

► Model PAGASYS

Digital Public Address and General Alarm Systems with Networked Options



Specifically developed for the stringent requirements of the offshore oil and gas markets, PAGASYS is ideally suited for offshore platforms, land based petro-chemical plants, military, and applications requiring the highest degree of reliability and functionality. Stand-alone or fully duplicated failsafe systems can be customized to meet the specific requirements of the application.

Pulse-width modulated, Class 'D' amplifiers operate with greater than 84% efficiency; minimizing heat generation; and preventing power surges upon start up. Also, these compact PA/GA systems require less space, a smaller UPS, and less cooling than conventional systems.

On-board digital signal processors (DSP) provide tone generation and pre-recorded voice messages. Analog audio inputs permit seamless integration of external tone generators and intercom systems. An expandable I/O card approach allows you to integrate third party alarm systems and auxiliary signals, such as fire & gas detection controls and beacons, for a completely integrated facility emergency notification system.

Each PAGASYS 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. User controls and fault reporting are easily accessed on the optional touch screen PC or remotely via a computer.

FEATURES

- Stand-alone, Hot Standby, or Duplicated systems with Network Options
- Field configurable zones, I/O, and access panels
- Impedance monitoring of speaker circuits with optional Individual Intelligent Speaker Monitoring and remote Tapping system (ISMT)
- GUI, MIMIC and system diagnostics
- Modular Construction with Hot Swappable Amplifiers & Power Supplies
- UKOOA, PFEER, NORSOK, IMO, ABS, SOLAS, DNV
- PBX Interface & Feedback Eliminator (options)
- Full compliment of safe and hazardous area access panels and microphone stations
- Fiber Optic Ready
- IP-Networkable
- Custom tones and voice messages

Digital Public Address And General Alarm Systems (PAGASYS)



The PAGASYS system employs modular construction to offer a host of benefits. Key advantages include:

- Commonality of parts reduces system development costs, and minimizes spare part requirements.
- System standardization shortens design and manufacturing times.
- Reduced cabling promotes faster on-site installation.
- System configuration via user-friendly software enables users to bring systems on-line faster.
- Flexible network concept speeds and simplifies future system expansions and upgrades.
- Ethernet/Cobra-Net™ solutions are available for large-scale networked applications.

System Functionality and Capacity

The PAGASYS system provides indoor and outdoor Public Address/General Alarm capabilities for virtually any application calling for safe, high integrity, critical communications. This includes oil and gas exploration and production facilities, petrochemical and industrial plants, and military installations.

At the PAGASYS system's core is the control frame containing the network processor, digital signal processing (DSP), amplifier control/monitoring, and input/output cards. The base configured control frame will accept up to 48 audio inputs, store up to 12 re-recordable tones or digital messages, 40 seconds each and is expandable using Federal Signal's digital storage processor. By connecting to a PC mimic, it is possible to configure the DSP's to:

- Configure external audio input signal monitoring by using 20 Khz, 30 Hz or wide band pilot tone monitoring.
- Select the preferred pre-announcement chime.
- Establish the input/output volume control.
- Set the 30Hz amplifier monitoring tone level.
- Download messages from a PC.

Each rack includes a control frame, amplifiers, power supplies, speaker loop monitoring units and input/output terminations, used to communicate with external systems such as fire and gas and then activate tones, messages or beacons. Test/access panels are also available. Modules are mounted into card-frames housed in one or more, 42U 19" rack. Up to 1,000 watts of amplification power can be fitted into 3U card-frame with a maximum 9,000 watts per control frame. A maximum 36 zones are available in a 9,000-watt rack expandable to 72 zones with an additional rack. Extra racks can be added for future site-wide expansion.

