

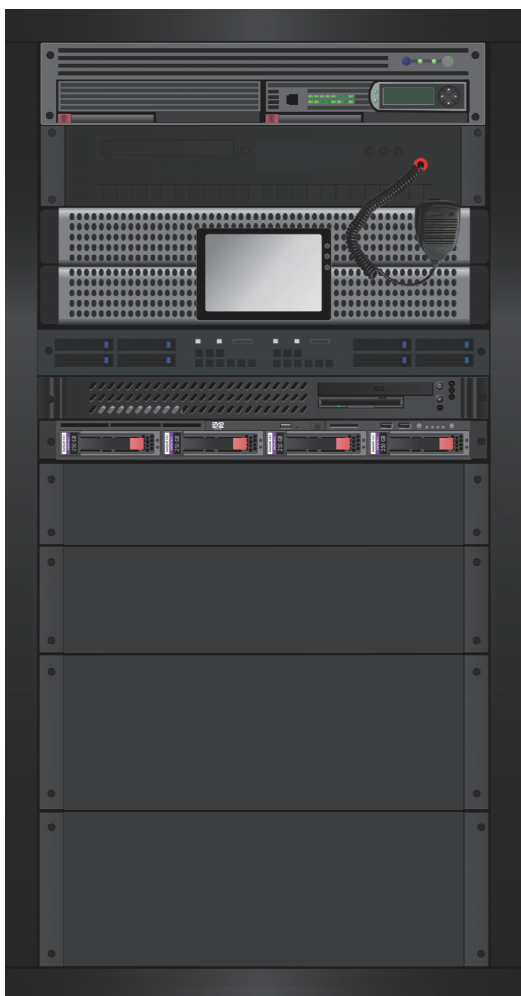


ELIGROUP

naval service network



The Eligroup I.C.S. Public Address and General Alarm systems are specifically designed for the stringent requirements of the marine industry, offshore oil and gas markets.



The system is modular and can be tailored to individual needs, as far as both design specifications and budget are concerned.

The PA/GA application is a critical system with respect to personnel safety and shall, during an emergency situation, be fully operational to allow safe evacuation of the facility, therefore a field proven design shall be provided.

The Eligroup I.C.S. shall distribute alarm tones, pre-recorded messages, emergency voice messages and routine voice messages to all or selected areas of the facility, in a reliable and safe manner, by the use of loudspeakers.

In areas with a high ambient noise level, flashing lights shall complement voice messages and audible alarms shall be initiated either manually from any one of the dedicated access panels or automatically from the Fire and Gas Detection System or Emergency Shutdown System main panel via dedicated hardwired interfaces between the two systems. Voice messages shall be generated either from the microphones at dedicated access panels or from telephones in the facility.

Stand-alone or fully duplicated failsafe systems can be customized to meet the specific requirements of the application.

The I.C.S. PA/GA system can be divided into one or more zones which can be accessed independently for announcement or alarm broadcasts. Zones can be designated as to function, such as: "work areas" or "accommodations". Physically, loudspeakers or beacon circuits shall support zones where one or more circuits can be partitioned into a zone. Each loudspeaker or beacon circuit shall be connected to the central equipment for amplification and control/monitor functions.

Summary of the test performed

RINA RULES	PART C – Chapter 3 – Section 6
IEC 60068 – 2 – 1	Environmental Testing – Cold
IEC 60068 – 2 – 2	Environmental Testing – Cold
IEC 60068 – 2 – 30	Environmental Testing - Damp Heat
IEC 60068 – 2 – 6	Vibration
CISPR 16 – 1	Radio disturbance and immunity measuring apparatus
IEC 61000 – 4 – 2	Electromagnetic Compatibility
IEC 61000 – 4 – 3 +A1	Electromagnetic Compatibility
IEC 61000 – 4 – 4 +A1 + A2	Electromagnetic Compatibility
IEC 61000 – 4 – 5	Electromagnetic Compatibility
IEC 61000 – 4 – 6	Electromagnetic Compatibility

Submittals

Based on customer detailed requirements the following shall be supplied:

- A. General arrangement drawings.
- B. Termination drawings.
- C. Certificates of conformity. D. Equipment Data sheet
- E. Equipment Installation, Operation and Maintenance (IOM) manuals
- F. PA/GA System Manual

Broadcasts are transmitted through loudspeakers installed throughout the facility. The system permits calls between it and any existing public address system. The system is modular in design and is easily expanded to include remote amplifiers and/or combinations of amplifiers. The area of coverage will be such that calls will be clearly audible in the paged operating areas and their surrounding areas.

