

T-Gen2

Emergency Warning Systems - Grade 2

Features

- Complete Grade 2 EWS - T-Gen2, User Interface, PSU
- 4-Zone, expandable to 20-zones
- Compliant to AS 4428.16 Grade 2
- 60W or 120W D-class amplifier variants
- 19in Rack cabinet format - 15U
- Built-in 14A PSU
- Emergency PA microphone
- 2 Audio line inputs
- 6 General purpose inputs and 4 O/C outputs
- Strobe output
- Programmable site-specific configuration
- Downloadable tones / messages
- Additional storage via microSD card
- Wide range of system configurations supported

The VIGILANT T-Gen2 EWS is a self-contained Grade 2 Emergency Warning System (EWS) fitted with a 4-zone control panel and 4 supervised 100V speaker outputs.

The standard FP1129 configuration is 15U with 120W audio output, integrated 14A PSU, PA microphone, 4-zone Grade 2 User Interface and one 100V Switching Module providing 4x 100V outputs. Space is available for an additional 60W or 120W T-Gen2, 5x Switch/Splitter Modules and 2x 40Ahr batteries.

It can be expanded to 20 zones with the addition of optional 8 and 16-Zone user interface expansion modules (as shown) and slave T-Gen2 units. An optional High Level Link (HLI) module allows zone alarm and fault information to be transferred directly from VIGILANT MX1, MX4428 and F3200 panels using RZDU, or SIMPLEX 4100ESi panels using 4100Comms.



When coupled with a modern fire detection and alarm system, such as the VIGILANT MX1, the VIGILANT EWS becomes an integral part of your building's fire detection and life safety infrastructure.

For emergency situations the T-Gen2 EWS supports stand-alone operation with automatic change-over from the alert tone and spoken message, to the evacuate tone and a different message, cascading through the various zones as configured. Operator controlled speech push buttons and an in-built microphone can be used for making emergency public address announcements.

For everyday use the EWS provides two audio inputs (e.g. background music, paging). Area-selectable paging uses a remote paging console with integrated microphone, and optional 100V Switching Module(s) to direct the paging announcement to different areas. Up to 6 control inputs allow external sources such as external paging, LAN connected audio-over-IP announcement, etc. to be controlled.

Operation

The EWS is controlled by the programmable configuration held within the T-Gen2. The factory-programmed configuration supports the default hardware arrangement, and the PC software SmartConfig allows a specific configuration to be prepared to match the installed arrangement (paging, slave T-Gens, etc). The flexibility provided allows virtually any application to be implemented.

Expansion

The base EWS can be expanded using a number of different modules and cabinets. Up to 20 zones of User Interface can be configured by adding an FP1126 16-Zone 3U Expansion door and an FP1128 8-Zone Expansion Module. Additional 100V outputs can be provided by fitting FP1117 4-way 100V Switching Modules. If higher power output or dual audio signal functionality is required then T-Gen2 modules (FP1115 60W, FP1116 120W) configured for slave operation and power supplies can be included. Up to 9 Slave T-Gen2s, 9x 14A power supply units and 10x 100V Switching Modules in total are supported.

Matching 15U expansion cabinets complete with 14A PSU (FP1130) can be used for additional equipment, or a build-to-order system can be factory assembled.

3U User Interface FP1124 / FP1125

Grade 2 4-zone EWS UI 3U Door, grey / black

3U Grade 2 16-Zone Extender FP1126 / FP1127

Grade 2 16-zone EWS Extender, 8-z fitted, grey / black

8-Zone Expansion Module FP1128

Grade 2 8-zone Expansion board for fitting to FP1126 / FP1127

15U EWS Expansion Cabinet FP1130

Incl. Blank door, gear plate, 14A PSU

14A PSU, Gear Plate Mount FP1139

14A PSU gear plate mounting 24V

T-Gen2 HLI Board FP1143

High Level Interface with Mounting Bracket

Specifications

Weight	FP1129 (15U) 26kg
Size (HWD)	750x550x211
Supply Voltage	19.2V to 28.8V
PSU Capacity	14A Peak
Battery Space	2x 40Ah
Operating Temp.	-5°C to +45°C
Relative Humidity	0 to 95% non-cond.
Storage Temp.	-20°C to +70°C
Quiescent Current ¹	300mA
Op. Current@27Vdc ⁵	6.2A @ 120W
Line Voltage AC	100V rms
- DC (Supervision)	2.5V (56k ELD 5.0V (O/C)
Line Power	120W
Maximum line cap.	200nF
Audio Performance	
SNR	>75 db(A)
THD	<0.25%
Freq. range +/- 1dB	260Hz – 3800Hz
Freq. range +/- 3dB	215Hz – 8400Hz
100V Speaker Line Supervision ELD	
- 1 Branch	56k 0.4W
- 2 Branches	100k 0.4W
Strobe Output	
- 1 to 3 branch	1x10k – 3x27k 0.4W
Current rating	Max 2.0A
Audio Inputs 1 & 2	250mVrms (min) into 5kOhm ²
Mic. Input Level	3mV rms to 100mV rms ³
Digital Inputs	2k7 EOL, <3.5V Active
Open Collector O/P	<1V @ 100mA, 30Vdc
Fault Relay	Change-over, 2A @ 30Vdc
Interfaces	OLED, 4 button menu
Master/Slave	Up to 9 slaves
On-board Storage	4MB (configuration and audio files)
MicroSD Card	32GB max size FAT32 support
Headphone Output (internal)	
Load impedance	8 Ohm min 6mW
Output Level	1.30V rms
ActivFire Listed	afp-3315

Notes.

1. Audio idle
2. Isolated, for full power
3. PTT driven, monitored
4. Excludes strobe current



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VIGILANT, a respected regional brand of Johnson Controls, is a technology leader in the Australian and New Zealand fire detection markets with AS and NZS product approvals. The VIGILANT product line includes a comprehensive range of MX TECHNOLOGY fire detection products and the market-leading QE90 voice evacuation systems. VIGILANT product is widely supported throughout Australia and New Zealand by a network of installation companies, service companies and distributors.

