FOR SECURITY

JACQUES

Jacques solution

Critical to the management of secure facilities is 24-hour, real-time communication and surveillance. Jacques integrated IP communication system – designed for prisons and jails – provides facilities management with a highly reliable, integrated communication and monitoring system that offers staff, inmates and visitors security through communication. The communication solution is highly flexible, customisable, reliable, and integrated to many leading security, building management, and CCTV systems to ensure a safe, secure, and cooperative prison environment.
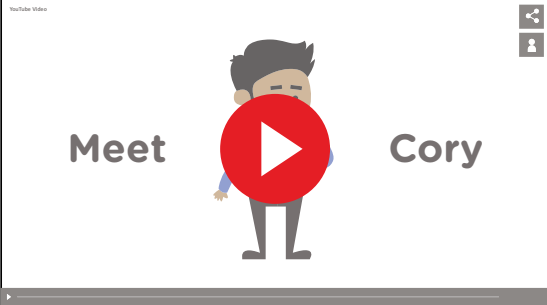
The Jacques IP Communication System can be found in secure facilities around Australia and in prison projects in New Zealand, Malaysia, Indonesia, Afghanistan, Cyprus, South Africa, UAE, and Maldives.
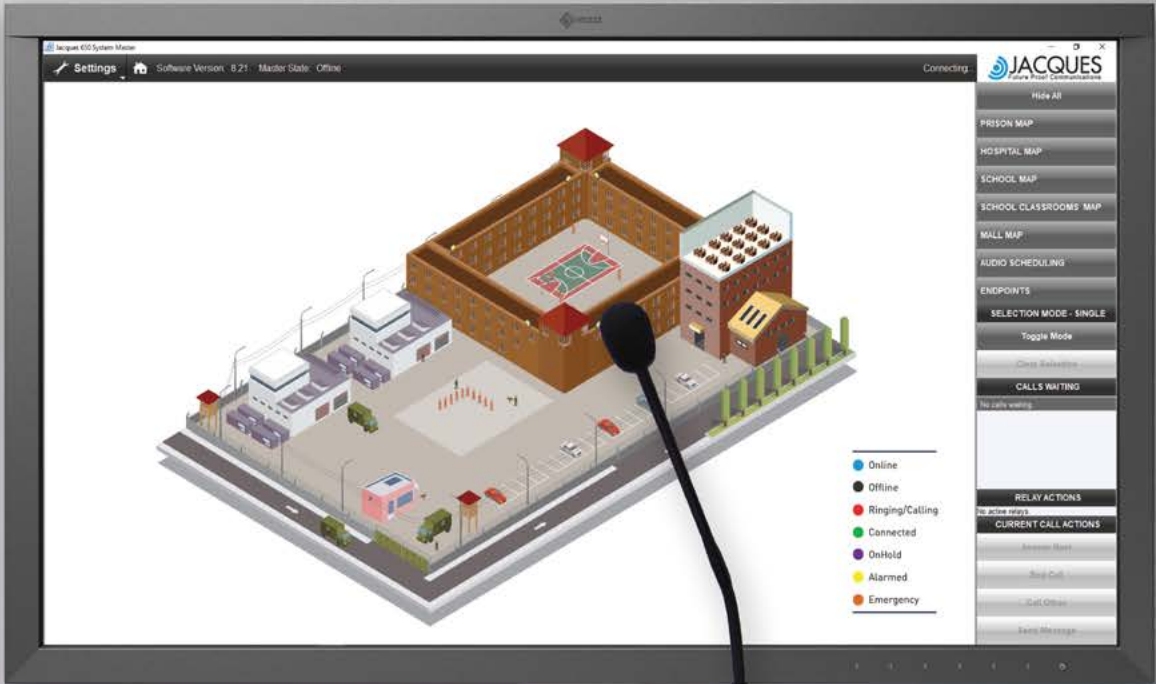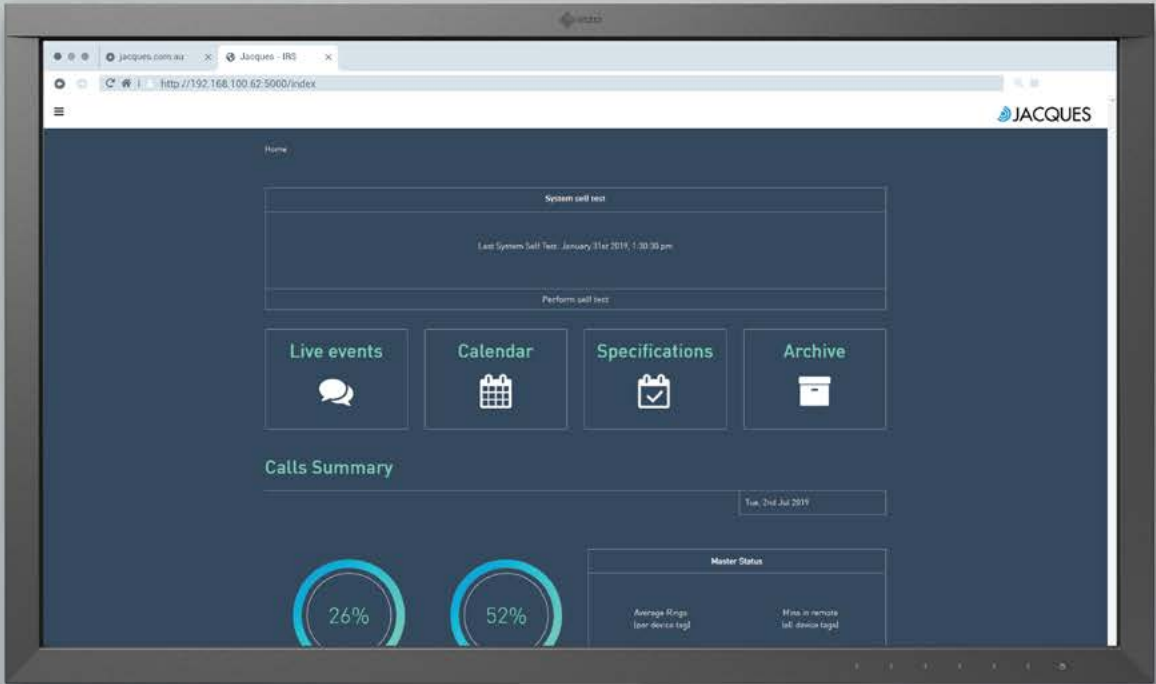
Overview

