



CONTROLLERS AND SOFTWARE

Each Jacques IP communication system **MUST** include a controller, combined with included and/or optional software, which allows the end user to easily control the entire system.

All Jacques software modules are designed and engineered in-house. Our innovative approach to software research, design and development enables Jacques to develop leading-edge IP communication solutions while responding to unique and custom market requirements in a timely manner.

Jacques offers controllers in various capacities, each allowing for a predetermined number of endpoints and industry required functionality.

The controllers, united with included software, manage the key functionality of the system, such as communication and reporting between intercoms, public address components and Help Point Units.

With optional software modules, systems can achieve greater functionality including (but not limited to); third party system integration, audio recording, digital message store with audio broadcast, live audio input for distribution and in depth system monitoring and reporting.



CONTROLLER TCH-2MXH

PRODUCT CODE 51660

FEATURES

- IP controller, up to 80 endpoints
- Available to administer a large number of the 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

PACKAGE CONTENTS

- TCH-2MXH controller
- Power adapter
- 2RU rack mounting kit
- JELinux and JCCP Software

OPTIONAL SOFTWARE PACKAGES

- Intercom Report Server
- High Level Interface
- Event Controller
- Voice Annunciator
- High Availability Package
- DAR
- SIP Proxy

SPECIFICATIONS

Endpoints Supported	<80*
CPU	Intel Atom D525 1.8 GHz, 64-bit, dual core with hyper-threading
Chipset	Intel D525 + ICH8M
RAM	2 GB DDR 3
Storage	500 GB HDD
Power Input	2 way 5.08 mm pluggable screw terminal block or 2.5/5.5 mm jack (12 – 24) V d.c.
Power Consumption	45 W max. (23 W standby)
Operating Temperature	(0 - 50) °C
Operating Humidity	(5 - 95) % (non-condensing)
Indicators	Front: LAN 1 & 2 link and activity, power and HDD Rear: LAN 1 & 2 link and activity
Connectors	2 x LAN (1 GB), 6 x USB 2.0, 2 x audio (mic in, line out), VGA, 4 x RS-232, PS/2 mouse/keyboard, DC IN (terminal block, 2.5/5.5 mm jack)
Compliance	CE, FCC, RoHS
Dimensions (WxHxD)	203 mm x 55 mm x 155 mm
Weight	1.7 kg
Environment	Indoor use only
Mounting Options	2RU rack mounting kit

*Dependent on server configuration and network bandwidth



JSC-5L

CONTROLLER JSC-5L/JSC-5L-AEC

PRODUCT CODE 51814/51815

FEATURES

- IP controller, large, more than 80 endpoints supported
- Includes JCCP server software for intercom devices to make and receive calls
- Supports high definition audio
- SATA hard drive (Enterprise)
- Segregated air-flow design for optimal unit cooling

PACKAGE CONTENTS

- JSC-5L controller
- Power cable (IEC 60320) C13
- Rack mount rails
- JELinux and JCCP Software
- Acoustic Echo Cancellation Software (JSC-5L-AEC only)

OPTIONAL PACKAGES

Software	Hardware
Intercom Report Server	Redundant Power Supply
High Level Interface	Redundant HDDs—RAID 1
Event Controller	
Voice Annunciator	
High Availability	
DAR	
SIP Proxy	

SPECIFICATIONS

RAM	8 GB DDR4 1.2 V 2133 MHz ECC Registered DIMM
Storage	1TB 3.5", 7200rpm, 32 MB, 3.0 Gb/s, NCQ SATA HDD
Chipset	Intel® C612 express Chipset
CPU	Intel Xeon E5-1620V3 4-Core, 8 Threads, 3.5GHz, 10MB Cache or similar
Configuration	Supports more than 80 endpoints
Indicators	LAN1 Link & Activity, LAN2 Link & Activity, Power, HDD
Dimensions (WxHxD)	437 mm x 89 mm x 648 mm
Weight	25 kg
Material	Steel, powder coated black
Mounting Options	2RU rack mounting, 660mm min rack depth
Power Input	(100 – 240) V a.c., (9 – 3.5) A a.c. 50-60Hz, IEC 60320 C14
Power Consumption	230 W (maximum), power supply capable of 740 W
External connections	2 x LAN (1 Gb), 4 x USB 2.0, VGA, RS-232, IPMI
Environment	Indoors
Operating Temperature	(5 – 35) °C
Operating Humidity	(8 – 90) % (non condensing)
Non-operating Temperature	(-40 – +60) °C
Non-operating Humidity	(5 – 95) % (non condensing)

