



# ERICSSON SPR1100 BROADCAST STREAM PROCESSOR



The Ericsson SPR1100 is a high density broadcast video processor for operators to launch additional television services to the home; manage and migrate to MPEG-4 AVC; simplify time-shift TV ingest processing; and enable cost efficient disaster recovery sites for business continuity.

Designed for video turnaround applications requiring video and audio transcoding or bit-rate changing, the Ericsson SPR1100 supports any-to-any MPEG-2/MPEG-4 AVC HD/SD transcoding for up to 24 HD or 72 SD video services, up to 144 stereo audio services, and can simultaneously generate Picture-in-Picture (PIP) service for all channels processed - all within a single 1RU rack space saving chassis. The processor is perfectly suited for Telco and Cable IPTV platforms and represents the most efficient in its class. In addition, it can serve as a high quality bit-rate changer allowing for lower overall bit-rates or VBR to CBR conversion for applications like time-shift TV ingest.

The high availability configuration with a hot-standby spare running as automatic 1+1 mirrored units ensures maximum reliability and service up-time. The unit also has a number of other reliability features including choice of single or dual power supply and hot-swap processing modules for in-field servicing and expansion. An advanced Web-based user interface allows easy configuration, without the need for an external control system, which allows the Ericsson SPR1100 to be added to any existing installation that needs dense video transcoding.

## PRODUCT OVERVIEW

### Multiple Applications

High density broadcast video processing for multiple applications including turnaround of content for telco and cable IPTV, time-shift TV ingest processing and cost-efficient disaster recovery sites for business continuity.

### Any-to-any Flexible Transcoding

The Ericsson SPR1100 will transcode between MPEG-2, MPEG-4 AVC, SD and HD, with single and multi-program transport stream input and outputs over IP.

Audio services can also be transcoded between MPEG-1/2 layer II, Dolby® Digital (AC-3) and Advanced Audio Codec (AAC) formats.

### High Density Processing

Class leading density with transcoding for up to 24 HD or 72 SD and simultaneous PIP service generation in a 1RU chassis. Introduce new services in minimum of rack space.

### “Pay As You Grow” Expansion

Only buy what you need today, the Ericsson SPR1100 can be expanded in the field with additional hot-swap Media Processing Modules and video transcoding licences.

## BASE UNIT FEATURES

### Ericsson SPR1100 Broadcast Stream Processor

#### Standalone Configuration

- Single 1RU chassis

#### SPR11/ CHASSIS/1AC, FAZ 101 0161/1

- Single AC power supply

#### SPR11/CHASSIS/2AC, FAZ 101 0161/2

- Dual AC power supplies

#### SPR11/ CHASSIS/1DC, FAZ 101 0161/3

- Single DC power supply

#### SPR11/CHASSIS/2DC, FAZ 101 0161/4

- Dual DC power supplies

#### Redundant Pair 1+1 configuration

- Pair of units for 1+1 mirrored hot-standby redundancy

#### SPR11/ CHASSIS/1AC/R, FAZ 101 0161/6

- Each unit has a single AC power supply

#### SPR11/CHASSIS/2AC/R, FAZ 101 0161/7

- Each unit has a dual AC power supplies

#### SPR11/ CHASSIS/1DC/R, FAZ 101 0161/8

- Each unit has a single DC power supply

#### SPR11/CHASSIS/2DC/R, FAZ 101 0161/9

- Each unit has a dual DC power supplies

## BASE UNIT FEATURES cont.

### Base Chassis Functionality includes:

- Control via 2x Electrical Ethernet (100/1000BaseT)
- Data i/o via 4x Electrical Ethernet (100/1000BaseT)
- 1 Gbps duplex communication to each option slot
- License Key Server to enable software licenses on the chassis

### Platform Processing Capacities

- Up to six Media Processor Modules (MPM) in chassis with single power supply
- Up to four modules in chassis with dual power supplies
- Up to 24 HD or 72 SD (or a combination of HD & SD) services per chassis

## HARDWARE / SOFTWARE OPTIONS

### Media Processor Module

**SPR/HWO/MPM1, FAZ 101 0161/57**

**SPR/HWO/MPM1/R, FAZ 101 0161/58**

- IP video input, via data interface on chassis
- Extensive support for VBI data formats
- Support for Closed Captions via line 21 and SMPTE 334

### HD MPEG-4 Video License

**SPR/SWO/HDMP4, FAZ 101 0161/13**

**SPR/SWO/HDMP4/R, FAZ 101 0161/21**

- Up to 4 video transcodes to HD MPEG-4 per module, 24 per chassis
- License can also be used for HD MPEG-2, SD MPEG-4 or SD MPEG-2
- Any input: HD/SD, MPEG-4/MPEG-2

