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**Johnson  
Controls**



T-Gen2 EWS



## T-Gen2 Emergency Warning Control & Indicator Equipment (EWCIE) Extended Sales Presentation

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# AS 4428.16:2015 Product Grades

## Grade 3



- Single Evacuation Zone
- Building height 8 floors max
- Multiple protected outputs
- May be controlled and powered by fire panel
- Optional emergency PA and zone paging
- Typically small buildings where only a signal evacuation zone is required.

Similar to T-GEN with new requirements

## Grade 2



- Multiple Evacuation Zones
- Building height 8 floors max
- Protected outputs
- Phased evacuation
- May be controlled and powered by fire panel
- Emergency PA
- Optional zone paging
- Typically medium sized buildings where more than 1 evacuation zone is required.

Entirely new

## Grade 1



- Multiple Evacuation Zones
- Building height no restriction
- Phased evacuation
- Individual zone controls
- Individual tones / messages / PA /BG music per zone
- Zone paging
- Optional fire warden phone system
- Typically larger buildings with more than 8 floors or large areas such as a shopping centre.

Similar to QE90 with new requirements

# Grade 2 Overview

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- Used where separate or phased evacuation signals are required to multiple evacuation zones in buildings up to 25m high.
- May be used in taller buildings where the NCC doesn't require a grade 1 solution and warden controlled evacuation isn't possible.
- Activation and silencing of the warning signals may be controlled by the fire alarm panel.
- Generally an Alert tone is not used in a Grade 2 system.
- It must be powered separately to the fire panel.
- Grade 2 systems would be suitable for:
  - Apartment Buildings
  - Hotels
  - Backpackers / Hostels
  - Office Buildings
  - Carparks
  - Warehouse



# Differences between Grade 2 & Grade 3 Systems

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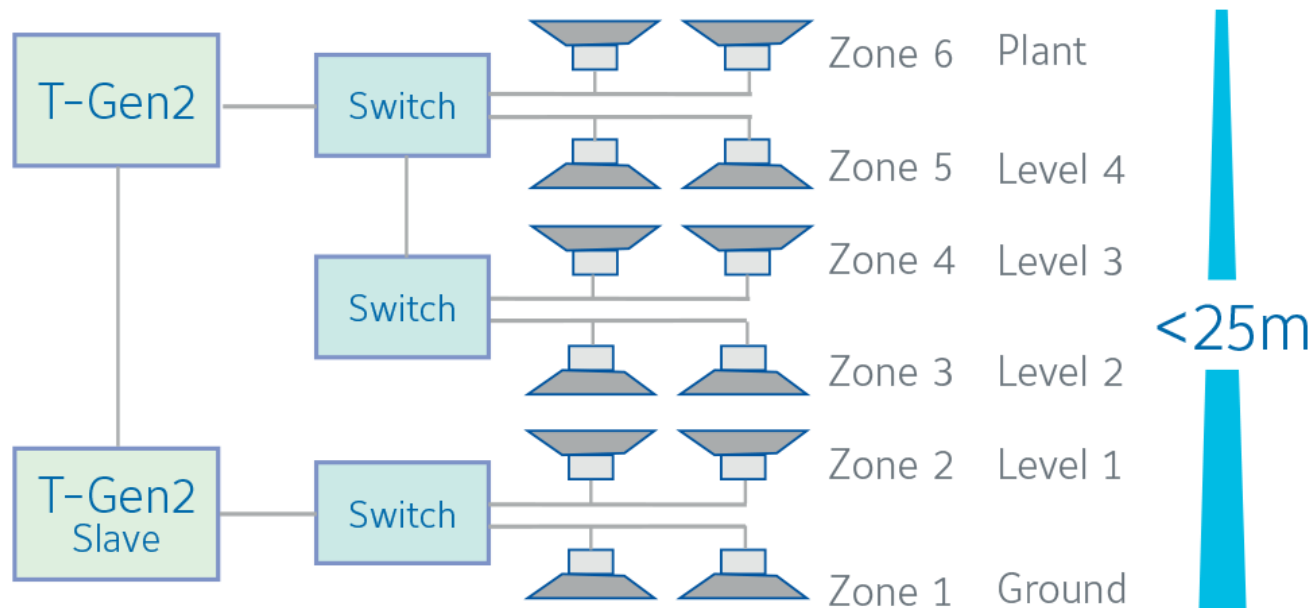
Grade 2 Features	Grade 3 Features
Grade 2 supports up to 20 Zones	Grade 3 is a single evacuation zone (all-out) system
Phased Evacuation	Grade 3 does not support phased evacuation
Evac per zone and All Speech at minimum, Alert Optional	Single function (Alert / Evac) to whole building
Requires at least All Evac Control & Speech Microphone	No controls at minimum
Requires independent power source	May use the FIP power supply