Jacques prison communication system supports inmate management, central control and monitoring, and visitor communication. In-cell intercom terminals provide high quality audio communication, calling to and from central control rooms. The system provides features such as audio covert monitoring, public address, tamper detection, audio self-testing and reporting functions. The system also offers redundancy ensuring continued, reliable communication 24/7.

Built for prisons, built to last

Watch Secure facilities - Meet Cory video

Meet Cory

vimeo.com/350229190

System features

True IP communication

Full IP communication from server to endpoint devices. The system operates on an IEEE 802TCP/IP network, with all devices supporting IEEE PoE allowing for power, data, and voice communications to be transmitted via a single CAT5/6 cable.

Supported integration

Integration via High Level Interface to many leading CCCTV, access control, and security and building management systems ensures a complete security solution.

Unparalleled reliability

Redundant and distributed server frameworks that limit single points of failure, ensuring system robustness and site-wide reliability.

Investment longevity

Continuous expandability ensures longevity. Digital communication operates over new or existing Ethernet networks allowing for additional intercom or public address endpoints to be added easily. System configuration options are virtually endless to achieve the functionality required.

Flexible architecture

From small to large systems. An unlimited number of intercoms, help point or public address endpoints to be connected, integrated and managed. Call hierarchy and system topology ensures complete control over system design.
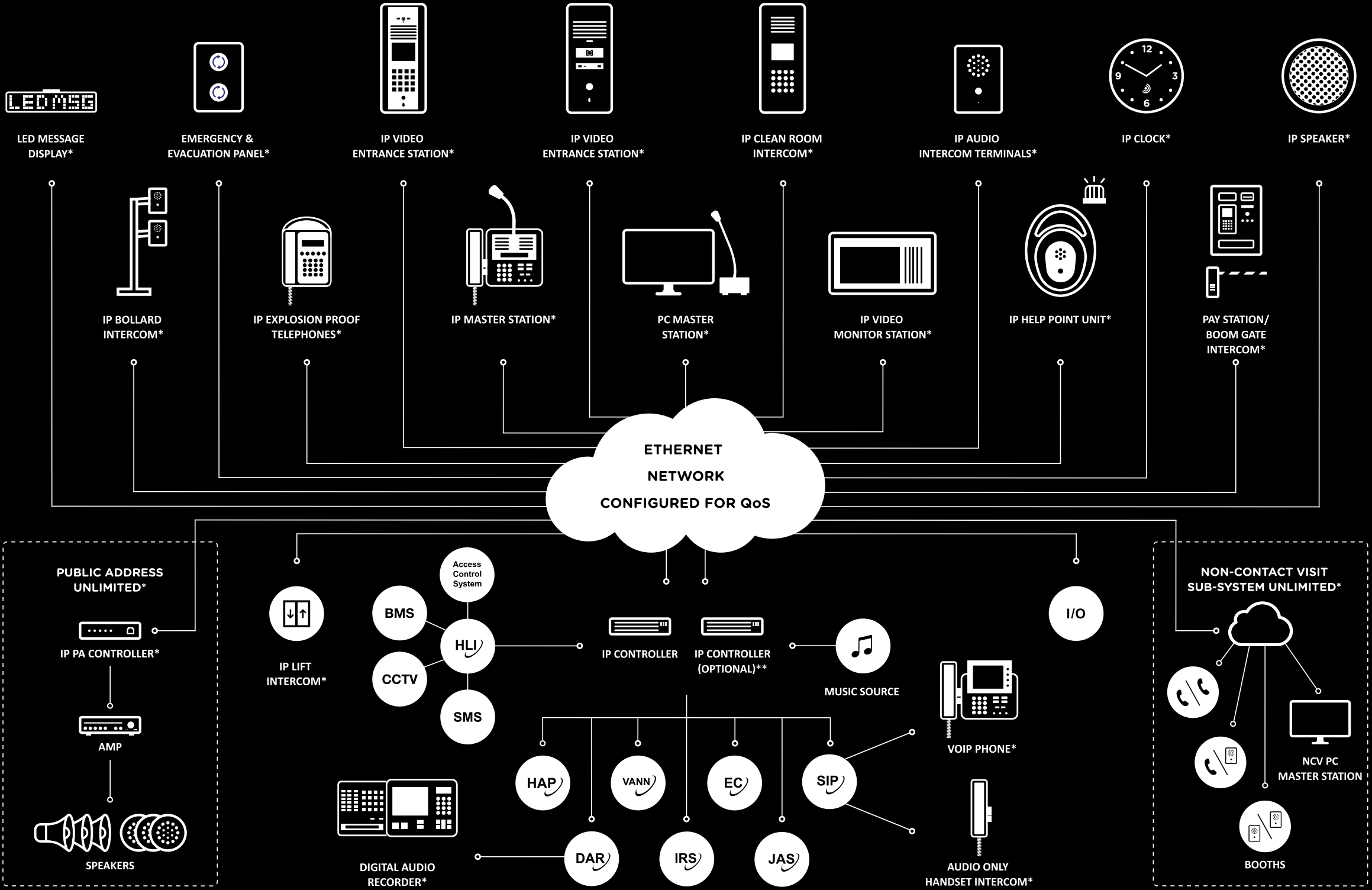
Simple installation

