IP100-EDU Series

GLOBALCOM®.EDU Announcement Control Systems

Model IP116-EDU

General Description

Each IP100-EDU Announcement Control System (ACS™) is specifically designed for educational institutions. The IP100-EDU is the heart of AtlasIED's next generation GLOBALCOM®.EDU enterprise wide communications management system. It manages the flow of announcements and messages between network endpoints such as digital communication stations, zone controllers, network power amplifiers, IP-based loudspeakers, and other types of IP endpoints. Additionally it serves as a gateway for external I/O devices, VoIP telephone systems, and analog audio to be incorporated into the ecosystem.

Each model is 'plug and play' ready with GCK application software installed and ready to be configured via an intuitive browser-based interface.

Every IP100-EDU model has the ability to interface with external systems via eight (8) built-in logic inputs and eight (8) built-in relay outputs as well as two (2) balanced line level audio inputs.

The controllers support VoIP communications with models available supporting Audio over Ethernet (AoE) functionality using Audinate® Dante™ or CobraNet® digital audio transport over the same network infrastructure simultaneously. VoIP is Wide Area Network (WAN) enabled allowing communication to be routed across an entire enterprise or to another LAN location.

Announcement Management Features

- Manages dynamic requests for live, delayed and prerecorded messages (simple and assembled), record and playback of ad hoc messages, text-to-speech, mute actions (by zone or zone group) and two-way full duplex intercom connections.
- Allows up to 65,565 message priority levels with NeverMISS™ capability. If enabled, NeverMISS™ records live messages and plays back to busy page zones when they become available.
- Manages thousands of audio and video output zones over local or wide area networks utilizing a variety of industry standard IP based protocols.
- Announcements can be initiated by contact closures, microphone paging stations, open standard IP network commands, and the built-in VoIP telephone interface.
- Includes a built-in comprehensive message scheduling system that allows the creation of schedule profiles that can be applied to specific days of the week or date ranges. Multiple profiles can be applied simultaneously, perfect for campus type installations.
- Built-in interface to VoIP telephone systems via SIP and PBX Trunking as well as support for standard 3rd party FXO gateway devices. Supports industry standard G.711, G.722 and RTP protocols.

Device Interface / Management Features

- The IP108-EDU and IP116-EDU support CobraNet® enabled mic stations. The IP108-EDU-D and IP116-EDU-D support Dante™ enabled mic stations.
- Interfaces directly with GDS-4W™ Display Information Systems for fully synchronized audio and visual messaging and provides IP based visual message data for use by 3rd party display systems.
- Provides supervision and logging for all associated end-point devices on the network with built-in E-mail / SMS notification capabilities.
- HDMI or VGA output for built-in visual paging interface capability.

Message Server Features

- Stores up to 250 hours of pre-recorded .wav message files.
- Stores/manages pre-recorded messages in any language.
- Model IP108-EDU adds eight (8) record and eight (8) playback channels via CobraNet® interface card.
- Model IP116-EDU adds sixteen (16) record and sixteen (16) playback channels via CobraNet® interface card.
- Model IP108-EDU-D adds eight (8) record and eight (8) playback channels via Dante™ interface card.
- Model IP116-EDU-D adds sixteen (16) record and sixteen (16) playback channels via Dante™ interface card.
- Text to Speech messages may be generated in place of prerecorded messages utilizing either the default TTS engine or optional advanced multi-lingual TTS engines.

Mechanical/Electrical Features

- Low-power processor for high reliability and long life with minimal cooling requirements.
- Storage is SSD (Solid State Drive) for higher performance and reliability.
- Powered using the included IED1112PSD 12V DC power supply module or the optional IED1112PS rack mount redundant power supply unit.
- Fits into one (1) RU of 19" rack space.

