

# RD-30

## Distribution Class Multi-Codec Receiver / Decoder

### Applications

- Fiber & IP Transport
- Teleport Infrastructure
- Satellite to IP Turn-Around & Redistribution
- Distribution & Confidence Monitoring
- Satellite, Terrestrial & IP Distribution



**Adtec Digital's lightweight RD-30 offers impressive features and specifications in its small 1-RU chassis.**

Highlights include: eight channels of audio decoding, robust VBI support, 32APSK demodulation, and ease of use. The clean browser-based UI, SNMP-ready protocol, and front panel interface provide multiple control options from single-user to corporate NMS integrated control.

In addition to MPEG 1 Layer 2, AAC-LC, HE-AAC (v1/v2), Dolby Digital and Dolby Digital+ decoding, the RD-30 supports passthrough audio for Linear PCM, Dolby E, Dolby Digital and Dolby Digital+ (2.0 and surround).

**Online Demo: [RD30.adtecdemo.tv:3131](http://RD30.adtecdemo.tv)  
un:adtec pw:webdemo**



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# RD-30 Features & Benefits



- AVC (H.264) and MPEG 2 4:2:0 Video Decoding
- Eight Channels of Audio Processing
- MPEG 1 Layer 2, AAC-LC, HE-AAC (v1/v2), Dolby (AC-3) and Dolby Digital+ (E-AC-3)
- Analog, AES and SDI Embedded Audio Outputs
- ASI and IP I/O (IP Supports SMPTE 2022 FEC)
- 32APSK Capable Demodulator with DVB-CI CAM Option
- SCTE 35 to SCTE 104 Conversion

## Featured Technologies

Dolby Digital

## Companion Products

**EN-31:** Dual Channel AVC / MPEG 2 Encoder

**DTA-3050:** Multiport Multiplexer

The RD-30's robust inputs and outputs, feature set, and reliability enable satellite, terrestrial, IP and fiber applications for broadcast, digital television, and distribution markets.



[www.adtecdigital.com/techspecs/RD-30.pdf](http://www.adtecdigital.com/techspecs/RD-30.pdf)



Compression Solutions Seen by Millions

# RD-30



## Distribution Class Multi-Codec Receiver / Decoder

### VIDEO DECODER PROFILES

#### MPEG 2 SD/HD Profile :

ISO 13818-2 MP@ML and MP@HL

#### MPEG 4 SD/HD Profile:

ISO/IEC 14496-10 MP@L3 HP@L4.2

#### Supported Resolutions:

480i59.94, 576i50, 720p50/59.94/60,  
1080i50/59.94/60,  
1080p23.97/24/25/29.97/30

### INPUTS

#### Sync Input:

Auto-detects Bi-Level and Tri-level sync for Genlock  
Connector: 1 X BNC (75 Ohm)

#### DVB-ASI Input:

ASI (EN 50083-9 250 kb/s to 200 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 v1, v2 and v3 support  
TS Rate: 250 kb/s to 150 Mb/s  
Receiver capability: 2 simultaneous MPEG over IP transport streams  
Connector: 2 X RJ45  
Connector speed: GigE (10/100/1000 Auto-Negotiate)

### AUDIO PROCESSING PROFILES

#### Supported Audio:

Up to four pairs (eight channels) of audio  
MPEG 1 Layer 2, AAC-LC, AAC-HE (v1/v2)  
Dolby Digital AC-3 / Dolby Digital+ E-AC-3 stereo, discrete 5.1 surround and passthrough  
Dolby E / Linear PCM passthrough

**ALL OUTPUTS OPERATE CONCURRENTLY IN SD.  
CVBS INACTIVE IN HD.**

### SD-SDI / HD-SDI

#### Standard:

Video & Audio SMPTE 259M - SD  
SMPTE 292M - HD  
Connector: 2 X BNC (75 Ohm)

### CVBS

#### Standard:

SD NTSC, PAL-M, PAL-B/G,  
PAL-N Composite Video Output  
NTSC Pedestal selection  
Black at 7.5 IRE or Black at 0 IRE  
Connector: 1 X BNC (75 Ohm)

### AES AUDIO

#### Standard:

AES3/EBU Unbalanced  
Connector: 4 X BNC (75 Ohm)

### ANALOG AUDIO

#### Standard:

Four balanced pairs via two DB15 connectors. (2 audio pairs per DB15)  
Connector: 2 X DB15

### VBI / VANC PROCESSING

#### SDI Ancillary Support:

Closed Captioning (CEA-708)  
AFD (SMPTE 2016)  
OP-47 (SMPTE RDD-08)  
SMPTE RDD-11  
SCTE 127 (SMPTE 2031)  
EN301775 (SMPTE 2031)  
Time Code (SMPTE 12M-2)  
SCTE 35 to SCTE 104 Conversion

#### CVBS/SDI VBI Waveform Support:

Line 21 captions (CEA-608)  
TVG2x  
AMOL-48/96 (SCTE 127)  
Teletext/WSS/VPS (EN 301775)

### 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

Asynchronous Serial Interface per EN 50083-9  
ASI Mirrored from DVB-ASI Input, IP Input, or RF Input with purchase of optional tuner package.  
Connector: 1 X BNC (75 Ohm)

### IP OUTPUT

UDP, RTP and SMPTE 2022-2 (COP3 FEC)  
Up to ten output destinations  
Connector: Shares input connectors

### SERVICE FILTERING

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

### PHYSICAL

#### Operating Temperature (Ambient):

-40C to +65C/-40F to +149F

#### Power Supply (nominal):

100 - 240 VAC

#### Wattage:

40W (120V @280mA)

#### Weight:

RD30 - 6lbs. / 2.72kgs.  
RD30-LB - 7lbs. / 3.18kgs.

