IP PUBLIC ADDRESS SYSTEM

In the wake of recent tragedies public safety has become a major concern for both governments and businesses. People visit, gather or transit through public spaces worldwide, every day. Jacques IP PA system offers exceptional reliability, scalability and configuration options ensuring it can adapt to suit any installation.

Operating via an IP network allows for complete flexibility of system use, including dynamic grouping of PA zones, with no limit on the number of groups or the number of zones within a group. This allows operators the ability to design site-specific PA systems ensuring total audio coverage across all buildings, areas and/or precincts.
The Jacques IP Public Address system has been designed for use across various market applications that require communication with the masses.

SYSTEM SUMMARY

Organisations responsible for public safety, need trouble-free mass communication options providing message distribution to large and busy crowds in the case of an emergency – fire, accident, riot. Jacques IP PA system with its flexibility to expand to an unlimited number of PA zones ensures the management of public safety announcements is effortless. The system has the added ability to monitor and interrogate the system for faults via the network. If a PA zone controller on the network fails, the system will report the failure allowing for timely maintenance and repair. Importantly, the integrity of the entire PA system is not affected allowing for broadcasts to continue to all other zones on the network.

SYSTEM FEATURES

ANNOUNCEMENTS & TONES

Live announcements can be made across the system straight from the PA console or PC Master Station while scheduled announcements, tones and bells can be created, organised and scheduled across days, weeks and months quickly and easily.

SYSTEM MONITORING

Ability to monitor and interrogate the system for faults via the network. If a PA controller on the network fails, the system will report the failure allowing for timely maintenance and repair. Importantly, the integrity of the entire PA system is not affected allowing for broadcasts to continue to all other zones on the network.

DIGITAL SIGNAL PROCESSOR

The use of a digital signal processor allows total user control of the PA system. Users have the flexibility to broadcast background music to any number of selected PA zones, while making an audio announcement to other individual or selected zones simultaneously. Multiple simultaneous streams of background music can be distributed throughout the system at each zone.

FLEXIBLE SYSTEM ARCHITECTURE

Create small, large or multi-site PA systems. Our system allows for virtually an unlimited number of public address endpoints to be connected, integrated and managed. If a site expands additional PA zones can easily be added to new or existing network infrastructure, ensuring system longevity.

UNLIMITED MULTI ZONE

Features dynamic grouping of PA zones, with no limit on the number of groups or the number of zones within a group ensuring complete system scalability.

AMBIENT NOISE SENSORS

Optional ambient noise sensing microphones provide Automatic Level Control (ALC) across the system.

TRUE IP DIGITAL TECHNOLOGY

Jacques systems are based on Ethernet network standards and TCP/IP protocols, which use commercially available network equipment and infrastructure.

3RD PARTY INTEGRATION

Seamless 3rd party integration to leading building & security management, CCTV, access control and telephony systems. Integration to SIP enabled digital telephone systems allows users to make live announcements across the PA system from their telephone.
SAFE CITIES – INTEGRATING PA, INTERCOM & CCTV

City Councils operate programs aimed at ensuring public safety in a city’s public spaces and limiting crime. Councils often operate a central monitoring facility 7 days a week, 24 hours a day observing and interacting with hundreds of CCTV cameras across the city. Working seamlessly alongside these CCTV systems is the Jacques IP Communication System featuring public address, intercom and help point units allowing for security officers at central control to verbally communicate with an individual or the masses while viewing live camera footage.

Malls are some of a city’s busiest public venues, attracting diverse crowds day and night, 7 days a week. With millions of people visiting malls every year, steps can been taken to further enhance the safety of individuals and the security of property. A Jacques Public Address system aims to provide immediate information dissemination to the public in order to ensure a quick response time to any situation from security personnel at central control.

Key features of this system include the ability to make live public address announcements and to broadcast pre-recorded and time scheduled announcements to one, selected or all public address zones across the sites. The public address system which can operate across multiple locations utilising the same network can be managed centrally, enabling security to engage with persons in all or selected locations.

Integration of the public address system with a CCTV system allows verbal warnings to be broadcast to potential troublemakers that the police have or will be called. The system ensures persons are aware ‘someone is watching’ and may deter troublemakers from further action. A series of pre-recorded messages initiated by an operator using the PC Master Station User Interface, in conjunction with associated camera footage can broadcast public service and warning announcements easily.

