

IRD-2900

Dual MPEG over IP input • MPEG over IP output • Easy-to-use graphical front panel • DVB-S2 • SNMP and web-based management

• Up to 4 L-Band QPSK inputs • DVB common interface (2 slots)

• Embedded BISS Mode-1 and BISS-E (DSNG-CA) • Variety of front-end options for Satellite, Cable, Telco and Enterprise • Professional OSD application • IP data out (MPE) • Russian SECAM • Dolby Digital



IRD-2900 Series Professional MPEG-2 DVB and ATSC Integrated Receiver Decoder

General

Scopus' IRD-2900 professional MPEG-2 DVB processing platform is designed to meet even most demanding applications requirements while maximizing ease of use and flexibility. With a graphical front-panel display, the IRD-2900 series includes up to four QPSK L-Band inputs, a variety of Telco and Cable front-end options, dual MPEG over IP input, MPEG over IP output and ASI transport-stream input and output supporting high bit rates of over 150 Mbps. The IRD-2900 series concurrently decodes up to two video programs and up to four audio channels from the transport stream. The IRD-2900 Professional IRD series also include GenLock, two GPI relay contacts and a 10/100 Base-T Ethernet port for IP data out (MPE) as well as SNMP and Web based management support.

IRD-2900 series product lines:

- IRD-296x: Professional single 4:2:0 decoder IRD
- IRD-298x: Professional 4:2:2/4:2:0 decoder IRD
- IRD-299x: Professional Dual 4:2:0 decoder IRD

Applications

- Digital Turnaround
- CATV IP Headend Receiver/decoder
- CATV IP Edge Decoder
- Satellite distribution
- Telecom distribution
- DSNG
- Transport stream monitoring

Main Features and Options

- Variety of front-end options including DVB-S2 and MPEG over IP (MPEGoIP)
- Dual MPEGoIP inputs supporting SPTS and MPTS including link redundancy and logical redundancy
- MPEGoIP output with PID dropping and PCR re-stamping
- IP data output (MPE decapsulation)
- Up to 4 QPSK L-Band inputs
- ASI Transport Stream input and output
- DVB Common Interface (2 Slots)
- SDI and AES/EBU as well as analog outputs
- Up to four pairs of audio outputs supporting:
 - Musicam
 - Dolby Digital® AC-3 Pass-through
 - Dolby Digital® AC-3 2.0 Downmixing
 - Linear PCM Audio and Dolby-E Pass-through
- Embedded Audio in SDI
- VBI Re-Insertion in Composite and SDI
- Genlock for high-end accurate frame and color synchronization
- Redundancy support, 2 GPI relay contacts
- SNMP and Web based Management



FEATURES AND OPTIONS

Transport Stream Interface Options

MPEGoIP Input

- TS bit rate: Up to 60 Mbps
- SPTS / MPTS
- UDP, RTP (optional)
- Multicast/unicast
- IGMPv2, (IGMPv3 ready)
- Network De-jittering
- Pro-MPEG De-jittering
- Link redundancy (optional)
- Logical (source) redundancy (optional)
- Pro-MPEG FEC (optional)
- Interface: Dual 10/100 Base-T, RJ-45

MPEGoIP output

- SPTS / MPTS
- TS bit rate: Up to 60 Mbps
- UDP, RTP (optional)
- Multicast/unicast
- PID Dropping with PCR Re-stamping (optional)
- Pro-MPEG FEC (optional)
- Interface: 10/100 Base-T, RJ-45

ITU-T G.703 Ready

DVB-S2 ETSI EN 302 307

- Applications: Broadcast Services and DSNG
- Mode: Constant Coding and Modulation (CCM)

- Constellations: QPSK, 8PSK
- FEC frames: Normal (64800 bits), Short (16200 bits)
- Roll-Off: 0.35, 0.25, 0.20
- Frequency range: 950 MHz - 2150 MHz
- Symbol Rate Range: 64Ksym/s - 45Msym/s
- TS bit rate Range: 128Kbps - 107Mbps
- Two L-Band RF 75 ohm inputs with LNB control

DVB-S

- Constellation: QPSK
- Frequency Range: 950-2150 MHz (L-Band)
- Symbol Rate Range: 1-45M Sym/s
- L-Band RF input with LNB control and Loop-through output

DVB-DSNG

- Constellations: QPSK, 8PSK and 16QAM
- Frequency Range: 950-2150 MHz
- Symbol Rate Range: 1-45 Msym/s
- Two L-Band RF 75 ohm inputs with LNB control

