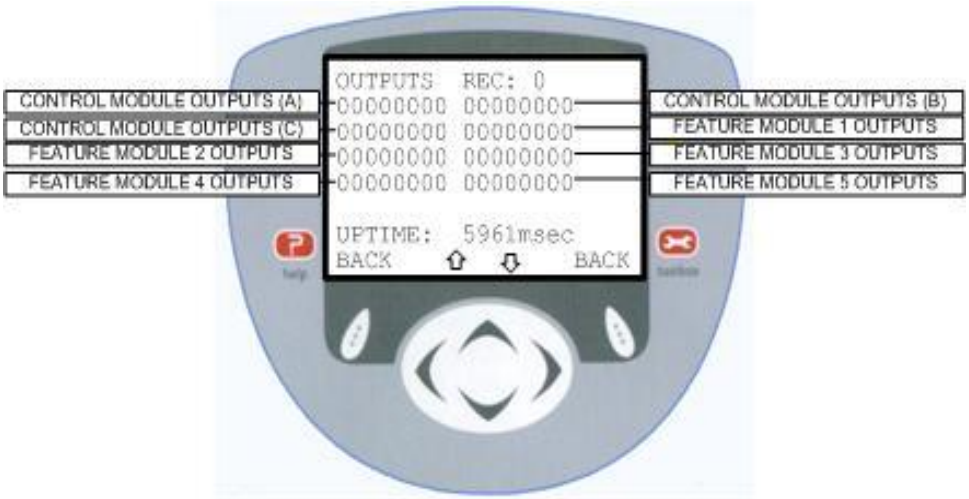
18.5 Trace Events Input Log Screen



18.6 Trace Events Input Description

Module/Inputs	Details								
Control Module Inputs (A)	Name	LAR	TTR	NERR	GL	CG	MC	DZM	DZ
	Plug	PL12.1	PL12.2	PL12.3	PL12.5	PL12.7	PL12.9	PL12.10	PL12.11
Control Module Inputs (B)	Name	LU	LD	MUP	MDN	MRT	CFS	LFS	CPR
	Plug	Pl13.1	Pl13.2	Pl13.3	Pl13.4	Pl13.5	Pl13.6	Pl13.7	Pl13.8
Control Module Inputs (C)	Name	WS110	WS95	DCP	SSR	FSR	FAM	SI1	SI2
	Plug	PL14.1	PL14.2	PL14.3	PL14.4	PL14.5	PL14.6	PL14.7	PL14.8
Control Module Inputs (D)	Name	SPX	TFR	BFR	DOP	SE	DOL	DCL	ALM
	Plug	PL15.1	PL15.2	PL15.3	PL15.4	PL15.5	PL15.6	PL15.7	PL15.8
	Plug	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feature Module 1 Inputs	Name	FI1	FI2	FI3	FI4	FI5	FI6	FI7	FI8
	Plug	Pl3.2	Pl3.3	Pl3.4	Pl3.5	Pl3.6	Pl3.7	Pl3.8	Pl3.9
Feature Module 2 Inputs	Name	FI1	FI2	FI3	FI4	FI5	FI6	FI7	FI8
	Plug	Pl3.2	Pl3.3	Pl3.4	Pl3.5	Pl3.6	Pl3.7	Pl3.8	Pl3.9
Feature Module 3 Inputs	Name	FI1	FI2	FI3	FI4	FI5	FI6	FI7	FI8
	Plug	Pl3.2	Pl3.3	Pl3.4	Pl3.5	Pl3.6	Pl3.7	Pl3.8	Pl3.9
Feature Module 4 Inputs	Name	FI1	FI2	FI3	FI4	FI5	FI6	FI7	FI8
	Plug	Pl3.2	Pl3.3	Pl3.4	Pl3.5	Pl3.6	Pl3.7	Pl3.8	Pl3.9
Feature Module 5 Inputs	Name	FI1	FI2	FI3	FI4	FI5	FI6	FI7	FI8
	Plug	Pl3.2	Pl3.3	Pl3.4	Pl3.5	Pl3.6	Pl3.7	Pl3.8	Pl3.9

18.7 Trace Events Output Log Screen



18.8 Trace Events Output Description

Module/Inputs	Details								
Control Module Outputs (A)	Name	PUR	PDR	HSR	LSR	DRO	BRO	SAF	ARO
	Plug	PL1.1/2	PL1.3/4	PL1.5/6	PL1.7/8	PL2.1/2	PL2.3/4	PL2.5/6	PL2.7/8
Control Module Outputs (B)	Name	DOR	DCR	NUG	ZLR	MSR	SO1	SO2	SO3
	Plug	PL3.1/2	PL3.3/4	PL3.5/6	PL3.7/8	PL4.1/2	PL4.3/4	PL4.5/6	PL4.7/8
Control Module Outputs (C)	Name	SO4	SO5	SO6	SO7	SO8	SO8	SO10	SO11
	Plug	PL5.1	PL5.2	PL5.3	PL5.4	PL5.5	PL5.6	PL5.7	PL5.8
Feature Module 1 Outputs	Name	FO1	FO2	FO3	FO4	FO5	FO6	FO7	FO8
	Plug	PL3.2	PL3.3	PL3.4	PL3.5	PL3.6	PL3.7	PL3.8	PL3.9
Feature Module 2 Outputs	Name	FO1	FO2	FO3	FO4	FO5	FO6	FO7	FO8
	Plug	PL3.2	PL3.3	PL3.4	PL3.5	PL3.6	PL3.7	PL3.8	PL3.9
Feature Module 3 Outputs	Name	FO1	FO2	FO3	FO4	FO5	FO6	FO7	FO8
	Plug	PL3.2	PL3.3	PL3.4	PL3.5	PL3.6	PL3.7	PL3.8	PL3.9
Feature Module 4 Outputs	Name	FO1	FO2	FO3	FO4	FO5	FO6	FO7	FO8
	Plug	PL3.2	PL3.3	PL3.4	PL3.5	PL3.6	PL3.7	PL3.8	PL3.9
Feature Module 5 Outputs	Name	FO1	FO2	FO3	FO4	FO5	FO6	FO7	FO8
	Plug	PL3.2	PL3.3	PL3.4	PL3.5	PL3.6	PL3.7	PL3.8	PL3.9

19. Event Logger Menu Clearing the Event Log.

The event log can hold up to 500 records, to clear these records follow the next procedure.

From the **STATUS SCREEN** Press the **LOGGER** key
EVENT LOGGER MENU

- Clear Event Log

Press the **SELECT** key.

You will confirm your choice by pressing the **YES** or the **NO** key.

Press the **YES** key will clear the event log.

Press the **NO** key will return you to the previous menu

20. Event Logger Menu Event Definitions

The Ethos Control System can recognise more than 200 different types of events, all of which are below.
Each event has a number of attributes; these attributes define the type, error level and group.

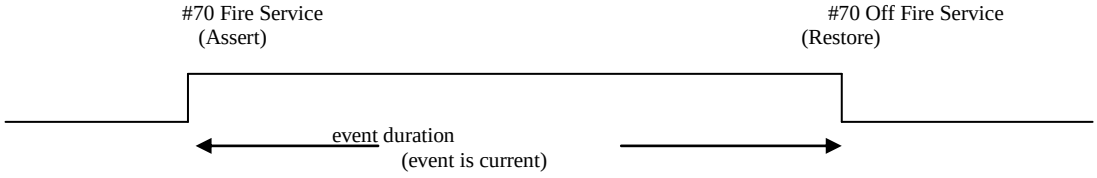
20.1 Event Types

20.1.1 Double Sided Events

Conditions that persist over a reasonable period generate two logger entries. An initial “assert” entry logged when initial conditions are met and a secondary “restore” entry is logged when the condition ends e.g. “Fire Service” (assert), “Off Fire Service” (restore).

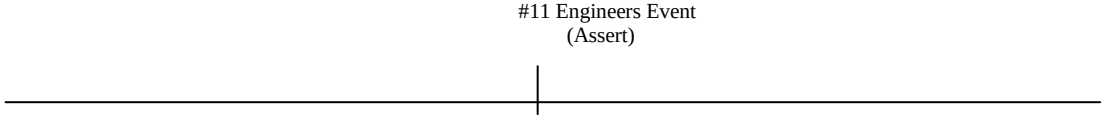
A double-sided event is current (or active) from the moment of assertion up until the event is restored or the processor is reset. On power up all double sided events return to their inactive unasserted state i.e. double sided events do not persist through processor resets.

The MMI View Current Events screen lists double sided events that are currently asserted and awaiting restoration. It can often offer an indication as to why the lift is not responding to car or landing calls.



20.1.2 Single Sided Events

Single sided events have no duration and are logged as asserts e.g.



20.2 Event Log Capture

The entire event log can be captured with terminal emulation software via a PC/Laptop connected to the command port e.g. Windows HyperTerminal. After turning on file capture, the following command dumps the entire event log:-

- GET CZLED

21. Event Logger Menu Event Listing Definitions

Event Code	Event Text	Type	Group	
code 000	Restore all OOS	S	CONTROLLER	[Info]

Event 0 is a reserved system event for restoration of all active events. This event is not generated in normal operation.

code 001 Lost LAR / Normal (LAR) D CONTROLLER [Info]
The LAR Relay (Lift Available Relay), on the motor panel provides this signal to the MPU. Whenever the LAR Relay is de-energised, for example, due to the stop switch being operated, or the lift being switched to maintenance control, the event will be displayed. All car and landing calls will be cancelled and the 'LSI' (Lift Service Available) indicator will be off. (This LSI indicator is only provided when requested).

code 002 **Watchdog Reset** S CONTROLLER [Info]
Watchdog Reset, CPU software or hardware problem. This indicates that the MPU was unable to function properly through part of the lift program, such that it gets "stuck" and nothing else gets done. (Under normal circumstances this is unlikely to occur, but it is included for completeness).After a short delay, the "Loop Flag Monitor" will deliberately reset the MPU. The MPU will again enter its reset routine, record the event and re-enter the lift program. Part of the reset routine checks to see whether the call to reset was made by the "Loop Flag Monitor" circuit. If true, the MPU will record the event.

code 003 Not in Door Zone S MOTION [Warning]
Lift stopped out of door zone. The MPU will seek another car or hall call elsewhere, to send the lift to. This fault for example, could be caused by a gate lock trip on low speed, or 'Low Speed Time Limit' (LSTLR) time out.

code 004 Dr Op PrTout F S DOORS [Fault]
Front Door Open Protection Timeout (See also code 124), check door limits / door operation. This is when the door has failed to finish opening within 30 seconds. The event will be recorded; the MPU will stop piloting the "Door Open Contactor" (OC). After a short delay the MPU will pilot the doors to close, so that the lift may move to another floor.
This fault, for example, could be caused by an obstruction in the landing door track.

code 005 GL lost stopped S MOTION [Warning]
GL lost whilst stopped and doors closed. The lift is idle with the doors closed and with the gate locks made up. If a gate lock is then broken, the event will be recorded. This event can occur through excessive gate lock bounce, or by someone opening a landing door (not necessarily at the same floor as the lift's position).

code 006 GL|CG lost high spd S MOTION [Warning]
GL or CG lost on High or Medium Speed. Tipping a gate lock on high speed will cause the lift to stop immediately.
After a short delay, the lift will re-start provided that the gate lock has re-made.
If the lift is not in the door zone, Not in Door Zone will be generated. The lift will then re-start provided that the gate lock is re-made and there are calls elsewhere. If the gate lock is still broken a GL lost stopped will also be generated. The User Data field contains the status of the Ethos GL and CG inputs where 0=GL and CG inputs were both off, 1= GL input on, 2 = CG input on and 3 = GL and CG inputs both on.

code 007 GL|CG lost low spd S MOTION [Warning]
GL or CG lost on Low Speed or Slowing. Tipping a gate lock on deceleration or slow speed will cause the lift to stop immediately. If the lift is in the door zone, the doors will open.
If the lift is not in the door zone, Not in Door Zone will be generated. The lift will then re-start provided that the gate lock is re-made and there are calls elsewhere. If the gate lock is still broken a GL lost stopped will also be generated. The User Data field contains the status of the Ethos GL and CG inputs where 0=GL and CG inputs were both off, 1= GL input on, 2 = CG input on and 3 = GL and CG inputs both on.

code 008 Pre Lock Fail S DOORS [Warning]
The lift is in the door zone, but unable to move in response to a call because of lock failure. The event will be recorded and the lift will re-open its doors in order to make another attempt to close and make up the gate lock.
After three unsuccessful attempts to close, the lift will then park with its doors open. And a Multi Pre Lock fail event (code 95) will be issued.

code 009 Dr Cl PrTout F S DOORS [Fault]
This is when the doors have failed to close. If there are calls present, the MPU will reverse the doors, if they fail to finish closing within 10 seconds. Two further attempts are made to close within 10 seconds and then the doors will go for a full 30 second attempt to close. Each time a code 009 will be produced. If the doors fail to close on the 30 second attempt, a code 110 will be produced. The doors will reverse and park open and all calls will be cancelled. Future 30 second door close timeouts will produce a code 009 until the doors reach a closed position. If two 30 second door closing protection timeouts occur, the lift will then only respond to car calls. This fault may be caused by an obstruction in the door track, or persons reluctant to move clear of the doors.

code 010 110% Overload / 110% Clear D SERVICES [Error]
Where the input WS110 is active the MPU will record the event, cause the doors to re-open and refuse to close until the load is reduced. The event will remain displayed while this situation continues to exist, also the OLI output (Car Overload Indicator) will be turned on. (Not active on Car Top Test Control).

code 011 Engineers Event Set S CONTROLLER [Info]
Engineers Marker Set.

code 012 Car Delay/Calls Tf'd S CONTROLLER [Info]
Calls have been transferred to another lift in the group or cancelled; the lift is not able to service them due to a "out of service" condition.

code 013 Bottom Flr Rst S MOTION [Info]
Bottom Floor Reset (Ignore if diving.) On arrival at the bottom terminal floor, the MPU has reset its lift position as it does not correspond with that of the bottom floor, indicating that the lift was out of step. It is important that the stepping signal is encountered before the terminal reset signal to avoid false events being recorded.

code 014 Multi Start Fail / Multi Start OK D DRIVE [Fault]
More than 3 accumulated start fails. After three successive Drive start failures, all car calls will be cancelled, hall calls released, the "LSI" indicator cancelled, and the event recorded.
The lift doors will park open and will only close again if a car or a hall call is operated. If another code 014 is again generated, following a further three unsuccessful attempts to start, the doors will again park open, but will only respond to car calls.

Event Code	Event Text	Type	Group	

code 015 Frnt Door Nudg S DOORS [Info]
Front Door Nudging. This feature is only available if the door operator is suitable. Provided that there are calls present, limited force door closing will come into operation if the doors are held open for over 25 seconds by safety edge or if there have been a set number of door reversals caused by the safety edge etc. A buzzer will sound discontinuously in the lift car, and the doors will close under limited force disregarding safety edge operation. (The door open push is still effective in reversing and holding open the doors, but the doors will start closing immediately once the door open push is released). If the doors fail to finish closing after 30 seconds the door close protection will operate and code 009 will be generated. The doors will then reverse park open (see code 009).

code 016 SRAM Test Failure S MEMORY [Info]
The CPU has found a problem in the RAM whilst checking it for functionality , see factory, new hardware may be needed.

code 017 Laser Dist. Prob S MOTION [Fault]
Laser distance measurement is out of bounds, check distance to target.

code 018 Self Test Failure S SERVICES [Fault]
If the lift has been idle for more than 10 minutes, it will test itself by going to an adjacent floor and returning, seeking a …(lift moving - lift stopped - doors opening)… sequence of events. If this sequence does not occur within defined time limits, the "LSI" is cancelled. Another attempt is made after a further 10 minutes of idleness for confirmation.
If all is well, no further attempts will be made. If another failure occurs the event is recorded, the doors will park open, and the lift will only try to respond to car calls. The lift will automatically test itself if the lift has been moving or has its doors open for an unusually long time.

code 019 Parameter Fail S MEMORY [Info]
When a parameter is updated via the Command Interpreter or MMI then the value will be written to E^2. The E^2 data will be copied to a scratchpad Ram area and the CRC check will be done. The new CRC will be written to E^2. If for any reason this routine fails then the event PARAM_UPDATE_FAIL is stored.

code 020 Safe Edge OT F S DOORS [Info]
If the lift doors are open by continuous operation of the safety edge for more than 20 seconds, the event is recorded.

code 021 Drive start fail S DRIVE [Warning]
Drive failed to complete start sequence within 3 seconds. The MPU has signalled for the lift to start and the lift has not done so. After a short delay, the lift doors will re-open and the event is recorded. After three unsuccessful attempts to start, the lift will then park with its doors open and event code 014 will be generated.

code 022 Event Log Reset S CONTROLLER [Info]
The event logger and all associated event logger parameters have been reset.

code 023 Logger corrupt S CONTROLLER [Info]
The logger has been reset due to corruption of its internal pointers. This event is not generated in normal operation.

code 024 Event Log CRC Fail S CONTROLLER [Info]
The event log database contains one or more CRC errors. This event indicates corruption within an event record. The event log is not reset and remains viewable. This event is not generated in normal operation.

code 025 Top Floor Rst S MOTION [Info]
Top Floor Reset (ignore if diving). On arrival at the top terminal floor, the MPU has reset its lift position as it does not correspond with that of the top floor, indicating that the lift was out of step. It is important that the stepping signal is encountered before the terminal reset signal to avoid false events being recorded.

code 026 Lost Car Push Feed / Car Push Feed OK D SERVICES [Fault]
Car push feed has failed. This may cause the lift to go on "Bus Stop Service" if available.

code 027 Lost Land Push Feed / Land Push Feed OK D SERVICES [Fault]
Landing push feed has failed. This may cause the lift to go on "Bus Stop Service" if available.

code 028 Reset Limit Error / Reset Limits OK D MOTION [Error]
Both TFR and BFR resets are present, check inversion settings in customer settings. The lift will not move in this condition.

code 029 Emergency Supply / Emer Supply OK D SERVICES [Info]
Lift is on emergency supply.

code 030 Restored ROM values S MEMORY [Info]
If the E^2 User and Backup settings are found to be corrupt it may be necessary to copy the ROM default values back into E^2. If this happens then the event restored ROM values is stored to let the engineer know that the lift is running from original ROM settings.

code 031 Gt Locks Bridged / Gt Locks OK D DOORS [Error]
Gate Locks Bridged. Check safety circuit, re-levelling circuit and advance door opening. If a gate lock signal (CG or GL) is present after 3 consecutive Gate Lock Check events have occurred the gate locks are assumed to be bridged. This Error will take the lift out of service and park with doors closed. The event must be manually reset from the toolbox menu.

