



AVP 2000 CONTRIBUTION ENCODER CONFIGURATION PACKS



The Ericsson AVP 2000 Contribution Encoder is a high density, multi-functional, video processing platform. It is designed for the evolving requirements of today's broadcasters and network operators. The AVP 2000 supports a comprehensive range of processing options in the form of hot-swappable modules.

The platform's modular design allows service providers to upgrade functionality incrementally, avoiding costly upgrades. Already proven as part of Ericsson's deployed 3DTV and 4K UHD TV contribution system, its multi-channel capabilities and variety of I/O options provide the most flexible and configurable solution for high quality content delivery. MPEG-2, MPEG-4 AVC and JPEG 2000 are all supported.

To make it simpler to select the most popular options, a set of four AVP 2000 configuration packs are now available at very attractive fixed prices. The configuration packs provide a hierarchy of functionality starting with the Basic HD, moving to the HD with ASI, the HD 4:2:2 and finally the Premium 4:2:2 pack.

It is possible to order an AVP 2000 with the specific combination of software and hardware options that you require. Also any hardware or software upgrades can be added once the unit has been delivered, refer to the AVP 2000 data sheet for details.

PRODUCT OVERVIEW

High Flexibility, Reliability and Serviceability

The Ericsson AVP 2000 Contribution Encoder is designed to address both the need for density with up to six option slots and the need for high resilience by making all the option slots hot swappable and the addition of a dual PSU version of the chassis. A standard IP interface and a wide range of separate I/O options provide interfacing to multiple hybrid networks concurrently. The AVP 2000 allows in-field serviceability, portability and system reconfiguration to address the widest range of C&D applications.

Highest Compression Performance

The AVP 2000 uses Ericsson's in house video encoding algorithms and deliver best in class video compression performance from very low bit rate to high bit-rate operation.

Multi-codec

The AVP 2000 can provide MPEG-2, MPEG-4 AVC or even JPEG 2000* encoding, 4:2:0 8 bit or 4:2:2 10 bit, SD or HD, even UHD TV is possible (using two AVP units).

* JPEG 2000 encoding requires the addition of a CE-aJ2K encoding module.

Multi-output

The AVP 2000 provides two IP output ports as standard and can also provide ASI output or G.703 output through the fitting of option modules.

<p>BASIC HD AVP 2000 Configuration Pack (AVP2000/CP/HD/BASIC FAZ 101 0196/129)</p> <ul style="list-style-type: none"> • Composite video input • SD/HD MPEG-2 Encoding • SD and HD MPEG-4 AVC Encoding • Analogue audio inputs • 2 x 2.0 of MPEG-1 Layer II audio encode • ASI Output (2 outputs) with Remux option • BISS Encryption • SMPTE 2022 Forward Error Correction 	<ul style="list-style-type: none"> • Six slot single PSU chassis (AVP 2000/BAS/1AC/A) • Integrated redundant IP outputs. • Fully functional front panel control including video confidence monitor. <p>Encoder Module (CE/HWO/CE-xA/A) ASI I/O Module (CE/HWO/ASI/IO/A)</p> <ul style="list-style-type: none"> • 3G/HD/SD-SDI video input • Composite video input • Analogue audio inputs • Embedded (SDI) and AES digital audio inputs • SD MPEG-2 4:2:0 8 Bit video encoding • SD MPEG-4 4:2:0 8 Bit video encoding • HD video encoding (AVP/SWO/VP/x/HD) • 2 stereo pairs of MPEG-1 Layer II audio encoding • VANC data extraction an support for generic VANC (SMPTE 2038)
<p>HD 4:2:2 AVP 2000 Configuration Pack (AVP2000/CP/HD/422 FAZ 101 0196/130) As BASIC HD but adds:</p> <ul style="list-style-type: none"> • 4:2:2 10 bit video encoding. (MPEG-2 & MPEG-4) • Ericsson's Phase Aligned Audio.(1 Group) 	<p>As above plus:</p> <ul style="list-style-type: none"> • 4:2:2 10 Bit Encoding (AVP/SWO/VP/x/CONT) • 2 x 2.0 of MPEG-1 Layer II audio encoding (giving 6 in total) (CE/SWO/VP/CONT/AUDIO) • Ericsson's Phase Aligned Audio (5.1). (CE/SWO/VP/CONT/AUDIO)
<p>PREMIUM 4:2:2 AVP 2000 Configuration Pack (AVP2000/CP/PREM/422 FAZ 101 0196/131) As HD 4:2:2 but adds:</p> <ul style="list-style-type: none"> • Dual AC PSU chassis • 2 more 2.0 of MPEG-1 Layer II audio encode. • Additional Phase Aligned Audio licenses. • 3 stereo pairs of Dolby Digital audio encode • 1080p50/60 license • Stripe Refresh for Low Latency 	<p>As above plus:</p> <p>Six slot Dual PSU chassis (AVP 2000/BAS/2ACFL/A) in place of six slot single PSU chassis (AVP 2000/BAS/1AC/A)</p> <ul style="list-style-type: none"> • 2 x 2.0 of MPEG-1 Layer II audio encoding (giving 8 in total) (CE/SWO/VP/CONT/AUDIO) • Additional Phase Aligned Audio (5.1). (CE/SWO/VP/CONT/AUDIO) • 3 stereo pairs of Dolby Digital audio encoding (3 x CE/SWO/VP/DOLBY/AC3) • 1080p50/60 license & Stripe Refresh (AVP/UPS/VP/x/CONT/ADV)



