



## UE-9000 Series Universal Encoder

The versatile UE-9000 series provides a universal solution for current and future encoding needs. The platform enables smooth migration from MPEG-2 to H.264, allowing either or both formats to be transmitted concurrently over ASI and IP networks. The UE-9000 can be integrated into open or closed-loop statistical multiplexing architectures to provide superior image quality and bandwidth efficiency

### Model descriptions

The UE-9000 series features five product lines:

- UE-92X0 - MPEG-2 Multi-Channel Encoder
- UE-93X0 - MPEG-2 / H.264 Encoder
- UE-94X0 - H.264 Encoder
- UE-9500 - Audio-Only Encoder
- UE-9216/9217/ 9318/9818 - DVB-S / DVB- S2 DSNG Platform
- UE-9800 - HD H.264 Encoder (future release)

### Series Highlights

- Up to 4 channel MPEG-2 encoding
- Dual-channel H.264 encoding
- Simultaneous H.264 / MPEG-2 encoding
- Two dual pass MPEG-2 channels
- CBR/VBR/ capped VBR support
- Simultaneous IP and ASI outputs
- Up to 8 audio stereo channels or 16 mono channels
- Advanced multiplexing for cascading and multi-services
- Integrated SCTE-35 detection
- DVB/ATSC compliance

### Business Benefits

Simultaneous encoding of both MPEG-2 and H.264 supports future and current networks

Multi-channel encoding reduces operational costs

Versatile platform for future upgrades

Integrated IP, ASI and satellite (DSNG models) outputs

Dedicated DSNG unit supporting DVB-S/DVB-S2

# UE-9000 Series Capabilities

## Dense Architecture Platform

### UE-92x0 - MPEG-2 Multi-Channel Encoder

The UE-92x0 platform offers cost-effective multi encoding capability. Housed in a 1RU slim-line chassis, the UE-9000 multi-channel encoder features low power consumption.

It encodes up to 4 independent MPEG-2 video channels and 8 stereo or 16 mono audio channels, generating one multi-service transport stream.

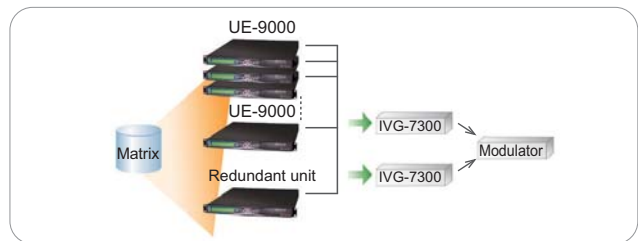


## Closed-Loop Statistical Multiplexing

The UE-9000's dense encoding architecture enables it to encode two dual-pass channels in a 1RU chassis. The solution leverages Scopus' TriplePass™ statistical multiplexing approach, utilizing dual pass encoding and pre-processing.

The UE-9000 can be used in open or closed-loop architectures and with a simple software upgrade, can serve as part of a statistical multiplexing system.

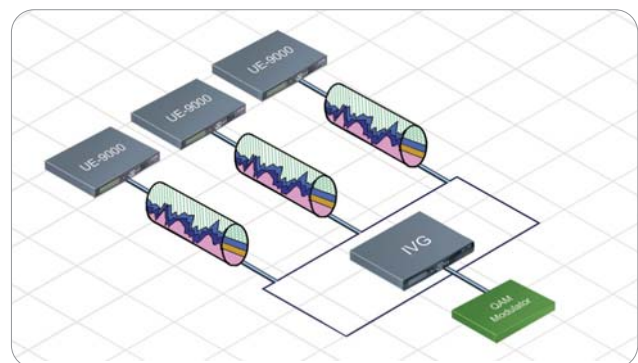
Together with the IVG-7000 and a network management system, the UE-9000 forms a complete statistical multiplexing system that needs only half the rack space of other solutions.