In this event several things occur:

i) Lift movement on normal service is inhibited.
ii) Landing, Car and Homing calls are cancelled/disabled.
iii) Service control, Attendant control and Prepare to test feature are all disabled.
iv) Emergency recall is disabled.
v) Fire service is disabled, if not already operating in phase II mode. If phase II is active then the PRE-FLIGHT check is disabled.
vi) During dormant parking on hydraulic systems the PRE-FLIGHT check is disabled.

code 032 GL lost re-level S MOTION [Warning]
GL feedback signal lost whilst on re-levelling, check lock circuit. This signal should be present even if the doors are open, due to the lock bridging circuit.

Event Code	Event Text	Type	Group	

code 033 LTLR Tripped S MOTION [Fault]
Low Speed Time Out event. If during the slowing cycle the lift has taken an excessive time to obtain floor level the MPU will cause the direction to be lost, thus stopping the lift. If the event is recorded 3 times the lift can only be reset by a car call. (If nuisance tripping occurs check value of LTLR timer setting).

code 034 Stuck Leveller S MOTION [Warning]
Leveller or DZ stuck on high or medium speed, If during running the MPU considers a proximity/relay contact in the levelling circuit to be operated at a time when it should not be operated, the event is recorded and advance door opening and re-levelling will be inhibited for the next stop. The check is performed on each run when on the stepping / slowing vane.

code 035 NERR Lost / NERR OK D DRIVE [Error]
Drive error event, check drive and overloads. This signifies that a manual reset device has tripped and that power has been removed from the motor circuitry on the controller. For traction lift applications the MPU will shutdown and not accept any further calls. For hydraulic lift applications the MPU will initiate a downward dive. Once at the bottom floor the lift will park with its doors closed after allowing any passengers to alight. The DOP will remain operative in all instances providing the lift is in a door zone.

code 036 Stuck car push. S CONTROLLER [Info]
A car call input has been on longer than the stuck push time limit. Check car call push and wiring. User data in the event detail will give floor number for push.

code 037 Stuck down push. S CONTROLLER [Info]
A down landing call input has been on longer than the stuck push time limit. Check landing call push and wiring. User data in the event detail will give floor number for push.

code 038 Stuck up push. S CONTROLLER [Info]
An up landing call input has been on longer than the stuck push time limit. Check landing call push and wiring. User data in the event detail will give floor number for push.

code 039 Stuck rear car push. S CONTROLLER [Info]
A rear car call input has been on longer than the stuck push time limit. Check rear car call push and wiring. User data in the event detail will give floor number for push.

code 040 Stuck rear dn push. S CONTROLLER [Info]
A rear down landing call input has been on longer than the stuck push time limit. Check rear landing call push and wiring. User data in the event detail will give floor number for push.

code 041 Stuck rear up push. S CONTROLLER [Info]
A rear up landing call input has been on longer than the stuck push time limit. Check rear landing call push and wiring. User data in the event detail will give floor number for push.

code 042 On Test Control / Off Test Control D SERVICES [Info]
Test Control, Car Top or Panel Test buttons are active. Indicates that the control system is in "Test control mode", i.e. Car top control or Panel test. During this time no calls will be accepted and all features such as Fire or Service control are disabled.

code 043 Safe Edge OT R S DOORS [Info]
Rear Safety Edge overtime.

code 044 Dr Op PrTout R S DOORS [Fault]
Rear Door Open Protection Timeout (See also code 125).

code 045 Rear Door Nudg S DOORS [Info]
Rear Door Nudging.

code 046 Seek Next Floor S MOTION [Info]
The lift is moving to find another floor.

code 047 Diving Down S MOTION [Info]
Possibly lost, lift returning to the bottom floor on high speed to reset its position data. Always occurs on start up.

code 048 E-SE Comms Fail / E-SE Comms OK D MOTION [Warning]
Communications lost with drive or laser shaft encoder, check looms and SE power / fuses.

code 049 Dr Cl PrTout R S DOORS [Fault]
Rear Door Close Protection Timeout.

code 050 Diving Up S MOTION [Info]
Possibly lost, lift returning to the top floor on high speed to reset its position data. Always occurs on start up if no Dive Down.

code 051 Stop off overlap S MOTION [Info]
E-SE stopped outside of LU/LD overlap. Check overlap, slowing distance or excessive floor trims.

code 052 Parking Failed S DRIVE [Fault]
Lift failed to park. Check for associated faults in logger.

code 053 Stuck Push Cleared S CONTROLLER [Info]
A stuck push has been cleared. The User Data field contains the Level and Side to indicate the relevant push.

Event Code	Event Text	Type	Group	
code 054	On Up Peak Duty / Off Up Peak Duty	D	CONTROLLER	[Info]

Lift in up peak duty traffic mode.

code 055	Lobby Return / Off Lobby Return	D	SERVICES	[Info]

Lift on Lobby Return Service.

code 056	On Down Peak Duty / Off Down Peak Duty	D	CONTROLLER	[Info]

Lift in down peak duty traffic mode.

code 057	Hospital Service / Off Hospital Serv.	D	SERVICES	[Info]

Lift on Hospital Service.

code 058	Re-Level Start / Re-Level Stopped	D	MOTION	[Info]

The lift is on a re-level journey, this event is for information only.

code 059	Zero/Adv Bkr Prob	S	MOTION	[Fault]

Zero hold or Advance brake lift general fault, check operation sequence and GL or LGC.

code 060	Adv Bkr Limit Fault / Adv Bkr Limit OK	D	DOORS	[Fault]

Advance brake limit fault, check limits and Ethos input DAC are correct when doors are both open and closed.

code 061	Emergency Recall 1 / Off Emer Recall 1	D	SERVICES	[Info]

Indicates that the system is in EMERGENCY RECALL mode. This requires an external signal EMR1, EMR2 or EMR3, to return the lift to a predetermined floor (usually main). The lift will immediately return to the floor ignoring all calls and park. The doors will open and dwell closed or remain open (set in customer settings).

code 062	Leveller/dir error	S	MOTION	[Warning]

Leveller or Direction error, check vanes etc. If the LU/LD signals are received by the MPU in an incorrect sequence, on approaching floor the event is recorded and at what level. On some drive applications, i.e. Open Loop VVVF, it is important to know that the lift is travelling in the expected direction. The sequence in which the LU/LD signals are received can determine the actual direction of the car, i.e.:
Travelling Up: LU, LU & LD, LD
Travelling Down: LD, LD & LU, LU
The event may also be triggered if the LU/LD overlap is incorrect. Advance door opening and re-levelling will be inhibited for this stop.

code 063	Multi Level Error / Multi Level RST	D	MOTION	[Error]

Leveller error or Stuck Leveller, on this floor 3 accumulated times. This Error will take the lift out of service and must be manually reset from the MMI.

code 064	Thermal Over Temp/ Thermal OK.	D	CONTROLLER	[Fault]

If the motor room temperature sensor or motor thermistors detect an excessive temperature the lift will respond in the following manner. On normal or special service the lift will stop at the next floor and open its doors. On Fire Service the lift will stop at the next floor and remain there with its doors closed. This is ignored on Test Control.

code 065	RTC change to DST	S	CONTROLLER	[Info]

RTC has changed to DST, see RTC description to de-activate.

code 066	MC/MUP/DN lost high	S	DRIVE	[Warning].

MC or MUP or MDN feedback lost on high or medium speed, check drive safety circuit. This event is recorded if the MPU loses the direction or MC feedback from the main panel while the lift is travelling on high speed. The User Data field contains the status of the Ethos GL and CG inputs where 0=GL and CG inputs were both off, 1= GL input on, 2 = CG input on and 3 = GL and CG inputs both on.

code 067	MC/MUP/DN lost low	S	DRIVE	[Warning].

MC or MUP or MDN feedback lost on low / levelling speed, check drive safety circuit. This event is recorded if the MPU loses the direction, or MC feedback from the main panel while the lift is travelling on low speed. The User Data field contains the status of the Ethos GL and CG inputs where 0=GL and CG inputs were both off, 1= GL input on, 2 = CG input on and 3 = GL and CG inputs both on.

code 068	Fire Recall / Off Fire Recall	D	SERVICES	[Info]

The lift will operate as EN81-73 describes: - Once initiated the lift will travel to the fire floor as soon as possible. If the doors are open they will nudge closed, if available, *Note: the door open push and the safety edge will be ignored.* If the lift is travelling in the wrong direction, it will stop at the next available floor and without opening its doors return to the fire floor. When at the fire floor the doors will open and remain open. (They may be set to dwell closed in customer settings). No car or landing calls can be entered. Throughout this service the FRI (Fire Recall Indicator) output will be active.

code 069	Prepare To Test / Off Prepare To Test	D	SERVICES	[Info]

Lift is on Prepare to Test. The lift will not allow landing calls to be placed in the system.

code 070	Fire Service / Off Fire Service	D	SERVICES	[Info]

The lift will operate as EN81-72 describes: - This event indicates that the system is in Fire Fighting Service mode. Operation of a single pole Fire Control Switch installed on the main landing will immediately initiate Phase 1 Fire Control Return.
Phase 1 Fire Control, the lift will return to the fire floor as quickly as possible. The following sequence of operations will occur: -
All calls will be cancelled. If the lift is travelling away from the fire floor, the car will slow and stop at the next available landing, the doors will remain closed and following a short delay the lift will start to return to the fire floor.
If the lift is travelling towards the fire floor, the lift will continue to the fire floor without interruption.
If the lift is at a landing with its doors open, the doors will nudge close immediately if available and the lift will proceed to the fire floor, the door open push will remain operative in this phase.
Throughout the Fire Service Control sequence the "Fire Control" FCI indicator will be illuminated, landing calls will remain inoperative and the Safety Edge (or the heat sensitive door devices) will be disabled.
Once at the fire floor the firefighting lift will park with its doors open and Phase 2 Fire Service operation will begin.

Phase 2 Fire Service, the following operations will exist on the firefighting lift:
Once they are fully closed the doors will only open via constant pressure on the door open push. If the push is released before the doors have fully opened they will automatically close. Once the doors are fully open they will remain open until constant pressure of a call push causes them to close. If the call push is released before doors are fully closed, the doors will re-open, all calls be cancelled and the lift will park with its doors open until a car push is re-operated. The safety edge will be disabled.
Once the lift is moving, only one call will be accepted at any point, a new call entered will cause the original call to be cancelled, the lift will travel to the last call entered. If moving away from the floor the lift will stop and reverse direction. Once at the selected floor the doors will remain closed until signalled to open by constant pressure operation of the door open push.
The lift will only return to normal operation if the fire control switch is in its 'Off' position, the lift is at the fire floor and the doors are fully open.
Switching the fire control switch 'Off' for a minimum of five seconds and then to 'On' again, at any time, will always cause the lift to return to the fire floor.
Unless fitted with an in car fire switch, this switch must be on for the lift to move whilst in phase 2.

Event Code	Event Text	Type	Group	

code 071 Special Service / Off Special Service D SERVICES [Info]
Car Preference (Special Service) control is established by operation of a switch in the car. Upon activation the car is immediately taken out of group control and any assigned landing calls are reassigned by the master controller to the remaining group cars. All outstanding car calls are cancelled and the car parks with its doors open where they will remain until constant pressure of a call push causes the doors to close. The car will then travel to the call level and open its doors. If the call push is released before the doors are fully closed the doors will re-open and the call will be dropped. If more than one car call push is operated simultaneously or if call pushes are pressed after the doors have closed the car will travel to the nearest level, cancelling all calls on intercept. On deactivating Car Preference the lift will automatically be taken back into group control.

code 072 On Desp Fail / Off Despatch Failure D SERVICES [Info]
This event will be recorded if the car detects a dispatcher failure. Check the communication cable between the controller and dispatcher and ensure the dispatcher is powered on and in service.

code 073 SRAM Synchronisation S MEMORY [Info]
The SRAM parameter data area needs updating, this is an automatic function to repopulate the parameter data area.

code 074 GL lost adv open S MOTION [Warning].
GL feed back signal was lost whilst on advance door opening, check lock circuit. This signal should be present even if the doors are open, due to the lock bridging circuit.

code 075 **Software Reset** S CONTROLLER [Info]
Software Reset, illegal opcode of illegal data access problem. This has caused the MPU to reset.

code 076 **Hardware Res SHT** S CONTROLLER [Info]
Short hardware reset RSTIN low for less than 1038TCL. This has caused the MPU to reset. Typically caused by excessive electrical noise cause dips in the MPU supply.

code 077 **Hardware Res LNG** S CONTROLLER [Info]
Long hardware reset RSTIN low for more than 1040TCL. This has caused the MPU to reset. Typically caused by excessive electrical noise cause dips in the MPU supply.

code 078 **Power on Reset** S CONTROLLER [Info]
When the lift is switched on, the Microprocessor Unit (MPU) will begin its reset routine and store it in the event queue and then enter the lift program. The MPU can also be manually reset at any time by operation of the "Reset" Push on the CPU card.

code 079 **Unknown Reset** S CONTROLLER [Info]
Unknown processor reset, the MPU cannot determine the reason for reset, could be a combination of the preceding events.

code 080 Emer Term Slow S MOTION [Warning]
Emergency Terminal Slow, Check BFR/TFR and terminal slowing vanes. The lift has failed to achieve slowing mode after passing a top or bottom floor reset. This has caused the lift to crash stop, or perform an immediate slow. The terminal reset switch should be positioned in the middle of the slowing switch for the terminal floor.

code 081 MC lost on start S DRIVE [Warning]
MC feedback lost on starting, check safety circuit / TR board for functionality.

code 082 MC lost on stop S DRIVE [Warning]
MC feedback lost on stopping sequence, check TR board and timing of drive.

code 083 Multi Head Error / Multi Head RST D MOTION [Error]
Leveller error or Stuck Leveller on 3 accumulated journeys. This Error will take the lift out of service and must be manually reset from the MMI. Reset in the toolbox menu.

code 084 Fail to leave floor S MOTION [Warning]
Lift has failed to leave floor, check drive if stalled. Status of LU/LD has not changed after set time. This event does not get activated if the lift starts out of door zone i.e. away from floor level. Three of these events will give a Multi Start Fail code 014. The Factory defaults for the Escape Floor Time are 2.1 seconds for lifts running at 1m/s or greater, otherwise it is set at 4.2 seconds.

code 085 Start Lev or Dir Err S MOTION [Warning]
Leveller or direction error on start. If the LU/LD signals are received by the MPU in an incorrect sequence, on leaving floor the event is recorded and at what level. On some drive applications, i.e. Open Loop VVVF, it is important to know that the lift is travelling in the expected direction. The sequence in which the LU/LD signals are received can determine the actual direction of the car, i.e.:
Travelling Up: LU, LU & LD, LD
Travelling Down: LD, LD & LU, LU
The event may also be triggered if the LU/LD overlap is incorrect.

