LT0312

FP1600 / OMEGA 64
INSTALLATION AND CONFIGURATION MANUAL

Site Name: _____

This manual should be left in the panel

- WARNINGS -

NZS4512 and the NZ Building Code contain important requirements for the installation, commissioning, and testing of fire alarm systems. You must comply with the requirements of these documents, and any other statutory or regulatory requirements, in addition to the information contained in these instructions.

- MAINS SUPPLY -

The mains supply to this FP1600 must be from a separate, suitably-rated circuit breaker that is unique to this Fire Alarm System and connected as per AS/NZS 3000 wiring rules.

The FP1600 and OMEGA 64 Fire Alarm Systems contain Static sensitive components. Always observe appropriate ESD precautions when handling any Printed Circuit Boards.

The heatsink of the Battery Charger Regulator (U11) can get very hot when under high load or charging a flat battery.

- DISCLAIMER -

This product provides a configuration facility via the Programming Menu. This facility allows the user to define in detail the operation of the system, and changes may be made which prevent the system from meeting statutory or other requirements.

The manufacturer and supplier cannot accept any responsibility as to the suitability of the functions generated by the user using the programming facility.

tyco
Fire Protection Products

FP1600
Fire Alarm System

OMEGA 64
Fire Alarm System

OPERATING INSTRUCTIONS

FP1600 / OMEGA 64 is a 16 zone self-contained conventional fire alarm system expandable in multiples of 16 zones to maximum of 96 zones. It has been designed specifically to meet NZS 4512:2003, the New Zealand Building Code (Section F7), and the NZ Fire Service requirements for connection to remote receiving stations.

Special features are:
* Flexible programming facilities
* Keypad circuit isolation
* Serial Remote Displays (up to 8)
* Multiple zone circuit types
* Automated Self-Test
* History log

Software Compatibility – These instructions apply to FP1600 systems with software (SF0302) Version 5.00 and later.

Detector Compatibility – Refer to listings published elsewhere for detector compatibility.

System Restoration Following Alarm – Zone(s) in alarm will be isolated as required by NZS4512:2003 when the Fire Brigade restores the Silence Alarms Keyswitch (see Silence Alarms Switch, page 3). This will generate a defect condititon. To restore the system to normal, the system will need to be isolated from the remote receiving centre and alerting devices etc. The operated circuits can then be checked and physically restored if necessary, individually deisolated as indicated on page 9, and then reset in the usual way.

Zone Circuits - The zone input circuits can be configured individually as one of the following types: (All circuit types use a 2k70, 1% End of Line Resistor.)

Legacy and New Circuit Types

The system software (V5.00 and later) supports four new circuit types (compliant with NZS4512:2003) and six 'legacy' circuits types (compliant with NZS4512:1997). Access to the legacy circuit types must be enabled by accessing and setting the Legacy Flag in the System Configuration Options (detailed below).

Disabled - Shuts down a circuit to save current. Fitting an EOL resistor is optional.

Circuit types compliant with NZS4512:2003

Detector - Open circuit is defect. Short circuit is defect. Allows connection of conventional 2-wire smoke detectors, indicating heat detectors and indicating MCPs. Smoke detectors have AVF gating - indicating heat/MCP devices do not.

Residential - Open circuit is defect. Short circuit is defect. A residential circuit will latch a smoke activation in alarm for a global programmable period (0-250 seconds, default 30 seconds, 0 = stay latched) before attempting to self-reset. This allows local sounders to operate for the length of the delay per detector activation. Smoke and indicating heat/MCP activation can be mapped separately to ancillaries, brigade and bells.

Flowswitch - Open circuit is defect. Short circuit is defect. 2V-13V clamp (390 ohm, 1 watt) is normal, 2k7 EOL is alarm. A globally programmable delay (0/5/10/15/20/25 seconds, default is 5 seconds) applies before going into alarm - the circuit must be continuously in alarm for the full period of the delay. A fixed delay of 5 seconds continuously in normal applies before going out of alarm.

Evacuation control (Master board only) - Short circuit is defect. Open circuit is defect. 2V-13V clamp (390 ohm, 1 watt) is alarm. Supervised connection to a sprinkler DBA ”bell” output. An Evacuation circuit selected for bell ringing is unaffected by either of the silence alarm switches - the alarm must be silenced at the source.

Circuit types compliant with NZS4512:1997

Legacy Flowswitch - Open circuit is instant alarm. Short circuit is defect.
A globally programmable delay (0/5/10/15/20/25 seconds, default 5 seconds) applies before going into alarm - the circuit must be continuously in alarm for the full period of the delay. A fixed delay of 5 seconds continuously in normal applies before going out of alarm.

Legacy Thermal - Open circuit is instant alarm. Short circuit is defect.

Legacy Evacuation Control (Master board only) - Short circuit is instant alarm. Open circuit is defect. Supervised connection to a sprinkler DBA ”bell” output. An Evacuation circuit selected for bell ringing is unaffected by either of the silence alarm switches - the alarm must be silenced at the source.

Legacy Combined - Open circuit is instant alarm. Short circuit is defect.
Allows connection of conventional 2-wire smoke detectors and clean contact devices.

Legacy Smoke - Open circuit is defect. Short circuit is alarm if using programmable ”MCP” facility. Allows connection of conventional 2-wire smoke detectors and clean contact devices.
(N/C contacts require PA0443 contact conversion module)

Legacy Residential - Open circuit is defect. Short circuit is alarm if using programmable ”MCP” facility. Allows connection of conventional 2-wire smoke detectors and clean contact devices (N/C contacts require PA0443 contact conversion module). A residential circuit will latch a smoke detector activation in alarm for a global programmable period (0-250 seconds, default 30 seconds, 0 = stay latched) before attempting to self-reset. This allows local sounders to operate for the length of the delay per detector activation. Smoke and thermal /MCP activations can be mapped separately to ancillaries, brigade and bells. Open circuit MCP alarm is not possible on Residential circuits (combined operation) as once a smoke detector had operated, an open circuit beyond the operated detector cannot be detected. A PA0443 contact conversion module is required for MCPs.

7-Segment Displays - There are three 7-segment displays per board. See “Display Codes” later.

Zone Index LEDs - Single flash = thermal/manual alarm. Double flash = smoke alarm. The Normal LED has a power-save cadence when mains is off.

Buzzer - The buzzer generally indicates the presence of abnormal conditions when the door is closed, and the presence of defects when the system is not remotely connected.

Evacuation Switch - The Evacuation key switch allows manual activation of the alerting devices (without calling the Brigade). It may also be programmed to activate ancillary outputs.

Automatic Test - An automatic version of the Self-Test runs at the beginning of every daily charger inhibit period. This can be initiated manually by selecting "Ci" on the Function menu.

Silence Alarms Switch - Operation of the Silence Alarms switches (external or internal) prevents the alerting devices sounding when an alarm is present. They may also be programmed to de-activate ancillary outputs. The external keyswitch generates a defect. On restoration of the external Silence Alarms switch to normal all activated zones (except Evacuation Control or Flowswitch types) are automatically isolated. Zones which are not activated and are programmed to other than disabled, continue as un-isolated.

Note: These switches will not silence the alerting devices for an Evacuation Control circuit alarm or the ERD- input.

Services Restore Switch - The Services Restore switch is intended to allow the Brigade to restore ancillary services even when an alarm is present. The effect of this switch on the ancillary outputs is individually programmable. If programmed it forces the ancillary back to normal (e.g, returns lift or air conditioning to normal operation) when operated.

Mains Switch - 230V Mains isolation is provided by a switch on the mains termination cover.