CUSTOMISED GRAPHICAL USER INTERFACE

The Jacques GUI can be completely customised to suit your application:

• Upload multiple site maps, including submaps
• Load audio files, warning tones or announcement files for broadcast across the PA system
• Use your city or company branding and logo
SAFE TRANSIT

During peak hour, a city's transport network (bus, rail or ferry) feature high volumes of people transiting in or out of the city. In order for transport networks to run smoothly, communication is critical. Jacques IP Public Address system ensures communication to those within the transport network is available to all and received with clarity.

Transport PA systems can feature:

- Jacques Help Point Units located on platforms and in transit car parks. Help points can be connected to several operation centres and can be diverted when any of these centres are closed.

- Jacques Public Address System allows for announcements or emergency messages to be broadcast across the system. Public address messages can be live or pre-recorded and time scheduled with the flexibility to broadcast to one, selected or all public address zones across the network.

- Jacques lift intercom devices within station lifts allow for calling to the operation centre in case of an in-lift emergency.

- 24 hour monitored CCTV security cameras located throughout a transport network allow for security personnel at the operations centre to switch to an intercom-associated-camera ensuring complete audio and video monitoring.

A transport intercom, PA and Help Point Unit system can be managed at central control by a customised Graphical User Interface (GUI). The GUI features multiple station maps and sub maps, and pre-recorded message buttons allowing operators to make, answer and terminate intercom and PA calls.

ANNOUNCEMENT SCHEDULING

Jacques Announcement Scheduler (JAS) software allows sites to:

- Facilitate pre-recorded PA announcements, bells, tones & warning alarms across a Jacques IP PA system

- Allows for the uploading of audio files for broadcast

- Build timetables of announcements, bells & tones for broadcast at allocated times to select or all PA zones

- Apply schedules to days, weeks or months according to a sites broadcast requirements

- Management of the scheduler via a user-friendly calendar view
Build your IP public address system following these simple steps

1. **IP PA SYSTEM**
   Begin with an Ethernet Network configured for QoS.

2. **CONTROLLER PACKAGE**
   Choose a controller package which can manage your system size and offer the functionality you require.
   Gold | Silver

3. **MASTER STATION**
   Choose your master station. They can make and receive intercom calls and make public address announcements.
   IPM-360 | PCC-650MX

4. **PA FUNCTIONALITY**
   Choose your Public Address components to achieve the required functionality.
   UA-3B1 | Amplifiers | Speakers

5. **INTERCOM TERMINALS**
   Add intercom terminals. They call pre-defined master stations and can initiate relays within your system.
   VSL-35X | HPU-5E

6. **OPTIONAL EXTRAS**
   Customisation of Graphical User Interfaces (GUI) and/or Integration with CCTV & Access Control Systems
CONTROLLERS & SOFTWARE

SYSTEM CONTROLLER MEDIUM
TCH-2MXH | 51660
- IP controller, up to 80 endpoints
- Available to administer most Jacques system software modules & interfaces
- Facilitates almost all core functions of the Jacques IP Communication System
- Supports high definition audio
- Fanless and low power consumption
- SATA hard drive

SYSTEM CONTROLLER LARGE
JSC-5L | 51814, JSC-5L-AEC | 51815
- IP controller, large, includes JCCP server software for intercom devices to make and receive calls, more than 80 endpoints supported
- Supports high definition audio
- SATA hard drive
- Segregated air-flow design for optimal unit cooling
- Acoustic Echo Cancellation Software (JSC-5L-AEC only)

SOFTWARE
Software modules* manage key functionality of the system and can provide additional functionality. Choose software packages to achieve system functionality requirements.

