



# ERICSSON RX8200

## Advanced Modular Receiver

Broadcasters' requirements for differing equipment configurations and the many and varied ways in which receivers are used is driving the need for a flexible receiver platform. The Ericsson RX8200 Advanced Modular Receiver has been designed to precisely meet these requirements.

By allowing each individual RX8200 to be configured and tailored to the user's precise needs the perfect balance of functionality and cost can be achieved, resulting in a unit having only the required features without the additional expense of superfluous connectivity or functionality.

The RX8200 offers a vast and sophisticated array of configuration possibilities allowing it to cover a broad range of applications. The RX8200 can be tailored to standard definition or high definition uses with MPEG-2 or MPEG-4 decode technology in both 4:2:0 and 4:2:2 modes while connectivity into the receiver is achieved with DVB-S2 satellite, IP and ASI options.

The high powered processing capabilities of the RX8200 enable the unit to be simply and easily upgraded in the field with additional software options to increment the functionality at any point after initial installation.

## PRODUCT OVERVIEW

### A New Receiver With an Unrivalled Pedigree

The RX8200 Advanced Modular Receiver is Ericsson's fourth-generation receiver that builds on the success and knowledge of previous generations of products to ensure an unrivalled level of quality and reliability.

### Increased Distribution Capacity and Efficiency

The RX8200 Advanced Modular Receiver, in combination with Ericsson's MPEG-4 AVC Encoders and DVB-S2 PREKOR™ Satellite Modulators achieves a level of bandwidth efficiency that is unrivalled allowing more HD services per transponder compared with any competing solution.

### Wide Choice of Inputs and Outputs for Enhanced Connectivity

The RX8200 can be integrated into a variety of system architectures, including ASI, IP and satellite delivery systems through a choice of input and output modules. The receiver offers a multitude of IP, audio and video outputs for high quality delivery to all major onward networks.

### Simplified Control and Lower Cost of Operations

Organizations with large populations of RX8200 Advanced Modular Receivers or other Ericsson receivers can simplify control by integrating with the Director by Ericsson control system. Director provides remote, over-air, single-view control from a central location, reducing the need for on-site local operators.

## BASE UNIT FEATURES

### RX8200 – Advanced Modular Receiver (RX8200/BAS)

The following features are available as standard:

- 1x ASI input transport stream input
- Front panel control
- Web browser and SNMP remote control
- Alarm relay and SCTE 35 controlled contact closures for ad-insertion signaling
- Many sophisticated, additional hardware and software based modules available as options

### RX8200 – Advanced Modular Receiver (RX8200/BAS/2)

Functionality as above with the addition of:

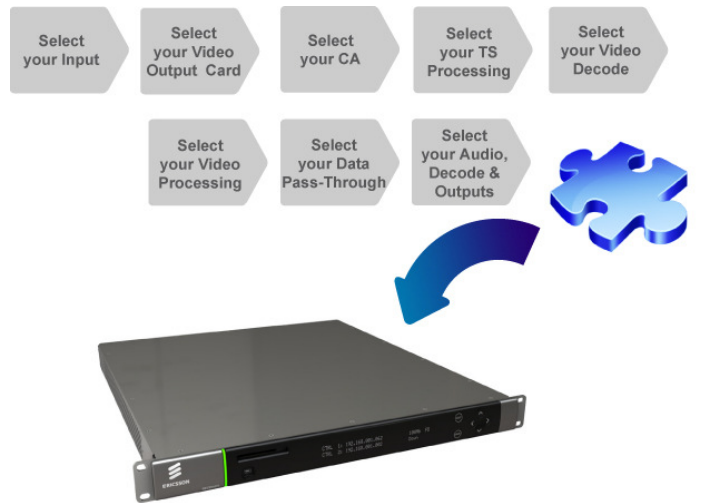
- Base unit includes MPEG-2 and MPEG-4 4:2:2 decoder card (functionality enabled via additional license keys)

## ERICSSON RX8200 ADVANCED MODULAR RECEIVER

### CONFIGURATION PHILOSOPHY

The RX8200 Advanced Modular Receiver offers ultimate configurability at the point of order allowing the unit to be tailored to your precise needs incorporating just the functionality you require thus allowing an individual and optimal balance of price against functionality.