# Grade 2 Arrangements

## Grade2

Multi-level, <25m, Evac. & Speech to selectable zones

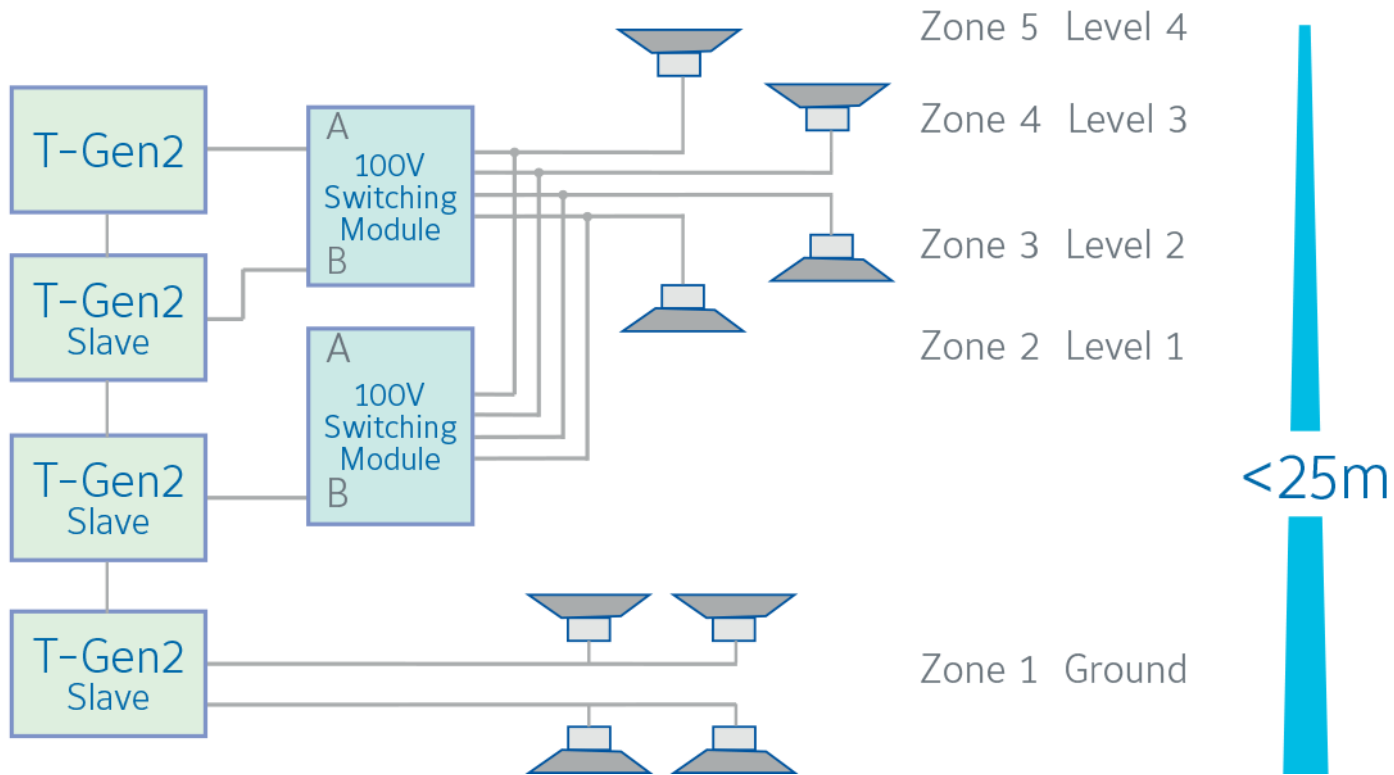




# Grade 2 Arrangements

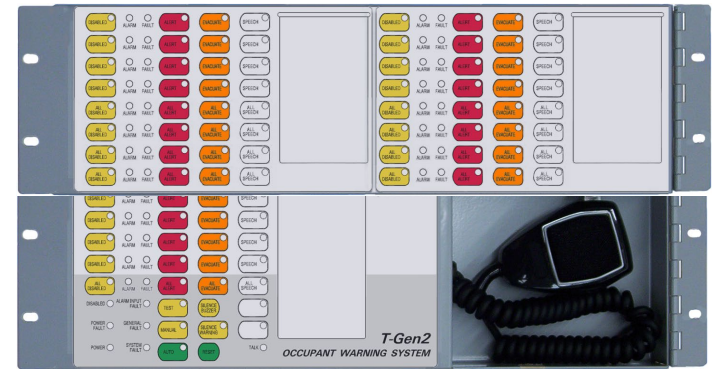
## Grade2

Multi-level, <25m, Alert, Evac & Speech per zone



# T-Gen2 Grade 2 Emergency Warning System

The T-Gen2 from VIGILANT is the heart of a range of new, sophisticated Emergency Warning Systems (EWS) complying with AS 4428.16 and NZS 4512. Drawing on over 100 years of innovation, T-Gen2 is powerful, feature-packed, yet easily configured to suit almost any installation requirement.



T-Gen2 System Components

# T-Gen2

- The VIGILANT T-Gen2 is an Emergency Warning System (EWS) that generates emergency warning tones and messages for occupant warning, where a Grade 1 EWCIE with WIPs is not required.
- The T-Gen2 comprises 60W or 120w amplifier cards, digitized speech messages plus optional grade 2 or grade 3 user interface.
- Larger systems can be configured in BTO panels (28U or 40U)



Grade 2 User interface



MX1 with Grade 2 EWS

# Main Features of 60W & 120W T-Gen2

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- AS 4428.16 (AFP 3315) and NZS 4512:2010 approved and listed
- Pre-recorded Alert and Evacuate messages
- Digital storage of tones / messages (up to 2 minutes)
- 32GB of optional additional storage of non-emergency messages on micro SD card
- 1 x Audio Output (Used for headphones when testing or connection to 3<sup>rd</sup> party amplifier)
- Power Save Mode on Mains Fail – disables background audio, reduces battery drain, increases survivability
- Fully adjustable volume for each message and input to provide consistent audio levels between different audio sources
- Test Tone with adjustable volume level