Event Code	Event Text	Type	Group	
code 086	RTC Time set	S	CONTROLLER	[Info]

RTC time has been set to a new value.

code 087	RTC Date set	S	CONTROLLER	[Info]

RTC date has been set to a new value.

code 088	Lift is LOST	S	MOTION	[Info]

Lift is lost due to position data being not valid. If lost the lift will dive for a terminal floor on its next journey.

code 089	Re-level timeout	S	MOTION	[Warning]

Lift failed to achieve level after 5 seconds of re-levelling, check levellers and drive.

code 090	UserSettings Failed / User Settings OK	D	MEMORY	[Warning]

The CPU has failed to synchronise the parameter data with the USER settings in EEPROM.

code 091	User Upload Fail	S	MEMORY	[Warning]

The CPU has tried to synchronise the parameter data with the USER settings in EEPROM and had a problem uploading the valid data.

code 092	SE Hard Dive Fail / SE Dive OK	D	MOTION	[Fault]

The VCOM or E-SE system has requested a dive 3 times; this has failed to reset the unit's position, consult VCOM / E-SE manual.

code 093	BackupSettings Fail / BackupSettings OK	D	MEMORY	[Warning]

The CPU has failed to synchronise the parameter data with the BACKUP settings in EEPROM.

code 094	Backup Upload Fail	S	MEMORY	[Warning]

The CPU has tried to synchronise the parameter data with the BACKUP settings in EEPROM and had a problem uploading the valid data.

code 095	Multi Pre Lock Fault / Multi Pre Lock OK	D	DOORS	[Fault]

This event is recorded when the CPU has had 3 “Pre Lock Fails”. All calls will be cancelled and the lift will be “Out of Service”, parked doors open. Placing a call will clear the event and cause the doors to try to close again. If another code 095 is again generated, following a further three unsuccessful attempts to close, the doors will again park open, but will only respond to car calls.

code 096	Parameter Updated	S	MEMORY	[Info]

A parameter in the USER settings has been successfully updated from the MMI or Uweb / Terminal port.

code 097	Backup to User OK	S	MEMORY	[Info]

Backup settings in EEPROM have been copied to User settings in EEPROM successfully.

code 098	User to Backup OK	S	MEMORY	[Info]

User settings in EEPROM have been copied to Backup settings in EEPROM successfully.

code 099	ROM to E2 Failed	S	MEMORY	[Error]

The action of copying the ROM default values to both the User and Backup settings has not worked correctly. The lift will be stopped “Out of Service”.

code 100	Max Re_Lev Cnt Fail	S	MOTION	[Warning]

Maximum number of re-levelling operations accumulated in consecutive journeys has been exceeded, (default is 3 re-levels). The event is recorded re-levelling will be inhibited for this floor.

code 101	Multi re-level err	S	MOTION	[Warning]

Accumulated re-level fails at a particular floor, event occurs on default of 3 re-level fails. The event is recorded, re-levelling will be inhibited for this floor till the next journey.

code 102	Max YOYO exceed	S	MOTION	[Warning]

Max re-levels in 10 mins exceeded. (Hydraulics only).

code 103	DJR Trip / DJR Reset	D	MOTION	[Error]

This event is logged when the lift is stopped by the processor due to time out of the Motor Run Time Limiter. Reset in the toolbox menu.

code 104	Safety Chain Fault / Safety Chain OK	D	CONTROLLER	[Error]

Check OSG / final limits and stop switches, MPU has lost LAR and TTR, but still has the supply, there could be a fault with any of the above switches.

code 105	Main Power Failed / Main Power OK	D	CONTROLLER / VCOM	[Info]

Main power has been lost or returned. This event is generated by a change of state on the Ethos control module or VCOM PS input terminals., User data EEPROM is write protected. MPU is about to shut down or watchdog reset. If the PS is not present after a reset (i.e. a power glitch) the EEPROM will remain locked and another watchdog reset will occur. If the PS input has recovered the MPU will unlock the EEPROM data and the program will start.

code 106	Door Jammed F / F Dr Jam OK	D	DOORS	[Fault]

Front door is jammed, the CPU has had 3 “Door Open Protection Timeouts” and 3 “Door Close Protection Timeouts”. This has caused the doors to go into an un-powered state and all calls cancelled. The doors will try to open / close again if DOP is pressed or calls are present.

code 107	Door Jammed R / R Dr Jam OK	D	DOORS	[Fault]

Rear door is jammed, the CPU has had 3 “Door Open Protection Timeouts” and 3 “Door Close Protection Timeouts”. This has caused the doors to go into an un-powered state and all calls cancelled. The doors will try to open / close again if DOP is pressed or calls are present.

code 108	LU/LD/DZ Lost Stp / LU/LD/DZ Stp OK	D	CONTROLLER	[Error]

Levelling signals LU and LD or Door Signal DZ have been lost without the CPU moving the lift. This will cause the lift to go “Out of Service”. The event is logged and can only be reset in the toolbox menu.

Event Code	Event Text	Type	Group	
code 109	CAN1 Bus Off / CAN1 Bus On	D	CONTROLLER	[Info]

The CAN1 Controller (Group Net.) has gone bus off 10 times and has been terminated.

code 110 Dr Cl Fault F / Dr Close OK F D DOORS [Fault]
This is when the doors have failed to close within 30 seconds. The event will be recorded, the doors will reverse, park open, all calls will be cancelled and the "LSI" indicator will be cancelled. This will be the first door close timeout for 30 seconds, after which code 009 will replace this event until a correct door close sequence is achieved.

code 111 Dr Cl Fault R / Dr Close OK R D DOORS [Fault]
First Rear Door Close Protection Fault (See also code 049).

code 112 No. of floors capped S CONTROLLER [Info]
Number of floors defined by risers and call collective exceeds working limit, levels have been cut.

code 113 Ltd. Floor Service / Off Ltd. Floor Serv. D SERVICES [Info]
Limited Floor Service. Lift will not stop at secure floors.

code 114 95% Bypass / Off 95% Bypass D SERVICES [Info]
Lift is on 95% Bypass and will not accept any more landing calls. If the car is fitted with a load sensing switch and this switch is closed when the doors are closing, then the by-pass feature operates so that the car cannot stop for intermediate landing calls and will only stop at the first car call encountered. Acceleration or retardation cannot cause inadvertent operation of the by-pass feature.

code 115 Test Up Limit Op'd / Test Up Limit OK D SERVICES [Info]
Test Up Limit Signal Missing or Shorted. The lift will be prevented from moving the next time the lift is place under test control. The fault is reset from the toolbox menu and with the panel in test. The test up limit should be then checked and fixed.

code 116 STEP comms failed / STEP comms OK D CONTROLLER [Info]
STEP failed to communicate for 200ms (See Software Test Environment Platform Manual / Applicable to test only).

code 117 RTC change from DST S CONTROLLER [Info]
RTC has changed from DST, see RTC description to de-activate.

code 118 E2 settings corrupt / E2 settings restored D MEMORY [Error]
The Backup and User E² settings are corrupted. Restore values using Memory Management option from Main Menu.

code 119 Card copied to E2 S MEMORY [Info]
The data held on the Smart card has been copied to the Ethos.

code 120 Door Disable / Off Door Disable D SERVICES [Info]
Lift is on Door Disable mode.

code 121 Logged In S CONTROLLER [Info]
Password has been accepted.

code 122 Car Delay/Calls Cn'd S CONTROLLER [Info]
All calls have been transferred or cancelled because the car was delayed. Check for motion or door related faults.

code 123 WatchDog is Disabled / WatchDog Enabled D CONTROLLER [Info]
The Watchdog has been disabled, do not run the elevator in normal under this condition, move SW5, on the CPU card, to it's lowest position.

code 124 Dr Op Fault F / Dr Open OK F D DOORS [Fault]
Front Door Open Protection Fault (See also code 004), check door limits / door operation. This is when the door has failed to finish opening within 30 seconds. The event will be recorded, the MPU will stop piloting the "Door Open Contactor" (OC). and the "LSI" indicator will be cancelled. After a short delay the MPU will pilot the doors to close, so that the lift may move to another floor.
This fault, for example, could be caused by an obstruction in the landing door track.

code 125 Dr Op Fault R / Dr Open OK R D DOORS [Fault]
Rear Door Open Protection Fault (See also code 044) and above.

code 126 Auto Logger Init S CONTROLLER [Info]
The Event Logger and system counters have been automatically re-initialised due to the downloading of a new application.

code 127 Logged Out S CONTROLLER [Info]
User has logged out manually or the password time has expired.

code 128 Stuck SU/SD / SU/SD OK D MOTION [Fault]
Stuck SU/SD or SPX input. Lift cannot update position, check SPX input switching and wiring.

code 129 R Dr Limit Error / R Dr Limit OK D DOORS [Fault]
Both Limits have been seen at the same time, check limit operation and inversion settings.

code 130 Different Templates S MEMORY [Fault]
The version of default data stored in ROM is different to that in RAM. Please restore ROM values to User and Backup settings.

code 131 Missing BFR/TFR / Mis B/TFR cancel D MOTION [Error]
Lift has travelled full length of the shaft and not seen BFR or TFR, check switch operation and inputs. Manual reset necessary from the MMI, to clear fault once error is fixed.

Event Code	Event Text	Type	Group	
code 132	AutoRun Enabled / AutoRun Disabled	D	SERVICES	[Info]
Burn Test has been enabled through the toolbox feature or disabled automatically via problems encountered, check events.				
code 133	GL|CG lost test spd	S	MOTION	[Warning]
GL or CG lost on Test Speed, check lock circuits and skates etc. at the floor indicated by event.				
code 134	Trace Triggered	S	CONTROLLER	[Info]
The event trace has been stopped by detecting the trace event.				
code 135	Gt Short Check	S	DOORS	[Warning]
Potential Gate Lock Short. The processor will cycle the doors to try to prove this is a true gate lock short. If after 3 of these events the gate locks are still shorted the gate lock bridged event will be fired. Lift movement is suspended while these checks are carried out.				
code 136	E2 copied to card	S	MEMORY	[Info]
The data held in Ethos has been copied to the Smart card.				
code 137	E2 not copied	S	MEMORY	[Info]
The data held in Ethos has not been copied to the Smart card.				
code 138	Card not copied	S	MEMORY	[Info]
The data held on the Smart card has not been copied to Ethos.				
code 139	Re-level error	S	MOTION	[Warning]
Lift failed to achieve level after re-level attempt, check levellers (LU/LD) and drive settings.				
code 140	Anti-Nuisance	S	SERVICES	[Info]
Car calls were cancelled because the anti-nuisance car call cancellation threshold was reached, check car push inputs & wiring.				
code 141	F Dr Limit Error / F Dr Limit OK	D	DOORS	[Fault]
Front Door Limit Error. Both Limits have been seen at the same time. Check limit operation and inversion settings.				
code 142	AutoRun Passed	S	SERVICES	[Info]
AutoRun has successfully completed its task with no faults stopping its operation.				
code 143	AutoRun Failed	S	SERVICES	[Info]
AutoRun has been terminated by the system due to a fault / event with the elevator.				
code 144	AutoRun Terminated	S	SERVICES	[Info]
AutoRun has been terminated by the user, through the autorun setting or via the help key being pressed.				
code 145	BFR/TFR DIR Error	S	MOTION	[Warning]
Incorrect BFR or TFR sequence. Lift could be travelling in the wrong direction. Check motor wiring and phases.				
code 146	CAN Duplicate ID / CAN Bus OK	D	CONTROLLER	[Warning]
A duplicate id has been received from the CAN bus this controller has gone off line.				
code 147	SMS Status Request	S	CONTROLLER	[Info]
An SMS lift status request has been received. An SMS containing basic lift status will be sent back to the originator.				
code 148	Modem init, error	S	CONTROLLER	[Info]
The modem has not initialised correctly. Check modem power and serial communications cables.				
code 149	Stuck AU/AD / AU/AD OK	D	MOTION	[Fault]
Stuck AU/AD or APX input. Lift cannot update position, check APX input switching and wiring.				
code 150	On Bus Stop / Off Bus Stop	D	SERVICES	[Warning]
The car is on bus stop service. A pattern of landing calls will be entered automatically to provide a limited level of service. This event is normally preceded by lost push feed or dispatch failure events. Check the push feed supplies LPF/CPF and /or dispatcher communications.				
code 151	Dispatcher Master / Dispatcher Slave	D	SERVICES	[Info]
Indicates a change in dispatcher status. The master dispatcher is responsible for dispatching landing calls for all cars.				
code 152	Riser Time-Out	S	SERVICES	[Info]
This event indicates that landing calls have been cancelled by the system. The event is logged if car/s is in group but has been unable to service landing calls for 2 minutes or longer. A typical example may be a car/s bypassing landing calls due to activation of the WS95 input.				
code 153	Multi LTLR Trip / Multi LTLR Reset	D	MOTION	[Fault]
3 Low Speed Time Outs have occurred. Check levellers, check for motor stall at low speed, check drive torque settings or LTLR timer.				
code 154	EmerSupply Return / Off EmerSupply Ret	D	SERVICES	[Info]
Lift is on Emergency Supply Return Service.				
code 155	Group CRC mismatch / Group CRC OK	D	SERVICES	[Info]
GDT stamp matches but CRC's do not, problem with network data. Check templates are same.				
code 156	No Duty Car ESUP /Duty Car ESUP OK	D	SERVICES	[Warning]
Lift is on emergency supply but is not duty car, the lift will not move till the dispatcher gives duty, check duty car settings if this is a problem.				

Event Code	Event Text	Type	Group	
code 157	Grp Template Prob / Grp Template OK	D	SERVICES	[Warning]
Group data needs updating but templates do not match. Check software builds.				
code 158	Missing DSL	S	MOTION	[Warning]
Missing Down Slow limit. Lift could not see the down slow limit when at floor 1 or 2 (event is specific to short floor contracts).				
code 159	Missing USL	S	MOTION	[Warning]
Missing Up Slow limit. Lift could not see the Up slow limit when at top or top-1 (event is specific to short floor contracts).				
code 160	No Serial Card	S	CONTROLLER	[Info]
No Serial Card could be found, Card not always fitted, Contact TVC Ltd for more information.				
code 161	CAN2 Bus Off / CAN2 Bus On	D	CONTROLLER	[Info]
The CAN2 Controller (V-COM or Abs Encoder) has gone bus off 10 times and has been terminated.				
code 162	CAN2 Duplicate ID / CAN2 Bus OK	D	CONTROLLER	[Info]
A duplicate ID has been received from the CAN2 bus this controller has gone off line.				
code 163	VCOM Master Reset	S	VCOM	[Info]
VCOM Master MPU has reset, check user data for reason.				
code 164	VCOM Slave Reset	S	VCOM	[Info]
VCOM Slave MPU has reset, check user data for reason.				
code 165	SE Shaft Learn / Shaft Learn Stopped	D	VCOM	[Info]
VCOM or E-SE is on a shaft learn sequence.				
code 166	Unusable VCOM Params / VCOM Params OK	D	VCOM	[Fault]
VCOM Master parameters produced invalid kinematics, check job parameters or reset to defaults.				
code 167	VCOM No SA/SB	S	VCOM	[Fault]
VCOM is missing SA/SB incremental pulses, ethos is trying to move but VCOM has not registered change in counts.				
code 168	VCOM Wrong Direction	S	VCOM	[Fault]
VCOM counts are changing in the wrong direction.				
code 169	VCOM M Shaft Map Err / VCOM M Shaft Map OK	D	VCOM	[Fault]
VCOM Master has a corrupt shaft map, try a shaft learn procedure to cure this problem.				
code 170	VCOM Mst Comms Fail / VCOM Mst Comms OK	D	VCOM	[Fault]
Communications lost with VCOM Master shaft encoder, check looms and VCOM power / fuses.				
code 171	VCOM Slv Comms Fail / VCOM Slv Comms OK	D	VCOM	[Fault]
Communications lost with VCOM Slave shaft encoder, check looms and VCOM power / fuses.				
code 172	VCOM No ABS Change	S	VCOM	[Fault]
Ethos is trying to move but VCOM has not registered change in abs counts.				
code 173	VCOM Crash Stop	S	VCOM	[Fault]
VCOM has caused a crash stop, this is due to over-speeding whilst approaching a terminal floor.				
code 174	VCOM S Shaft Map Err / VCOM S Shaft Map OK	D	VCOM	[Warning]
VCOM Slave has a corrupt shaft map, try a shaft learn procedure to cure this problem.				
.				
code 175	K-Weigh Reset Active / Off K-Weigh Reset	D	SERVICES	[Info]
Lift is on K-Weigh Reset Routine.				
code 176	Lost - Position Err.	S	VCOM	[Info]
Car is lost and must dive to reset the position encoding equipment. User Data 1 = Inc encoder, 2 = Abs encoder.				
code 177	SE Soft Reset Dive	S	VCOM	[Info]
VCOM or E-SE has a large count error and will try to call to the bottom floor to reset its position.				
code 178	VCOM Abs Enc Lost / VCOM Abs Enc OK	D	VCOM	[Fault]
VCOM has lost communications to the absolute encoder, check VCOM and encoder				
code 179	VCOM Eth/2uP Lost / VCOM Eth/2uP OK	D	VCOM	[Info]
VCOM has lost communications to the slave or master processor, see user data for master or slave.				
code 180	VCOM Target Problem	S	VCOM	[Info]
VCOM cannot give a speed for this run due to it being too short for lowest speed, check VCOM slowing distances.				
code 181	Ramp Lock Fail	S	DOORS	[Fault]
The Ramp-Locks have opened or failed to close, Check locks at this floor front or rear.				

Event Code	Event Text	Type	Group	
code 182	Top Final Limit Op'd / Top Final Limit OK	D	MOTION	[Fault]
Up Terminal Auxiliary Limit Operated. Lift over travelled and was shut down!				
code 183	E-SE Map Problem / E-SE Map OK	D	MOTION	[Fault]
E-SE shaft map has not been learnt correctly, repeat a shaft learn.				
code 184	Miss. 2nd Door Sig	S	MOTION	[Fault]
Lift has stopped and is missing DZM input, doors cannot open without two proximity signals.				
(Triggered if ADO circuit is fitted and we are missing the DZM input on stop, applicable to all shaft encoder types)				
This can be caused by-				
1) DZC from V-COM/E-SE missing (count problems)				
2) SAR output from drive missing.				
3) ADO circuit issues.				
code 185	Rope Brake Fault / Rope Brake OK	D	CONTROLLER	[Fault]
Rope brake safety signal is lost. Check the condition of the rope brake.				
code 186	Lift Isolation / Off Lift Isolation	D	SERVICES	[Info]
Lift has been isolated.				
code 187	VCOM Slv.Pat.ETSD / VCOM Pattern OK	D	VCOM	[Fault]
VCOM Slave has pattern control, this could be an ETSD, overspeed condition or pattern fault.				
code 188	VCOM Mst.Pat.Err	S	VCOM	[Fault]
VCOM Master MPU has had an error in the pattern task, consult factory.				
code 189	VCOM OverSpeed	S	VCOM	[Fault]
VCOM has had an overspeed condition, check speed / encoder settings and also SA/SB connections.				
code 190	VCOM UnderSpeed	S	VCOM	[Fault]
VCOM has had an under speed condition check encoder connections / settings and mechanics.				
code 191	Repeat VCOM Faults / Rep. VCOM Fault Res	D	VCOM	[Fault]
VCOM has had the same fault on 3 consecutive journeys, check logger to see relevant fault.				
code 192	Landing gates Fault	S	MOTION	[Fault]
Landing gates not closed whilst starting check lock circuit (GL) / door contacts etc.				
code 193	On Remote Recall / Off Remote Recall	D	SERVICES	[Info]
Lift is on Remote Recall Service, this is activated from E-Director.				
code 194	Brake Fail, Starting	S	MOTION	[Fault]
The brake confirmation input was not received on startup.				
code 195	Brake Fail, Moving	S	MOTION	[Fault]
The brake confirmation input has dropped whilst moving				
code 196	Brake Fail, Stopping	S	MOTION	[Fault]
The brake confirmation input has failed to drop during stopping.				
code 197	Brake Confirm Fail / Brake Confirm IP OK	D	MOTION	[Fault]
The brake confirmation input has failed and the panel has shut down.				
code 198	On Urine Detection / Off Urine Detection	D	SERVICES	[Fault]
Once initiated the lift will travel to a specified level as soon as possible. The lift will park at this floor for a set time to allow the lift to be cleaned.				
No car or landing calls can be entered. Throughout this service the (Urine Detection Indicator) output will be active.				
code 199	MC/MUP/DN lost zero	S	DRIVE	[Fault]
MC or MUP or MDN feedback lost on zero speed, check drive safety circuit.				
code 200	On Limited Flr Serv/ Off Limited Flr Serv	D	SERVICES	[Info]
Lift now has restricted floor access.				
code 201	Car Network Fail / Car Network OK	D	CONTROLLER	[Fault]
The serial car network has a problem, check car node alive screens.				
code 202	Lnd.Network Prob / Lnd.Network OK	D	CONTROLLER	[Fault]
The serial landing network has a problem, check landing node alive screens.				
code 203	CAN3 Bus Off / CAN3 Bus On	D	CONTROLLER	[Fault]
The CAN3 Controller (Landing Net.) has gone bus off 10 times and has been terminated.				
code 204	CAN4 Bus Off / CAN3 Bus On	D	CONTROLLER	[Fault]
The CAN4 Controller (Car Net.) has gone bus off 10 times and has been terminated.				
code 205	On Milkman's Service/ Off Milkman's Service	D	SERVICES	[Info]
Lift is on Milkman's service control.				