CONTROLLER COMPARISON GUIDE



TCH-2MXH



JSC-5L



JSC-5L-AEC

ENDPOINT LIMITATION

	<80	80>	80>
INCLUDED SOFTWARE			
JELinux	✓	✓	✓
JCCP	✓	✓	✓
Audio Echo Cancellation			✓
OPTIONAL SOFTWARE			
Intercom Report Server	✓	✓	✓
High Level Interface	✓	✓	✓
Event Controller	✓	✓	✓
Voice Annunciator	✓	✓	✓
High Availability Package	✓	✓	✓
DAR	✓	✓	✓
SIP Proxy	✓	✓	✓

VIRTUAL CONTROLLERS

Jacques' IP communications system software is made available to run in virtual environments on hosts supplied by the client. Offering full system functionality to the user, with increased flexibility and usability, virtual controllers can be integrated into essentially any existing networks and infrastructure.

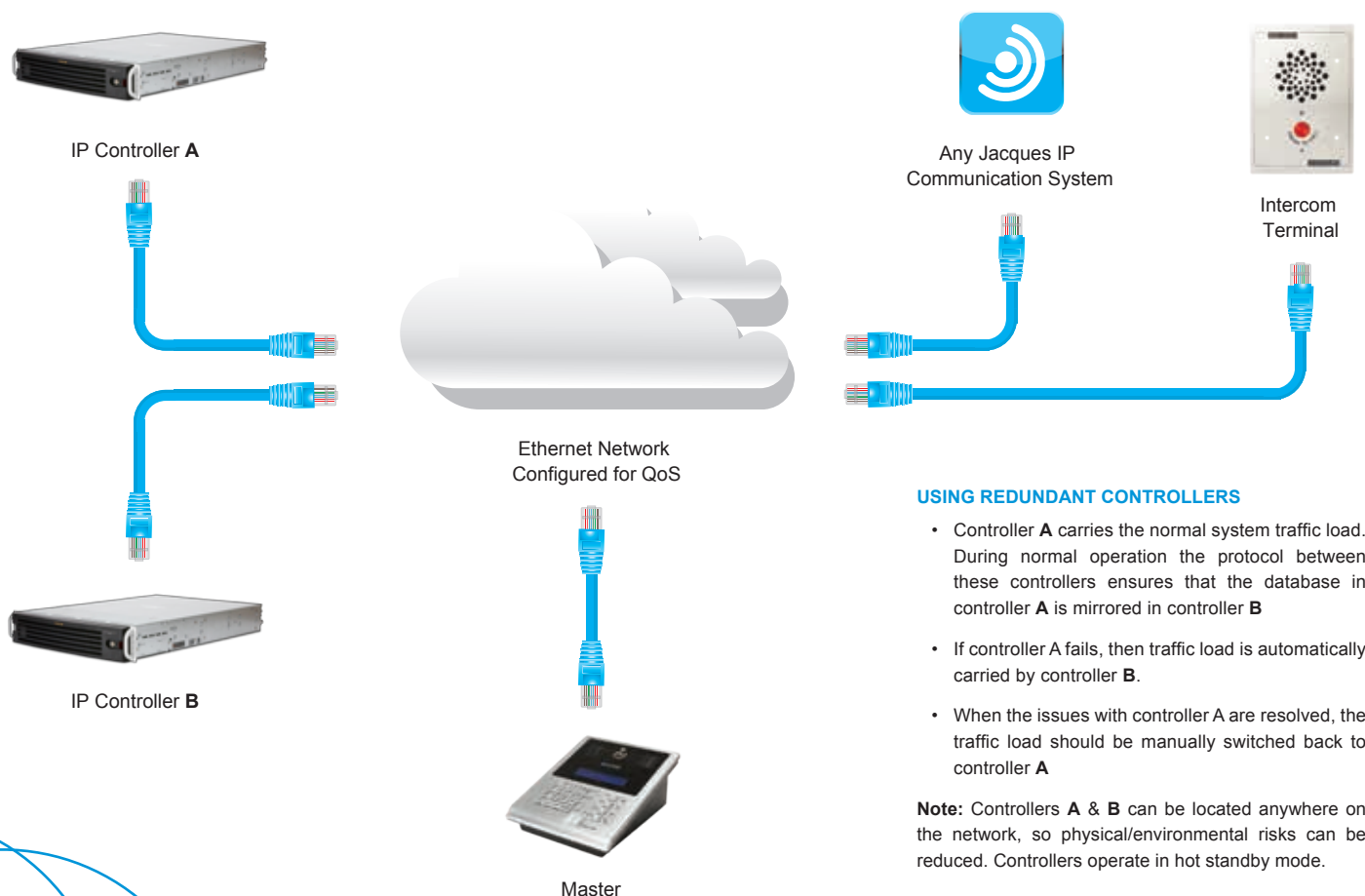
REDUNDANT CONTROLLERS

Jacques redundant controller solution is ideal for industry applications where continual, uncompromised communication and surveillance is critical. The primary purpose of redundancy is to reduce the risk of an entire system failure due to the failure of the primary controller (software or hardware). An IP communication system featuring redundant controllers comprises of a primary and