

JACQUES Audio Gateway Server

Description

The JACQUES JAG-S1 is a PA controller for nodes of a JACQUES Long Line Public Address system. It provides centralised polling and control of attached peripherals in localised PA areas. It is an intelligent device with an integrated industrial PC for the implementation of advanced PA control schemes and third-party interfacing.



Features

- 2 Wide Area Network audio channels (Voice and BGM)
- Customisable relay input/outputs for HLI to external control equipment
- Configuration by serial terminal, front panel or SSH(Secure Shell)
- USB port for easy software maintenance
- 8 switched 10/100 Ethernet ports (6 powered, 2 standard)
- Backlit LCD display for diagnostics and configuration
- 240 V a.c. power input with alternate 24 V d.c. power input
- 2 Balanced audio line inputs
- 2 Balanced audio line outputs
- VU meter for audio inputs and outputs
- 8 digital inputs (Isolated dry contact type)
- 8 relay outputs (NC/NO type)
- Inbuilt thermally managed extraction fans
- Diagnostic indicators for attached peripherals
- Diagnostic RS-232C port
- Removable 1RU enclosure rack ears for desktop mounting
- Integrates with the JACQUES 650 Series VoIP intercom system

Peripherals

- Jacques JELM-1 – PA speaker monitoring and EWIS tone generation.
- Jacques ANM-1 - PA sound reinforcement SPL measuring device.
- Jacques IPM-650PA - for local and wide area annunciation.

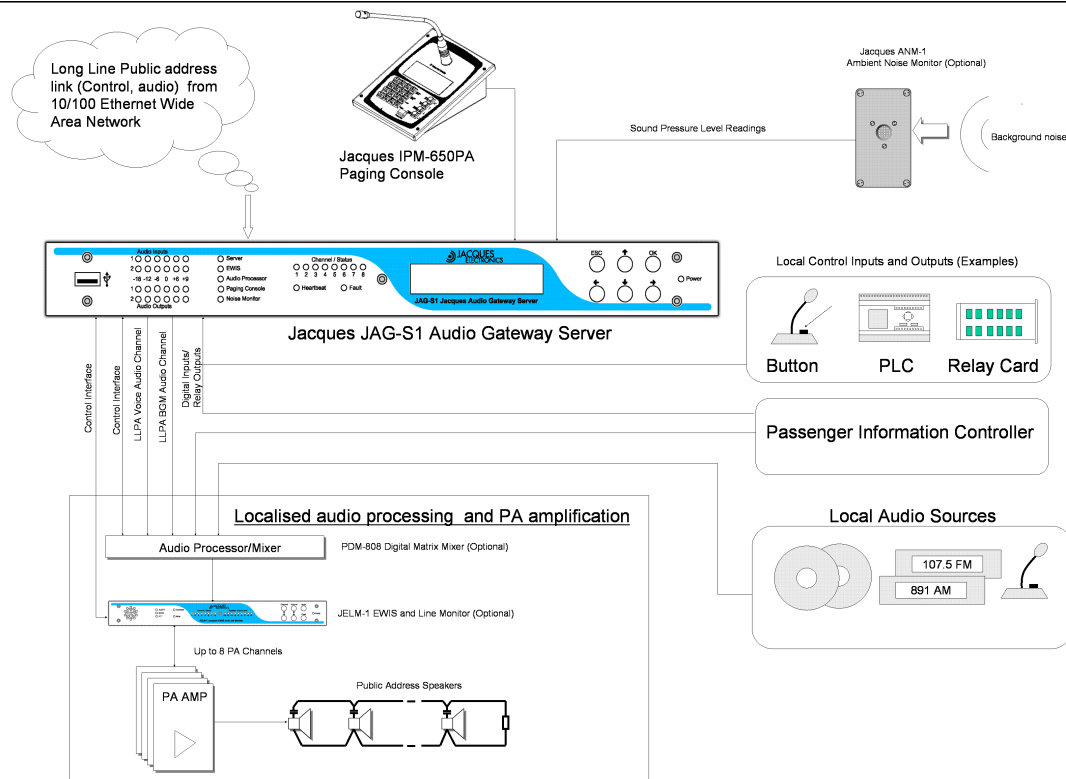
Applications

- Rail and Bus stations
- Secure Facilities

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Block Diagram



Operation

The JAG-S1 is part of the JACQUES Long Line PA system. This system allows public announcements to be sent to stations many kilometres away. The nodes connect to a WAN (Wide Area Network) by 10/100 Ethernet. Fibre optic links are often used between nodes for long distances.

