



# ERICSSON VOYAGER II INTEGRATED DSNG

## Voyager II Multi-Format Integrated DSNG

Voyager II is Ericsson's fifth generation DSNG and is the most flexible and scalable news gathering product on the market, reflecting Ericsson's technology leadership and unique heritage in this segment.

Voyager II excels in providing maximum flexibility, performance and interoperability while delivering the best return on investment to operators and service providers through the widest range of software upgradeable paths and expansions options.

Based on in-house technology, Voyager II is built upon a revolutionary modular chassis in a space-saving 1RU form factor with up to six hot swappable option slots. It supports a comprehensive range of processing options, including the multi-codec, multi-format "x-series" range of encoders. An integrated satellite modulator offers high order DVB-S/S2 modulation on both IF and L-Band outputs.

Voyager II features a fully functional front panel re-engineered bottom-up to meet the demand of the mobile environment, including ease of operations, quick menu access and effective monitoring. Overall it represents the most advanced DSNG unit on the market, offering broadcasters, operators and service providers the level of integration, flexibility and scalability necessary to future-proof any operational investment during today's technology migration.

## PRODUCT OVERVIEW

### Outstanding innovation delivers the most flexible integrated DSNG

Based on two decades of encoder design experience and a series of DSNG world's first's, Voyager II is a radical new design. Based on Ericsson's in-house technology, Voyager II targets today's network technology migration with a future-proof modular platform, capable of multi-codec, multi-format and multi-channel operations. Highly flexible, Voyager II provides a multitude of independent and concurrent output options, including IP, ASI and an integrated DVB-S and DVB-S2 satellite modulator providing high order modulation on IF and L-Band outputs.

### Multi-codec

Voyager II supports the CE-x\*\*\* (x-series) of encoding option modules, a single multi-codec platform enabling the migration to the highest quality MPEG-4 AVC HD 4:2:2 10-bit, while maintaining compatibility with legacy MPEG-2 networks.

### Efficient use of spectrum

Voyager II delivers compression efficiencies that allow over 30 percent bandwidth savings compared to MPEG-2 Video at contribution rates. It also supports DVB-S2 high order modulation on both IF and L-Band outputs, guaranteeing a further 30 percent saving on transmission bandwidth compared to DVB-S.

### Scalable, expandable and re-purposable

All modules in Voyager II are hot swappable to allow on-site servicing, expansion of the unit functionality and easy re-purposing of units for multiple applications.

### Software upgradeability

Voyager II x-series encoding modules are based on a single, future-proof, hardware platform. This enables system scalability all the way from MPEG-2 SD 4:2:0 operations to the highest quality MPEG-4 AVC HD 4:2:2 10-bit through simple software upgrades. Support for features such as 1080p50/60 and multi-channel operations including 3D will also be available through a mixture of licenses and software upgrades on the hardware platforms available today.

### Fully functional front panel operations

A new fully-functional front panel provides complete unit control in mobile environments. Its unique ergonomic new design is the result of development based on industry feedback and includes:

- Rotary control for fast item selection and key-pad for easy value insertion
- High-resolution display and video/audio confidence monitoring
- Quick access menus specifically designed for mobile operations with customizable shortcuts and ample configuration storage

## BASE UNIT FEATURES

### Voyager II Chassis

#### (VOY/CHASSIS/1AC/CMON)

- Specifically designed for mobile applications and environments
- Hot swappable option slots

### Base Chassis Includes

- Integrated DVB-S/S2 modulator with IF and L-Band outputs
- Integrated redundant IP outputs
- Fully functional front panel control with highest level of monitoring and control
- Web browser control

### Chassis Platform Capabilities

- MPEG-2 Transport Stream generation
- Multiple concurrent and independent output options
- DVB-S (QPSK), DVB-DSNG\* (8PSK, 16QAM) and DVB-S2\* (QPSK, 8PSK, 16APSK and 32APSK) modulation
- 1 Msym/s to 66 Msym/s operations\*
- Exceptional modulation accuracy and spectral purity
- SMPTE 2022-1/-2 (Pro-MPEG) FEC\*
- BISS 1/E\* (as defined in EBU Tech 3292, May 2002) and RAS encryption

