

AVP 3000 Voyager Configuration Packs



The AVP 3000 Voyager is the latest generation of the market leading Voyager product for live news, sports and entertainment, capable of multi-codec, multi-format and multi-channel operation. It is the most flexible and scalable news gathering system on the market, reflecting MediaKind's technology leadership and unique heritage in this segment.

The AVP 3000 Voyager excels in providing maximum flexibility, performance and interoperability while delivering best return on investment to operators and service providers through the widest range of software upgrade paths and expansion options. To make it simpler to select the most popular options, a set of five AVP 3000 configuration packs are now available at very attractive fixed prices.

The configuration packs provide a hierarchy of functionality starting with the HD DSNG, moving to Events and finally World Events pack.

Recent enhancements include the addition of an ASI I/O module to all packs, dual AC PSU for the top two packs and DVB-S2X support in the World Events pack.

It is possible to order an AVP 3000 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 3000 data sheet for details.

Product Overview

The most flexible integrated DSNG

Based on two decades of encoder design experience, and a series of SNG firsts the AVP 3000 Voyager is a future proof modular platform capable of multi-codec, multi-format and multi-channel operation. It now supports DVB-CID and DVB-S2X.

Highest compression performance

The AVP 3000 uses MediaKind'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-output

The AVP 3000 provides an L-Band or IF satellite output, as well as two IP output ports. It can be upgraded to provide ASI output or G.703 output.

Multi-codec

The AVP 3000 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 UHDTV is possible (using two AVP units).

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

Easy to operate

The AVP 3000 provides a web user interface that has been designed in consultation with our customers to provide a clear, simple and intuitive for the SNG operator. It can also be controlled via a fully functional front panel, which includes a high resolution display for video confidence monitoring.

Reassurance of World Wide Support

MediaKind can provide 24/7 global support.

Configuration Packs

HD DSNG

AVP 3000 Voyager Configuration Pack (AVP3000/CP/HD/DSNG/A)

- SD/HD MPEG-2 Encoding
- SD and HD MPEG-4 AVC Encoding
- 4 x 2.0 of MPEG-1 Layer II audio encode
- DVB-S/SNG/S2 Satellite Modulation
- ASI Output (2 Outputs) with Remux option
- BISS encryption

Six slot single PSU chassis (AVP 3000/BAS/1AC/A)

- Integrated redundant IP outputs.
- Fully functional front panel control including video confidence monitor.
- Voyager web user interface.

Satellite Modulator Output

- Integrated DVB-S/S2 Modulator with IF and L-Band outputs.
- DVB-S
- DVB-DSNG 8 PSK and 16QAM (AVP/SWO/VP/MOD)
- DVB-S2 QPSK and 8PSK (AVP/SWO/VP/MOD)

ASI I/O Module (CE/HWO/ASI/IO/A)

Encoder Module (CE/HWO/CE-xA/A)

- 3G/HD/SD-SDI video input
- Composite video input
- Embedded (SDI) and AES digital audio input
- Analogue audio input
- SD/HD MPEG-2 video encoding
- MPEG-4 AVC video encoding
- 4 x 2.0 of MPEG-1 Layer II audio encoding
- VANC data extraction and support for generic VANC (SMPTE 2038)

World Events

AVP 3000 Voyager Configuration Pack (AVP3000/CP/EVENTS/A)

As HD DSNG but adds:

- Dual AC PSU chassis

As above plus:

Six slot Dual PSU chassis (AVP 3000/BAS/2ACFL/A)

- 4:2:2 8 or 10 bit video encoding. (AVP/SWO/VP/x/CONT)

World Events

AVP 3000 Voyager Configuration Pack (AVP3000/CP/WORLD/EV/A) As Premium Events but adds: <ul style="list-style-type: none"> • External sync. input • DVB-S2X support • 4 more 2.0 of MPEG-1 Layer II audio encode • MediaKind Phase Aligned Audio license. 	As above plus: External sync input module (CE/HWO/EXTSYNC/A) <ul style="list-style-type: none"> • DVB-S2X support (AAVP/SWO/VP/MOD/ADV) • 4 x 2.0 of MPEG-1 Layer II audio encoding (giving 8 in total) (CE/SWO/VP/CONT/AUDIO x2) • MediaKind's Phase Aligned Audio (5.1) (CE/SWO/VP/CONT/AUDIO x2)
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Feature Matrix