Our IP intercom & 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 & play installation.
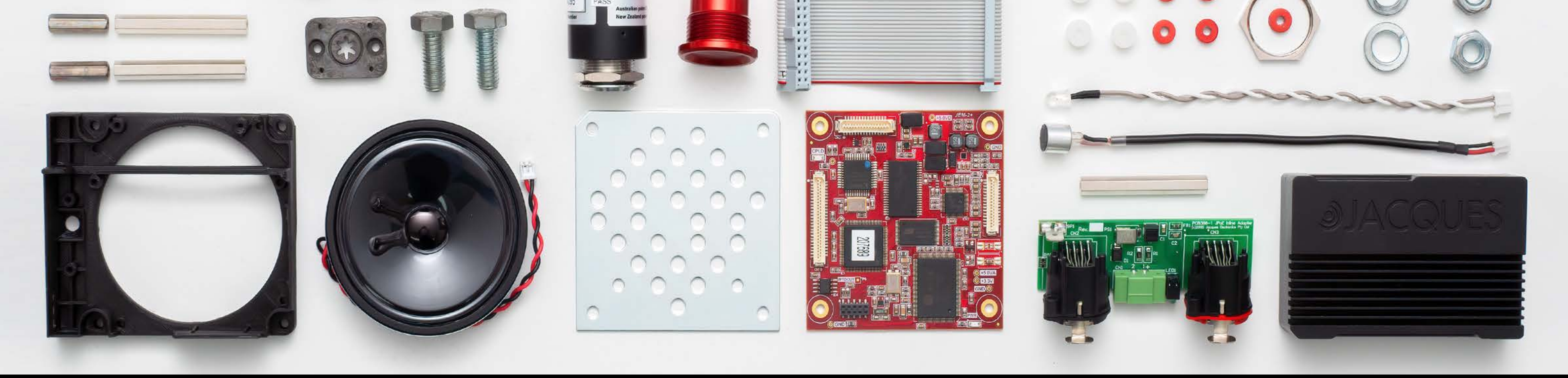
Environmental specific features

Intercom terminals are robust, water protected, and vandal resistant. Built to withstand harsh prison environments and continuous, high volume usage. They perform continuous tamper detection, integrity, and diagnostic testing. To further enhance reliability of the call button, prison intercom terminals can be equipped with self-testing buttons whereby the system automatically tests terminal buttons, guaranteeing their reliability.

System diagram

LED MESSAGE DISPLAY*

EMERGENCY & EVACUATION PANEL*

IP VIDEO ENTRANCE STATION*

IP VIDEO ENTRANCE STATION*

IP CLEAN ROOM INTERCOM*

IP AUDIO INTERCOM TERMINALS*

IP CLOCK*

IP SPEAKER*

IP BOLLARD INTERCOM*

IP EXPLOSION PROOF TELEPHONES*

IP MASTER STATION*

PC MASTER STATION*

IP VIDEO MONITOR STATION*

IP HELP POINT UNIT*

PAY STATION/ BOOM GATE INTERCOM*

ETHERNET NETWORK CONFIGURED FOR QoS

PUBLIC ADDRESS UNLIMITED*

IP PA CONTROLLER*

AMP

SPEAKERS

IP LIFT INTERCOM*

Access Control System

BMS

HLI

CCTV

SMS

IP CONTROLLER

IP CONTROLLER (OPTIONAL)**

MUSIC SOURCE

I/O

NON-CONTACT VISIT SUB-SYSTEM UNLIMITED*

NCV PC MASTER STATION

BOOTHS

DIGITAL AUDIO RECORDER*

HAP

VANN

EC

SIP

DAR

IRS

JAS

VOIP PHONE*

AUDIO ONLY HANDSET INTERCOM*

*Virtually unlimited. Dependent on server configuration and network bandwidth **Multiple controllers available for redundancy or distributed options