DAR
Echo cancellation for full duplex communication
- Interface call audio to third party recording devices (digital, SIP or analogue)
- Stream background music/entertainment through intercom devices & PA speakers

SIP GATEWAY
Intermediate interface allowing for integration of Jacques system with compatible SIP systems & devices
- Implements RFC 3261-Core Session Initiation Protocol to transfer, convert & filter communication
- Support for bridge calling allowing a Jacques device to dial multiple SIP devices however only allowing one to answer and perform a call

EVENT CONTROLLER
Provides simplified interfaces for the integration of external systems & products
- Feature highly configurable rules to match system events, simultaneous event triggers, alarms & offline events
- Standard handling of CCTV function

JAS
Facilitate pre-recorded PA announcements, tones & warning alarms across a Jacques IP PA system
- Allows for the uploading of audio files for broadcast
- Built timetables of announcements, bells & tones for broadcast at allocated times to select or all PA zones
- Apply schedules to days, weeks or months according to a sites broadcast requirements
MASTER STATIONS

IP MASTER INTERCOM STATION
IPM-360G | 51534, IPM-360GH | 51535

• Complete intercom call handling functions
• Public address functionality
• Make live and pre-recorded announcements
• Selection and playback of recorded announcements
• IEEE 802.3af PoE support
• Backlit display for reliable viewing in dark conditions
• Trigger intercom relays
• Options for gooseneck, handset and headset

PC MASTER STATION
PCC-650MX | 51669, PCC-650MXTS | 51720
PCC-650WIN | 51791, PCC-650WTS | 51857

• Complete intercom call handling functions
• Complete public address functionality
• Make live and pre-recorded announcements
• Broadcast tones, bells & alarms
• Visual display of PA zones (unlimited number of zones depending on controller)
• Selection and playback of recorded announcements
• Diagnostics and reporting
• Alarm notifications including device state
• Touchscreen compatible interface
• Map, grid and database views
• Upload multiple site maps to suit application/site
• Customisable layout/functions

Building safe spaces with Jacques IP Public Address Systems
UNIVERSAL AUDIO INTERFACE UAI-3B1/UAI-3E1
PRODUCT CODE 51196, 51195

FEATURES

- Multifunctional device
- Interface between Jacques IP Communication System and analogue audio device
- 650 and 550 system interface (hybrid intercom system)
- Public address interface

OPTIONAL ACCOMPANYING PRODUCTS

- SVR-100 (used in conjunction with line amplifier)

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microphone</td>
<td>200 Hz – 7 kHz (input circuit frequency response ±3 dB)</td>
</tr>