## Open-Loop Statistical Multiplexing

The UE-9000 capped VBR feature offers bandwidth reclamation for applications including IPTV and switched digital video delivery in the cable environment. In capped VBR working mode, the encoder will not encode video with more bits than are needed and will not exceed the maximum bit limit.

The UE-9000 offers up to four capped VBR channels. Together with IVG-7000 statistical multiplexing and the rate shaping mechanism, utilizing the capped VBR option of the encoder can achieve noticeable bit rate savings, with no degradation in video quality.



# UE-9000 Series Applications

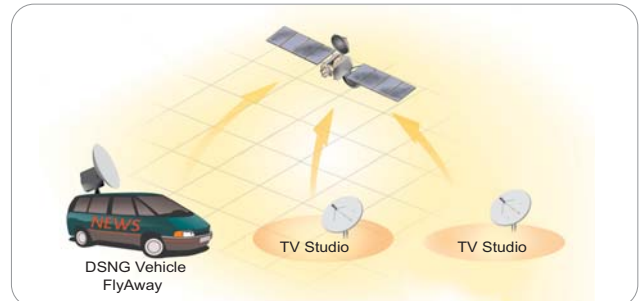
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## Satellite News Gathering

### UE-9xx8 DSNG - DVB-S2 Encoder

Scopus' DSNG unit features DVB-S2/DVB-S capabilities, software upgrade to H.264 and simultaneous IP and satellite outputs.

Based on Scopus' extensive DSNG experience, the UE-9xx8 is a state-of-the-art unit featuring a low-delay mode, front panel control and cascading capabilities that provide outstanding video and audio quality.



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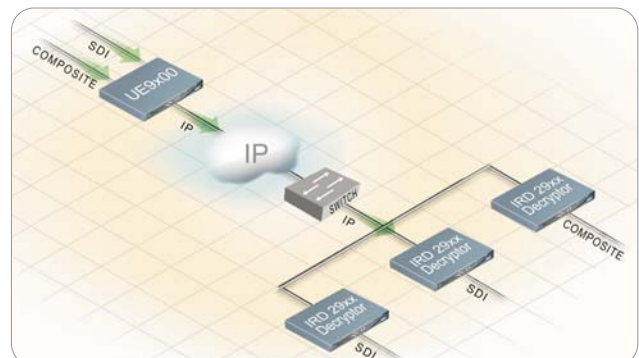
## H.264/MPEG-2 Standard Definition

### Point-To-Point Contribution / Distribution:

- UE-93x0 - MPEG-2 / H.264 Encoder
- UE-94x0 - H.264 Encoder

The UE-9310 is Scopus' solution for migration from MPEG-2 to the advanced H.264 encoding scheme. With IP and ASI outputs and simple S/W upgrade to H.264, the unit supports both legacy and future needs.

The UE-9410, with native H.264 and IP outputs, is Scopus' solution for IPTV. It is ready for integration with Scopus Network Management System.



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## H.264 High Definition Encoding

The UE-9810 H.264 encoder provides superb picture quality at low bitrate. The feature-rich encoder smoothes the migration path from SD to HD encoding formats. The UE-9810 meets all high-resolution video compression needs.

Its integrated ASI and IP outputs and advanced multiplexing capabilities make it suitable for broadcast, satellite, cable, and IP applications. The UE-9810 is available as a 1-rack unit chassis. A DSNG version is also available.

