



iOi®

OPTIMAL VIDEO INTEGRATION FOR DIGITAL OP
VIDEO, AUDIO AND CONTROL SIGNALS VIA IP FLEXIBILITY
FOR EXISTING AND FUTURE MODALITIES



iOi

INFORMATION INTEGRATION INNOVATION

What is behind iOi?

The iOi brand stands for information and video transmission over the IP network (Information-over-IP) as well as for 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'll find the right concept for you.

PLUG & PLAY

IOI SOLUTIONS

The digital operating room

A wide variety of imaging modalities exist in operating rooms. These range from endoscopy towers to robotic systems and C-arms. Aside from the various functionalities, the different video signals pose a particular challenge. Each additional component provides both increased risk of infection and decreased mobility. For this reason, Rein Medical developed the iOi family with its IP video transmitters and receivers.

Data transmission via IP

The IP video transmitters and receivers transmit any type of information over IP, allowing fast access of data from any source at a selected destination. The iOi boxes are synonymous with ease of use, flexibility and safety in digital operating rooms. They are designed for both FULL HD and UHD landscapes.



INTEGRATIONS



OPPORTUNITIES

Form factor

ORs differ in terms of equipment and room conditions. This is exactly what was taken into account when designing the iOi series. The iOi boxes are available as a space-saving built-in version and as a stand-alone solution. For demanding medical environments, the stand-alone solutions are easy to clean and disinfect thanks to a uniform and well thought-out housing concept.

Integration

A plug & play variant from the iOi family can be used where computers can't be integrated directly into OPERION and CLINIO. These iOi encoders and decoders can be connected easily and flexibly with remote PCs via a direct point-to-point connection.