<tr>
<td>Max. Audio Input (Balanced)</td>
<td>+13 dBu (10 V p-p, max. input level)</td>
</tr>
<tr>
<td>Max. Audio Output (Balanced)</td>
<td>+13 dBu (10 V p-p, max. output level)</td>
</tr>
<tr>
<td>Max. Audio Output (Unbalanced)</td>
<td>+7 dBu (5 V p-p, max. output level)</td>
</tr>
<tr>
<td>Audio Streaming Bandwidth</td>
<td>128 kb/s each way</td>
</tr>
<tr>
<td>Input Impedance</td>
<td>50 kΩ</td>
</tr>
<tr>
<td>Max. Audio Output Load</td>
<td>600 Ω</td>
</tr>
<tr>
<td>Auxiliary Functions</td>
<td>Relay contacts (2 x NO/NC)</td>
</tr>
<tr>
<td>Power Input</td>
<td>(12 – 32) V d.c., 24 V d.c. nominal, JPoE</td>
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<tr>
<td>Power Consumption</td>
<td>2.4 W max.</td>
</tr>
<tr>
<td>Indicators</td>
<td>Power, +5 V, status, RS485 (TX, RX), LAN link and activity</td>
</tr>
<tr>
<td>Cabling</td>
<td>Ethernet: 4 pair UTP CAT-5e/6, 100 m max.</td>
</tr>
<tr>
<td></td>
<td>Balanced audio, RS-485 - twisted pairs, CAT-5/5e/6 screen pair cable may</td>
</tr>
<tr>
<td></td>
<td>be used.</td>
</tr>
<tr>
<td></td>
<td>Unbalanced audio: screened single core, braided preferable</td>
</tr>
<tr>
<td></td>
<td>Relays/Power: 0.75 mm², multi-strand, 100 m max.</td>
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<tr>
<td>Connectors</td>
<td>LAN/Power: RJ45</td>
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<tr>
<td></td>
<td>Power: 2 way 3.81 mm combicon screw terminal block</td>
</tr>
<tr>
<td></td>
<td>Audio output: RS-485, 8 way 3.81 mm combicon screw terminal block</td>
</tr>
<tr>
<td></td>
<td>Relays: 6 way 3.81 mm combicon screw terminal block</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>(0 - 70)°C</td>
</tr>
<tr>
<td>Operating Humidity</td>
<td>(10 - 90) % relative humidity (non-condensing)</td>
</tr>
<tr>
<td>Compliance</td>
<td>EMC: EN55022 Class A</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Rectangular box (UAI-3B1)</td>
</tr>
<tr>
<td></td>
<td>3U Eurocard, 12 HP, 160 mm (UAI-3E1)</td>
</tr>
<tr>
<td>Dimensions (WxHxD)</td>
<td>103 mm x 30.5 mm 168 mm (UAI-3B1)</td>
</tr>
<tr>
<td></td>
<td>30.5 mm x 129 mm 179 mm (UAI-3E1)</td>
</tr>
<tr>
<td>Weight</td>
<td>0.35 kg (UAI-3B1)</td>
</tr>
<tr>
<td></td>
<td>0.15 kg (UAI-3E1)</td>
</tr>
<tr>
<td>Material</td>
<td>Extruded aluminium (UAI-3B1)</td>
</tr>
<tr>
<td></td>
<td>Aluminium plate &amp; handle on card front (UAI-3E1)</td>
</tr>
<tr>
<td>Finishes</td>
<td>Anodised, black (UAI-3B1)</td>
</tr>
<tr>
<td></td>
<td>Powder coated, magnolia gloss (UAI-3E1)</td>
</tr>
<tr>
<td>Environment</td>
<td>Indoor use only</td>
</tr>
<tr>
<td>Mounting Options</td>
<td>Mounting bracket, 120 mm spacing for 2 screws</td>
</tr>
</tbody>
</table>
PA SPEAKER SVR-100 5/15 W
PRODUCT CODE 50909, 51706