Brigade Interface - Fit a 2W/4W General Purpose SGD (PA0862), or a General Purpose Brigade Relay Interface (PA0861). These boards mount on stand-offs and plug into the ”Brigade Signalling Interface” Connector (J20) (Master board only). If an interface is not fitted, select “Local” mode (Lo) in programming.

RZDU Interface - Up to 8 compatible RZDU protocol remote display devices can be connected to the Master board. Wiring is a 3 or 4-core star-spur arrangement. Refer to the Technical Manual for further details.

Control Buttons (internal) - Four pushbuttons give access to current and latched display information, operator functions, and to the programming facility (described later):

“**Current Defects**” shows all defects currently present.

“**Latched Defects**” shows all defects since last Panel Reset, including those currently present.

“**System Status**” shows current status conditions (including groups and switches).

“**Function**” gives access to the Function menu (see “Function Menu” and descriptions below).

In some menus, buttons have a slow/fast automatic increment mode if pressed and held.

Panel Reset - To clear latched conditions, modes, and indications, select Panel Reset (Pr) on the Function Menu and press "Select".

Self-Test - Self-Test (St) is selectable on the Function menu. Press "Select" to commence test. Self-Test automatically performs internal RAM and EEPROM checksum tests, and also exercises all zone circuits. Order of zone circuit testing (indication in brackets): (St), Z1 - Z8 Alarm (A), All Normal (n), Z9 - Z16 Alarm (A), All Normal (n), All open-circuit (o), All Normal (n), then each enabled zone circuit individually short-circuit and back to normal (1), (2), (3) etc. to (16); (St) flashes until all RZDUs complete their test.

Self-Test failure results in a pulsing buzzer and failure code display (see “Self/Auto Test Failure Codes”)

Self-Test will not run (long beep) if there is a Fire or Defect indication (latched or current), or if a brigade connected panel is not Brigade Isolated or in Brigade Test. Non-brigade calling zone circuits in off-normal conditions are omitted from the test, but do not prevent it from running.

Lamp Test - To initiate a lamp test select (Lt) on the Function menu. Press any button to cancel. The door may be closed during a lamp test.

Non-Latching Test (NLT) Mode - NLT (walk test) mode (nL) is selectable through the Function menu. A double beep every thirty seconds and an "nL" displayed, indicates entry into this mode. All enabled circuits are temporarily set to indicating, non-latching, bell-ringing, non-brigade calling, with no delays or gating regardless of their programmed selection.

In NLT mode, when any circuit is placed into alarm, its zone indication is latched on with the most recent type of alarm, and the evacuation (Bells) output is activated for 2 seconds. Groups and ancillaries do not operate.

A long beep indicates NLT mode cannot be entered - this could be a Fire or Defect condition (latched or current), or if a brigade-connected panel is not Brigade Isolated or in Brigade Test. Panel Reset clears NLT mode.

History Recall - History Recall is an interrogation feature available in the Function menu. The most recent 15 significant events per board are stored in chronological order in RAM and will be lost if power fails. There is no time/date "stamping". (See “Display Codes” for details of operation).

Zone Isolation - Individual zone isolation/de-isolation (toggle function) is available on a board-by-board basis in the Function menu. This is also an automatic function of the external Silence Alarms switch (see above). Isolated zones are indicated on the displays. Power failure will clear.

Charger Inhibit - Starts a 40 minute Charger Inhibit period (reduced voltage). Also initiates an automatic self-test (if permitted). Panel Reset will terminate period.

Bells Output - For supervision, all alerting devices must have a series diode (eg. 1N4004), and End of Line resistors must be fitted as follows: 1 Branch: 9k1 1% EOL, 2 Branches: 2 x 18k 1% EOLs, or 3 Branches: 3 x 27k 1% EOLs. Maximum total load is 5A (subject to battery / charger capacity limitations). Supervision can be disabled in programming.
Three links (R62 - R64) can be cut out to convert to 5 Amp clean contact (supervision must be disabled).
Note: There is a 2 second delay on alarm before the Bells output is turned on for a Brigade-connected system.

Ancillary Relay (Ar) - The ancillary relay on each board is a 30V, 5A max (Resistive) single pole changeover relay. Ar defaults to ”Common Fire or Lamp Test” but is fully programmable for other uses.

On-Board Ancillary Outputs (A20-, A21-) - Two hard-wire open collector pull-down output tabs (30V, 200mA) on each board default to "Common Defect or Lamp Test" and "Common Normal or Lamp Test" respectively, but are programmable for other uses.

Additional Relay/Ancillary Outputs - Access per board to the other 19 ancillary outputs is via a 26 Way Flat Ribbon Cable (J21) and a Mimic Termination Board (PA0702). All Outputs are 30V, 200mA open collector drivers (except LAMP- also drives the internal lamp if present).
All ancillaries are programmable, but defaults are suitable for a hard-wired mimic. (See “Ancillary Output Defaults” for default functions and Output Designation on the Mimic Termination Board).

Defect Buzzer Cancel Input (DBC-) (Master board only) - A momentary closure to 0V silences the local mode defect buzzer.

External Defect Input (Ext DEF-) - Pull this input to 0V to generate a defect.

External Reset Input (Ext RST-) (Master board only) - Pull this input to 0V to generate a Panel Reset.

Evacuation Relay Drive Input (ERD-) (Master board only) - Pull this input to 0V to activate the alerting devices (non-silencable). (To comply with latest standards, use Evacuation Control Zone circuit instead). Not implemented in V4.00 or later software

Battery Charger - The internal battery charger is constant voltage and current-limited (13.65V, 2A nominal), temperature compensated to suit an internal 12V sealed lead-acid battery. Multiple chargers may be operated in parallel. For standby capacity of battery and charger combinations, refer to the Technical Manual for calculation methods.

Programming Mode - To enter programming mode, press and hold all three Master board "Program" buttons (Select, Mode, and Change) for 3 short beeps and 1 long beep. Insert the "Data Program Enable" link in all boards if any changes are to be saved. Refer to "Programming Menu", “Programming Options and Codes”, and the “Programming Flowchart” for options available.

Program Exit Options - If an "exit with save" is attempted with any of the "Data Program Enable" links not installed, you will get a series of beeps and the system will remain in programming mode.
Simply insert the link(s) and try saving again, or press Function to bail out without saving any changes.
Programming mode times out after 4 minutes of inactivity, or by closing the door.

Programming Groups - A Programming Group exists within a board only and becomes active only when **all** zones on that board mapped to the group are in alarm and not isolated. Groups can optionally be latching (until panel reset) and can be mapped to ancillary outputs and/or universal variables.
(For residential circuit types, any activated alarm type mapped to a group is sufficient).

Universal Variables - Programming Universal Variables (U01-U16) can be driven and accessed by all boards in the system, and allow some logical OR combinations of zone and group statuses between boards. Universal Variables can be mapped to ancillary outputs.

Ancillary Override (System configuration option) - If Ancillary Override is enabled, “Door Open” is treated the same as operating the Services Restore switch (programmably) forcing ancillary outputs back to normal - see Services Restore Switch on page 3.

Ancillary Output Programming - Ancillary outputs follow a logical OR of the options selected, except for overrides required by standards (e.g., Evacuation overrides Silence Alarms).

Door Loom Supervision - (Master board only, not optional) When fitting a Mk3 Master board into an older cabinet, solder a 220kΩ 1% resistor across the Services Restore switch terminals to normalise.

Earth Fault Monitoring - Detects a leakage from any field wiring to earth. This facility can be disabled by cutting out link R65 on all Mk3 boards in the system (R65 is bottom left of board, near ERD- connector). A better approach is to find the source of any earth fault and fix it.