secondary controller, where the primary controller acts as the central point of contact, responsible for the entire network. In the case of a module, hardware or software failure, the secondary controller will automatically failover and connect with the endpoints to ensure continuous system operation.

Our onsite redundancy testing system, utilising 1000 endpoints, verifies that upon failure of the primary controller the secondary controller will failover and connect with the endpoints in less than one minute. Furthermore, the secondary controller is automatically updated with any changes made to the primary controller via UCARP protocols.

Though it is unlikely for Jacques hardware and/or software to fail due to our rigorous testing procedures, our redundancy solution dramatically reduces the risk of system failure, specifically for communication critical environments such as prisons, defence establishments or hospitals.

REDUNDANT CONTROLLERS DIAGRAM



DISTRIBUTED NETWORKS

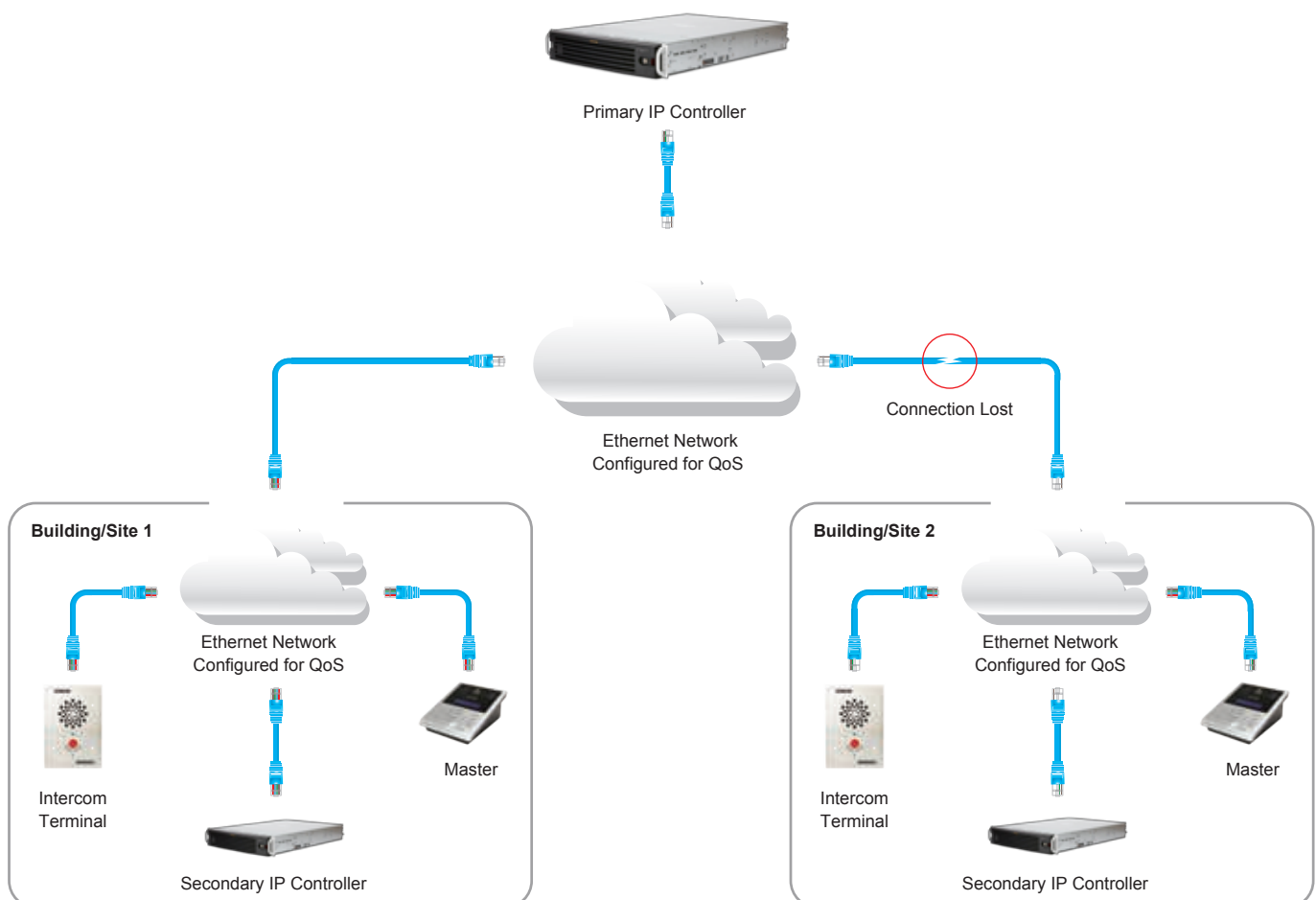
The Jacques IP Communications System supports distributed networks which can be located at different sites.

