



iOi®

WORKFLOW OPTIMISED IMAGE MANAGEMENT
VIDEO CONTROL SIGNALS AND METADATA IN REAL TIME
FLEXIBILITY FOR EXISTING AND FUTURE OPERATING ROOMS



iOi

INFORMATION
INTEGRATION
INNOVATION

What is meant by iOi?

The iOi brand stands for information and video transmission as well as optimal integration and innovation. Rein Medical offers the right solution for every application. From point-to-point solutions consisting of hardware encoders and decoders to complex OR integration requirements, we will find the right concept for you.

PLUG & PLAY

iOi SOLUTIONS

The digital operating theatre

In order to be able to perform the various procedures within the OR track, a wide variety of equipment trolleys are needed. These range from the C-arm, endoscopy tower and microscope to neuronavigation. In addition to the various functionalities, the different video signals with various connection options are a particular challenge. The focus is on usability as well as flexibility, ease of maintenance and hygiene. For this reason, Rein Medical developed the iOi family consisting of hybrid encoders and decoders with uniform hybrid plugs as connections.

iOi - The concept

The hybrid multiconverters are positioned on the mobile trolleys and serve as transfer points of the image management system. Mobile trolleys can be both an imaging source and a sink (monitor, conference, documentation). After the converter is connected via the hybrid connector, the functionality is recognised and fed to the system as the corresponding device. With their universal connectors, the iOi boxes stand for user-friendliness, flexibility and safety in digital operating theatres. They are designed for both FULL-HD and UHD landscape





Hygienic

The housing is powder-coated with the germicidal (possibly reformulated - prevents culture formation?) powder lacquer POLYFLEX® STERIDUR II lacquer, is closed all around and can be disinfected hygienically. It has no ventilation slots. (IP protection)



Connection diversity

The transmission systems specially developed by Rein Medical are hardware solutions for modalities on mobile trolleys as well as stationary systems.

The extensive product portfolio includes HDMI, DVI-D, DP, SDI, Y/C, VGA, CVBS, YPbPr, USB, trigger and audio connections.

Encoder

The versatile iOi encoders convert both analogue and digital video signals into a proprietary IP signal. Trigger/control signals as well as status and naming are also embedded. The data packets reach a room-bound IP switch via fibre optic cables. Via our integration software, Smart OR, only the video signal is made available to the corresponding decoders. All additional information is evaluated via Smart OR.

Decoder

It converts the received IP streams into a standard video signal (DVI/DP/HDMI). It is possible to display a 4K signal on a 4K monitor as well as on an existing Full HD monitor. This flexibility ensures simple integration even into existing landscapes. The latency from the source to the sink is less than 16ms and is therefore imperceptible to the human eye.



Plug & Play

The iOi-Box has a hybrid plug (one-hand operation) with which mobile carts can be connected quickly, easily and flexibly. This plug has a dual function. It supplies the iOi with operating voltage via copper lines and transmits data via fibre optics. With the installation of our iOi hybrid patch boxes, we have developed a very user-friendly solution, as each mobile source/sink is connected to the system exclusively via the hybrid plug. The high quality and performance of this plug & play method is suitable for demanding medical environments. This is because when changing the source/sink during operation, neither synchronisation is necessary nor does it take much time. This is because SMART OR saves the last configuration and maintains it.



Intuitively easy to maintain

Video signals as well as trigger signals (e.g. at the camera head - endoscopy) are transmitted via the one-hand plug-in system. A preview of the desired source appears, which can be provided with additional information (e.g. name of the source). It is not only the hybrid connector that makes the iOi-Box so easy to use, but also the LED status display of the transmission system that ensures transparency and thus security about the current status of the device. Since additional conversions are largely dispensed with, easy troubleshooting is guaranteed in case of service.

Future-proof

Our proven iOi solution offers a reliable connection via fibre optic cables. This future-proof technology ensures fast transmission with bandwidth reserves. In addition to video and image signals, audio and RS232 control signals such as triggers can also be transmitted bidirectionally.



FAZIT

- Multi-encoder with hybrid connection, power, data and trigger
- Applications: Mobile trolley, stationary modalities
- Signal transmission via universal and robust connectors (improved workflow)
- High bandwidths via fibre optics (future-proof)
- Intuitive operation
- Electrical safety through galvanic decoupling
- Hygienic housing
- Implementation in existing landscapes
- Service-friendly as active components are easily accessible

Features at a glance

- Aluminium housing
- Signal transmission via dedicated network switch
- Latency less than one frame
- Fast switching between different inputs (less than 0.5 sec.)
- Embedded additional control signals (trigger via endoscopy buttons)
- Preview is available via encoder

Who are we?

At Rein Medical, we drive innovation. Our German company with a team of almost 100 employees has been involved in medical IT for more than two decades. Nowadays, we're a system service provider that implements customised IT solutions from planning to handover from a single source. We also accelerate the digital transformation in practices, clinics and other medical facilities. We develop and produce individual all-in-one computer solutions, high-resolution displays, customised IT wall modules for operating rooms as well as video/audio and image management systems. Rein Medical has been part of the JVC Kenwood Corporation since March 2018 and is a globally active company.

Future „Made in Germany“

We stand for quality and set a hygienic benchmark with our certified IT. From the design, development and production of our hardware to the programming of our software, we realise our IT solutions at the Mönchengladbach site. With our worldwide partnerships, we offer innovative holistic solutions for an optimised workflow, ensuring smooth and reliable processes in the operating room.

Headquarters in Germany

Rein Medical GmbH
Monforts Quartier 23
41238 Mönchengladbach
Deutschland
Tel.: +49 2161 6984-0
Fax: +49 2161 6984-259
E-mail: info@reinmedical.com

Switzerland

Rein Medical AG
Büfelderstrasse 1
8370 Sirmach TG
Schweiz
Tel.: +41 71 929-55-99
Fax: +41 71 929-55-90
E-mail: info.ch@reinmedical.com

Spain

Rein Medical Systems S.A.
C/ Téllez, 30
1ª Planta, Oficina 2 Puerta 3
28007 Madrid, Spainien
Tel.: +34 91 530-88-24
Fax: +34 91 574-32-93
E-mail: info.es@reinmedical.com