<div> <div>■</div> = Included <div>□</div> = Field upgrade available </div>	HD DSNG	Events	World Events
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Chassis

Single AC Power Supply	■		
Dual AC Power Supply		■	■
Hot-Swappable Modules	■	■	■
Built-In Video Confidence Monitor	■	■	■

Baseband Video and Audio Inputs

Analogue Composite CVBS Interface	■	■	■
SD-SDI Interface	■	■	■
HD-SDI Interface	■	■	■
3 Gbps Capable HD-SDI Interface	■	■	■
Sync input (<i>External sync input option card</i>).	□	□	■
Discrete Audio Inputs (Analogue or AES)*	■	■	■
Balanced Analogue Audio*	■	■	■
Balanced Digital Audio (AES-EBU)*	■	■	■

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

■ = Included □ = Field upgrade available	HD DSNG	Events	World Events
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Video Encoding

MPEG-2 SD 4:2:0 Encoding	■	■	■
MPEG-2 HD 4:2:0 Encoding	■	■	■
MPEG-2 SD 4:2:2 Encoding	□	■	■
MPEG-2 HD 4:2:2 Encoding	□	■	■
MPEG-4 (AVC) SD 4:2:0 Encoding	■	■	■
MPEG-4 (AVC) HD 4:2:0 Encoding	■	■	■
MPEG-4 (AVC) SD 4:2:2 Encoding	□	■	■
MPEG-4 (AVC) HD 4:2:2 Encoding	□	■	■
MPEG-4 (AVC) HD 4:2:2 10-bit Encoding	□	■	■
MPEG-4 (AVC) HD 4:2:2 1080p 50/60 fps	□	□	□
JPEG 2000 SD 4:2:2 Encoding	□	□	□
JPEG 2000 HD 4:2:2 Encoding	□	□	□

Audio Encoding

MPEG-1 Layer II Encode (stereo pairs)	4□	4□	8□
Dolby® Digital (AC3) Encode (2.0 or 5.1)	□	□	□
AAC Encode (2.0 or 5.1)	□	□	□
Phase Aligned Audio Encode	□	□	□2
Linear PCM Pass-Through	■	■	■
Dolby® Digital (AC3) Pass-Through (2.0 or 5.1)	■	■	■
Dolby®E Pass-Through (Compressed)	■	■	■

<input checked="" type="checkbox"/> = Included <input type="checkbox"/> = Field upgrade available	HD DSNG	Events	World Events
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Encryption

BISS Encryption (Modes 1 and E)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
RAS Encryption (satellite output only)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Transport Stream

IP Output	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DVB-S/S2/DSNG Satellite Output	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DVB-S2 Higher Order Modulation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DVB-S2X Modulation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ASI Input (Re-multiplexing)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ASI Output	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G.703 Output	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SMPTE 2022 Forward Error Correction	<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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Specifications

Inputs

Video	<p>3G/HD/SD-SDI serial digital video with EDH error detection and health monitoring</p> <p>Analogue CVBS Input NTSC and PAL (PAL-M not supported)</p> <p>Input Level 800 mV ptp ± 10 percent</p> <p>Return loss >15 dB, 10 MHz to 270 MHz</p>
Audio	<p>Up to eight stereo pairs embedded on HD-SDI</p> <p>Up to four stereo pairs via AES EBU (Connector via D-Type to XLR)</p> <p>Supports both balanced (AES3) and unbalanced (AES3id) digital audio inputs</p> <p>48 kHz sampling rate</p> <p>2 x Stereo Analogue Audio inputs</p>