The system has hot standby, redundant controllers at site A. Multiple transmission links provide for alternate routing of network traffic should any link fail. In addition, there is a local controller at each remote site. Should all transmission links fail then the local site can operate independently.

Furthermore, if a master should fail or be unanswered at a remote site, calls can be routed to alternate sites on the wide area network (WAN).

Note: A redundant controller setup is not limited to two controllers: multiple controllers are supported, making the setup a valuable asset to distributed networks.

DISTRIBUTED NETWORKS DIAGRAM

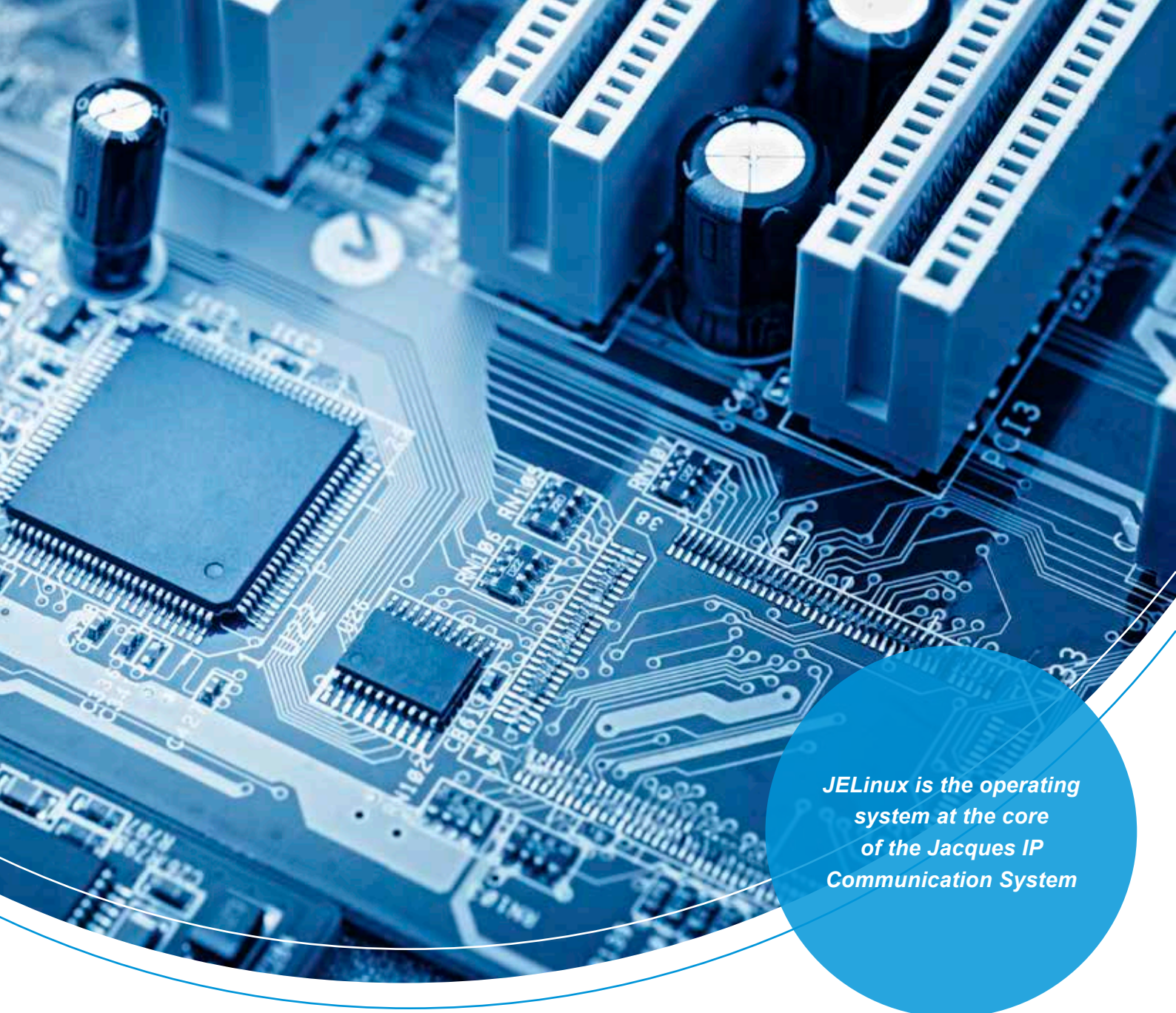


NORMAL OPERATION

Under normal operation, all secondary controllers, master stations and intercom terminals communicate directly with the primary controller. During normal operation any master station or intercom terminal that attempts to connect to its secondary controller will be rejected.

CONNECTION LOST – DISRUPTED OPERATION

- The Secondary IP Controller at building/site 2 detects a lost network connection to the Primary IP Controller
- The Secondary IP Controller at building/site 2 will now accept connections from master stations and intercom terminals within its network
- The master stations and intercom terminals at building/site 2 will detect the lost connection to the Primary IP Controller and automatically connect to their Secondary IP Controller
- Building/Site 1 continues to operate as normal with connection to the Primary IP Controller



JELinux is the operating system at the core of the Jacques IP Communication System

JCCP

INCLUDED

INCLUDED SOFTWARE

Jacques software modules are designed and engineered to provide market driven features and functionalities to suit a variety of applications and system requirements.

JCCP

The Jacques IP Communication System uses the Internet Protocol (IP) suite for all control, audio and video communications between intercom and PA devices. Audio for intercom calls or public address announcements is streamed in digital form using the standard Real-time Transport Protocol (RTP). Control communication for initiating and terminating calls uses the Jacques Call Control Protocol (JCCP), which is specifically designed for Jacques intercom and public address systems. The JCCP software, loaded to our range of system controllers, is the 'hub' of the IP Communications System.

JELINUX

