

GRADE 2 USER INTERFACE OPERATING MANUAL

INTRODUCTION

This T-Gen2 is a multi-zone Emergency Warning System (EWS) that complies with the Grade 2 requirements of AS 4428.16. A User Interface is installed along with the T-Gen2 to give manual control and indications – especially for making voice announcements in emergency situations to the different zones of the building.

AS 4428.16 includes a number of optional user controls/indications – most of which are provided on this User Interface. A number of these require specific functions to be available in the building evacuation organisation (e.g., use of the Alert tone and messages, Test Mode, Silence Warning, and Reset functions). Therefore these buttons must be enabled on sites that require them and so may not be available on your system.

USER INTERFACE LAYOUT

Figure 1 shows the layout of the T-Gen2 Grade 2 Master User Interface. It provides indication and control for the first 4 zones, all zones and the common functions.

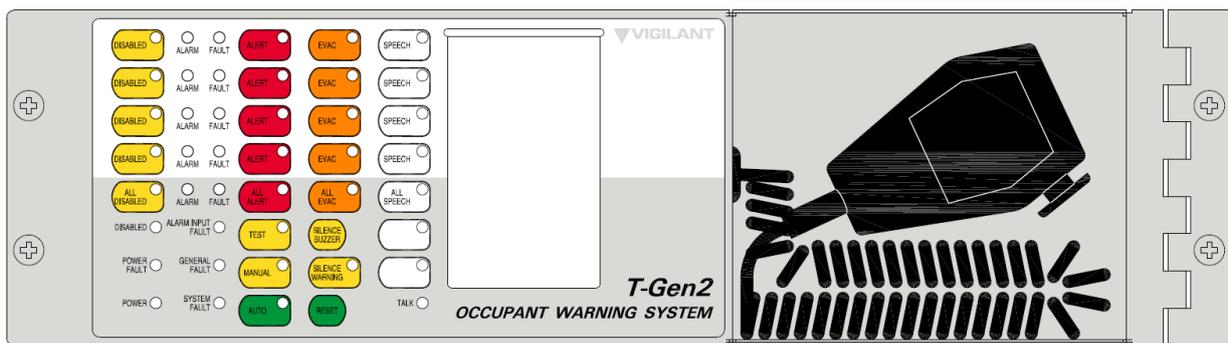


Figure 1 – T-Gen2 Grade 2 Master User Interface

The Grade 2 T-Gen2 can support up to 20 zones of evacuation – with each zone represented as a row of push buttons and LED indicators on the user interface. Additional 8 zone Extender User Interface Modules are added to provide zones 5-20, where needed.

There is also a row containing the ALL DISABLE, ALL ALERT, ALL EVACUATE and ALL SPEECH buttons, which apply to all the zones. Activation of ALL ALERT or ALL EVACUATE, for example, will generate tones to all the zones in the building. Similarly selecting ALL SPEECH and pressing the microphone PTT button will direct the voice announcement to the whole building.

The lower group of buttons apply to the system as a whole. For example, the TEST button will put the system (all zones) into Test mode.

BUTTONS & OPERATION

Auto / Manual Operation

The AUTO and MANUAL buttons control the overall operation of the T-Gen2 EWS. These are mutually exclusive controls – pressing one will cancel the other.



Pressing the AUTO button selects Automatic Mode (green AUTO LED on). In Automatic Mode the T-Gen2 EWS is set for automatic operation under control of the connected fire alarm system. When the fire alarm system goes into alarm (e.g., smoke is detected or a manual call point is activated) it will signal an alarm for the zone where the fire is detected to the T-Gen2. The T-Gen2 will activate the ALARM LED for that zone, start its buzzer beeping (if enabled) and, depending on the configuration, start phased evacuation of the building.

This could involve, for example, putting just the zone in alarm into Evacuate, then a period of time later putting the two zones above and one below into Evacuate, then cascading through the remaining zones at regular time intervals. If the Alarm Devices are silenced (or disabled on the fire panel) this will generally cause the T-Gen2 EWS to cancel its warning signals and return to the normal state. However the T-Gen2 EWS could be set for latching alarms, whereby the T-Gen2 will continue generating its warning signals even though the alarm signals from the fire alarm system have been silenced or reset. In this case it will be necessary to press the RESET button to reset the T-Gen2 EWS to stop the warning signals and clear the alarm(s).