Event Code	Event Text	Type	Group	
code 206	SE Abs.Enc.Err	S	VCOM	[Fault]

VCOM or E-SE, Absolute CAN encoder count error, check that the encoder's bearing is not failing.
This event may be triggered if the Absolute encoder is failing or has errors.

code 207 UPS Recall / Off UPS Recall D SERVICES [Info]
Indicates that the system is in UPS RECALL mode.

code 208 Contactor Mon.Stuck S CONTROLLER [Fault]
The main MC1 Contactor maybe stuck in, check contactor or wiring. This event is fired off if the CONC input is either stuck in or stuck out.
If stuck in Ethos will attempt 3 journeys firing of this event each time then go out of service with a “Contactor Chk.Fail " event.
This is a manually resettable event. If stuck out the Ethos will not go on a journey.

code 209 Contactor Chk.Fail / Contactors OK D CONTROLLER [Fault]
The main MC1 Contactor is stuck in, check contactor or wiring. See description above (code 208).

code 210 Drive Comms Fail / Drive Comms OK D DRIVE [Fault]
Communications lost with drive, check looms and drive power / fuses. This event will trigger if communications is lost with the drive.
Ethos will immediately crash stop if moving, or not move if in this state.

code 211 Drive Fault / Drive OK D DRIVE [Fault]
The drive has an active fault, drive fault bit is set in the comms, check drive and clear fault. The drive has an active fault, see drive MMI for details.

code 212 MUP or MDN Fault S CONTROLLER [Fault]
MUP-MDN, test direction inputs, have been seen on normal operation, check for wiring faults, serial drive control only.
This fault is triggered if the test direction inputs are seen when they shouldn’t be and is just for information.

code 213 Lift Alert Signal / Lift Alert Signal OK D CONTROLLER [Info]
Lift Alert signal is lost. Check the status of the OSG.

code 214 E emergency Recall 2 / Off Emer Recall 2 D SERVICES [Info]
Indicates that the system is in EMERGENCY RECALL mode. This requires an external signal EMR1, EMR2 or EMR3, to return the lift to a predetermined floor (usually main). The lift will immediately return to the floor ignoring all calls and park. The doors will open and dwell closed or remain open (set in customer settings).

code 215 Emergency Recall 3 / Off Emer Recall 3 D SERVICES [Info]
Indicates that the system is in EMERGENCY RECALL mode. This requires an external signal EMR1, EMR2 or EMR3, to return the lift to a predetermined floor (usually main). The lift will immediately return to the floor ignoring all calls and park. The doors will open and dwell closed or remain open (set in customer settings).

code 216 Safety Gear Op'd / Safety Gear OK D CONTROLLER [Fault]
The Safety Gear has operated. Possible causes are lift overspeed or uncontrolled movement.

code 217 LU/LD Missing Stopd D CONTROLLER [Fault]
Lift has stopped and is missing LU or LD input, doors cannot open without 2 proximity signals. (Triggered if LU and LD are missing on stop, only applicable to Tape Head jobs). This can be caused by LU or LD signal problems from Tape Head.

code 218 Pos.Cnt Prob.Stopd S MOTION [Fault]
Lift has stopped and is missing it's internally generated LU or LD vanes, the position count may be incorrect for this floor. (Triggered if the internally generated LU and LD are missing, applicable to E-SE and V-COM Jobs)
This can be caused by:-
1) Count problems leading to LU or LD missing from E-SE or V-COM
2) False triggering of resets / door zones by electrical noise, on stopping.

code 219 Valve Fail, Starting S MOTION [Fault]
The valve confirmation input was not received on startup.

code 220 Valve Fail, Moving S MOTION [Fault]
The valve confirmation input has dropped whilst moving.

code 221 Valve Fail, Stopping S MOTION [Fault]
The valve confirmation input has failed to drop during stopping.

code 222 Valve Confirm Fail D MOTION [Fault]
The valve confirmation input has failed and the panel has shut down. Clear fault in toolbox menu.

code 223 Valve Test Failure D CONTROLLER [Fault]
The lift has moved whilst testing the valves and has been shut down. Clear fault in toolbox menu.

code 224 Low Pressure Return D CONTROLLER [Fault]
Low Pressure has been detected. The lift will be returned to the bottom floor and shut down.

22. Position Verification

The Ethos uses a standard method of positioning itself in the lift shaft, this includes use of the following switches: -

DZ1 - **Main Door Zone** Magnet or Vane to denote door position. (Always required!)
DZ2 - **Secondary Door Zone** (Used only on contracts with re-leveling or advanced door opening)
LU - **Leveling Up** Magnet or Vane used for stopping position, leveling zone and as a backup to main door zone.
LD - **Leveling Down** Magnet or Vane used for stopping position, leveling zone and as a backup to main door zone.
SU - **Slowing Up** Magnet or Vane used for "stepping" floor position in the up direction, also used as slowing point for upward travel.
SD - **Slowing Down** Magnet or Vane used for "stepping" floor position in the down direction, also used as slowing point for downward travel.
BFR - **Bottom Floor Reset** Switch used to give positional reset at the bottom floor, also used for terminal slowing monitoring.
TFR - **Top Floor Reset** Switch used to give positional reset at the top floor, also used for terminal slowing monitoring.

Ordinarily, after power on reset, the controller will "dive" to find a terminal reset switch (TFR/BFR). The lift will try a maximum of three dives stepping to its top and bottom floor positions.
If the controller has an anomaly with its position data when traveling, the lift will assume it is "Lost" and dive on the next journey.
A typical journey will consist of a period of acceleration, at this point direction checking is considered by the processor. Once running at speed the processor steps on the SU/SD magnets updating its synchronous position accordingly. When the synchronous position matches the target position, the lift will slow on the trailing edge of the relevant SU/SD signal. At this point, the controller checks for stuck LU/LD/DZ signals. As the lift approaches the target floor, checks for LU/LD sequencing are carried out. If any problems with the shaft switches, advance door opening will be inhibited for this stop (if available).
Once on LU and LD the lift will stop, ensuring the DZ signal is there; the controller will then open its doors. In the case of advance door opening the doors will open as long as the lift is in slowing-leveling mode i.e. in door zone and within leveling speed.

23. Commissioning (Setting Contract Speeds and Slowing Distances)

This section is not applicable for hydraulic drives, VCOM.

Ethos has been designed to cope with differing floor heights, or lift speeds where maximum speed cannot be archived in a single floor run.
Check your contract speed and floor slowing distances against the tables supplied below and follow the set-up procedure.

Commissioning Menu Structure			
From the Status Screen Press the menu key	⇒ Customer Settings	⇒ Speed Settings	Medium Speed On/Off Medium Speed Timer Per Floor Medium Speed Timer All Floors Medium Contract Speed Contract Speed

1. Confirm "Contract Speed" is set correctly.
2. If a medium speed is required to perform single floor runs from Table A, see "Setting Medium Speed" section.
3. Refer to "Shaft Set-Up" section.
4. Test Slowing Distances (see Test Slowing Distances)

23.1 Shaft Set-up

Listed, in table A, are suggested trial slowing distances with regulator set for minimum round off and linear deceleration rate of approximately 0.8m/sec^2 and 1m/sec^2.
Where the regulator manual refers to adjustment of the deceleration time to be performed in the regulator, the times in brackets give guidance to the setting relative to the associated deceleration rates and distances.

Make sure slowing vanes are fitted to all floors using the dimensions in table A.
At the bottom terminal floor fit the bottom terminal reset switch (BFR) in line with the centre of the last slowing / stepping magnet for the down direction. At the top terminal floor fit the top terminal reset switch (TFR) in line with the centre of the last slowing / stepping magnet in the up direction, as shown on the shaft wiring diagram.

It is important that the BFR/TFR limits are positioned correctly and that all speed settings have appropriate values, as they effect the emergency terminal slowdown behavior.

A software timer is set such that should the trailing edge of the SU or SD magnet not be seen after a predetermined time has elapsed following the operation of the reset limit, the microprocessor will force a crash stop by dropping all of the drive output contacts. This will prevent a stuck SU/SD contact causing the lift to reach a terminal floor at high speed. Also, if the reset limit is operated when the lift is not on SU/SD, this is deemed a fault condition resulting in an immediate slowing into the next floor. If the lift has crashed stopped out of door zone, it will seek an alternative floor to allow the passengers to alight.

Note: - On lifts requiring secondary terminal slowdown due to reduced buffer stroke, as defined in EN81-1, an independent means of slowdown is provided in addition to this system.

23.2 Installation STEP 5 Table A Slowing Distances

Speed (m/s)	Slowing Distance (m)		
	Decel. = 0.4 m/s^2	Decel. = 0.8 m/s^2	Decel. = 1.0 m/s^2
0.3	0.400		
0.4	0.520		
0.5	0.660		
0.6	0.820		
0.63	0.880		
0.7	1.010		
0.75	1.120		
0.8	1.230		
0.9	1.470		
1.0		1.310	
1.1		1.490	
1.2		1.680	
1.25		1.780	
1.3		1.890	
1.4		2.100	
1.5		2.330	
1.6			2.410
1.7			2.640
1.75			2.750

23.3 Setting Medium Speeds

Check medium speeds are active under - Medium Speed Runs -> Medium Speed ON/OFF
Using table B, find the timer setting for the contract speed in relation to the medium speed of 1.2m/s. Use this value to set the medium speed timer for all floors - ***Medium Speed Runs -> All Floors.***
Individual runs may be changed in - Medium Speed Runs -> Individual Floors.

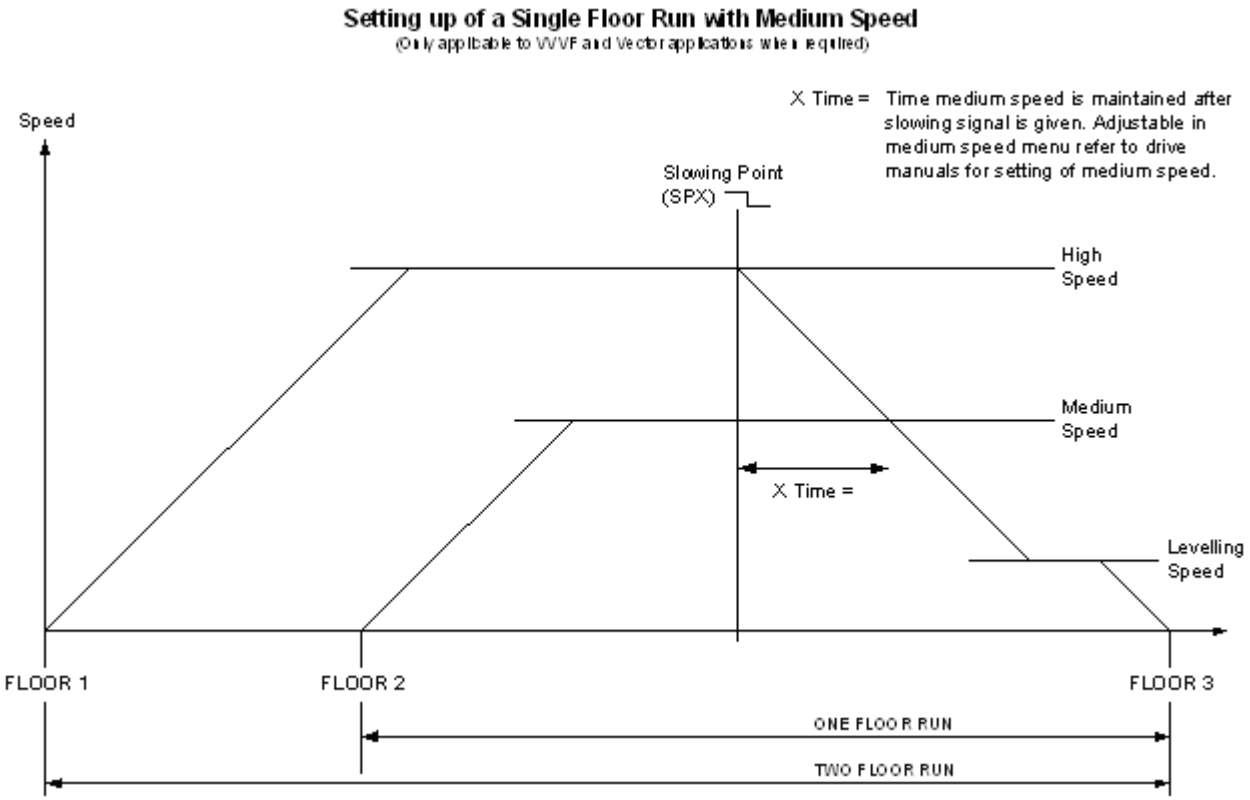
Check the appropriate regulator settings also!

Note: - Medium speed settings are configured in the factory, if needed, using 3m as a standard floor height and a medium speed of 1.2m/s.

23.4 Table B

	Contract Speed	Medium timer with medium speed of 1.2m/s
Medium Speed may be needed	1.3	10
	1.4	30
	1.5	40
	1.6	50
	1.7	70
	1.8	90
	1.9	110
	2.0	140

23.5 Medium Speed Timer Illustration.



23.6 Testing Slowing Distances

It is recommended that the distances are tried on floors constituting an adjacent short floor run and then a multi-floor run, where the lift is able to obtain contract speed. On satisfactory result then other floor slowing vanes may be adjusted in accordance with the previous dimensions.

24. Commissioning (*AutoRun Control)*

Auto-Run is a site-commissioning tool that allows the user to automatically exercise the elevator with predefined car call patterns within selectable regions of the elevator shaft.
These predefined call patterns can be selected by the user to test the consistency of slowing points, floor accuracy, and door operation over a maximum user defined period of twelve hours, or until Ethos detects a fault with the normal operation.

To Enable/Disable AUTO-RUN Control: -

From any location, Press the **Toolbox** key
TOOLBOX MENU

- AutoRun Control

Press the **ENTER** Key to Enable/Disable this function.
Note: When AutoRun is active the “toolbox” led will flash.
Note: Check the AutoRun Controls within the Customer Settings/Special Features menu

24.1 AUTO-RUN Associated Parameters.

- AutoRun FloorPattern
  - Cycled — Cycle from Single to Three Floor Runs
  - Single Floor Run — Lift will enter call one floor away
  - Two Floor Run — Lift will enter call two floors away
  - Three Floor Run — Lift will enter call three floors away
- AutoRun Test Zone
  - Cycled — Cycle from Top Terminal to All Floors
  - Top Terminal — Single/Two/Three Floor Runs to Top Terminal
  - Bottom Terminal — Single/Two/Three Floor Runs to Bottom Terminal
  - Both Terminals — Single call entered between Top and Bottom Terminals
  - Down Preference — Single/Two/Three floor runs in down direction only
  - Up Preference — Single/Two/Three floor runs in up direction only
  - All Floors — Single/Two/Three floor runs to interim and terminals
- AutoRun Starts Per Hour — 1-255 Starts Per Hour
- AutoRun Hours To Run — 1-12 Hours to run on AutoRun

24.2 Changing Floor Patterns Procedure.

Four predefined customer alterable call pattern parameters have been provided, these are, Single Floor Runs, Two Floor Runs, Three Floor Runs and Cycled. The Cycled option will automatically cycle through single/two and three floor runs every ten minutes.
To change these parameters, follow the procedure below: -

Floor Patterns Menu Structure						
From the Status Screen Press the menu key	⇒ Customer Settings	⇒ Feature Settings.	⇒ Special Services.	⇒ AutoRun Control.	⇒ AutoRun Floor Pattern	Cycled Single Floor Runs Two Floor Runs Three Floor Runs

Press the **SELECT** key to enter the parameter change screen.
Ensure you have the correct access level and password entered before making changes.