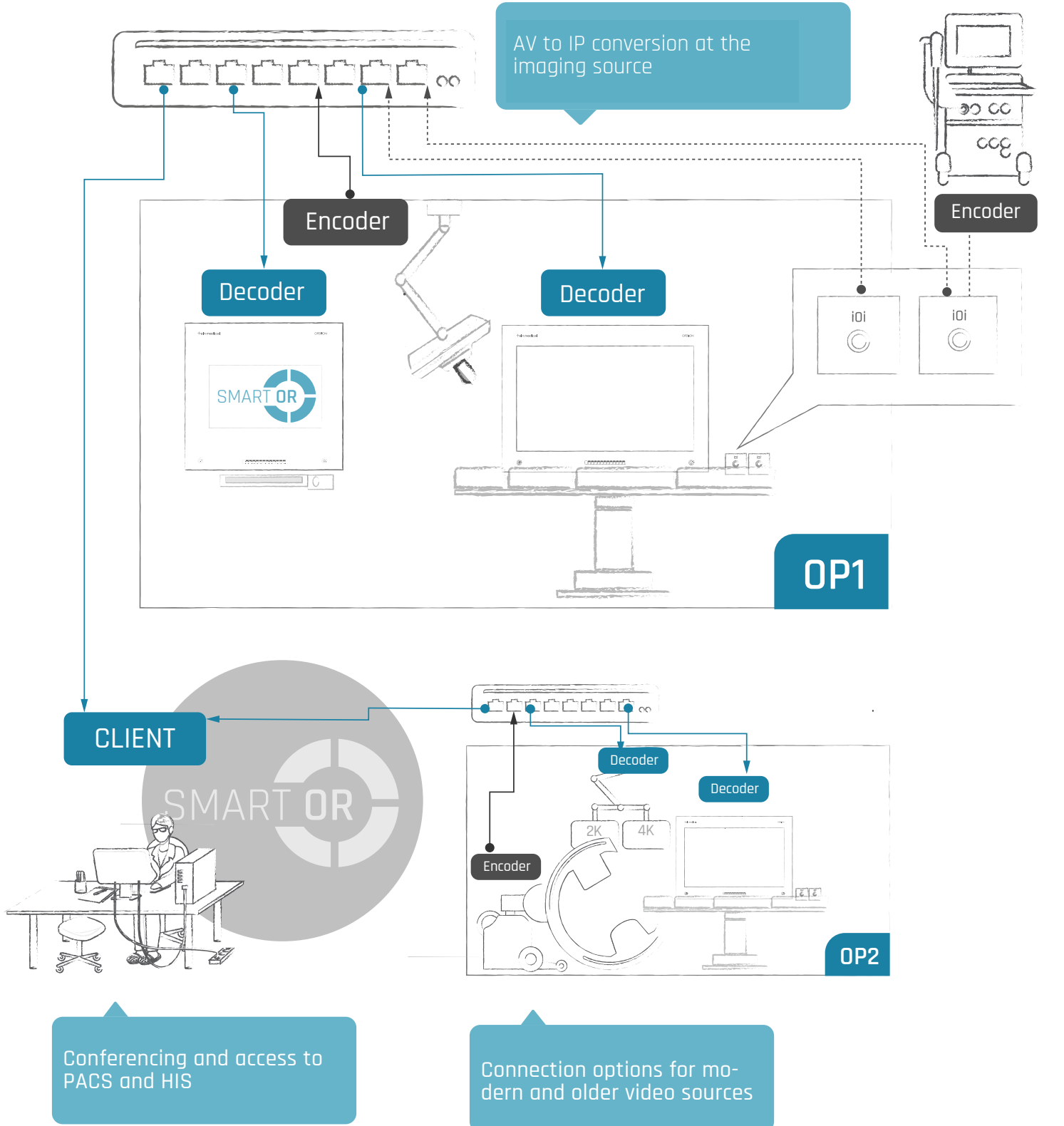
Variety of connections

The transmission systems specially developed by Rein Medical are hardware solutions for modalities on mobile carts 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.

Uncompressed image transmission
with Full HD and 4K resolution

Connection of mobile sources by
means of patch panel

PLUG & PLAY



Encoder

The versatile iOi encoders convert both analog and digital video signals into uncompressed IP information. Other content such as audio and USB signals as well as trigger and RS232 control signals can also be transmitted. The latency of < 16 ms is not noticeable. The distributed video signals are routed, recorded and streamed with a resolution of up to 3840 x 2160 (UHD).

Decoder

The iOi decoder ensures that desired information is provided on any image source. It converts the received IP streams into uncompressed information. The flexible scaling ensures simple integration into high-end network environments.



Plug & Play

The iOi-Box has an easy-to-use hybrid connector that allows modalities to be connected quickly, easily and flexibly. With the installation of our iOi hybrid patch boxes, we have developed a very user-friendly solution, as each source is connected to the system exclusively via the hybrid connector. The high quality and performance of this plug & play process is ideal for demanding medical environments. When changing the source, synchronization either isn't necessary or doesn't take much time. It can thus be ideally integrated into everyday hospital life. Routing is automatic with the connection of the source, in UHD or FULL HD. The patch sockets can be used both as power supply to the iOi and as output point for mobile monitors, for instance.



THE CONCEPT



CONNECTION POSSIBILITIES

If SMART OR MANAGER is installed as a central communication node within a video management integration, it can be used to connect the iOi box. The data connection can be used to the PACS, KIS, RIS and other subsystems via DICOM or HL7 and enables uncomplicated data exchange.

See here:



FOR MEDICINE

Intuitive

It isn't just the hybrid connector that makes the i0i-Box so simple to operate. The LED status display of the transmission system ensures transparency, providing assurance about the current status of the device. 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, and this can be furnished with additional information (e.g. name of the source).

Future-proof

Our proven i0i solution provides a reliable connection via fiber optic cable. This future-proof technology ensures lossless transmission and higher bandwidth reserves. In addition to video and image signals, bidirectional audio and RS232 control signals such as triggers are also transmitted.

Hygienic

The housing is powder-coated with the germicidal powder coating POLYFLEX® STERIDUR II, is completely closed and is hygienically disinfected. It has no ventilation slots, so that there is no air exchange with the environment.



BOTTOM LINE

- Multi-encoder with hybrid connector, power, video and trigger
- Applications: Mobile cart, stationary modalities
- Signal transmission via universal and robust connectors (improved workflow)
- High bandwidths via fiber optics (future-proof)
- Intuitive operation
- Galvanic decoupling via fiber optics
- Hygienic housing



Features at a glance

- Aluminum housing
- Transmission of signal via dedicated network switch
- Latency less than one frame
- Fast switching between different inputs (less 0,5 sec.)
- Embedded additional control signals (triggers via endoscopy keys)
- Preview is available via encoder

Next generation

- IP protocol
- Integration in mixed operations (2K & 4K)
- Uncompressed UHD data transmission
- Redundant 10 Gbit lines (possibility to switch between uncompressed and redundant transmission)
- Scalable images with up to 16 sources

BROCHURES FROM REIN MEDICAL

Rein Medical provides you with comprehensive information. For individual products and for complex integration projects: Our brochures tell you all about important features, advantages and application examples at a glance.



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