

# ELIUM

## IRD 4090

**ULTRA HD**

**DVB-S/S2/S2X** **DVB-C/C2** **DVB-T/T2/HEVC**

SATELLITE

CABLE

TERRESTRIAL

**IP TV**



HF-Signalpegel - Messgerät

Stereo Volume Unit (VU) Meter



Kontrollmonitor



**Ultra High Definition Integrated Receiver Decoder** with highest requirements for quality and excellent HDTV / UHDTV 4K (optional) and Radio reception capabilities.

The **IRD 4090** is equipped with tuners (combinations possible) to receive **DVB-S/S2/S2X / DVB-C/C2/T2/HEVC** signals and two integrated **Common Interface Slots (optional)** for decoding various conditional access modules to decrypt Pay-TV channels.

Up to two audio streams (Audio L / R, AC3 Dolby digital) can be embedded to the **SDI-signal** via **integrated Matrix** in the same time.

Furthermore, it is optionally possible to sink an **ASI-signal (ASI-IN)** or source an ASI signal from the **IRD 4090 (ASI-OUT)**.

**All device settings** can be made by using the **WebServer** or the **graphical Display** including front panel. The display serves as a **control monitor**, which is the playback of the current program, as well as present the audio by a **stereo volume unit (VU) meter**. In addition, the device has an **RF-signal level measurement** function of the received signal, which is also available on the front panel.

The **integrated Ethernet** and **RS232 control option** give the option to control the **IRD 4090 bidirectional** and enables an optimal integration into existing control systems.

The Ethernet and RS 232 interface grant the user to consult program name (program logo), program information, EPG information ect..

The received programs of the tuner can be provide via the 1Gbit Ethernet interiface (optional) to the IP network as **SPTS** (Single Program Transport Stream) or **MPTS** (Multi Program Transport Stream).

The devices are designed with **high-quality components**, for **continuous operation** and are **developed and produced in Germany**.

**24/7**

■ ■ ■ Made in Germany

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### Features:

- MPEG-1/-2/-4, H.264 MVC up to 1080P@60fps
- SD/HD 480i/p, 576i/p, 720i/p, 1080i/p
- MP3, AAC, WMA, RM, FLAC
- DVB-S/S2/S2X or DVB-C/C2/T/T2 selectable
- Network channel search LCN (Logical Channel Numbering)
- Image format: 4:3 / 16:9
- 3G-SDI embedded 2 x Audio BNC 75  $\Omega$
- Matrix to set the SDI Audio tracks
- AES - BNC 75  $\Omega$  unbalanced
- Analog Stereo - XLR 3pol. balanced
- 320x240 graphical Display: Control monitor function from current TV-program incl. tech. data  
Setting of all device function, stereo volume unit (VU) meter, Integrated RF-meter
- Bidirectional control via 100 Mbit Ethernet / RS-232 interface
- Integrated Webserver for administration and control
- Update via Front-USB / Ethernet / Webserver
- HTML5 based OSD to support changes of background, program logo/-namen, etc.
- Teletext, DVB Subtitling, EBU Teletext Subtitling
- EPG - Electronic Program Guide including event information
- Termo controlled fan (Power supply and System)
- Servicebutton to turn the display and front panel off (commissioning of more then one device)
- Volume level for each program adjustable
- Audiodelay for each program adjustable

### Optional Features:

- H.264 AVC, H.265 HEVC up to 4Kx2K@60fps / UHD 4Kx2K
- AC3 7.1 / 5.1 Down-Mix
- Combination of Tuner:  
DVB-S/S2/S2X and DVB-S/S2/S2X  
DVB-C/C2/T/T2 and DVB-C/C2/T/T2  
DVB-S/S2/S2X and DVB-C/C2/T/T2
- Second 3G-SDI interface embedded 2 x Audio BNC 75  $\Omega$
- HDMI with Videoformat 4:2:0 / 4:2:2 / HDR 10 Bit / HDMI-CEC
- ASI Input / Output BNC 75  $\Omega$
- AES - XLR 3pol. balanced
- Up to 2 Common Interface Slots for Conditional Access Module like Alphacrypt (SKY,ORF),  
Conax, Irdeto Nagravision...
- 1 Gbit Ethernet Port for streaming support: SPTS (Single Program Transport Stream)  
MPTS (Multi Program Transport Stream)
- Remote control + 3,5 mm jack plug for infrared receiver
- Redundant power supply with automatic changeover
- Up to 2 eSATA Interfaces