Ordering Information - Panels and Accessories

FP0547	FP1600 Rear Service
FP0548	FP1600 Front Service
SP0424	FP1600 R/S Empty Cabinet c/w Index
SP0425	FP1600 F/S Empty Cabinet c/w Index
FP0896	FP1600 R/S Empty Cabinet c/w PSU and Index
FP0897	FP1600 F/S Empty Cabinet c/w PSU and Index
KT0438	FP1600 Upgrade Kit to 32 Zones R/S Incl Cabinet
KT0439	FP1600 Upgrade Kit to 32 Zones F/S Incl Cabinet
KT0215	OMEGA 64 Mk3 Slave Board Set
LM0074	OMEGA 64 Master to 1st Slave Loom
KT0131	OMEGA 64 Comms Extender Kit for 2 or more Slaves
LM0073	Loom, FRC, 20 Way, Style C, 1.45m
PA0702	FP1600 16 Way Mimic Termination Board
LM0046	I/O Board 26 Way Flat Ribbon Cable Loom (0.50m)
LM0049	I/O Board 26 Way Flat Ribbon Cable Loom (0.25m)
LT0196	FP1600/OMEGA 64 Technical Manual
LT0312	FP1600/OMEGA 64 Installation/Configuration Manual
RR0753	Circuit EOL Resistor (2k70 1%)
RR1001	390E, 1 Watt Resistor
FA1207	FP1600 R/S Index
FA1209	FP1600 F/S Index
PA0861	GP Brigade Relay Interface
PA0862	GP SGD Board
PA1025	12V Mini-Gen Mk2
HW0036	Door Key
HW0213	Keyswitch Key

The following are spare indexes for the old (obsolete) large format cabinets:

FA1371	OMEGA 64 R/S 32 Zone Master Index
FA1372	OMEGA 64 F/S 32 Zone Master Index
FA1379	OMEGA 64 R/S 16 Zone Extender Index
FA1380	OMEGA 64 F/S 16 Zone Extender Index

Refer to LT0200 - "How to order FP1600 and OMEGA 64" (Issue 4.00 or later) for more detailed information.

Display Codes

System States

 = Normal

 = Common Defect

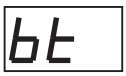
 = Slave address not set (Slave only)

 = Charger Inhibited (long test only)

 = Panel Reset in progress

 = Program Enable Link fitted

 = Brigade Isolated

 = Brigade Test on

 = Internal Silence Alarms Switch on

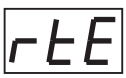
 = Services Restore Switch on

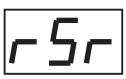
 = Local Mode Defect Silenced

 = (Trial) Evacuation Switch on

 = Local Mode

 = Non-Latching Test mode on

 = RZDU (Trial) Evac Switch on

 = RZDU Services Restore Switch on

 = Evac Relay Drive input active

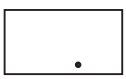
 = Group n activated (this board only)

 = Flash Program Enable Link fitted

 = Bad Firmware (not running)

 = Operating with Old Slave or old Master

 = Old Database Found

 = System States Present. Press **SYSTEM STATUS** to view.

Alarms

 = Common Fire

 = Zone nn Alarm

 = Residential Alarm on Zone nn

Isolates

 = Zone nn Isolated

 = Zone nn Isolated by SA restore to normal

Defects

Press and hold CURRENT DEFECTS or LATCHED STATUS buttons to view Defects

 = Zone nn Defect

 = Defect on Slave Board

 = Comms Fail Slave Board n

 = Foreign Slave Board n

 = Master Comms Fail (Slave only)

 = Defect at RZDU n

 = Comms Fail RZDU n

 = Foreign RZDU n

 = (External) Silence Alarms

 = RZDU (External) Silence Alarms

 = Zones isolated from Silence Alarms return to normal

 = Evacuation Fault

 = Latched Defect Present. Press **LATCHED STATUS** to view.

 = External Defect at Master

 = SGD Defect

 = Battery Low

 = Charger Fail (Timeout Battery Test)

 = Battery Connection Fault

 = Earth Fault (see p6)

 = Fuse Blown

 = LED board fault

 = (Door) Loom Connection Fault (see p6)

 = Hardware Fault

 = Program Fail

 = EEPROM Corrupt

 = Program Corrupt

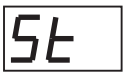
 = RAM Corrupt

 = Watchdog Reset

 = Auto Test Fail (Followed by Self Test failure code)

Display Codes

Self Test Mode Operation


= Self Test Mode running (flashes)


= Checking all zones are normal


= Checking range of zones go into Alarm


= Checking all zones return to normal


= Checking all zones go into open circuit


= Checking all zones return to normal


= Checking Zone nn individually for Short Circuit


= If waiting for RDZUs or slaves to finish

Self Test Pass returns to <base>

Self/Auto Test Failure Codes

Self Test Fail sounds buzzer (four beeps) and displays failure mode code(s) as follows


= Zone nn failed to go into alarm


= Zone nn failed to go back to normal


= Zone nn failed to go open circuit


= Zone nn failed to go short circuit


= Zone nn failed to stay normal while another zone was being tested

Failure mode displays on board(s) that had failure(s)

Refer to Page 4 for details of Self Test operation.

History Events

Press SELECT to step backwards through history (last 15 events)
To exit history, press any other button or close door. (History Mode will time out after 8 sec)


= Zone nn Alarm (MCP if Residential)


= Zone nn Residential Smoke Alarm


= Zone nn Defect


= Zone nn Isolated


= Zone nn Isolated by SA restore to normal


= Zone nn Normal


= Panel Reset performed Immediately after Pr, all zone abnormals are logged to history


= Fire from Slave Board (Master only)


= Defect on Slave Board (Master only)


= Auto Test Fail (this board only)