To configure your individual receiver follow this simple configuration philosophy to allow easy selection of all the features that you require.



### INPUT OPTIONS

The RX8200 Advanced Modular Receiver has a single ASI input as standard and can in addition be configured with one additional choice of inputs type.

#### Satellite Input options

The RX8200 satellite input modules come with DVB-S QPSK support as standard. The unit can optionally be licensed to support the new highly efficient DVB-S2 satellite transmission standard.

#### DVB-S2 Capable Satellite Demodulator (RX8200/HWO/DVBS2)

- 4x L-band inputs
- DVB-S QPSK demodulation
- DVB-S2 QPSK, 8PSK demodulation with license keys

#### Second Generation DVB-S2 Capable Satellite Demodulator (RX8200/HWO/DVBS2/2)\*

- 4x L-band inputs
- DVB-S QPSK demodulation
- DVB-S2 QPSK, 8PSK, 16APSK demodulation with license keys
- DVB-S2 Variable Coding and Modulation (VCM) multi-transport stream capability with license key

#### DVB-S2 QPSK License (RX82XX/SWO/DVBS2/QPSK)

- Adds DVB-S2 QPSK capability to DVB-S2 input option card

#### DVB-S2 8PSK License (RX82XX/SWO/DVBS2/8PSK)

- Adds DVB-S2 QPSK, 8PSK capability to DVB-S2 input option card

#### DVB-S2 16APSK License (RX82XX/SWO/DVBS2/16APSK)\*

- Adds DVB-S2 QPSK, 8PSK and 16APSK capability to DVB-S2 input option card
- Second generation DVB-S2 card (RX8200/HWO/DVBS2/2) only

#### DVB-S2 VCM License (RX82XX/SWO/DVBS2/VCM)\*

- Provides DVB-S2 Variable Coding and Modulation multi-transport stream capability
- Single transport stream output from receiver
- Second-generation DVB-S2 card (RX8200/HWO/DVBS2/2) only

#### DVB-S2 Low Symbol Rate License (RX82XX/SWO/DVBS2/LSYM)

- Enables DVB-S2 symbol rate of 1 Msym/s to 5 Msym/s

#### IP Transport Stream Input Options

The RX8200 may be configured with IP transport stream input connectivity via the following options.

#### 100/1000BaseT Input (RX8200/HWO/IP/GIGE)

- MPEG transport stream over IP
- 2x 100/1000BaseT input
- Very low latency

#### SMPTE 2022 Pro-MPEG FEC License (RX8200/SWO/IP/PROMPEG)

- Enables SMPTE 2022 Pro-MPEG FEC capability for the IP input card
- Requires IP input card

#### G.703 ATM Input Option

The RX8200 may be configured with G.703 ATM connectivity.

#### G703 ATM Input (RX8200/HWO/G703)

- E3 or DS-3 inputs
- 34 Mbps or 45 Mbps rates

#### Input Redundancy

The RX8200 Advanced Modular Receiver offers as standard automatic redundancy switching between ASI input and the additional input option. This redundancy switching capability may be further enhanced with the following option.

#### Null Packet Detection Redundancy Switching (RX82XX/SWO/NULL)

- Redundancy switching from primary to secondary input triggered by presence of null packets in the incoming stream
- User definable percent of null packets to trigger redundancy switch

\*Check availability

## VIDEO AND TRANSPORT STREAM OUTPUT OPTIONS

The RX8200 Advanced Modular Receiver offers the option of an SD only or HD and SD capable video output card. Both video output card options also provide ASI transport stream output connectivity. IP transport stream output capability may additionally be specified.