DVB-ASI Input

- Interface: Copper BNC connector
- TS bit rate: Up to 150 Mbps

DVB-ASI Output

- Dual interface : Copper BNC connector
- ASI Options: Input stream with selected program decrypted, Input stream and Loop-through

Decoder Outputs

Video

- Number of decoders in 1RU: Up to 2 decoders
- Analog video interfaces:
 - Up to three composite
 - Single S-video
- Digital Video Interfaces:
 - SDI with embedded VBI and up to 4 stereo channels
 - Additional SDI with embedded VBI and up to 2 stereo channels
- Video Formats:
 - PAL-B/G/I/M/N/D, NTSC, SECAM L/B/G/K1
 - Russian SECAM D/K (composite video only)
- Decoding:
 - 4:2:0 MP@ML (1.5-15 Mbps)
 - 4:2:2 PP@ML (1.5-50 Mbps)
- Video resolution interpolation: Pan-Scan, Letter box or Pass-through
- Aspect ratio: 4:3/16:9 and 14:9
- Graphic processing: OSD, DVB Subtitling, EBU (Teletext) Subtitling (optional)
- GenLock input and loop-through output

Front Panel Monitoring

- Video monitor output connector
- Audio monitor output connector

VBI Re-insertion

- In composite video and embedded in SDI
- WST Teletext and inverted Teletext
- WSS, VPS, VITC, CC, AMOL I, AMOL II (optional), V-CHIP
- Enhanced VITS with built-in generator

Audio

- Up to 4 Analog Audio Stereo pairs Balanced interfaces
- Up to 4 Digital Audio AES/EBU-SPDIF interfaces
- Up to 4 stereo channels embedded in SDI
- Modes: stereo, joint stereo, dual channel, single channel
- Max output level: +18 dBu analog, 0 dBFS digital
- Gain control: -64 dB to 0 dB / mute
- Dolby Digital (AC-3) Pass-through
- Dolby Digital (AC-3) LT/RT Downmixing (optional)
- Linear PCM (SMPTE 302M 2000), Dolby-E Pass-through (optional)

Data

- Low speed data: RS-232 up to 115.2 Kbps
- High speed data: RS-422 Up to 20 Mbps (optional)
- IP data out : Up to 60Mbps, MPE decapsulation (optional)

Conditional Access

Embedded DVB-Descrambling

- Embedded DVB-Descrambling
- BISS Mode-1
- BISS-E
- CAS-5000

DVB-CI

- Interface: Two CI slots EN-50221
- CA method: Multicrypt, Simulcrypt
- CAS: Viaccess®, Irdeto®, Conax®, MediaGuard®, Nagravision®, Cryptoworks®, VideoGuard®, OnDigital®, CODICrypt®

Control and Monitoring

Local

- Graphical easy-to-use panel
- Up to 100 stored setups
- Advanced satellite scanning
- GPI dry contacts for various status and faults

Enhanced DVB Monitoring

- Front panel display: signal quality, Eb/N0, BER, ASI format, network and service information, CA information, CI slots, video and audio decoded information

Remote

- SNMP Management
- Web based management
- Interface: 10/100 Base T, RJ-45
- Software download
- Terminal via RS-232 or RS-485

Over the Air

- Control
- Software download

Compliance

EMC

- EN55013 (CISPR 13)
- EN55020 (CISPR 20)
- EN55022 (CISPR 22)
- EN55024 (CISPR 24)
- FCC part 15 (class A)
- CB

Safety

- EN60950
- CB (IEC60950)
- cTUVus
- UL60950

Environmental

Operation

- Temperature: 0°C - 50°C
- Humidity: 5% - 90% (non-condensing)

Storage and Transportation

- Temperature: -40°C - 70°C
- Humidity: 0% - 95% (non-condensing)

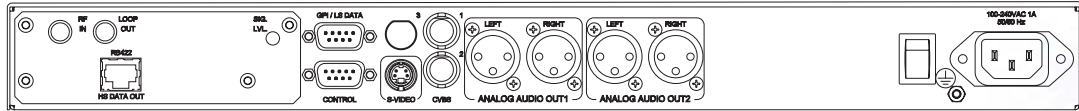
Conditions Physical/Power

- 1RU unit, 19" rack mountable
- Dimensions (HxWxD):
 - 1RU x 19" x 14"
 - 44mm x 482.6mm x 357mm
- Weight: 3.5Kg / 7.7lbs