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T-Gen2EWSG2VIG1810 October 2018

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T-Gen2

Building Occupant Warning Systems - Grade 3

Features

- Complete BOWS - T-Gen2, User Interface, PSU
- 60W or 120W D-class amplifier variants
- 19in Rack cabinet format - 8U, 15U
- Built-in PSU - 14A
- Emergency PA microphone
- 2 Audio line inputs
- 6 General purpose inputs and 4 O/C outputs
- Strobe output
- Programmable site-specific configuration
- Downloadable tones / messages
- Additional storage via microSD card
- Two user-programmable buttons for signal generation
- Expandable power output with Slave T-Gen2 units
- Compliant with AS 4428.16

The VIGILANT T-Gen2 BOWS is a self-contained Grade 3 Building Occupant Warning System (BOWS) with a supervised 100V speaker line and digitised speech messages.

With an integral power supply and PA microphone, it can connect directly to a fire alarm panel, but can also be used as a stand-alone unit.

It is available in two standard configurations: 8U with 60W audio output for smaller buildings (easily expanded to 2 x 60W outputs); 15U with a 120W audio output (easily expanded with additional 60W or 120W output).

Each support a number of optional 100V Switching or 100V Splitter Modules to provide multiple protected outputs, plus additional T-Gen2 units and power supplies can be added in expansion cabinets for a large system.



When coupled with a modern fire detection and alarm system, such as the VIGILANT MX1, the VIGILANT BOWS becomes an integral part of your building's fire detection and life safety infrastructure.

For emergency situations the T-Gen2 BOWS supports stand-alone operation with automatic change-over from the alert tone and spoken message, to the evacuate tone and a different message. Operator controlled speech push button and an in-built microphone are used for making emergency public address announcements.

An optional High Level Link (HLI) module allows connection to the RZDU output of VIGILANT MX1, MX4428 and F3200 fire panels, or the internal 4100Comms on the SIMPLEX 4100ESi to receive zone alarm information and return fault states.

For everyday use it provides two audio inputs (e.g. background music, paging), area-selectable paging options using the in-built microphone and 4 front panel switches for area selection, or a remote 4-zone paging console with integrated microphone, both using

the optional 100V Switching module(s) to direct the paging announcement to different areas; and up to 6 control inputs for external sources such as external paging, LAN connected audio-over-IP announcement, etc.

Operation

The BOWS is controlled by the programmable configuration held within the T-Gen2. The factory-programmed configuration supports the default hardware arrangement, and the PC software SmartConfig allows a specific configuration to be prepared to match the installed arrangement (paging, slave T-Gens, etc). The flexibility provided allows virtually any application to be implemented.

Master/Slave

For higher power outputs, additional T-Gen2 modules may be added configured as slaves. These deliver the amplified master signal to another supervised speaker output, plus provide a second strobe output.

4-Way 100V Switching Module FP1117

This optional module splits the T-Gen2's 100V speaker output into four 100V speaker circuits, each with its own supervision. Each output can be disconnected from the 100V feed, allowing the T-Gen2 to control which outputs receive the audio signal, e.g., for area paging. Ideal for customising public address areas.

4-Way Splitter Module FP1118

This optional module is ideal for splitting one T-Gen2 output into multiple floors or between common areas and apartments so that each output has short-circuit isolation. If a short circuit fault is detected, the 100V Splitter module disconnects that output, allowing the others to continue working. No control of the outputs is otherwise possible. A fault condition is signalled to the T-Gen2 via the 100V line.

Specifications

	FP1144 (8U)	FP1134 (15U)
Weight	17kg	20kg
Size (HWD)	550x440x210	750x550x211
Supply Voltage	19.2V to 28.8V	
PSU Capacity	14A Peak	
Battery Space	2x17Ah	2x40Ah
Operating Temp.	-5°C to +45°C	
Relative Humidity	0 to 95% non-cond.	
Storage Temp.	-20°C to +70°C	
Quiescent Current	290mA ¹	
Op.Current@27Vdc ⁴	3.1A @ 60W	6.1A @ 120W
Line Voltage AC	100V rms	
- DC (Supervision)	2.5V (56k ELD 5.0V (O/C)	
Line Power-Tones	60W rms	120W rms
- Audio	60W rms	120W rms
Maximum line cap.	200nF	
Audio Performance		
SNR	>75 dB(A)	
THD	<0.25%	
Freq. range +/- 1dB	260Hz – 3800Hz	
Freq. range +/- 3dB	215Hz – 8400Hz	
100V Speaker Line Supervision		
ELD – 1 Branch	56k 0.4W	
- 2 Branches	100k 0.4W	
Strobe Output		
ELD – 1 to 3 branch	1x10k – 3x27k 0.4W	
Current rating	Max 2.0A	
Audio Inputs 1 & 2	230mVrms (min) into 5kOhm ²	
Mic. Input Level	3mV rms to 100mV rms ³	
Digital Inputs	2k7k EOL, <3.5V Active	
Open Collector O/P	<1V @ 100mA, 30Vdc	
Fault Relay	Change-over, 2A @ 30Vdc	
Interfaces	OLED, 4 button menu	
Master/Slave	Up to 9 slaves	
On-board Storage	4MB (configuration and audio files)	
MicroSD Card	32GB max size FAT32 support	
Headphone Output (internal)		
Load impedance	8 Ohm min 6mW	
Output Level	1.30V rms	
ActivFire Listed	afp-3315	
FPANZ Listed	VF/429	VF/430

Notes.

1. Audio idle
2. Isolated, for full power
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T-GEN2 60/120W EMERGENCY WARNING SYSTEM

This bulletin updates the T-Gen2 range of Emergency Warning System (EWS) products that are compliant with AS 4428.16.

T-Gen2 is a self-contained Emergency Warning System (EWS) with a wide range of functions and optional modules to enable small to large-sized single, and multi-zone evacuation systems to be created.

At the heart of the system is the T-Gen2 tone generator and amplifier which can produce 100Vrms tones and speech from live audio inputs or pre-recorded digital storage.

The T-Gen2 is available in two models with different power ratings/physical formats:

- T-Gen 60: A 125 (w) x 195 (h) x 55mm (d) PCB that mounts on the “Responder” footprint or where an existing T-Gen 50 can be mounted (excluding F3200 card frame), and can drive 60W of speaker load.
- T-Gen 120: A 125 (w) x 195 (h) x 110mm (d) module that generally mounts where MX Loop Cards can mount on various gear plates, in Simplex 4100 PDI bays, and can drive 120W of speaker load.



