COMPANY OVERVIEW

Founded in 1980, Jacques Technologies is an Australian design and manufacturing company boasting a team of highly innovative and proactive software and electronics professionals. Our team of engineers are adept at uniting form and function to produce leading-edge and future-proof communication systems.

A decade ago, we pioneered the use of IP technology within the intercom and public address space. Today, this ensures Jacques IP Communication Systems are dynamic and efficient across endless market applications. As market leaders in the IP communication industry, we continue to supply national and international projects with quality audio, video and public address (PA) systems suitable for a diverse range of industries.

Our system boasts the use of true IP technology ensuring unmatched scalability and design flexibility. With scope to achieve systems that have virtually an unlimited number of IP intercom endpoints and public address zones and with countless configuration options, a Jacques communication system will fit effortlessly into any environment. Australian designed and manufactured our exceptional combination of hardware quality and software expertise ensures Jacques systems seamlessly integrate with many, world class, third party systems. This sophisticated and intelligent integration to building and security management, digital telephony, CCTV and access control systems combined with our true IP architecture rivals that of any other and promotes endless possibilities.

“ONE SYSTEM, ENDLESS POSSIBILITIES”
Jacques’ communications solutions are designed and developed to meet the virtually limitless requirements unique to any industry application. Our IP Integrated Communication Systems are highly suited to applications where reliable, high quality voice and/or video communication is required. We currently provide IP intercom and public address solutions to a range of local and international markets, including government, correctional services, public safety, mining, residential, education, transport and health.

Our professional communication systems, with the ability to integrate into third party security, building management, CCTV, telephony and access control systems, are highly sought after by the secure facilities, commercial and education industries. Our products have been used in a number of projects within the transport industry, which require integrated intercom, public address and Help Point Units to disseminate information and facilitate public safety.
Commercial

Comprehensive IP intercom and multi-zone public address systems with fire stair and lift solutions allow staff to react quickly in the case of potential threats, intruders or extreme emergencies. Reliable audio and video intercom communication, public address announcements, CCTV monitoring capabilities and entry/exit access control features comprehensively safeguard commercial facilities.

Secure Facilities

Reliable and efficient inmate management, visitor communication and integrated central control and monitoring ensure correctional facilities staff maintain a safe and secure facility. Additionally, inmate communication, which can be critical in ensuring a safe and secure environment, can be supervised through technologically advanced features such as covert monitoring, audio recording and non-contact visit systems.

- Non-Contact Visit System
- Covert Monitoring
- IP Cell Intercom
- Anti-Ligature Intercom Design
- HLI Integration
- Sophisticated Reporting and Diagnostics
- IP Multi-zone Public Address
- Tamper Detection
- Video Intercom
- Audio Intercom
- HLI Integration
- Relay Control and Monitoring
- Multi-zone Public Address
- Fire Stairs and Lift Intercom
- Door Control
Education

Facilitate a safe and positive learning environment with a multi-zone public address system and communicate via video and/or audio intercom systems. Administration can schedule school bells, pre-recorded announcements, alarms and broadcast live verbal announcements to all or selected PA zones from one central location. Communication between teachers and administration or security personnel is easily achieved through intercom terminals available in each classroom.

- Bell scheduling
- Public Address
- Audio and Video Intercom
- IP Ceiling Speakers
- IP Clocks

Transport

Whether travelling during the day, alone, or at night, it is important for passengers and staff to feel safe and secure when using transportation systems. Jacques’ integrated IP Communication System which features intercom, Help Point Units and public address, provides a flexible and reliable communication solution featuring integration to many third party devices including CCTV, security management and access control systems. Jacques’ provides unique and individual solutions that work effectively for bus, train, airport and maritime transportation systems.

- HLI Integration
- Public Address
- Video and Audio Intercom
- Help Point Units

Industrial

From mining sites, to defence and factories the Jacques’ integrated IP Communications System is effective and flexible in meeting any specific requirements in order to ensure maximum safety and security for all individuals on site. The dynamic IP communication system features devices and tools which have the capability of being integrated into third party security systems and devices along with the advantage of durability and excellent voice quality suited for harsh conditions.

