RD-71

Contribution Class

Super-Low Latency 10-bit 1080P Receiver/Decoder

Applications

- **Sports Contribution**
- **3D & UHD(4K) Contribution**
- **Fiber & IP Transport**
- **Teleport Infrastructure**
- **RF to IP Turn-Around with Service Filtering**
- **DSNG**

Adtec Digital's RD-71 is a contribution class IRD supporting MPEG 2 and AVC (H.264), multi-chroma 4:2:0/4:2:2 and 10-bit. With support for super-low latency decoding, an array of IP transport capabilities and DVB-S2X demodulation, the RD-71 is versatile and reliable.

The RD-71 supports MPEG 1 Layer 2, AAC-LC, Dolby Digital, Dolby E and Linear PCM audio. The optional demodulator supports DVB-S, S2, and S2X with modes ranging from QPSK to 64APSK and multi-stream ISI support. Service filtering allows the RD-71 to operate in bandwidth constrained turn-around and redistribution applications.

Online Demo: RD71.adtecdemo.tv
un:adtec pw:webdemo

ADTEC™ Digital

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RD-71 Features & Benefits

- AVC (H.264), 4:2:2, 10-bit, 1080P Video Decoding
- MPEG 2, 4:2:2 Video Decoding
- Copper, Fiber SFP, and CVBS Video Outputs
- 1, 2, and 3 Frame End-to-End Latency
- MPEG 1 Layer 2, AAC-LC, and DD Audio Decoding
- Passthrough DD, Dolby E and LPCM
- DVB-S/S2/S2X, UDP, RTP, Zixi and ASI Transport
- Simultaneously Output SD/HD with Downscaling
- Service Filtering and IP Output for Turn-Around and Redistribution Applications

Featured Technologies

DVB-S2X
Zixi Link
Dolby Digital

Companion Products

EN-210: Multi-Codec, 10-bit Encoder
EN-200: AVC, 1080P, Super-Low Latency Encoder
DTA-3050: Multiport Multiplexer

Industry standard compliance and industry-wide interoperability make the RD-71 ideal for mission critical trunking, ad-hoc OB, DSNG and teleport applications.

www.adtecdigital.com/techspecs/RD-71.pdf

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VIDEO DECODER PROFILES

MPEG 2 HD/SD Profile:
ISO 13818-2 MP@ML, SP@ML, 422P@ML, MP@H14L, MP@HL, SP@H14L, SP@HL and 422P@HL

MPEG 4 HD/SD Profile:
Baseline, Main, High and High422 (8-bit and 10-bit) up to Level 4.2

Supported Resolutions:
480i59.94, 576i50, 720p50/59.94, 1080i50/59.94, 1080p50/59.94

INPUTS

Sync Input:
Auto-detects Bi-Level and Tri-level sync for Genlock, 3D and 4K applications
Connector: 1 X BNC (75 Ohm)

DVB-ASI Input:
Interface: ASI 188/204/208 Byte (EN 50083-9 up to 210 Mb/s)
Connector: 1 X BNC (75 Ohm)

IP Input:
UDP, RTP and SMPTE 2022-1 2007 FEC
Supports 1 to 7 TS packets per IP packet
IGMP v2 and v3 support
Zixi Receiver and Link
TS Rate: Up to 210 Mb/s
Connector: 2 X RJ45
Connector Speed: GigE (10/100/1000 Auto-Negotiate)

AUDIO PROCESSING PROFILES

Supported Audio:
Up to eight pairs (sixteen channels) of audio
MPEG 1 Layer 2, AAC-LC (2.0/5.1) and AAC-6.0 surround sound decode
Dolby Digital AC-3 stereo downmix and passthrough
Dolby E and Linear PCM passthrough

.: ALL OUTPUTS OPERATE CONCURRENTLY :.