Fig 1
T-Gen2 60W Model

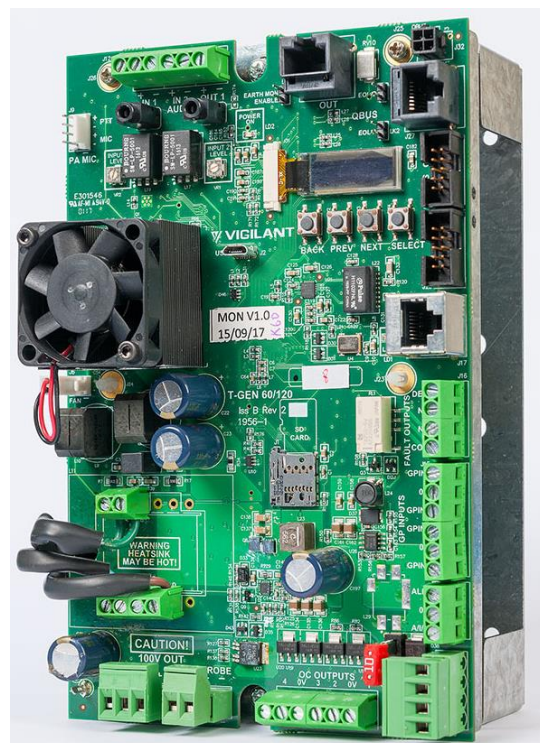


Fig 2
T-Gen2 120W Model

Both versions have the same feature list, with the exception of the size, mounting arrangement, maximum speaker load and the presence of a cooling fan on the 120W version. Table 1 shows the feature list for both models.

Features

Table 1 – T-Gen 60/120W Feature List

	FP1115	FP1116
Complies with AS 4428.16	✓	✓
100V RMS Output Power	60W	120W
Single PCB 125 (w) x 195 (h) x 55mm (d)	✓	
Single PCB on bracket 125 (w) x 195 (h) x110mm (d)		✓
24Vdc (19.2 – 28.8V) operation	✓	✓
Mounts on Responder/T-Gen 50 footprint	✓	
Mounts on 3 x MX Loop Card bracket footprint		✓
Mounts in 4100ESi Compact panel	✓	
Mounts in 4100ESi PDI bays (depending on cabinet depth)	✓	✓
Easy connection to MX1 and 4100ESi	✓	✓
Supervised Alarm Input (programmable)	✓	✓
A/I/E Input (optional - programmable)	✓	✓
4 x Supervised Digital Inputs (programmable)	✓	✓
All Digital Audio processing, Class D Amplifier	✓	✓
AS 4428.16 Alert & Evacuate Tones	✓	✓
AS 2220.1 Alert & Evacuate Tones	✓	✓
Pre-recorded Alert and Evacuate messages	✓	✓
ISO8201 keyword messages	✓	✓
Alarm Input Non-Latching/Latching	✓	✓
Programmable Alert to Evacuate delay	✓	✓
School Bell Tone	✓	✓
Supervised Microphone Connection	✓	✓
2 x Audio Inputs 230mVrms (min) for BGM, Paging – electrically isolated	✓	✓
1 x Audio Output (headphones/Ext. Amp)	✓	✓
Link-selectable Earth Fault monitoring	✓	✓
Normally energised Fault Relay	✓	✓
Open Collector Def- Fault Output	✓	✓
On-board OLED character display for faults and functions	✓	✓
100V Speaker output O/C, S/C Supervision (2 branches)	✓	✓
2Amp Strobe Output, Single Polarity, Supervised (3 branches)	✓	✓
Strobe Output Supports Synchronised Strobes	✓	✓
Amplifier monitoring, quiescent and overload	✓	✓
Automatic Speaker Overload Protection (reduces voltage)	✓	✓
Digital storage of messages (up to 2 minutes)	✓	✓
Optional Micro-SD card for non-emergency messages	✓	✓
On-site recording of messages	✓	✓
Play messages from digital input closure	✓	✓
Listen and Play messages from OLED	✓	✓
1KHz sinewave Test Tone, adjustable level	✓	✓
Optional chimes on paging and microphone	✓	✓
Programmable sequencing of messages for Signals	✓	✓

Programmable volume for each message and input	✓	✓
Programmable priority between inputs and message playing	✓	✓
Power Save Mode on Mains Fail – disables background audio	✓	✓
Five Band graphic equaliser	✓	✓
Supports up to 9 Slave T-Gen2s for higher power outputs	✓	✓
Configurable as Slave T-Gen2	✓	✓
Cooling fan monitored for failure	N/A	✓
Supports up to 4 paging areas with 100V Switching Modules	✓	✓
Optional 100V Switching / Splitter Modules provide 4 x short circuit isolated 100V outputs	✓	✓
Supports optional Grade 3 User Interface & Mic (1 zone)	✓	✓
Supports optional Grade 2 User Interface & Mic (up to 20 zones)	✓	✓
High Level Interface (RZDU or 4100 protocol compliant)	✓	✓
AS 4428.16 – Test, Disable, Silence Warning functions	✓	✓

Operation

Document PBG0210 provides in-depth information related to the definition and use of the T-Gen2 product range and the systems it supports.

For a standard grade 3 EWS installation the T-Gen2 and optional microphone are typically installed in, powered and controlled by a fire panel. They are readily mounted in the Vigilant *MX1* and Simplex 4100ESi panels.

Usually the Alarm Devices output of the fire panel is wired to the Alarm Input on the T-Gen2, so that the fire panel Alarm Devices function turns the T-Gen2 Evacuation system on and off directly (the T-Gen2's Alarm input is set for non-latching operation).

When using an HLI board (FP1143), the T-Gen2 is able to communicate directly with the fire panel to exchange status and data using the RZDU or 4100 protocol.

For non-alarm operation the T-Gen2 supports two electrically isolated low-level audio inputs that can be used for background music, remote, audio announcements, etc. The inputs can be programmed to be “always on” or activated by certain digital inputs on the T-Gen2 being active.

When combined with a 4 zone paging console (SU0360 and SU0361) and optional 100V Switching Modules (FP1117) the T-Gen2 can be configured to make non-emergency voice paging announcements to different areas of the building.

Each output of a 100V Switching Module can be assigned to one, all or none of the paging areas, so that different paging combinations can be configured. For example, some outputs could get all announcements, some area specific, and some don't receive any paging announcements.

An optional Grade 3 User Interface can be added to the T-Gen2 to provide expanded manual controls and zoned paging functions, by using the paging buttons and microphone that are built into the User Interface.

An optional Grade 2 User Interface can be added to the T-Gen2 to provide a Grade 2, 4 zone user interface complete with emergency PA microphone. This can be further expanded to provide display and control for up to 20 zones.