- Explosion-proof Telephone
- Public Address
- Help Point Units
- Echo Cancellation
- Fire Stair Intercom
- Relay Control
Residential

Step in the door, relax and enjoy! Jacques’ IP Communication System for residential living ensures residents are safe and secure through the user friendly system and devices. Protect the home from intruders with features such as IP video intercom, fire stair IP intercom solutions and assimilation with third party security devices. Jacques’ has tailored packages specific for apartments, housing estates and private housing to ensure maximum safety and security.

Health

The critical safety of patients, visitors and staff is maintained through video and audio intercom communication, public address and entry/exit access control features. Staff are able to instantly communicate to other departments, broadcast public address announcements, ensure help and assistance is available 24/7 in carparks, and grant entry or exit access to authorised personnel from one or multiple locations.

Public Safety

Provide communities with an around-the-clock security solution that offers reliable and integrated help/emergency assistance and information dissemination. Help Point Units, located in public areas, are weather and vandal resistant and can withstand high volume usage, while pay station and boom gate intercom terminals provide assistance to those using car park facilities. Security personal are able to protect the public through CCTV monitoring capabilities, public address announcements, warning alarms, and communication to any intercom endpoint from one or multiple locations.

- CCTV Integration
- Audio and Video Intercom
- Help Point Units
- Car Park Pay Station Intercom
- Public Address
- Help Point Units
- Public Address
- Relay Control
- HLI Integration
- Car Park Pay Station Intercom
- Video Intercom
- SIP
- Video Intercom
- Relay Contro
- CCTV Viewing
IP COMMUNICATION SYSTEM

Based on Ethernet network standards and TCP/IP protocols, the Jacques (650 Series) IP Communications System is a sophisticated, technology-driven and intelligent intercom and public address (PA) system. The system uses Internet Protocol (IP) packets via existing or commercially available network equipment and infrastructure for all control, audio and video communication between system devices.

All intercom endpoints communicate using the Jacques Call Control Protocol (JCCP) which is specifically designed to provide system integrity and high quality voice transmission. Audio and/or video for intercom calls and/or public address announcements is streamed using the industry standard Real-Time Transport Protocol (RTP).

Our flexible system design will enable you to select the products required from all or any of our sub-systems to achieve your project requirements. Any or all sub-systems can fully integrate to numerous third party systems including CCTV, building and security management, digital telephony and access control systems. This ensures a Jacques IP communication system transcends client expectations as it seamlessly integrates within a large number of industry applications.
SYSTEM FEATURES

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**Investment Longevity**
The expandability and flexibility of the Jacques IP Communication System ensures longevity. Jacques remains at the forefront of innovation, development and technological design, so you can install our systems confidently knowing they will grow and develop with the changing environment.

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**Environmental Specific Features**
Designed for indoor or outdoor use, the Jacques IP Communication System endpoints are weather protected, operate within a wide temperature range, are robust and vandal resistant. All intercom terminals and public address speakers are manufactured to withstand continued, high volume usage ensuring continued reliability.

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**Central Control & Monitoring**
Integration of the Jacques IP Communication System with many security, building and surveillance management systems provides staff with complete facility control and ultimate security. Jacques master stations are easy to use. Intercom calls can be transferred between master stations while auto remote configuration ensures unattended master stations will transfer calls to other master stations – or directed to a SIP enabled phone system, ensuring real-time user flexibility. Hierarchical call handling centralises responsibility for timely response to calls. The system provides specialised call handling to and from multiple control rooms via hierarchical and/or peer to peer predefined structures. Furthermore, the system provides complete event logging of all call activity and fault conditions for incident reporting or maintenance.

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**Unparalleled Reliability**
Designed and manufactured in Australia, Jacques products use impact and corrosion resistant materials, and fibreglass high stability printed circuit boards (PCB) which provide excellent long term audio and video reliability. Our distributed server framework reduces single points of failure ensuring system robustness and reliability.

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**Fully Supported Integration**
Critical to the ongoing national and international success of Jacques is the ability of our IP communication systems to seamlessly integrate with a large number of third party systems. Jacques’ team of talented software engineers, together with the support of a number of highly recognised partners, have developed a wide range of High Level Interfaces (HLI) to achieve greater system interoperability.