### SD Video and ASI Output (RX8200/HWO/SD)

- 2x composite video outputs
- 2x switchable ASI/SDI outputs

### HD and SD Video and ASI Output (RX8200/HWO/HD)

- 1x composite video output
- 1x RGB/YPrPb analog video output
- 3x switchable ASI/SDI/HD-SDI outputs

### 3 Gbps HD and SD Video and ASI Output (RX8200/HWO/HD/3G)

- 1x composite video output
- 1x RGB/YPrPb analog video output
- 3x switchable ASI/SDI/HD-SDI outputs
- 3 Gbps HD-SDI output compatible with MPEG-4 4:2:2 1080p50/60 capability

### IP Transport Stream Output (RX8200/HWO/IP/OUT)

- Encapsulation of transport stream output into IP multicast
- MPTS or single SPTS output stream
- 2x Gigabit Ethernet RJ-45 interfaces capability

## CONDITIONAL ACCESS OPTIONS

The RX8200 Advanced Modular Receiver supports many types of widely used conditional access systems to allow for secure transmission of content. By default the RX8200 is fitted with the capability to accept a Conditional Access Module. Alternatively the RX8200 may be ordered with the capability to directly accept NDS BSKyB CA smart cards.

### Director by Ericsson (RX8200/SWO/DIR)

- Director CA
- Director over-air control
- Director over-air software downloads

### Director by Ericsson Multi-service Decryption (RX8200/SWO/DIR5/MSD)

- Multi-service decryption for Director by Ericsson

### DVB Common Interface (RX8200/SWO/CI)

- Enables support for Conditional Access modules

### DVB Common Interface Multi-service Decryption (RX8200/SWO/MSD)

- Multi-service decryption DVB Common Interface

### BISS CA (RX8200/SWO/BISS)

- BISS Mode 1 and BISS Mode E descrambling

### BISS Multi-service CA (RX8200/SWO/BISS/MSD)

- Multi-service decryption for BISS
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### NDS BSKyB CA (RX8200/HWO/BSKYB)\*

- Single service decryption for BSKyB services
- Mutually exclusive with other CA types

### Ericsson RAS CA (RX8200/SWO/RAS)

- Ericsson RAS 1

### Ericsson Signal Protection CA (RX8200/SWO/SP)

- Ericsson Signal Protection CA

## STREAM PROCESSING OPTIONS

The RX8200 Advanced Modular Receiver offers as sophisticated choice of transport stream processing capability allowing the unit to operate as a cost effective network interface into a headend or transport stream turn-around system

### Single Service Filtering (RX8200/SWO/SING/SERVFILT)

- Filter multiple services to output a single service
- Re-map PIDs for the outgoing service

### Multi-Service Filtering (RX8200/SWO/MULT/SERVFILT)

- Filter N multiple incoming services to M outgoing services
- Re-map PIDs for a single service
- CBR MPTS transport stream output
- Service splitting for multiple IP SPTS output

## VIDEO DECODING OPTIONS

The RX8200 Advanced Modular Receiver provides capability to decode every video compression standard in use today including support for the highest quality MPEG-4 AVC 4:2:2 standard.

In order to offer ultimate cost effectiveness and flexibility 4:2:2 and 4:2:0 video standards are ordered separately.

### 4:2:0 Decode Options

#### MPEG-2 SD 4:2:0 Decoding (RX8200/SWO/MPEG2/SD)

- Enables MPEG-2 SD 4:2:0 decoding

#### MPEG-2 HD 4:2:0 Decoding (RX8200/SWO/MPEG2/HD)

- Enables MPEG-2 SD and HD 4:2:0 decoding

#### MPEG-4 AVC SD 4:2:0 Decoding (RX8200/SWO/MP2/MP4/SD)

- Enables MPEG-2 and MPEG-4 AVC SD 4:2:0 video decoding

#### MPEG-4 AVC HD 4:2:0 Decoding (RX8200/SWO/MP2/MP4/SD/HD)

- Enables MPEG-2 SD and HD, MPEG-4 AVC SD and HD 4:2:0 decoding

\*Check availability

## 4:2:2 Decode Options

### MPEG-2 4:2:2 Decoding Hardware (RX8200/HWO/MP2/422)

- Dormant hardware for MPEG-2 4:2:2 decoding
- Enable MPEG-2 4:2:2 decoding with additional options

