SmartGate OneBeam

DVB-SIS Control Stream Generator

SmartGate OneBeam is ENENSYS control-stream generator part of the DVB Single Illumination System (DVB-SIS), installed at the head-end and deployed since 2014 in several countries.

Until now, two different distribution networks have been required to deliver a content bouquet to DTH and DTT (DVB-T/T2) viewers. OneBeam is the ENENSYS end-to-end solution to build DTT multiplex from one or two DTH sources. It relies on the same satellite transponder to deliver both DTH services and to feed DTT transmitters, drastically reducing the OPEX costs with fast ROI.

OneBeam Orchestrator

Running at the head-end, the SmartGate OneBeam is the central body of the OneBeam solution, providing in-band control and signaling to remote TxEdge. It provides the whole DTT configuration as a regular MIP inserter or DVB-T2 Gateway and generates the SFN timestamp information. It also provides the description of in-band services, stemming from one or two feeds, to assign to the resulting DTT multiplex and defines the related SI to update. In DVB-T, it can generate the MIP packet. The SmartGate can be used as a standalone product as an input of the multiplexer.

Seamless Redundancy – TXGuard

ENENSYS' patented technology, TxGuard, is the unique 1+1 redundancy mechanism that guarantees seamless switch-over, avoiding TV black-outs during switch-over operations between redundant SmartGates. The TxGuard applies to ENENSYS' seamless switches, ASIIPGuard or IPGuard V2, to perform the seamless switch-over operation.

Emergency Warning System

As an option, it offers Emergency Warning System (EWS) support, providing information about immediate dangers such as earthquakes, tsunami, etc. The TxEdge replaces all the services in the SFN/DTT multiplex by one EWS service under EWS trigger-control, generated by ENENSYS EWSCaster.

Standard Solution

OneBeam solution is fully compliant to the newly DVB-SIS standard, providing interoperability with any vendors.

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Applications

- Simulcast DTH services and Terrestrial DTT
- Create DTT multiplex from existing DTH services
- Secure DTT site feeds using DTH signal as redundancy
- Covering DTT 'black spots' with DTH services
- Deploy regional service broadcasting
- Implement Emergency Warning System

Other benefits

- Straight-forward OPEX cost reduction
- Short-term Return on Investment (ROI)
- Unmatched field proven technology
- End-to-End solution with TXEdge adapters
- DTT SFN roll-out
- Fully compliant with DVB-SIS standard
- Transparent for DTH receivers
- Reuse existing head-end system

Technical specifications

INPUTS

Control
1x Gigabit Ethernet (RJ45) for GUI/SNMP

GPS
1x PPS (BNC 50 Ω)
1x TNC for internal GPS

MPEG-2 TS
2x ASI inputs (BNC)
Up to 2x Gigabit Ethernet (RJ45) for MPEG-2 TS carried over IP inputs

OUTPUTS

MPEG-2 TS with DTTMarkers
2x mirrored ASI (BNC) outputs
Up to 2x Gigabit Ethernet (RJ45) for TS over IP streams

FEATURING

DVB-SIS standard
TS 103 615 V1.1.1

DSACI generation
In-band control of remote TxEdge for configuring services and SI related data to be delivered from one or two DTH feeds.

DVB-T2 standard
V1.1.1, V1.2.1, V1.3.1,V1.4.1 support
Single and Multiple PLP support
2 PLP supported by default

Regionalization
Definition of multiple T/T2 multiplex from the same DTH source

IP management
Up to 4x Gigabit ports - option
Allow 1+1 redundant IP input and mirrored IP output

F&TI insertion
Generation of Framing and Timing packets to enable remote TxEdge to generate SFN capable DVB-T/T2 multiplex
Support satellite bit rate adaptation

DVB-T MIP generation
Inserting MIP packet into the TS for DVB-T SFN broadcasting

TxGuard - 1+1 redundancy
Synchronize 1+1 SmarGate to avoid TV blackout during switch-over with seamless switch ASIIPGuard or IPGuardV2.

In-band firmware
Delivering in-band firmware to be sent in broadcast towards all TxEdge - option

Monitoring
Real-time monitoring of incoming streams, Web-based GUI

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PHYSICAL

HDc

Height
43 mm / 1.69 in.

Width
443,7 mm / 17.46 in.

Depth
322,8 mm / 12,70 in.

