

FEATURES

- ✓ Clear, easy to use intuitive operation
- ✓ Modular, easy to wire system
- ✓ High cabinet density
- ✓ 25W, 60W, 120W and 240W D class amplifiers
- ✓ High level alarm inputs from compatible fire alarm panels
- ✓ Fibre Networked systems for site-wide interconnection
- ✓ Touchscreen LCD for time saving service operations
- ✓ Up to 120 minutes of digital audio storage, with flexible playback options
- ✓ On-site programmable for configuration
- ✓ Approved to AS 4428.16:2020 and AS 4428.4:2016



PRODUCT DESCRIPTION

The QE20 Emergency Warning System (EWS) is the latest addition to our class leading range of emergency warning products, designed to facilitate the orderly evacuation of occupants in a building in the event of an emergency.

The QE20 is a Grade 1 EWS with a wide range of functions and optional modules. It provides a cost effective evacuation solution for medium to large buildings and multi-building infrastructure such as commercial buildings, office blocks, hospitals, shopping centers, airports and educational campuses. The QE20 allows fire wardens or emergency services personnel to easily control and coordinate an orderly building evacuation. The QE20 complies with equipment standards AS 4428.16:2020 and AS 4428.4:2016, and can be installed to AS 1670.4 and NZS 4512.

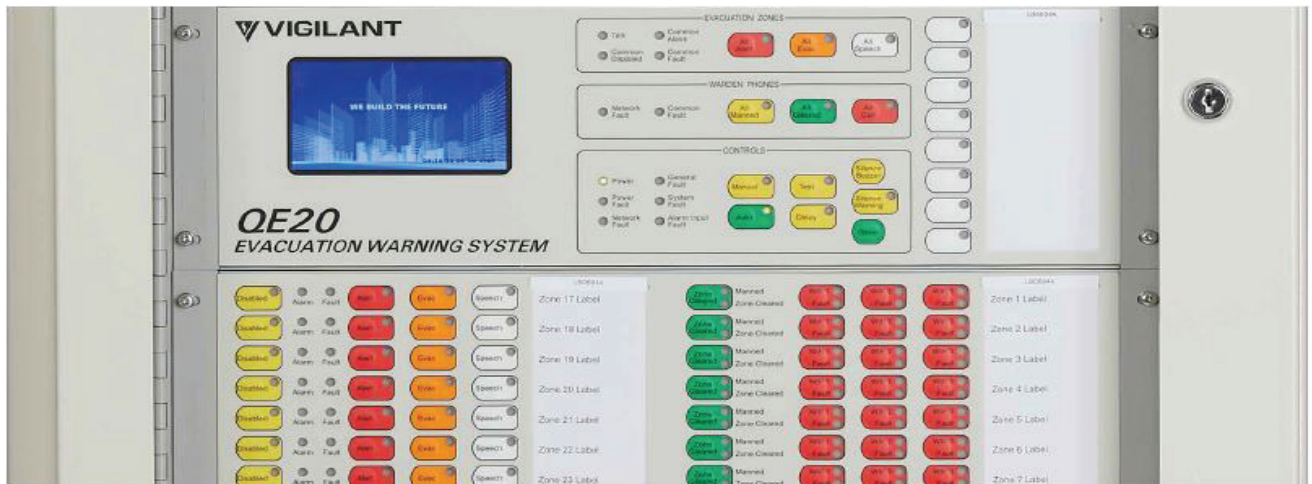
EMERGENCY WARNING CIE

The QE20 as an EWCIE generates and controls audible warning signals via dedicated amplifiers and loudspeakers covering each level or zone of a building.

Supplementary Visual Alarm Devices (VAD) – flashing beacons can be located in areas where the background noise level may be high or hearing impaired people are often present. The QE20 is usually connected to the fire alarm system, so that when a fire is detected it can be automatically triggered and the building evacuated. Manual Call Points (MCP), QE20 inputs or user keys may be used to trigger non-fire emergencies (eg gas leaks, extreme weather events, lockdown events) so that different emergency tones and messages may be given to the occupants.

For high rise and other special types of buildings, the QE20 offers automatic evacuation phasing. This ensures the areas in immediate danger are evacuated first, followed by other areas at predetermined time intervals, until the whole building is evacuated in an orderly manner.

Authorised fire wardens or fire fighting personnel may take manual control of the system. An emergency public address microphone allows the broadcast of verbal instructions to building occupants in all or selected areas. Under non-emergency conditions the QE20 can also be used to distribute background music (BGM) and/or routine public address announcements.