### MPEG-2 SD 4:2:2 Decoding (RX8200/SWO/MP2/422/SD)

- Enables MPEG-2 SD 4:2:2 decoding
- Requires MPEG-2 4:2:2 only hardware or MPEG-2 & 4 4:2:2 hardware (RX8200/BAS/2)

### MPEG-2 HD 4:2:2 Decoding (RX8200/SWO/MP2/HD/422)

- Enables MPEG-2 HD 4:2:2 decoding
- Requires MPEG-2 SD 4:2:2 decoding option

### MPEG-2 and MPEG-4 AVC SD 4:2:2 Decoding (RX8200/SWO/MP4/422/SD)

- Enables MPEG-4 AVC SD 4:2:2 decoding
- Enables MPEG-2 SD 4:2:2 decoding
- Requires RX8200/BAS/2 unit

### MPEG-2 and MPEG-4 AVC HD 4:2:2 Decoding (RX8200/SWO/MP4/422/HD)

- Enables MPEG-4 AVC HD 4:2:2 decoding
- Enables MPEG-2 HD 4:2:2 decoding
- Requires MPEG-2 and MPEG-4 AVC SD 4:2:2 option

### MPEG-4 AVC HD 4:2:2 1080p 50/60 Decoding (RX8200/SWO/HDSDI/3G)\*

- Enables MPEG-4 AVC HD 4:2:2 1080p50/60 decoding
- Enables 3Gig HD-SDI output
- Requires MPEG-2 and MPEG-4 AVC HD 4:2:2 decoding option
- Requires 3Gig HD-SDI output card option

## VIDEO PROCESSING OPTIONS

The RX8200 Advanced Modular Receiver offers a wide range of video processing options to allow the decoded video to easily interface to HD and SD infrastructures.

### High Quality Down-conversion (RX8200/HWO/HQDCONV)

- Grade 1 quality Down-conversion of HD to SD
- Provides broadcast quality down-conversion allowing one HD transmission to address both HD and SD distribution needs
- Simultaneous presentation of HD and SD on video output interfaces

### Down-conversion (RX8200/SWO/DCONV)

- Grade 2 quality Down-conversion of HD to SD
- Simultaneous presentation of HD and SD on video output interfaces

### Up-conversion (RX8200/SWO/UPCONV)

- Up-conversion of SD to HD resolution
- Non-simultaneous up-conversion to 720p or 1080i resolution

### Cross-conversion (RX8200/SWO/XCONV)

- Conversion of HD video from 720p to 1080i or from 1080i to 720p

### Low Latency Decode (RX8200/SWO/LDELAY)

- Low latency video decode
- Compatible with MPEG-1 Layer-II, Dolby® Digital or AAC audio options

### Frame Sync Input (RX8200/SWO/FSYNC)

- Synchronizes the IRD to the house black and burst reference
- Frame Sync functionality often partners 4:2:2 decoding applications

## DATA AND CONTROL OPTIONS

The RX8200 Advanced Modular Receiver can be further enhanced by a range of data pass-through and remote control capabilities.

### RS232 Remote Control and Data (RX8200/HWO/RS232)

- RS232 remote control - Altea protocol
- RS232 data output

### High speed IP data output (RX8200/SWO/IP/DATA)

- MPE based data de-encapsulation of IP data
- Requires IP TS output option (RX8200/HWO/IP/OUT)

## AUDIO OPTIONS

The RX8200 Advanced Modular Receiver provides many different audio capabilities to allow optimal connectivity for many wide-ranging and varied applications.

Capability for MPEG-1 Layer II audio is provided with any video decode license. Decoded audio will be embedded in (HD)SDI outputs and output via physical audio interfaces if ordered.

