The TVG430 provides a cost-effective solution for transport of HD-SDI signals over IP networks and ASI links.

Use of JPEG 2000 compression allows efficient compression of HDTV signals with visually lossless quality, and minimal latency.

By taking advantage of the inherent flexibility of IP, broadcasters are offered an efficient, affordable and scalable solution for professional quality high definition video contribution.

The TVG430 provides JPEG 2000 compression of HD-SDI signals allowing transmission of HDTV signals over Gigabit Ethernet links as well as over DVB ASI links.

Applications
• Professional broadcast contribution
• Live sports and event contribution
• Studio-to-studio media exchange
• Managed video services over IP

Key features
• Visually lossless JPEG 2000 4:2:2 10-bit compression
• Single-channel HD/SD JPEG 2000 encoding or decoding
• Very low end-to-end latency
• MXF/IP encapsulation ensures perfect synchronization of video, audio channels and ancillary data.
• FEC for video over IP with no extra latency
• IP unicast or multicast
• Built-in VLAN and IP QoS support
• Integrated decoder frame store and reference sync
• Highly efficient error correction and concealment
• User-friendly web GUI for monitoring and control
TVG430 HD JPEG 2000 Gateway

JPEG 2000 compression technology
Each frame/field is encoded with JPEG 2000 Part 1 image compression, with native 10-bit resolution and 4:2:2 YCbCr sampling. JPEG 2000 typically provides visually lossless video quality at a compression ratio of 10:1.

Encoding or Decoding
The TVG430 has 2 operational modes; encoder or decoder. It is possible to switch the mode from the web user interface. Switching mode requires a quick restart.

Transparent audio handling
The TVG430 supports transmission of up to 16 mono channels of embedded audio for SD/HD-SDI. Handling of embedded audio, whether it’s linear PCM or pre-compressed audio, is fully transparent.

MXF/IP encapsulation
MXF/IP encapsulation ensure perfect synchronization of video, multi-channel audio and associated ancillary data.

Robust transmission over IP
The TVG430 includes a number of features to ensure robust operation and graceful degradation in presence of IP transport impairments; buffering for IP jitter compensation, packet reordering, FEC and highly efficient error concealment.

Forward Error Correction (FEC)
FEC provides protection against intermittent and short burst packet loss, and does not require any additional latency.

ASI transport interface
The TVG430 is equipped with an optional ASI input/output interface card which allows transmission of HD-SDI signals over ASI links.

Integrated refsync
The TVG430 decoder has a built-in refsync input for locking the output SDI signal to an external reference sync signal.

Test image transmission
An encoder can be configured to transmit an internally generated test image at a configurable constant bitrate to allow testing of network links prior to a live event.
**Video Interfaces**
- **Input:** HD-SDI (SMPTE 292M-1998)
- **Output:** HD-SDI (SMPTE 292M-1998)
- **Connector:** Female BNC
- **Reference Input:** SDI (SD/HD)

**Network Interfaces**
- **Type:** 100/1000Base-T Ethernet
- **Protocols:** IEEE802.3 Ethernet, RTP, ARP, IPv4, ICMPv4/2/3, TCP/UDP
- **Connector:** RJ45, SFP Module (Option)

**Transport Stream Interface (option)**
- **Type:** DVB ASI, Female BNC

**Video Encoding**
- **Encoding:** JPEG2000
- **IP Encapsulation:** MXF over RTP
- **IP Bitrate:** 25 to 250 Mbit/s
- **Forward Error Correction:** SMPTE 2022 FEC

**Video Formats**
- **SD 625 / 525 lines:**
  - 25i / 29i
- **1280x720:**
  - 50p / 60p
- **1920x1080:**
  - 23pfx / 23p / 24pfx / 24p / 25p
  - 30p / 30i / 60p
- **2048x1080:**
  - 23pfx / 23p / 24pfx / 24p / 25p

**Audio and Ancillary data**
- **Audio formats:** Embedded audio (SMPTE 299M-1997)
- **Data formats:** HD Timecode, Closed Caption,
  - Subtitling SMPTE RDD10,
  - AFD SMPTE 2016,
  - SD, wST Teletext, Closed Captioning, Video
- **Audio/video synchronization:** +/- 1 line

**Control and Management**
- **Type:** 10/100 Base-T Ethernet
- **Features:** Element control through HTTP/WEB,
  - SNMP traps for integration with NMS
- **SNMP control:** XML
- **Protocol:** HTTP, XML, SNMP v2
- **Connector:** RJ45
- **Alarm Relay:** 9 pin D-SUB
- **Maintenance Port:** RS232 9 pin D-SUB

**Physical and Power**
- **Input Voltage:** 100-240V AC +/- 10%
- **Input Voltage Option:** -48V DC
- **Dimensions:** 1RU, ½-width 19''
  - (WxDxH) 210 x 300 x 44.5mm
- **Installation:** 19'' rack mounting kit supplied

**Environmental Conditions**
- **Operating Temperature:** 0°C - +50°C
- **Storage Temperature:** -20°C - +70°C
- **Relative Humidity:** 5% to 95% (non-condensing)

**Compliance**
- **CE:** 73/23/EEC (Low voltage equipment)
  - 89/336/EEC (Electromagnetic compatibility)
- **CSA:** Designed for CSA approval
- **Safety:** IEC60950 and EN60950
- **EMC:** EN55022, EN55024, EN61000-3-2

**Product Options**
- **TVG430-HD-SDI-J2K-IP**
- **TVG430-HD-SDI-J2K-IP-ASI**
- **TV-HW-OPT-DC**
- **TVG430-ENC**
- **TVG430-DEC**
- **TVG430-FEC**
- **TVG430-TCON**
Nevion Video Gateways are a line of compact, powerful and cost-effective products designed for real-time contribution and distribution of broadcast quality video over IP networks.

By taking advantage of the inherent flexibility of IP networking, the Video Gateways provide broadcasters and service providers with flexible, efficient and scalable solutions for high quality professional video transport. The Video Gateway portfolio includes the market leading Transport Stream Gateway - the TVG425 - and the industry’s first combined SD/HD/3G/3D JPEG 2000 contribution solution - the TVG450.