Core system features

Central and control monitoring

Specialised call handling to and from multiple control rooms via hierarchical and/or peer to peer predefined call routing structures.

Diagnostics and reporting

Systemwide, continuous device diagnostics and reporting including call button testing, acoustic performance, tamper detection, and data communication reliability.

Audio recording

Redundant integrated call audio recording at a central location. Unlimited number of channels available for audio recording.

Full duplex

Full duplex audio communication with advanced audio capabilities ensuring a clear, two-way communication.

Advanced system features

Covert monitoring

The system features advanced covert monitoring capabilities whereby a master station with the appropriate permissions can covertly monitor (listen to) audio from any intercom terminal. While operating covertly; the system disables any call-connected notifications (eg. Call LED) at the intercom terminal while restricting any audio from being transmitted to the intercom terminal – allowing optimal audio monitoring.

Acoustic echo cancellation (AEC)

An acoustic echo cancellation (AEC) engine when used in full duplex mode - significantly reduces unwanted interference from acoustic reflections and feedback - ensuring clarity of audio.

Enhanced covert monitoring

Jacques acoustic echo cancellation, (AEC) software, significantly enhances the clarity and intelligibility of covertly monitored prison cell conversations. This software acts upon the streamed audio available at the intercom device.
Background music (BGM) is streamed from the IP Communication System into the prison cell. The AEC software samples the audio as it is streamed. When the covert monitor is activated, the sampled audio is significantly reduced, leaving mainly the cell voice conversation for easy operator monitoring.

Intelligence-hub covert monitoring

The selection of any intercom terminal for intelligence surveillance, monitoring, and recording. The audio stream from select intercom terminals can be used by the police or surveillance for continued monitoring and can be made available 24/7 if required.

Threshold monitoring

The system provides threshold monitoring whereby a call is automatically connected or an alarm notification is activated, should a predetermined ambient noise level be exceeded at any configured intercom endpoint.

Isolate nuisance callers

Ability to isolate calls from nuisance callers who may continue to press the intercom call button. Isolated calls can be manually deisolated or a global time-out can be configured.

Call prioritisation

Priority queuing of calls allows the system to identify and prioritise calls from predetermined important, high risk or danger areas ensuring communication lines from caller to central control are handled with precedence. 256 call priority levels are available.

Automate intercom button test

The Jacques Self-Test Button (STB) – a call button that allows for remote testing of the push button mechanism, acoustics and data communications whereby diagnostic tests are logged and recorded on the system controller. Any tests reporting a test fail triggers an alarm within the system.

Reporting and logging

Jacques systems provide complete event logging of all call activity and fault conditions for incident reporting or maintenance. The results from intercom self-acoustic testing of the speaker and microphone is recorded. The reporting of tamper alarms, activated if an intercom device has been damaged, pulled from the wall or impacted upon allows for a timely response from the maintenance team.

Configurable event triggers

The system can be configured to allow for the triggering of events in conjunction with an action performed in the intercom system. Event triggers include (but are not limited to) CCTV switching, light on/off switching, door/gate/boom gate release, pre-recorded message announcements, night switching (call diversion relating to hierarchy, based on time of day), and bell or warning alarm scheduling.

High level interface (HLI)

Jacques boasts a number of HLI to industry leading third party systems, enabling our systems to integrate with numerous access control, CCTV, security and building management systems. Integration allows full intercom master functionality to the client applications which includes; receiving endpoint status changes.

Features

Intercom functions Make/receive calls, terminate, forward, call hold, music streaming control

PA functions Select PA zones for broadcast, group calling, push-to-talk for intercom and PA system

Relays & Events Trigger alarms, events, activate CCTV, door/gate relay

Diagnostics and Reporting Event logging, monitor endpoint status (online/offline/alarm)

Graphical maps Display Jacques intercoms on maps, display of intercom based on status, control of intercoms