### Balanced Audio Output (RX8200/HWO/BAL/AUD)

- 2 x stereo pairs of balanced analog and digital outputs
- Order QTY two for 4x stereo pair capability

### Dolby® Digital Decode (RX8200/SWO/AC3)

- Enables decoding or pass-through of Dolby Digital Audio
- 2x 5.1 decode and down-mix to 2.0 (stereo)
- 2x 2.0/5.1 pass-through -compressed and embedded in (HD)SDI

### AAC Audio decode (RX8200/SWO/AAC)

- 2x AAC-LC and HE-AAC decoding

### 4x Audio Capability (RX8200/SWO/4AUD)

- Enables up to six decodes
- Enables pass-through of audio services three and four
- Compatible with MPEG-1 Layer II, Dolby Digital, AAC, Dolby®E and linear audio
- Embeds up to six channels of audio into the (HD) SDI video output
- Requires QTY two audio output cards if four stereo pairs of physical audio interfaces are desired

### XLR Terminal Audio Break-Out Cable (RX8XXX/CABLE/XLR)

- Provides XLR terminal connections for analogue and digital audio output
- 1x stereo pair per breakout cable via 2x XLR connectors

### Screw Terminal Audio Break-Out Cable (RX8XXX/CABLE/SCRTRM)

- Provides screw terminal connections for analog and digital audio output
- 1x stereo pair per breakout cable via 2x Screw terminal connectors

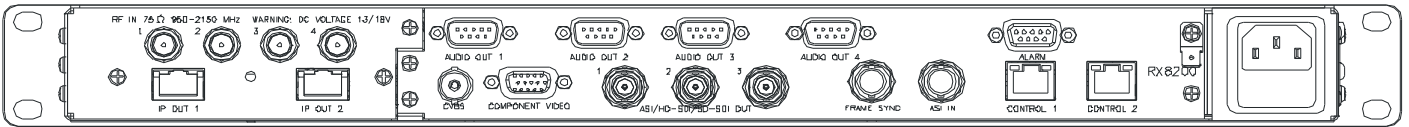
## OTHER OPTIONS

The RX8200 Advanced Modular Receiver may be configured to offer the following additional functionality as required

### Password Protection of Web Browser (RX8200/SWO/PW)

- Protects Web browser from malicious or accidental changes

## SAMPLE CONFIGURATION



Sample configuration with: Satellite input, frame sync, HD video output, IP transport stream output and 2x Audio output modules installed

## SPECIFICATIONS

### Standard Features

#### Input Interfaces

##### ASI Transport Stream Input

Connector: 1x BNC (F) 75 Ohm

Max. input rate: 160 Mbps

Packet length: 188/204 byte packets

Standard: EN50083-9

#### Features

Program selection for ATSC, DVB and MPEG-only streams

One alarm relay, two relays under SCTE 35 control

Service cycling through all decodable services

#### Control

Front panel keypad and LCD

SNMP control, traps and alarms

Web browser

### Input Options

#### Satellite Input Options

##### Satellite Input (RX8200/HWO/DVBS2) and (RX8200/HWO/DVBS2/2\*)

Connector: 4x F-Type (F), 75 Ohm

Modulation: DVB-S QPSK

Standard: EN300 421

Frequency range: 950 MHz to 2150 MHz

Input level: -25 dBm to -65 dBm

Symbol rate: 1 Msym/s to 45 Msym/s (DVB-S), 1<sup>1</sup>(5) Msym/s to 31 Msym/s (DVB-S2)

FEC, DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8

LNB Power: 13V, 18V or off, 22 kHz on/off

##### DVB-S2 Satellite Input (RX8200/SWO/DVBS2/QPSK)

Modulation: DVB-S2 QPSK

Standard: EN302 307

Symbol rate: 5 to 31 (60\*) Msym/s

Bit-rate: 81 (155\*) Mbps Max

FEC DVB-S2 QPSK: (1/4, 1/3, 2/5\*), 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10