4 Models Available

- IP108-EDU offers 8CH x 8CH CobraNet®, VoIP, and IEDNet+
- IP116-EDU offers 16CH x 16CH CobraNet®, VoIP, and IEDNet+
- IP108-EDU-D offers 8CH x 8CH Dante™, VoIP, and IEDNet+
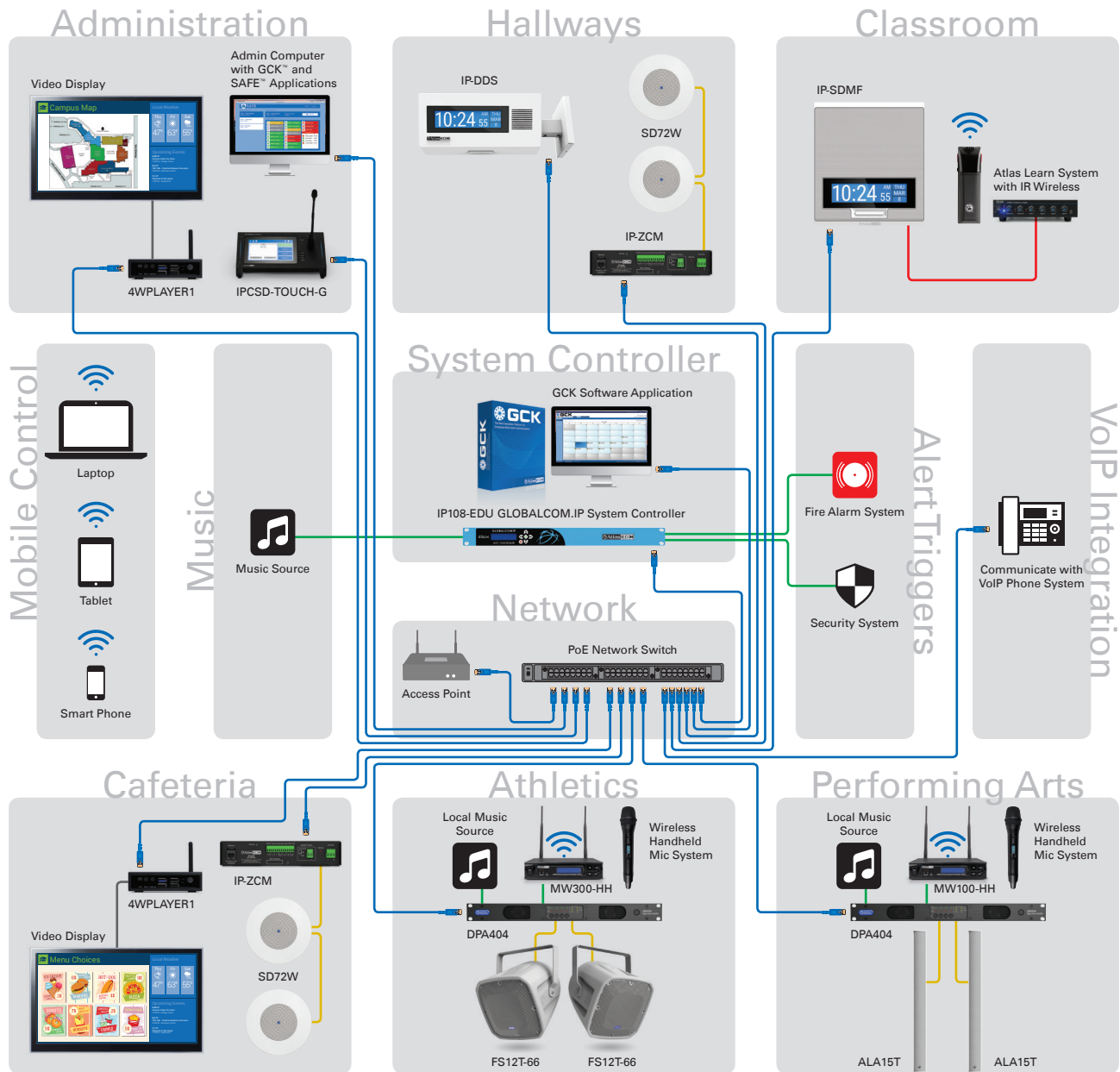- IP116-EDU-D offers 16CH x 16CH Dante™, VoIP, and IEDNet+

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Pre-Loaded Factory Configured Features