Video Encoder

Video Encoder	<p>MPEG-4 AVC Main Profile @ Level 4.0 (1 Mbps to 20 Mbps) (CE/SWO/CE-x/H264)</p> <p>MPEG-4 AVC High Profile @ Level 4.0 (1 Mbps to 25 Mbps) (CE/SWO/CE-x/264 + CE/SWO/CE-x/HD)</p> <p>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)</p> <p>MPEG-2 Video Main Profile @ Main Level (Base Card)</p> <p>MPEG-2 Video Main Profile @ High Level (CE/SWO/CE-x/HD)</p> <p>1 Mbps to 80 Mbps bit-rate range (depends on profile/level supported)</p> <p>CABAC entropy encoding up to 62.5 Mbps</p> <p>Manual CABAC switching-point override</p> <p>Triple pass "Pixel Perfect" fully exhaustive motion estimation</p> <p>Multiple low latency modes supporting delays down to <100ms* end-to-end delay (when used in conjunction with a RX8200 receiver.)</p> <p>*Configuration dependant.</p>
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Audio Encoder

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) (Patented MediaKind Technology)	Encoding of 6 or 8 audio channels with time synchronous samples.

Ancillary Data

Ancillary Data	<p>SMPTE 334-1 Closed Captions</p> <p>SMPTE 2016-3 AFD and Bar Data</p> <p>SMPTE 12-2 Time code extraction and carriage (ETSI TS101 154)</p> <p>SMPTE 2038 Generic VANC data extraction, up to 2 Mbps</p>
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Transport Stream Interfaces

IP Output	<p>2x Electrical Ethernet (100/1000BaseT)</p> <p>Physical port redundancy with active-active and active-standby operation</p>
ASI	2 x ASI Input 2 x ASI Output

Satellite Modulator

Satellite Modulator	<p>Base unit supports both 70 MHz IF output and L-band output.</p> <p>DVB-CID support.</p> <p>Signal conditioning: EN 300 421 (DVB-S) and option for EN 301 210 (DVB-DSNG) EN302-307 (DVB-S2)</p> <p>Modulation: QPSK and option for 8PSK, 16QAM, DVB-S2 QPSK, 8PSK, 16APSK, 32APSK (Roll Off 0.05, 0.10, 0.15, 0.20, 0.25 0.35)</p> <p>Symbol Rate: 1 Msym/s to 45 Msym/s (variable in 1 Sym/s increments). Optional extension to 66 Msym/s</p> <p>FEC rates:</p> <p>1/2, 2/3, 3/4, 5/6 and 7/8 (DVB-S QPSK)</p> <p>2/3, 5/6 and 8/9 (DVB-DSNG 8PSK)</p> <p>3/4 and 7/8 (DVB-DSNG 16QAM)</p> <p>1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9 and 9/10 (DVB S2 QPSK)</p> <p>3/5, 2/3, 3/4, 5/6, 8/9 and 9/10 (DVB-S2 8PSK)</p> <p>2/3, 3/4, 4/5, 5/6, 8/9 and 9/10 (DVB-S2 16APSK)</p> <p>3/4, 4/5, 5/6, 8/9 and 9/10 (DVB-S2 32APSK)</p> <p>13/45, 9/20, 11/20 (DVB-S2X QPSK)</p> <p>23/36, 25/36, 13/18 (DVB-S2X 8PSK)</p> <p>5/9, 26/45 (DVB-S2X 8APSK-L)</p> <p>26/45, 3/5, 28/45, 23/36, 25/36, 13/18, 7/9, 77/90 (DVB-S2X 16APSK)</p> <p>5/9, 8/15, 1/2, 3/5, 2/3 (DVB-S2X 16APSK-L)</p> <p>2/3 (DVB-S2X 32 APSK-L)</p> <p>11/15 (DVB-S2X 64 APSK)</p>
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IF Output Option	IF frequency: 50 MHz to 180 MHz (1 kHz steps) Output power: -30 dBm to +5 dBm (0.1 dB steps) Monitor output: -30 dB relative to main IF output
L-band Output Option	Frequency: 950 MHz to 2150 MHz (1 kHz steps) Output power: -40 dBm to +5 dBm (0.1 dB steps) Monitor output: -30 dB relative to main output Switchable up-converter power: +15 V and 24 VDC, 500 mA max. Switchable 10 MHz reference

Management

Management	2x Electrical Ethernet (100/1000BaseT) SNMP v1/v2/v3, for alarm traps User management via Web browser Fully functional front panel control
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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

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