### HD MPEG-2 video license

**SPR/SWO/HDMP2, FAZ 101 0161/14**

**SPR/SWO/HDMP2/R, FAZ 101 0161/22**

- Up to 4 video transcodes to HD MPEG-2 per module, 24 per chassis
- License can also be used for SD MPEG-2
- Any input: HD/SD, MPEG-4/MPEG-2

### SD MPEG-4 Video License

**SPR/SWO/SDMP4, FAZ 101 0161/15**

**SPR/SWO/SDMP4/R, FAZ 101 0161/23**

- Up to 12 video transcodes to SD MPEG-4 per module, 72 per chassis
- License can also be used for SD MPEG-2
- Any input: HD/SD, MPEG-4/MPEG-2

### SD MPEG-2 Video License

**SPR/SWO/SDMP2, FAZ 101 0161/16**

**SPR/SWO/SDMP2/R, FAZ 101 0161/24**

- Up to 12 video transcodes to SD MPEG-2 per module, 72 per chassis
- Any input: HD/SD, MPEG-4/MPEG-2

### PiP License

**SPR/SWO/PIP, FAZ 101 0161/17**

**SPR/SWO/PIP/R, FAZ 101 0161/25**

- 1 PiP per video transcode
- Up to 12 PiPs per module, 72 per chassis
- MPEG-4 AVC MP@L3 encoding

### MPEG-1 & MPEG-2 Layer II audio license

**SPR/SWO/AUD/MP2, FAZ 101 0161/18**

**SPR/SWO/AUD/MP2/R, FAZ 101 0161/26**

- Up to 24 audio transcodes to MPEG-1 / MPEG-2 layer II per module, 144 per chassis.
- (Quantity depends on input audio codec.)

### AAC audio license

**SPR/SWO/AUD/AAC, FAZ 101 0161/19**

**SPR/SWO/AUD/AAC/R, FAZ 101 0161/27**

- Up to 24 audio transcodes to AAC-LC or HE-AAC 2.0 per module, 144 per chassis
- Up to 6 audio transcodes to AAC-LC or HE-AAC 5.1 per module, 36 per chassis. Each 5.1 transcode requires 3 AAC audio licenses.

*(Quantities depend on input audio codec.)*

### Dolby® Digital (AC-3) audio license

**SPR/SWO/AUD/AC3, FAZ 101 0161/20**

**SPR/SWO/AUD/AC3/R, FAZ 101 0161/28**

- Up to 12 audio transcodes to Dolby® Digital 2.0 per module, 72 per chassis
- Up to 6 audio transcodes to Dolby® Digital 5.1 per module, 36 per chassis. Each 5.1 transcode requires 3 Dolby® Digital audio licenses.

*(Quantities depend on input audio codec.)*



## ERICSSON SPR1100 BROADCAST STREAM PROCESSOR

### SPECIFICATIONS

#### Output Interfacing

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**Output**

4x Electrical Ethernet (10/100/1000BaseT)

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#### Management

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2x Electrical Ethernet (10/100/1000BaseT)

User management via web browser and XML

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nCompass Control by Ericsson for monitoring alarms

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#### Physical and Power

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

23.50 x 17.40 x 1.75 inches (59.69 x 44.20 x 4.45 cm)

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**Weight**

7.3 kg (16 lbs) with a single PSU

8.3 kg (18.3 lbs) with a dual PSU

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**Input Voltage**

100 VAC to 240 VAC, 50/60 Hz

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**Input Power**

Chassis only 40W

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Up to 300W depending on options fitted

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#### Environmental Conditions

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**Operating Temperature**

0°C to +50°C (32°F to 122°F)

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**Storage Temperature**

-40°C to +85°C (-40°F to 185°F)

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**Relative Operating Humidity**

10% to 90% (non-condensing)

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#### Compliance

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CE marked in accordance with EU Low Voltage and EMC Directives

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**EMC Compliance**

EN55022, EN55024, AS/NZS3548, EN61000-3-2, EN61000-3-3 and FCC CFR47 Part 15B Class A

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**Safety Compliance**

EN60950-1, IEC60950-1, UL60950-1 and NRTL listed

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## SPECIFICATIONS

### Media Processor Module

Up to six Media Processor Modules per chassis  
Module level hot swap

### Module Inputs and Outputs

#### Video & Audio

All video and audio services are input and output via transport streams via the data Ethernet ports

### Audio Pass-through

MPEG-1 & MPEG-2 Layer II audio (mono, stereo)

AAC-LC & HE-AAC (stereo, 5.1) Dolby® Digital (2.0 & 5.1)