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**Flexible System Architecture**
Create small, large or cross site communication systems as our system allows almost an unlimited number of intercom stations, Help Point Units and public address zones to be connected in a fully integrated, easily managed system that meets high usage demand.

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**Effective Design**
All Jacques IP Communication System intercom terminals feature easy to use navigation resulting in simplified one-touch calling with hands free communication (once the call is established). Each terminal provides crystal clear audio and/or high quality video communication, essential in real-time emergency response providing users with comfort and peace of mind.

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**Simple Installation**
The Jacques IP Communication System uses standard Ethernet networks for operation. Our IP intercom and public address devices connect directly to any port on a standard Ethernet network. Our IP devices support Power over Ethernet (PoE) ensuring power can also be supplied via the network. This allows for a simple plug-and-play installation.
TRUE IP TECHNOLOGY

Our video and audio intercom and public address systems operating the latest, fully digital, true IP technology ensuring investment longevity, simplified system expansion and ultimate flexibility.
*Virtually unlimited. Dependent on server configuration and network bandwidth.
VIDEO INTERCOM SYSTEM

The Jacques IP Video Intercom System combines style with function using true IP technology. The stylish touchscreen intercom terminals, with high resolution imagery, allow for calling to a virtually unlimited number of entrance and monitor stations within our integrated IP communication system. This allows for swift system expansion, with the flexibility to satisfy every client, every time.

As with all Jacques IP communication systems, our video intercom system fully integrates to numerous third party systems including CCTV, building and security management, home automation, digital telephony and access control systems. This ensures a Jacques IP Video Intercom System transcends client expectations as it seamlessly and stylishly integrates with a large number of applications, including commercial, residential, health, public safety and transport.

*Virtually unlimited. Dependent on server configuration and network bandwidth.
RESIDENTIAL

The Jacques video intercom system fits perfectly into any residential environment, including apartment buildings and housing estates. The system can integrate to fire stair and lift IP intercom solutions and include products such as IP and Video Monitor Stations. The stylish, slim-line designed devices not only provide a wide variety of unique features and functions, but they can be configured and customised to meet the requirements of each residential building or housing estate. Ultimately this video intercom system offers comprehensive communication security, suitable to residential applications.

FEATURES

• Receive text messages from building manager/concierge/control room to video monitor stations.
• Receive missed caller image snapshot to video monitor station if call from entrance station is unanswered.
• SIP gateway between the IP video intercom system and SIP enabled systems/devices, e.g. IP telephony systems including Avaya and Cisco.
• Third party IP CCTV camera streams can be selected and viewed on demand and in real time via the video monitor station.
• Configurable relay modules exist on intercom terminals to activate external equipment - control doors, boom gates, lights or signal CCTV camera presets.
• Call activity and system events recorded to an event log database for call accounting, incident reports or fault diagnosis.
• Fully supported third party integration via High Level Interface (HLI) to systems such as CCTV camera, access control, lift control, building and security management systems.
AUDIO INTERCOM SYSTEM

Designed with scalability, function and security in mind, the Jacques IP audio communication system can adapt to almost any sized application where audio intercom and/or public address is required. Jacques’ audio communication system will withstand the harshest environments while providing quality audio communication.

Functioning on true IP technology, Jacques audio communication system fully integrates to numerous third party systems including CCTV, building & security management, digital telephony and access control systems. See how our IP audio intercom system, together with our integration capabilities, can provide a robust, high traffic communications system suitable for your industry application.

