Medical audiovisual system
We share every detail with you
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Gatema a.s. is a modern company with more than 160 employees and outstanding business results. The company was established in 1992 and today it is compiled of four independent divisions:

- development and production of Apollon audiovisual system
- production of printed circuit boards
- implementation of Enterprise Resource Planning Systems (ERP)
- project and economic consulting
Apollon division

Apollon division handles a development of an audiovisual system for the medical industry that focuses on processing and transmission of multimedia data during recording the work of surgeons.

Apollon system provides a complete collection, displaying, live broadcast, recording, parameterization, archiving and processing audiovisual data from operational interventions. The quality of the picture and the mobile availability of video provides hospitals with a completely new dimension of teaching medical students, consulting doctors or the possibility of analysis and debriefing various performances. The Apollon system is certified in accordance with the ISO 13485 norm.
Apollon system

NO NEED TO BE PRESENT IN THE OPERATING ROOM TO SEE WHAT IS GOING ON

Wireless connection of the microphone eliminates dangers of tripping over the cables.

A complete overview of the developments in the operating room and the progress of the operation.

Intuitive and intelligent control of the entire Apollon system.

Easy management and camera picture connection in the operating room.

Easy recording saving by the base unit onto the network drive.

The doctor freely communicates with the audience in a conference hall and provides commentary on the progress of the operation.

High-quality audio is the basis for good communication with the conference hall and simultaneously allows listening to music for maintaining focus during operations.

Wireless connection of the microphone eliminates dangers of tripping over the cables.

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One of the many possible places to install the Apollon system. The choice is yours.
A commentary of a doctor from the operating room.

A specialist doctor has the opportunity to advise colleagues in the operating room during a complicated operation.

A senior doctor or a main physician are able to see the current situation from the operating room in real time, always online from their office.

The audience from conference halls and students of medicine can watch a live broadcast of events and updated information directly from an operating room.

Education and conferences

Possibility to communicate with the operating room for better conference management.

Easy control and navigation from a mobile tablet.

A senior doctor or a main physician

A specialist doctor

A specialist doctor has the opportunity to advise colleagues in the operating room during a complicated operation.
Apollon — products overview

Operations recorded in **perfect quality**

Intelligent and intuitive controlling
MEDICAL AUDIOVISUAL SYSTEM

Perfect educational tool for doctors and practitioners

Easy access to live broadcast and media
Apollon Documentation and streaming device for the medical sector enabling recording operations, taking photographs and broadcasting live directly from the operating room.

**FEATURES**

- Intuitive handling of the entire system
- Easy saving of the recording directly onto a portable repository device
- Fast launch via a removable control panel
- Management and connection of a camera picture on the operating room
- Flexibility in placing Streamer device onto an operation tower
- Reading patient’s data from the Worklist
- Storing data into PACS system
- Possibility of posting comments and of the doctor’s open communication with the viewers at the conference hall on the operation progress
- Modularity and a possibility to a custom-design according to the needs of a particular clinic

**BENEFITS**

- Precise conclusions and verdicts based upon high-quality picture
- Financial savings thanks to easy adaptability to an existing IT structure of the hospital
- Effortless handling can be done by anybody in the operation room
Technical information

TECHNICAL SPECIFICATION

- Videos and pictures in Full HD (1080p)
- 9.7” size touch-screen control with buttons on the camera head or with a Control app
- Controlling panel also serves as a security access key
- Live broadcast or video watching via a mobile app Viewer
- Video input: HD–SDI / 3G–SDI (BNC)
- Video output: HDMI, Thunderbolt
- Recorded video formats: H.264 / MPEG–4 Part 10 (AVC)
- Picture format: JPG
- Input resolution up to 1080p60
- Internal hard drive: 250 GB (optionally can be extended to 1 TB)
- Recording time: 250 GB = 32 hrs (Full HD), 1 TB = 128 hrs (Full HD)
- Washable and disinfectable surface
- Certified health device, classification I(93/42 EEC)
- Safety Class I(EN60601–1)
- Device dimensions: 250×250×80 mm
- Control panel dimensions: 240×170×6 mm
- Weight: 1.5 kg

OPTIONAL EXTENSIONS

- Two-way communication with conference halls
- Docking station for the control panel
- Recording 3D videos and pictures
- Inputs for DVI–D / HDMI or Analog: component (YPbPr), composite, S–Video
- IS module — reading patient’s data from Worklist in DICOM 3.0 format
- PACS module — saving data in PACS system in DICOM 3.0 format

ORDER NUMBER

- STRM1
- STRM1-1TB (model with 1 TB disc)
Application designed for mass controlling of Streamer units, for controlling switching of all video inputs and outputs in the operating room and organizing videoconference calls.