DVB-S2 FEC frame: Short frames\*, Normal frames

##### DVB-S2 Satellite Input (RX8200/SWO/DVBS2/8PSK)

Includes DVB-S2 QPSK functionality

Modulation: DVB-S2 8PSK

FEC, DVB-S2 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10

##### DVB-S2 Satellite Input (RX8200/SWO/DVBS2/16APSK)\*

Includes DVB-S2 QPSK and 8PSK functionality

Modulation: DVB-S2 16APSK

FEC, DVB-S2 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10

##### DVB-S2 Low Symbol Rate (RX8200/SWO/DVBS2/LSYM)

Symbol rate - extended to 1 to 31 (60\*) Msym/s

Applies to DVB-S2 modes only

#### IP Input Options

##### MPEG over Gigabit Ethernet IP input (RX8200/HWO/GIGE)

Connector: 2 x RJ 45

Format: 100/1000BaseT

##### SMPT 2022 Pro-MPEG FEC (RX8200/SWO/IP/PROMPEG)

SMPT 2022 (Pro-MPEG) FEC

#### G703 Input Options

##### Ericsson G.703 (RX8200/HWO/G703)

Connector: BNC (F)

Network: G.703 compliant PDH

Input: E3 or DS-3 (selectable)

Bit-rates: 34 Mbps or 45 Mbps versions

\*Check availability

### Video and TS Output Options

#### Video Output Options

##### SD Video Output (RX8200/HWO/SD)

###### Composite Video

Connector: 2x BNC (F) 75 Ohm

Format: PAL / NTSC

##### SDI/DVB ASI-C (Switchable)

Connector: 2x BNC 75 ohms

SD-SDI standard: SMPTE 259M

Embedded Audio: SMPTE 272M (SD)

Embedded Audio Channels: two, four or six stereo pairs

ASI standard: EN50083-9

##### HD and SD Video Output (RX8200/HWO/HD) and (RX8200/HWO/HD/3G)

###### Composite Video

Connector: 1x BNC (F) 75 Ohm

Format: PAL / NTSC

##### Video RGB-HD (SVGA)

Connector: 1x 15 pin D-type

Format: RGB H&V/YPrPb (switchable)

##### SDI/HD-SDI/DVB ASI-C (switchable)

Connector: 3x BNC 75 ohms

3 Gbps HD-SDI standard: SMPTE 424M

HD-SDI standard: SMPTE 292M

SD-SDI standard: SMPTE 259M

Embedded Audio: SMPTE 299M (HD)

SMPTE 272M (SD)

Embedded Audio Channels: two, four or six stereo pairs

ASI standard: EN50083-9

#### TS Output Options

For ASI Output See HD and SD video output options

##### IP Output (RX8200/HWO/IP/OUT)

Transport encapsulation into IP

MPTS/IP/UDP

SPTS/IP/UDP with single service filtering - CBR mode

IP output VBR mode - Null packets dropped

2x GigE outputs, 100/1000 auto-sensing



## SPECIFICATIONS

### Conditional Access Options

#### Director by Ericsson (RX8200/SWO/DIR5)

Director single service decryption  
Director over-air remote control

#### Director by Ericsson Multi-service decryption (RX8200/SWO/DIR5/MSD)

Director multi-service decryption  
Decryption of up to 24 services

#### DVB Common Interface (RX8200/SWO/CI)

Enables support for all major CAM modules  
Single service decryption  
Service pre-filtering

#### DVB Common Interface Multi-Service Decryption (RX8200/SWO/MSD)

Single CAM, up to 10 services or 24 PIDs

#### BISS Decryption (RX8200/SWO/BISS)

Decryption of BISS Mode 1 and E

#### BISS Multi-Service Decryption (RX8200/SWO/BISS/MSD)

Decryption of up to 24 services  
Multiple BISS keys\*

#### NDS BSKyB CA (RX8200/HWO/BSkyB)\*

Accepts BSKyB smart card  
Single service descrambling  
Mutually exclusive with other CA types