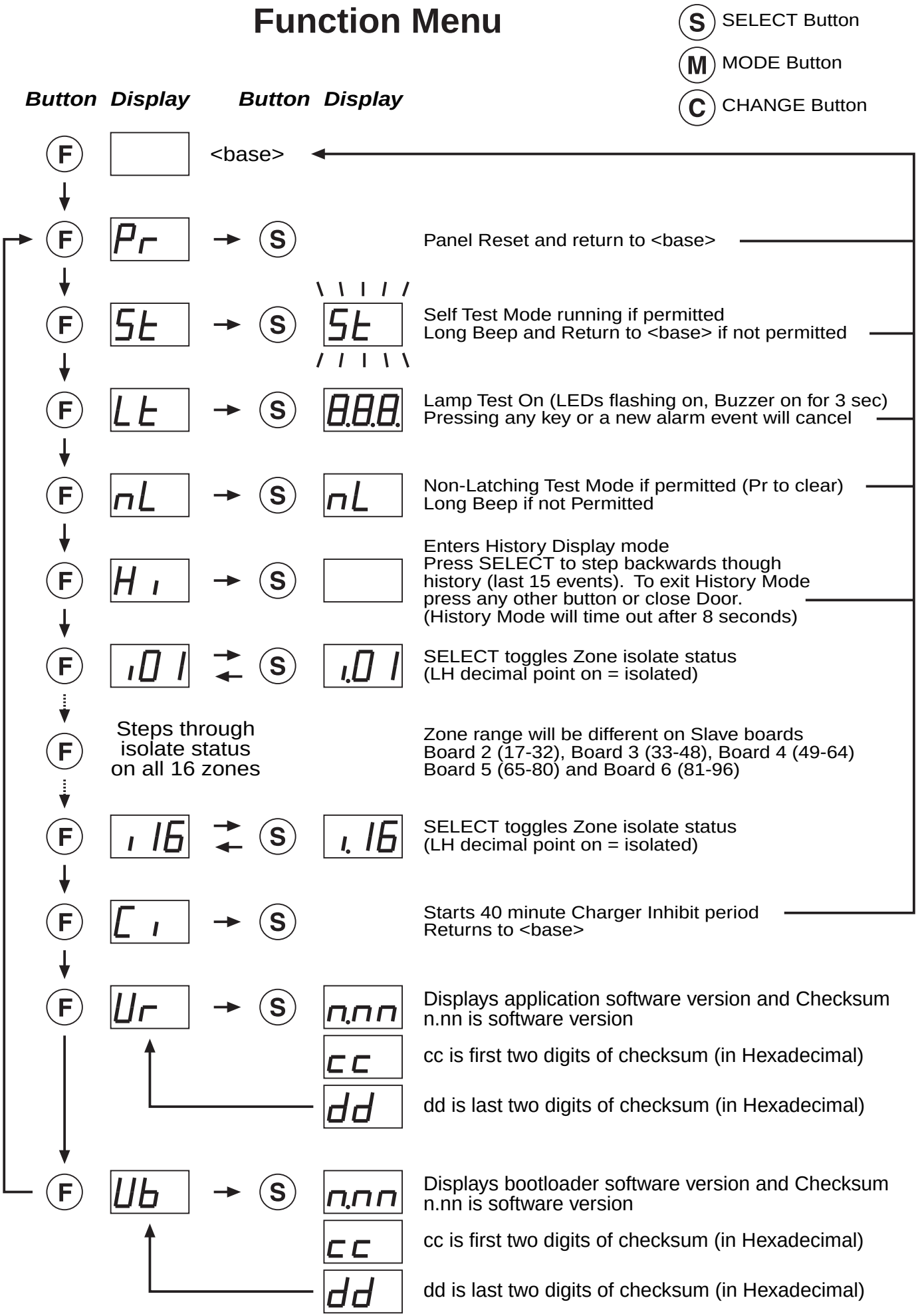

= Auto Test Fail on Slave Board (Master only)


= System Power Up


= Watchdog Reset


= Last Event Displayed

Function Menu



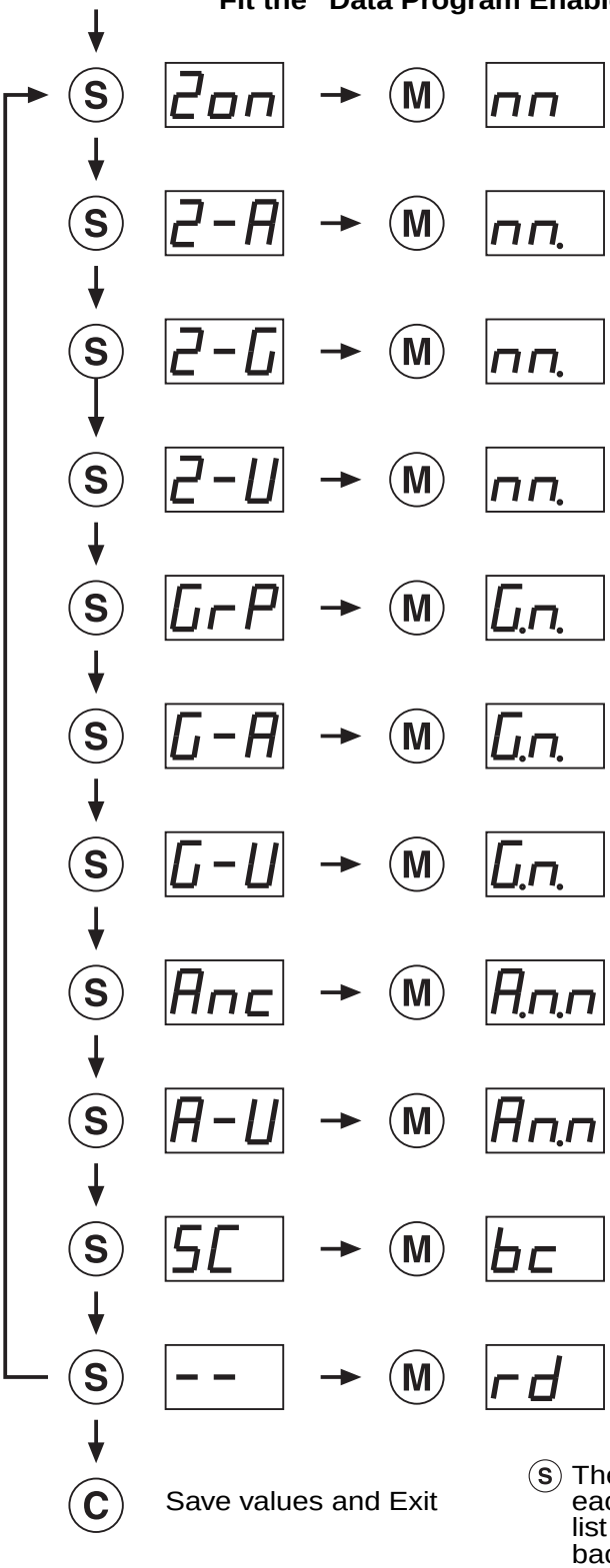
Some options are not available on a Slave Board

Programming Menu

(S) SELECT Button
(M) MODE Button
(C) CHANGE Button

Button Display Button Display

(S)(M)(C) **Press and hold the SELECT, MODE and CHANGE buttons on the Master Board to enter Programming Mode (system will make 3 short and 1 long beeps).**
Fit the "Data Program Enable" link in all boards if any changes are to be saved



(S) Step through Zones to Configure
(M) Select Zone Configuration Options
(C) Change or Toggle Zone Configuration Option

(S) Step through Zones to map to Ancillaries
(M) Select the Ancillary to map to (Ar, A20, A21, A1-A19)
(C) Change or Toggle mapping of Zone to selected Ancillary

(S) Step through Zones to map to Groups
(M) Select the Group to map to (G1-G8)
(C) Toggle mapping of Zone to selected Group

(S) Step through Zones to map to Universal Variables
(M) Select the Universal Variable to map to (U1-U16)
(C) Toggle mapping of Zone to selected Universal Variable

(S) Step through Groups to configure
(M) Select Group Configuration Options
(C) Change or Toggle Group Configuration Options

(S) Step through Groups to map to Ancillaries
(M) Select the Ancillary to map to (Ar, A20, A21, A1-A19)
(C) Toggle mapping of Group to selected Ancillary

(S) Step through Groups to map to Universal Variables
(M) Select the Universal Variable to map to (U1-U16)
(C) Toggle mapping of Group to selected Universal Variable

(S) Step through Ancillaries to Configure
(M) Select Ancillary Configuration Options
(C) Change or Toggle Ancillary Configuration Options

(S) Step through Ancillaries to map from Universal Variables
(M) Select the Universal Variable to map from
(C) Toggle mapping from selected Universal Variable

(M) Step through System Configuration Options
(C) Change or Toggle System Configuration Options

(S) Go back to top of menu (no change)
(M) Deselect reload defaults (toggle back to --)
(C) Reload defaults (return to --)

(C) Save values and Exit

(S) The select button returns to the top menu level at the end of each sub-menu list. eg. SELECT steps through the Ancillary list (Ar, A20, A21, A1, A2 ... ... A18, A19) and after A19 will step back out to **Anc** and on to **A-U** etc. If, however, the SELECT button is pressed and held, it will continue to cycle through the sub-menu list until the button is released.