JELinux is the operating system at the core of the Jacques IP Communications System. This is a Linux based operating system. It allows users to monitor, view, filter and record events within our communication systems. 32-bit and 64-bit versions are available.

JELinux

INCLUDED



OPTIONAL SOFTWARE

EVENT CONTROLLER

PRODUCT CODE SOF148

Jacques Event Controller software provides simplified interfaces for the integration of external systems and products into the IP communications system. The Event Controller software also features highly configurable rules to match system events, simultaneous event triggers, alarms and device off-line events. The core of the Event Controller Software consists of configurable modules.

FEATURES

Standard handling of CCTV function

- Intercom-Activated-Video (IAV) – if a call is present at an intercom station, the associated CCTV camera will activate and provide a video feed
- Audio-Follow-Video (AFV) – if a CCTV camera is selected, audio from the associated intercom station can be monitored

Interfaces to external third party equipment including but not limited to:

- Standard Modbus/TCP server and client
- Inner Range Concept 4000 Equipment, which includes:
 - Intelligent 4-Door Access Module
 - Big Expander Module
 - Reader Single Door Access Module
- ADAM relay module
- Highly configurable rules to match system events, such as call and button press events can trigger resulting event/relay actions. For example:
 - When a call is connected a relay can be triggered to unlock a door or turn on a light
 - A pre-recorded announcement can be broadcast through Help Point Unit's (HPU) speakers with the simple push of the HPU Information button (requires Voice Annunciator Software)
- Simultaneous event triggers - one event can trigger multiple other events / relays, for example:
 - Open the front door and switch on the front light simultaneously
 - Trigger the lobby door's relay and enable the lift button for a specified floor simultaneously
- Threshold Alarm Monitor. Intercom audio can be monitored for excessive noise, and upon reaching a preset audio threshold an alarm/call can be triggered
- Alarms and device off-line events
 - A PC Master GUI, which can monitor the status of Jacques Intercoms, will indicate an alarm when the status of each Jacques intercom goes offline, is unplugged or power cycling. An alarm will also be activated if a short circuit occurs on the speaker lines