FEATURES
- 100 V line vandal resistant speaker
- Marine grade 316 stainless steel face plate
- Quality audio output

OPTIONAL ACCOMPANYING PRODUCTS
- Universal Audio Interface (UAI-3B1)

SPECIFICATIONS

### Speaker
- 1 x 8 Ω, 8 W RMS, 4" dual cone

### Frequency Response
- 100 Hz – 15 kHz (±6 dB)

### Sensitivity
- 90 db SPL, 1 kHz, 1 W, 1 m

### 100 V Line Power Taps
- (0.33, 0.66, 1.25, 2.5, 5) W (SVR-100 5 W)
- (1.25, 2.5, 5, 10, 15) W (SVR-100 15 W)

### Operating Temperature
- (-20 - 55) °C

### Operating Humidity
- (10 - 95) % relative humidity (non-condensing)

### Cabling
- Figure 8, 0.75 mm² multi-strand (typical)

### Connectors
- 4 way screw terminal block (SVR-100 5 W)
- 2 way screw terminal block (SVR-100 15 W)

### Compliance
- AS1670.4 EWIS standard (SVR-100/5W)

### Form Factor
- Circular flush wall panel or surface mount with CSH-1

### Dimensions (Ø x D)
- 170 mm x 64-109 mm (SVR-100 5 W)
- 170 mm x 125 mm (SVR-100 15 W)

### Weight
- 1.2 kg (SVR-100 5 W)
- 1.3 kg (SVR-100 15 W)

### Material
- 316 stainless steel

### Finishes
- Linish, chamfered edge

### Environment
- Non rain exposed area

### Vandal Resistant
- Yes

### Mounting Options
- Flush mount direct into ceiling or wall, surface mount backbox (CSH-1)

SURFACE MOUNT BACK BOX CSH-1
PRODUCT CODE 50620

SPECIFICATIONS

### Suitable For
- SVR-100 series

### Dimensions (Ø x D)
- 231 mm x 71 mm

### Weight
- 1.2 kg

### Material
- 304 stainless steel

### Finishes
- Powder coated, gloss, black

### Environment
- Non rain exposed area

### Vandal Resistant
- Yes

### Speaker Mounting Holes
- 4 x M4 threaded holes

### Speaker Fixings
- 4 x M4 security torx screws

### Cable Entry
- 2 x 25 mm hole rear
## SYSTEM SPECIFICATIONS

### SYSTEM CAPACITY

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercom Stations</td>
<td>Unlimited*</td>
</tr>
<tr>
<td>Master Stations</td>
<td>Unlimited*</td>
</tr>
<tr>
<td>Stored Announcements</td>
<td>Unlimited*</td>
</tr>
<tr>
<td>Call Queue Size</td>
<td>Unlimited*</td>
</tr>
<tr>
<td>Groups</td>
<td>Unlimited*</td>
</tr>
<tr>
<td>Simultaneous Conversations</td>
<td>Unlimited*</td>
</tr>
<tr>
<td>Audio Communication Between any endpoint</td>
<td>Yes +</td>
</tr>
<tr>
<td>Auxiliary Channels</td>
<td>16 (typically up to 4 live captured sources)</td>
</tr>
</tbody>
</table>

### AUDIO CHARACTERISTICS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Response</td>
<td>200 Hz - 7 kHz ± 3 dB</td>
</tr>
<tr>
<td>Transmission Format</td>
<td>Real-Time Transport Protocol (RTP) Streaming</td>
</tr>
<tr>
<td>Digital Audio Format - Voice</td>
<td>A-law compressed PCM 16 kHz sampling rate</td>
</tr>
<tr>
<td>Audio Streaming Bandwidth</td>
<td>128 kb/s one way, 256 kb/s full duplex</td>
</tr>
<tr>
<td>Acoustic Echo Cancellation</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### VIDEO CHARACTERISTICS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-Standard Video Codec</td>
<td>MPEG-4 part 2, simple profile; H.264 baseline profile; H.263 part 3</td>
</tr>
<tr>
<td>Video Streaming Bandwidth</td>
<td>500 kb/s - 6 Mb/s</td>
</tr>
</tbody>
</table>

### CALL HANDLING

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call Topologies</td>
<td>Intercom/hierarchical/peer/public address/zoned</td>
</tr>
<tr>
<td>Call Priorities</td>
<td>256 priority levels</td>
</tr>
<tr>
<td>Call Features (Basic)</td>
<td>Auto-answer, hold, forward, diversion, directory, group call, caller-ID, bridged call appearance</td>
</tr>
<tr>
<td>Call Features (Specialised)</td>
<td>Isolate nuisance callers, covert monitor, dynamic group call, stored announcements, master call, remote mode, priority queuing, selective answer of call waiting</td>
</tr>
</tbody>
</table>

### NETWORK

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addressing</td>
<td>TCP/IP IPV4, static or dynamic (DHCP)</td>
</tr>
<tr>
<td>Interface Media</td>
<td>IEEE 802.3 10/100 Mb/s Ethernet</td>
</tr>
<tr>
<td>Standards</td>
<td>IEEE802.1P LAN Layer 2 prioritisation</td>
</tr>
<tr>
<td></td>
<td>IEEE802.1Q Virtual LAN</td>
</tr>
<tr>
<td></td>
<td>RTP - Real-Time Transport Protocol (RFC3550/3551)</td>
</tr>
<tr>
<td></td>
<td>TOS - IPv4 Type of Service (RFC791)</td>
</tr>
<tr>
<td></td>
<td>DTMF - RTP payload for DTMF digits (RFC2833)</td>
</tr>
<tr>
<td></td>
<td>Multicast - IP Multicasting (RFC1112)</td>
</tr>
<tr>
<td></td>
<td>Diffserv - Differentiated Services (RFC2474/2475)</td>
</tr>
<tr>
<td></td>
<td>NTP - Network Time Protocol (RFC1305)</td>
</tr>
<tr>
<td></td>
<td>IGMPv2 - Internet Group Management Protocol v2 (RFC2236)</td>
</tr>
<tr>
<td></td>
<td>DHCP - Dynamic Host Configuration Protocol (RFC1531)</td>
</tr>
</tbody>
</table>

### CABLING

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Input/Ethernet</td>
<td>4 pair UTP CAT-5/5e/6, multi-strand, 24 AWG - max. 100m</td>
</tr>
</tbody>
</table>

*Dependent on server configuration and network bandwidth

+Dependent on system configuration and permissions granted