Alarm management Automatic intercom control

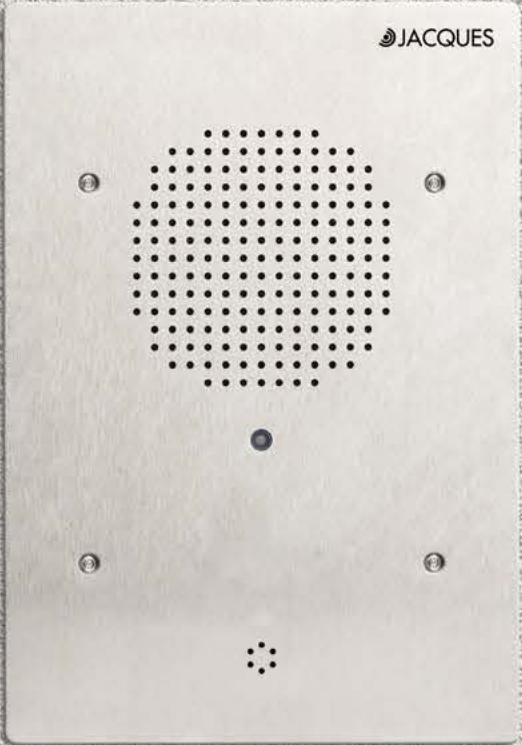**Recording** Records third party CCTV in conjunction with intercom audio

SIP interface

Jacques SIP software module allows for integration of the Jacques communication system with compatible digital telephony systems such as Avaya IP Office 500, Cisco Call manager, Asterisk and others. The SIP trunk allows for an unlimited number of concurrent calls between the phone system and Jacques system.

Logging and reporting

The Intercom Report Server (IRS) software module is instrumental in the detailed and accurate logging and reporting of live system activities including system operation, network management via traffic monitoring, alarms, and device state. The IRS is accessed via a web interface and provides a dynamic view of live events to monitor the system in real time while automatic or scheduled report generation and document creation ensure simplified information dissemination

Report detail can be configured by four defined filters depending on reporting requirements:

Default Creates reports containing tag, status (online or offline), resets, number of answered/held/connected calls, failed calls, total ringing/calling/connected time and elapsed triggered alarm duration

Call Activity Creates reports containing tag, call timestamp, intercom descriptors, and call handling information

Faults Creates reports containing tag, fault timestamp, and fault description

System Diagnostic Functionality (SDF) Creates reports containing tag, acoustic test, status test, and button test information

Prisoner welfare systems

Jacques Technologies values the safety and security of all those who inhabit a corrective facility whether they be prison administrators, visitors or inmates. Prisoner welfare communications systems maintain safe communication between inmates and visitors or between inmates while ensuring human rights are respected.

Contact visits system

The Jacques Contact Visit (CV) Systems allows for the covert monitoring of prisoner communication discretely from within a common environment. In prisoner communal seating areas such as the mess hall or in public and prisoner meeting rooms (allowing contact) the monitoring, recording and/or intruding on conversations between parties may be required. Often covert monitoring devices are concealed within each table and perform 'listening' functions. Management of the CV system is via a dedicated Contact Visits system Graphical User Interface (CV GUI) and is used by the supervising authority to perform various covert monitoring functions including monitoring/listening.

Cell to cell communication

Jacques Cell to Cell communication system allows prisoners in solitary confinement to speak to one another via intercom terminals in their cells. This communication system was designed to maintain the personal welfare of maximum-security prisoners mostly confined to their cells. Providing a system for prisoners to interact in a safe, controlled and monitored environment is a priority for secure facilities and governments that value the human rights of prisoners.

The PC Master Graphical User Interface (GUI) manages the Cell to Cell communication system by allowing prison administrators to dynamically select a pair of inmates to call each other. The calls can be manually connected or scheduled to connect, and any two prisoners can be connected in a call. Scheduled calls are configured via the Jacques Announcement Scheduling (JAS) interface for future and planned calling.

Prisoners can be made aware that the call is about to connect with a Start Announcement. From there, the duration time that has been designated for the call by the administrator will start to countdown. Either prisoner can cancel the call at any time with the Cancel Call button on their intercom. At the end of the call an End Announcement will play advising the inmates that the call has disconnected.
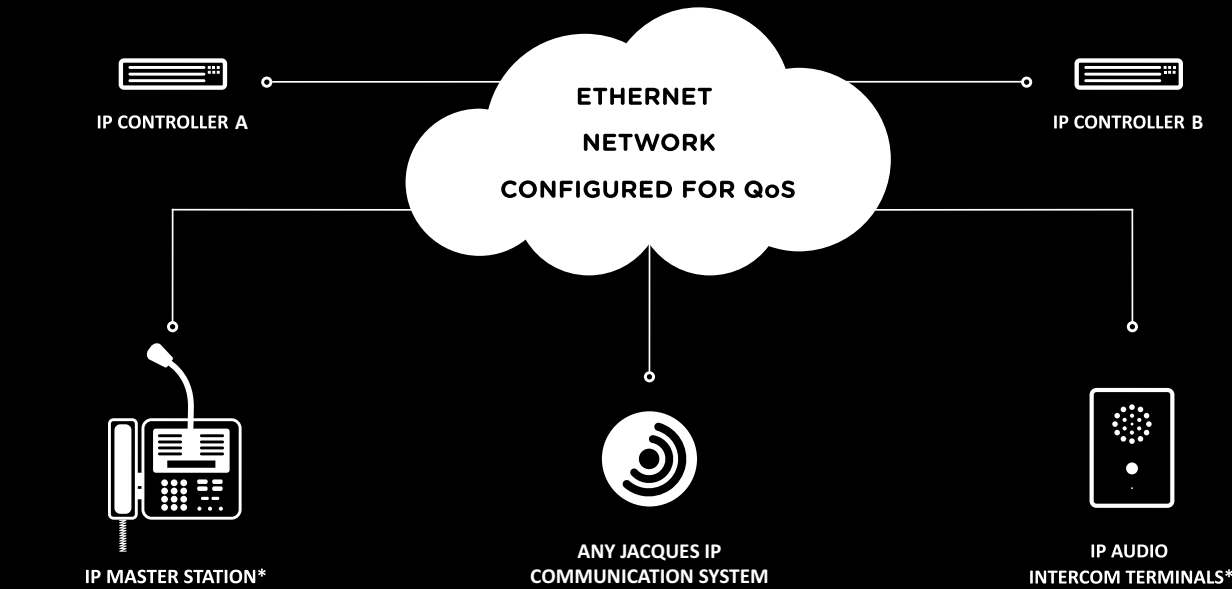
As with any Jacques system – the administrators can monitor, intrude and record calls and make announcements

