



## IP Communication System

Introduction  
Jacques 650 Series  
IP based Inter-Communications  
and Public Address System

Jacques is an innovative design and manufacturing company producing world class integrated communication systems for a variety of industry applications.

Jacques strengths lie in our forward looking product design. Our original ideas and unique style are the result of a dedicated R&D team which consistently makes leading edge IP products a reality.

## IP COMMUNICATION SYSTEM

Jacques core competencies are in combining IP technology with our 30 years of knowledge and experience in designing audio and video products and systems. These include professional Intercom, Emergency and Information Help Point and Public Address (PA) systems. Our products are well suited for all applications where reliable, high quality communications are required.



### Fully digital, IP Technology

This system is based on Ethernet network standards and TCP/IP protocols, which use commercially available network equipment and infrastructure.



### Expandable and flexible system architecture

The Jacques 650 Series System allows almost an unlimited number of intercom stations and Public Address zones to be connected in a fully integrated system.

## APPLICATIONS

The Jacques IP Communications System is easily configurable to suit a variety of applications including:



### Security & Public Spaces



Prison



Emergency Services



Public Spaces



Public Address

- Designed for integration with security and building management, access control and CCTV systems.
- Specialised call handling for secure environments allows staff complete control over communications with slave intercom stations. Hierarchical call handling centralises responsibility for easy response to calls.

### Transport & Infrastructure



Train



Bus



Airports



Roads



Parking



Public Address

- Long line public address (LLPA) and Help Points for fixed infrastructure projects.
- Onboard solutions including passenger information and entertainment provided in one single convenient system, therefore reducing costs and cabling requirements significantly.

### Commercial & Architectural



Commercial



Evacuation



Lifts



Public Address

- In addition to standard intercom features, the IP system provides emergency help points designed for public safety, integrated multi-zone public address with Emergency Warning and Intercommunication System (EWIS) support and distribution of digital background music.

## SYSTEM ADVANTAGES



### Reduced cabling and installation costs

No special cabling or terminations are required. Our systems use standard Ethernet networks and operate over copper, fibre or wireless, which means they easily integrate with structured cabling systems or existing data networks.



### Crystal clear voice communications

Wide voice bandwidth digital audio, with low distortion provides high intelligibility which is essential for public safety and security applications.



### Weather protected, robust and vandal resistant Intercom & Help Point Stations

Years of experience in designing and developing equipment for the Professional Security Industry has honed our expertise in creating products that are ideally suited for installation in extreme environments.



### Powered Ethernet Support

Data and power are provided over a single 4 pair CAT-5/CAT-6 data cable to Jacques 650 Series equipment.



### High resolution video communications

Jacques Intercom stations use high resolution, low noise cameras, providing exceptionally clear images.

## SYSTEM FEATURES



**Rule based call permissions** are configurable for all intercom stations.



**Priority queuing** of all calls based on risk assessment and site procedures.



### Residential & Automation



Residential



Home Automation

- The Jacques Integrated Communications System featuring the IP Video Intercom is ideal for residential applications. Our stylish designs provide an exceptional apartment communications system which can fully integrate with other IP and automation control systems installed throughout the building.

### Health & Education



Medical



Health Care



Schools & Universities



Public Address

- The Jacques Education System incorporates the latest in integrated communication technology and utilises a range of monitoring and control systems to enhance the safety of the education environment. Distributed communications devices such as class room intercoms, school campus help points, building PAs, enable staff in Schools and Universities to immediately communicate and respond to bullying incidents and violence.
- Medical and health industries benefit from a Jacques communications system with video intercoms available at the entrance of closed wards and an integrated PA system throughout the medical environment.

### Industrial & Specialist



Industrial



Harsh Environment



Mining



Maritime



Military



Public Address

- Jacques tough and robust Intercom, help point and public address systems are ideal for industrial applications where functionality and reliability are essential.
- Jacques products use corrosion and impact resistant materials, which provide excellent long term voice and video quality, even in harsh environments.

## SYSTEM FEATURES Cont.



**Configurable intercom system topology** enables the system to be structured as a mix of hierarchical or peer to peer.



**Specialised slave intercom features** for secure facilities include covert monitoring of slave stations, isolation of nuisance callers and call recording.



**Third party integration** via High Level Interface (HLI) to other systems is available as a software developer kit.



**Fully supported** by leading CCTV, access control, automation, building and security management systems (BMS, SMS).



**Relay modules** are available on intercom slave stations as an option to activate external equipment such as door or boom gate controllers, or to signal CCTV camera presets.



**Multiple simultaneous conversations** enable all intercoms and public address zones to be used at one time.



**Call activity and systems events** recorded to an event log database for call accounting, incident reports or fault diagnosis.



**All Jacques Intercom** and Help Point stations fully support IP and can connect to any point on an Ethernet network.



**Quality of Service (QoS)** support for reliable digital voice communications.



**Time synchronisation** with external systems using GPS (NMEA) or NTP.



**Audio and voice** recording outputs are available for connection to external recording equipment.



**Multicast** used for efficient implementation of PA announcements/groups and auxiliary channels.



### Public Address



- The 650 series Public Address System is extremely flexible in operation and offers a virtually unlimited number of PA zones. Network connected controllers interface directly to commercially available PA amplifiers and sound reinforcement equipment.
- An interface module allows phone extensions to access the public address system.
- Optional ambient noise sensing microphones and/or 24 hour time scheduling provide Automatic Level Control (ALC).
- Background music channels are available at each zone.