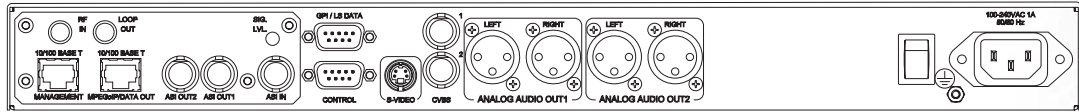
- Voltage:
 - 100V-240V AC, 50/60Hz
 - 48V DC (Optional)
- Power Consumption: Up to 50 W max

PROFESSIONAL 4:2:0 IRD

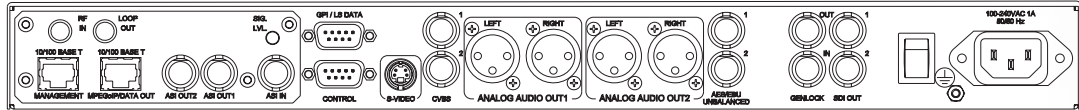
IRD-2960



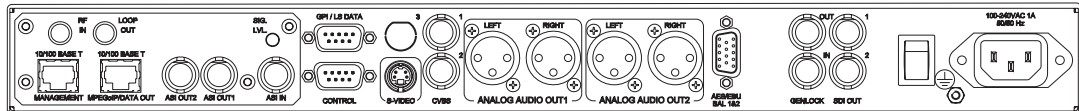
IRD-2961



IRD-2962

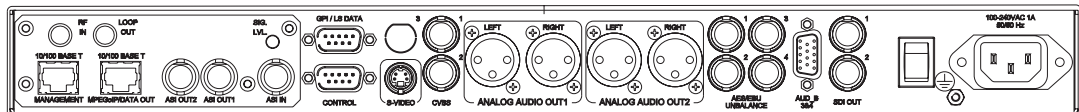


IRD-2963

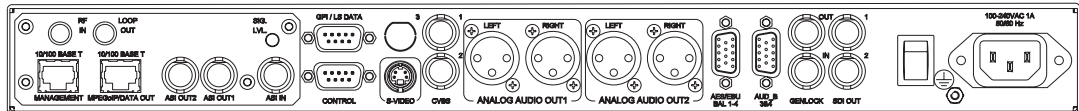


PROFESSIONAL 4:2:2 IRD

IRD-2980

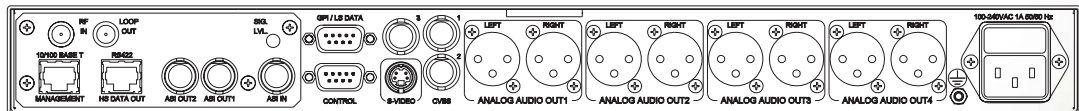


IRD-2981

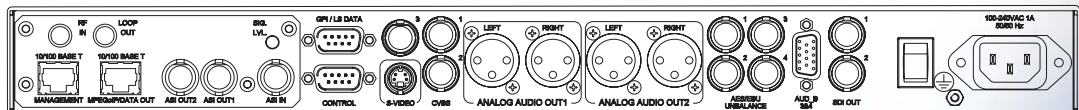


PROFESSIONAL 4:2:0 DUAL DECODER

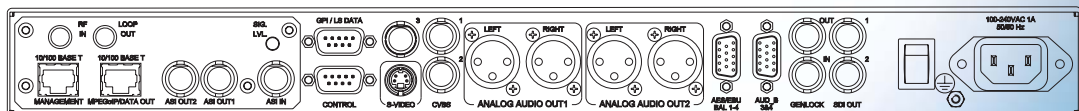
IRD-2990



IRD-2991



IRD-2992



ORDERING INFORMATION

IRD-2900

How to order the IRD model

1. Select IRD-2900 TS interface card:

- DVB - DSNG IN - None
- MPEG over IP IN - DVB-D IN
- G - 703 (ready) IN - DVB-S2 (ready) IN