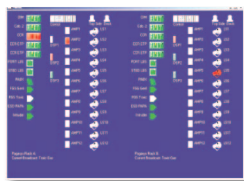
Network and Redundancy

A PAGASYS system can be supplied as a single stand-alone rack, a fully duplicated dual redundant system, or a redundant network system. In the event of a system component failure (such as a DSP card or audio input for an access panel) in a dual redundant or network redundant system, audio is automatically re-routed to assure failsafe operation. Even if the control frame fails completely direct audio analog input will still be available at that rack. PAGASYS is compatible with a variety of network technologies and system topologies based on copper or fiber-optic transmission to meet the level of redundancy required for the application.

System Fault Monitoring

To ensure integrity the PAGASYS system automatically incorporates extensive internal self-monitoring, covering:

- Audio input faults (30Hz, 20 KHz or wide band).
- Internal audio path faults.
- Internal communication path faults (i.e., control system to DSPs and control system to I/O cards).
- Network, amplifier speaker or speaker loop faults.
- Monitored alarm input faults for open and short circuit.
- Program and configuration checksum failures.
- Alarm message generators.



When a fault is detected a PC-connected system logs the fault. The system can also automatically e-mail a user or selected support group the instant a fault occurs. This group could include Federal Signal's Integrated Systems service department, which is able to provide remote support via the internet.

Loudspeaker Loop Monitoring and Optimal Individual Loudspeaker Remote Monitoring and Tapping

A standard system feature is impedance monitoring of the speaker circuits to confirm that speaker circuit loadings remain within a calibrated tolerance band. The system detects loudspeaker shorts or open circuits and earth faults. Optionally, in the event of a amplifier failure, the system will automatically re-route the signal through a standby amplifier. The system employs a 45 Hz infrasonic monitoring signal, which (unlike 20Hz) is generally not affected by signal attenuation caused by cable capacitance, and is virtually immune to spurious readings caused by weather/temperature effects.

Each loudspeaker monitoring card monitors two amplifier loops. An optional individual 'Intelligent Speaker Monitoring and Tapping' (ISMT) module simplifies installation, and increases whole-life system integrity. The ISMT module checks each loudspeaker, for faults. The ISMT module allows for remote volume adjustment of each individual loudspeaker by reconfiguring internal transformer power tapping. Each ISMT module can handle up to 256 speakers per speaker circuit with up to 36 speaker circuits per rack.

PAGASYS 'Power':

The PAGASYS system is powered by state-of-the-art "D" class amplifiers that provide significant performance improvements over traditional class "A" and "B" units. By comparison a typical A/B amplifier consumption at full power is 480VA, PAGASYS D amplifier only 300VA. Also, a typical lightweight class A/B amplifier weighs 10kg, the PAGASYS D amplifier only 3kg.

Federal Signal's 250/500 watt class D amplifiers also feature better than 84% efficiency, while eliminating power surges at start up. This level of efficiency combined with the smaller footprint dramatically reduce rack space requirements, often eliminate the need for auxiliary cooling fans, allowing for continuous operation for extended periods of time without fans and reduces the size of the UPS needed. The unique "super sleep" reduces the current draw to only 60mA when operating on battery backup. These amplifiers include self-monitoring making them suitable for conventional configurations and parallel bank arrangements. An integrated hot standby configuration is also available for backup should an amplifier fail.

Interacting and Interfacing with PAGASYS:

Also available are a wide variety of Engineer's Test Panels. These panels provide direct interaction with the system, local fault indication, and an analog PTT microphone access which can be available in the event of a control frame failure. Standard configurations include a rack mounted field programmable panels, touch screen panels, intrinsically safe panels, safe area panels as well as microphone stations. Access panels can be located at the central rack or a variety of remote locations. PAGASYS offers several connection options to LAN or WAN systems as well as PABX interfaces to enable paging locally/live or via "store-and-forward" in order to avoid feedback.

The PAGASYS system interfaces with all Federal Signal products/systems, including ECHO digital intercom system, party paging systems and outdoor siren products.



Contact the factory for additional information on PAGASYS.