In Automatic mode the individual zone ALERT and EVACUATE, and the ALL ALERT and ALL EVACUATE buttons cannot be used.

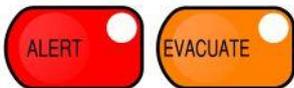


MANUAL MODE

In MANUAL mode, selected by pressing the MANUAL button (turns yellow MANUAL LED on), automatic operation is disabled and the ALERT and EVACUATE buttons can be used to manually activate (or stop) the Alert or Evacuate warning signals for each zone, or all zones.

If an alarm occurs while the EWS is in Manual mode the ALARM LED for the zone in alarm will turn on and, if enabled, the buzzer will beep.

If automatic evacuation is required, then push the AUTO button and the Alert or Evacuate signals will be activated.

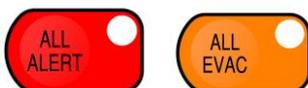


ZONE ALERT & EVACUATE

The zone ALERT (if configured) and EVACUATE buttons are enabled in Manual Mode only (not in Automatic mode). Each button turns on or off the sounding of the selected warning signal in the zone.

If a button is pressed to enable the signal and the other signal was already selected, then the other signal is cancelled. For example if Evacuate is on, pressing ALERT will cancel Evacuate and select Alert.

These buttons do not work while an ALL ALERT or an ALL EVACUATE is selected (pressing a button will momentarily turn the LED off, but the LED will be turned back on within a second or two).



ALL ALERT & EVACUATE

The ALL ALERT (if configured) and ALL EVACUATE buttons apply alert/evacuate to all zones respectively if the button LED is off, or turn off alert/evacuate for all zones if the button LED is already on. For example, pressing ALL EVACUATE with the button LED off, will turn on Evacuate for all zones. Note that while an All Alert or Evacuate is in operation the individual zone alert and evacuate buttons cannot be used. Also, when both All Alert and All Evacuate are turned off, each zone's Alert/Evacuate status will be restored to what it was when the all zone function was first activated.

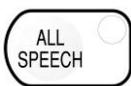


SPEECH

Pressing the zone SPEECH button selects (turns the red LED on) Emergency Speech announcements to be made to the zone when the microphone PTT switch is pressed. If the SPEECH LED is already on, pressing the SPEECH button turns it off. These do not work while ALL SPEECH is selected.

When the microphone PTT switch is pressed the audio path from the microphone to the selected zones is set up, with any "chime" message played first, then the green TALK LED is turned on, indicating that the voice announcements can be made. Speak clearly into the microphone (positioned 20-30mm from your mouth) at a natural volume – it is not necessary to speak loudly or shout. Release the PTT button when finished.

The Speech button is also used with the Test Tone function on the T-Gen2 OLED to activate the test tone to each zone.



ALL SPEECH

Pressing ALL SPEECH will turn the ALL SPEECH LED on and select Speech for all zones. Emergency PA announcements can then be made to all zones by pressing the PTT button on the side of the microphone and speaking into the microphone. If the ALL SPEECH LED is already on, pressing ALL SPEECH will turn the speech selection off for all zones. Note, individual zone SPEECH buttons cannot be used while the ALL SPEECH is selected.

Note: Pressing the microphone PTT button without any zone Speech selections will automatically select Speech on all zones (the individual zone SPEECH LEDs turn on).



SILENCE BUZZER

Pressing the SILENCE BUZZER button will turn off the beeping buzzer (alarm) or steady buzzer (fault). The buzzer will turn on again if a new alarm or fault is detected by the T-Gen2.



LED TEST

Pressing and holding the SILENCE BUZZER for at least 3 seconds will activate an LED test. All LEDs on the User Interface will turn on (steady) and the buzzer will beep at the quiet and loud volumes.

After 5 seconds the LED test will clear and the current status will be shown on the LEDs.

