

PRA-APAS Advanced public address server

PRAESENSA



The PRA-APAS is an industrial PC with pre-installed software, acting as a server for PRAESENSA. It provides advanced business related public address functions without compromises and does therefore not support emergency functionalities. The PRA-APAS supports connections to two separate local area networks, the PRAESENSA secure network and the public network with access to the Internet, with a firewall in between. On the public network it connects to the Internet and to one or more licensed operator devices, such as a wireless tablet or a regular PC. On the secure PRAESENSA network it interfaces with the system controller for control and transfer of multiple simultaneous audio channels. The operator devices use their own web browser to control background music, streaming from PRA-APAS' own internal memory or from external music portals and Internet radio stations. It offers announcement creation and control facilities to the operator, including message scheduling, live call recording with pre-monitoring and playback, and even multi-lingual text-to-speech calls, using on-line conversion services.

Functions

Public address server

- Industrial PC with pre-installed and licensed software, acting as server to one or more operator control devices, and as interface between these devices and one PRAESENSA system.
- For security reasons the server has two ports to connect to two different local area networks. One port is connected to the secure PRAESENSA

- ▶ Server for the advanced public address software license
- ▶ Interface for third party PCs and tablet devices to the PRAESENSA IP-network
- ▶ IP-networked on existing Local Area Networks
- ▶ Secure internet connection to the Local Area Network (LAN) of the building, internet radio, online music streaming and text-to-speech-service
- ▶ Internal memory for business messages library and music playlists

network, the other port to the corporate network with access to operator devices and (Firewall protected) access to the Internet.

- License management of operator devices. Each operator device needs a PRA-APAL license for access to the advanced public address server.
- Integrated web server to keep operator devices platform independent. Each operator device uses its own web browser as operator interface.
- Storage of messages and music in internal memory, multiple audio formats supported.

Operator functions

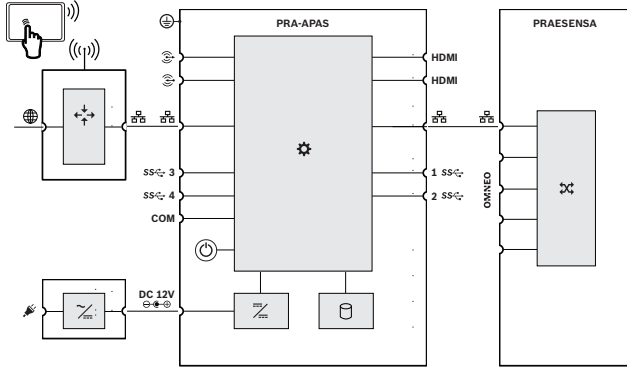
- Easy zone selection with picture representation of zones.
- Control of background music sources and volume levels in selected zones. Music can be streamed from internal memory, but also from music portals on Internet.
- Live call recording of announcements with pre-monitoring and playback to selected zones.
- Live and scheduled playback of stored messages.
- Playback of text based announcements with automatic (multi-lingual) on-line text-to-speech conversion.

Connection to PRAESENSA

- The server connects to the PRAESENSA system controller, using the PRAESENSA Open Interface for control of business related functions. Higher priority, emergency related functions are always handled by the system controller.

- The server can stream up to 10 high quality audio channels to the system controller, using the AES67 protocol. The system controller converts the static AES67 audio streams into dynamic OMNEO streams.

Connection and functional diagram



	Router		DC to DC converter
	Mains to DC converter		Storage
	Controller		OMNEO network switch

Front view



Front panel control and indicators

	Storage	Red
	Power on	Green
	Active/Link status Speed status	Green Yellow

Front panel connections

	Line input	
	Line output	
	Network port	
	Super speed USB 3 and 4	

COM	Serial port	
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Rear view



Rear panel indicators

	Active/Link status Speed status	Green Yellow
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Rear panel connections

	12 VDC input	
	Chassis ground	
HDMI	HDMI display interface	
	Super speed USB 1 and 2	
	Network port	
HDMI	HDMI display interface	

Architects' and Engineers' Specifications

The advanced public address server shall be an industrial PC acting as a server for the public address system, to add advanced business related public address functions, using connected operator devices. Its pre-installed and licensed software shall allow connected operator devices to control announcements and background music in selected zones, streaming from its own internal memory or from external music portals and Internet radio stations. It shall offer announcement creation and control facilities to the operator to address selected zones, including message scheduling, live call recording with pre-monitoring and playback, and multi-lingual text-to-speech calls, using on-line conversion services. For security reasons the server shall have two Ethernet ports to connect the device to two different local area networks, one secure network for the public address system, and one corporate network with access to the operator devices and the Internet. It shall have an integrated web server to

allow operator devices to be platform independent and use a browser to access the server. The server shall be able to stream up to 10 high quality audio channels into the public address system, using the AES67 protocol. The server shall be marked for UL and CE and be compliant with the RoHS directive. Warranty shall be three years minimum. It shall be optimized for use with a Bosch PRAESENSA system for public address purposes. The advanced public address server shall be a Bosch PRA-APAS.