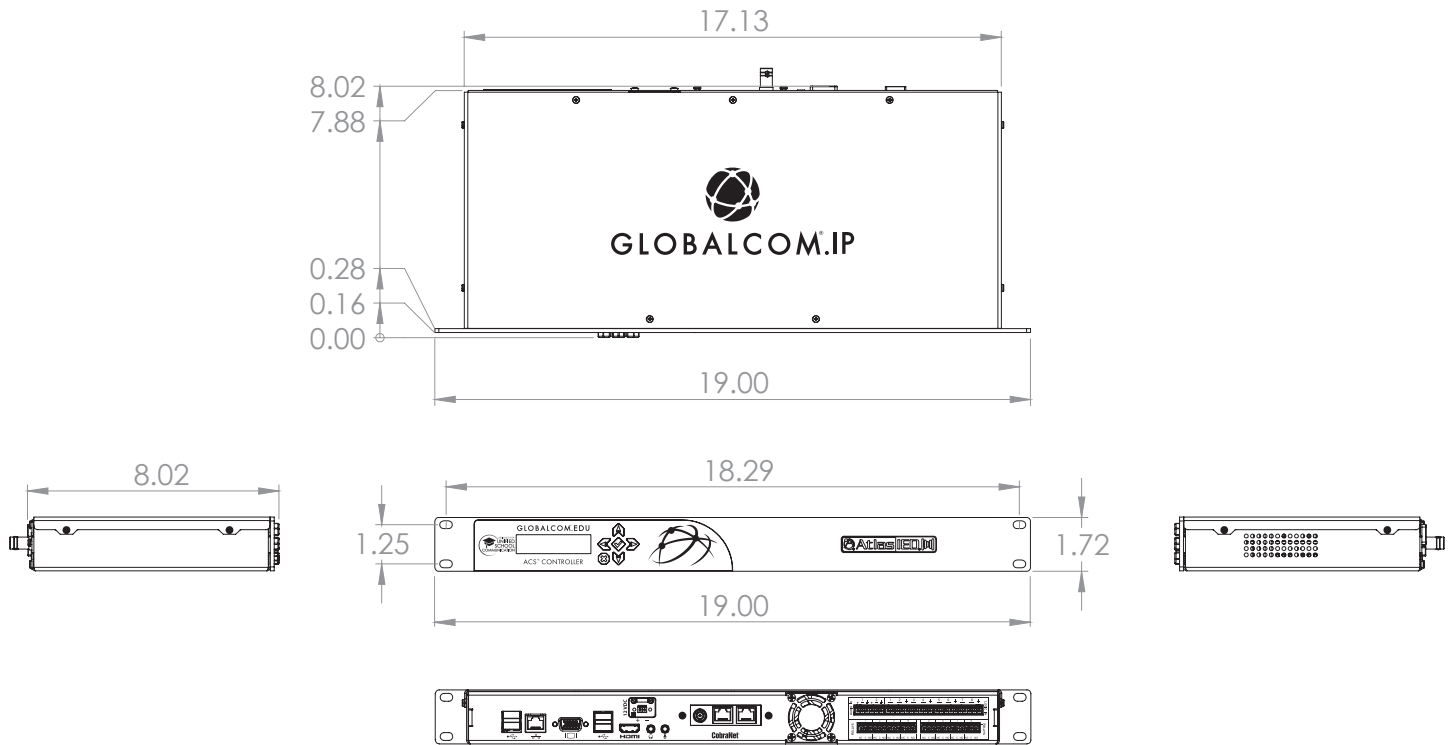| Name	Description	Benefit
All-Call Auto Registration	IP endpoint devices automatically register in the all-call zone.	During an unexpected emergency alert, all online devices will push the vital notifications automatically.
Default Bell Schedule	A typical bell schedule is configured and active.	Start with a typical setup and easily modify for quick deployment.
Quick Schedule Replacement / Adjustment	Change a schedule without accessing GCK software by calling a phone extension and choosing the prompt associated with the schedule requested.	Quicker scheduling changes by anyone with permissions access makes early-release and in-service days easier to manage.
Default Classroom IP Endpoint Group / Profile	Classroom zone group with call request and emergency button are configured.	All IP Endpoints installed in the classrooms will have default communication settings.
Default Lockdown Alerts	A lockdown emergency event is configured with automated announcements and an all-call zone.	Critical alert automation is immediately available upon system activation.
Smart Alerts For Emergencies (S.A.F.E.™) Plugin Ready	S.A.F.E.™ provides system administrators with an immediate visual method to centrally monitor a situation when a critical alert happens anywhere in the school campus.	A new method to visually confirm which zones are secured and which ones have not responded during a lockdown. Emergency responders can immediately view which zones within the school require assistance.
Default School Audio / Visual Message Library	A rich library of professionally recorded audio and visual messages relevant to educational institutions	Quickly choose pre-recorded messages from templates provided.
Messaging Priority (Announcement Class)	Pre-configured list of priority levels for messages defines which messages have highest priority.	Start with a typical setup and easily modify to meet exact operational practices.
Default Zone Groups	Pre-configured zone groups for typical school topography including hallways, cafeteria, athletics, classrooms, corridor, outdoors, etc.	Reduces system deployment timeline. All zones are pre-programmed for faster install.
Default User Rights	Pre-configured user groups with priority levels for admin, principle, teachers, and faculty.	Start with a typical setup and easily modify for quick deployment.