The T-Gen2 Digital Inputs can be programmed to make recorded message announcements to the T-Gen2's speaker output. These could be used for special announcements like school class change, area lock-down, test commencement/ completion, etc. Two spare buttons on the User Interface are also configurable to play recorded messages – these could be one-time announcements, or play continuously until the button is pressed again to turn off.

An on-board OLED display and 4 pushbuttons provide a means of controlling the T-Gen2 and viewing its status. The current input conditions, fault status, event history, firmware and configuration versions can be recalled; and each of the tone signals can be listened to, played out the 100V line, or re-recorded if the configuration permits. A test tone with adjustable volume is also available for conducting speaker checks at a low level, or sound level checks at full volume.

For higher power outputs, or separate speaker feeds, multiple T-Gen2 units can be joined together in a master-slave arrangement. One unit is the master and it provides the control and audio signals for the slave units. Additional T-Gen2 units are configured for Slave operation and their unique address (1-9) via the on-board OLED and pushbuttons. They are then connected together and to the master T-Gen2 using RJ45 cables provided.

Configuring T-Gen2

The T-Gen2 is supplied ex-factory with a default configuration suitable for use in most fire panels. A number of other configurations are also present, one of which can be selected using the OLED and pushbuttons. These allow the T-Gen2 to be used with the older AS 2220.1 tones, and as spare parts for particular configurations. Otherwise the Windows SmartConfig PC program is used to program a specific configuration and download this to the T-Gen2 using a USB cable.

SmartConfig Lite (SF0323) and its User Manual (LT0345) can be downloaded from the Fireplace: <http://vigilant-fire.com.au>

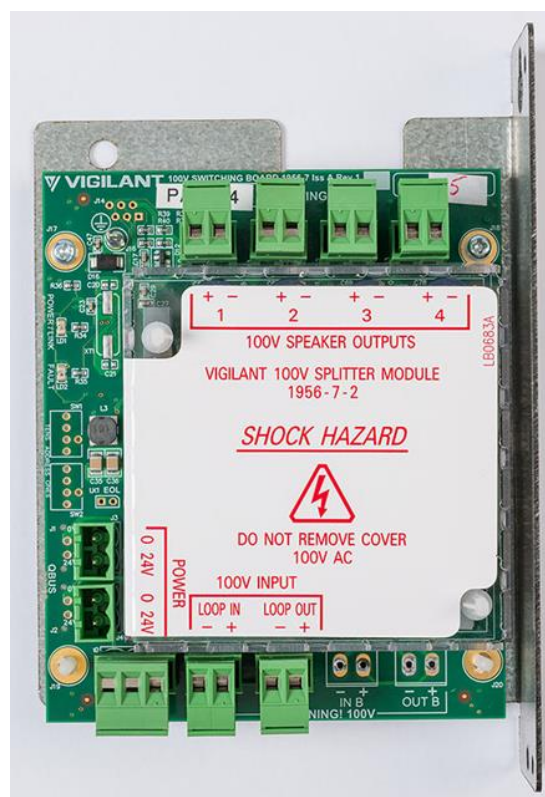
Optional Modules

100V Splitter Module (FP1118)

The 100V Splitter Module takes the T-Gen2's 100V output and splits it into 4 x 100V outputs, each with its own open/short circuit fault supervision and isolation relay for disconnection on short circuit. This provides 4 outputs with short-circuited fault tolerance between them, and by daisy-chaining multiple modules together additional outputs can be provided.

The 100V Splitter Module is readily mounted in most fire panels and BOWS cabinets along with the T-Gen2.

Further details on the 100V Splitter Module are contained in Product Bulletin PBG0205.



100V Splitter Module

100V Switching Module (FP1117)

The 100V Switching Module provides similar functionality as the 100V Splitter Module, with the additional feature that the four outputs can be controlled by the T-Gen2. This allows each output to be connected and disconnected from the T-Gen2's 100V feed, allowing functions like area selective paging or zone control to be done. A separate paging console/microphone, or the T-Gen2 Grade 3 User Interface, can be used to choose to which areas paging announcements need to be made, and then the T-Gen2 controls the 100V Switching Modules to direct the paging announcements to the required areas (100V outputs).

These modules are also used in Grade 2 systems to control zone audio in a 2 or 3 way switch setup to achieve a multi-zone, multi-audio system.

Each Switching Module has two 100V audio inputs, either of which (or neither) can be switched to each of the 4 x 100V outputs. By wiring two modules in parallel, a 3-way (plus silence) switch can be arranged for each 100V output.



100V Switching Module

Multiple Switching Modules can be daisy-chained together to provide additional outputs.

The 100V Switching Module is readily mounted in the most fire panels or BOWS cabinet along with the T-Gen2.

HLI board (FP1143)

The High Level Interface (HLI) board gives the T-Gen2 the capability to communicate directly with the Vigilant MX1, MX4428 and F3200 fire panels to exchange status and information using the RZDU protocol. Up to 32 Zones Alarm states and other triggers can be sent to the T-Gen2 to activate alarms, paging and playing of messages, while the T-Gen2 can return its fault state.

The HLI board (module) also includes a separate short-circuit isolated RZDU connection for wiring to remote RZDU devices – so that a short circuit in the field wiring does not affect the T-Gen2's communication with the fire panel.



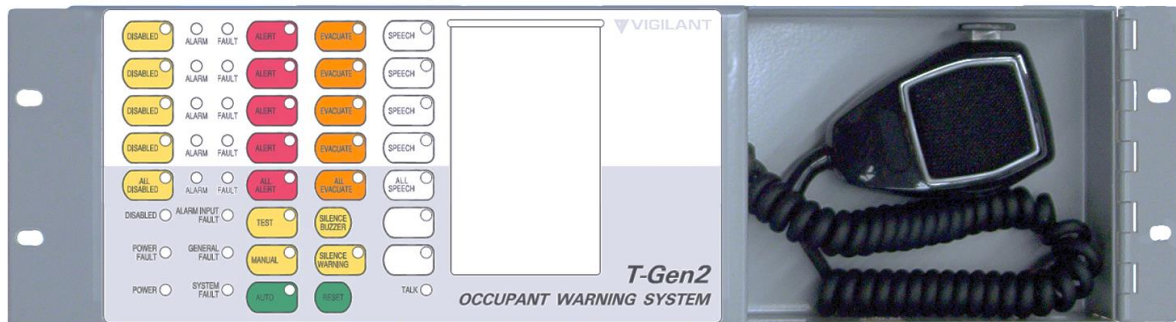
HLI High Level Interface Board

Note: The T-Gen2 can communicate directly with an MX1 panel without the need for the HLI board FP1134. It requires a 10-way ribbon cable, and a free serial port on the MX1 (Port 0). The T-Gen2 and MX1 need to be mounted in a single or adjacent cabinets. Other RZDU device connections are not possible using this method.