If however, the TEST button is pushed while the LED test is in progress, then the LED test will be latched on until any button is pressed. This allows the LEDs on large displays to be thoroughly checked. Note that neither the TEST button press nor the button pressed to complete the test will be acted on (as per their usual operation).



SILENCE WARNING

Pressing the SILENCE WARNING button, if configured, will stop the sounding of any warning signals and strobes for 12 seconds. The yellow SILENCE WARNING LED will be turned on for this time.

Pressing this button during the 12 seconds will turn off the LED and re-enable the generation of any sounds and the strobes immediately.

Note the SPEECH function can still be used while SILENCE WARNING is active.



RESET

Pressing the RESET button will clear any latched alarm or faults in the T-Gen2 and clear any zone or All Zone Alert, Evacuate and Speech selections. Note, most faults automatically clear once the fault condition has been restored to normal. If any alarm conditions are still present they will remain showing and be active.



TEST

Pressing the TEST button (if configured) will enable Test Mode (turns the yellow TEST LED on and makes all the zone DISABLE LEDs flash) or cancel Test Mode if it is already on. In Test Mode the T-Gen2 EWS works as if it would normally, but all warning signal sounds and strobe outputs are disabled. Therefore no warning sounds or signals are produced in the building.

In Test Mode and Manual pressing ALERT or EVACUATE will select (or deselect if already on) the appropriate function. In Test Mode and Automatic the effect of an alarm condition can be observed.

Creating an alarm on the fire panel will cause the T-Gen2 to indicate the alarm and activate the zone Alert/Evacuate indications according to the programmed phased evacuation.

If no fire panel is present, or it is not convenient to create an alarm on the fire panel, then an alarm can be simulated on the T-Gen2 by pressing the ALERT button for the specific zone.

The T-Gen2 will operate as if it is a real alarm (but no zone outputs operate), allowing testing to be done, or observe how the phased evacuation works for alarms on each zone.

Pressing RESET will clear all the alarms and zone selections allowing new test scenarios to be conducted.

In Test Mode the SPEECH button and microphone can still be used to make voice announcements.

On cancelling Test Mode the T-Gen2 will automatically do a Reset function first to clear any latched alarms or activated warning signals before enabling the EWS outputs.

Note: It is not possible to select Test Mode if the T-Gen2 is already in alarm, or Alert or Evacuate is selected. Also Test mode will not apply to a zone that has been disabled.



DISABLED

Each zone DISABLED button (if configured) allows the zone to be disabled, so that no alarms or faults can be received for the zone, nor can any Alert, Evacuate or Speech selections be made for the zone. In effect the zone is removed from the EWS. Note that the ALARM LED still indicates if an alarm is present on the zone, so the zone could be enabled if needed.

Pressing the zone DISABLED button will disable the zone (yellow zone DISABLED LED turns on) or enable the zone if the zone was already disabled.

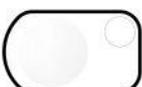
The DISABLED button can be used in any operating mode – Auto, Manual or Test.



ALL DISABLED

Pressing the ALL DISABLED button (if configured) will disable all zones if the button LED is off, and re-enable all zones (except those individually disabled) if the button LED is already on.

Note while ALL DISABLED is selected it is not possible to use the ALL ALERT, ALL EVACUATE or ALL SPEECH buttons, nor re-enable individual zones, so the button should be used with caution – as it totally disables the emergency warning system.



USER 1 & 2

There are two unnamed buttons (called USER1 and USER2) that can be configured for playing specific messages, such as:

- Monthly test message(s)
- Specific non-emergency signals
- School bell, lock-down
- Etc.

These should be labelled with their function, if programmed.

Pressing USER1 or USER2 will turn the corresponding LED on and activate the programmed message, and cancel the other user message if it was active. Pressing the button again when the LED is on will cancel the playing of the message and turn the LED off.

The LED will also turn off if the playing of the messages completes. Note some messages could be set up for continuous playing, so it will be necessary to turn them off by pressing the button.

