VIGILANT

QE90

Emergency Warning and Intercommunication System

Key Features

- Clear, intuitive operation
- Modular system is readilly expandable
- High level input from compatible fire alarm panel
- Networked systems for site-wide interconnection
- Selectable tones: ISO 8201 or AS 2220
- Music & non-emergency paging
- Non-emergency voice messages

The VIGILANT QE90 Emergency Warning and Intercommunication System (EWIS) is designed to facilitate the orderly evacuation of a building in the event of an emergency. The evacuation may be initiated automatically by a fire alarm system, or by a building occupant operating an emergency call point. Integrating a flexible alarm and voice warning system with a dedicated emergency intercom system, the QE90 allows fire wardens or emergency services personnel to easily control and coordinate rapid building evacuation. The QE90 meets the control and indicating equipment requirements of installation standard AS 1670.4, complies with equipment standard AS 2220.1, and supports the ISO 8201 T3 evacuation signal and strobe pattern.

Emergency Warning System

The QE90 Emergency Warning System (EWS) generates and controls audible warning signals via dedicated amplifiers and loudspeakers covering each level, or zone, of a building.

Supplementary visual warning devices can also be connected (strobes in high-noise areas, for example).

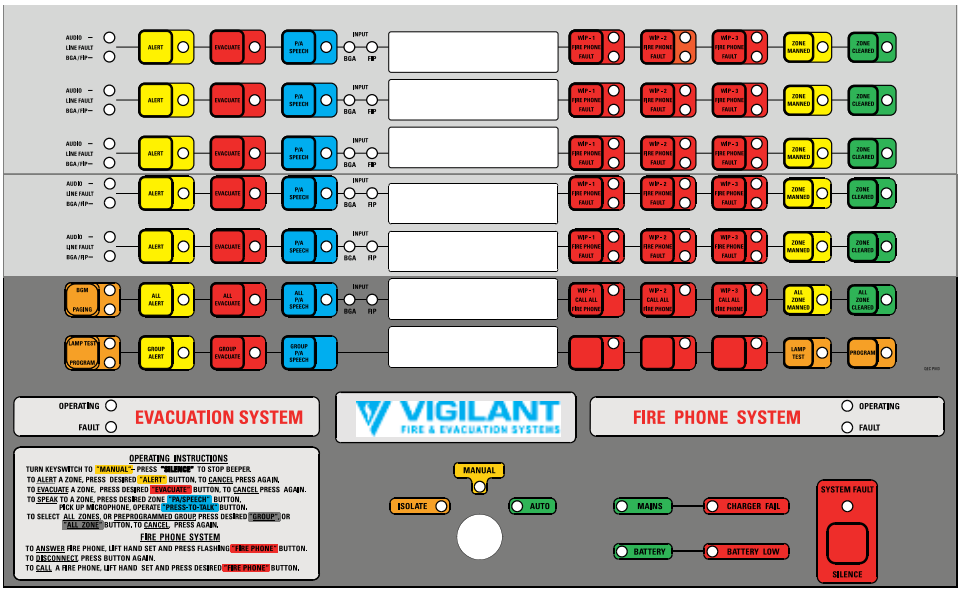
Alarm inputs come from a fire alarm system and emergency call points (manual break-glass alarms) located throughout the premises.

On detection of an alarm, the QE90 generates an evacuation signal interspersed with a digitised voice message instructing occupants to evacuate the building. QE90 supports either the ISO 8201 T3 evacuation signal as specified in AS 1670.4, or the AS 2220 signal. Alert signals and alert voice messages may also be programmed to provide a lower level warning if required.

For high-rise and other special types of buildings, the QE90 offers an automatic evacuation cascade sequence.

This ensures 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 QE90 can also be used to distribute background music (BGM) and/or routine public address announcements.



QE90 Control Panel Layout

Emergency Intercommunication System

The QE90 Emergency Intercommunication System (EIS) provides dedicated emergency telephone communications between the Emergency Control Panel (ECP) and fire Warden Intercommunication Points (WIPs) in each zone.