#### RAS Decryption (RX8200/SWO/RAS)

Decryption of Ericsson RAS 1

#### Signal Protection Decryption (RX8200/SWO/SP)

Decryption of Ericsson Signal Protection

### Stream Processing Options

#### Single Service filtering (RX8200/SWO/SING/SERVILT)

Filter multiple services to 1 outgoing service  
Remap PIDs for the filtered service  
Output: CBR on ASI and IP SPTS

#### Multi-Service filtering (RX8200/MULT/SERVILT)

Filter N incoming services to M outgoing services  
Number of services: 24 max.  
Remap PIDs on a single service  
Output: CBR on ASI and IP MPTS

Stream splitting - up to eight services as IP SPTS

### Video Decoding Options

#### 4:2:0 Decoding

#### MPEG-2 SD Decode (RX8200/SWO/MPEG2/SD)

Profiles: MP@ML  
Max video rate: 15 Mbps (MP@ML)  
Video format: 480i and 576i 29.97, 25 fps

#### MPEG-2 HD Decode (RX8200/SWO/MPEG2/HD)

Includes MPEG-2 SD 4:2:0  
Profiles: MP@HL  
Max. video rate: 80 Mbps (MP@HL)  
Video format: 1080i at 29.97, 30 and 25 fps  
720p at 59.94, 60 and 50 fps

#### MPEG-4 AVC SD Decode (RX8200/SWO/MP2/MP4/SD)

Includes MPEG-2 SD 4:2:0  
Profiles: MP@L3  
Max. video rate: 12 Mbps  
Video format: 480i and 576i 29.97, 25 fps

#### MPEG-4 AVC HD Decode (RX8200/SWO/MP2/MP4/SD/HD)

Includes MPEG-2 SD and HD 4:2:0  
Includes MPEG-4 AVC SD  
Profiles: MP@L4, HP@L4  
Max. video rate: 25 Mbps  
Video format: 1080i at 29.97, 30 and 25 fps  
720p at 59.94, 60 and 50 fps

#### VBI with 4:2:0 decoding modes

Closed captions, DVB Subtitle burn-in  
WST, Inverted Teletext, EBU Teletext subtitles and non-subtitles, WSS, VITC, VITC in PES, VPS, Video Index, AFD Pass-through, VANC data-piping, Service name in VANC  
VITS, NABTS, AMOL 48, AMOL 96, TV Guide

#### 4:2:2 decoding

#### MPEG-2 SD 4:2:2 (RX8200/SWO/MP2/4:2:2/SD)

Profile: 422@ML  
Max. video rate: 50 Mbps  
Video format: 480i and 576i 29.97, 25 fps

#### MPEG-2 HD 4:2:2 (RX8200/SWO/MP2/HD/422)

Profiles: 422P@HL  
Max. video rate: 90 Mbps  
Video format: 1080i at 29.97, 30 and 25 fps,  
720p at 59.94, 60 and 50 fps

#### MPEG-4 AVC SD 4:2:2 (RX8200/SWO/MP4/422/SD)

Includes MPEG-2 SD 4:2:2  
MPEG-4 Profile: 422HP@L3  
Max. video rate: 50 Mbps  
Video format: 480i and 576i 29.97, 25 fps

#### MPEG-4 AVC HD 4:2:2 Decode (RX8200/SWO/MP4/422/HD)

Requires RX8200/BAS/2 unit  
Includes MPEG-2 HD 4:2:2  
MPEG-4 Profiles: HIGH / HIGH10 / HIGH422@L4.2  
Sampling: 8-bit and 10-bit  
Max. video rate: 50 Mbps CABAC, 85 Mbps CAVLC  
Video format: 1080i at 29.97 and 25 fps 720p at 59.94 and 50 fps

#### MPEG-4 AVC HD 4:2:2 1080p 50/60 decode (RX8200/SWO/HDSOI/3G)\*

Profiles: 422HP@L4.2  
Max video rate: 85 Mbps CAVLC  
Video format: 1080p at 59.94 and 50fps

