



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 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 whilst 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-phase 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:

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

## HARDWARE OPTIONS

### Input Options

The RX8200 has a single ASI input as standard and can in addition be configured with a choice of other inputs

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

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

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

- MPEG transport stream over IP
- 2 x 100/1000BaseT input
- Very low latency
- SMPTE 2022 ProMPEG FEC with license key

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

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

### Decoding Options

The RX8200 provides some video decode options through hardware modules

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

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

#### MPEG-4 AVC 4:2:2 SD Decoding

##### (RX8200/HWO/MP4/422)\*

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

### Output Options

The RX8200 provides SD and HD video and audio output modules. Additionally the IRD can be fitted with an IP transport stream output.

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

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

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

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

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

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

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

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

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

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

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

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

### Input Options

## SOFTWARE OPTIONS

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

- Synchronizes the IRD to the house black and burst reference

### 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 % of null packets to trigger redundancy switch

The RX8200 satellite input module comes 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 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 Low Symbol Rate License (RX82XX/SWO/DVBS2/LSYM)

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

### SMPTE 2022 ProMPEG FEC License (RX8200/SWO/IP/PROMPEG)

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

### Conditional Access Options

The RX8200 supports many types of widely used conditional access systems to allow for secure transmission of content.

### 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

### 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

\*Check availability

## SOFTWARE OPTIONS

### Decoding Options

The RX8200 is designed to support a range of video decoding standards. All decoding options require either the SD video output (RX8200/HWO/SD) or HD video output (RX8200/HWO/HD) card to be ordered.

#### 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 & HD 4:2:0 decoding

#### 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 hardware option

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

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

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

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

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

- 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
- MPEG-1 Layer-II audio only

### Audio Options

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.

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

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

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

- 2 x AAC-LC and HE-AAC decoding

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

- Enables up to 6 decodes
- Enables pass-through of audio services 3 & 4
- Compatible with MPEG-1 Layer II, Dolby® Digital, AAC, Dolby® E and linear audio
- Embeds up to 6 channels of audio into the (HD)SDI video output
- Requires QTY 2 audio output cards if 4 stereo pairs of physical audio interfaces are desired

### Stream Processing Options

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

- Filter multiple services to output a single service
- Single CBR SPTS transport stream output
- Re-map PIDs for the outgoing service

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

- Filter N multiple incoming services to M outgoing services
- CBR MPTS transport stream output

### Data Options

#### 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)

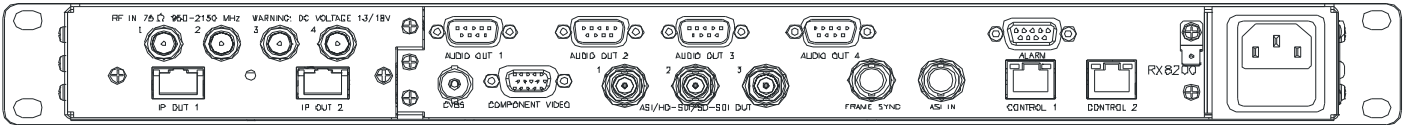
### Other Software Options

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

- Protects Web browser from malicious or accidental changes

\*Check availability

## 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: 1 x 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

1 alarm relay, 2 relays under SCTE35 control

## Control

Front panel keypad and LCD

SNMP control, traps and alarms

Web browser

## Hardware Options

## Transport Stream Input Options

**Satellite Input (RX8200/HWO/DVBS2)**

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

Modulation: DVB-S QPSK

Standard: EN300 421

Frequency range: 950 to 2150 MHz

Input level: -25 dBm to -65 dBm

Symbol rate: 1 - 45 Msyms (DVB-S), 1<sup>1</sup>(5) - 31 Msyms (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

**Gigabit MPEG over IP input\* (RX8200/HWO/GIGE)**

Connector: 2 x RJ 45

Format: 100/1000BaseT

**TTV G.703 (RX8200/HWO/G703)\***

Connector: BNC (F)

Network: G.703 compliant PDH

Input: E3 or DS-3 (selectable)

Bit-rates: 34 or 45 Mbps versions

## Video Options

**MPEG-2 SD 4:2:2 (RX8200/HWO/MP2/4:2:2)**

Profile: 422@ML

Max. video rate: 50 Mbps

Video format: 480i and 576i 29.97, 25 fps

**MPEG-4 AVC SD 4:2:2 (RX8200/HWO/MP4/4:2:2)\***

Includes MPEG-2 SD 4:2:2

Profile: 422HP@L3

Max. video rate: 50 Mbps

Video format: 480i and 576i 29.97, 25 fps

**SD Video Output (RX8200/HWO/SD)****Composite Video**

Connector: 2x BNC (F) 75 Ohm

Format: PAL / NTSC

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

Connector: 2 x BNC 75 ohms

SD-SDI standard: SMPTE 259M

Embedded Audio: SMPTE 272M (SD)