Secondary ECPs

Secondary Emergency Control Panels (SECPs) may be connected to allow control and monitoring of the QE90 system from multiple locations. Each SECP duplicates all the functions of the Master ECP (MECP) and a priority system arbitrates hand-over of control between the MECP and SECPs.

Networked Systems

Networked QE90 systems extend the concept of secondary ECPs to enable multiple ECPs and/or equipment racks to be interconnected (using copper, fibre, or IP) throughout a large building complex or site. A standard SECP simply repeats all of the functions of its associated MECP, but networked ECPs may control the total system or a subset of it.

Programmed mapping enables zone controls of one ECP to control zones on another. Each ECP or equipment rack retains local control of its own facilities (amplifiers, WIPs, etc.) and can continue to operate locally without depending on network communications (provided local controls and/or fire alarm inputs are available).

Easy To Operate

Operation is simple with the QE90's discrete membrane keypad. Its ergonomically-designed vertical format aids user perception and operation. Individual one-touch keys select each different function uniquely for each zone.

High reliability LED indicators show current system status at a glance. Separate "Group" and "All Zone" keys allow rapid selection of multiple zones. Audible and visual confirmation of keystrokes provide added operator confidence. A front panel keyswitch selects the ECP operation mode (Automatic, Manual, Isolate).

Control Panel Facilities

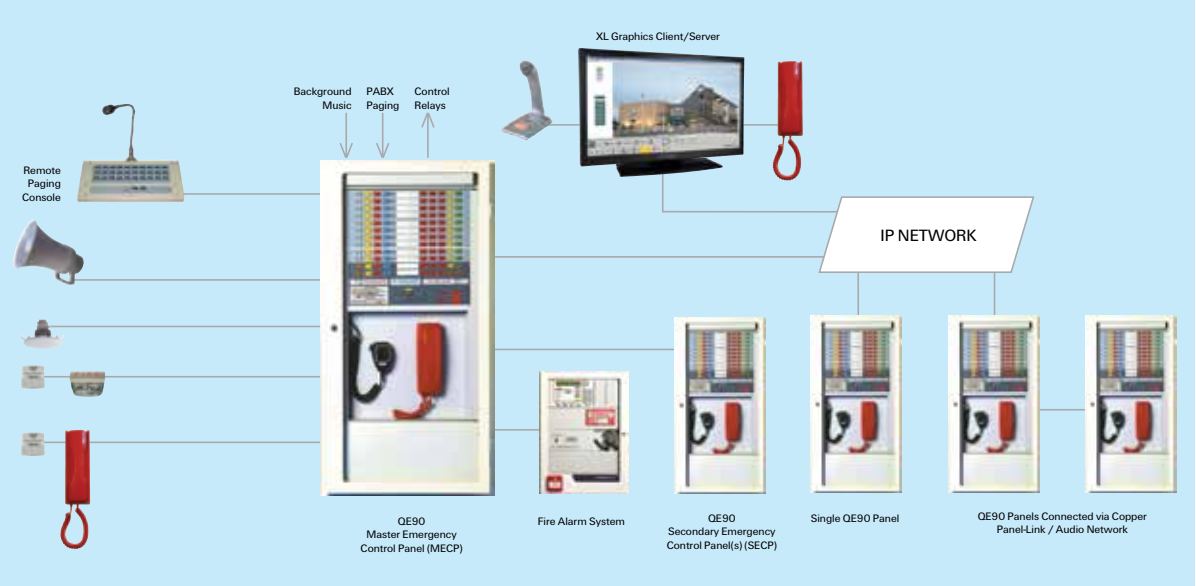
- Automatic/Manual/Isolate mode selection keyswitch
- Individual zone selection of:
  - Alert - Evacuate - PA Speech
- Individual WIP handset selection
- Individual zone reminder indicators/ keys:
  - Zone Manned - Zone Cleared
- All zone selection of:
  - Alert - WIP Handset
  - Evacuate - Zone Manned
  - PA Speech - Zone Cleared
- Group selection of:
  - Alert - Evacuate - PA Speech
- Lamp Test
- Programming:
  - Time delays - Key groups
  - BGM select - Zone isolate
  - Fault recall - Cascade enable
- Mains/Charger Fault indicators
- Fault and input status indicators
- System fault audible alarm silence
- Emergency PA microphone
- Master WIP handset
- Panel illumination lamp (optional)