Each zone shall be split into loops, where each loop is physically connected to a different amplifier. This configuration ensures that a loss of a single amplifier does not adversely affect paging broadcasts within a zone. The distribution of loudspeakers will be related to area configuration and other operational objectives. Cable distribution throughout the plant area will be designed such that all loops relevant to the same zone are laid up separately following different paths, in order to ensure that cable cuts or shorts will cause a minimum effect on the zone broadcast.

Loudspeakers circuits support paging zones where one or more loudspeaker circuits can be grouped into a zone. Each loudspeaker is connected to the central equipment for amplification and control / monitor functions. The system can interface to other systems such as telephone, radio, intercom systems.

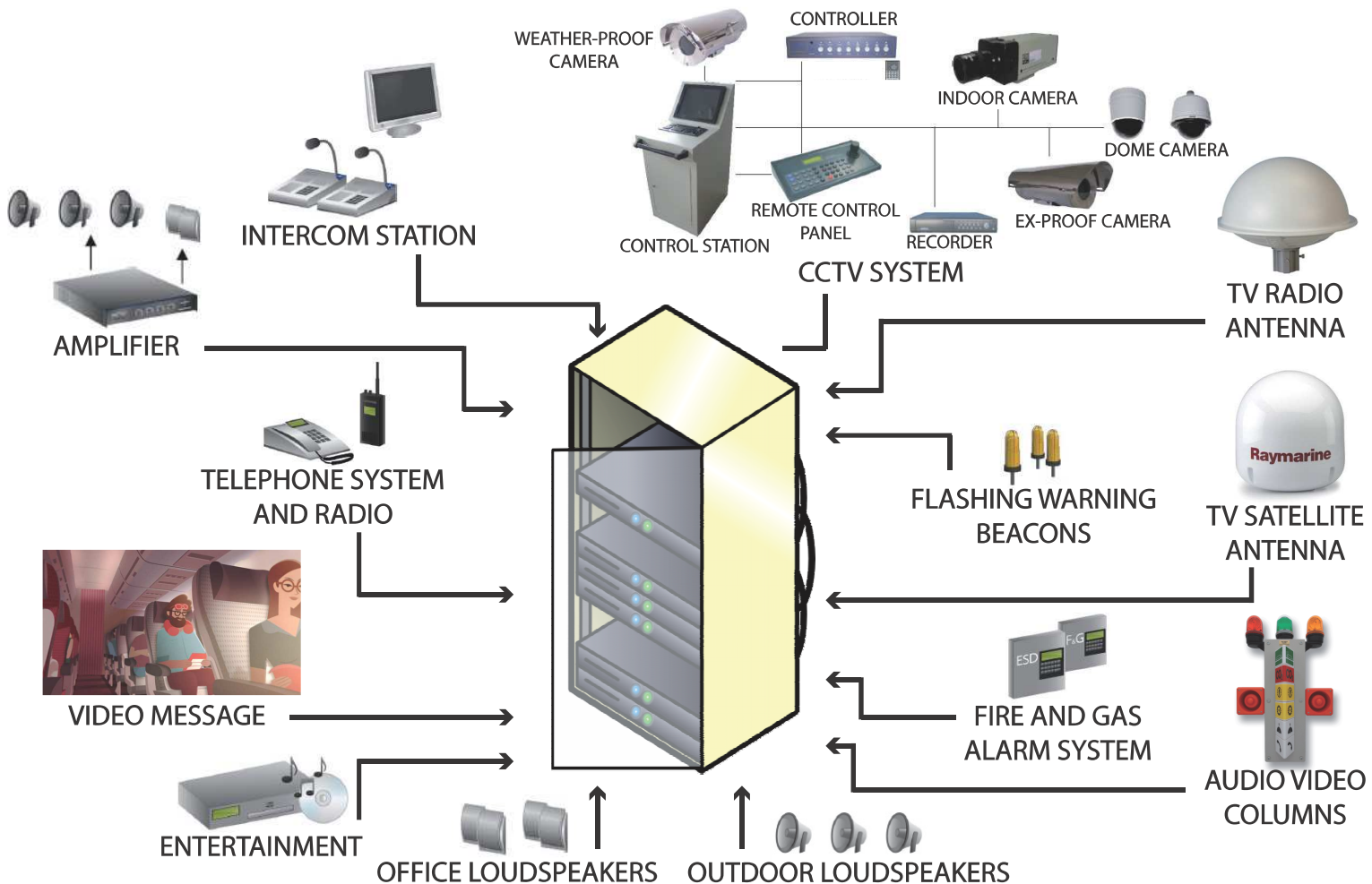


Additional interfaces support external alarm/monitor systems; I.C.S. PA.GA can activate external system alarms, and accept external system alarm/audio inputs initiating both alarms and beacon/strobes.

The PAGA system can be configured as two independent packages called PAGA 'A' sub-system and PAGA 'B' sub-system. Both sub-systems are identical and each operates autonomously, there are NO common hardware, software or field cables; there is no common mode failure possibility. Each system carries independent resources to enable either sub-system to provide continued PAGA broadcast capability in event of a catastrophic failure of either one of the PAGA sub-systems. Each 'A' and 'B' central equipment rack can be powered from a dedicated secure UPS or Emergency source.

Console desktop or rack access panels allow voice announcements and alarm control operations. Announcements can be configured to broadcast in designated zones, or a zone selection feature enables users to direct announcements to selected zones. Access panels are connected to the central equipment and assigned an access priority for announcements, thereby ensuring that the panel with the highest authority level takes precedence over lower level panels. Alarms are likewise given a broadcast priority that gives the most critical alarm precedence.