FEATURES

- Management application for Apollon audiovisual system
- Installation onto a PC in the operating room or the hospital foyer
- A complete video–management in the operating theatre (switching of all video inputs and outputs)
- Mass management of Streamer units
- Video recordings
- Pictures taking
- Video broadcasting
- Videoconference calls
- Entering patient’s data
- Designed for Windows 7 and Windows 10 operating systems

ACCESSORIES

- Apollon Matrix

BENEFITS

- Remote control via internal network

ORDER NUMBER

- CTRL1
Apollon Matrix

A unit designed for switching of all video inputs and outputs in the operating room.

- A unit controlled by Apollon Control application providing switching of video inputs and outputs
- Module DVI, Module 3D and Module Analog outputs can also be connected to Matrix inputs
- Optionally possible with 20 or 40 inputs
- Optionally possible with 20 or 40 inputs
- Network connection RJ45 10/100 BASE–T Ethernet
- Power supply: 100–240 V AC, 50–60 Hz
- Dimensions: 483×160×44 mm

Rack attachment — 1U size

- Weight: 1,88 kg
- Operating temperature: 0–40 °C
- Relative humidity: 0–90 %
- Atmospheric pressure: 85–102 kPa

ORDER NUMBER

- MATR1

Intelligent and intuitive controlling

Work better, faster and more efficiently
A device for showing live broadcasting and recordings in the seminar hall. A useful and an easily controllable tool for teaching and enhancing the level of education.

FEATURES

• Device enhanced to provide communication with the operating room for more effective progress of the conference
• True and high-quality picture allows detailed viewing operations
• Easy control from a tablet
• Audience in the conference hall or students of medicine receive information from the operating room in real time

BENEFITS

• Most entertaining method of teaching the students of medicine
• A shortened learning curve of the students at more complicated and less frequent operations
• Edits of important parts of operations recordings to follow-up
Technical information

Technological Specifications

- A device designed for presentation of live broadcasts and videos both way voice communication between the operating room and a lecture hall or auditorium
- Possibility to play videos and show pictures from a network repository or a USB flash disc
- Controlled a touchscreen of 7.9” size which also serves as an access key
- Support of up to two displays with resolution 2560×1600 px, video outputs: HDMI, 2× Thunderbolt
- Video format: H.264 / MPEG–4 Part 10 (AVC)
- Picture format: JPG, PNG
- Broadcast format: HLS, WebRTC
- Washable and disinfectable surface
- Device dimensions: 200×200×36 mm
- Control panel dimensions: 23×135×6 mm
- Weight: 1.5 kg

Optional Extensions

- A wireless microphone and a set of speakers
- Conference Licence — upgrading Streamer by following features: caller identification, two-way sound communication, accepting/rejecting a call from the conference hall

Order Number

- APB1A (without integrated display, 2 external displays, 2 videos)
- APB1B (integrated display, 1 external display, 4 videos)

Perfect educational tool for doctors and practitioners
System fully customizable to your needs
VIEWER
A mobile application for iOS with fast access to live broadcasting directly from the operating room. A senior doctor or a main practitioner can watch an updated situation at the operating rooms directly from their working premises or offices.

VIEWER ONLINE
Web application for live broadcast viewing.

FEATURES
- Quick access to multimedia via modern web browsers Safari, Firefox, Chrome, Opera or Edge
- Easy management of user logins
- Live broadcast access is password-protected

BENEFITS
- Surgeons have the possibility to consult with anybody from anywhere
Easy access to live broadcast and media
Watch live broadcasting on your phone or a tablet
Apollon accessories

Expand your possibilities
An overview of accessories
DVI–D module

Expanding converter for capturing video from a connected DVI-D interface.

SPECIFICATION

- Video input: DVI–D (dual link) resolution up to 1080p60
- Video output: 3G / HD–SDI (BNC) in the same resolution as the input signal of the camera
- Dimensions: 76.5×46×25 mm
- Weight: 0,3 kg

ORDER NUMBER

- MDVI1
3D module

Expanding converter for capturing video from a connected 3D stereoscopic interface.