3G-SDI / HD-SDI / SD-SDI

Standard:
SMPTE 424M - 3G
SMPTE 292M - HD
SMPTE 259M - SD

Two banks of SDI with independent downscale capable of simultaneous SD/HD output
Connector: 3 X BNC (75 Ohm), 1 X SFP

CVBS

Standard:
SD NTSC, PAL-B/G, Composite Video Output
Connector: 1 X BNC (75 Ohm)

AES Audio

Standard:
AES3/EBU Unbalanced
Connector: 8 X BNC (75 Ohm)

Analog Audio

Two balanced pairs via two DB9 connectors (One pair per DB9)
Connector: 2 X DB9 (600 Ohm)

VBI / VANC PROCESSING

Waveform / Ancillary:
Closed Captioning (CEA-608/708)
AFD (SMPTE 2016)
OP-47
Generic ANC (SMPTE 2038)
Line 21 Captions (CEA-608)
Teletext

CONDITIONAL ACCESS

Standard:
DVB Common Scrambling Algorithm Basic Interoperable Scrambling System (BISS)
- Mode 0 Clear (Free To Air - FTA)
- Mode 1
- Mode E

.: TRANSPORT OUTPUTS :.

DVB-ASI OUTPUT

Standard:
Asynchronous Serial Interface per EN 50083-9
Connector: 3 X BNC (75 Ohm)

IP OUTPUT

Standard:
UDP
RTP
SMPTE 2022 FEC
(Up to four IP destinations may be defined)
Connector: 2 X RJ45

SERVICE FILTERING

Up to five services per output can be defined to the ASI and IP Outputs

PHYSICAL

Operating Temperature (Ambient):
0C to 50C / 32F to 122F

Storage Temperature (Ambient):
-30C to 80C / -22F to 176F

Power:
Redundant auto switching dual
100 - 240 VAC 50/60Hz

Wattage:
(Startup/Operational)
No Demodulator 35W/36W
LB 35W/37W
PRX 46W/46W

Weight:
9 lbs. / 4.08kg, base version

Measurements:
(H X W X D)
1.75" X 19" X 18"
44.45mm X 482.6mm X 457.2mm

MANAGEMENT

Front Panel Control with Password Protection Capability
Browser-based Web Interface with Advanced Security Features
SNMP v2c Available for NMS Integration
COM2 RS232 Serial Connectivity
Telnet Connectivity
FTP Connectivity

RD-71

Hardware Packages

All hardware packages include SD, HD MPEG 2 (4:2:0 and 4:2:2), MPEG 4 (4:2:0 and 4:2:2), 10-bit/1080P decoding, BISS, FEC, four pairs of MP1L2 audio, Dolby E Passthrough, Genlock and VBI processing.

RD71-PK2	ASI and IP Decoder
RD71-LB-PK2	ASI and IP Decoder with DVB-S/S2 Demodulator with 8PSK capability up to 30Mbaud
RD71-PRX-PK2	ASI and IP Decoder with DVB-S/S2/S2X Demodulator with 8PSK capability up to 30Mbaud

Software Options

All keys are field upgradable.

AUD-EXT	Enables the upper four stereo pairs (eight channels) of MP1L2.
DOLBY-DEC	Enables Dolby Digital audio decode. Supports four stereo pairs. Dolby 5.1 can be down-mixed to a stereo pair.
AAC-AUD-DEC	Enables AAC audio decode.
AAC-6.0-AUD	Enables AAC 6.0 audio decode.
SVC-FLTR	Enables service filtering demultiplexer. MPTS to SPTS or MPTS to program reduced MPTS via ASI and optional RF inputs.
IP-OUT	Enables four IP destinations that support UDP, RTP and SMPTE 2022 FEC. IP output data mirrors transport input selection.
ZIXI-RX	Enables Zixi Receiver edge point. Zixi Receiver can receive a stream from Zixi Broadcaster.
ZIXI-LINK	Enables Zixi Link when paired with the Adtec EN-200 or EN-31 encoder.