#### Measurements:

(H X W X D)  
1.72" X 17.2" X 14.6"  
43.68mm X 436.88mm X 370.84mm

### MANAGEMENT:

Front Panel Controls  
Browser-based Web Interface  
SNMP  
DB9 Relay for monitoring

# RD-30

## Hardware Models

All models include 1RU chassis, front panel, MP1L2, AAC-LC, HE-AAC v1, HE-AAC v2, Dolby Digital, Dolby Digital+, Dolby E audio decoding, Genlock and VBI Processing as standard features.

<b>RD30</b>	Multi-Codec Receiver / Decoder
<b>RD30-LB</b>	Multi-Codec Receiver / Decoder with DVB-S/S2 Demodulator

## Software Options

All keys are field upgradable.

<b>AUD-EXP</b>	Enables two additional audio PID decode. MP1, AAC, AC3.
<b>BISS</b>	Enables BISS descrambling.
<b>IP-OUT</b>	Enables MPEG/IP FEC output.
<b>SCTE104</b>	Enables SCTE 35 -> 104 Conversion, SCTE 35-> GPO and SCTE 35 generation.
<b>SURROUND</b>	Enables discrete channel audio output for surround decoding of AAC/AC3/AC3+.
<b>SVC-FLTR</b>	Enables PID/Service Filtering. Demultiplexer MPTS to SPTS or MPTS to Program reduced MPTS.
<b>ESAM-POIS</b>	Enables Cablelabs ESAM POIS Interface.

## DVB-S/S2 HARDWARE OPTION

(RD30-01-LB) - The LB option is a hardware option.

### DVB-CI Descrambling

(DVB-CI EN 50221)  
Descrambles decoded service only without purchase of RD30-CAM-KEY.  
RD30-CAM-KEY provides up to maximum amount of decryptable services supported by CAM module.

Maximum DVB-CI TS bitrate: 100 Mb/s  
All major CA vendors supported

Interface: 2 X DVB-CI CAM slots

### DVB-S/S2 L-Band Tuner

(DVB-S EN 300 421 and DVB-S2 EN 302 307)  
Four switched L-Band inputs available for decode  
Connector: 4 X F Type, Female

### Modulation Schemes:

QPSK / 8PSK / 16APSK / 32APSK

### Supported Roll-off:

5%, 10%, 15%, 20%, 25%, 35%

### Symbol Rate Range:

1 - 60Msym/s

### Frequency Range:

950 - 2150MHz

### Input Level:

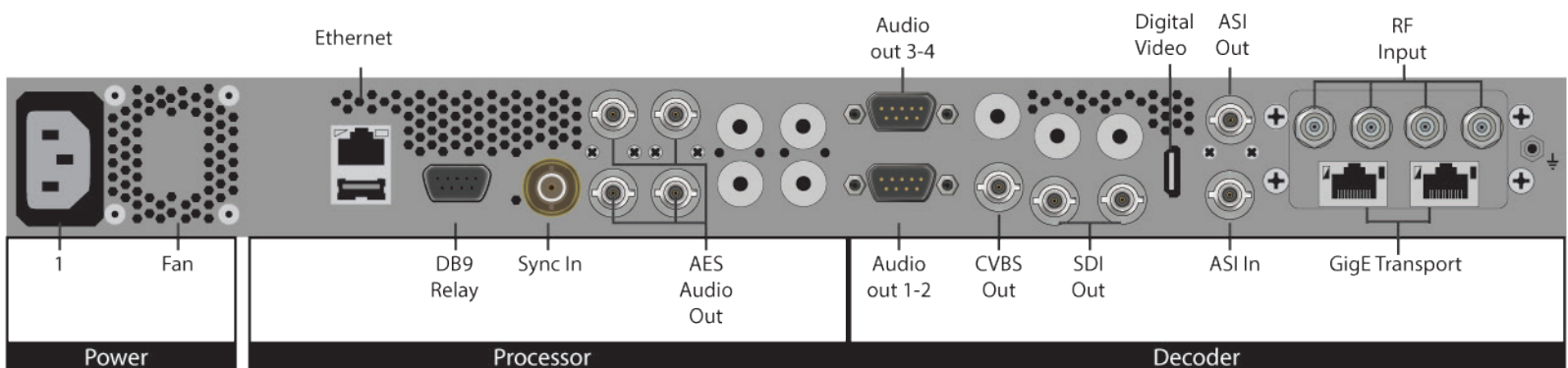
-65dBm to -25dBm

### LNB Power and Control:

0, 13, 14, 18 and 19 VDC @ 450mA  
22kHz (band selection according to universal LNB for ASTRA satellites)  
VCM Demodulation Support  
Multistream Support (Single ISI)

## Demodulator Software Options

<b>16/32APSK</b>	DVB-S2 advanced feature license (Enables Multistream, VCM, 16/32APSK Modes).
<b>CAM</b>	Enables DVB-CI Multi-service.



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