Cell to cell calls may be scheduled via Jacques Announcement Scheduler (JAS) on the graphical user interface (GUI)
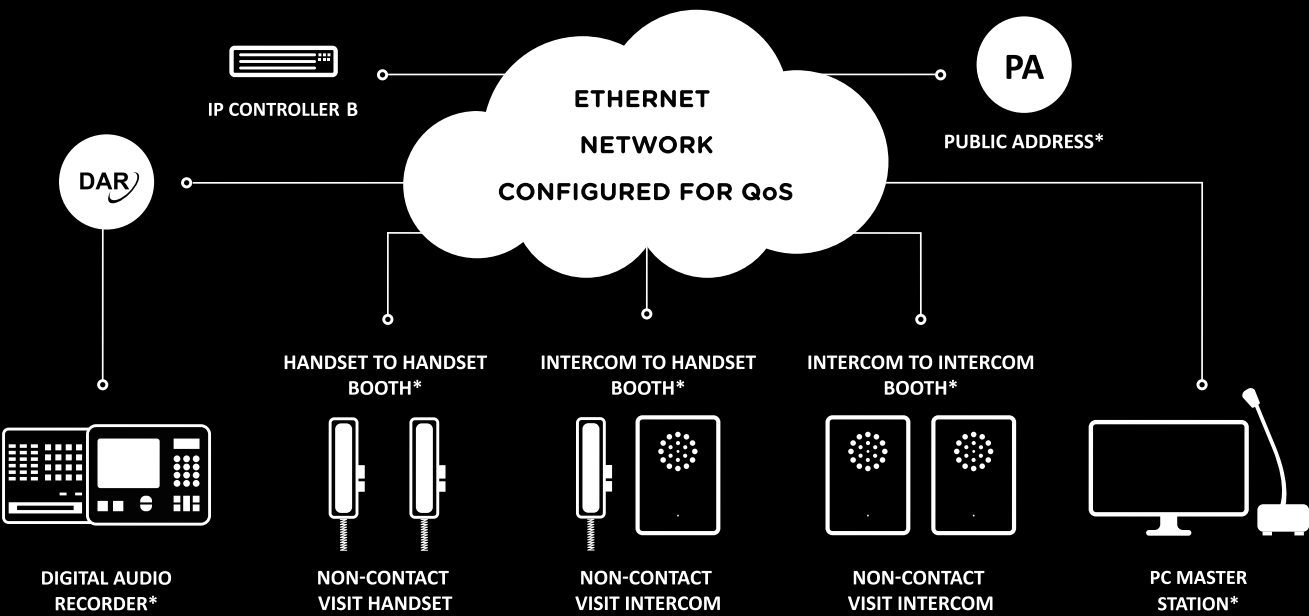
Redundant controllers

System redundancy can be achieved in a number of ways, with both virtual and hardware-based system controllers operating as a pair or in a cluster.

High availability configuration eliminates single points of system failure and ensures that no current call or queued call is lost during failover, guaranteeing system robustness and the continued reliability demanded in corrective facilities environments.

IP CONTROLLER A

ETHERNET
NETWORK
CONFIGURED FOR QoS

IP CONTROLLER B

IP MASTER STATION*

ANY JACQUES IP
COMMUNICATION SYSTEM

IP AUDIO
INTERCOM TERMINALS*

Non contact visits system

Jacques Non-Contact Visits System (NCV) allows visitors to clearly communicate with individual inmates while maintaining no physical contact. Separated by a glass or Perspex barrier, visitors and inmates can communicate using a pair of intercom terminals (hands-free or handset options available) on either side, without allowing physical contact. The system simultaneously records all conversations between visitors, inmates, and operators. Communication over intercom booth pairs is supervised using the Non-Contact Visits System graphical user interface (NCV GUI) ensuring ultimate call control. The NCV GUI also facilitates group or single endpoint Public Address (PA) announcements, intrude and instant playback of recorded audio files and call monitoring from any master station within the network, ensuring a cooperative prisoner visiting environment.