# Main Features of 60W & 120W T-Gen2

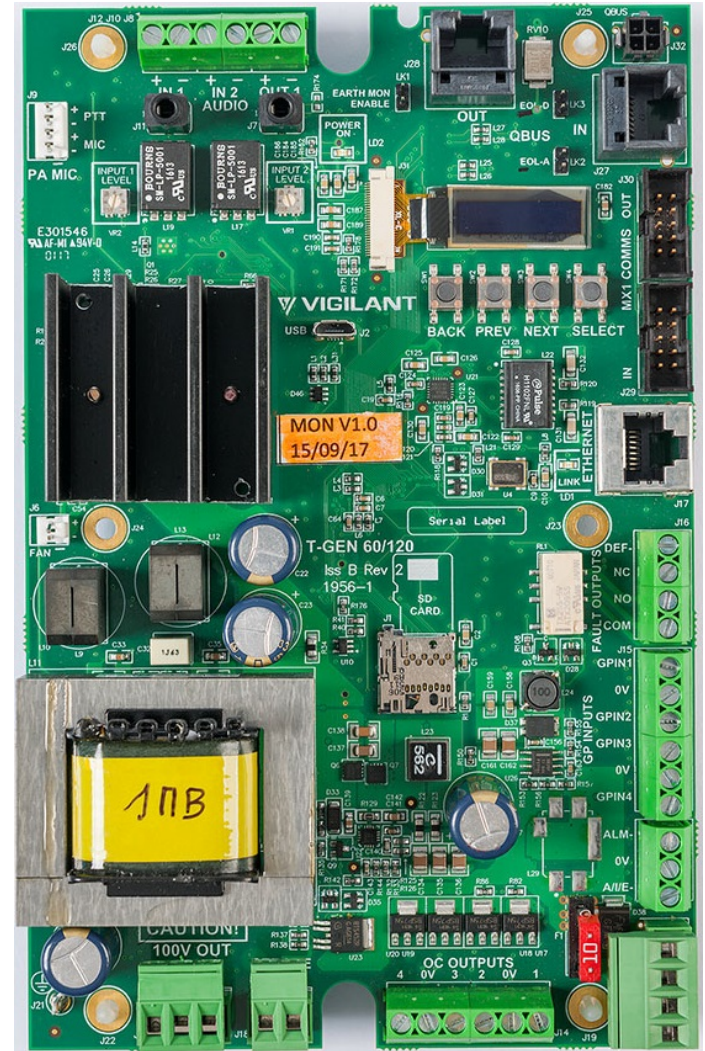
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- Grade 2 supports up to 20 zones and paging areas with 100V Switching Modules
- Optional High Level Interface (HLI) board gives the T-Gen2 the capability to communicate directly with the Vigilant MX1, MX4428, F3200 and Simplex fire panels for zone alarms and faults.
- 2 line-level Audio line inputs for functions like background music, paging announcements, etc.
- 6 Supervised digital inputs for triggering alarm conditions, activating recorded messages or tones, audio inputs or fault conditions.
- 4 O/C outputs and a clean-contact changeover relay output to signal various fault and status conditions.
- 2 Amp supervised Strobe output suitable for driving a number of evacuation strobes eg; Simplex 4906-9103/4 synchronised white flashing strobes, self-oscillating red strobes or beacons.

# FP1115 T-Gen 60

Features specific to 60W version are:

- Same footprint and mounting holes as a T-Gen50 for easy upgrades
- 60 watt power output @ 27VDC
- T-Gen 50 Mode where power reduces with voltage supply
- 3.0A current draw at 60W output



# FP1116 T-Gen 120

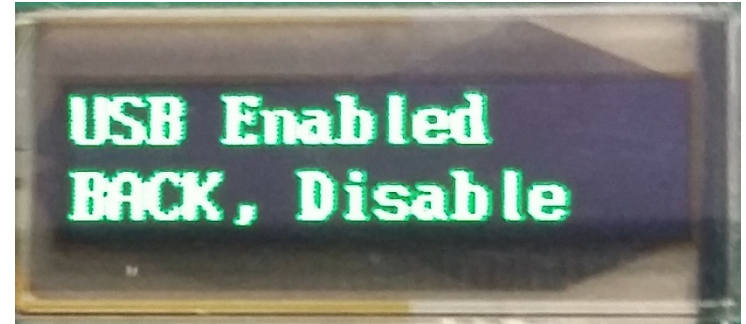
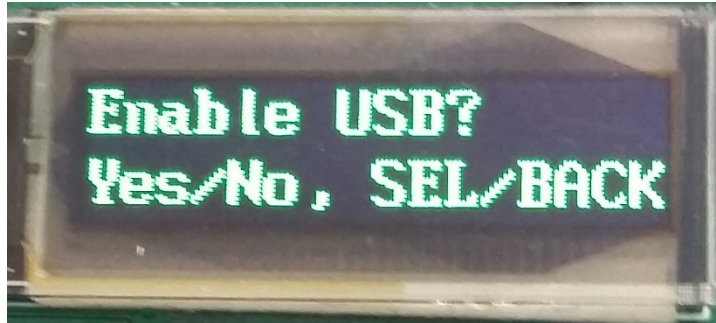
Features specific to the 120W version are:

- Mounts on 3 x MX Loop Card bracket footprint
- 120 watt power output @ 27VDC
- T-Gen 50 Mode where power reduces with voltage supply
- The T-Gen 120 has a cooling fan
- 6.0A current draw at 120W output