DAR

PRODUCT CODE SOF196

KEY FUNCTIONALITIES

- Interfaces call audio to third party recording devices (digital, SIP or analogue)
- Streams background music/entertainment through intercom devices and PA speakers
- Echo cancellation for full duplex communication (JEM2 & JEM2+ audio devices)
- Visual audio monitoring, in conjunction with Jacques Graphical User Interface (GUI)
- Threshold Alarm Monitoring identifies and displays threshold alarms

FEATURES

- Output recording for up to 32 conversations simultaneously
- Additional DAR software can be added to a system via dedicated servers to provide more channels
- Analogue audio outputs that can be used with standard telephony recording equipment such as digital voice loggers
- Operation is automatic; the software runs under the control of the intercom system server
- Clear recording of talk/listen with Press-to-Talk control
- No additional cabling is required to record conversations from intercom devices
- Each intercom station can be assigned its own record output



INTERCOM REPORT SERVER

PRODUCT CODE SOF102

The Intercom Report Server optional software package has been specifically designed to provide a detailed and accurate reporting of live activities across the Jacques IP Communications System. Detailed reporting of system operation and traffic aids in accurate and efficient fault diagnosis, preventative system maintenance, network management via traffic monitoring and automatic report generation, document creation and report distribution.

FEATURES

- Logging of intercom call activity, call summary information and fault events
- Dynamic view of events to monitor the system in real time
- Multi-user access to the event log through a web interface
- User access control with multi-level permission rights and password protection
- Search and filter functions, allowing events to be retrieved based on time and date range, event type and identification of the system endpoints
- Report generation and printing
- Data export to CSV and HTML files



VOICE ANNUNCIATOR

PRODUCT CODE SOF149

The Voice Annunciator software package is a digital message store used to manage pre-recorded announcement audio files, which can be directed to any individual or group of endpoints within the Jacques IP Communications System. Announcements can be created from any master station, PC workstation or from professional sound recordings and stored as sound files on the network.

These announcements can be broadcast throughout the system using rule based permissions and system hierarchy. The Voice Annunciator software can also be used in conjunction with the Event Controller software to provide scheduled announcements – ideal for transport, public safety and education applications.

FEATURES

- A digital message store provides digital storage of announcements with no fixed limits on duration or capacity
- Announcements can be streamed to any intercom or public address device in the system, or any group of zones
- Announcements can be created from any master station, PC workstation or from professional sound recordings and stored as conventional wave files on the network
- Rule based permissions control access to announcement playback and recording
- Concurrent playback and recording of multiple announcements
- Announcements may be shared or distinct to each originating intercom station
- Priority queuing of announcements
- Automatic muting of background music during a public address announcement or intercom call
- Standard Microsoft Windows wave files are used for announcements
- Directory support on master stations
- Supports audio streaming in RTP protocol, support for multicast, IGMPv2 and Diffserv standard for Quality-of-Service (QoS)
- Online addition, deletion and update of audio files in the digital message store at any time from the intercom system TCP/IP network