Note:
Groups are local to each board
Ancillaries are local to each board
Universal variables are shared across the system

Programming Options and Codes

(See pages 1-6 for more details of some options)

Zone Programming


= Zone Number nn


Circuit Type
= Legacy Flowswitch


Circuit Type
= Legacy Thermal


Circuit Type
= DBA/Evacuation
(Master board only)


Circuit Type
= Legacy Combined


Circuit Type
= Legacy Smoke


Circuit Type
= Legacy Residential


Circuit Type
= Flowswitch


Circuit Type
= Detectors


Circuit Type
= DBA/Evacuation
(Master board only)


Circuit Type
= Residential

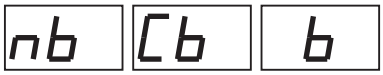

Circuit Type
= Disabled

Zone and Zone Mapping Options

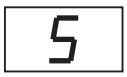

= Callpoint or none
(LS, LrE only. Enables MCP band)


= Gated or not
(dEt, rES, LS, LCo, LrE only)


= Latching or not


nb = nothing calls brigade
Cb = Non residential only calls brig
b = All alarms call brigade


nr = nothing rings bells
Cr = Non residential only rings bells
r = All alarms ring bells


S = residential smoke alarm on Zone LED
nS = residential smoke alarm Not on LED


= Low / High Power
(FL, Ec, LFL, Lth, LEc only)


= Zone maps to Ancillary
(Ar,A1-A21)*
(Centre decimal on = yes)


= Zone maps to Group
(G1-G8)*
(Centre decimal on = yes)

*** for rES and LrE zones:**
Ar, An, Gn, Unn decimal as follows:
LH decimal on = yes for Smoke
Centre decimal on = yes for MCP


= Zone maps to Universal Variable (U1-U16)*
(Centre decimal on = yes)

System Configuration Options


System Configuration Menu


Brigade connected
or Local Mode (Master)


Evac Monitor
enabled / disabled


Ancil Override (Global)
enabled / disabled

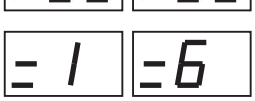

Legacy Circuit Options
enabled / disabled

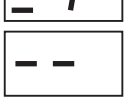

Flowswitch Delay (Global)
(note decimal point)
0./5./10./15./20./25. sec


Adjust Batt Low Volts
in 0.1V steps (Master only)
P3 = 12.2V + 0.3V
-2 = 12.2V - 0.2V


Residential Delay (per board)
1 - 25 (x 10) sec
0 = latch


Number of RZDUs
rd0 = none
rd1 - rd8 are valid


Number of boards in System
or board number if Slave
=0 to disable (Slave)


Exit Programming Mode (Master only)


Reload Defaults

Group Programming


= Group n (G1 - G8)

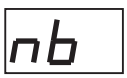

= Group n is mapped from a zone
(LH decimal on = yes)


= Group n is mapped to an output
(Centre decimal on = yes)

Group Options



= Latching or not



nb = Doesn't call brigade
b = Calls brigade

nr = Doesn't ring bells
r = Rings bells

= Group maps to Ancillary nn (Ar, A1-A21)
(Centre decimal on = yes)

= Group maps to Universal Variable (U1-U16)
(Centre decimal on = yes)

Programming Options and Codes

(See pages 1-6 for more details of some options)

Slave Displays

 Slave enters programming mode at board number program position

 Displayed at slave when program changes are being saved

Ancillary Output Options (AnC menu)

 = Ancillary nn (Ar, A1 - A21)

 = Ancillary nn is mapped from a zone (LH decimal on = yes)

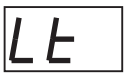
 = Ancillary nn has programmable options selected (Centre decimal on = yes)

  = Latching or not

 = Forced on by External Evac Switch? (Centre decimal on = yes)

 = Forced off by Silence Alarms Switch? (Centre decimal on = yes)

 = Forced off by Services Restore? (Centre decimal on = yes)

 = Forced on by Lamp Test? (Centre decimal on = yes)

 = Follow Evacuation (bells) Relay? (Centre decimal on = yes)

 = Follow Common Fire? (Centre decimal on = yes)

 = Follow Common Defect? (Centre decimal on = yes)

 = Follow Normal? (Centre decimal on = yes)

 = Follow Charger Inhibit (long only)? (Centre decimal on = yes)

 = Follow Panel Reset? (Centre decimal on = yes)

Universal Variable Ancillary Mapping (A-U menu)

 = Ancillary is mapped to by Universal Variable (Centre decimal on = yes)

 = Universal Variable maps to Ancillary (Centre decimal on = yes)

Ancillary Output Defaults

Ancil Relay (Ar) ON for Com Fire, Lamp Test

Ancil 1 (A1) ON for Zone 1, Lamp Test (Z1-)

Ancil 2 (A2) ON for Zone 2, Lamp Test (Z2-)

Ancil 3 (A3) ON for Zone 3, Lamp Test (Z3-)

Ancil 4 (A4) ON for Zone 4, Lamp Test (Z4-)

Ancil 5 (A5) ON for Zone 5, Lamp Test (Z5-)

Ancil 6 (A6) ON for Zone 6, Lamp Test (Z6-)

Ancil 7 (A7) ON for Zone 7, Lamp Test (Z7-)

Ancil 8 (A8) ON for Zone 8, Lamp Test (Z8-)

Ancil 9 (A9) ON for Zone 9, Lamp Test (Z9-)

Ancil 10 (A10) ON for Zone 10, Lamp Test (Z10-)

Ancil 11 (A11) ON for Zone 11, Lamp Test (Z11-)

Ancil 12 (A12) ON for Zone 12, Lamp Test (Z12-)

Ancil 13 (A13) ON for Zone 13, Lamp Test (Z13-)

Ancil 14 (A14) ON for Zone 14, Lamp Test (Z14-)

Ancil 15 (A15) ON for Zone 15, Lamp Test (Z15-)

Ancil 16 (A16) ON for Zone 16, Lamp Test (Z16-)

Ancil 17 (A17) ON for Normal, Lamp Test (NORM-)

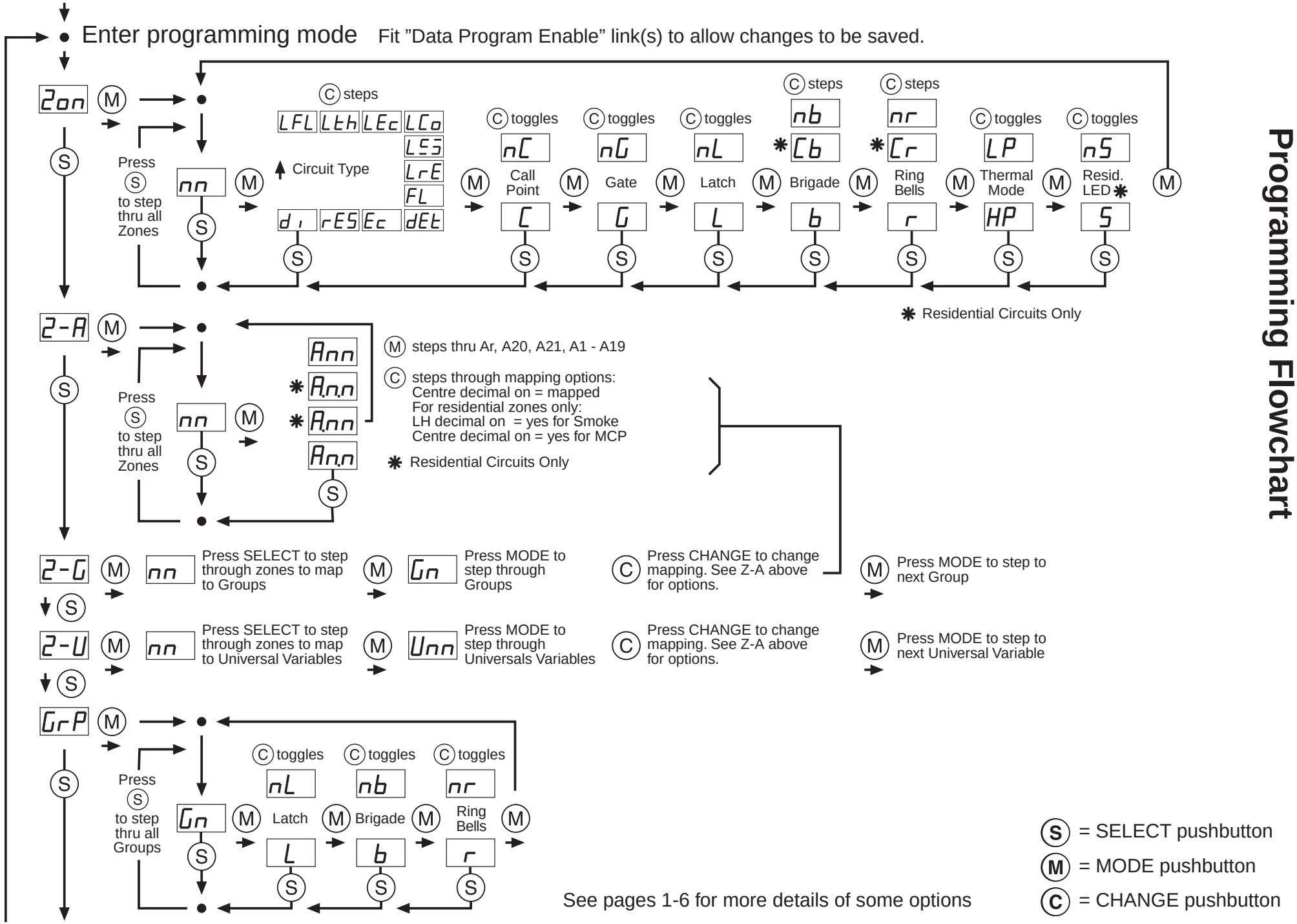
Ancil 18 (A18) ON for Com Defect, Lamp Test (DEF-)