# T-Gen2 OLED

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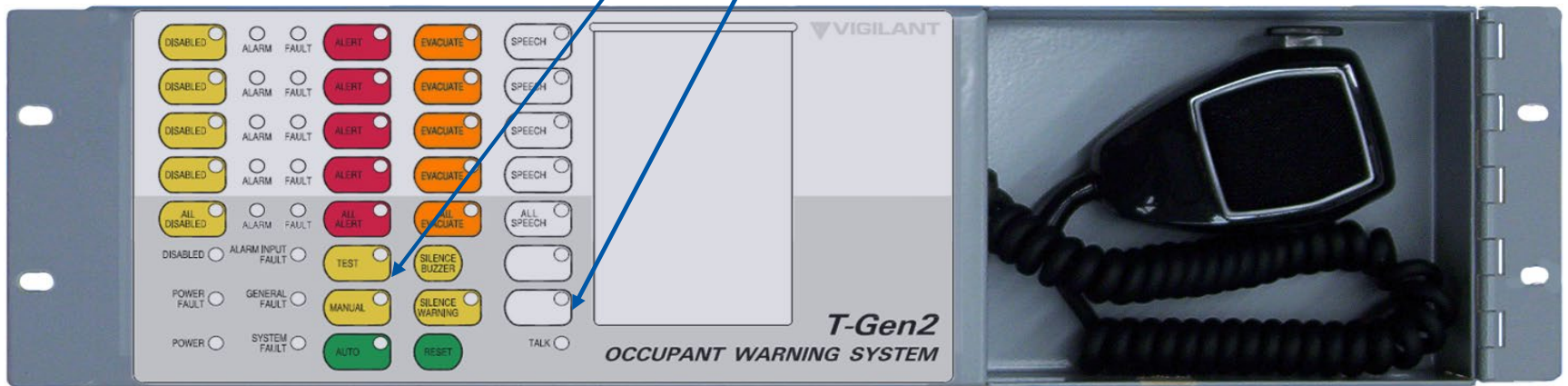


- The T-Gen2 on board O-LED Display makes fault diagnostics easy
- Inbuilt default configurations can be easily selected for different applications

# Grade 2 User Interface

Test Mode for alarm Simulation

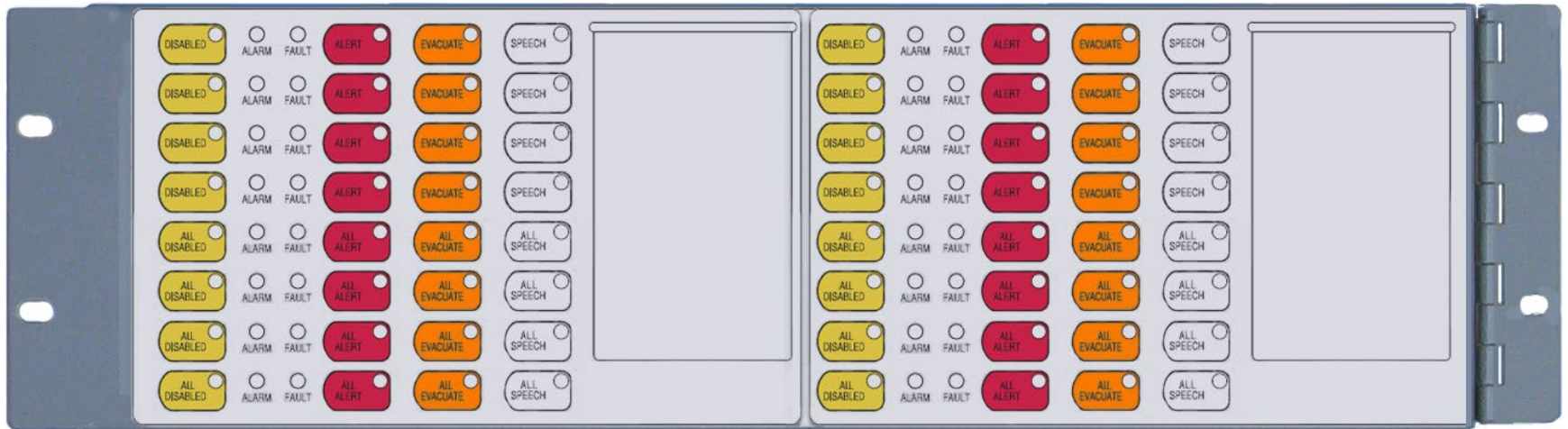
2 Programmable buttons for messages



- Alert, Evacuate, Speech and Disable controls and indications for each of the first 4 zones
- Alert, Evacuate, Speech and Disable controls and indications for all zones
- 2 programmable buttons for playing messages
- Test Mode to observe operation with no sounds/strobes activated
- Can be fitted into a MX4428, F3200, MX1 or Simplex 4100ESi panel
- Alarm simulation in Test Mode