Each user button is assigned a priority (as are many of the other sound producing functions), so which function is actually generated on a speaker output, if any other sound function is also selected (e.g., paging), will depend on the assigned priorities.

These functions do not work if mains power is failed and in fault (pressing the button will turn the OLED on momentarily and then off).

LED INDICATORS

System Indicators

Indicator	Status
POWER	Off – No power is applied. On – Power is applied.
POWER FAULT	Off – No power faults present and mains is applied. On – Mains power has failed; Fault in the power supply or the supply voltage to the T-Gen2 is below the T-Gen's minimum operating voltage.
SYSTEM FAULT	Off – No System Faults present. Flashing – The User Interface is not communicating with the T-Gen2. On – CRC fault with the T-Gen2 configuration or firmware.
GENERAL FAULT	Off – No faults present. On – One or more faults are present. Refer to the other fault indicators or the T-Gen2 OLED display for details.
ALARM INPUT FAULT	Off – No faults present on the Alarm input(s). On – A fault is present on one or more of the T-Gen2's alarm input(s) or the connection from the fire alarm panel to the T-Gen2.
DISABLED	Off – No zones are disabled. On – One or more evacuation zones are disabled.
AUTO	Off – Not in Auto. On – Auto Mode – receipt of an alarm will automatically trigger an evacuation.
MANUAL	Off – Not in Manual. On – In Manual Mode – Zone Alert and Evacuate functions can be manually activated.
TEST	Off – Not in Test Mode. On – In Test Mode. No output signals (except Speech) or strobes are generated.
SILENCE WARNING	Off – Audio output signals can be generated. On – Audio output signals and strobes are silenced (except Speech) for 12 seconds.
TALK	Off – PA microphone and audio paths not connected. On – PA microphone enabled – talk into microphone.
USER1 USER2	Off – User function is not selected. On – User function is selected and will be sounding if it is the highest priority.

ZONE INDICATORS

Indicator	Status
DISABLED	Off – Zone is enabled for manual/automatic operation. Flashing – Zone is in Test Mode. On – Zone is Disabled. No Alarms or Faults will be received. (Note the Alarm indicator will turn on if an alarm is detected). No Alert, Evacuate or Speech functions can be used.
ALARM	Off – Zone is not in Alarm. On – Zone is in Alarm.
FAULT	Off – No faults present in zone. On – One or more faults present in the zone speaker wiring or strobe wiring.
ALERT	Off – Alert signal is not active. On – Alert signal is selected and will be sounding if not in Test Mode or Silence Warning not active.
EVACUATE	Off – Evacuate signal is not active. On – Evacuate signal is selected and will be sounding if not in Test Mode or Silence Warning not active.
SPEECH	Off – Emergency Speech not active. On – Emergency Speech is selected and will be broadcast when the microphone PTT switch is depressed and Talk LED is on.

ALL ZONE INDICATORS

Indicator	Status
ALL DISABLED	Off – All zones are not disabled. On – All zones are disabled. No Alarms or Faults will be received. (Note the Zone Alarm indicator will turn on if an alarm is detected). No zones can be activated for Alert/ Evacuate/Speech, nor can individual zones be re-enabled.
ALARM	Not used – always off.
FAULT	Not used – always off.
ALL ALERT	Off – All Alert not selected. On – Alert has been selected for all zones.
ALL EVACUATE	Off – All evacuate not selected. On – Evacuate has been selected for all zones.
ALL SPEECH	Off – Emergency Speech not active. On – Emergency Speech is selected for all zones and will be broadcast when the microphone PTT switch is depressed and Talk LED is on.

MAINS/BATTERY OPERATION

If mains power fails, the POWER FAULT LED is turned on and the EWS operates off the standby battery. After 80 minutes of mains failure a Mains Fail fault is generated and the buzzer and General Fault LED are turned on. Background music, paging and the User Buttons are turned off and are not functional – to preserve battery capacity. They will be restored on mains power being re-applied.

THIS PAGE INTENTIONALLY LEFT BLANK

© 2018. Johnson Controls. All rights reserved. All specifications and other information shown were current as of document revision date and are subject to change without notice.