The JAG-S1 is a local node controller for PA announcements for a station. In a large system, many JAG-S1 units are part of the same wide area network. It outputs analog audio for connecting to PA amplifier equipment. A relay output/digital input interface provides station-specific control (such as passenger announcements, localised BGM (Background Music) and PA tones).

The IPM-650PA (Paging Console) is a unit for PA announcements. It is optionally connected to a JAG-S1 to provide local area (and wide area) announcement capability.

The ANM-1 (Ambient Noise Monitor) provides PA sound reinforcement control for local stations. The JAG-S1 will “turn up” the PA system when a loud background noise is present, and in turn “turn down” the PA system when there is little background noise (such as during the night).

The JELM-1 (EWIS and Line Monitor) manages the PA Amplifier system; providing diagnostics for PA speaker lines and creating evacuation and warning tones when required by a local FIP (Fire indication panel).

Specifications

General

Power Requirements	(200 – 240) V a.c. 50/60 Hz, 1.5 A (18 – 32) V d.c. 4 A
Dimensions (W x H x D)	(425 x 43.5 x 320) mm (1U standard rack size)
Weight	3.5 kg

Single Board Computer

	VIPER-400-M64-F16, 400 MHz Intel XScale PXA255 based, with 64 MB SDRAM and 16 MB of Flash ROM
Flash Disk Data Storage	64 MB of type I/II Compact Flash Disk
USB Interface	1 port USB1.1

Ethernet Switch

	2 x unpowered ports, 5 x powered ports, all ports support 10/100 Mb/s with auto-polarity cable sensing Green (10 Mb/s) / orange (100 Mb/s) LED for link/activity, Orange LED for power presence indication (powered ports only)
RJ-45 LEDs	
Protection feature	Resettable fuse, 300 mA per port

RS-485 ports

	2 x half duplex with d.c. power, RJ-45 connectors
LEDs	Green LED for bus activity, Orange LED for power presence indication

Powered ports protection	Via poly-switch, 750 mA per port
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LCD

	2 lines x 20 characters, text mode, with backlight LED
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Digital Inputs

	8 digital inputs, dry contact
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Relay Outputs

	8 x 3-terminal outputs (Normally Open, Common, Normally Closed), 2 A / 24 V d.c. contacts rating
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Audio

Connections	2 x line-level balanced inputs, 2 x line-level balanced outputs
Maximum input level	+12 dBu
Input impedance	50 k Ω
Output impedance	50 Ω nominal
Frequency response	50 Hz – 18 kHz (+/-3 dB, inputs to outputs with digital loop back on SBC)
Total Harmonic Distortion/Noise (THD+N)	< 0.03 % (20 Hz – 20 kHz) @ 1 kHz, -2 dBu, 16-bit sampling
Signal to Noise ratio (SNR)	-75 dB (50 Hz – 18 kHz, -2 dBu)
Common Mode Rejection Ratio (CMRR)	-74 dB (50 Hz – 18 kHz)

Environmental

Operating Temperature	(0 – +50) °C
Storage Temperature	(-10 – +60) °C
Humidity	5% - 95% RH (non-condensing)

Compliance

EMC	EN 55022:1998 incl. Amdt1:2000 & Amdt2:2003, Class A C-tick compliant, N12046
Safety	AS/NZS 60950.1:2003, Class I device

Ordering Information

Part Number	Description
50926	JAG-S1, Jacques Audio Gateway Server

Rev 10/04/06

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