*Virtually unlimited. Dependent on server configuration and network bandwidth.
FEATURES

- Weather protected, robust and vandal resistant intercom terminals
- Available in a wide variety of sizes, styles and finishes, suitable for mounting in most locations
- Specialised features including covert monitoring, call recording and call isolation
- Continuous integrity, tamper and diagnostic tests
- Can receive multiple channels of streamed audio for in-house audio distribution
- Acoustic testing of intercom speaker and microphone
- Optional intercom terminal customisation
- Professional public address system

PRISON

The robust and vandal resistant audio intercom system is highly suited to prison environments, providing inmates and staff with a reliable communication system. The in-cell intercom terminals provide high definition and quality audio calling to and from central control rooms. In addition to covert audio monitoring, the intercom terminal can include cell entertainment options and with a number of different configurations available. The PC master station, a key aspect of the audio intercom system, allows staff to manage all intercom terminals within the complex as well as make public address announcements and facilitate the non-contact visits system.
PUBLIC ADDRESS SYSTEM DIAGRAM

PUBLIC ADDRESS SYSTEM

If a child is lost in a shopping centre, if a building needs to be evacuated or if a train station operator needs to update passengers on schedule changes, Jacques’ user-friendly IP multi-zone Public Address (PA) System can facilitate this communication. The IP PA system offers a simple method of information and entertainment dissemination to the masses while offering exceptional scalability and configuration options.

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 users the ability to design site-specific PA systems with an unlimited number of zones, ensuring total audio coverage across all buildings, areas and/or precincts.

*Virtually unlimited. Dependent on server configuration and network bandwidth.
The Jacques IP PA system is easy to use. Announcements can be made using any Jacques master station or via our SIP interface. Using the Jacques SIP interface allows total broadcast control via any digital telephone system in the building, area or precinct.

The use of a digital signal processor allows total user control of the PA system. Users have the flexibility to broadcast background music to a number of selected PA zones, while making an audio announcement to other individual or selected zones simultaneously. Zone selection is particularly important in the instance of an emergency which may require audio tone alerts or the activation of an evacuation procedure. The digital signal processor also manages the delivery of remote, pre-recorded and time-scheduled announcements and tones to required zones. This is beneficial to a number of industry applications, as the PA system can automatically make a pre-recorded announcement outside of normal business hours, or for sites operating 24/7.

The Jacques IP PA system has the added ability to monitor and interrogate the system for faults via the network. If an 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.

If a site expands additional PA zones can easily be added to a new or existing network infrastructure, ensuring system longevity. Therefore, sites operating a Jacques IP PA system have total confidence in knowing the system can expand and adapt to any operational and environmental changes in the future.

**DID YOU KNOW?**

The music dissemination feature from the Jacques public address system can be used as a standalone system for various industry applications. With the ability to record and store audio messages, it is an ideal method for offering information with the simple push of a button. This system is suitable for museums with exhibitions that require readily available audio information for visitors.
Integration currently in development with Milestone and others.
HIGH LEVEL INTERFACE

Jacques boasts a number of High Level Interfaces (HLI’s) to industry leading, third party systems, enabling the functions of our system to integrate with numerous building and security management, telephony, CCTV and access control systems.

The Jacques High Level Interface Software permits third parties to enhance their own programs to interact, control and respond to the Jacques IP Communications System. Provided to third party developers as a windows 32-bit or 64-bit Dynamic Link Library (DLL), Jacques can make events available from our system to a client’s application through event handlers. This allows third-party system designers to communicate with the Jacques IP Communication System without having to implement network communications or low-level protocol message handling.

The HLI provides full intercom master functionality to the client, including:

- Originating and answering calls
- Generating log events into the intercom system event log database
- Receiving events from the intercom system, such as:
  - Endpoint status changes, such as online/offline, isolate, remote or alarms (tamper alert, audio fault)
  - Call notifications. For each intercom call the manager can distribute details of the call to interested endpoints, including the name, location and CCTV camera association for the endpoints involved
- Changing site properties, such as isolating slaves or remoting master stations. Internally the library manages all aspects of the Jacques Call Control Protocol for the client, including:
  - Connection to the manager, including hostname lookup, socket communications, heartbeat acknowledgments and timeouts
  - Communication using the Jacques Call Control Protocol (JCCP) between the client application and the Jacques server, including all message assembly and parsing, message transmission, acknowledgments and retransmissions
  - Isolating the client application from blocking network or thread functions inside the DLL.
  - Call queue management for incoming intercom calls
## HLI PARTNER MATRIX