Format
1 RU, width 19”

Front Panel
LCD Display and controls

Power supply
100-240V 50/60Hz or 48V DC

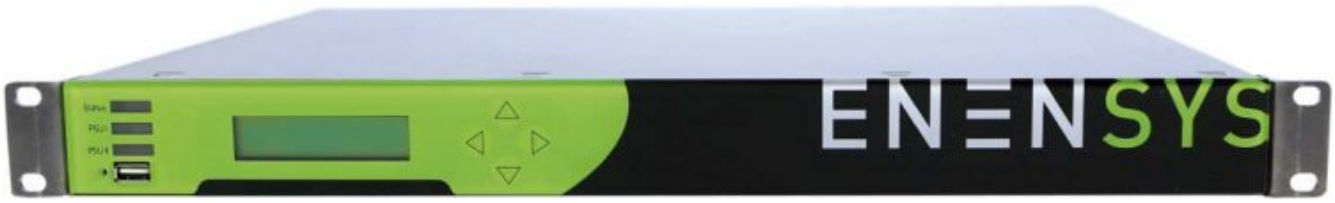
Control IP Port
1x Gigabit Ethernet (RJ45) control port

Data IP Ports
2x Gigabit Ethernet (RJ45) data port

Power consumption
20W/module

Operating temperature
0 to 50°C / 0 to 122°F with 3 modules - 0 to 45°C / 0 to 113°F with 6 modules

Front



Back

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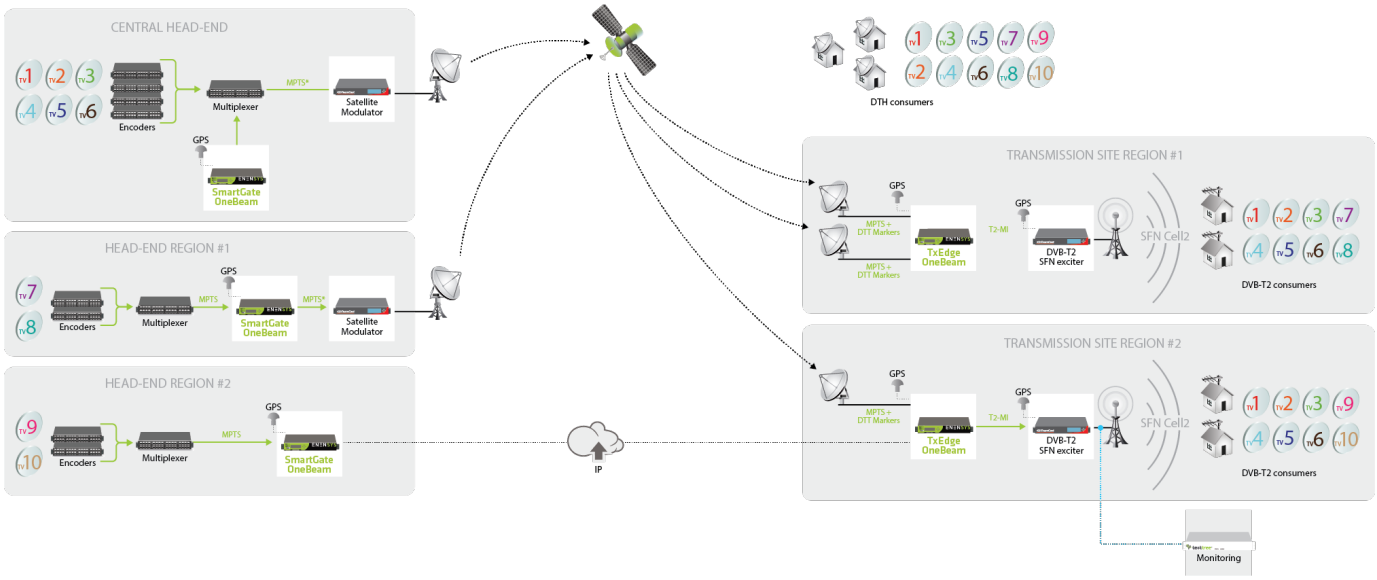
OneBeam DVB-T2 architecture



Ordering codes

HDc-220VRedundant

High Density chassis with 2x 220V AC Power supplies

HDc-48VRedundant

High Density chassis with 2x 48V AC Power supplies

HDmII-SmartGate-OneBeam

OneBeam broadcast gateway module for HDc chassis using 1 slot

Ordering options

SmartGate-OneBeam-MPLP8

Management of up to 8 Multiple-Physical Layer Pipes

SmartGate-OneBeam-EWS

Enable EWS Management

TxGuard

1+1 seamless redundancy between 2x SmartGate (MFN and SFN)

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