Embedded Audio Channels: 2 or 4<sup>1</sup> stereo pairs

ASI standard: EN50083-9

**HD and SD Video Output (RX8200/HWO/HD)****Composite Video**

Connector: 1x BNC (F) 75 Ohm

Format: PAL / NTSC

**Video RGB-HD (SVGA)**

Connector: 1 x 15 pin D-type

Format: RGB H&V/YPrPb (switchable)

**SDI/HD-SDI/DVB ASI-C (Switchable)**

Connector: 3 x BNC 75 ohms

HD-SDI standard: SMPTE 292M

SD-SDI standard: SMPTE 259M

Embedded Audio: SMPTE 299M (HD) SMPTE 272M (SD)

Embedded Audio Channels: 2 or 4<sup>1</sup> stereo pairs

ASI standard: EN50083-9

## Transport Stream 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<sup>1</sup>

2 x GigE outputs, 100/1000 autosensing

## Audio Output Options

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

Connector: 2x 9 pin D-type

Analog audio: 2 balanced stereo pairs

Digital audio: 2 balanced stereo pairs

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

\*Check availability

<sup>1</sup>Indicates an additional option required

## SPECIFICATIONS

### Software Options

#### Input Options

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

Enables Frame Sync

Connector: 1 x BNC (F) 75 Ohm

Input signal: Analog SD Hsync (black and burst)

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

Modulation: DVB-S2 QPSK

Standard: EN302 307

Symbol rate: 5 - 31 Msym/s

Bit-rate: 81 Mbps Max

FEC: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10

DVB-S2 FEC frame: 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 Low Symbol Rate (RX8200/SWO/DVBS2/LSYM)<sup>Y</sup>

Symbol rate - extended to 1 - 31 Msym/s

Applies to DVB-S2 modes only

### Video Options

#### 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 & 25 fps 720p at 59.94, 60 & 50 fps

#### MPEG-2 HD 4:2:2 (RX8200/SWO/MP2/HD/422)<sup>Y</sup>

Profiles: 422@HL

Max. video rate: 90 Mbps

Video format: 1080i at 29.97, 30 & 25 fps, 720p at 59.94, 60 & 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 & 25 fps 720p at 59.94, 60 & 50 fps

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

Includes MPEG-2 HD 4:2:2

Profiles: 422HP@L4.2

Sampling: 8 bit & 10 bit

Max. video rate: 50 Mbps CABAC, 85Mbps CAVLC

Video format: 1080i at 29.97 & 25 fps 720p at 59.94 & 50 fps

#### MPEG-4 AVC HD 4:2:2 1080p 50/60 decode (RX8200/SWO/HDSDI/3G)<sup>Y</sup>

Profiles: 422HP@L4.2

Max video rate: 85Mbps CAVLC

Video format: 1080p at 59.94 & 50fps

### VBI - with video decode options

#### 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,

VITS, NABTS, AMOL 48, AMOL 96, TV Guide

#### 4:2:2 decoding modes

Closed Captions, VITC, VBI in PIX

### Audio Options

#### Standard with any video decode option:

2 x MPEG-1 Layer-II audio decode

2 x Dolby<sup>®</sup> E pass-through

2 x Linear PCM decode

Audio sampling rate: 48 kHz

#### Dolby<sup>®</sup> Digital (RX8200/SWO/AC3)

2 x Dolby<sup>®</sup> Digital 5.1 decode and down-mix to 2.0

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

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

2 x 5.1 down-mix to 2.0

2 x 2.0 decode

1 x 5.1 decode

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

6 x MPEG-1 Layer II audio decode\*

6 x Dolby<sup>®</sup> Digital 2.0 decode, 5.1 to 2.0 down-mix<sup>Y</sup>\*

4 x Dolby<sup>®</sup> Digital 2.0/5.1 pass-through - compressed and embedded in (HD)SDI<sup>Y</sup>\*

6 x 5.1 AAC down-mix to 2.0<sup>Y</sup>

6 x 2.0 AAC decode<sup>Y</sup>

4 x Dolby<sup>®</sup> E pass-through

4 x Linear PCM pass-through

\*Check availability

<sup>Y</sup>Indicates an additional option required



## 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

#### 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 & E

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

Decryption of up to 24 services

### Stream Processing

#### Single Service filtering

Filter multiple services to 1 outgoing service<sup>y</sup>

Remap PIDs for the filtered service

Output: CBR on ASI and IP<sup>y</sup> SPTS

#### Multi-Service filtering

Filter N incoming services to M outgoing services<sup>y</sup>

Number of services: 24 max.

Output: CBR on ASI and IP<sup>y</sup> MPTS

### Data Options

#### IP high speed data (RX8200/SWO/IP/DATA)<sup>y</sup>

MPE based data de-encapsulation

Max. bit-rate: 100Mbps

### 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

110/240 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

<sup>y</sup>Indicates an additional option required

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