# Grade 2 User Interface Extender Door



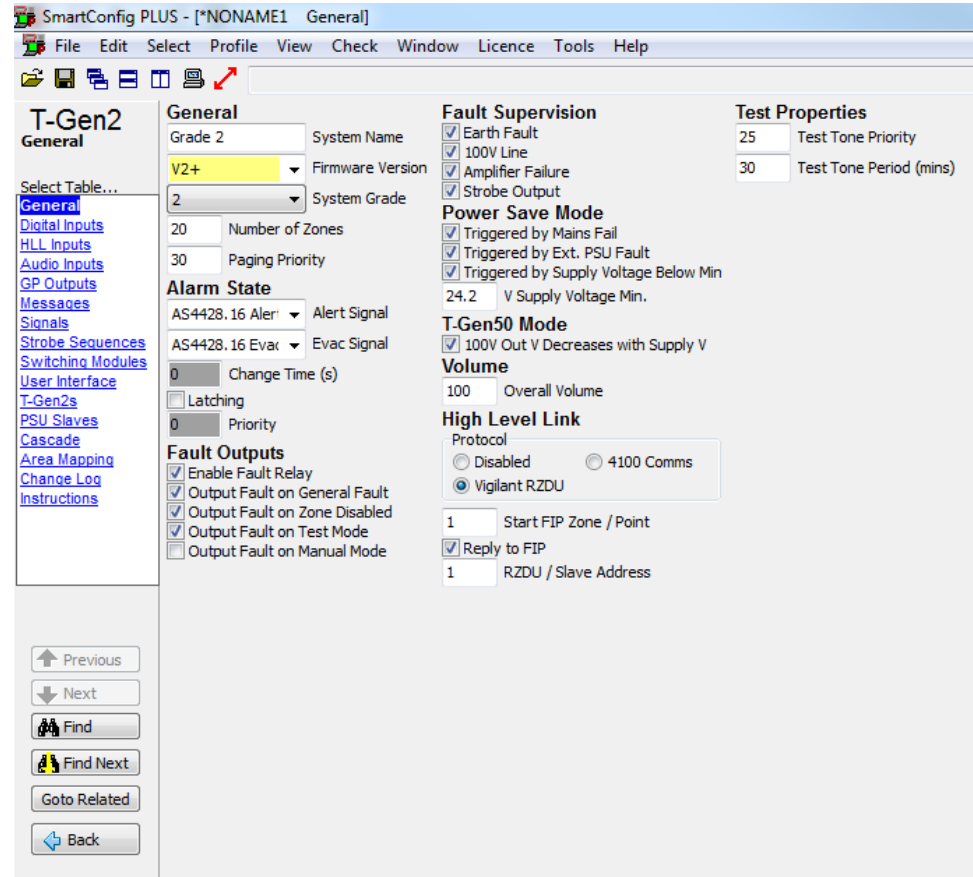
The Grade 2 User Interface Extender Door is a 19 inch 3U assembly.

- The 4 zones of User Interface can be expanded to 12 zones by adding the 3U 16 zone door
- An additional 8 zones of User Interface can be added (to make 20 zones in total) by fitting the 8 Zone Extender kit to the unfilled area on the door

# SmartConfig V2.8.0.0

SmartConfig can be used to configure the T-Gen2

- SmartConfig is EASY to use with a simple setup involving drop down box or tick box selection
- Software is available from public side of the fireplace website
- Built-in Help menu (F1 key) and Instructions page
- Data Transfer is via a Micro USB cable
- Configurations can be written to or read from the T-Gen2



# 100V Switching Module

VIGILANT T-Gen2



# 100V Switching Module

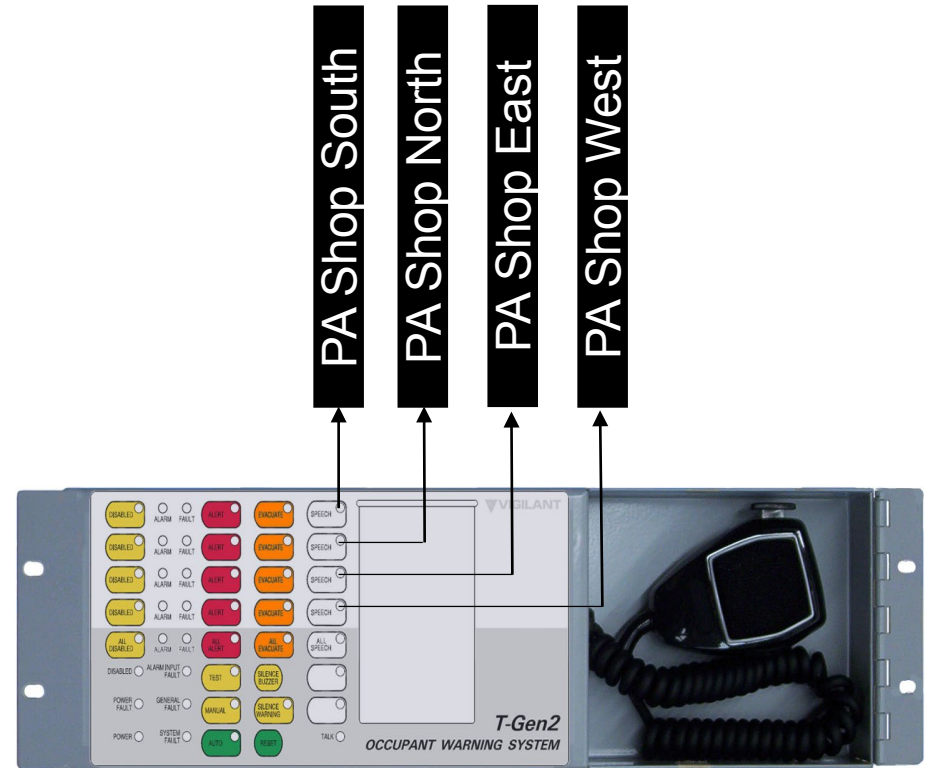
- Splits the T-Gen2's 100V speaker output into four 100V speaker circuits, each with its own supervision for an open or short circuit fault
- Each output can be disconnected from the 100V feed, allowing the T-Gen2 to control which outputs receive the audio signal, ideal for area paging or zone control
- Each output is automatically isolated on short circuit providing an ideal solution for speaker independence between floors