BOTH LB & PRX OPTIONS:

LNB Power and Control:

0, 13, and 18 VDC @ 500mA 22kHz
(band selection according to universal LNB for ASTRA satellites)

Also includes support for:

Multistream
Physical Layer Scrambling (PLS)
Gold Code

DVB-S/S2 L-BAND DEMODULATOR (LB OPTION)

DVB-S EN 300 421 and DVB-S2 EN 302 307
Connector: 2 X F Type, Female
Dual RF inputs capable of simultaneous lock

Modulation Schemes: QPSK / 8PSK / 16APSK / 32APSK

Roll-off: 5%, 10%, 15%, 20%, 25%, 35%

DVB-S symbol rates: 1 - 62Msym/s

DVB-S2 symbol rates: 1 - 65Msym/s

Frequency Range: 950 - 2150MHz

Input level: -65dBm to -25dBm

LB Demodulator Software Options

LB-16APSK	Enables up to 16APSK demod capability.
LB-32APSK	Enables up to 32APSK demod capability.
LB-65M	Increases the maximum symbol rate from 30 to 65 Msym/s.

DVB-S/S2/S2X L-BAND DEMODULATOR (PRX OPTION)

DVB-S EN 300 421, DVB-S2 EN 302 307-1
DVB-S2X EN 302 307-2
(A83-2 excluding VL-SNR)
Connector: 4 X F Type, Female
Quad RF inputs

Modulation Schemes: QPSK / 8PSK / 16APSK / 32APSK / 64APSK

Roll-off: 5%, 10%, 15%, 20%, 25%, 35%

DVB-S symbol rates: 1 - 45Msym/s

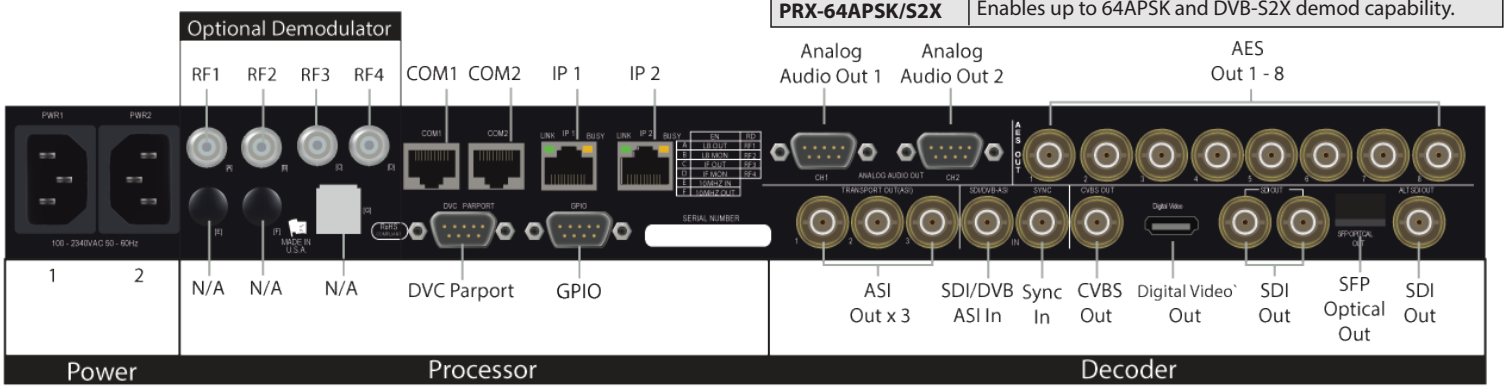
DVB-S2X symbol rates: 1 - 60Msym/s

Frequency Range: 950 - 2150MHz

Input level: up to -25dBm

PRX Demodulator Software Options

PRX-16APSK	Enables up to 16APSK demod capability.
PRX-32APSK	Enables up to 32APSK demod capability.
PRX-54M	Increases the maximum symbol rate from 36 to 54 Msym/s.
PRX-60M	Increases the maximum symbol rate from 36 to 60 Msym/s.
PRX-S2X	Enables DVB-S2X for 8PSK, 16APSK or 32APSK mod cods.
PRX-64APSK/S2X	Enables up to 64APSK and DVB-S2X demod capability.



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