The HLI board also supports the internal 4100Comms protocol used in Simplex 4100ESi panels. The T-Gen2 appears as a IDNet slave device to the 4100ESi, and allows up to 40 inputs/outputs of information to be shared.

T-Gen2 Grade 2 User Interface

An optional Grade 2 User Interface is available for T-Gen2 as a 3U 19 inch rack mounting module containing a microphone and the first 4 zones.



3U Door Grade 2 User Interface

This provides:

- Alert, Evacuate, Speech and Disable controls and indications for each of the first 4 evacuation zones
- Alert, Evacuate, Speech and Disable controls and indications for all zones.
- Auto/Manual controls
- 2 programmable buttons for playing messages
- Test Mode to observe operation with no sounds/strobes activated
- Alarm simulation in Test Mode
- Silence Warning – one button press to silence operation for 12 seconds
- Silence buzzer control
- LED test
- Fault indicators
- Microphone for Emergency Speech
- Talk indicator for showing when microphone is active

As a number of the buttons require specific functions to be available in the building emergency management plan (e.g., Zone Disable, Alert Signal, Silence Warning, Reset) these buttons are usually disabled, but can be enabled for sites that require them.

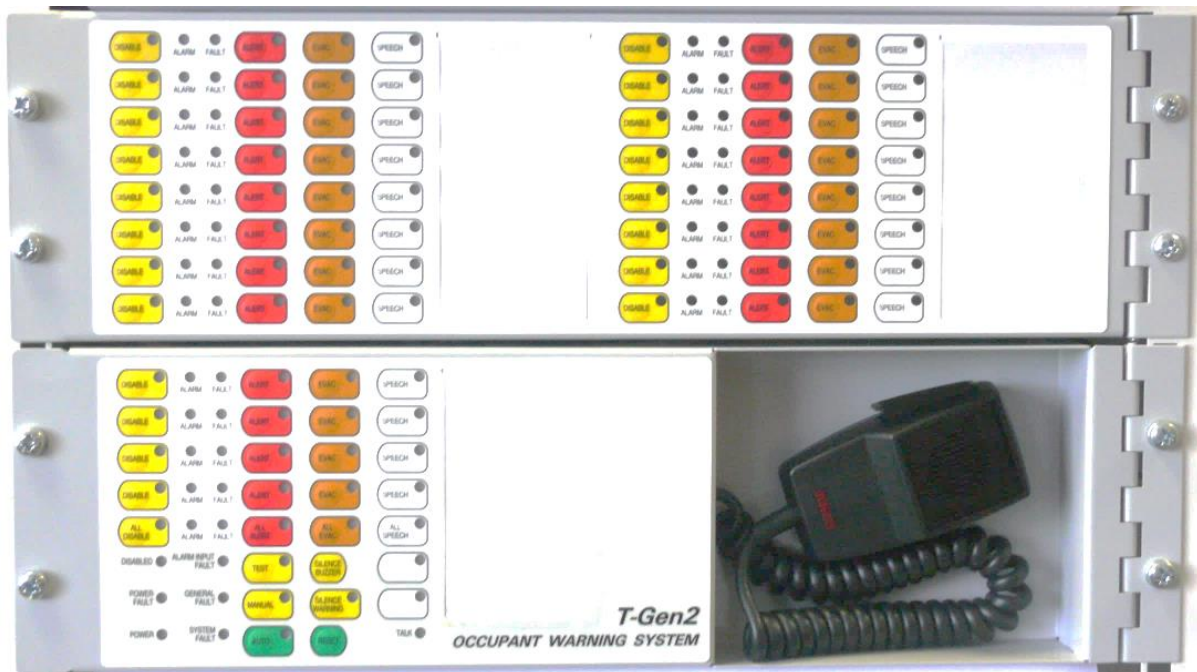
The User Interface is available in 2 versions:

- FP1124 is a 3U door User Interface with 4 zones, grey in colour (suits MX1, MX4428, F3200), with cables to connect to the T-Gen 60 or T-Gen 120 mounted inside the fire panel.
- FP1125 is a 3U door User Interface with 4 zones, black in colour (suits Simplex 4100ESi), with cables to connect to the T-Gen 60 or T-Gen 120 mounted in the 4100ESi.

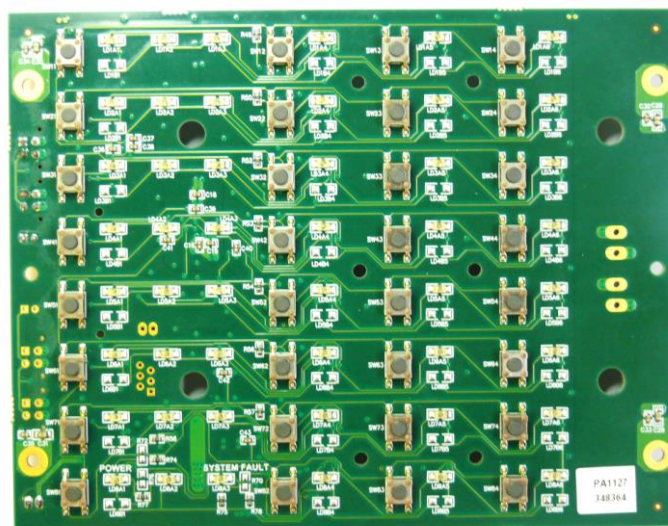
To expand the Grade 2 User Interface from 4 zones to 12 or 20 zones, the following parts can be used.

Grade 2 User Interface 15 Zone 3U Door

The FP1126 (Grey 3U door) or FP1127 (Black 3U door) provide an expansion to the base Grade 2 User Interface with an additional 8 or 16 zones of control and indicators. As default the door includes 8 zones, but can be further expanded with another 8 zones by using FP1128, mounted on the back of the expansion 3U door, bringing the total number of addressable zones up to the maximum of 20.