FP1117 Switching Module

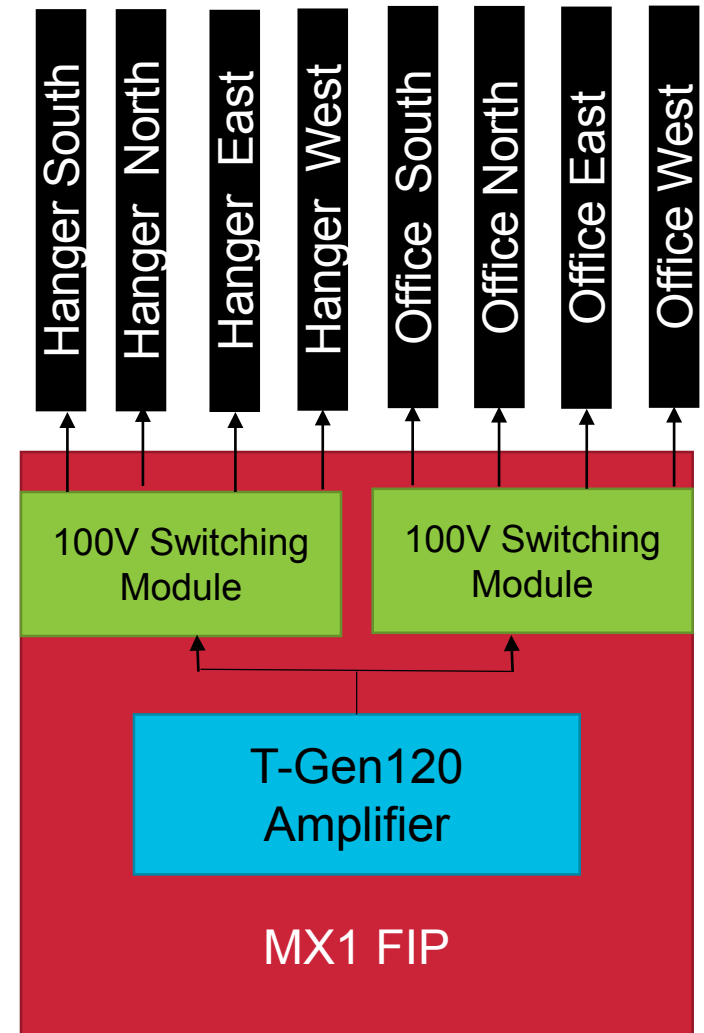
# 100V Switching Module Features

- 4 x 100V Speaker outputs with individual open/short circuit supervision
- Capable of single (56k EOL) or dual 100k EOL branch wiring on each output
- Automatic disconnection of shorted outputs
- Each output controllable by T-Gen2 for area paging or zone control
- Suitable for T-Gen60 or T-Gen120 amplifiers



# 100V Switching Module Features - Continued

- Demountable screw connectors
- Fault conditions reported to the T-Gen2 amplifier OLED display and on board LEDs
- Daisy-chain modules together for multiple outputs
- Multiple outputs configurable to provide 20 areas of PA paging
- Designed to comply with AS 4428.16 ActivFire listing



# 100V Switching Module Mounting Options

- 100V Switching Module includes all cabling to wire & hardware to mount in an MX1 fire panel, or Grade 2 EWS.
- Can be fitted to Simplex 28U/40U 4100ES / ESi panels using an FP1120 module bracket



FP1117 Switching Module mounted in Grade 2 EWS

# 100V Switching Module

- Splits the T-Gen2's 100V speaker output into four 100V speaker circuits, each with its own supervision for an open or short circuit fault
- Each output can be disconnected from the 100V feed, allowing the T-Gen2 to control which outputs receive the audio signal, ideal for area paging
- Each output is automatically isolated on short circuit providing an ideal solution for speaker independence between floors



FP1117 Switching Module

# 100V Splitter Module Mounting Options

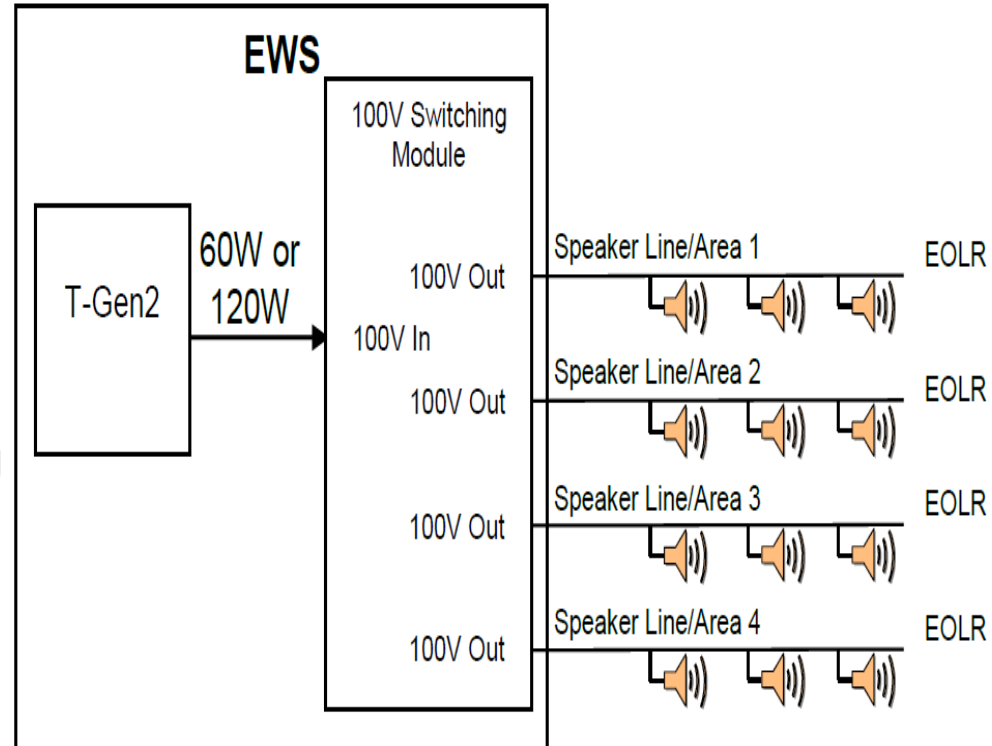
- 100V Splitter Module includes all cabling to wire & hardware to mount in an MX1 fire panel or Grade 2 EWS
- Can be fitted to Simplex 28U/40U 4100ES / ESi panels using an FP1120 module bracket