	IP108-EDU	IP116-EDU	IP108-EDU-D	IP116-EDU-D
General Specifications				
Processor	64 Bit Intel® Quad Core™	64 Bit Intel® Quad Core™	64 Bit Intel® Quad Core™	64 Bit Intel® Quad Core™
Sampling Rate	48kHz	48kHz	48kHz	48kHz
Analog Converters	24-bit	24-bit	24-bit	24-bit
Frequency Response	20Hz to 20kHz	20Hz to 20kHz	20Hz to 20kHz	20Hz to 20kHz
Dynamic Range	90dB (A Weighted)	90dB (A Weighted)	90dB (A Weighted)	90dB (A Weighted)
CMMR	85dB (60 to 20kHz)	85dB (60 to 20kHz)	85dB (60 to 20kHz)	85dB (60 to 20kHz)
Distortion	0.01% (1kHz @+6dBu)	0.01% (1kHz @+6dBu)	0.01% (1kHz @+6dBu)	0.01% (1kHz @+6dBu)
Front Panel Controls and Indicators				
LCD Display	2 Line	2 Line	2 Line	2 Line
Power Indicator	LCD Display	LCD Display	LCD Display	LCD Display
Rear Panel Connectors				
Analog Inputs	2 - Balanced Line Level Inputs on 6 Pin Phoenix Plug-in 3.81mm	2 - Balanced Line Level Inputs on 6 Pin Phoenix Plug-in 3.81mm	2 - Balanced Line Level Inputs on 6 Pin Phoenix Plug-in 3.81mm	2 - Balanced Line Level Inputs on 6 Pin Phoenix Plug-in 3.81mm
Analog Outputs	1 - 3.5mm Jack	1 - 3.5mm Jack	1 - 3.5mm Jack	1 - 3.5mm Jack
General Purpose Inputs	8 Dry Contact Closure Inputs on 12 Pin Phoenix Plug-in 3.81mm	8 Dry Contact Closure Inputs on 12 Pin Phoenix Plug-in 3.81mm	8 Dry Contact Closure Inputs on 12 Pin Phoenix Plug-in 3.81mm	8 Dry Contact Closure Inputs on 12 Pin Phoenix Plug-in 3.81mm
General Purpose Outputs	8 Form C Relays, NC and NO option available 10 Pin Phoenix Plug-in 3.81mm	8 Form C Relays, NC and NO option available 10 Pin Phoenix Plug-in 3.81mm	8 Form C Relays, NC and NO option available 10 Pin Phoenix Plug-in 3.81mm	8 Form C Relays, NC and NO option available 10 Pin Phoenix Plug-in 3.81mm
Ethernet Port	1000BaseT + 100BaseT (CobraNet®) Ethernet	1000BaseT + 100BaseT (CobraNet®) Ethernet	1000BaseT + 1000BaseT (Dante™) Ethernet	1000BaseT + 1000BaseT (Dante™) Ethernet
Balanced Analog Input Specifications				
Type	2 - Balanced Line Level	2 - Balanced Line Level	2 - Balanced Line Level	2 - Balanced Line Level
Number of Inputs	2 - 6 Pin Phoenix Plug-in 3.81mm	2 - 6 Pin Phoenix Plug-in 3.81mm	2 - 6 Pin Phoenix Plug-in 3.81mm	2 - 6 Pin Phoenix Plug-in 3.81mm
Configuration	Electronically Balanced	Electronically Balanced	Electronically Balanced	Electronically Balanced
Polarity	Fixed	Fixed	Fixed	Fixed
Connection	PHX Style, 6 Position, 3.81mm Spacing	PHX Style, 6 Position, 3.81mm Spacing	PHX Style, 6 Position, 3.81mm Spacing	PHX Style, 6 Position, 3.81mm Spacing
Input Impedance	18K	18K	18K	18K
Maximum Input Level	(+)14dBu	(+)14dBu	(+)14dBu	(+)14dBu
Phantom Power	N/A	N/A	N/A	N/A
Unbalanced Analog Input Specifications				
Type	Unbalanced	Unbalanced	Unbalanced	Unbalanced
Number of Inputs	1 - 3.5mm Mini Input Jack	1 - 3.5mm Mini Input Jack	1 - 3.5mm Mini Input Jack	1 - 3.5mm Mini Input Jack
Configuration	Unbalanced	Unbalanced	Unbalanced	Unbalanced
Polarity	Fixed	Fixed	Fixed	Fixed
Connection	1 - 3.5mm Mini Input Jack	1 - 3.5mm Mini Input Jack	1 - 3.5mm Mini Input Jack	1 - 3.5mm Mini Input Jack
Input Impedance	47K	47K	47K	47K
Maximum Input Level	-6dBu	-6dBu	-6dBu	-6dBu
Phantom Power	N/A	N/A	N/A	N/A
Ethernet	RJ-45	RJ-45	RJ-45	RJ-45
Supported Network Speed	100Mbps / 1000Mbps	100Mbps / 1000Mbps	100Mbps / 1000Mbps	100Mbps / 1000Mbps