EMERGENCY INTERCOMMUNICATION CIE

The QE20 as an EICIE can provide dedicated emergency telephone communications between the main phone and fire Warden Intercommunication Points (WIPs) in each zone.

CONTROL PANEL FACILITIES

'Auto' and 'Manual' buttons on the front of each QE20 allow the operating mode to be set. In 'Auto' the QE20 will automatically evacuate the building on an alarm being registered. In 'Manual', touch buttons allow zone alert and evacuation signals to be manually controlled.

The controls for the evacuation and WIP system can be configured in multiple ways to match a building layout. They may be grouped per floor, or evacuation and WIP controls separated out. The QE20's increased control density provides up to 128 audio zones per 40U cabinet.

LED indicators show current system status at a glance, together with easy to use robust push button controls. Eight 'user' buttons and LED's can be configured for site-specific functions such as:

- Background music control
- Automated test message generation
- Lockdown activation



These, and each zone and WIP control, can be named using printed labels that slide into pockets in the front panel.

LCD TOUCHSCREEN

A 4.3 inch colour touchscreen display provides additional functions for operation, viewing history logs, component status, service, performing diagnostics, volume adjustments and recalling software revisions.

QE20 Emergency Warning System

AMPLIFIERS

Amplifiers are available in different power ratings to suit individual zone speaker loads:

- 4 x 25W RMS
- 4 x 60W RMS
- 2 x 120W RMS
- 1 x 240W RMS

Multiple amplifiers may be allocated to individual zones to provide separate speaker feeds (eg common escape paths separate to apartments/rooms) or to handle larger speaker loads. Additional amplifiers can be allocated as standby amplifiers in the case of an individual amplifier failure. Each amplifier can be independently fed audio from:

- Four common audio inputs on the controller module, local PA microphone, or PA from another networked panel
- Any of the local audio inputs on the amplifier module itself
- Stored digitised audio files from within the amplifier module

Each amplifier provides four general purpose programmable outputs, providing switched 24VDC, which are preprogrammed for controlling fail safe volume attenuators wired into the speaker cables. The touchscreen LCD provides functions for viewing detailed amplifier status, activating a 1kHz test tone and adjusting the amplifier output voltage (volume) which is stored in non volatile memory.



WIP / RELAY MODULES

Modules such as Warden Phone / Input Module and Relay Output Module have been designed for multiple applications, which increases flexibility and keeps costs down as a single module card can be used for various tasks. The WIP / Input Module can be used to interface field WIP phones and Manual Call Points on the same two wire circuit or accommodate Fire Panel alarm inputs and input signals for other applications. The Relay Output Module provides supervised 24VDC outputs for Visual Alarm Devices or voltage free contacts for other output applications.

NON EMERGENCY AUDIO

Background music (BGM), local and non emergency paging may be directed to selected areas. Up to 16 optional 30 zone paging consoles or Windows PC based paging consoles may be added for remote paging as required. The areas covered by non emergency paging do not need to correspond to evacuation zones.

PHASED SEQUENCING

The QE20 can deliver a phased sequence of messages to the protected areas, to enable safe evacuation floor by floor or area by area well before any risk of fire. The sequences can be mapped out onto a spreadsheet that can be uploaded directly into the QE20 configurator and run through a simulator prior to installing on site.

ADDITIONAL TONES AND MESSAGING

Additional tones and complex speech messages (eg in different languages) can be added to provide better guidance to building occupants in the event of an emergency. Messages can be played to multiple zones at the same time and be used for applications such as site lockdowns, bomb threats, testing or fire drills. Messages can be activated automatically or manually via 8 user programmable keys or other inputs to the QE20. Messages can be specified as synchronised, so that all amplifiers in the QE20, or in fact over the whole network, play them in phase.

MECHANICALS

Modular construction allows cards to be placed in almost any position on the module mounting frame for easier site expansion or upgrades. The mounting frames can be removed to provide easier cabinet mounting and field wiring if desired. The outer door hinging has been designed to be easily reversed on site, allowing adjoining cabinets to have left or right opening doors, providing easier access to controls. Improved cable entry options on the cabinet, top and back, provides greater cabling flexibility on site. When multiple battery sets are required, a battery tray is used to separate each set, making service and maintenance of batteries easier. Field wiring connects to modules via demountable connectors for easy termination and module testing or swap out. In built hardware assists with field wiring routing and support in the cabinet.