FP1120 with 2 x Splitters mounted in Simplex 4100ES PDI bay

# Area Selectable Paging

- The EWS with Switching Modules, splits a single 100V output into four separately selectable 100V line outputs
- Each of the 4 outputs has separate line supervision (o/c & s/c) which will isolate a shorted output allowing the other outputs to operate
- The 100V Switching Modules allow the T-Gen2 to control which outputs receive the 100V audio signal from the T-Gen2 – making area-specific paging and background music possible.



EWS fitted with one 4-way 100V Switching Module

# Remote Paging Console

A 4 zone & 16 zone paging console can be used to provide optional remote zone paging for a Grade 2 system or standalone T-Gen2, configured with a 100V Switching module.

Paging console interfaces via a CAT5e cable with a maximum distance of 300m to a Audio Switcher module

Audio Switcher is powered by the EWS or fire panel 24V PSU and wired to T-Gen 2 inputs

The logo for REDBACK, featuring the word "REDBACK" in a bold, sans-serif font with a stylized red and white graphic element to the left.

A 4488 Paging Console

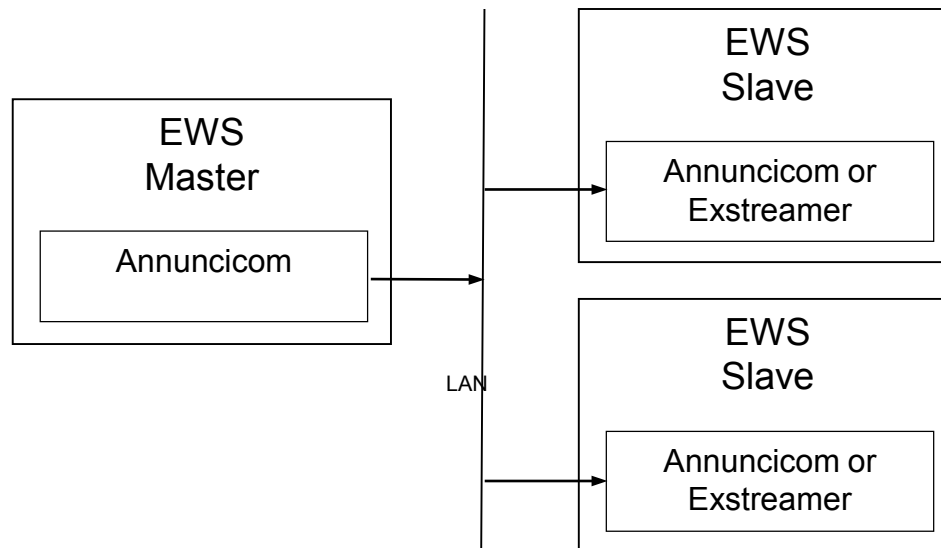
A 4489 Audio Switcher



# IP Networking

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- The EWS supports streaming audio over IP Networks using the BARIX range of Audio-over-IP modules
- One typical application is to use the BARIX modules to allow a master EWS to make non-emergency paging announcements to multiple slave EWS units connected together on a LAN.



# Grade 2 Emergency Warning Systems (EWS)



# FP1129 15U and FP1130 15U GRADE 2 EWS

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FP1129



FP1130



# FP1129 15U and FP1130 15U GRADE 2 EWS

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The Grade 2 EWS can be purchased off the shelf or can be a factory build-to-order item. By using kit parts this allows flexibility in the EWS construction providing the installer design options to suit the specific installation needs.