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	IP108-EDU	IP116-EDU	IP108-EDU-D	IP116-EDU-D
Supported Network Audio Protocols				
CobraNet® Channel Capability	8 Input x 8 Output	16 Input x 16 Output	N/A	N/A
Dante™ Channel Capability	N/A	N/A	8 Input x 8 Output	16 Input x 16 Output
VoIP Codecs - Channel Capability	VoIP - G.711, G.722	VoIP - G.711, G.722	VoIP - G.711, G.722	VoIP - G.711, G.722
Layer 3 WebRTC Channel Capability	RTP / RTCP Wide Area Network	RTP / RTCP Wide Area Network	RTP / RTCP Wide Area Network	RTP / RTCP Wide Area Network
Dimensions and Weight				
Rack Space	1 RU, 19"	1 RU, 19"	1 RU, 19"	1 RU, 19"
Dimensions	17.25" x 1.75" x 7.75" (438mm x 44mm x 197mm)	17.25" x 1.75" x 7.75" (438mm x 44mm x 197mm)	17.25" x 1.75" x 7.75" (438mm x 44mm x 197mm)	17.25" x 1.75" x 7.75" (438mm x 44mm x 197mm)
Weight	6.5 lbs / 3.0 kg	6.5 lbs / 3.0 kg	6.5 lbs / 3.0 kg	6.5 lbs / 3.0 kg
Power Requirements				
Operating Voltage	12VDC	12VDC	12VDC	12VDC
Mains Connector	Two Pin Euroblock Connector	Two Pin Euroblock Connector	Two Pin Euroblock Connector	Two Pin Euroblock Connector
Power Consumption				
Power Consumption	24 W, 82 BTU/hr, 20.6 kcal/hr Max	24 W, 82 BTU/hr, 20.6 kcal/hr Max	24 W, 82 BTU/hr, 20.6 kcal/hr Max	24 W, 82 BTU/hr, 20.6 kcal/hr Max
Cooling and Heat Loss				
Thermal Dissipation	82 BTU / Hr	82 BTU / Hr	82 BTU / Hr	82 BTU / Hr
Cooling System	Micro Fan	Micro Fan	Micro Fan	Micro Fan
Ventilation Direction	Side to Back	Side to Back	Side to Back	Side to Back
Included When Shipped				
Packaging Contents	IP108-EDU Controller, AC/DC Power Supply, Connectors, Quick Start Guide	IP116-EDU Controller, AC/DC Power Supply, Connectors, Quick Start Guide	IP108-EDU-D Controller, AC/DC Power Supply, Connectors, Quick Start Guide	IP116-EDU-D Controller, AC/DC Power Supply, Connectors, Quick Start Guide
Agency Approvals				
Safety	Conforms to UL Std. 60950 Certified to CAN/CSA Std. 60950	Conforms to UL Std. 60950 Certified to CAN/CSA Std. 60950	Conforms to UL Std. 60950 Certified to CAN/CSA Std. 60950	Conforms to UL Std. 60950 Certified to CAN/CSA Std. 60950