24.3 Changing Test Zone Procedure.

Five predefined customer alterable tests have been provided to enable which region (Zone) of the shaft to assert the predefined call pattern, these are, Bottom Terminal, Top Terminal, Terminal to Terminal, Down Preference, Up Preference, All Floors and Cycled.
The Cycled option will automatically cycle through each test type every 30 minutes.
To change these parameters, follow the procedure below: -

Test Zone Menu Structure						
From the Status Screen Press the menu key	⇒ Customer Settings	⇒ Feature Settings.	⇒ Special Services.	⇒ AutoRun Control.	⇒ AutoRun Test Zone	Cycled Bottom Terminal Top Terminal Terminal to Terminal Down Preference Up Preference All Floors

Press the **SELECT** key to enter the parameter change screen.
Ensure you have the correct access level and password entered before making changes

24.4 Changing the Starts Per Hour

To prevent motor overheating, the AutoRun feature has been equipped with a "Starts Per Hour" parameter, which will limit the AutoRun starts per hour to those selected by the user.
The value of this timer has been predefined to 60 starts per hour, and can be modified by the user to suit the installation.
To change these parameters, follow the procedure below: -

Starts Per Hour Menu Structure					
From the Status Screen Press the menu key	⇒ Customer Settings	⇒ Feature Settings.	⇒ Special Services.	⇒ AutoRun Control.	⇒ AutoRun StartsPerHour

Press the **SELECT** key to enter the parameter change screen.
Ensure you have the correct access level and password entered before making changes

24.5 Changing the Hours to Run Time

AutoRun is automatically restricted to a 1 hour time limit, however this time limit can be altered by the user to a maximum of 12 hours.

To change these parameters, follow the procedure below: -

Hours to Run Time Menu Structure					
From the Status Screen Press the menu key	⇒ Customer Settings	⇒ Feature Settings.	⇒ Special Services.	⇒ AutoRun Control.	⇒ AutoRun Hours To Run

Press the **SELECT** key to enter the parameter change screen.
Ensure you have the correct access level and password entered before making changes

24.6 Pause Mode.

AutoRun has been designed to "Pause" when passengers enter car or landing calls.
AutoRun will resume once these calls have been answered.

24.7 AutoRun & Door Disable.

AutoRun can be operated in conjunction with "Door Disable" feature.
To enable this option, press the toolbox button and selected the "Door Disable" feature.

24.8 AutoRun Avoiding Individual/Terminal Floors.

At times, it may be necessary to avoid terminal or individual floors during installation. AutoRun will cope with this problem.
AutoRun uses the secure floors option to inhibit calls to individual or both terminal floors.
Follow the procedure below to avoid AutoRun automatically entering a call at an undesired floor or floors.

Avoiding Individual/Terminal Floors Time Menu Structure			
From the Status Screen Press the menu key	⇒ Customer Settings	⇒ Floor Settings.	Secure Front Calls Secure Rear Calls

Press the **SELECT** key to enter the secure calls screen, refer to "Floor Settings (Securing Floors)" section of this manual for more details.

25. Safe Mode Operation

Before making changes to any system parameters, ensure that the elevator is in "Safe Mode", i.e. LAR & TTR circuits are broken.
Safe Mode can be entered via a number of methods, basically ensuring that the "safety circuit" is broken.
Either of the flowing methods can be used to enter "Safe Mode"

- Pressing the "Emergency Stop" push within the motor room
- Turning to "Hand Wind" Control.
- Removal of the "CCF" circuit fuse.

26. Normal Mode Operation

After making changes to system parameters and settings using the "Safe Mode" function, normal Mode Operation can be obtained by following the procedure below: -

- Releasing the "Emergency Stop" push within the motor room.
- Turning from "Hand Wind" Control to Normal via the Hand Wind Switch.
- Re-Inserting the "CCF" Control circuit fuse.
- Ensuring the elevator is turned from Test Control "TTR" to "LAR" Normal.
- Ensure the Bootstrap Switch is in the bottom "RUN" position
- Ensure all faults are cleared within the Toolbox Menu
- Ensure all "Services" are disabled, such as Fire/Goods/AutoRun/Prepare to Test.

27. Magnetek / Ethos Fly By Wire

27.1 Introduction

The safety circuit has been re-modelled to remove unnecessary components that are not used when the drive is controlled serially. The major change is that Ethos is now in control of Test (TTR) and Panel Test (PTR). (Note: Ethos treats PTR as test as far as the software is concerned). Also the drive is now in control of lifting and dropping the brake and also pulling in and dropping the main MC contactors.

27.2 New Ethos I/O

CONC input used as contactor checking. Ethos will check this input is ON when lift is stationary and not expecting movement, and also check that the input drops when moving. Any failure will prevent any further movement.

BKR input used as brake contactor monitoring. Ethos will check this input is ON when a request to travel has been issued and drive instructed to start. Any failure will result in a failure to start. Once this input is seen (brake lifted) the Ethos will give the drive a direction and speed.

PTR input is a new input to indicate the panel has gone onto panel test. This input will remove the lift from normal control and only allow travel via constant pressure on the MUP or MDN inputs. Note that the PTR input can only be active if the LAR and TTR inputs are OFF.

MUP / MDN inputs are not used for direction feedback as normal. These are now used as Test / Panel Test up or down inputs. The Ethos will start a test speed movement sequence when these inputs are seen.
These inputs operate under constant pressure to active UP or DOWN travel. The lift speeds are governed as the chart below and can be independently set.

27.3 Panel States

Input	State	Notes
LAR	Normal control	Speed adjustable up to contract speed
TTR	Test control	Speed adjustable up to test speed
PTR	Panel test control	Speed adjustable up to panel test speed
LAR & PTR	Fault condition	Inhibit movement/crash stop
TTR & PTR	Fault condition	Inhibit movement/crash stop
LAR & TTR	Fault condition	Inhibit movement/crash stop
LAR & PTR & TTR	Fault condition	Inhibit movement/crash stop

27.4 Drive Connections

The serial connection to the drive is RS485, Half duplex 19200 bps 8N1.
The drive also uses these discrete inputs:-

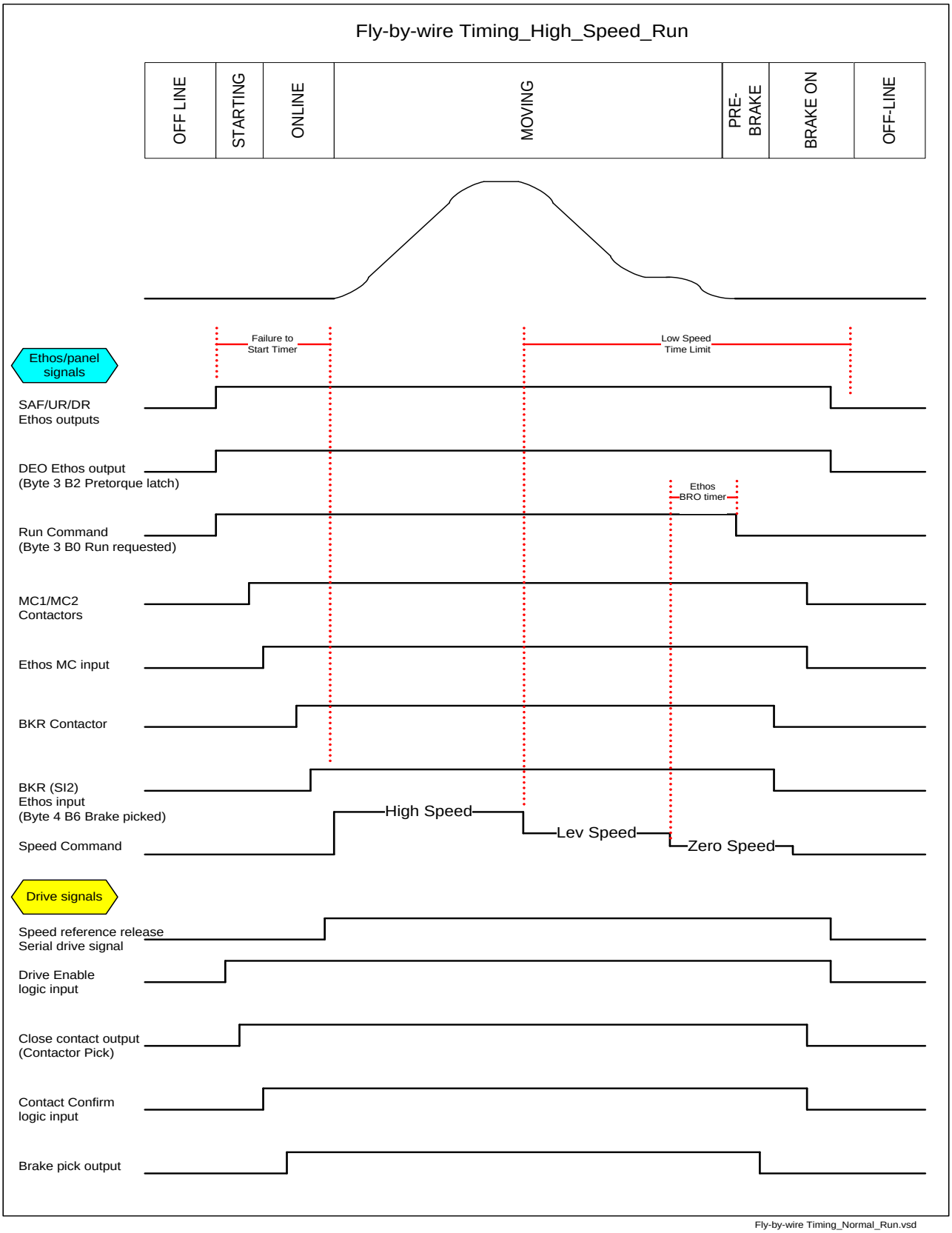
MC2 feedback contact from the safety circuit.

DEO drive enable output from Ethos. This is output in conjunction with the run request bit over the RS485 to initiate the starting sequence, when we wish to go on a run.
The DEO is dropped (end of run) when the Ethos sees both BKR and MC drop. (The drive disable delay timer in Ethos has no effect in this mode).

The “Brake on Delay” timer feature works as normal and allows the brake dropping to be timed depending on brake reaction times and the ability of the drive to hold zero at the end of a run.

The drive controls the MC contactors via an output, the stopping sequence (de-energising) of the contactors can be delayed with the “Contactor DO delay” timer in the DRIVE A1 menu.

The full sequence is shown in the diagram below.


Fly-by-wire Timing_High_Speed_Run
OFF LINE
STARTING
ONLINE
MOVING
PRE-BRAKE
BRAKE ON
OFF-LINE
Failure to Start Timer
Low Speed Time Limit
Ethos/panel signals
SAF/UR/DR Ethos outputs
DEO Ethos output (Byte 3 B2 Pretorque latch)
Ethos BRO timer
Run Command (Byte 3 B0 Run requested)
MC1/MC2 Contactors
Ethos MC input
BKR Contactor
BKR (SI2) Ethos input (Byte 4 B6 Brake picked)
Speed Command
High Speed
Lev Speed
Zero Speed
Drive signals
Speed reference release Serial drive signal
Drive Enable logic input
Close contact output (Contactor Pick)
Contact Confirm logic input
Brake pick output
Fly-by-wire Timing_Normal_Run.vsd

27.5 Drive Settings

Contactor DO Delay	=	1.5 secs.
Brake Pick Time	=	1 secs.
Spd Command Src	=	Serial multi step.
Run Command Src	=	Serial.
Serial Mode	=	Mode 3.
Brake Pick Cnfm	=	None.
Ser2 Flt Mode	=	Immediate.
Drv Fast Disable	=	Enabled.
Logic Output 1	=	Ready to Run.
Logic Output 2	=	Run Commanded.
Relay Coil 1	=	Brake Pick.
Relay Coil 2	=	Close Contacts.
Logic Input 1	=	Drive Enable.
Logic Input 2	=	Contact Confirm.

Set Accel 0 and De-cel 0 Rates to contract settings.
Speeds are set in Ethos Menus.

For operation with SE/SIM set Analogue Output 2 Offset to 50% with 0.5% Gain.
Then 5V to 0V speed feedback output drives simulator down, 5V to 10V drives up.
Also set Response to 10 Rad/sec for simulator.

28. SMS Text Messaging

Panels equipped with a GSM modem are capable of sending and receiving SMS text messages.

Messages received by the controller are categorised as one of the following:

- **Status request / Telephone number set**
  A text message containing the word “STATUS” prompts Ethos to immediately transmit a STATUS message back to the originator and to change the LISI state change dial-out telephone number to the originator’s number.

- **Telephone number clear**
  A text message containing the word “SILENCE” clears the LISI state change dial-out telephone number hence inhibiting future state change message transmissions.

- **General text messages**
  Messages that contain neither “STATUS” nor “SILENCE” are written into the Ethos message memory area and can be read on site via the MMI menu.

  Messages sent by Ethos:

- **STATUS response**
  This message is transmitted on reception of a status request / telephone number set message. The status message contains in-depth information on the condition of the lift.

- **LISI state change**
  This message is sent on a change of the lift in service indicator. The LISI state change message contains brief information on the condition of the lift similar to the information present on LCD main status screen.

28.1 SMS Transmission Control

STATUS response messages cannot be disabled they are always transmitted on reception of a status / telephone number set message.

SMS Transmission Control Menu Structure			
From the Status Screen Press the menu key	⇒ Customer Settings	⇒ GSM Phone Tools	Secure Front Calls Secure Rear Calls
		LISI State Change	LISI state change messages can be manually disabled via the menu or by clearing the dial-out telephone number. The dial-out telephone is cleared on reception of a message containing the word “SILENCE”. Note clearing the dial-out telephone number does not change the menu GSM Enable/Disable setting. The dial-out telephone number is set on reception of a message containing the word “STATUS”.

28.2 GSM Related MMI Menu Options

SMS Transmission Control Menu Structure			
From the Status Screen Press the menu key	⇒ Customer Settings	⇒ GSM Phone Tools	LISI State Change Displays the current LISI state change dial-out telephone number or blank if number exists.
			Dial Out Num
			GSM Credit Screen This screen displays the remaining credit on pay as you go SIM cards. The credit is not available for standard contract SIM cards. Pay as you go SIM cards are not recommended.

28.3 GSM Aerial & SIM Cards

The GSM aerial should be mounted outside the controller cabinet. The aerial must be sited in a location where it can pick a radio signal from the relevant network provider e.g. Orange.

SMS messaging is a service provided by telephone network operators for which a charge may be incurred

29. General Specification

Number of Floors:	56
Call Collection:	Full Collective/Down Collective, APB, Non Selective Collective
Dispatcher less:	Simplex/Duplex/Triplex/Quadplex/Pentiplex/Hexiplex/Heiplexp/Octiplex
Dispatcher Types:	Ethos Advance Dispatcher EDS
Drive types:	ACVVF OL & vector, DCVV, SCR, Gearless, Hydraulic, HYV
Speed:	3.5m/s
Shaft signalling:	tape-head, BPD, GPD, VPD, LPD, LIM, VCOM
Door operator:	powered, single, double, selective, GAL(x), Nudging, zone locking, ECI, Manual, PCML

30. Feature List

car top test	secured floors	bus stop	panel test	homing
emergency recall	normal service	prepare to test	Fire Fighting EN81-72	
drive error	thermal trip	Fire Fighting EN81-73		
special service	WS95/110	Pre-flight	door disable	Lisi-self test
AutoRun	car light	car fan	secured floors	door hold
anti-nuisance	relevelling	advance door open	peak control	AutoRun
hospital service	power save			

31. Peripherals

position indicators:	standard binary/discrete parallel /grey code/Serial
speech units:	standard binary/discrete parallel /grey code/Serial
push button:	3-wire (quick close input available for compatible pushes).

32. MMI

Display:	local, character 8x23/graphical, Backlit
keypad:	Eight button, audible confirmation, help & toolbox.

33. Event Logger

Logger capacity:	500 event log records
Event codes:	1 –224
Event types:	Double sided & single sided
Event log record:	50 bytes of status information including position, direction, speed, current & previous I/O status
Event grouping:	6 preset groups plus 1 user definable group
Event Log Capture:	To disk via command port.
Logger Capacity:	A maximum of five hundred event log records can be stored in battery backed RAM.
Features:	Fault Trace, Bookmarks, Search, Event Search, Group Search, I/O Capture.

34. Monitoring

Intranet / Internet:	Requires Epack Ethernet module Remote monitoring via dial-in GSM or landline modems.

35. Ethos Hardware

35.1 Construction

A minimum Ethos system comprises of the Control Module, which includes the CPU/ memory, Motherboard I/O and LCD interface, and an associated 16Way call module to interface to car and landing calls.

Systems requiring more floors and or features can take advantage of plug in expansion modules; such as the 32way call module and 8way feature module or 16way feature module.
A maximum of five 32way call modules and five 8Way feature modules can be plugged together to form one contiguous modular Ethos system.

Connections to the motor panel, shaft wiring and some of the car wiring are achieved via two part screw-clamp type connectors on the Control Module.

Connections from the landing risers, between elevators and to the cabin car calls are also made via two part screw-clamp connectors to the 16/32Way Call Modules.

The system voltages are derived from a transformer/power supply module mounted on the motor panel and are fed via a wiring loom to the Control Module.

35.2 Overall System Description

The overall Ethos Collective Lift Control System comprises an electronic control section and a motor panel section plus shaft and car wiring.

The Ethos unit and associated modules are mounted on the Motor Panel section & the whole is contained in a single cabinet (simplex).

The overall system is built around a high speed 16bit microprocessor, which is used as the control centre for monitoring and addressing all incoming and outgoing signals.

The lift motor operation is controlled by the motor panel section, which receives signals from the Microprocessor, such as pilot up, pilot down, pilot high speed, pilot open doors and pilot close doors. The Motor Panel Section sends signals back to the Microprocessor Unit regarding which lift function it is carrying out, i.e. moving up, moving down, opening or closing doors, door zone or locks made etc.

The motor panel section also sends and receives signals from the shaft and car, these being locks and safety circuit signals from the shaft wiring, door operator, car gate and safety circuit signals from the car wiring.

Signals to and from the shaft and car are also transmitted and received by the Microprocessor Unit. These include landing calls, position indicators, position resets and fire switch etc, from the shaft wiring and car calls, position indicators, service switch attendant controls etc, from the car wiring.