Flexible Configuration

- Choice of 10, 25, 50, 100 or 200 Watt RMS power amplifier modules. Multiple amplifiers may be allocated to individual zones for greater power
- Selection of ISO 8201 or AS 2220 evacuate signal
- Background music (BGM), local and non-emergency paging may be directed to selected areas
- Areas covered by non-emergency paging do not need to correspond to evacuation zones
- Emergency alarms and public address automatically override non-emergency features
- Up to 3 (or more) discrete WIP locations available per zone
- MECP control console may be located remotely from main equipment rack
- Multiple SECPs (and MECPs for networked systems) may be remotely located. The entire system (or selected parts of it) can be controlled from any location as determined by system programming
- Customised cascade sequences available to suit individual applications
- Distributed amplifier systems available for very large or high-rise applications
- Modular construction allows simple system expansion or upgrade at a later date

Features And Options

- Special digitised voice messages:
  - Voice message on Alert in addition to Evacuate
  - Voice messages in multiple languages.
  - Continuous or once only messages instead of Alert/Evacuate tones



QE90 EWIS Typical System Configuration

  - Messages programmed to announce information according to specific conditions e.g., advise building occupants of the appropriate evacuation route to take or inform staff about the source of an alarm
  - Non-emergency messages (e.g., class or shift change, tea break) may be programmed to play to certain areas under the control of external inputs (e.g., timeclock)
- Warden zones (follow initial alarm zone)
- After-hours timer input option to override cascade
- Automatic zone-manned indication from switches on WIP lines
- Two or three wire WIP/emergency call point connection
- Redirection of Master WIP to field WIP or to radio interface
- Optional chime before non-emergency paging announcement
- Control relay outputs (factory programmed logic)
- BGM override output for each amplifier – fail-safe control that overrides local volume controls to give full amplifier power for emergency warnings
- Optional stand-by amplifier(s) with automatic change-over in the event of a zone amplifier fault
- Optional event-logging printer
- Optional automatic test sequence automatically plays a preprogrammed sequence of messages and tones to test the system, while keeping the building occupants informed about the test as it progresses
- Special interfaces (e.g., Colour graphics, fibre optics, High-level link to FIP, Modbus BMS interface)
- Physical or PC based non-emergency Paging Console(s)

Reliable

- The QE90 system is fully monitored for faults:
  - Speaker line faults
  - Fire alarm system input line faults
  - Emergency call point line faults
  - Visual alarm line faults
  - SECP communication line faults
  - WIP handset line faults
  - Internal communication line faults
  - Amplifier failure
  - Power supply failure/fault
  - Microprocessor failure
- The system is fault-tolerant. Failure of an amplifier, or a fault on one line (e.g., speaker, WIP, visual alarm) does not affect operation of any other zones
- ECPs on a networked system can continue standalone operation in response to local FIP inputs and/or controls (if present) without dependence on network communications
- Optional stand-by amplifier(s) provide automatic changeover in the event of a zone amplifier fault
- Multiple tone generators (optional for smaller systems)
- The system has its own battery supply and is not reliant on building mains supply, which often fails during an emergency
- Duplicated communications link between MECP and SECP(s) and between networked ECP(s) provides reliable transmission of audio signals and data
- Modular construction facilitates rapid fault diagnosis and system repair

Standard Configuration

The standard system comprises an MECP with full control facilities for both Emergency Warning and Emergency Intercommunication Systems. Each zone has an individual amplifier(s) and Alert/Evacuate tones are augmented with an automatic digitised voice message. The QE90 has an Emergency public address facility and a Standard automatic alarm cascade sequence to assist in an orderley building evacuation. Up to 3 WIP circuits per zone can be used, and full supervision of speaker, WIP and strobe lines with visual indications and sounder. Each zone has a fire alarm input, individual background music (BGM) input, with one BGM override output per amplifier. The panel has an integral 24V battery charger with storage for stand-by batteries.