2. Select IRD-2900 model and software options

		Single 4:2:0 Decoder				Single 4:2:2 Decoder		Dual 4:2:0 Decoder		
		IRD 2960	IRD 2961	IRD 2962	IRD 2963	IRD 2980	IRD 2981	IRD 2990	IRD 2991	IRD 2992
Integrated TS Interfaces	DVB-ASI Input*	-	L	L	L	L	L	L	L	L
	DVB-ASI outputs*	-	L	L	L	L	L	L	L	L
	MPEGoIP output*	-	L	L	L	L	L	-	L	L
Video Decoding Outputs and Options	Number of decoders	1	1	1	1	1	1	2	2	2
	Number of Composite video Interfaces	2	2	2	2	2	2	3	3	3
	Front Panel Monitoring Connectors	-	-	Y	Y	Y	Y	-	-	-
	Number of SDI Interfaces	-	-	2	2	2	2	-	2	2
	SDI with embedded VBI and up to 4 stereo channels	-	-	Y	Y	Y	Y	-	Y	Y
	Second SDI with embedded VBI and up to 4 stereo ch.1	-	-	-	-	-	-	-	Y	Y
	Russian SECAM D/K (composite video only)*	L	L	L	L	-	-	L	L	L
	Decoding: 4:2:2 PP@ML (1.5 - 50 Mbps)	-	-	-	-	Y	Y	-	-	-
GenLock input and loop-through output*	-	-	L	L	-	L	-	-	L	
Audio Decoding Outputs and Options	Number of Analog Audio Balanced interfaces	2	2	2	2	4	4	4	4	4
	Active first analog stereo	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Active second analog stereo*	L	L	Y	Y	Y	Y	Y	Y	Y
	Active third analog stereo*	-	-	-	-	L	L	Y	Y	Y
	Active fourth analog stereo*	-	-	-	-	L	L	Y	Y	Y
	Number of AES/EBU-SPDIF Audio Unbalanced Interfaces	-	-	2	-	4	-	-	4	-
	Active first and second AES/EBU-SPDIF	-	-	Y	-	Y	-	-	Y	-
	Active third AES/EBU-SPDIF*	-	-	-	-	L	-	-	Y	-
	Active fourth AES/EBU-SPDIF*	-	-	-	-	L	-	-	Y	-
	Number of AES/EBU-SPDIF Audio Balanced Interfaces	-	-	-	2	-	4	-	-	4
	Active first and second AES/EBU-SPDIF	-	-	-	Y	-	Y	-	-	Y
	Active third AES/EBU-SPDIF*	-	-	-	-	-	L	-	-	Y
	Active fourth AES/EBU-SPDIF*	-	-	-	-	-	L	-	-	Y
	Number of stereo channels embedded in SDI	-	-	2	2	4	4	-	2	2
	Dolby Digital (AC-3) Pass-through	-	-	Y	Y	Y	Y	-	Y	Y
Dolby Digital (AC-3) LT/RT Downmixing*	L	L	L	L	L	L	L	L	L	
Linear PCM (SMPTE 302M), Dolby-E Pass-through*	-	-	L	L	L	L	-	L	L	
Data	RS-422 High speed data*	L	-	-	-	-	-	L	-	-
Output	IP data (MPE decapsulation)*	-	L	L	L	L	-	-	L	L
Control & Monitoring	SNMP control	-	Y	Y	Y	Y	Y	Y	Y	Y
	Web based management	-	Y	Y	Y	Y	Y	Y	Y	Y

L – License permission Y – Included in basic configuration * May require license permission for activation



Scopus Video Networks LTD.
Tel: +972 3 9007777
Fax: +972 3 9007888
www.scopus.net
info@scopus.net

Americas
Tel: +1 609 9878090
Fax: +1 609 987 8095
www.scopusamericas.com
info@scopusamericas.com

Argentina
Tel: +54 11 5235 4565
www.scopusamericas.com
info@scopusamericas.com

China
Tel: +86 10 65880035/6/7
Fax: +86 10 65880039
www.scopus.cn
info@scopus.cn

Brazil
Tel: +55 12 3923 9208
www.scopusbrasil.com.br
scopusbrasil@scopusbrasil.com.br

Germany
Tel: +49 69 9500 2255
Fax: +49 69 9500 2266
www.scopus-europe.de
info@scopus-europe.de

India
Tel: +91 22 5593 9291
Fax: +91 22 5593 9299
info@scopus.net

Japan
Tel: +81 3 5778 7073
Fax: +81 3 5717 6092
info@scopus.net

Mexico
Tel: +52 55 1952 1396
Fax: +52 55 5868 5329
info@scopus.net

Russia
Tel: +7 095 789 3580
Fax: +7 095 789 3579
www.scopus.ru
info@scopus.ru

UK
Tel: +44 208 610 6038
Fax: +44 208 610 6818
info@scopus.net