### Intercom Master Stations

- PC master stations, running Microsoft Windows based software, provide a user-friendly graphical user interface (GUI) for control of all intercom functions using a keyboard, mouse or touchscreen.
- Console master stations provide operators with user-friendly menu and key functions. All calls to or from master stations are identified by name as well as a unique tag number.

### Intercom Slave Stations

- Intercom slave stations have simple single button operation and call only pre-defined master stations. Operation is hands-free once the call is established.
- Both internal and weather protected external intercoms are available in a wide variety of sizes, styles and finishes, suitable for mounting in most locations.
- All intercom stations are microprocessor controlled, and perform continuous integrity, tamper and diagnostic tests.
- As one of the many options available, Intercom stations can receive multiple channels of streamed audio from sources such as AM/FM radio tuners or CD players for in-house audio distribution.

## System Capacity

<b>Intercom Stations</b>	Unlimited*	<b>Groups</b>	Unlimited*
<b>Master Levels</b>	Unlimited*	<b>Public Address Zones</b>	Unlimited*
<b>Stored Announcements</b>	Unlimited*	<b>Simultaneous Conversations</b>	Unlimited*
<b>Call Queue Size</b>	Unlimited*	<b>Auxiliary Channels</b>	16

\* Dependent on server configuration and network bandwidth

## Audio Characteristics

<b>Frequency Response</b>	200 Hz - 7 kHz +/- 3 dB
<b>Transmission Format</b>	Real-time Transport Protocol (RTP) Streaming
<b>Digital Audio Format - Voice</b>	A-law compressed PCM 16 kHz sampling rate
<b>Digital Audio Format - Aux. Playback</b>	MPEG Layer 3 (MP3), typical encoding: 128 kbs stereo 44.1 kHz

## Call Handling

<b>Call Topologies</b>	Intercom / Hierarchical. PABX / Peer, Public Address / Zoned	
<b>Call Priorities</b>	256 priority levels.	
<b>Call Features</b>	<b>Basic</b> <ul style="list-style-type: none"> <li>• Auto-answer</li> <li>• Hold</li> <li>• Forward</li> <li>• Diversion</li> <li>• Directory</li> <li>• Group call</li> <li>• Caller-ID</li> <li>• Bridged call appearance</li> </ul>	<b>Specialised</b> <ul style="list-style-type: none"> <li>• Isolate nuisance callers</li> <li>• Covert monitor</li> <li>• Dynamic group call</li> <li>• Stored announcements</li> <li>• Master call</li> <li>• Remote mode</li> <li>• Priority queuing</li> <li>• Selective answer of call waiting</li> </ul>

## Network

<b>Addressing</b>	TCP/IP IPV4, static or dynamic (DHCP)	
<b>Interface Media</b>	IEEE 802.3 10/100Mbps Ethernet	
<b>Standards</b>	<ul style="list-style-type: none"> <li>• IEEE802.1P LAN layer 2 prioritisation</li> <li>• RTP - Real-time Transport Protocol (RFC3550/3551)</li> <li>• DTMF - RTP payload for DTMF digits (RFC2833)</li> <li>• Diffserv - Differentiated Services (RFC2474/2475)</li> <li>• SNMP - Simple Network Management Protocol v2 (RFC1901)</li> </ul>	<ul style="list-style-type: none"> <li>• IEEE802.1Q Virtual LAN</li> <li>• TOS - IPV4 Type of service (RFC791)</li> <li>• Multicast - IP Multicasting (RFC1112)</li> <li>• NTP - Network Time Protocol (RFC1305)</li> <li>• DHCP - Dynamic Host Configuration Protocol (RFC1531)</li> <li>• IGMPv2 - Internet Group Management Protocol v2 (RFC2236)</li> </ul>

## Cabling

<b>Power Input / Ethernet</b>	4 pair screened CAT-5/5e/6, multi-strand, 100Ω
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## Software Components

<b>Intercom Activity Report Server</b>	Web browser access to event log database recording.
<b>Audio Recorder Interface</b>	Capture intercom call audio for recording on external voice logger or DVR
<b>Voice Annunciator</b>	Digital message store with playback and recording of announcements.
<b>Audio Streaming Server</b>	16 channels of auxiliary audio in MP3 format from live or pre-recorded sources.
<b>Event Controller</b>	Configurable interfaces to third party systems, Modbus/TCP, relay outputs or RS232/RS485
<b>HTML Client</b>	Graphical master station with customisable user interface in standard HTML.

## System Components

<b>Master Stations</b>	For more information contact Jacques for a Master Stations brochure.
<b>Slave Stations</b>	For more information contact Jacques for a Slave Stations brochure.
<b>IP System Accessories</b>	For more information contact Jacques for a IP System Accessories brochure.



Due to our policy of continuous improvement, all specifications are subject to change without notice.

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