High reliability, field proven industrial standard components are used throughout the system and are readily available from many sources.

The system has signal protection, where all external incoming signals are optically isolated and filtered. Motor Panel signals are at 110VAC; with the exception of landing and car push feed, which is 24V DC.

Other system voltages are also available.

The Microprocessor System regularly tests itself throughout its operation, if an error is detected the system will automatically reset itself.

35.3 Performance Characteristics Electrical

System Input voltage: 400V ac + 10% - 15% 50 HZ.
Note: other voltages available - consult factory.

Control Module	-	+10Vdc Power
	-	+24Vdc Power
	-	
(CPU Card)	-	2 X +5Vdc Power
	-	LCD Display
	-	Key Pad
(quad CAN serial card)	-	2 X +5Vdc Power
	-	2 RS232 / 485 Serial Ports through RJ45 Connectors
	-	4 CAN Isolated Networks.
(Memory Card)	-	+5Vdc Power
	-	+3V Battery Backup
16Way Call Module	-	+10Vdc Power
	-	+24Vdc Power
	-	16 Relay Contacts
	-	16 Opto-Isolated 24Vdc Inputs
32Way Call Module	-	+10Vdc Power
	-	+24Vdc Power
	-	32 Relay Contacts
	-	32 Opto-Isolated 24Vdc Inputs
	-	
8Way Feature Module-		+10Vdc Power
	-	+24Vdc Power
	-	8 110Vac Opto Inputs
	-	8 Volt Free Relay Contact Outputs
	-	Each input signal is sourced from *110Vac (and must exceed 75V dc)
	-	Single contact per relay
	-	Contact Rating 5A at 250Vac
	-	Coil Voltage 24Vdc
16Way Feature Module	-	+10Vdc Power
	-	+24Vdc Power
	-	16 Volt Free Relay Contact Outputs
	-	Contact Rating 5A at 250Vac

35.4 Performance Characteristics Environmental

Humidity Operating Range: 0 - 90% relative humidity (non-condensing)
Temperature Operating Range: 5 - 40 deg. C ambient

35.5 Module Description

35.5.1 Control Module Description

The Control Module comprises a number of printed circuit cards, all of which are mounted on the motherboard assembly. These are namely:

a) The Motherboard provides pilot relay switching to the control panel and opto-inputs for receiving information regarding control panel status, and the digital interface to expansion modules.

b) CPU Card mounted on the Motherboard; this is the heart of the controller, housing the main CPU/memory and expansion ports.

c) MMI, Man-Machine Interface, mounted on the CPU card, provides a membrane keypad and LCD with status LEDs for user access to the system.

d) Serial Card mounted on the CPU Card, populated with four RS242 serial ports and two Controller Area Network

e) quad CAN serial card mounted on the CPU Card, populated with two RS242 / 485 serial ports and four Controller Area Networks

35.5.2 16/32 Way Call Module Description

The 16 and 32Way call Modules provide an interface for the car and landing call risers, the number of modules and size depends upon the number of floors and collective system employed.
Each module consists of the following assemblies: -

a) 16/32 Way Base Board unit consists of the relay output interface and the opto-isolated 24vdc inputs.
b) Digital Card, incorporating the digital logic required to control the base boards and includes the interface to the control module and other modules.

35.5.3 8 Way Feature Module Description

The Feature Module provides an interface for expanding the feature requirements of the Ethos system.
Each module consists of the following assemblies: -

a) Feature Base Board, this unit consists of the relay output interface and the opto-isolated 24vdc inputs.
b) Feature Digital Card, incorporating the digital logic required to control the base boards and includes the interface to the control module and other modules

35.5.4 16 Way Feature Module Description

The Feature Module provides an interface for expanding the feature requirements of the Ethos system.
Each module consists of the following assemblies: -

a) Feature Base Board. This unit consists of the relay output interface.
b) Feature Digital Card, incorporating the digital logic required to control the base boards and includes the interface to the control module and other modules

35.6 Control Module Terminal Definitions

35.6.1 Control Module Power Supply Terminal Definitions

Connector Number	Signal Name	Voltage	Led Colour	Description
PL10.1	+10	8-15Vdc	Green(MMI)	Digital Supply for CPU and Serial Comms
PL10.2	+24	24Vdc	None	Pilot Relay Supply
PL10.3	OV	24V Gnd	None	Pilot Relay Return
PL10.4	OV	10V Gnd	None	Digital Supply Return
PL10.5	DE	Earth	None	Digital Earth Reference

35.6.2 Control Module Input Definitions

Connector Number	Signal Name	Voltage	Led Colour	Description
PL11.1	CN	Neutral	Amber	Common Neutral Return for AC Inputs
PL11.2	ET	PE Earth	None	Protective Earth, Must Be Connected
PL11.3	PS	110Vac	Amber	Main Supply Monitoring
PL12.1	LAR	110Vac	Amber	Lift Available (Car Top Normal Service)
PL12.2	TTR	110Vac	Amber	Test Control (Car Top Test Control)
PL12.3	NERR	110Vac	Amber	No Drive Error
PL12.4	ET	PE Earth	None	Do Not Connect
PL12.5	GL	110Vac	Amber	Gate Lock Signal
PL12.6	ET	PE Earth	None	Do Not Connect
PL12.7	CG	110Vac	Amber	Car Gate Contact
PL12.8	ET	PE Earth	None	Do Not Connect
PL12.9	MC	110Vac	Amber	Main Contactor Energised Feedback
PL12.10	DZM	110Vac	Amber	Door Zone Monitor (ADO / Relevelling)
PL12.11	DZ	110Vac	Amber	Main Door Zone
PL13.1	LU	110Vac	Amber	Levelling Up Signal
PL13.2	LD	110Vac	Amber	Levelling Down Signal
PL13.3	MUP	110Vac	Amber	Movement Up Acknowledge
PL13.4	MDN	110Vac	Amber	Movement Down Acknowledge
PL13.5	MRT	110Vac	Amber	Motor Room Thermistor
PL13.6	CFS	24Vdc	Green	Car Push Feed Sense
PL13.7	LFS	24Vdc	Green	Landing Push Feed Sense
PL13.8	CPR	CPF Gnd	None	Car Push Return
PL13.9	CPR	CPF Gnd	None	Car Push Return
PL13.10	OVR	24V Gnd	None	24V input return
PL13.11	OVR	24V Gnd	None	24V input return
PL14.1	WS110	110Vac	Amber	Weight Switch 110%
PL14.2	WS95	110Vac	Amber	Weight Switch 95%
PL14.3	DCP	110Vac	Amber	Door Close Push
PL14.4	SSR	110Vac	Amber	Special Service
PL14.5	FSR	110Vac	Amber	Fire Service
PL14.6	FAM	110Vac	Amber	Fire Alarm Recall
PL14.7	SI1	110Vac	Amber	Spare Input 1 (Assignable through software)
PL14.8	SI2	110Vac	Amber	Spare Input 2 (Assignable through software)
PL15.1	MRU	110Vac	None	Duplication of PL13.3 (MUP)
PL15.2	MRD	110Vac	None	Duplication of PL13.4 (MDN)
PL15.3	SPX	110Vac	Amber	Proximity Stepping Switch
PL15.5	BFR	110Vac	Amber	Bottom Floor Reset
PL15.5	TFR	110Vac	Amber	Top Floor Reset
PL15.6	DOP	110Vac	Amber	Front Door Open Push
PL15.7	SE	110Vac	Amber	Front Safety Edge Contact
PL15.8	DOL	110Vac	Amber	Front Door Open Limit
PL15.9	DCL	110Vac	Amber	Front Door Close Limit
PL15.10	ALM1	6-24Vdc	Green	Alarm Signal Feed (+ve or –ve)
PL15.11	ALM2	6-24Vdc	Green	Alarm Signal Return (-ve or +ve)

35.6.3 Control Module Output Definitions

Connector Number	Signal Name	Max Voltage	Led Colour	Description
PL1.1	PUR1	110Vac	Red	Pilot Up Relay Volt Free Contacts
PL1.2	PUR2			
PL1.3	PDR1	110Vac	Red	Pilot Down Relay Volt Free Contacts
PL1.4	PDR2			
PL1.5	HSR1	110Vac	Red	Vec-Pilot High Speed Volt Free Contacts
PL1.6	HSR2			Hyd-Pilot Up High Volt Free Contacts
PL1.7	LSR1	110Vac	Red	Vec-Pilot Low Speed Volt Free Contacts
PL1.8	LSR2			Hyd-Pilot Up Low Speed Volt Free Contacts
PL2.1	DRO1	110Vac	Red	Vec-Drive Enable Volt Free Contacts
PL2.2	DRO2			Hyd-Pilot Down High Speed Volt Free Contacts
PL2.3	BRO1	110Vac	Red	Vec-Brake Release Volt Free Contacts
PL2.4	BRO2			Hyd-Pilot Down Low Speed Volt Free Contacts
PL2.5	SAF1	110Vac	Red	Safety Relay (DJR+LSTLR) Volt Free Contacts
PL2.6	SAF2			
PL2.7	ARO1	110Vac	Red	Approach/Re-Levelling Volt Free Contacts
PL2.8	ARO2			
PL3.1	DOR1	110Vac	Red	Front Door Open Volt Free Contacts
PL3.2	DOR2			
PL3.3	DCR1	110Vac	Red	Front Door Close Volt Free Contacts
PL3.4	DCR2			
PL3.5	NUG1	110Vac	Red	Front Door Nudging Volt Free Contacts
PL3.6	NUG2			
PL3.7	ZLR1	110Vac	Red	Front Zone Locking Volt Free Contacts
PL3.8	ZLR2			
PL4.1	MSR1	110Vac	Red	Vec-Medium Speed Run Volt Free Contacts
PL4.2	MSR2			Hyd-Maintenance Output
PL4.3	SO1A	110Vac	Red	Spare Output 1 Volt Free Contacts
PL4.4	SO1B			
PL4.5	SO2A	110Vac	Red	Spare Output 2 Volt Free Contacts
PL4.6	SO2B			
PL4.7	SO3A	110Vac	Red	Spare Output 3 Volt Free Contacts
PL4.8	SO3B			
PL5.1	SO4	24Vdc	Red	Spare Output 4 (SOC Common)
PL5.2	SO5	24Vdc	Red	Spare Output 4 (SOC Common)
PL5.3	SO6	24Vdc	Red	Spare Output 4 (SOC Common)
PL5.4	SO7	24Vdc	Red	Spare Output 4 (SOC Common)
PL5.5	SO8	24Vdc	Red	Spare Output 4 (SOC Common)
PL5.6	SO9	24Vdc	Red	Spare Output 4 (SOC Common)
PL5.7	SO10	24Vdc	Red	Spare Output 4 (SOC Common)
PL5.8	SO11	24Vdc	Red	Spare Output 4 (SOC Common)
PL5.9	SOC	24V Return	None	Spare Outputs 4-11 Relay Common

Vec-applicable to vector drives
Hyd-applicable to hydraulic drives

35.7 Visual Indicators

There are a number of visual indicators used on the Ethos Control Module to give the status of all inputs and outputs, and indication of key functions of the system to aid trouble shooting. A brief description of the indicators on the system is given below.

35.8 Control Module MMI LED's

Name	Colour	Description
Loop	Green	Flashes to indicate that the microprocessor is running through the main program.
Message	Green	Flashes to indicate that a text message has been sent/received.
+5V	Green	Constant illumination to indicate a constant Digital Supply of +5Vdc and +10Vdc from the main CPU
Door disable	Red	Indicates that the doors are disabled.
Prepare to test	Red	Indicates that Prepare to Test is Active
Toolbox	Red	Flashes when a toolbox feature is active or when a manually re-settable fault needs clearing

35.9 Quad CAN serial card (Optional)

a) D1=D2 Red LEDs - Indicate that RS232 Serial Channels 1=2 are transmitting
b) D6= Red LED - Indicates that the 5Vdc Communications power is present

35.10 16Way Call Module

- 16 Green LED's C1-C16 - Indicates that a call input is present
- 16 Red LED's C1-C16 - Indicates that a call output is active
- Single Green LED - Indicates that a 5Vdc power is present

35.11 32Way Call Module

- 32 Green LED's C1-C32 - Indicates that a call input is present
- 32 Red LED's C1-C32 - Indicates that a call output is active
- Single Green LED - Indicates that a 5Vdc power is present

35.12 8Way Feature Module

- 8 Amber LED's FI1-8 - Indicates that a feature input is present
- 8 Red LED's FO1-8 - Indicates that a feature output is active
- Single Green LED - Indicates that a 5Vdc power is present

35.13 16Way Feature Module

- 16 Red LED's FO1-16 - Indicates that a feature output is active
- Single Green LED - Indicates that a 5Vdc power is present

35.14 Audible Indicators.

Ethos has been fitted with a peizo electronic sounder, which is capable of playing a multitude of tones, beeps and clicks etc. This sounder will give different feedback depending on how you access the MMI, short beeps will announce a key stroke, whilst longer beeps will report new events, out of range limits exceeded, invalid key presses etc.

35.15 Call Designations

Ethos is equipped with 5 call module allocations; each allocation can be fitted with either a 16way or 32way call module depending upon the number of floors and collective system required.
A minimal system of 6 floors full collective will start with the first allocation being occupied by a 16way call module, a 32way call module will replace the first 16way call module as the number of floors exceed the I/O requirement of the 16way module and so on. An example follows:-

35.16 Call Module Assignments

Full Collective	Down Collective /APB	Group	Type Of Call Module	Allocation Slots
Floors	Floors	Floors		
6	8	16	16Way Call Module	Allocation Slot 1
11	16	32	32Way Call Module	Allocation Slot 1
16	24	48	32Way Call Module	Allocation Slot 1
			16Way Call Module	Allocation Slot 2
22	32	64	32Way Call Module	Allocation Slot 1
			32Way Call Module	Allocation Slot 2
27	40	80	32Way Call Module	Allocation Slot 1
			32Way Call Module	Allocation Slot 2
			16Way Call Module	Allocation Slot 3
32	48	96	32Way Call Module	Allocation Slot 1
			32Way Call Module	Allocation Slot 2
			32Way Call Module	Allocation Slot 3
38	56	112	32Way Call Module	Allocation Slot 1
			32Way Call Module	Allocation Slot 2
			32Way Call Module	Allocation Slot 3
			16Way Call Module	Allocation Slot 4
43	64	128	32Way Call Module	Allocation Slot 1
			32Way Call Module	Allocation Slot 2
			32Way Call Module	Allocation Slot 3
			32Way Call Module	Allocation Slot 4
48	72	144	32Way Call Module	Allocation Slot 1
			32Way Call Module	Allocation Slot 2
			32Way Call Module	Allocation Slot 3
			32Way Call Module	Allocation Slot 4
			16Way Call Module	Allocation Slot 5
54	80	160	32Way Call Module	Allocation Slot 1
			32Way Call Module	Allocation Slot 2
			32Way Call Module	Allocation Slot 3
			32Way Call Module	Allocation Slot 4
			32Way Call Module	Allocation Slot 5
Note: Allocation Slots Start from Left to Right.				

Key To References

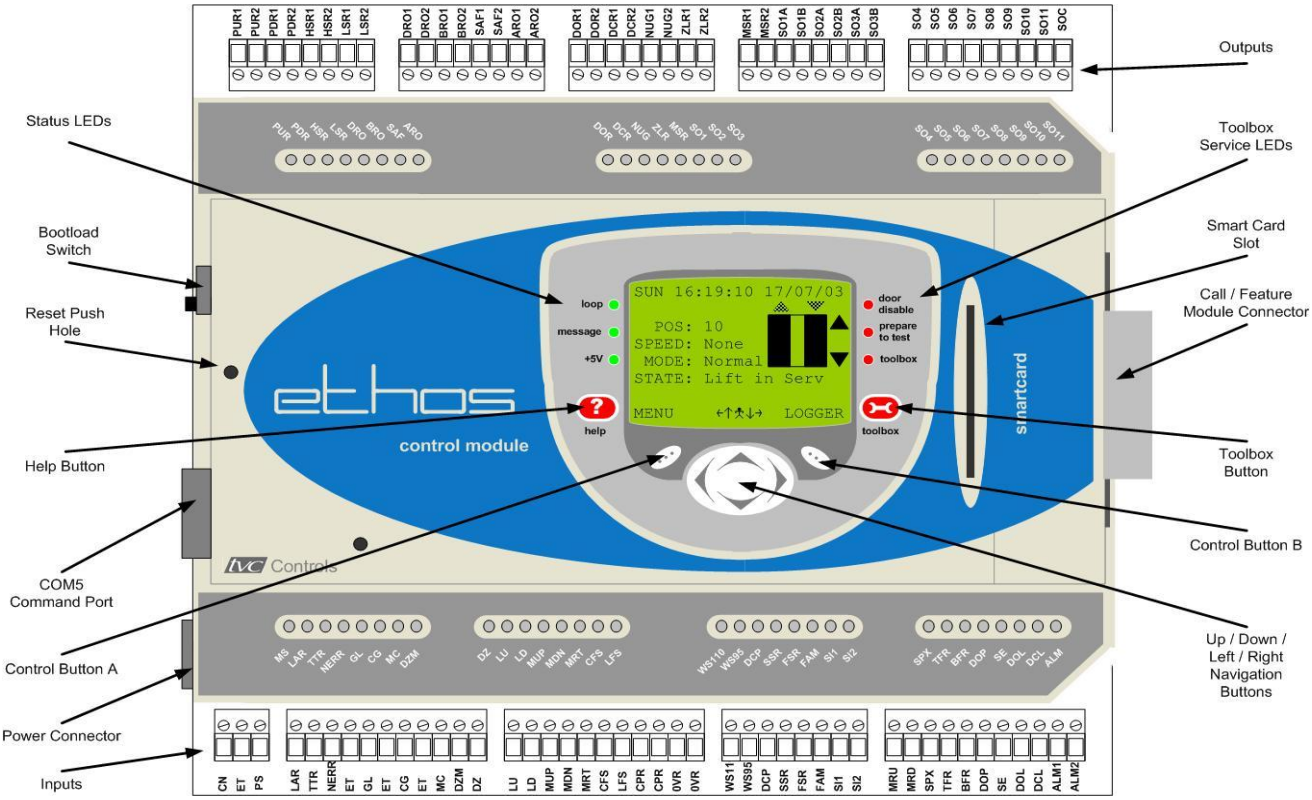
N	=	Floor Level (Not Floor Name)
C P N	=	Car Call Push
C I N	=	Car Call Indicator and APB Landing Call Indicators
L N U	=	Landing Call Up Push
I N U	=	Landing Call Up Indicator
L N D	=	Landing Call Down Push
I N D	=	Landing Call Down Indicator
L P N	=	Landing Call Push APB/Non Directional
L I N	=	Landing Call Indicator Non Directional

