

## JACQUES High Level Interfaces

### Introduction

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*Jacques 650 Series Voice Communication System* uses leading edge Voice-over-IP (VoIP) technology to create a fully digital professional networked intercommunications and Public Address system.

This multifunction system integrates a number of subsystems, including:

- Professional networked intercom
- Multi-zone Public Address
- Digital message store
- Music distribution
- Passenger Information and Entertainment
- Emergency Help Point

*Jacques High Level Interface (HLI)* allows third-party system designers to communicate with the *Jacques 650 Series VoIP Voice Communication System* without having to implement network communications or low-level protocol message handling.

This document provides an overview of the functionality available through this interface and the requirements of software applications implementing these features.

### Overview

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The high level interface to the *Jacques 650 Series VoIP Voice Communication System* is provided in binary form as a 32-bit Dynamic Link Library (DLL) for Microsoft Windows. This DLL defines an Application Programming Interface (API) for communicating with the call manager.

This API provides full intercom master functionality to the client, including:

- 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.

- Generating log events into the intercom system event log database.
- Originating and answering calls, although audio playback/capture through a soundcard is not provided by the HLI library and requires a separate RTP library. Alternatively the manager can be configured to redirect audio to a stand-alone Jacques Intercom master station associated with the client.
- 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 between the client application and the Jacques 650 Series Server, including all message assembly and parsing, message transmission, acknowledgements and retransmissions.
- Isolating the client application from blocking network or thread functions inside the DLL.
- Call queue management for incoming intercom calls.

## HLI Functionality

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The following list details the functionality provided by the HLI:

- *Server Connection Status* - The HLI will be polled regularly by the server and should enter a failure mode when the poll from the server is not received for an interval of time.
- *Call Queue Display* - All calls in the intercom system are queued in priority order by the server 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. This 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 Next Call* - The HLI can answer the next queued call according to the priorities assigned to each call by the intercom system.
- *Call Answer* - The HLI can answer a specific call in the queue of calls by specifying call-id or tag of the originator.
- *Call Originate, Master Call* - The HLI can originate a call to the next available master station that is above it in the zone hierarchy.
- *Call Originate, Monitor* - The HLI can originate a call to monitor a slave station, to receive audio from the endpoint without any indication at the slave that the audio path is open.
- *Call Originate, Group Call* - The HLI can originate a group call to a group of slave stations simultaneously for a Public Address call. Any combination of pre-defined slave groups can be selected for a group call.
- *Call Originate, Public Address* - The HLI can originate a call to the Public Address 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)
- *Call Hold* - The HLI can place a call that it is connected to 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 remotored 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 and outputs and relay outputs on slaves or dedicated relay module stations that are generally used to interface with door controllers or PTZ cameras etc.

- *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 a slave to the isolate state prevents it from making calls in the system usually for preventing nuisance calls.
  - Remote state of any intercom master stations.
  - Settings for auxiliary audio channels, for background music, off air radio, for each slave:
    - channel selection
    - volume levels
  - The date and time of the server clock.
- *Site Specific Information Distribution* - The HLI can receive site specific information from the server, such as GPS information, temperature or other system status.
- *Alerts and Alarms Interface* - The HLI can receive alerts and alarms from the intercom 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 intercom system, including:
  - Event log records from the intercom system.
  - Intercom call activity logging (call time and date of the call, call ring time, call duration).

## Current High Level Interfaces to Third Party Systems

Jacques currently supports a number of interfaces with other products such as:

**cardax**

### Gallagher - Cardax FT

Cardax FT is a comprehensive Microsoft® Windows® based security system that provides high-level security management for global access control, intruder alarms, voice over IP, and alarm management requirements.

## **Honeywell**

### Honeywell Building Solutions - Enterprise Buildings Integrator (EBI)

The Honeywell EBI offers a complete and customisable solution for building automation and enterprise management. The Honeywell EBI Suite of Applications provides control over key management areas such as Building Management, Security Management, LifeSafety Management, Digital Video Management, Asset Locators and Energy Management.



### Cieffe Spectiva

Cieffe Spectiva DVMS (Digital Video Management Systems) are capable of simultaneous viewing, recording, playing, archiving and transmitting video and audio in real time. Cieffe DVMS can be used as a standalone unit or as a server over any TCP/IP network with undiminished performance. The performance levels of Spectiva DVMS make it an excellent choice for casinos, airports, mines, government and military sites, high-risk industrial facilities, and other installations requiring premium levels of digital CCTV performance and flexibility.

***For further information on Jacques 650 Series VoIP Voice Communication System, or High Level Interface functionality, please contact Jacques directly on +61 (0) 7 3844 1103 or [info@jacques.com.au](mailto:info@jacques.com.au)***

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