	BASIC HD	HD 4:2:2	PREMIUM 4:2:2
<input checked="" type="checkbox"/> = Included <input type="checkbox"/> = Field upgrade available			
CHASSIS			
Single AC Power Supply	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dual AC Power Supply	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Hot-Swappable Modules	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Built-In Video Confidence Monitor	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BASEBAND VIDEO AND AUDIO INPUTS			
Analog Composite CVBS Interface	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SD-SDI Interface	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
HD-SDI Interface	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3 Gbps Capable HD-SDI Interface	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Discrete Digital Audio Inputs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Analog Audio Inputs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
VIDEO ENCODING			
MPEG-2 SD 4:2:0 Encoding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MPEG-2 HD 4:2:0 Encoding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MPEG-2 SD 4:2:2 Encoding	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MPEG-2 HD 4:2:2 Encoding	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MPEG-4 AVC SD 4:2:0 Encoding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MPEG-4 AVC HD 4:2:0 Encoding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MPEG-4 AVC SD 4:2:2 Encoding	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MPEG-4 AVC HD 4:2:2 Encoding	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MPEG-4 AVC Stripe Refresh (< 100 ms latency)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MPEG-4 AVC HD 4:2:2 1080p 50/60 fps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
JPEG 2000 SD 4:2:2 Encoding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
JPEG 2000 HD 4:2:2 Encoding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AUDIO ENCODING			
MPEG-1 Layer II Encode (Stereo Pairs)	4 <input type="checkbox"/>	6 <input type="checkbox"/>	8
Dolby® Digital (AC3) Encode (2.0 or 5.1)	<input type="checkbox"/>	<input type="checkbox"/>	3 <input type="checkbox"/>
AAC Encode Encode (2.0 or 5.1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phase Aligned Audio Encode (Groups)	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Linear PCM Pass-Through	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dolby® Digital (AC3) Pass-Through (2.0 or 5.1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dolby® Digital Plus Pass-Through (2.0 or 5.1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dolby®E Pass-Through (Compressed)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ENCRYPTION			
BISS Encryption (Modes 1 and E)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
TRANSPORT STREAM OUTPUTS			
IP Output	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ASI Output	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SMPTE 2022 FEC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G.703 Output	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONTROL			
Web Browser Control	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Front Panel Control	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SNMP Traps and Alarms	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
nCompass Control	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

*Optional breakout cables can be ordered separately:-
 D-Type to balanced XLR breakout cable (VP/CAB/BAL)
 D-Type to unbalanced BNC breakout cable (VP/CAB/UNBAL)

Inputs

Video

3G/HD/SD-SDI serial digital video with EDH error detection and health monitoring

Analogue CVBS Input NTSC and PAL (PAL-M not supported)

Input Level 800 mV ptp ±10 percent

Return loss >15 dB, 10 MHz to 270 MHz

Audio

Up to eight stereo pairs embedded on HD-SDI

Up to four stereo pairs via AES EBU (Connector via D-Type to XLR)

Supports both balanced (AES3) and unbalanced (AES3id) digital audio inputs

48 kHz sampling rate

2 x Stereo Analogue Audio inputs [CE-xa only]

Video Encoder

MPEG-4 AVC Main Profile @ Level 4.0
(1 Mbps to 20 Mbps) (CE/SWO/CE-x/H264)

MPEG-4 AVC High Profile @ Level 4.0
(1 Mbps to 25 Mbps) (CE/SWO/CE-x/264) +
(CE/SWO/CE-x/HD)

MPEG-4 AVC 4:2:2 Profile @ Level 4.1
(1 Mbps to 80 Mbps) (CE/SWO/CE-x/264) +
(CE/SWO/CE-x/HD)+(CE/SWO/CE-x/422)

MPEG-2 Video Main Profile @ Main Level
(Base Card)

MPEG-2 Video Main Profile @ High Level
(CE/SWO/CE-x/HD)

1 Mbps to 80 Mbps bit-rate range (depends on profile/level supported)

CABAC entropy encoding up to 62.5 Mbps

Manual CABAC switching-point override

Triple pass "Pixel Perfect" fully exhaustive motion estimation

Multiple low latency modes supporting delays down to <100ms* end-to-end delay (when used in conjunction with a RX8200 receiver.)
*Configuration dependant.

Audio Encoder

Up to 8x stereo audio channel processing

MPEG-1 Layer II encoding standard

Encoding rates from 32 kbps to 384 kbps - up to 8 pairs

Dolby® Digital (AC-3)

Pass-through of pre-encoded Dolby Digital, up to 8 streams

Dolby®E pass-through

Up to four streams

Linear PCM pass-through

Up to four independent stereo pairs

Phased Aligned Audio (PAA) (Patent Pending)

Encoding of 6 or 8 audio channels with time synchronous samples.

Ancillary Data

SMPT E 334-1 Closed Captions

SMPT E 2016-3 AFD and Bar Data

SMPT E 12-2 Time code extraction and carriage (ETSI TS101 154)

SMPT E 2038 Generic VANC data extraction, up to 2 Mbps

IP Transport Stream Interfaces

Output

2x Electrical Ethernet (100/1000BaseT)

Physical port redundancy with active-active and active-standby operation

Multicast streaming

Management

2x Electrical Ethernet (100/1000BaseT)

SNMP v1/v2/v3, for alarm traps

User management via Web browser

Fully functional front panel control

Physical and Power

Dimensions (H x W x D)

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

Weight

8.0 kg (17.6 lbs) unpopulated

Input Voltage

100 VAC to 240 VAC 50/60 Hz

Input Power

50 Watt (chassis only)

Up to 350 Watt (depending on option modules fitted)

Environmental Conditions

Operating Temperature

-10°C to +50°C (14°F to 122°F)

Storage Temperature

-40°C to +85°C (-40°F to 185°F)

Relative Operating Humidity

10% to 90% (Non-condensing)

Compliance

CE marked in accordance with EU Low Voltage and EMC Directives

EMC Compliance

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

Safety Compliance

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