Each I.C.S. PA.GA. rack can be equipped with hot standby amplifiers that assume the load in the event of an individual amplifier failure. Failed amplifiers and power supplies can be replaced quickly without having to power down the system or disconnect wiring.



System Capabilities

- ✓ Stand-alone or fully duplicated systems
- ✓ Customizable zoning
- ✓ Standard 19" rack
- ✓ Thermal and output overload protections
- ✓ Speakers line diagnostic function
- ✓ Forced cooling by means of dedicated fan activated on temperature threshold
- ✓ Easy upgrade and expansion
- ✓ PABX interface module
- ✓ Provides easy user interface for message broadcast
- ✓ 120 or 240 W Intelligent Power Amps
- ✓ Compliant to IMO,SOLAS, R.I.NA, LSA CODE requirements/guidelines
- ✓ Plug and socket construction for easy maintenance
- ✓ Message storage and replay up to 2 mins
- ✓ Auto access panel lockout on panel failure (time-configurable)
- ✓ Supports Alarm Zoning requirements

Benefit

- Maximum protection +
- Reliable protection of human safety, the environment and capital goods +
- Rapid, targeted and guaranteed transmission of life-saving information in all relevant zones +
- Controlled evacuation of persons and targeted guidance of rescue services +
- Simple and rapid operation, even in stressful situations, avoids errors +
- Compliance with legal regulations to protect persons in emergency situations +
- Emissions protection +
- Meets the requirements of emissions protection regulations +
- Time-controlled volume reduction at night prevents nuisance noise +
- Protection of investment thanks to long product life cycle +
- Future-proof expansion options +
- Can be modified to meet future requirements +



For years, we have supplied some of the biggest companies in the marine industry with communication systems for their structures and transport.

This knowledge and experience enables us to provide clients with a comprehensive list of engineering and documentation services that range from the initial concept to operation.

Systems never break at the convenience of the user, which is why we offer our clients a 24/7 technical support telephone and spare part stock service for all of their communication system needs. Our engineers are always on hand to contact clients in an efficient manner, and if a system requires in-depth repairs, our dedicated, fully-equipped electronics workshop can quickly have it running again.



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