## Technical Data

<p><b>Input option SAT and/or Cab/TER</b></p> <p><i>Combination: SAT and SAT Cab/TER and Cab/TER SAT and Cab/TER</i></p>	<ul style="list-style-type: none"> <li>• <b>DVB-S/S2/S2X:</b> EN 300 421/ EN 302 307 F-connector / 75 Ω impedance Frequency range : 950 - 2150 Mhz Symbol rate range: 1 - 45 Msyms DiSeqC: 1.0, 1.1, 2.0.</li> <li>• <b>DVB-C:</b> EN 300 429 /<b>C2:</b> EN 302 769 F-connector / 75 Ω impedance</li> <li>• <b>DVB-T:</b> EN 300 744 /<b>T2/HEVC:</b> EN 302 755 QAM: 16, 32, 64, 128, 256 QPSK: 16 QAM, 64 QAM, 256 QAM, Frequency range: 48 - 862 Mhz Symbol rate range: 4 - 7 Ms/s</li> </ul>
<p><b>Asynchronous Serial Interface</b></p>	<ul style="list-style-type: none"> <li>• <i>ASI Input BNC 75 Ω optional</i></li> <li>• <i>ASI Output BNC 75 Ω optional</i></li> </ul>
<p><b>Conditional Access</b></p>	<ul style="list-style-type: none"> <li>• <i>2x DVB CI Slots: EN 50221 optional</i> for CAMs Alphacrypt (SKY, ORF), Aston, Conax, Cryptoworks, Irdeto, Nagravision,...</li> </ul>
<p><b>Control</b></p>	<ul style="list-style-type: none"> <li>• Frontpanel (to control the hole device)</li> <li>• <i>IR remote control + 3,5 mm jack plug optional</i></li> <li>• RS-232 control - 9pol. D-Sub connector (Front &amp; Back)</li> <li>• Ethernet 100 Mbit - IEEE 802.3</li> <li>• WebServer</li> </ul>
<p><b>Information</b></p>	<ul style="list-style-type: none"> <li>• Graphical Display 320x240 (control monitor incl. Stereo Volume Unit (VU) Meter and RF-Meter)</li> <li>• EPG including Event Information (depending on Provider)</li> <li>• DVB Subtitling / EBU Teletext (depending on Provider)</li> <li>• Device information: OSD incl. CA Information, Audio and Video Information, Receiver Status, Service Information.</li> </ul>
<p><b>Output options</b></p>	<ul style="list-style-type: none"> <li>• <b>Video</b> 3G-SDI - 1x BNC 75 Ω / <i>second 3G-SDI optional</i> Audio L/R and AC3 embedded <i>HDMI - 480i/p, 576i/p, 720i/p, 1080i/p, 2160 i/p optional / HDMI-HDR / HDMI-CEC optional</i> <i>Videoformat: 4:2:0, 4:2:2 / HDR 10 Bit optional</i> Decoding: MPEG-1/-2/-4, H.264 MVC up to 1080P@60fps MPEG-2 MP&amp;HL,MP&amp;ML,MP&amp;LL,SP&amp;ML,AVC HP&amp;L4.1,VC-1 AP&amp;L3,MP&amp;HL <i>H.264 AVC, H.265 HEVC up to 4Kx2K@60fps optional</i> Image format: 4:3, 16:9</li> <li>• <b>Audio</b> Audio Analog Stereo balanced - 2 x XLR 3pol. 75 Ω Digital Output AES - 1x BNC 75 Ω unbalanced <i>AES - 1x XLR balanced optional</i> Decoding: MPEG-1/-2 Layer I and II, WMA bit-Streams, RM, FLAC, Mpeg-1 layer 3 (MP3) Selectable language option (depending on Provider) <i>AC3 7.1 / 5.1, AC3(plus)-decoder (Dolby-decoder) Down-Mix optional</i></li> <li>• <b>Streaming</b> <i>Ethernet 1 Gbit - IEEE 802.31 for SPTS (Single Program Transport Stream) or MPTS (Multi Program Transport Stream) optional</i></li> <li>• <b>Recording</b> <i>Bis zu 2 eSATA Schnittstellen optional</i></li> <li>• <b>Spannungsversorgung</b> Netzteil 110 - 240 V AC <i>Redundantes Netzteil optional</i></li> <li>• <b>Technical Connection/Function</b> USB 2.0 for Update on front panel RS-232 for Support on front panel Service button (Front and Back)</li> </ul>
<p><b>Physical</b></p>	<ul style="list-style-type: none"> <li>• Dimensions: 19" 1HE (485 /440 x 275 x 44 mm)</li> <li>• Weight: 3,6 Kg</li> <li>• Voltage: 110 - 240 V AC</li> <li>• Power: 25 W max</li> <li>• EMC: EN 50083-2</li> <li>• Secure: EN 60950-1</li> <li>• Environment: ETSI EN 300019-1-3 Class 3.1</li> </ul> <p style="text-align: right;">ver.01</p>