Certifications and approvals

Regulatory areas	
Safety	IEC/UL/CSA 60950-1 EN 62368-1
Immunity	EN55024 / CISPR 24 EN 61000-6-1 EN/IEC 61000-3-2 EN/IEC 61000-3-3 EN/IEC 61000-4-2 EN/IEC 61000-4-3 EN/IEC 61000-4-4 EN/IEC 61000-4-5 EN/IEC 61000-4-6 EN/IEC 61000-4-8 EN/IEC 61000-4-11
Emissions	EN 55011 EN 55022 / CISPR 22 EN 55032 / CISPR 32 EN 61000-6-3 EN 61000-6-4 ANSI C63.4 ICES 003 FCC 47 part 15B class A
Environment	EN 50581 EN 50563

Conformity declarations

Europe	CE
USA/Canada	FCC/c-UL/CSA
China	CCC
Taiwan	BSMI
Russian Federation	EAC

Parts included

Quantity	Component
1	Advanced public address server
1	Power adapter

Quantity	Component
1	Utility CD
1	User manual (in Simplified Chinese)

Technical specifications

Electrical

Server PC

Model	ARK-1124H-S6A1E (OEM Advantech)
Processor chipset	Intel Atom™ E3940 Quad Core SoC
Processor speed	1.6 GHz
L2 Cache	2 MB
BIOS	AMI EFI 64 bit
Memory	DDR3L 1866 MHz, 8 GB
Operating system	Linux
Graphics chipset	Intel® HD Graphics 500
Video interface	HDMI 1.4b, dual display
Ethernet chipset	Intel i210 GbE
LAN1/2	100BASE TX, 1000BASE T
Audio chipset	Realtek ALC888S,
Audio in/out (inactive)	2 x analog mini-jack
Serial interface	RS-232/422/485
USB Interface	4 x USB 3.0
Protection	Watchdog timer
Backup battery	CR2032 Lithium cell
Power consumption, typical	6 W
Power consumption, maximum	16 W
External power adapter	12 VDC, 5 A
Power connector	Lockable DC jack
Cooling	Fanless convection

Power adapter

Model	ADP-60KD B (Delta)
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Power adapter	
Input voltage range	100—240 VAC
Input voltage tolerance	90—264 VAC
Frequency range	47—63 Hz
Socket type input	C14
Output voltage	12 VDC
Maximum output current	5 A
Connector type output	Lockable DC jack
Efficiency level (DOE)	VI
Protection	Over voltage Over current Over temperature

Mechanical

Enclosure server PC	
Dimensions (HxWxD)	46.4 x 133 x 94.2 mm (1.83 x 5.24 x 3.71 in)
Case	
Material	Aluminum
Color	Black
Weight	0.7 kg (1.55 lb)

Enclosure power adapter	
Dimensions (W x H x D)	110 x 62 x 31.5 mm (4.33 x 2.44 x 1.24 in)

Environmental

Climatic conditions server PC	
Operating temperature	-20—60 °C (-4—140 °F) with 0.7 m/s air flow
Storage and transport temperature	-40—85 °C (-40—185 °F)
Humidity (non-condensing)	5—95%

Climatic conditions server PC	
Vibration (operating, no HDD)	3 Grms, IEC 60068-2-64, random, 5 to 500 Hz, 1 hr/ axis
Shock (operating, no HDD)	30 G, IEC 60068-2-27, half sine, 11 ms duration

Climatic conditions power adapter	
Operating temperature	0 °C—40 °C (32 °F—104 °F)
Storage and transport temperature	-30 °C—60 °C (-22 °F—140 °F)
Altitude	-500—5000 m (-1640—16404 ft)

Ordering information

PRA-APAS Advanced public address server
 Server with pre-installed and licensed software, providing advanced business related public address functions to PRAESENSA.
 Order number **PRA-APAS | F.01U.354.303**

Accessories
ARNI RM GEN-2 Rack mount shelf kit for ARNI
 19” rack mount shelf for two OMN-ARNix.
 Order number **ARNI RM GEN-2 | F.01U.311.606**

Software Options
PRA-APAL Advanced public address license
 License for operator device, connected to the PRA-APAS advanced public address server.
 Order number **PRA-APAL | F.01U.359.544**

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