SPECIFICATION

• Video input: Dual HD–SDI (BNC) separated right and left signal, resolution max. 1080i60 or 1080p25
• Video output: HD–SDI (BNC), stereoscopic 3D side–by–side, in the same resolution as the input signal of the camera
• Dimensions: 147×79×25 mm
• Weight: 0,8 kg

ORDER NUMBER

• MOD3D1
Analog module

Expanding converter for capturing video from a connected analog interface.

SPECIFICATION

- Video inputs: component (YPbPr), composite, S–Video
- Video outputs: 3G / HD–SDI (BNC) in the same resolution as the input signal of the camera, max. 1080i60 or 720p60
- Dimensions: 123×92×23 mm
- Weight: 0,3 kg

ORDER NUMBER

- MANA1
Dock

Adjustable docking station with universal anchoring system.

CHARGING THE CONTROL PANEL FEATURE

- Washable and disinfectable surface
- Dimensions: 310×290×186 mm
- Weight: 1.8 kg

ORDER NUMBER

- DOCK1
Audio — Operating room

An audio set designed to provide video conference calls in operating rooms.

PARAMETERS OF APOLLON MONO SPEAKERS
- Manual volume regulation
- Audio input jack 3.5 mm
- Charging: 100–240 V AC, 50–60 Hz (Table charger with Medical certification)
- Maximum consumption: 60 W
- Dimensions: 180×115×112 mm
- Weight: 1.4 kg
- Operating temperature: 10–35 °C
- Relative humidity: 5–95 %
- Atmospheric pressure: 85–102 kPa

PARAMETERS OF A MICROPHONE SET:
- Digital transmission
- Transmission encryption
- UHF transmission band (534–670 MHz)
- Headset
- Frequency range of the microphone: 40 Hz–20 kHz
- Transmitter charging: 2× AA batteries
- Operational battery lifetime: up to 9 hours
- Receiver charging: power adaptor (12 V, 400 mA)
- Operating temperature: 10–35 °C
- Relative humidity: 0–90 %
- Atmospheric pressure: 85–102 kPa

ORDER NUMBER
- AUOR1
Audio — Conference room

An audio set designed to provide video conference calls in lecture halls.

PARAMETERS OF APOLLOON STEREO SPEAKERS

- Manual volume regulation
- Audio input jack 3,5 mm
- Charging: 100–240 V AC, 50–60 Hz (Table charger with Medical certification)
- Maximum consumption: 60 W
- Dimensions: 180×115×112 mm
- Weight of one speaker: 1,4 kg
- Operating temperature: 10–35 °C
- Relative humidity: 5–95 %
- Atmospheric pressure: 85–102 kPa
- Washable and disinfectable surface

PARAMETERS OF A MICROPHONE SET:

- Digital transmission
- Transmission encryption UHF transmission band (534–670 MHz) handheld microphone
- Frequency range of the microphone inset: 50 Hz–15 kHz
- Transmitter charging: 2× AA batteries
- Operational battery lifetime: up to 9 hours
- Receiver charging: power adaptor (12 V, 400 mA)
- Operating temperature: 10–35 °C
- Relative humidity: 0–90 %
- Atmospheric pressure: 85–102 kPa

ORDER NUMBER

- AUCR1
Selected references

 FN Brno
 References with the highest number of installations. Apollon Streamer is, for example, used by the Clinic of Accident Surgery, the Surgical Clinic in their newly reconstructed operating theaters, the Neurosurgery Clinic in their new rooms and by the Endoscopic Center. In the case of Surgical and Neurosurgical Clinic, this is a project solution meaning Apollon provides not only streaming and recording but it also controls image inputs and outputs, “calling”, etc.

 CKTCH Brno — Centre for cardiovascular and transplantational surgery
 Connecting three operating rooms of the clinic via the Apollon system for recording and transmitting picture and voice into the lecture theatre. Secondary 3D monitor for EinsteinVision and three tablet holders were installed.

 County hospital Liberec — Surgical Department
 Recording of 3D video from EinsteinVision system with Streamer unit. Picture from the preview camera in the operating light was recorded by the second independent Steamer unit. Installation of two IP cameras into the ceiling part of the operating room enabling watching the entire space in the operating room.

 Aesculap Akademie — Dialog, Prague
 Educational centre equipped with Apollon system. Endoscopic tower Aesculap PV470 was equipped with a Streamer unit for video recording. 3D tower EinsteinVision equipped with Streamer unit for 3D video recording of simulated medical interventions.
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