20 Zone Grade 2 User Interface (FP1124 + FP1126 + FP1128)



Expansion module from 12 to 20 zones FP1128

PSE 14A Power Supply FP1139

The FP1139 14A Power Supply Equipment (PSE) is designed for use with the T-Gen2 Emergency Warning System. It provides mains power, battery connection and battery charging, including fault supervision of the various conditions.

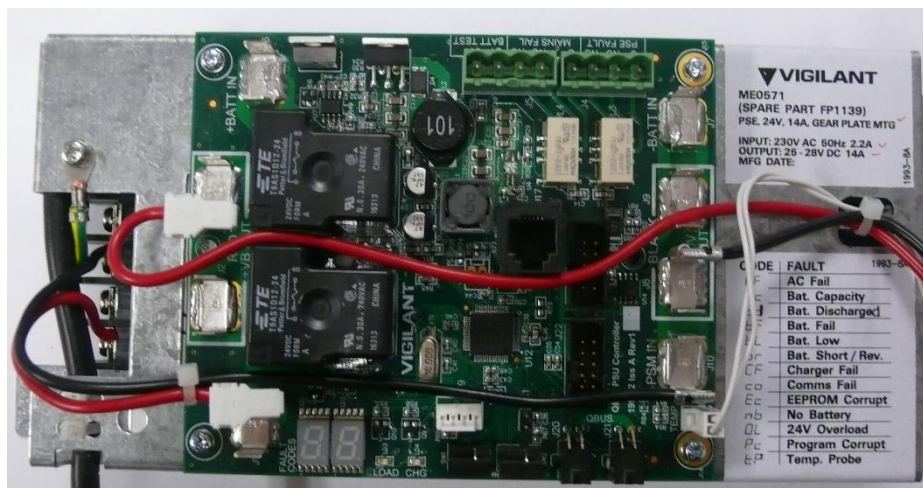
It is compliant with AS 7240.4.

The 14A PSE is rated at a peak current of 14A (e.g., during AS 4428.16 tones), but is limited to a maximum of 8A continuous. Typically it can power up to 2 x T-Gen 120 units at 120W each (no strobe load).

It communicates with the master T-Gen2 for the transfer of fault and status information and various voltages/currents. Up to 9 PSEs can be used in a T-Gen2 system.

Two of the 14A PSE can be mounted on the T-Gen2 15U gearplate used in the standard 15U T-Gen2 panels and Build-To-Order or combo panels.

To mount the 14A PSE in a Simplex 4100ESi PDI bay an FP1142 bracket is required.



FP1139 14A PSE Power Supply

Complete Systems

Grade 3 BOWS FP1144/FP1134

The T-Gen2 is also available as two complete Grade 3 Building Occupant Warning System (BOWS) units – assembled into a cabinet with a PSU, User Interface and space for additional modules.

An 8U cabinet with one T-Gen 60 and a 14A PSU is available as FP1144.

A 15U cabinet with one T-Gen 120 and a 14A PSU is available as FP1134.

Further details are contained in PBG0215.

Grade 2 EWS FP 1129

The T-Gen2 is also available as a complete Grade 2 AS4428.16 compliant 4 zone Emergency Warning System mounted in a 15U cabinet with a compliant power supply and space for several additional modules.

This is available as FP1129, with User Interface zone expansion units as FP1126 (16Z expansion door) and FP1128 (8Z board) for up to 20 zones.

Further details are contained in the latest revision of PBG0214.

15U Expansion Cabinet FP1130

When a single cabinet does not provide sufficient space or meet the power requirements, then the FP1130 15U Expansion Cabinet provides a solution. This cabinet is required to be mounted adjacent to the fire panel, BOWS or EWS and comes with a 14A PSE (FP1139) and T-Gen2 gearplate pre-installed.

Further details are contained in the latest revision of PBG0214.

Build-To-Order Systems

Build-To-Order (BTO) T-Gen2 systems can be ordered using the standard products (FP1129, FP1130, FP1134 or FP1144) as the base item with additional T-Gen2 modules fitted, wired and tested.

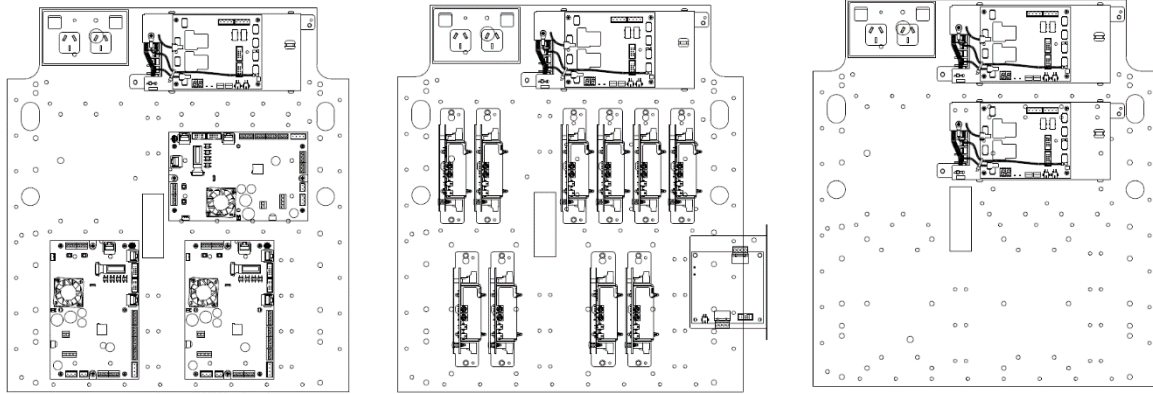
Larger cabinet BTO systems can also be ordered – based on 28U and 40U cabinets with multiple 15U gearplates fitted. The 28U x 310 deep cabinet can have two 15U T-Gen2 gearplates fitted, leaving room for up to 75Ahr of batteries at the bottom of the cabinet.

The 40U x 310 deep cabinet can have three 15U T-Gen2 gearplates fitted, with room for up to 75Ahr of batteries at the bottom of the cabinet.

Each 15U T-Gen2 gearplate can accommodate up to:

- 3 x T-Gen 60/120 modules.
- 2 x 14A PSU and one GPO.
- 10 x 100V Switching/Splitter Modules.

Note a number of positions overlap so not all can be mounted at the same time.



T-Gen2 Modules

100V Switch/Splitter/HLI
Modules2nd 14A PSE

T-Gen2 15U Gearplate Module Positions

The BOWS page of MX1Cost (V2.13 onwards) can be used to prepare designs and quotes for T-Gen2 BTO systems in these cabinets.