### MULTISITE
- Multisite operation

### INTERCOM FUNCTIONS
- Make intercom calls
- Receive intercom calls
- Terminate intercom calls
- Forward intercom calls
- Place intercom calls on hold
- Pending intercom call notification (call queue)
- Adjust intercom call volume
- Control music streaming function of intercoms
- Covertly monitor intercoms
- Remote or isolate intercoms
- View CCTV footage from Jacques Video Intercom device

### PA FUNCTIONS
- Select PA zones for broadcast
- Make/terminate PA calls
- Group PA zone calling
- Soft button intercom Push-to-Talk
- Soft button PA system Push-to-Talk

### RELAYS & EVENTS
- Trigger alarm - intercom event
- Trigger alarm - activate CCTV
- Activate door/gate relay

### DIAGNOSTICS AND REPORTING
- System controller connection status
- Monitor endpoint status changes (online/offline/alarm)
- Site specific information distribution
- Alerts & alarms interface
- Event logging interface

### GRAPHICAL MAPS
- Display Jacques Intercoms on graphical maps
- Dynamically change the display of Jacques intercoms based on their current status
- Control Jacques intercoms from graphical maps
- Automatically zoom in on Intercoms based on alarm trigger events

### ALARM MANAGEMENT
- Automatically control intercoms based on alarms received from 3rd party systems
- Automatically control objects (doors, areas, relays etc) based on events from Jacques
- Automatically control compatible 3rd party systems (e.g. CCTV) based on events from Jacques

### RECORDING
- Records 3rd party CCTV in conjunction with intercom audio
### Multisite Operation

- Make intercom calls
- Receive intercom calls
- Terminate intercom calls
- Forward intercom calls
- Place intercom calls on hold
- Pending intercom call notification (call queue)
- Adjust intercom call volume
- Control music streaming function of intercoms
- Covertly monitor intercoms
- Remote or isolate intercoms
- View CCTV footage from Jacques Video Intercom device

### PA Functions

- Select PA zones for broadcast
- Make/terminate PA calls
- Group PA zone calling
- Soft button intercom Push-to-Talk
- Soft button PA system Push-to-Talk

### Relays & Events

- Trigger alarm - intercom event
- Trigger alarm - activate CCTV
- Activate door/gate relay

### Diagnostics and Reporting

- System controller connection status
- Monitor endpoint status changes (online/offline/alarm)
- Site specific information distribution
- Alerts & alarms interface
- Event logging interface

### Graphical Maps

- Display Jacques Intercoms on graphical maps
- Dynamically change the display of Jacques intercoms based on their current status
- Control Jacques intercoms from graphical maps
- Automatically zoom in on Intercoms based on alarm trigger events

### Alarm Management

- Automatically control intercoms based on alarms received from 3rd party systems
- Automatically control objects (doors, areas, relays etc) based on events from Jacques
- Automatically control compatible 3rd party systems (e.g. CCTV) based on events from Jacques

### Recording

- Records 3rd party CCTV in conjunction with intercom audio
NON-CONTACT VISIT SYSTEM - AFG

Key System Features
37 Non-Contact Visit Booths
Ability to manage & record booth conversations
Covert monitoring of cell conversations
Customised NCV monitor graphical user interface
Vandal resistant

Key Products Installed
VSL-341H PC MASTER TCH-4MX SOF196

BURJ KHALIFA - DUBAI, UAE

Key System Features
Wind alert panel
Custom intercom panels in Arabic & English
Fire stairs, lift & carpark intercoms

Key Products Installed
VSL-391 LIS-3B1 IPM-650H

EAST LEDANG - MYS

Key System Features
488 video intercoms installed in luxury villas
Missed caller image snapshot
Text message notifications
Duress calling

Key Products Installed
VMS-750 VES-741 PC MASTER

CURTIN UNIVERSITY - PERTH, AUS

Key System Features
Student safety system - HPU’s & entrance stations
HLI to Gallagher work station

Key Products Installed
HPU-5E2 VSL-351 SOF116
### HEALTH FACILITIES - CANBERRA, AUS

**Key System Features**
- High availability system head end
- Multi-site car park intercom
- Video intercom

**Key Products Installed**
- VES-741
- VMS-750
- IPM-350

### QUEEN ST MALL - BRISBANE, AUS

**Key System Features**
- Live & pre-recorded announcements to all or some public areas
- Two separate malls operate under one central control room
- Customised Graphical User Interface