\* Activation through license as shown under software options

## HARDWARE OPTIONS

### CE-x\*\*\* (x-series) Encoder Modules

#### (CE/HWO/CE-x/\*\*\*\*)

- Two slots per module.
- 3G/HD/SD-SDI, video input
- MPEG-2 Video and MPEG-4 AVC encoding capabilities\*
- 4:2:2 and 4:2:0 Chroma sampling modes\*
- Up to 10-bit precision and 1080p50/60 resolution\*
- 1 Mbps up to 80 Mbps video bit-rate\*
- Embedded (SDI) and AES-EBU audio input
- Up to eight stereo pairs of audio encoding and pass-through
- VANC data extraction and support for generic VANC (SMPTE 2038)

\* Exact capabilities depend on module choice; please refer to CE-x\*\*\* datasheet for a more detailed description

### External Synchronization Module

#### (CE/HWO/EXTSYNC)

- One slot per module. Up to one module per chassis
- Supports synchronization of all encoders in the chassis to support single PCR operation
- 10 MHz or HSYNC input

### ASI I/O Module

#### (CE/HWO/ASI/2IN2OUT)

- One slot per module
- 2x ASI MPEG-2 Transport Stream mirrored outputs
- Option for 2x ASI MPEG-2 Transport Stream independent inputs

## SOFTWARE OPTIONS

### SMPTE 2022 Forward Error Correction (FEC)

#### (VOY/SWO/PROFEC)

- SMPTE 2022-1/-2 (Pro-MPEG) FEC on a single SPTS/MPTS output
- Support for up to 16 independent FEC on multicast outputs

### Encryption

#### BISS (VOY/SWO/BISS)

- Encryption of output MPEG-2 Transport Stream using Basic Interoperable Scrambling Scheme (BISS) for secure contribution links
- Supports BISS Modes 0, 1 and Mode E (as defined in EBU Tech 3292, May 2002)

### RAS

- Ericsson's RAS scrambling scheme available free of charge on all Voyager II units

### DVB-DSNG Modulation

#### (VOY/SWO/DVBDSNG)

- DVB-DSNG 8PSK and 16QAM modulation

### DVB-S2 Modulation

#### (VOY/SWO/DVBS2)

- DVB-S2 QPSK 8PSK and 16QAM

#### (VOY/SWO/DVBS2/HOM)

- Higher order modulation support of DVB-S2 16APSK and 32APSK

### High Symbol Rate Modulation

#### (VOY/SWO/HSYM)

- Enable extended symbol rate range from 45 Msym/s to 66 Msym/s



## SPECIFICATIONS

### IP Transport Stream Interfaces

#### Input

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

#### Output

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

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

Multicast streaming

### Satellite Modulator

Base unit supports both 70 MHz IF output and L-band output.

Signal conditioning: EN 300 421 (DVB-S) and option for EN 301 210 (DVB-DSNG) EN302-307 (DVB-S2).

Modulation: QPSK and option for 8PSK, 16QAM, DVB-S2 QPSK, 8PSK, 16APSK, 32APSK.

Symbol Rate: 1 Msym/s to 45 Msym/s (variable in 1 Sym/s increments ). Optional extension to 66 Msym/s.

#### FEC rates:

1/2, 2/3, 3/4, 5/6 and 7/8 (DVB-S QPSK)

2/3, 5/6 and 8/9 (DVB-DSNG 8PSK)

3/4 and 7/8 (DVB-DSNG 16QAM)

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)

3/5, 2/3, 3/4, 5/6, 8/9 and 9/10 (DVB-S2 8PSK)

2/3, 3/4, 4/5, 5/6, 8/9 and 9/10 (DVB-S2 16APSK)

3/4, 4/5, 5/6, 8/9 and 9/10 (DVB-S2 32APSK)

#### 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

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

SNMP v1/v2/v3, for alarm traps

User management via web browser and XML

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

40 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 and FCC CFR47 Part 15B Class A

#### Safety Compliance

EN60950, IE60950



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