Use in Fire Panels

Details for using T-Gen2 in Vigilant *MX1* fire panels (directly and as “combo” panels) are contained in the latest version of PBK0029.

Details for using T-Gen2 in Simplex 4100ESi panels (directly and as “combo” panels) are contained in the latest version of PBS0071.

Details for using T-Gen2 in Vigilant MX4428 panels are contained in the latest version of PBF0285.

Details for using T-Gen2 in F3200 are contained in the latest version of PBG0207.

Specifications**T-Gen2 (FP1115/1116)**

Weight	0.65kg / 1.5kg
Size	125x195x55mm / 125x195x110mm
Supply Voltage	19.2Vmin - 28.8Vmax
Operating Temperature Range	-5°C to +45°C
Relative Humidity	0 to 95% non-condensing
Storage Temperature Range	-20°C to +70°C
Quiescent Current	
Audio enabled but idle (no signal)	170mA
Active Current - 27Vdc	3.0A @ 60W / 6.0A @ 120W
100V Audio	
Line Voltage - AC (Tones)	100Vrms
Line Power - Tones	60W / 120W
- Audio	60W / 120W
Maximum line capacitance	200nF
Audio / Frequency range	
+/- 1dB	260Hz – 3800Hz
+/- 3dB	215Hz – 8400Hz
SNR (Audio Input 1kHz)	>75dB(A)
THD (Audio Input 1kHz)	< 0.25%
100V Speaker Line Supervision	
ELD - 1 Branch	56k 0.4W
- 2 Branches	100k 0.4W
Strobe Output	
ELD - 1 to 3 branches	1x10k - 3 x 27k 0.4W
Current rating	Max 2.0A
Audio Inputs	
Audio 1 & Audio 2	230mVrms (min) into 5k Ω non-isolated for full power
Microphone - Input Level	3mVrms - 100mVrms, PTT driven, supervised
Interfaces	
OLED, 4 button menu structured	For operation and configuration
QBus Slave communications	Master / Slave T-Gens, User Interface and 100V Switching Module
On-board Storage	4MB (configuration and audio files)
Micro-SD Card	32GB FAT32 support
Headphone Output - Load impedance	8 Ω min 6mW
Audio Output level	1.30Vrms

T-Gen2 100V Splitter Module (FP1118)

Operating Voltage	19.2V to 28.8Vdc
Quiescent Current	15mA @ 24V
Fault State Current	40mA @ 24V
100V EOL Resistor	56k Ohm (1 branch)
	100k Ohm (2 branches)
100V Load/Output	100W
100V Load (all 4 outputs)	120W
Fault Contact Rating	2A @ 24Vdc
Fault on 100Vin	25k Ohm
Ambient Temperature	-5°C to +24°C
Relative Humidity	10% to 95% (non cond.)
<i>Indoor Applications Only</i>	
Dimensions (HWD)	142 x 104 x 40mm
Wire Size (maximum)	2.5sq mm

T-Gen2 100V Switching Module (FP1117)

Operating Voltage	19.2V to 28.8Vdc
Quiescent Current	10mA @ 24V
Fault State Current	43mA @ 24V
100V EOL Resistor	56k Ohm (1 branch)
	100k Ohm (2 branches)
100V Load/Output	100W
100V Load (all 4 outputs)	120W
Ambient Temperature	-5°C to +45°C
Relative Humidity	10% to 95% (non cond.)
<i>Indoor Applications Only</i>	
Dimensions (HWD)	142 x 104 x 40mm
Wire Size (maximum)	2.5sq mm

SALES DRAWINGS

1956-19	FP1116 T-Gen 120
1956-21	FP1117 100V Switching Module
1956-22	FP1118 100V Splitter Module
1976-340	FP1119 4100ESi T-Gen2 PDI Mounting Bracket
1976-341	FP1120 4100ESi 100V Switch/Splitter Mounting Bracket
1986-36	FP1134 15U Grade 3 BOWS
1986-37	FP1144 8U Grade 3 BOWS
1992-15	FP1121 3U Grade 3 UI Door c/w T-Gen 60
1992-16	FP1122/23 3U Grade 3 UI Door
1992-17	FP1124/25 3U Grade 2 UI Door
1992-29	FP1126/27 3U Grade 2 16 Zone Extender Door
1992-34	FP1129 15U Grade 2 EWS & Gearplate Layouts
1992-37	FP1130 15U T-Gen2 Expansion Cabinet & Gearplate Layouts
1976-348	FP1142 4100ESi 14A PSE PDI Mounting Bracket
1956-17	FP1143 High Level Interface

PART NUMBERS**FP1115, FP, T-Gen 60, 24V, C/W INSTALL LIT & MTG**

T-Gen 60 model of T-Gen2 able to drive a speaker load up to 60W. Supports two non-emergency audio inputs (BGM, paging), a microphone audio input (Speech or Paging), 6 supervised inputs (Alarm, Fault, Paging), 4 open-collector outputs, normally-energised Fault relay, supervised single polarity 2A strobe output, and 100V speaker output.

FP1116, FP, T-Gen 120, 24V, C/W INSTALL LIT & MTG

T-Gen 120 model of T-Gen2 able to drive a speaker load up to 120W.

FP1117, FP, 100V SWITCHING MODULE, C/W LIT, LOOMS & MTG BRK

Provides 4 supervised, short-circuit isolated 100V outputs (each rated at 100W) from the T-Gen2's 100V output, along with control of each output by the T-Gen2 to provide zone or area paging. A QBus slave module. Supplied on MX1-style mounting bracket with cables and EOLs.

FP1118, FP, 100V SPLITTER MODULE, C/W LIT, LOOMS & MTG BRKT

Provides 4 supervised, short-circuit isolated 100V outputs (each rated at 100W) from the T-Gen2's 100V output. No control of the outputs is available. Signals fault to the T-Gen2 by superimposing a fault on the T-Gen2's 100V input. Standalone operation (not a QBus slave). Supplied on MX1-style mounting bracket with cables and EOLs.

FP1121, FP, GRADE 3 EWS UI 3U DOOR, C/W T-Gen 60 & MIC, GREY

A grey 3U 19" rack mounting door complete with a T-Gen 60 mounted on the back of it. A microphone and Grade 3 User Interface are supplied fitted to provide a complete functional unit. A 1.5m loom for connection to an *MX1* Controller for power, control and monitoring is factory fitted. Wiring to the 100V speaker and Strobe line is required to make it operational.