NETWORKING

Networking of multiple QE20 panels may be achieved using paired copper cable or Multimode or Single Mode fibre cables. Networking may be used to distribute amplifiers, WIPs or other inputs / outputs over floors or buildings for large high rise or spread out applications. Multiple control points can also be added for redundancy. These can be full cabinet QE20s with amplifiers and WIPs or shallow cabinet QE20s that contain controls only.

Each networked panel or equipment rack can be configured to retain local control of its own facilities and can continue to operate if the network communications is lost.

PROGRAMMING

The QE20 uses Windows based programming tools with familiar layouts and operating styles, making them easy to use. The configurator allows editing of multiple QE20 site configurations at a time, creation of a PDF file for records keeping, printing of the button labels for the front panel, and simulation of most of the QE20's operation prior to installation.

The QE20's site configuration is downloadable and uploadable. Several options are available for programming the site configuration, such as factory or onsite.

SPECIFICATIONS

Cabinet Size:	28U	40U	Double 28U	Double 40U
Height (mm)	1330	1863	1330	1863
Width (mm)	575	575	1150	1150
MECP Depth (mm)	388	388	388	388
SECP Depth (mm)	213	213	213	213

Maximum Number of Zones with:

25W RMS Amps	28	40	56	80
60W RMS Amps	20	32	40	64
120W RMS Amps	10	16	20	32
240W RMS Amps	5	8	10	16
WIP Zones (Max)	56	56	120	120

Number of Zones 224 displayed on front panel – up to 600 internally

Number of Network Nodes 64

Operating Temperature -5°C – 45°C 10% – 95% RH non-condensing

Cabinets 28U, 40U 19in. rack mounting, body 1.6mm mild steel
Depth 388mm deep, 213mm SECP cabinet
Colour, Finish Dulux Titania Ripple, 288 1235Z

Power Supply

Mains Supply 230-240V AC 50Hz; 4.2A per PSE
DC Output per PSE 26V at 27A peak, non-continuous
Charging Current 2.5A nominal per PSE
Battery Capacity Up to 150 AHr (at 24V) per 40U cabinet

Audio Inputs

4 on controller, up to 4 per amplifier module
Input Type Balanced; transformer / capacitor isolated
Input Level 315mV rms; 1.4V rms max.; 10K input impedance
Common Mode Rejection >33dB

Emergency Speech Mic

Noise-cancelling, front panel mounted
Automatic Level Control 30dB dynamic range

Amplifiers

4 x 25W, 4 x 60W, 2 x 120W, 1 x 240W per module
Output Voltage 100V rms at 1kHz sine wave
Efficiency >85%
100V Line Supervision 56K / 100K EOL Single / Dual Spur
Max Capacitive Load 200nF
Frequency Response 215Hz – 8400Hz (+/-3dB)
Signal to Noise (SNR) >75dB(A)
Total Harmonic Distortion <0.25%

Message Storage

Total Message Storage	200 messages, up to 120 minutes total
Play Capability	Any message to any zone output

GP Inputs

	20 per WIP / Input; 4 x controller; 2 x RS485 / nET, 4 x MUI
Input Voltage Range	0–30Vdc
Input EOL	10k
Input States	4 state: Normal, Short, Open, Resistance

Relay Outputs

	2 x controller, 8/16 x Relay Output Module
Rating	NO/NC relay contact; 2A at 30V DC resistive

Amplifier GP Outputs

	4 x amplifier module, normally-energised
Output Voltage	24Vdc at 100mA; optional load supervision

Visual Alarm Outputs

	8 x Relay Output Module
Rating	24V dual polarity 1A max; 2k7 EOL supervised

WIPs

	320 WIPs (20 per WIP / Input Module; 16 Modules)
WIP Handset	Vigilant FP0938 compatible
Ring Volume	>80 dB(A)
Collocated Input	Parallel wired MCP or 'Zone manned' pushbutton
Supervision	10k EOL
Wiring	1km of screened cable

FIP Inputs

High Level Links	RZDU, Panel-Link, Computer Port (4100ESi)
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Max Inputs

	320 WIP / Input; 528 RZDU; virtually unlimited Panel-Link; 600 Computer Port
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APPLICATIONS

Educational facilities, high rise buildings, corporate campuses, industrial facilities, chemical plants, mass transit hubs, sports arenas, government complexes.

APPROVALS

- ✓ SSL approved to AS 4425.16:2020, AS 4428.4:2016, AS 7240.4:2018
- ✓ ActivFire certified - Listing No. afp-3600