IP CONTROLLER B

ETHERNET
NETWORK
CONFIGURED FOR QoS

PA

PUBLIC ADDRESS*

DAR

HANDSET TO HANDSET
BOOTH*

INTERCOM TO HANDSET
BOOTH*

INTERCOM TO INTERCOM
BOOTH*

DIGITAL AUDIO
RECORDER*

NON-CONTACT
VISIT HANDSET

NON-CONTACT
VISIT INTERCOM

NON-CONTACT
VISIT INTERCOM

PC MASTER
STATION*

*VIRTUALLY UNLIMITED. DEPENDENT ON SERVER CONFIGURATION AND NETWORK BANDWIDTH.

–

Build your
Secure facilities system

Begin with an

ETHERNET

NETWORK

CONFIGURED FOR QoS

1

Controller & software
Choose one or more large system controllers
& software packages to manage your system
and offer the functionality you require

2

Master station
Choose your master station(s)
They can make and receive intercom calls
and make public address announcements

IPM-360 | PCC-650MX

3

Intercom terminals
Choose your intercom terminals. They call
pre-defined master stations and can initiate
relays within your system

VSL-3xx | VSL-351QS+ | VSL-341H

4

PA functionality
Choose your Public Adddress components

to acheive the required functionality

UAI-3B1 | Amplifiers | Speakers

5

Accessories
Choose your accessories. They provide
additional functionality to your system
Panel Microphone

+

Optional extras
Customisation of Graphical User
Interfaces (GUI) and/or Integration with
CCTV & Access Control Systems

1

Controllers
& software

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

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

EC

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

HAP

High availability

Software package required to achieve system redundancy

Operate in active/standby conifguration

Ensures the backup system controller takes over all services (should a hardware failure occur)

Monitors the state of both primary & secondary controllers

IRS

Intercom Report Server

Detailed & accurate reporting of live system activities

Dynamic view of events to monitor the system in real time

Automatic/scheduled report generation, document creation & distribution

Report viewing & access via a web browser

User access control with multi-level permission rights & password protection

Search & filter functions ensuring useful information is easily found

* Selection of software modules displayed in this brochure. Visit jacques.com.au for a complete list of software

2 Master stations

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 call 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
- Customisable layout/functions

IP Master intercom station

IPM-360 | 51516, IPM-360H | 51533
IPM-360G | 51534, IPM,360GH | 51535

- Make & receive intercom calls
- Make live & prerecorded PA announcements
- Trigger intercom relays
- Balanced audio output of mixed speaker /microphone audio for call recording
- Options for gooseneck, handset and headset
- Full & half duplex communication options
- Power saving mode when not in use

Cell intercom w. channel selection

VSL-354+ | 51613

- 4 buttons – Call, Auxiliary Channel (change radio station), Volume up, Volume down
- IP, Standard PoE powered (IEEE 802.3af) device
- Tamper detection and attempted device removal notification
- Two configurable relays
- Water and vandal resistant
- Results of all diagnostics are logged & recorded

Intercom terminal

VSL-351+ | 51612

- Versitile IP audio intercom terminal
- Standard PoE powered (IEEE 802.3af)
- Two configurable relays
- Tamper detection & attempted device removal notification
- Automated testing of speaker & microphone
- Single call button
- Water and vandal resistant

3 Intercom terminals

CELL INTERCOM TERMINAL

VSL-351QS+ | 51703

- Anti-ligature speaker hole design to prevent self harm in security environments
- Automated self testing button allows for the testing of the push button mechanism, acoustics & data comms remotely
- IP, Standard PoE powered (IEEE 802.3af) device with single call button
- Tamper detection and attempted device removal notification
- Two configurable relays that can control lights, gate/door access etc.
- Water and vandal resistant
- Results of all diagnostics are logged & recorded

4 PA functionality

Universal Audio Interface

UAI-3B1 | 51196, UAI-3E1 | 51195

- Public address interface for zone control
- Interface between Jacques' IP system & analogue devices such as a building's amplifier and PA system
- Interface between Jacques' 650 and 550 systems (hybrid)

5 Accessories

PANEL MICROPHONE

MWM-7C1/P | 51157

- Surface mounted microphone with balanced, line level output
- Used for recording audio, covert monitoring, audio input for CCTV cameras
- LED indicator for activity feedback

IP-650 SYSTEM SPECIFICATIONS

SYSTEM CAPACITY

Intercom stations	Unlimited*
Master stations	Unlimited*
Stored announcements	Unlimited*
Call queue size	Unlimited*
Groups	Unlimited*
Simultaneous conversations	Unlimited*
Audio communication between any endpoint	Yes*
Auxiliary channels	16 (typically up to 4 live captured sources)