FP1122 FP, GRADE 3 EWS UI 3U DOOR, C/W LOOM & MIC, GREY

A grey 3U 19" rack mounting door complete with a Grade 3 user interface and PA microphone ready for connection to a T-Gen 60 or T-Gen 120 mounted inside the cabinet. A 1.5m power loom and microphone extension loom are included, long enough to connect to the T-Gen2 mounted on the gear plate in a 40U deep cabinet, for example. Suitable for mounting in an *MX1*, *MX4428* or *F3200* fire alarm panel.

FP1123 FP, GRADE 3 EWS UI 3U DOOR, C/W LOOM & MIC, BLACK

A black 3U 19" rack mounting door complete with a Grade 3 user interface and PA microphone ready for connection to a T-Gen 60 or T-Gen 120 mounted inside the cabinet. A 1.5m power loom and microphone extension loom are included, long enough to connect to the T-Gen2 mounted on the gear plate in a 40U deep cabinet, for example. Suitable for mounting in a Simplex 4100ESi fire alarm panel.

FP1124 FP, GRADE 2 EWS UI 3U DOOR, C/W LOOM & MIC, GREY

The grey 3U 19" rack mounting door complete with the 4 Zone Grade 2 User Interface and PA microphone. A 1.5m power loom and microphone extension lead are included to allow connection to a T-Gen2 mounted in the back of the cabinet. Can be used as a spare part for the User Interface in FP1129, or for adding to a T-Gen2 in a rack cabinet.

FP1125 FP, GRADE 2 EWS UI 3U DOOR, C/W LOOM & MIC, BLACK

The black 3U 19" rack mounting door complete with the 4 Zone Grade 2 User Interface and PA microphone. A 1.5m power loom and microphone extension lead are included to allow connection to a T-Gen2 mounted in the back of the cabinet. Suitable for mounting in a Simplex 4100ESi fire alarm panel.

FP1126 FP, GRADE 2 16Z EWS EXTENDER, 3U 19" DOOR, GREY

A grey 3U 19" rack mounting door complete with a 16 Zone Grade 2 User Interface – but only 8 zones fitted. Connects on to FP1124 to expand the capacity from 4 zones to 12 zones. Add an FP1128 8 Zone Expansion Module to expand to the full T-Gen2 capacity of 20 zones.

FP1127 FP, GRADE 2 16Z EWS EXTENDER, 3U 19" DOOR, BLACK

Similar to FP1126, but provided as a black door for mounting in the 4100ESi Fire Panel.

FP1128 FP, GRADE 2 8Z EXPANSION BRD, C/W LOOM & MTG

An 8 Zone Expansion Module for providing 8 zones of evacuation control and indication. Fits onto FP1126, FP1127 to expand to 20 zones, or can be used as a replacement for the 8 Zone Module already fitted.

FP1129 FP, 120W, T-GEN2 EWS, GRADE 2, 4Z, 15U CAB

4 zone Grade 2 EWS in a 15U titania-coloured cabinet. The internal gearplate has a mains GPO, 14A PSE, 1 x T-Gen 120 and 1 x 4 way 100V Switching Module fitted. A additional T-Gen2, 6 x 100V Switching or Splitter Modules, HLI, up to 20 zones of display and up to 40Ahr batteries can be fitted.

FP1130, FP, T-GEN 2 EXP CAB, C/W 14A PSU, 15U, BLANK DR

15U titania-coloured cabinet with a blank outer door and a 15U EWS gearplate mounted inside with a mains GPO and 14A PSE fitted. Suitable for add-on T-Gen2, 100V Switching Modules, 100V Splitter Modules and up to 40Ahr batteries

FP1134 FP, 120W T-Gen2 BUILDING OWS, 15U CAB

A complete BOWS including a T-Gen 120, 14A PSU, 3U 19" rack mounting door with Grade 3 User Interface and microphone, all mounted in a 15U x 200 deep rack cabinet. Space for an additional T-Gen 120, batteries, and up to 6 x 100V Switching or 100V Splitter modules is available. The optional FP1143 (HLI) can be fitted for linking to a compatible fire panel.

FP1139, FP, PSE GEARPLATE MTG, 24V, 14A, SPARE

Replacement 14A PSE for the PSU in the EWS. This can also be used as an expansion PSU for larger systems.

FP1143, FP, T-GEN2 HLI BOARD

High Level Link Interface module allows an adjacent Vigilant MX1, MX4428 or F3200 fire panel using RZDU or Simplex 4100ESi Fire Panel using internal 4100Comms to be connected to the T-Gen2 to transmit alarm information (up to 32 fire zones to trigger BOWS/EWS) and monitor the BOWS/EWS fault status.

FP1144 FP, 60W T-Gen2 BUILDING OWS, 8U TITANIA CAB

A complete Building Occupant Warning System (BOWS) including a T-Gen 60, 14A PSU, 3U 19" rack mounting door with Grade 3 User Interface and microphone mounted in a titania-coloured 8U cabinet. Space for an additional T-Gen 60, batteries, and 3 x 100V Switching or 100V Splitter modules is available. The optional FP1143 (HLI) can be fitted for linking to a compatible fire panel.

ME0290 Mech Assy, 1955-3, T-Gen/MVAC Dynamic Microphone**ME0490 Mech Assy, 1955-44, T-GEN50, Dynamic Microphone**

A noise-cancelling dynamic microphone suitable for plugging onto the T-Gen2 to provide emergency PA or for field recording of the digitised speech message(s). ME0290 has a 1m coiled cord. ME0490 includes a 1m extension lead. Suitable as a spare part for the microphone in the EWS, or connecting to the T-Gen2 where a full user interface is not required.

ME0292 Mech Assy, 1955-25, T-Gen Empty Box, Keyed 003

A 240W x 295H x 85D, cream wrinkle coloured, locked, metal box suitable for mounting the T-Gen2 (not included) inside.

SU0360 A 4488 4 Zone Paging Console:

A 4 zone paging console with microphone and chime option that can be used with the SU0361 A 4489 Audio Switcher to achieve 4 area paging from remote locations. Up to two paging consoles can be connected to the SU0361 Audio Switch.

SU0361 A 4489 Audio Switcher

Used with the A 4488 4 zone paging console to provide relay outputs. Able to be mounted inside the EWS cabinet.