Ziztel PAGA System
ZEST – Ziztel Energy Saving Technology

DS-091 Issue 04

Because Safety Always Matters

Ziztel are a UK based manufacturer of PAGA and Intercom products. Our systems are mainly designed for use in the Hazardous Oil, Gas and Petrochemical industries.

The Ziztel range of products are modern in design and highly efficient. ZEST features Class G amplification allowing very high power density in much less space than conventional technologies without resorting to Class D technology.

At Ziztel we eliminate software execution from the PAGA system kernel, a static core is employed instead which removes risk of latent software bugs, requirement for re-boots and provides greater resilience to brown outs and other severe electrical disturbance.

Advantages of Ziztel ZEST PAGA

- Highly secure – designed specifically for life safety
- Compact, energy efficient ZEST design – smaller UPS, reduced weight and floor area requirements
- Fully configurable by file down load – no one-time programmable device exchanges
- Remote management worldwide ZMIS core ZMIS Global – including all field devices ZADS

Ziztel PAGA system is designed specifically for life safety applications and to provide reliable operation in severe operational conditions. To ensure availability under fault conditions ZEST supports a range of secure system architectures which include A+B, N+1 or for critical applications a combination of full redundancy with hot standby sub systems i.e. A+B/N+2.

The ZEST PAGA system can interface to external site packages enabling integrated communications including the following external systems:

- Fire & gas interface – automatic alarm initiation.
- Entertainment system – over riding low priority source programs with possible emergency voice injection.
- PABX – allows announcements from specified telephone system users.
- UHF radio – allows announcements to/from handset users.
- Supervisory system – provide minor/major alarms 3\textsuperscript{rd} party Network Management Systems, DCS or ICSS.
- Despatcher systems

ZIZTEL PAGA SYSTEM
ZEST – ZIZTEL ENERGY SAVING TECHNOLOGY

ZIZTEL LIMITED

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Central to the Ziztel ZEST PAGA system is our Class G 350 Watt power amplifier.

- ZEST 350A amplifier is only 3U high with capability to fit up to nine 350A amplifiers in a single 3U standard 19inch rack space – total power assignment is in excess of 3000Watts.
- High power density enables many more amplifiers within a single 19inch rack cubicle than possible using alternative offerings.
- For large projects this can mean a reduction of over 50% of the number of racks required – a major cost saving in both floor space and equipment costs.

- Cutting-edge technology drives high efficiency, reduced power consumption/heat emission and dramatic saving in physical size and weight.
- Smaller UPS, HVAC, much smaller floor area/rack real estate requirement.
- 350A amplifier achieves high efficiency without the potential detrimental effects of Class D amplifier technology.
- No possible radiated RF energy, no network matching required, consistent predictable performance from 350A ZEST amplification.
- 350A amplifier is fully hot-swappable, no power down or system ‘reboot’ required enabling rapid service and maintenance.
- 350A amplifier utilizes unique “diversity” monitoring to supervise associated loudspeaker networks; a reliable check of not only network continuity but also loudspeaker load integrity implemented by testing at both high and low frequencies. No ‘ghost’ fault reports, no latent line defects, and reliable detection of critical path deterioration.
Ziztel ZEST PAGA system is a life safety package

The Ziztel PAGA is designed specifically for mission critical applications, targeted at Petro chemical/power generation industries the system philosophy is to provide a simple cost effective reliable solution which eliminates unnecessary gimmicks. Ziztel are experts in the development of robust hardware and software for high security applications and have used a carefully structured combination of both to realise a modern fit for purpose PAGA system.

- Central PAGA control core is non-software dependent - no sequentially executed code.
- No latent software bugs, no boot-up reboots required.
- Fully configurable by PC no dependency on one-time programmable devices. Can be reconfigured by e-mail file.
- Future proof, simple commissioning, no chip/hardware exchanges/modifications required.

*Ziztel ZEST is purpose designed to serve the specific requirements of a life safety voice and alarm system, this cannot be achieved by use of (i) general purpose voice alarm equipment (ii) intercom systems. Major considerations are (a) single fault tolerance and removal of common mode failure risk, this is almost impossible to implement in to a design retrospectively, (b) synchronisation between sectors of either a networked PAGA system or a dual centralised A + B system.*

All critical paths are duplicated – this extends to the entire system ‘end-to-end’ including microphone transducers, fire and gas auto alarm initiate inputs and flashing beacon/loudspeaker networks.

*No common hardware or software.*

System designs that employ IP as the primary network transportation media are unable to match the security and synchronisation required of a high integrity PAGA. Where required, Ziztel employ IP on non-critical routing requests and more critical connections are backed by other non-IP media to ensure safety.
Ziztel ZMIS / ZMIS GLOBAL

The Ziztel ZMIS management system displays, logs and stores system events allowing simple and effective service and maintenance of the host PAGA package. By including ZMIS Global the operator can manage PAGA assets remotely from any position worldwide. The application is designed in-house and does not depend on third party ‘unknown pedigree’ software, the application is embedded resulting in high efficiency and consequent real-time operation. Access to ZMIS is via a core touchscreen GUI which is delivered with each sector PAGA rack.

ZEST provides gateway to our fully addressable PAGA system, ZADS, which allows the operator to interrogate each field device (loudspeaker and flashing beacon) connected to the package. Loudspeakers are fully supervised, including the possibility to also alter sound pressure levels on an individual device basis. Communications to the field equipment is unobtrusive and requires no additional field cabling. By automatically monitoring loudspeakers and flashing beacons costly routine site maintenance patrols are eliminated and an early warning of system deterioration is possible enabling the PAGA system to be serviced and capable of delivering vital emergency voice/alarm broadcasts at all times.
**NO LOCAL ALARMS ACTIVE**

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**ZADS-C V0.3**

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Installation and Maintenance Costs

At Ziztel we recognise that clients consider the full installation cost of a system when making vendor selections. The following product innovations greatly reduce the installation and commissioning costs of a Ziztel system including:-

- Operator microphone access panels can be connected to host equipment rack by a single twisted-pair shielded copper cable - no multicore/special cables required.
- Operator access panels can also be connected to host equipment rack by a range of transportation media, including VOIP, fibre-optic (single or multi-mode) and radio.
- The Ziztel PAGA is totally self-contained enabling multi-node applications to operate standalone without dependence on other sector racks. This not only greatly enhances integrity but also enables a phased approach to installation.
- The use of ZMIS/ZADS enables the PAGA to be maintained from a remote position, this drastically reduces costs associated with routine site visits and enables a centralized service center to care for a number of distant PAGA assets worldwide. Mapping of all field devices on to a GUI mimic of the site plot speeds service by enabling the engineer to immediately identify suspect loudspeakers/beacons to a definite location on the installation.