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System Example - Education Facility

Administration

Video Display

Admin Computer with GCK™ and SAFE™ Applications

Campus Map

4WPLAYER1   IPCSD-TOUCH-G

Hallways

IP-DDS

10:24 55

SD72W

IP-ZCM

Classroom

IP-SDMF

10:24 55

Atlas Learn System with IR Wireless

Mobile Control

Laptop

Tablet

Smart Phone

Music

Music Source

System Controller

GCK Software Application

GCK

IP108-EDU GLOBALCOM.IP System Controller

Network

Access Point

PoE Network Switch

AlertTriggers

Fire Alarm System

Security System

VoIP Integration

Communicate with VoIP Phone System

Cafeteria

4WPLAYER1   IP-ZCM

Video Display

Menu Choices

SD72W

Athletics

Local Music Source

Wireless Handheld Mic System

MW300-HH

DPA404

FS12T-66   FS12T-66

Performing Arts

Local Music Source

Wireless Handheld Mic System

MW100-HH

DPA404

ALA15T   ALA15T

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Dimensional Drawings

Model IP108-EDU Shown. All Models Share Same Physical Characteristics

Architect and Engineer Specifications

The Announcement Control System (ACS) shall be AtlasIED GLOBALCOM®.EDU IP1XX-EDU(-D)

The ACS shall manage announcements and messages using dynamically routed data on a standard Ethernet Network. It shall include an integral multi-channel message server providing simultaneous record and playback capability for up to 16 play and 16 record channels (model dependent) in multiple languages.

The ACS shall manage AtlasIED GLOBALCOM®.EDU series peripherals including Digital Communications Stations, Network Power Amplifiers, Input/Output Devices, Zone Controllers and IP End Points. The ACS shall include internal support for (8) logic inputs, (8) relay outputs, and (2) balanced audio inputs.

The ACS shall manage dynamic requests for live and delayed announcements, pre-recorded and assembled messages, actions, defined events, and two-way full duplex intercom connections. An integrated visual paging server shall deliver visual messaging to supported visual displays that shall be synchronized to the audio regardless of message length. Announcements and messages shall be initiated by contact closures, microphone paging stations, DIRECTOR® software, open standard IP network commands, VoIP, or Wi-Fi enabled smartphones.

The ACS shall include an integral interface for VoIP telephones via SIP and PBX trucking as well as standard 3rd party FXO gateways. The interface shall support standards G.711, G.722 and RTP protocols. Operating modes shall provide for both direct dial zone paging access and well as voice prompted actions for announcements and messages.

The ACS shall support CobraNet® or Dante™ Audio-over-Ethernet protocols with VoIP, RTP, and RTCP. The ACS shall supervise all associated end-point devices, report system abnormalities, and log faults to be reported via SMNP, E-mail, and SMS notifications.

The ACS shall be designed for high reliability with no moving parts including an Intel® 64-bit Quad Core™ low power processor, solid state hard drive, and available hot swap redundant power supply. The ACS shall fit into 1 RU of 19" rack space and weigh 3.0 kg. The ACS shall comply to UL & CSA Standard 60950.

The ACS shall include GLOBALCOM®.EDU system configuration and management software. The ACS shall include internally hosted web page for configuration and monitoring called the System Management Console.