# UE-9000 Series Specifications

## Inputs

### Video

- UP to 4 video inputs
- Simultaneous MPEG-2/H.264
- Video formats: NTSC/PAL
- Input format: C/V and/or SDI

### Video Resolution

- Horizontal: 720, 704, 640, 544, 528, 480, 368, 352
- Vertical:
  - NTSC-480, 240
  - PAL-576, 288

## Pre-Processing

- Analog/digital TBC, frame synchronizer
- Automatic frame re-sizing
- 3:2 pull down

## Video Processing

### Video Encoding Formats

- MPEG-2 4:2:0 MP@ML
- MPEG-2 4:2:2 MP@ML
- H.264 MP@L3 (0.5 Mbits/s to 2.5 Mbits/s)

### VBI Processing

- CC
- WSS
- Teletext (WST)
- VPS
- AMOL
- TV Guide

## Output

### DVB/ATSC interface

- 3xASI outputs

### Output Rate

- Up to 60Mbps

### IP Output

- Dual IP output
- 10/100 Base-T, RJ-45, auto-negotiation, auto MDI/MDXI crossover
- UDP/RTP
- FEC (Pro MPEG)
- Supports M-SPTS

## Control and Monitoring

### Remote

- Web-based management
- SNMP

### Local

- Graphical easy-to-use front panel with quick access keys and alphanumeric keypad

## Physical Characteristics

### Size

- 1RU (19" rack)
- Dimensions (W x H x D):  
4.4 cm x 43.9 cm x 48.9 cm (1.75" x 17.1" x 19.1")

## Environment

### Temperature

- Operating: 0°C - 50°C
- Storage: -20°C - -70°C

## Compliance

### EMC

- FCC part 15
- EN55022

## Audio

- Up to 8 stereo or 16 mono channels
- Input format: Analog/AES-EBU/embedded
- Integrated sample rate converter (SRC)

## Sync-Lock

- Black burst input
- Loop-through to feed other equipment

## ASI Input

- Built-in multiplexer for encoder cascading
- Passive loop-through for cascading redundancy
- Up to 40 Mbps

- Adaptive filters according to video content

- Human Visual Preceptivew™ filter (optional)
- Advanced dynamic noise reduction (optional)

## Audio Encoding Formats

- MPEG-1 Layer 2 (Musicam)
- Dolby Digital 2.0 (AC-3)
- AAC (LC)
- Dolby 5.1 pass-through
- Linear audio pass-through (optional)
- Dolby-E pass-through (optional)

## Audio Mode

- Stereo, joint stereo, single channel, dual channel
- Sampling rates: 32K, 44.1K, 48K

## Encoding Rate

- Musicam - 64 Kbps to 640 Kbps
- Dolby Digital - 56 Kbps to 640 Kbps
- AAC/LC - 64 Kbps to 192 Kbps (stereo)

## L-Band Modulator

- DVB-S/DVB-S2
- Frequency range 950-1750 MHz (1KHz steps)
- Output power -7dBm - -50dBm (1db steps)
- L-Band monitoring
- QPSK/8PSK/16QAM/16APSK

## IF Modulator

- DVB-S/DVB-S2
- Frequency 50-180MHz (1KHz steps)
- Output power +5dBm - -30dBm (1db steps)
- L-Band monitoring
- Selectable output impedance 50Ω/ 75Ω

## SW Upgrade

- Easy to use FTP (File Transfer Protocol)

## Dry contact alarms (GPI)

- 1 output for various status and faults

## Presets

- Up to 16 different configurations

## Weight

- 5 kg (10 lbs)

## Power

- Voltage 90-260VAC, -48 DC (optional)
- Power consumption (Max): 30W per channel