#### VBI with 4:2:2 decoding modes

Closed Captions, VITC, VBI in PIX

### Video Processing Options

#### High Quality Down-conversion (RX8200/HWO/HQDCONV)\*

Grade 1 quality down-conversion  
Simultaneous Down-conversion (HD to SD): center cut out, manual/AFD controlled

#### Down-conversion (RX8200/SWO/DCONV)

Grade 2 quality down-conversion  
Simultaneous Down-conversion (HD to SD): full frame, center cut out, letter box, anamorphic - manual/AFD controlled

#### Up-Conversion (RX9200/SWO/UPCONV)

Non-simultaneous up-conversion (SD to HD): To 720p or 1080i (4:2:0 modes only)

#### Cross-Conversion (RX9200/SWO/CCONV)

Non-simultaneous cross-conversion 720p to 1080i or 1080 to 720p  
No frame rate conversion

#### Frame Synchronization (RX8200/SWO/FSYNC)

Enables Frame Sync  
Connector: 1x BNC (F) 75 Ohm  
Input signal: Analog SD Hsync (black and burst)

\*Check availability



## SPECIFICATIONS

### Data and Control Options

**RS232 remote control and data (RX8200/HWO/RS232)**

Remote control connector: 1x 9-pin D-type

RS232 remote control

Ericsson Alteia protocol

RS232 data connector: 1x 9-pin D-type

RS232 asynchronous data

RS232 data rate: Max. 38.4 kbps

**IP high speed data (RX8200/SWO/IP/DATA)**

MPE based data de-encapsulation

Max. bit-rate: 100 Mbps

Requires IP TS output card

### Audio Options

**Balanced Audio Output (RX8200/HWO/BAL/AUD)**

Connector: 2x 9-Pin D-type

Analog audio: two balanced stereo pairs

Digital audio: two balanced stereo pairs

Order QTY 0, 1 or (2 - requires RX8200/SWO/4AUD)

**Standard with any video decode option:**

2x MPEG-1 Layer-II audio decode

2x Dolby®E pass-through

2x Linear PCM decode

Audio sampling rate: 48 kHz

Decoded audio gain adjustment

**Dolby® Digital (RX8200/SWO/AC3)**

2x Dolby Digital 5.1 decode and down-mix to 2.0

2 x Dolby Digital 2.0/5.1 pass-through compressed and embedded in (HD)SDI

**AAC Audio (RX8200/SWO/AAC)**

2x 5.1 down-mix to 2.0

2x 2.0 decode

1x 5.1 decode

**4x Audio Capability (RX8200/SWO/4AUD)**

Extends licensed audio decodes to more channels

6x MPEG-1 Layer II audio decode

6x Dolby Digital 2.0 decode, 5.1 to 2.0 down-mix

4x Dolby Digital 2.0/5.1 pass-through - compressed and embedded in (HD)SDI

6x 5.1 AAC down-mix to 2.0

6x 2.0 AAC decode

4x DolbyE pass-through

4x Linear PCM pass-through

### Physical and Power

**Dimensions (W x D x H)**

442.5 x 545 x 44mm (17.5" x 20.7" x 1.75" approx.)

**Input Voltage**

110 VAC / 240 VAC

**Power Consumption**

120W Max. (depending on options fitted)

**Cooling**

Integrated fan

### Environmental Conditions

**Operating Temperature**

0°C to +50°C (32° to 122°F)

**Storage Temperature**

-20°C to +60°C (4° to 140°F)

**Relative Humidity**

5% to 95%

### Compliance

CE marked in accordance with EU Low Voltage and EMC Directives

**EMC Compliance**EN55022, EN61000-3-2<sup>10</sup>, EN61000-3-3<sup>10</sup>, EN55024, CISPR22, FCC CFR47 Part 15B Class A**Safety Compliance**

EN60950-1, IEC60950-1, UL60950-1

\*Check availability