Ancil 19 (A19) ON for Com Fire, Lamp Test (FIRE-)

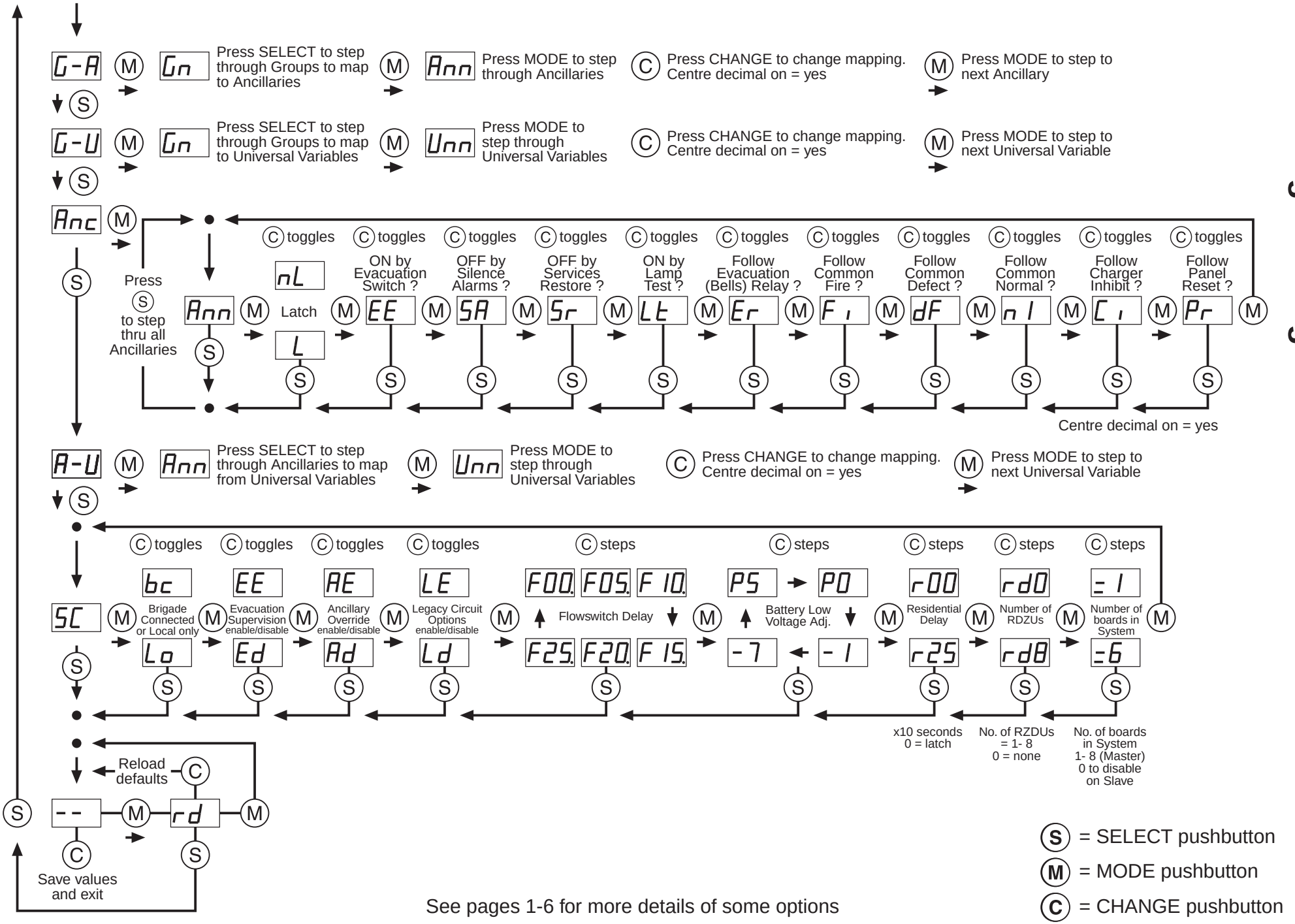
Ancil 20 (A20) ON for Com Defect, Lamp Test

Ancil 21 (A21) ON for Normal, Lamp Test

Programming Flowchart



Programming Flowchart

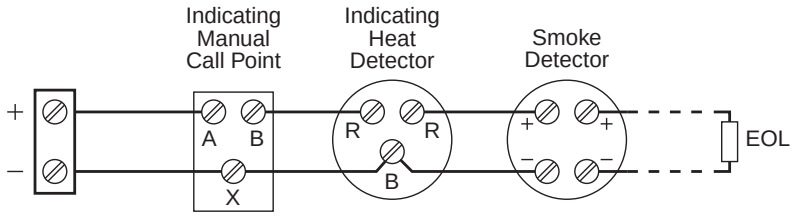


See pages 1-6 for more details of some options

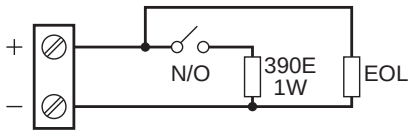
Mains Wiring

See “Warning” on rear of title page.

