# ENENSYS <br> HDc-T2Edge <br> DVB-T2 local adapter 

## HDC-T2EDGE IS STANDARD-BASED SOLUTION THAT ENABLES THE DELIVERY OF DVB-T2 REGIONAL OR LOCAL SERVICES OVER SFN NETWORKS WHILE SAVING OPERATING OPEX BY OPTIMIZING THE DISTRIBUTION NETWORK BANDWIDTH.

Running at the transmission site, the HDC-T2Edge is ENENSYS patented technology that receives two T2-MI streams Multiple PLP compliant and updates or inserts content from the secondary T2-MI stream into the main T2-MI stream to generate a regional DVB-T2 multiplex. National content is transmitted only once towards all the regions to optimize the network distribution bandwidth.

The HDc-T2Edge performs the local insertion in a deterministic manner to enable SFN broadcasting without requiring an external clock reference. It uses PLP substitution ${ }^{\text {TM }}$ technology to update PLPs of the main input stream from the secondary stream. Alternatively, the operator can benefit of the PLP aggregation ${ }^{\text {TM }}$ technology to insert PLPs into the main input stream from the secondary stream.
The HDc-T2Edge realizes DVB-SI processing to update DVB-SI data related to the regional services. It updates DVB-SI tables such as NIT, BAT, SDT, EIT Present/following and EIT Schedule tables so that DVB-T2 receivers can display correct EPG and zapping banner without scanning or restarting.

The HDc-T2Edge includes an Emergency Warning System (EWS) solution to announce to wide audience any immediate dangers such as earthquakes, floods, tsunami, etc. When it inserts live Emergency Warning Messages into the DVB-T2 /SFN multiplex, receivers turn automatically on the new EWS video without human actions.

Optionally, the HDc-T2Edge provides a bypass mechanism to always output a signal in any conditions. In case of power failure, the primary TV services (from the main input stream) are still broadcast.


## APPLICATIONS

- DVB-T2 service regionalization

- DVB-T2 ultra-local insertion
- DVB-SI data update
- Emergency Warning System (EWS) over DVB-T2


## BENEFITS

- Bandwidth optimization to reduce annual OPEX
- EWS solution interoperable with any receivers
- Running in High Density chassis (HDc):
- to allow multiple T2Edge in 1U
- to combine with T2EdgeDTH, ASIIPGuard, ...
- to enable future-proof technology
- Statistical Multiplexing enabler for local content
- Transmitter agnostic
- Used in the DVB-T2 world's largest roll-out


## CHARACTERISTICS

- Insertion of local content into a national T2 MUX
- DVB-T2 SFN support
- Based on PLP substitution or PLP aggregation
- DVB-SI updating (NIT, SDT, EIT)
- Insertion of live Emergency Warning messages
- Bypass mode to guarantee service availability
- DTH to T2-MI adapter ready (OneBeam)
- Generation of T2-MI packets over ASI and IP
- Easy-to-use web based GUI
- Full SNMPv2 support



## INPUTS

| Control | $1 \times$ Gigabit Ethernet (RJ45) <br> for GUI/SNMP |
| :--- | :--- |
| $\mathrm{T2-MI}$ | $2 \times$ ASI inputs (BNC) <br> $1 \times$ Gigabit Ethernet (RJ45) - Option <br> for T2-MI over IP input streams |
|  |  |

## OUTPUTS

| T2-MI | 2x mirrored ASI outputs (BNC) <br> 1x Gigabit Ethernet (RJ45) - Option <br> for T2-MI over IP output streams |
| :--- | :--- |
| Availability | Optional Bypass to always output <br> incoming T2-MI over ASI |

## FEATURING

| Standards | ETSI TS 102773 V1.3.1 <br> ETSI EN 302755 V1.3.1 |
| :---: | :---: |
| Local insertion | Insertion of regional or local services at PLP level using PLP substitution ${ }^{\text {TM }}$ or PLP aggregation ${ }^{\text {TM }}$ technology Insertion of up to 3 different PLP No duplication of national services |
| DVB-SI management | Update SI information to describe the new regional/local services Update NIT, BAT, SDT, EIT tables |
|  | Insertion of live EWS message instead of all A/V programs Regional EWS insertion (rEWS ${ }^{\text {TM }}$ ) |
| SFN compliant | Deterministic local TV insertion to enable SFN broadcasting No external reference needed |
| Service availability | Bypass management to always deliver the main T2-MI stream in case of power failure |
| Monitoring and | Easy-to-use web based GUI |
| Supervision | User management Full SNMPv2 support |



## PHYSICAL

Height
Width
Depth
Format
Front Panel
Power supply
Power consumption
$43 \mathrm{~mm} / 1.69 \mathrm{in}$.
$443,7 \mathrm{~mm} / 17.46 \mathrm{in}$.
$322,8 \mathrm{~mm} / 12,70 \mathrm{in}$.
1 RU, width 19 "
LCD Display and controls - Option 100-240V 50/60Hz-48V DC (option) 20W

Operating temperature
Storage temperature
Humidity

0 to $55^{\circ} \mathrm{C} / 0$ to $131^{\circ} \mathrm{F}$
-20 to $70^{\circ} \mathrm{C} /-4$ to $158^{\circ} \mathrm{F}$
0 to $90 \%$, non-condensing

## ORDERING CODES

HDc-T2Edge DVB-T2 local adapter with PLP substitution

## Options

HDc-Multi Enable to embed several functions*
HDc-LCD
OptiPLP
T2Edge-SIUpdate
T2Edge-IP
T2Edge-DTH
T2Edge-EWS
T2Edge-Bypass
NN6-In48V
NN6-In220VRedundant
NN6-In48VRedundant Display for monitoring \& control Insertion with PLP aggregation Update SI data with new services IP input and output support Upgrade to DTH-T2MI adapter EWS solution management Bypass to always output main input 48 V input instead of $110 \mathrm{~V} / 220 \mathrm{~V}$ $110 \mathrm{~V} / 220 \mathrm{~V}$ redundant power supply 48 V DC redundant power supply

* For managing several switch functions, please contact ENENSYS
$E N=N_{\bar{N}} \mathrm{NS}_{\mathrm{w}} \mathrm{Y}_{\mathrm{K}} \mathrm{S}_{\mathrm{s}}$
ENENSYS Technologies | 6 rue de la Carrière CS 37734 | 35577 CESSON-SÉVIGNÉ | FRANCE Tel: +33 (0) 170617630 | Fax: +33 (0)2 99360384