## Humidity

- 85% non-condensing

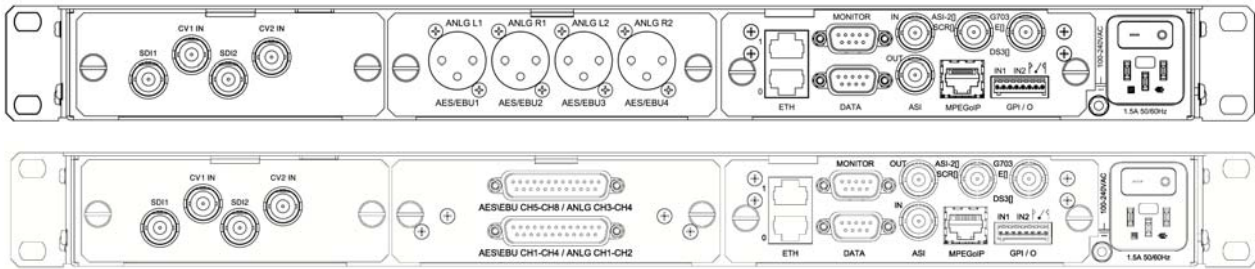
- EN55024

## Safety

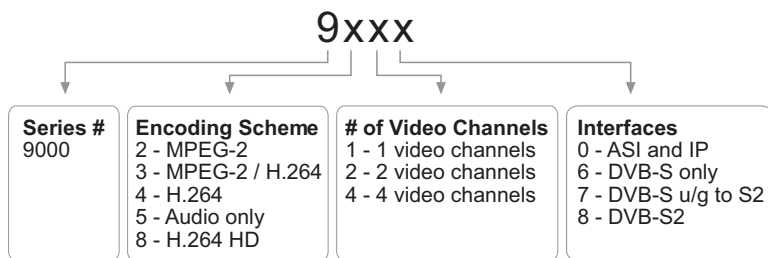
- EN 60950

The above features apply to the UE-9000 Series overall.  
For detailed model specifications please refer to product data sheets





# UE-9000 Series Specifications



## Basic Features

- IP output
- Up to 3 ASI outputs (in 9xx0 models)
- ASI input for cascading of up to 16 units
- Passive ASI loop-through
- Pre-programmed setups
- Analog and/or SDI video inputs
- Sync-Lock (in 92xx models)
- 4 stereo channels (Dolby/AAC/ Musicam)
- GPI output
- Web management
- Front panel control

	9210	9220	9240	9310	9320	9410	9420	9500	9810	9216	9217	9318	9818
MPEG-2 encoding	Y	Y	Y	Y	Y	-	-	-	-	Y	Y	Y	-
4:2:2 upgrade	0	0	0	0	0	-	-	-	-	0	Y	Y	-
H.264 SD encoding	-	-	-	0	0	Y	Y	-	Y	-	-	0	Y
H.264 HD encoding	-	-	-	-	-	-	-	-	Y	-	-	-	Y
Dual-Pass closed-loop statistical multiplexing	-	0	0	-	-	-	-	-	-	-	-	-	-
Open-loop statistical multiplexer	Y	Y	Y	0	0	0	0	-	0	-	-	-	0
DSNG output	-	-	-	-	-	-	-	-	-	Y	Y	Y	Y

Y - Basic feature    O - Optional    “-” - Not supported    **Check for specific model availability**

**Americas**  
Tel: +1 609 9878090  
Fax: +1 609 9878095  
www.scopus.net  
info\_us@scopus.net

**Argentina**  
Tel: +54 11 52354565  
www.scopus.net  
info@scopus.net

**Brazil**  
Tel: +55 12 39239208  
www.scopusbrasil.com.br  
scopusbrasil@scopusbrasil.com.br

**China**  
Tel: +86 10 65880035/6/7  
Fax: +86 10 65880039  
www.scopus.cn  
info@scopus.cn

**India**  
Tel: +91 22 67939291  
Fax: +91 22 67939299  
info@scopus.net

**Israel**  
Tel: +972 3 9007777  
Fax: +972 3 9007888  
www.scopus.net  
info@scopus.net

**Japan**  
Tel: +81 3 57787073  
Fax: +81 3 57176092  
info-japan@scopus.net

**Russia**  
Tel: +7 495 7893580  
Fax: +7 495 7893579  
www.scopus.ru  
info@scopus.ru

**Thailand**  
Tel: +66 107433485  
info@scopus.net

**UK**  
Tel: +44 208 6106038  
Fax: +44 208 6106818  
info@scopus.net

**Professional Services:**  
(Tech Support)  
Tel: +972 3 9007800  
Fax: +972 3 9007866

SVN 0407