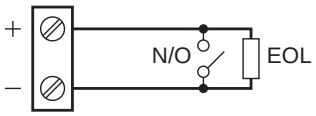
FP1600 / OMEGA 64 Zone Wiring



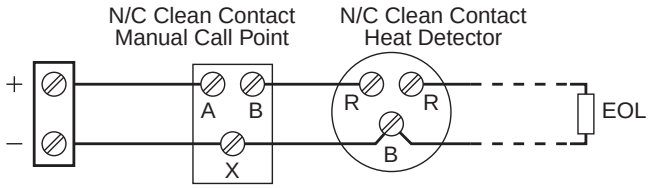
Detector/Residential Circuit Wiring



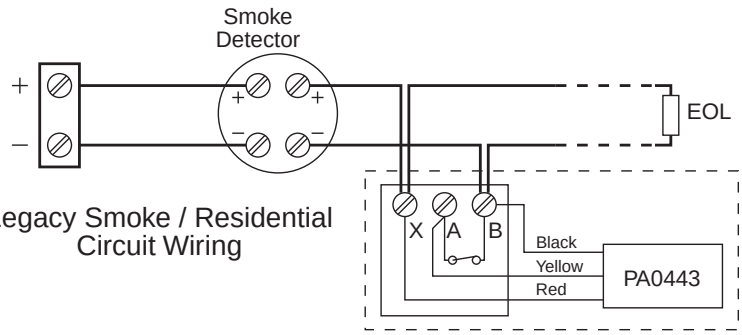
DBA/Evacuation Circuit Wiring



Legacy DBA/Evacuation Circuit Wiring

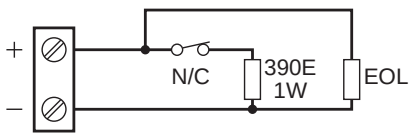


Legacy Thermal / Combined Circuit Wiring

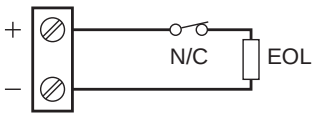


Legacy Smoke / Residential
Circuit Wiring

Manual Call Point with PA0443

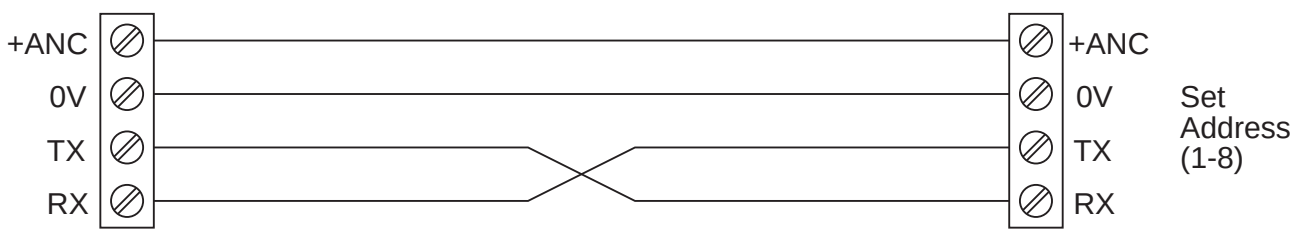


Flowswitch Circuit Wiring



Legacy Flowswitch Circuit Wiring

RZDU Wiring



FP1600 / OMEGA 64

RZDU Device
(other RZDUs star/spur)

Record Your System's Configuration

Master Board

Brigade Connection: Brigade Connected / Local Only

Evacuation Supervision: enable / disable

Ancillary Override (Global): enable / disable

Legacy Circuit Options: enable / disable

Flowswitch Delay (Global): 0. / 5. / 10. / 15. / 20. / 25. secs (default 5.)

Battery Low Voltage Adjust (Master only): 12.2V ____ (P or -) (default = P0)

Residential Delay: seconds (0 = latch) (default = r03, 10 sec increments)

Number of RZDUs: (default rd0 = none)

Number of Boards in System: (default =1)

2nd Board (=2) (Board Number =0 to disable)

Evacuation Supervision: enable / disable

Residential Delay: seconds (0 = latch) (default = r03, 10 sec increments)

3rd Board (=3) (Board Number =0 to disable)

Evacuation Supervision: enable / disable

Residential Delay: seconds (0 = latch) (default = r03, 10 sec increments)

4th Board (=4) (Board Number =0 to disable)

Evacuation Supervision: enable / disable

Residential Delay: seconds (0 = latch) (default = r03, 10 sec increments)

5th Board (=5) (Board Number =0 to disable)

Evacuation Supervision: enable / disable

Residential Delay: seconds (0 = latch) (default = r03, 10 sec increments)

6th Board (=6) (Board Number =0 to disable)

Evacuation Supervision: enable / disable

Residential Delay: seconds (0 = latch) (default = r03, 10 sec increments)

MASTER BOARD CONFIGURATION

Zone Number	Zone Name	Cct Type	MCP (C/nC)	AVF Gating (G/nG)	Latching (L/nL)	Brigade (nb/Cb/b)	Ring Bells (nr/Cr/r)	Power (LP/HP)	Resid LED (S/nS)	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										

Zone Number	Zones mapped to the following Ancillaries (this board only)	Zones mapped to the following Groups (this board only)	Zones mapped to the following Universal Variables
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

MASTER BOARD CONFIGURATION

Group Number (this board only)	Group Name or Function	Latching (L/nL)	Brigade (nb/b)	Bells (nr/r)	Group mapped to the following Ancillaries (centre decimal on = yes)	Group mapped to the following Universal Variables (centre decimal on = yes)
G1						
G2						
G3						
G4						
G5						
G6						
G7						
G8						

Centre decimal on = yes

Ancil Number (this board only)	Ancillary Name or Function	Latching (L/nL)	Forced on by Ext Evac?	Off by Ext Sil ALarms?	Off by Services Restore?	On by Lamp Test?	Follow Evac Relay?	Follow Common Fire?	Follow Common Defect?	Follow Normal?	Follow Charger Inhibit?	Follow Panel Reset?	Mapped to by Universal?	Ancillary is mapped to by the following Universal Variables
Ar														
A20														
A21														
A1														
A2														
A3														
A4														
A5														
A6														
A7														
A8														
A9														
A10														
A11														
A12														
A13														
A14														
A15														
A16														
A17														
A18														
A19														

2nd BOARD (-2) CONFIGURATION

Zone Number	Zone Name	Cct Type	MCP (C/nC)	AVF Gating (G/nG)	Latching (L/nL)	Brigade (nb/Cb/b)	Ring Bells (nr/Cr/r)	Power (LP/HP)	Resid LED (S/nS)	Notes
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										

Zone Number	Zones mapped to the following Ancillaries (this board only)	Zones mapped to the following Groups (this board only)	Zones mapped to the following Universal Variables
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			

2nd BOARD (=2) CONFIGURATION

Group Number (this board only)	Group Name or Function	Latching (L/nL)	Brigade (nb/b)	Bells (nr/r)	Group mapped to the following Ancillaries (centre decimal on = yes)	Group mapped to the following Universal Variables (centre decimal on = yes)
G1						
G2						
G3						
G4						
G5						
G6						
G7						
G8						

Centre decimal on = yes

Ancil Number (this board only)	Ancillary Name or Function	Latching (L/nL)	Forced on by Ext Evac?	Off by Ext Sil ALarms?	Off by Services Restore?	On by Lamp Test?	Follow Evac Relay?	Follow Common Fire?	Follow Common Defect?	Follow Normal?	Follow Charger Inhibit?	Follow Panel Reset?	Mapped to by Universal?	Ancillary is mapped to by the following Universal Variables
Ar														
A20														
A21														
A1														
A2														
A3														
A4														
A5														
A6														
A7														
A8														
A9														
A10														
A11														
A12														
A13														
A14														
A15														
A16														
A17														
A18														
A19														

3rd BOARD (=∃) CONFIGURATION

Zone Number	Zone Name	Cct Type	MCP (C/nC)	AVF Gating (G/nG)	Latching (L/nL)	Brigade (nb/Cb/b)	Ring Bells (nr/Cr/r)	Power (LP/HP)	Resid LED (S/nS)	Notes
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										
48										

Zone Number	Zones mapped to the following Ancillaries (this board only)	Zones mapped to the following Groups (this board only)	Zones mapped to the following Universal Variables
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			

3rd BOARD (=∃) CONFIGURATION

Group Number (this board only)	Group Name or Function	Latching (L/nL)	Brigade (nb/b)	Bells (nr/r)	Group mapped to the following Ancillaries (centre decimal on = yes)	Group mapped to the following Universal Variables (centre decimal on = yes)
G1						
G2						
G3						
G4						
G5						
G6						
G7						
G8						