**Key Products Installed**
- TCH-4MX
- PC MASTER
- UAI-3B1
- SOF149

### AIRPORT - MELBOURNE, AUS

**Key System Features**
- HPU customised with company logo (GSM, IP & Direct Dial)
- PA system
- Customised Graphical User Interface
- Video intercom entrance stations

**Key Products Installed**
- HPU-5D2/HPU-5E2
- PC MASTER
- VES-741

### GAS PLANT - KARRATHA, AUS

**Key System Features**
- Explosion-proof telephones
- Master stations
- Gate control relays

**Key Products Installed**
- IPM-350H
- VSL-351W
- SOF116

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www | jacques.com.au
Jacques, together with our global partners, have completed a large number of international projects. Each project required a quality IP communications solution to meet industry needs.
PROJECT REFERENCES

Australia
- Ambrose Treacy Catholic College
- Arthur Gorrie Correctional Centre
- Barwon Prison
- Borallon Correctional Centre
- Brisbane Busways
- Catholic Regional College Melton
- City Safe, Queen Street Mall
- CSIRO Investigator Research Vessel
- Curtin University
- Fiona Stanley Hospital
- Marymount College
- Melbourne Convention Centre
- New South Wales Rail
- Northern Territory Prison
- Ravenhall Prison
- Roma St Parklands
- Royal Childrens Hospital (Brisbane & Melbourne)

New Zealand
- Auckland Ports Authority
- Auckland Region Women’s Corrections Facility
- Auckland University
- Cashel Square
- Christchurch Airport Car Park
- Christchurch Men’s Correctional Centre
- Fonterra Facilities
- Greater Wellington Rail Limited
- Northlands Correction Centre
- Ovation Meat Processing Plant
- Paparua Remand Centre
- Paparua Youth Unit Remand
- Reserve Bank of New Zealand
- Rimutaka Correction Centre
- Transpower Power Stations
- Wellington Airport Tunnel
- Wiri Prison
- Youth Justice Facility Auckland

Middle East
- Address Boulevard Hotel
- Afghanistan Prison
- Al Hilal Bank
- Burj Khalifa
- Daleel Petroleum
- Dubai Airport
- Dubai Central Prison
- Dubai Chamber of Commerce & Industry
- Dubai Cricket Centre
- Dubai Health Care City Project
- DMCC Jewellery Store
- Dubai Mall Project
- Dubai Marina Mall Hotel and Apartment
- Dubai World Trade Centre Apartments
- Emaar DDTS Security System
- Gold and Silver Towers
- King Abdullah Tunnel
- Musandam Gas Plant
- National Tower
- PA Guard Call System (El-Rashidia)
- Qatar Foundation Off Site Warehouse and Distribution Centre
- Rolex Tower
- Saudi Rail System
- Yas Island Police Station
- Zio Carpark

Malaysia
- Bentong Prison
- East Ledang
- Ijok Prison
- Jasin Prison
- Johor Bahru Port Authority
- Johor Bahru Prison
- Malaysia Airline System
- Melaka Prison
- Nusajaya Tech Park
- Penang Prison
- Perlis Prison
- Petronas Oil and Gas plant
- Puteeri Harbour
- Shell Building
- Southern Industrial and Logistics Clusters
- Sungai Buloh Prison
- Trengganu Prison

Singapore
- Create Campus
- Keppel Seghers Tuas Incineration Plant
- National Heart Centre
- Pulau Tekong
- Raffles College
- Victoria Concert Hall

India
- Brigade Gateway Campus
- Express Mall, Chennai
- Mohali Mall (HPU System)
- Mumbai Car Park
- Orion Mall
- World Trade Centre, Bangalore

Other International Projects
- Bank of Thailand (Central Bank)
- Maldives Prison
- South Africa Prison
- Cyprus Prison

*For a full list of project references please refer to JSD-0062 (Project References)
# SYSTEM SPECIFICATIONS

## SYSTEM CAPACITY

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</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>Specification</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>Specification</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>Specification</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>Specification</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>Specification</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