HIGH AVAILABILITY PACKAGE

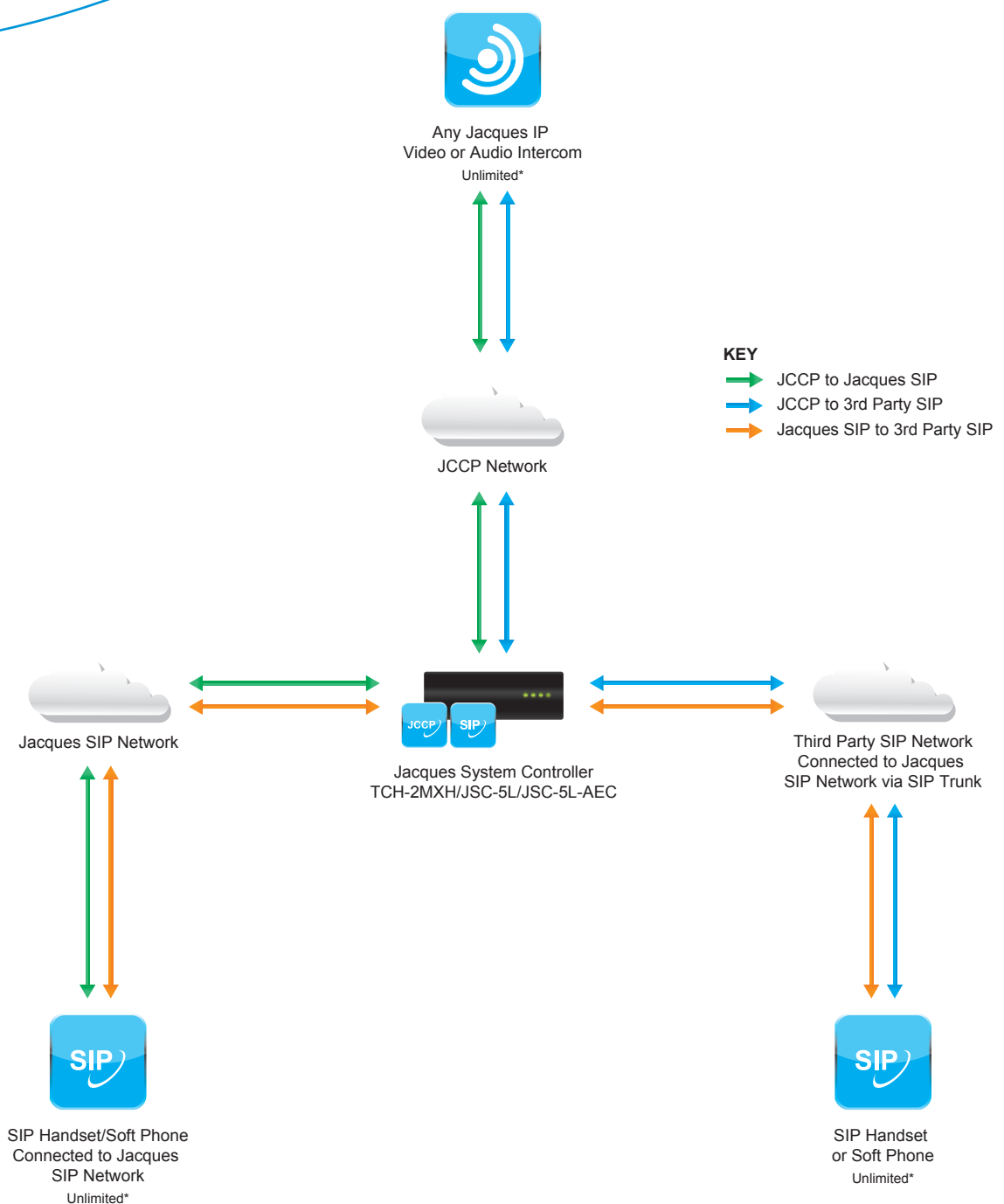
PRODUCT CODE SOF195A

The Jacques High Availability Package in conjunction with two or more system controllers (TCH Series) provides system redundancy against the complete loss of one of the system controllers. Operating in an active/standby configuration, the primary system controller hosts all services while the backup server remains idle under normal conditions. If the primary system controller fails, the High Availability software package ensures the backup system controller takes over all services. The backup system controller remains active until a switchover or failover occurs. This allows the primary controller to be inspected and any faults diagnosed with minimum disruption to services. Additionally, the software module ensures the primary and backup controllers monitor each other's state

For further detail, see Redundant Controllers.



SIP DIAGRAM



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



SIP

PRODUCT CODE SOF202

Jacques SIP Software module is an intermediate interface that allows for integration of the Jacques communication system with compatible SIP systems and devices. These include physical and soft SIP devices, SIP PABX's and digital audio recorders.

The interface implements RFC 3261 – Core Session Initiation Protocol to transfer, convert and filter the communication (e.g. calls, streaming media and PA announcements) from the Jacques communication system devices and make it available to third party SIP systems and devices.

FEATURES

- The SIP-Proxy application supports unlimited* concurrent calls between SIP phones and Jacques intercom systems
- Physical and soft SIP devices can be directly registered to the Jacques system without the need of a third party SIP PBX
- A user at a Jacques IP intercom may establish, conduct and terminate an audio call to a SIP telephony device directly connected to the Jacques system running our SIP software or connected via an external SIP server/PBX
- A user at a SIP telephony device either connected directly to the Jacques system running our SIP software or connected via an external SIP server/PBX may establish, conduct and terminate an audio call to Jacques' IP endpoints
- A SIP IP telephone can initiate the operation of relays onboard Jacques intercoms via DTMF, during a connected call
- Switch Jacques IP master station to night mode whereby calls are diverted to a SIP phone after hours (may also require Jacques Event Controller software)
- Support for bridge calling allowing a Jacques device to dial multiple SIP devices however only allowing one to answer and perform a call
- Digital recording of system audio to a SIP compatible, digital recording device
- SIP trunking to external SIP PBX/servers (with or without digest authentication)
- Support for alphanumerical prefix and remote ID details when defining a SIP trunk
- Supports G.711 U-Law codec only