Centre decimal on = yes

Ancil Number (this board only)	Ancillary Name or Function	Latching (L/nL)	Forced on by Ext Evac?	Off by Ext Sil ALarms?	Off by Services Restore?	On by Lamp Test?	Follow Evac Relay?	Follow Common Fire?	Follow Common Defect?	Follow Normal?	Follow Charger Inhibit?	Follow Panel Reset?	Mapped to by Universal?	Ancillary is mapped to by the following Universal Variables
Ar														
A20														
A21														
A1														
A2														
A3														
A4														
A5														
A6														
A7														
A8														
A9														
A10														
A11														
A12														
A13														
A14														
A15														
A16														
A17														
A18														
A19														

4th BOARD (=4) CONFIGURATION

Zone Number	Zone Name	Cct Type	MCP (C/nC)	AVF Gating (G/nG)	Latching (L/nL)	Brigade (nb/Cb/b)	Ring Bells (nr/Cr/r)	Power (LP/HP)	Resid LED (S/nS)	Notes
49										
50										
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										
61										
62										
63										
64										

Zone Number	Zones mapped to the following Ancillaries (this board only)	Zones mapped to the following Groups (this board only)	Zones mapped to the following Universal Variables
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			
61			
62			
63			
64			

4th BOARD (=4) CONFIGURATION

Group Number (this board only)	Group Name or Function	Latching (L/nL)	Brigade (nb/b)	Bells (nr/r)	Group mapped to the following Ancillaries (centre decimal on = yes)	Group mapped to the following Universal Variables (centre decimal on = yes)
G1						
G2						
G3						
G4						
G5						
G6						
G7						
G8						

Centre decimal on = yes

Ancil Number (this board only)	Ancillary Name or Function	Latching (L/nL)	Forced on by Ext Evac?	Off by Ext Sil ALarms?	Off by Services Restore?	On by Lamp Test?	Follow Evac Relay?	Follow Common Fire?	Follow Common Defect?	Follow Normal?	Follow Charger Inhibit?	Follow Panel Reset?	Mapped to by Universal?	Ancillary is mapped to by the following Universal Variables
Ar														
A20														
A21														
A1														
A2														
A3														
A4														
A5														
A6														
A7														
A8														
A9														
A10														
A11														
A12														
A13														
A14														
A15														
A16														
A17														
A18														
A19														

5th BOARD (-5) CONFIGURATION

Zone Number	Zone Name	Cct Type	MCP (C/nC)	AVF Gating (G/nG)	Latching (L/nL)	Brigade (nb/Cb/b)	Ring Bells (nr/Cr/r)	Power (LP/HP)	Resid LED (S/nS)	Notes
65										
66										
67										
68										
69										
70										
71										
72										
73										
74										
75										
76										
77										
78										
79										
80										

Zone Number	Zones mapped to the following Ancillaries (this board only)	Zones mapped to the following Groups (this board only)	Zones mapped to the following Universal Variables
65			
66			
67			
68			
69			
70			
71			
72			
73			
74			
75			
76			
77			
78			
79			
80			

5th BOARD (=5) CONFIGURATION

Group Number (this board only)	Group Name or Function	Latching (L/nL)	Brigade (nb/b)	Bells (nr/r)	Group mapped to the following Ancillaries (centre decimal on = yes)	Group mapped to the following Universal Variables (centre decimal on = yes)
G1						
G2						
G3						
G4						
G5						
G6						
G7						
G8						

Centre decimal on = yes

Ancil Number (this board only)	Ancillary Name or Function	Latching (L/nL)	Forced on by Ext Evac?	Off by Ext Sil ALarms?	Off by Services Restore?	On by Lamp Test?	Follow Evac Relay?	Follow Common Fire?	Follow Common Defect?	Follow Normal?	Follow Charger Inhibit?	Follow Panel Reset?	Mapped to by Universal?	Ancillary is mapped to by the following Universal Variables
Ar														
A20														
A21														
A1														
A2														
A3														
A4														
A5														
A6														
A7														
A8														
A9														
A10														
A11														
A12														
A13														
A14														
A15														
A16														
A17														
A18														
A19														

6th BOARD (=6) CONFIGURATION

Zone Number	Zone Name	Cct Type	MCP (C/nC)	AVF Gating (G/nG)	Latching (L/nL)	Brigade (nb/Cb/b)	Ring Bells (nr/Cr/r)	Power (LP/HP)	Resid LED (S/nS)	Notes
81										
82										
83										
84										
85										
86										
87										
88										
89										
90										
91										
92										
93										
94										
95										
96										

Zone Number	Zones mapped to the following Ancillaries (this board only)	Zones mapped to the following Groups (this board only)	Zones mapped to the following Universal Variables
81			
82			
83			
84			
85			
86			
87			
88			
89			
90			
91			
92			
93			
94			
95			
96			

6th BOARD (-6) CONFIGURATION

Group Number (this board only)	Group Name or Function	Latching (L/nL)	Brigade (nb/b)	Bells (nr/r)	Group mapped to the following Ancillaries (centre decimal on = yes)	Group mapped to the following Universal Variables (centre decimal on = yes)
G1						
G2						
G3						
G4						
G5						
G6						
G7						
G8						

Centre decimal on = yes

Ancil Number (this board only)	Ancillary Name or Function	Latching (L/nL)	Forced on by Ext Evac?	Off by Ext Sil ALarms?	Off by Services Restore?	On by Lamp Test?	Follow Evac Relay?	Follow Common Fire?	Follow Common Defect?	Follow Normal?	Follow Charger Inhibit?	Follow Panel Reset?	Mapped to by Universal?	Ancillary is mapped to by the following Universal Variables
Ar														
A20														
A21														
A1														
A2														
A3														
A4														
A5														
A6														
A7														
A8														
A9														
A10														
A11														
A12														
A13														
A14														
A15														
A16														
A17														
A18														
A19														

UNIVERSAL VARIABLES CONFIGURATION

In the table below list the configuration, function, and any special features of the Universal Variables set up on the System. To see all mappings to a Universal Variable, refer to the Board Configuration Sheets (Pages 16-27).

FUNCTIONAL DESCRIPTION OF UNIVERSAL VARIABLES	
U1	
U2	
U3	
U4	
U5	
U6	
U7	
U8	
U9	
U10	
U11	
U12	
U13	
U14	
U15	
U16	

SUMMARY OF AVAILABLE CIRCUIT ATTRIBUTES AND PROGRAMMING DEFAULTS

	ATTRIBUTE					
CIRCUIT TYPE	Call Point	Gating	Latching	Brigade Signal	Bell Ringing	Power
Disabled	n/a	n/a	n/a	n/a	n/a	n/a
Detector	n/a	yes*/no	yes*/no	all*/none	all*/none	n/a
Residential	n/a	yes*/no	yes*/no	all/MCP*/none	all/MCP*/none	n/a
Flowswitch	n/a	n/a	n/a	all/none*	all/none*	low*/high
Evacuation Control	n/a	n/a	yes/no*	all/none*	all*/none	low*/high
Smoke (Legacy)	yes/no*	yes*/no	yes*/no	all*/none	all*/none	n/a
Thermal (Legacy)	n/a	n/a	yes*/no	all*/none	all*/none	low*/high
Residential (Legacy)	yes/no*	yes*/no	yes*/no	all/MCP*/none	all/MCP*/none	n/a
Combined (Legacy)	n/a	yes*/no	yes*/no	all*/none	all*/none	n/a
Flowswitch (Legacy)	n/a	n/a	n/a	all/none*	all/none*	low*/high
Evacuation Control (Legacy)	n/a	n/a	yes/no*	all/none*	all*/none	low*/high

* = default none = nothing calls brigade n/a = option not available