Optional Facilities

- More than 3 WIP circuits per zone
- Secondary Emergency Control Panel(s)
- Remote amplifier racks
- Multiple FIP/emergency call point inputs per zone
- 2-wire or 3-wire WIP/emergency call point inputs
- Strobe (visual) alarm outputs (T3 option)
- Programmable relay outputs e.g.,
  - Evac fault
  - Any alarm
  - Fault or alarm
  - BGM override
  - Auto/Man/Isol.
  - WIP fault
  - WIP handset off-hook
- Emergency control panel light that operates when key switch is turned to manual whilst mains is off
- Special cascade sequences
- Automatic test sequence
- Warden zones to alert wardens of alarm in another area

Optional Facilities

- Monitor zones to repeat the highest priority signal that other nominated zones are receiving
- After-hours timer input to override cascade
- Custom digitised voice messages
- Stand-by amplifier(s) with automatic changeover
- Distributed amplifier system
- Inter-ECP WIP calls (for systems with more than one ECP)
- Remote WIPs via derived circuits (e.g., fibre optics, radio, VoIP)
- WIP calls redirected to PABX, radio, or other WIP
- Remote WIP control panel
- Individual zone BGM inputs
- Remote BGM control panel
- Paging console programmable to also perform WIP control and BGM control functions
- PC-based paging console
- Paging chimes
- PABX paging interface
- Local zone non-emergency paging
- Event-logging printer
- High-level data links
- Networking via copper, fibre, IP (internet protocol)
- Computer colour graphics SECP

Specifications

BASIC SYSTEM CONFIGURATIONS

Panel size:	18U	21U	28U	40U	Double 28U	Double 40U
Height(mm)	885	1050	1330	1865	1330	1865
Width(mm)	575	575	575	575	1150	1150
MECP Depth (mm)	380	350	380	380	–	380
SECP Depth (mm)	205	–	205	205	205	–
Maximum number of zones with:						
10W RMS Amps	8	20	20	40	–	80
25W RMS Amps	4	10	10	20	–	40
50W RMS Amps	4	10	10	20	–	40
100W RMS Amps	2	5	5	10	–	20
200W RMS Amps	2	2	2	4	–	8
Amplifier configurations can be mixed	10, 25, 50, 100, 200 Watt.					
Speaker Line Voltage	100V RMS at rated power output					
WIP Zones(max)	10	18	20	42	–	90
SECP Zones	1–18	–	19–34	35–42	43–74	75–90
Other configurations or larger systems available on request.						
Cabinet Material:	1.6mm mild steel, Ingress Protection IP30					
Cabinet Finish:	Baked epoxy					
Colour:	Cream Wrinkle BFF998CW (special colours available on request)					
Temperature:	–5 °C to 45 °C operating					
Humidity:	up to 95% RH (non–condensing)					
Power Supply:	230VAC +10% –11%, 50Hz.					

Site-Programmable Facilities

- Time delays
  - Alarm to Alert delay
  - Alert to Evacuate delay
  - Cascade step interval
- Alert/Evacuate/PA groups
- Background music zone selection
- Individual zone isolation
- Cascade enable/disable
- Service fault history recall/clear
- Redirection of Master WIP handset to field WIP handset (if option provided)
- Operation of non-emergency Paging Console to perform WIP, BGM and general indication functions

Factory-Programmable Facilities

- System configuration
- Control relay outputs
- Special cascade sequences
- Warden zones
- FIP/emergency call point input to zone mapping
- Special digitised voice messages

Approved

The QE90 system is approved to Australian Standard AS 2220.1 – 1989: "Emergency Warning and Intercommunication Systems in Buildings".

CSIRO Certificate of Conformity No. afp-524

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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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