35.17 First and Second Call Module Call Designations

	Input Terminals	Full Collective	Down Collective/APB	Group	Output Terminals	Full Collective	Down Collective/APB	Group
First 16Way Call Module	C1	CP1	CP1	CP1	C1	CI1	CI1	CI1
	C2	L1U	L1U/LP1	CP2	C2	I1U	I1U	CI2
	C3	CP2	CP2	CP3	C3	CI2	CI2	CI3
	C4	L2D	L2D/LP2	CP4	C4	I2D	I2D	CI4
	C5	L2U	CP3	CP5	C5	I2U	CI3	CI5
	C6	CP3	L3D/LP3	CP6	C6	CI3	I3D	CI6
	C7	L3D	CP4	CP7	C7	I3D	CI4	CI7
	C8	L3U	L4D/LP4	CP8	C8	I3U	I4D	CI8
	C9	CP4	CP5	CP9	C9	CI4	CI5	CI9
	C10	L4D	L5D/LP5	CP10	C10	I4D	I5D	CI10
	C11	L4U	CP6	CP11	C11	I4U	CI6	CI11
	C12	CP5	L6D/LP6	CP12	C12	CI5	I6D	CI12
	C13	L5D	CP7	CP13	C13	I5D	CI7	CI13
	C14	L5U	L7D/LP7	CP14	C14	I5U	I7D	CI14
	C15	CP6	CP8	CP15	C15	CI6	CI8	CI15
	C16	L6D	L8D/LP8	CP16	C16	I6D	I8D	CI16
First 32Way Call Module	C17	L6U	CP9	CP17	C17	I6U	CI9	CI17
	C18	CP7	L9D/LP9	CP18	C18	CI7	I9D	CI18
	C19	L7D	CP10	CP19	C19	I7D	CI10	CI19
	C20	L7U	L10D/LP10	CP20	C20	I7U	I10D	CI20
	C21	CP8	CP11	CP21	C21	CI8	CI11	CI21
	C22	L8D	L11D/LP11	CP22	C22	I8D	I11D	CI22
	C23	L8U	CP12	CP23	C23	I8U	CI12	CI23
	C24	CP9	L12D/LP12	CP24	C24	CI9	I12D	CI24
	C25	L9D	CP13	CP25	C25	I9D	CI13	CI25
	C26	L9U	L13D/LP13	CP26	C26	I9U	I13D	CI26
	C27	CP10	CP14	CP27	C27	CI10	CI14	CI27
	C28	L10D	L14D/LP14	CP28	C28	I10D	I14D	CI28
	C29	L10U	CP15	CP29	C29	I10U	CI15	CI29
	C30	CP11	L15D/LP15	CP30	C30	CI11	I15D	CI30
	C31	L11D	CP16	CP31	C31	I11D	CI16	CI31
	C32	L11U	L16D/LP16	CP32	C32	I11U	I16D	CI32

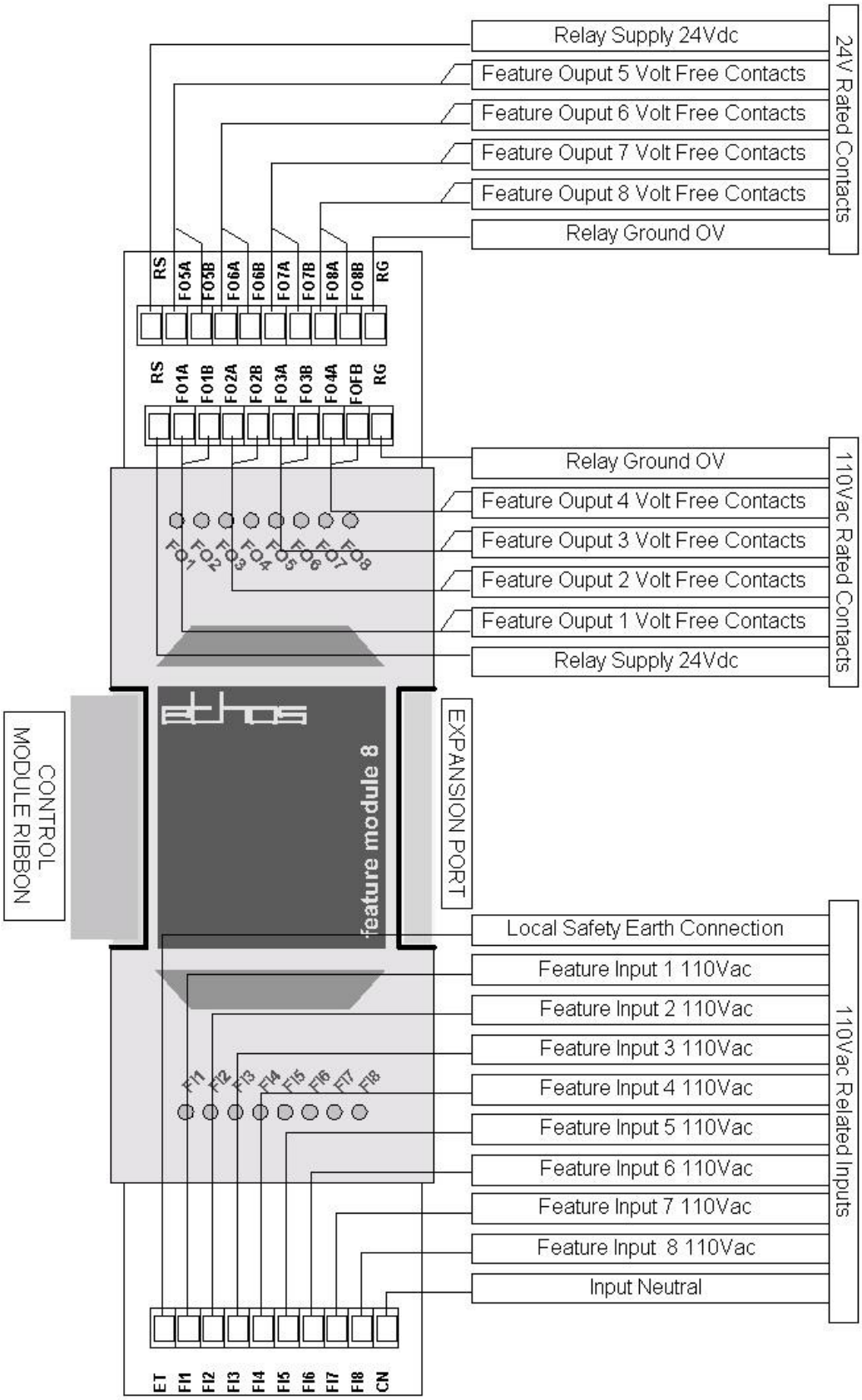
Further calls will be placed on further call modules. Refer to your control panel drawing for exact connections

35.18 Ethos Control Module Layout Details

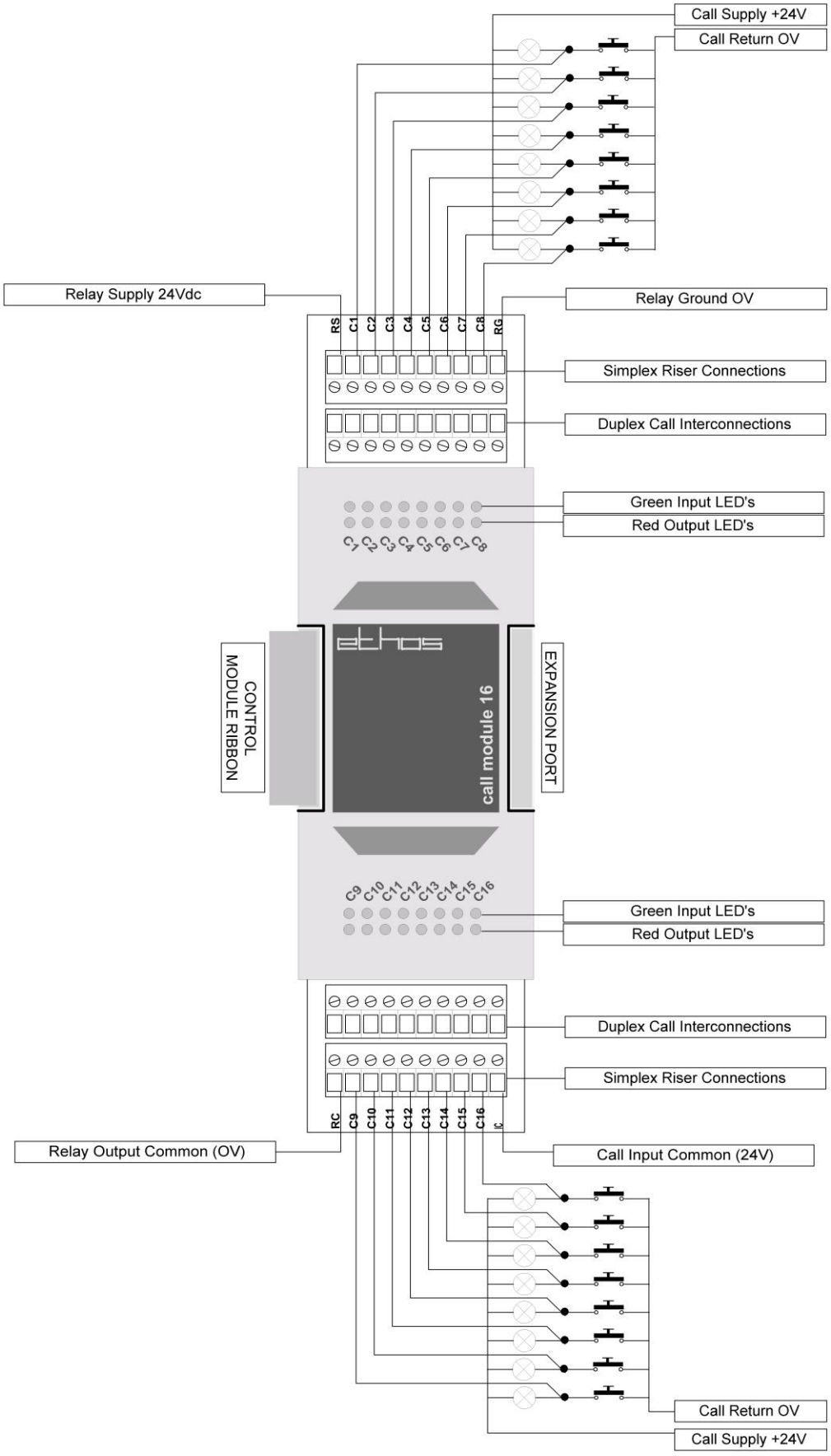


Refer to control panel drawings for connection details to the Ethos motherboard.

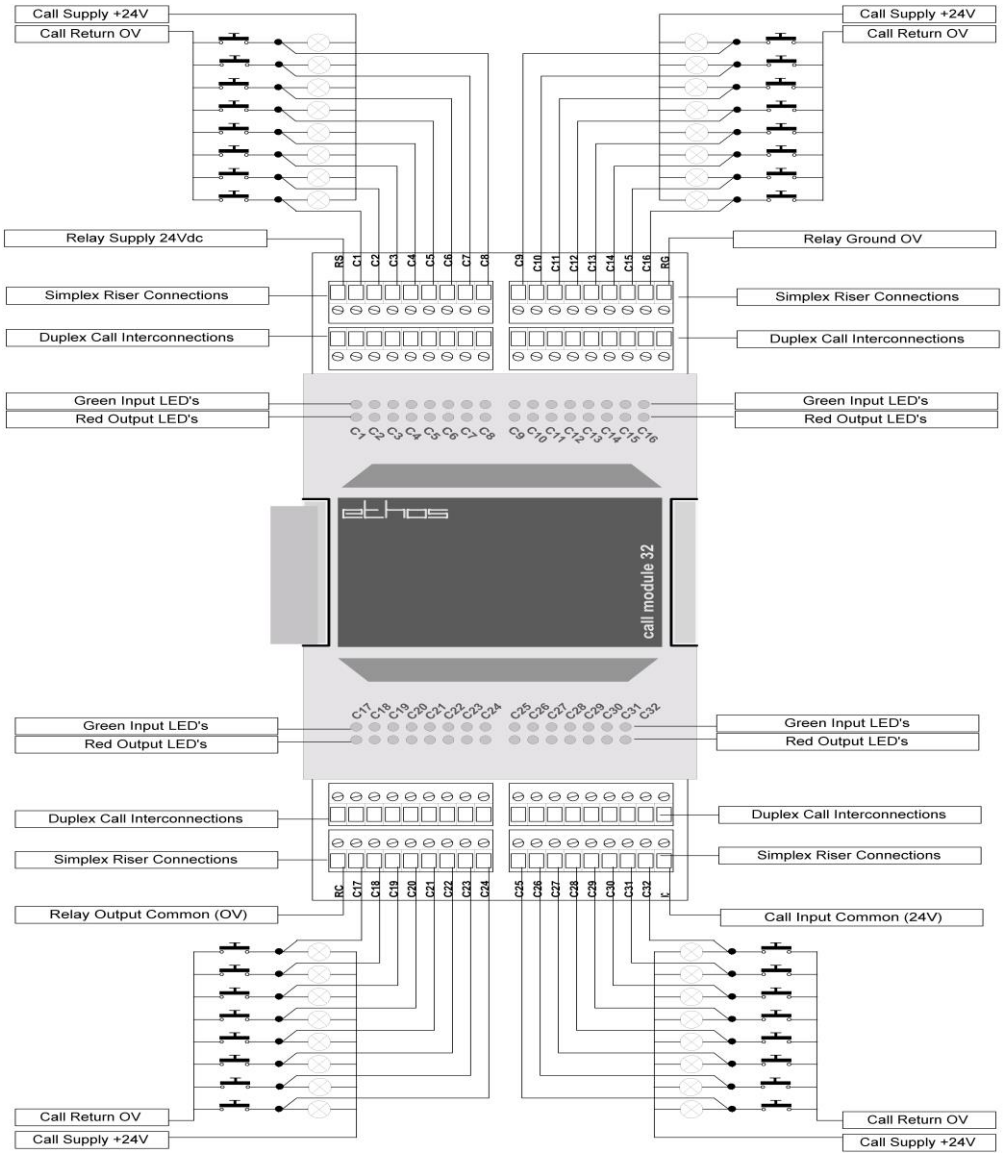
35.19 8Way Feature Module Layout & Connection Details



35.20 16Way Call Module Layout & Connection Details



35.21 32Way Call Module Layout & Connection Details



36. Ethos Bootstrap Loader Switch

The Ethos platform has several built in software tools, which functionally test the memory areas of the CPU board during power on initialise or system reset. The extent to which these memory areas are tested depends upon the bootstrap-loader (SW5) switch positions.
SW5 can be located at the top left hand edge of the CPU card.

Explanation of SW5 positions are as follows: -

SW5 Position	Position Name		Description
Top	Bootstrap Mode	1	Ready to Download new application program through Serial Port 5 (SK1) (See "Downloading New Application Code"
Middle	Debug Mode	1	Event "Watchdog Disabled" Recorded
		2	Full SRAM Verification Test after reset or power initialise.
		3	Event "SRAM Test Failure" may be recorded if found defective
		4	Checksum Calculated on Flash Memory after reset or power initialise
Bottom	Run Mode Default!	1	Position for running elevator application code, normal operating position.
		2	Physical SRAM test (Short Type)
		3	Event "SRAM Test Failure" may be recorded if found defective
		4	Event "Watchdog Enabled" recorded after reset or change on position of switch

37. Ethos Logical Signal Descriptions.

The tables below indicate the “logical” inputs and outputs of a fully expanded Ethos system.

Logical Input Descriptions.