### Audio Decode

MPEG-1 & MPEG-2 Layer II audio (mono, stereo, dual-mono)

Bit-rates: 32-384 Kbps

AAC-LC & HE-AAC (stereo)

Bit-rate: 64-192 Kbps (AAC-LC), 48-128 Kbps (HE-AAC)

5.1 Surround Sound

160-512 Kbps (AAC-LC), 128-192 Kbps (HE-AAC)

Dolby® Digital (AC3)

Bit-rate: 56-640 Kbps (mono, stereo)  
224-640 Kbps (5.1)

### Audio Encode

MPEG-1 & MPEG-2 Layer II audio (mono, stereo, dual-mono)

Bit-rate: 32-384 Kbps

Up to 24 per module

AAC, AAC-LC & HE-AAC (stereo, 5.1)

Bit-rate: 64-192 Kbps (LC), 48-128 Kbps (HE) (stereo)

160-512 Kbps (LC), 128-192 Kbps (HE) (5.1)

Up to 24 stereo or 6 x 5.1 per module

Dolby® Digital (AC3)

Bit-rate: 56-640 Kbps (mono, stereo), 224-640 Kbps (5.1)

Up to 12 stereo or 6 x 5.1 per module

### HD Video Decode

#### Supports Video Resolutions (HD):

1080i x 1920 / 1280 @ 25 fps

1080i x 1920 / 1280 @ 29.97 fps

1080PsF 1080 x 1920 @ 23.976 fps

720p x 1280 / 960 @ 50 fps

720p x 1280 / 960 @ 59.94 fps

#### Bit-rates (HD):

MPEG-2: MP@HL 0.5 Mbps to 30 Mbps

MPEG-4: HP@L4.0-L4.1 0.5 Mbps to 25 Mbps

### SD Video Decode

#### Supports Video Resolutions (SD):

576i x 720/ 704/ 640/ 544/ 528/ 480/ 352 @ 25 fps

480i x 720/ 704/ 640/ 544/ 528/ 480/ 352 @ 29.97 fps

#### Bit-rates (SD):

MPEG-2: MP@ML 0.256 Mbps to 15 Mbps

MPEG-4: MP@L3-L4.1 0.256 Mbps to 12 Mbps

### HD Video Encode

#### Applies to

SPR/SWO/HDMP2, FAZ 101 0161/14

SPR/SWO/HDMP4, FAZ 101 0161/13

CBR rate control

Interlace and progressive encoding support

#### Supports Video Resolutions (HD):

1080i x 1920 / 1280 @ 25 fps

1080i x 1920 / 1280 @ 29.97 fps

1080PsF 1080 x 1920 @ 23.976 fps

720p x 1280 / 960 @ 50 fps

720p x 1280 / 960 @ 59.94 fps

#### Bit-rates (HD):

MPEG-2: HP@HL 0.5 Mbps to 30 Mbps

MPEG-4: MP@L4.0 1 Mbps to 20 Mbps

MPEG-4: HP@L4.0 1 Mbps to 25 Mbps

MPEG-4: MP@L4.1 1 Mbps to 30 Mbps

### SD Video Encode

#### Applies to

SPR/SWO/SDMP2, FAZ 101 0161/16 &

SPR/SWO/SDMP4, FAZ 101 0161/13

CBR rate control

Interlace and progressive encoding support

#### Supports Video Resolutions (SD):

576i x 720/ 704/ 640/ 544/ 528/ 480/ 352 @ 25 fps

480i x 720/ 704/ 640/ 544/ 528/ 480/ 352 @ 29.97 fps

#### Bit-rates (SD):

MPEG-2: MP@ML 0.5 Mbps to 10 Mbps

MPEG-4: MP@L3.0 0.5 Mbps to 10 Mbps

MPEG-4: HP@L3.0 0.5 Mbps to 12.5 Mbps

### Picture in Picture (PiP)

MPEG-4 MP@L1.3 Encoding

0.100 Mbps to 1 Mbps

#### Resolutions:

128x96, 96x96 @ 25/29.97Hz

192x192, 144x144 @ 25/29.97Hz

### VBI

DVB subtitles

Closed captioning EIA-608, EIA-708 and SCTE 20

Closed caption insertion from line 21 or SMPTE 334-1

SMPTE 2016-3 AFD and Bar Data

Wide screen signaling (WSS) 625 line only

Teletext

### Physical and Power

#### Approximate Weight

0.33 kg (0.73 lbs) per SD MPEG-2 option module

#### Power Consumption per module

40 Watt

### Environmental Conditions

#### Operating Temperature

-10°C to 50°C (14°F to 122°F)

#### Operating Humidity

<95% (Non-condensing)