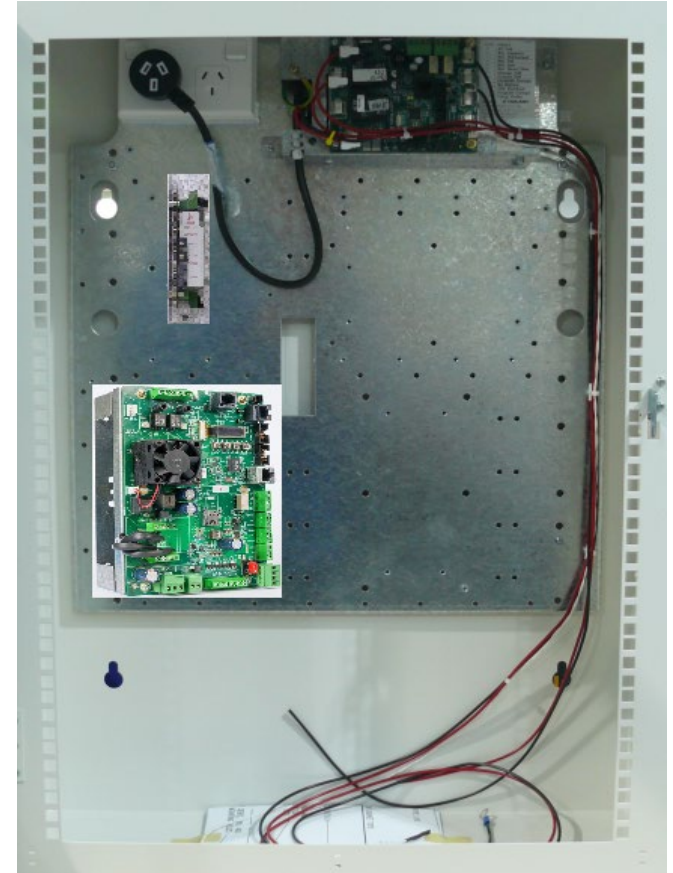
The User Control cabinet will always be required unless the installer chooses to install in a different sized cabinet or combine the system with the fire panel (combo).

A 15U expansion cabinet to match 15U base panel is available to house additional kit components if more space is required.



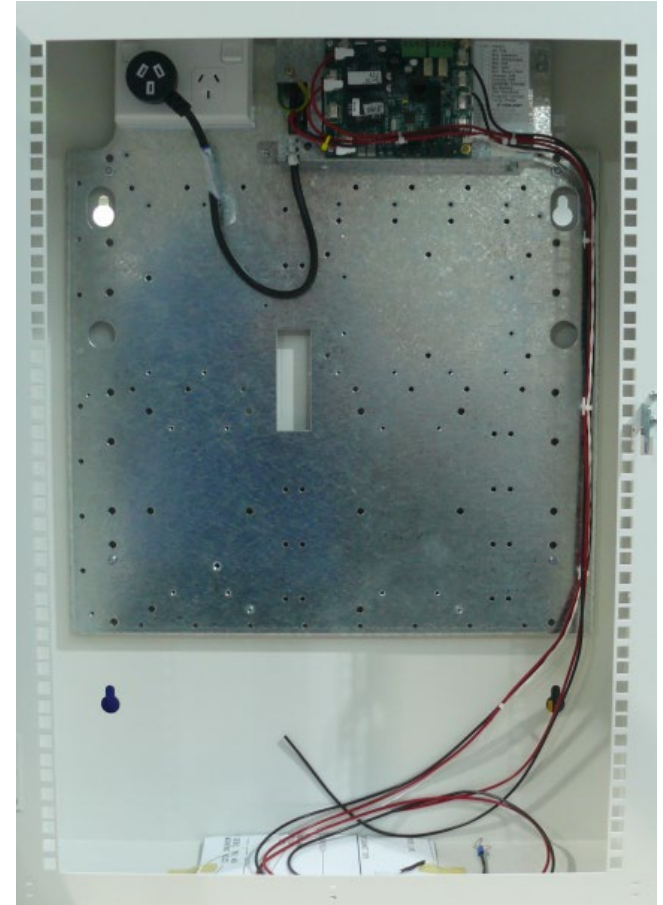
# FP1129 15U Grade 2 EWS

- Supplied as a 4 Zone EWS and includes:
  - 1 x FP1116 T-Gen120
  - 1 x FP1139 14A PSE
  - 1 x FP1124 Grade 2 UI
  - 1 x FP1117 100V Switching Module
- Installer expandable up to 20 zones by adding a 3U Door with 8 Zone Control Modules, Amplifiers, Switching Modules, HLI, additional PSE
- Room for 2 x 40AH Batteries



# FP1130 15U Grade 2 EWS Expansion Cabinet

- Supplied as a 15U cabinet with blank door and includes:
  - 1 x FP1139 14A PSE
  - 1 x Gearplate
- Installer expandable by adding Amplifiers, Switching Modules, HLI, additional PSE
- Room for 2 x 40AH Batteries



# T-Gen2 Customer Benefits

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<b>T-Gen2 Item</b>	<b>Feature</b>	<b>Customer Benefits</b>
T-Gen2	60W or 120W D-Class Amplifiers	High quality audio and 2 modes of operation to suit PSU load
T-Gen2	Additional storage via micro SD card	Storage and activation of site customisable non-emergency messages
T-Gen2 OLED	Fault diagnostics and site setup	Reduces fault investigation time and provides quick set up options.
100V Switching Module	Switchable 4 way outputs	Customise up to 4 PA paging areas
100V Splitter Module	Can be installed with most amplifiers to a load of 120W	Use to retrofit existing sites
Splitter and Switching Module	Can daisy chain multiple modules together and each output is short circuit independent	Lower hardware cost for multiple speaker circuits in zones

# Grade 2 Customer Benefits

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Grade 2 Item	Feature	Customer Benefits
Grade 2 User Interface Extender Door	Additional 8 zone Extender Interface modules	Expandable to 20 zones
Grade 2	Cascade Sequences	Ability to create your own Cascade using SmartConfig
Grade 2	Programmable configuration, user buttons and messages	Customise local warning messages, drills or tests.
Grade 2 Expansion	Expandable by adding extra T-Gen2 and Splitter / Switching Modules	Accommodate larger sites or site expansion
Grade 2 Area Mapping	The T-Gen2 in combination with one or more Switching Modules allows any source of audio to be mapped to any area.	Multiple areas can be combined and PA addressed all at the same time.