Input	Description	Input	Description
AD2	Level 2 down call accepted other system	DZ	Door Zone
AD3	Level 3 down call accepted other system	DZM	DZ Check Circuit
AD4	Level 4 down call accepted other system	EMR1	Emergency Recall 1
AD5	Level 5 down call accepted other system	EMR2	Emergency Recall 2
AD6	Level 6 down call accepted other system	EMR3	Emergency Recall 3
AD7	Level 7 down call accepted other system	EMSM	ECO Mode Supply Monitor
AD8	Level 8 down call accepted other system	ERET	Emergency Return
AD9	Level 9 down call accepted other system	ESGI	Emergency Supply Group Input
AD10	Level 10 down call accepted other system	ESUP	Emergency Supply
AD11	Level 11 down call accepted other system	FAM	Fire Alarm Recall
AD12	Level 12 down call accepted other system	FCS	Fire Car Switch
AD13	Level 13 down call accepted other system	FDC	Fire Duty Car
AD14	Level 14 down call accepted other system	GDI	Glass Door Architrave
AD15	Level 15 down call accepted other system	GL	Landing Gate Locks
AD16	Level 16 down call accepted other system	HW	Integral Handwind Input
AD17	Level 17 down call accepted other system	LAR	Lift Available Normal
AD18	Level 18 down call accepted other system	LD	Down Leveller
AD19	Level 19 down call accepted other system	LFS	Landing Call Feed
AD20	Level 20 down call accepted other system	LGC	Landing gate contact (GL Monitor Express)
AD21	Level 21 down call accepted other system	LISL	Lift Isolation
AD22	Level 22 down call accepted other system	LRET	Lobby Return
AD23	Level 23 down call accepted other system	LTD	Limited Service
AD24	Level 24 down call accepted other system	LU	Up Leveller
AD25	Level 25 down call accepted other system	MC	Main Contactor
AFS	Main Floor Smoke	MDN	Down Feedback
ALM	Alarm Monitor	MILK	Milkman’s Service Input
AP1	Absolute Position 01	MLA	Lift Alert Monitor (UMD)
AP2	Absolute Position 02	MRT	Thermistor
AP4	Absolute Position 04	MUP	Up Feedback
AP8	Absolute Position 08	NERR	Drive No Error
AP16	Absolute Position 16	OBP1	Other system binary input 1 –ECAS1
AP32	Absolute Position 32	OBP2	Other system binary input 2 -ECAS1
APP	Absolute Position Parity	OBP3	Other system binary input 4 –ECAS1
APX	Advance Stepper Pulse	OBP4	Other system binary input 8 -ECAS1
AU1	Level 1 up call accepted other system	OBP5	Other system binary input 16 -ECAS1
AU2	Level 2 up call accepted other system	OBP6	Other system binary input 32 -ECAS1
AU3	Level 3 up call accepted other system	OIDN	Other system, Lift moving down –ECAS1
AU4	Level 4 up call accepted other system	OIUP	Other system, Lift moving up input -ECAS1
AU5	Level 5 up call accepted other system	OLIS	Other system, Lift in service input -ECAS1
AU6	Level 6 up call accepted other system	OST	Other system, Lift slowing input-ECAS1
AU7	Level 7 up call accepted other system	PRET	Porters Return
AU8	Level 8 up call accepted other system	PRI	Priority
AU9	Level 9 up call accepted other system	PTR	Panel Test Relay
AU10	Level 10 up call accepted other system	RBM	Rope Brake Monitor
AU11	Level 11 up call accepted other system	RDCL	Rear Close Limit
AU12	Level 12 up call accepted other system	RDCP	Rear Close Push
AU13	Level 13 up call accepted other system	RDHP	Rear Door Hold Push
AU14	Level 14 up call accepted other system	RDOL	Rear Open Limit
AU15	Level 15 up call accepted other system	RDOP	Rear Open Push
AU16	Level 16 up call accepted other system	RDZ	Door Zone Rear
AU17	Level 17 up call accepted other system	RES	Reset
AU18	Level 18 up call accepted other system	RGDI	Rear Glass Door Architrave
AU19	Level 19 up call accepted other system	RSE	Rear Safe Edge
AU20	Level 20 up call accepted other system	SE	Safety Edge
AU21	Level 21 up call accepted other system	SGM	Safety Gear Monitor
AU22	Level 22 up call accepted other system	SPX	Stepping Pulse
AU23	Level 23 up call accepted other system	SSR	Special Service
AU24	Level 24 up call accepted other system	TFC	Top Floor Call
BFC	Bottom Floor Call	TFL	Top Final Limit
BKR	Brake Contactor Feedback	TFR	Top Floor Reset
BLC	Brake Lift Confirm	TMON	Transformer Monitor
BLC2	Brake Lift Confirm Second Input	TTR	Test Control
CFS	Car Call Feed	TUL	Test Up Limit Switch
CG	Car Gate Locks	UDI	Urine Detection Input
CONC	Contactor Check	UDR	Up/Down Request Confirmation for OSG
CPR	Car Push Feed	UPK	Up Peak
DAC	Doors Almost Closed	UPS	UPS Evacuation Mode Input
DCL	Door Close Limit	USL	Up Slowing Limit

Input Descriptions (Continued)			
Input	Description	Input	Description
DCP	Door Close Push	VC1	Valve Confirmation Energise 1
DHP	Door Hold Push	VC2	Valve Confirmation Energise 2
DOL	Door Open Limit	WS110	110% weight switch
DOP	Door Open Push	WS95	95% weight switch
DOPD	Door Open Push Duplicate		
DPK	Down Peak		
DSL	Down Slowing Limit		

Output Descriptions.

Output	Description	Output	Description
AALM	Automatic Alarm	HU13	Hall Lantern Up 13
AGR	Arrival Gong	HU14	Hall Lantern Up 14
ALI	Alarm Stay Calm	HU15	Hall Lantern Up 15
ALMF	Alarm Filtering Output	HU16	Hall Lantern Up 16
ARO	Advanced Relevel Output	HU17	Hall Lantern Up 17
BI1	Binary Position Indicator 01	HU18	Hall Lantern Up 18
BI2	Binary Position Indicator 02	HU19	Hall Lantern Up 19
BI3	Binary Position Indicator 03	HU20	Hall Lantern Up 20
BI4	Binary Position Indicator 04	HU21	Hall Lantern Up 21
BI5	Binary Position Indicator 05	HU22	Hall Lantern Up 22
BI6	Binary Position Indicator 06	ID	Indicator Up
BPI	Bypass Indicator	IU	Indicator Down
BRO	Brake Enable / Low Speed Down	KWCT	K-Weigh Count
CCR	Car Call Required	KWRS	K-Weigh Calibrate
CFAN	Cabinet Fan	L1U	Level 1 up call output to other system
CGD	Down Direction	L2D	Level 2 down call output to other system
CGD1	Down Direction 1 (Duplicate CGD)	L2U	Level 2 up call output to other system
CGU	Up Direction	L3D	Level 3 down call output to other system
CGU1	Up Direction 1 (Duplicate CGU)	L3U	Level 3 up call output to other system
CGUD	Up / Down Direction	L4D	Level 4 down call output to other system
CLT	Car Light	L4U	Level 4 up call output to other system
DARO	Duplicate ARO output	L5D	Level 5 down call output to other system
DCI	Doors Closing Indicator	L5U	Level 5 up call output to other system
DCPI	Door Close Push Indicator	L6D	Level 6 down call output to other system
DCR	Door Close Relay	L6U	Level 6 up call output to other system
DCRD	Doors Closing Relay Duplicate	L7D	Level 7 down call output to other system
DCWB	Door Close Warn Buzzer	L7U	Level 7 up call output to other system
DDO	Door Disable Output	L8D	Level 8 down call output to other system
DEO	Drive Enable / High Speed Down	L8U	Level 8 up call output to other system
DHI	Door Hold Indicator	L9D	Level 9 down call output to other system
DI1	Discrete Position Indicator 01	L9U	Level 9 up call output to other system
DI2	Discrete Position Indicator 02	L10D	Level 10 down call output other system
DI3	Discrete Position Indicator 03	L10U	Level 10 up call output to other system
DI4	Discrete Position Indicator 04	L11D	Level 11 down call output other system
DI5	Discrete Position Indicator 05	L11U	Level 11 up call output to other system
DI6	Discrete Position Indicator 06	L12D	Level 12 down call output other system
DI7	Discrete Position Indicator 07	L12U	Level 12 up call output to other system
DI8	Discrete Position Indicator 08	L13D	Level 13 down call output other system
DI9	Discrete Position Indicator 09	L13U	Level 13 up call output to other system
DI10	Discrete Position Indicator 10	L14D	Level 14 down call output other system
DI11	Discrete Position Indicator 11	L14U	Level 14 up call output to other system
DI12	Discrete Position Indicator 12	L15D	Level 15 down call output other system
DI13	Discrete Position Indicator 13	L15U	Level 15 up call output to other system
DI14	Discrete Position Indicator 14	L16D	Level 16 down call output other system
DI15	Discrete Pos. Ind. 15	L16U	Level 16 up call output to other system
DI16	Discrete Pos. Ind. 16	L17D	Level 17 down call output other system
DI17	Discrete Pos. Ind. 17	L17U	Level 17 up call output to other system
DI18	Discrete Pos. Ind. 18	L18D	Level 18 down call output other system
DI19	Discrete Pos. Ind. 19	L18U	Level 18 up call output to other system
DI20	Discrete Position Indicator 20	L19D	Level 19 down call output other system
DI21	Discrete Position Indicator 21	L19U	Level 19 up call output to other system
DI22	Discrete Position Indicator 22	L20D	Level 20 down call output other system
DI23	Discrete Position Indicator 23	L20U	Level 20 up call output to other system
DI24	Discrete Position Indicator 24	L21D	Level 21 down call output other system
DI25	Discrete Position Indicator 25	L21U	Level 21 up call output to other system
DI26	Discrete Position Indicator 26	L22D	Level 22 down call output other system

Output Descriptions (Continued)

Output	Description	Output	Description
DOI	Door Opening Indicator	L22U	Level 22 up call output to other system
DOPI	Door Open Push Indicator	L23D	Level 23 down call output other system
DORD	Doors Opening Relay Duplicate	L23U	Level 23 up call output to other system
DRR	Drive Reset (DCSCR)	L24D	Level 24 down call output other system
DZC	Calculated Door zone for EVPD	L24U	Level 24 up call output to other system
EDEC	Emergency deceleration	L25D	Level 25 down call output other system
EJO	End Of Journey Output	LFF	Lift at fire floor
EMRA	Emergency Recall Indicator 1	LISI	Lift in Service Indicator
EMRB	Emergency Recall Indicator 2	LISO	Lift in Service Output
EMRC	Emergency Recall Indicator 3	LIUI	APB Lift In Use Indicator
EMRI	Emergency Recall Indicator	LMD	Lift Moving Down Output
ESI	Emergency Supply	LMU	Lift Moving Up Output
ESO	Emergency Supply Output (delay off)	LMU	Lift Moving Up Output
FCI	Fire Indicator	LRO	Lobby Return Output
FFR	Force Field (DCSCR)	LSR	Low Speed Relay
FI1	Floor 1 Isolated Indicator	MDO	Moving Down (fly-by wire)
FI2	Floor 2 Isolated Indicator	MSR	Medium Speed Relay
FI3	Floor 3 Isolated Indicator	MUO	Moving Up (fly-by wire)
FI4	Floor 4 Isolated Indicator	NGI	Nudge Indicator
FI5	Floor 5 Isolated Indicator	NUG	Nudge Relay
FP1	Fire Phase One	OLI	Overload Indicator
FP1T	Fire Phase One on Test Control Buzzer	OSGP	OSG Output Control Pulse
FPB	Floor Passing Buzzer	PDR	Down Pilot
FRI	Fire Recall Indicator	PDRD	Duplicate Down Pilot
GOWB	Gate Open Warn Buzzer	PI1	Indicator Position 01 / Binary Indicator 1
HD2	Hall Lantern Down 2	PI2	Indicator Position 02 / Binary Indicator 2
HD3	Hall Lantern Down 3	PI3	Indicator Position 03 / Binary Indicator 4
HD4	Hall Lantern Down 4	PI4	Indicator Position 04 / Binary Indicator 8
HD5	Hall Lantern Down 5	PI5	Indicator Position 05 / Binary 16
HD6	Hall Lantern Down 6	PI6	Indicator Position 06 / Binary 32
HD7	Hall Lantern Down 7	PMD	Pump Motor Delay
HD8	Hall Lantern Down 8	PS1	Power Save / Eco Mode Stage 1
HD9	Hall Lantern Down 9	PS2	Power Save / Eco Mode Stage 2
HD10	Hall Lantern Down 10	PUR	Up Pilot
HD11	Hall Lantern Down 11	PURD	Duplicate Up Pilot
HD12	Hall Lantern Down 12	RAGR	Rear Gong
HD13	Hall Lantern Down 13	RCO	REVCON On Output
HD14	Hall Lantern Down 14	RCOF	REVCON Off Output
HD15	Hall Lantern Down 15	RDCD	Rear Doors Closing Duplicate
HD16	Hall Lantern Down 16	RDCP	Rear Door Close Push Ind.
HD17	Hall Lantern Down 17	RDCR	Rear Door Close
HD18	Hall Lantern Down 18	RDCW	Rear Door Close Warning Buzzer
HD19	Hall Lantern Down 19	RDOD	Rear Doors Opening Duplicate
HD20	Hall Lantern Down 20	RDOR	Rear Door Open
HD21	Hall Lantern Down 21	RDUN	Run Done
HD22	Hall Lantern Down 22	RHLD	Rear Hall Lantern Down
HD23	Hall Lantern Down 23	RHLU	Rear Hall Lantern Up
HDDI	Heavy Down Indicator	RLR	Re-level Output (SCR)
HLD	Hall Lantern Down	RNGI	Rear Nudging Ind.
HLU	Hall Lantern Up	RNUG	Rear Door Nudging
HSH	Speech Hush	ROPI	Rear Open Push Ind.
HSI	Hospital Service Indicator	RTM	Return to main floor
HSR	High Speed Relay	RZLR	Rear Zone Locking
HU1	Hall Lantern Up 1	SAF	Safety Relay
HU2	Hall Lantern Up 2	SCI	Scroll Trigger
HU3	Hall Lantern Up 3	SPT	Speech trigger
HU4	Hall Lantern Up 4	SSI	Special Service Ind.
HU5	Hall Lantern Up 5	SSID	Special Service Indicator Duplicate
HU6	Hall Lantern Up 6	TCNI	This Car Next Ind.
HU7	Hall Lantern Up 7	TTI	Maintenance Control Ind.
HU8	Hall Lantern Up 8	TTID	Maintenance Control Ind. Duplicate
HU9	Hall Lantern Up 9	UPS	UPS Battery Indicator
HU10	Hall Lantern Up 10	URO	Urine Detection
HU11	Hall Lantern Up 11	VR1	Valve Release Output 1
HU12	Hall Lantern Up 12	VR2	Valve Release Output 2
		ZLR	Zone Locking

38. Adjusting the LCD Digital Contrast

At times of extreme heat, the LCD display may darken or lighten automatically; to compensate for this the LCD contrast may require adjusting, follow the procedure below to lighten or darken the contrast.

From the STATUS SCREEN

Press the **Left** Arrow key to darken the LCD contrast

Press the **Right** Arrow key to lighten the LCD Contrast

Note: No other MMI screen will allow LCD contrast control.

39. Ethos Cover Removal

Follow the procedure below to remove the Ethos ABS plastic cover.

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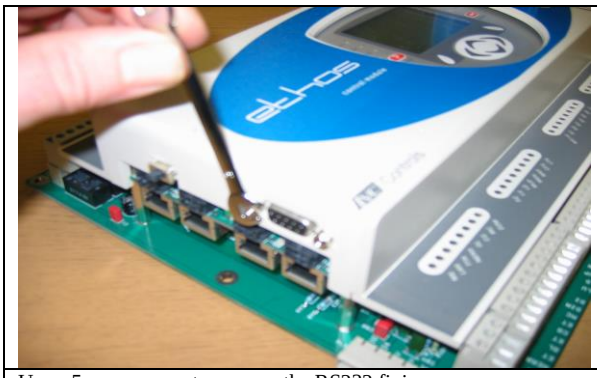
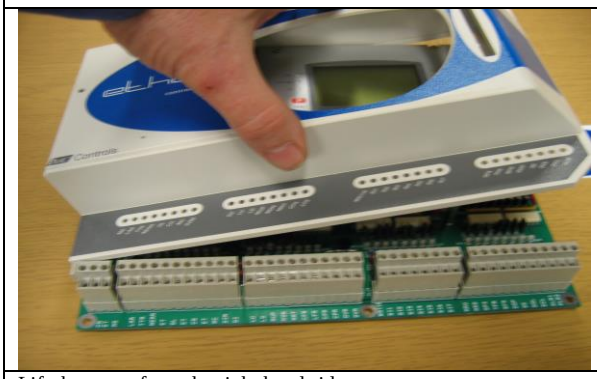
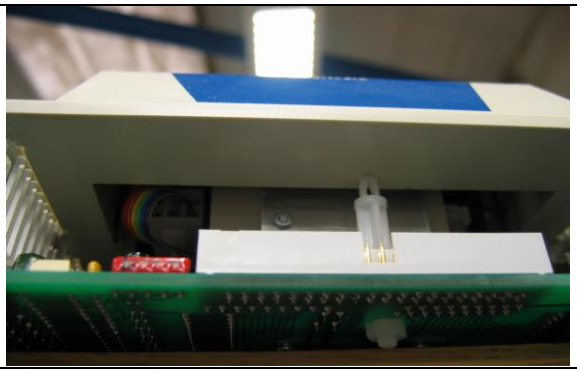
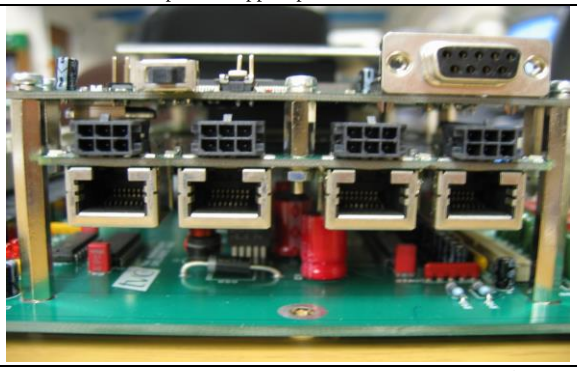
<tr><td>  </td><td> </td></tr>
<tr><td>Use a 5mm spanner to remove the RS232 fixings</td><td>Remove both sides and save the fixings for re-fitting.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Lift the cover from the right hand side</td><td>Lift cover clear of plastic support pillar</td></tr>
<tr><td> </td><td>  </td></tr>
<tr><td>The cover is easily scratched, store in a safe place while removed.</td><td>Picture showing the RJ45 RS232 connectors (bottom) and four CAN connectors (top) with the RS232 9way “D” type on top.</td></tr>
</table>