AUDIO CHARACTERISTICS

Frequency response	200 Hz - 7 kHz ± 3 dB
Transmission format	Real-Time Transport Protocol (RTP) Streaming
Digital audio format - voice	A-law compressed PCM 16 kHz sampling rate
Audio Streaming Bandwidth	128 kb/s one way, 256 kb/s full duplex
Acoustic Echo Cancellation	Yes

VIDEO CHARACTERISTICS

Multi-Standard Video Codec	MPEG-4 part 2, simple profile; H.264 baseline profile; H.263 part 3
Video Streaming Bandwidth	500 kb/s - 6 Mb/s

CALL HANDLING

Call topologies	Intercom/hierarchical/peer/public address/zoned
Call priorities	256 priority levels
Call features (basic)	Auto-answer, hold, forward, diversion, directory, group call, caller-ID, bridged call appearance
Call features (specialised)	Isolate nuisance callers, covert monitor, dynamic group call, stored announcements, master call, remote mode, priority queuing, selective answer of call waiting

NETWORK

Addressing	TCP/IP IPV4, static or dynamic (DHCP)
Interface Media	IEEE 802.3 10/100 Mb/s Ethernet
Standards	IEEE802.1P LAN Layer 2 prioritisation
	IEEE802.1Q Virtual LAN
	RTP - Real-Time Transport Protocol (RFC3550/3551)
	TOS - IPV4 Type of Service (RFC791)
	DTMF - RTP payload for DTMF digits (RFC2833)
	Multicast - IP Multicasting (RFC1112)
	Diffserv - Differentiated Services (RFC2474/2475)
	NTP - Network Time Protocol (RFC1305)
	IGMPv2 - Internet Group Management Protocol v2 (RFC2236)
	DHCP - Dynamic Host Configuration Protocol (RFC1531)
	SMPT – Simple Mail Transfer Protocol (RFC5321)
	SNMP – Simple Network Management Protocol (RFC3413)

CABLING

Power input/ethernet	4 pair UTP CAT-5/5e/6, multi-strand, 24 AWG - 100m (328.1 ft) max.

*Dependent on server configuration and network bandwidth
+Dependent on system configuration and permissions granted

Project references

Australia

Acmena Juvenile Justice Correctional Centre
ACT Youth Detention Centre
Adelaide Remand Centre
AMC - Canberra Prison
Arthur Gorrie Correctional Centre
Bandyup Women's Prison
Barwon Prison
Baxter Detention Centre
Bidura Juvenile Justice Correctional Centre
Borallon Correctional Centre
Brisbane City Watchouse
Brisbane Law Courts
Brisbane Magistrates Courthouse
Brisbane Police Headquarters and Watchouse
Brisbane Reception Centre
Brisbane Youth Detention Centre
Bunbury Prison
Capricornia Correctional Centre Queensland
Casuarina Prison
Cavan Youth Correction Centre
Cessnock Juvenile Justice Correctional Centre
Christmas Island IRPC
Clarence Correctional Centre
Cobbham Juvenile Justice Correctional Centre
Dillwynia Correctional Centre
DIMIA Detention Centre Darwin
Eastern Goldfields Regional Prison
Immigration Detention Centre on Christmas Island
James Nash House
Kalgoorlie Courthouse
Lidcombe Juvenile Justice Centre
Long Bay Correctional Centre
Lotus Glen Correctional Centre
Maryborough Correctional Centre
Mary Hutchinson Womens Prison
Melbourne Juvenile Justice Centre
Mildura Courts
Mobilong Prison
Northern Territory Prison
Numinbah Correctional Centre
Orana Juvenile Justice Correctional Centre
Parklea Correctional Centre
Pontville Immigration Detention Centre
Reiby Juvenile Justice Centre
Ravenhall Prison
Risdon Prison Tasmania
Riverina Juvenile Justice Correctional Centre
Sir David Longland (SDL) Correctional Centre
South East Queensland Correctional Precinct
South Cost Correctional Centre
Southport Watchouse
Townsville/Cleveland Youth Detention Centre
Wacol Youth Detention Centre
Warrnambool Courts
Wolston Men's Prison
Wolston Woman's (SEQW) Correctional Centre
Woodford Correctional Centre
Woomera Reception and Immigration Centre
Yongah Hill Immigration Detention Centre

International

Afghanistan Prison (AF)
Auckland Region Women's Corrections Facility (NZ)
Bentong Prison (MY)
Christchurch Men's Correctional Centre (NZ)
Cyprus Prison (CY)
Dubai Central Prison (AE)
Ijok Prison (MY)
Jasin prison (MY)
Johor Bahru Prison (MY)
Maldives Prison (MV)
Melaka Prison (MY)
Northland Region Corrections Facility (NZ)
Penang Prison (MY)
Perlis Prison (MY)
Rimutaka Correction Centre (NZ)
Seberang perai prison (MY)
South Africa Prison (ZA)
Sungai Buloh Prison (MY)
Trengganu Prison (MY)
Wiri Prison (NZ)
Youth Just Facility Auckland (MY)