*Dependent on server configuration and network bandwidth



JAS

PRODUCT CODE SOF149

Jacques Announcement Scheduler (JAS) is a public address and bell scheduling interface that runs on a Jacques system controller. The JAS interface allows for the uploading of audio files (tones, bells, chimes, songs and/or pre-recorded announcements) for use and broadcast throughout the Jacques IP Communications System (650 series).

Schedules allow the user to build a timetable for the broadcast of audio files at allocated times across all or selected zones.

Schedules are assigned to days, weeks or months according to the audio broadcast requirements of the site.

Daily management of the system is via the calendar where users can assign, view and remove schedules on a particular day or date range.



HIGH LEVEL INTERFACE (HLI)

PRODUCT CODE SOF116

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, 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.

FEATURES

System Controller Connection Status - The HLI will be polled regularly by the system controller and will enter a failure mode when the poll from the controller is not received for an interval of time.

Call Queue Display - All calls in the intercom system are queued in priority order by the controller and the following call queue information can be passed through the HLI:

- Total number of calls in the queue
- Details of each incoming call: call-id, queue position, priority and the id, tag, name, location of the originating intercom station
- Additional site specific information as required, for example associated CCTV camera number or additional location information

Call Notification Display - The HLI can receive call information for all calls in the intercom system, including those that may not directly involve the HLI as an intercom master station. The information passed is the same as the call queue display.

Call Originate - The HLI can originate calls as an intercom master station using the tag assigned to each intercom station to initiate the call

Call Answer - The HLI can answer a specific call in the queue of calls by specifying the call-id or tag of the originator

Call Answer Next Call - The HLI can answer the next queued call according to the priorities assigned to each call by the intercom system

Call Originate, Master Call - The HLI can originate a call to the next available master station above it in the zone hierarchy

Call Originate, Monitor - The HLI can originate a call to monitor an intercom terminal to receive audio from the endpoint without any indication at the intercom that the audio path is open.

Call Originate, Group Call - The HLI can originate a group call to a group of intercom terminals simultaneously for a public address call. Any combination of pre-defined intercom groups can be selected for a group call.

Call Originate, Public address - The HLI can originate a call to the PA controller/amplifier system. Any combination of pre-defined PA zones may be selected for a public address call.

Call End - The HLI can terminate any call that it is connected to, regardless of the call type (master call, monitor, group call, PA)

INTEGRATION PARTNERS















Integration currently in development
with Milestone.

Call Hold - The HLI can place a connected call on hold, returning it to the call queue so that it can perform other call functions. The held call can be reconnected by one of the call answer functions.

Call Forward - The HLI can forward a connected call, or any call in its call queue to any other master station.

Remote Intercom Master Station - The HLI can set its state to “remote”. When remotd, all calls queued for it will be diverted to the next available master station in multi-level zone hierarchy.

General Purpose Input/Output (GPIO) Control - The HLI can control the general purpose inputs/outputs/relay outputs on intercom terminals or dedicated relay module devices.

Alerts and Alarms Interface - The HLI can receive alerts and alarms from the system for logging or the attention of operators, including:

- Device offline or self-test faults
- Tamper alarms
- Isolate timeouts warning

Event Logging Interface - The HLI can receive event logging information from the system, including:

- Event log records
- Intercom call activity logging (call time and date of the call, call ring time, call duration)

View/Edit Site State - The HLI can view or change the intercom system site state, including:

- List of all intercom devices in the system
- Endpoint ID
- Name
- State (online/offline/isolate/remote)
- Assigned call priority
- Tag
- Isolated state of any intercom station. Setting an intercom device to the isolate state prevents it from making calls in the system. This can be used to prevent nuisance calls
- Remote state of any intercom master stations
- Settings for auxiliary audio channels (background music) for output at intercom terminals
- The date and time of the system controller clock

Site Specific Information Distribution - The HLI can receive site specific information from the controller, such as GPS information, temperature or other system statuses.



YOUR PROJECT PARTNER



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\$24.95 AUD

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