ENENSYS

ASIIPGuard
Innovative ASI switch

ASIIPGUARD IS ENENSYS INNOVATIVE AND DENSE ASI SWITCH THAT ENABLES AUTOMATIC 2:1 OR 3:1 SWITCH REDUNDANCY OF ASI AND IP FEEDS. AS AN OPTION, IT CAN PROVIDE SEAMLESS SWITCHING CAPABILITIES OF IDENTICAL MPEG-2 TS, T2-MI OR BTS STREAMS.

Automatic 2:1 or 3:1 ASI Switch

The **ASIIPGuard** aims at providing automatic redundancy switch between 2 or 3 MPEG-2 Transport Streams according to the validity of the incoming streams. Upon ETR290 errors, SFN errors, T2-MI, BTS errors or advanced MPEG-2 TS errors, **ASIIPGuard** switches automatically from the faulty input to the valid input.

Versatile ASI and IP Inputs/Outputs

Additionally, the **ASIIPGuard** can support up to 6 switch functions in the same chassis providing 6 ASI switches in 1RU. As an option, it can switch over ASI and IP feeds and outputs the selected input over ASI and IP.

Seamless Switching

The **ASIIPGuard** strives to provide a true seamless switch-over under the following conditions:

- In DVB-T Single Frequency Networks, the **ASIIPGuard** enables a unique, automatic and secured SFN seamless change-over between two ENENSYS SFN Adapter (**MIPDVB for HDc**) with the patented technology SFNguard™. This is mandatory to guarantee SFN broadcasting, where all DVB-T SFN transmitters must receive the same content to transmit it over the same frequency at the very same time.
- In DVB-T2 & ISDB-T/Tb, the **ASIIPGuard** can seamlessly switch-over redundant T2-MI and BTS streams. It can provide an automatic 1+1 redundancy mechanism between two gateways. Combined with the ENENSYS DVB-T2 or ISDB-Tb gateways, the **ASIIPGuard** offers a safe and seamless redundancy solution for SFN and MFN broadcasting.
- MPEG-2 Transport Streams can be carried over redundant links. Both links may have different delays (satellite-IP, IP-IP). The **ASIIPGuard** enables to realign both streams to seamlessly and automatically switch from ASI or IP input to ASI or IP input. Thus, changing-over one network to another network as no effect on the audiovisual content carried over MPEG-2 TS. This applies also for T2-MI or bTS streams delivered over different network paths.

APPLICATIONS

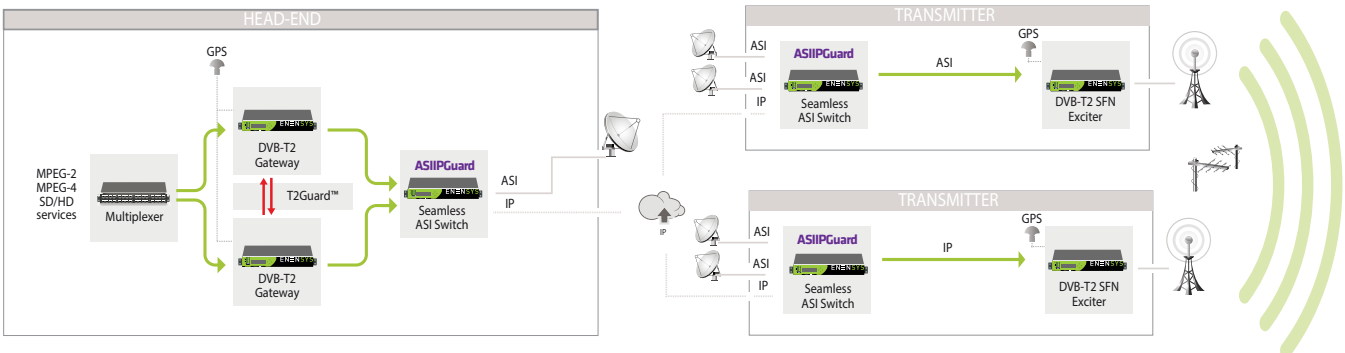
- 2:1 or 3:1 automatic switch redundancy
- Automatic redundancy of ASI and IP feeds
- Switching over IP feeds and delivering over ASI
- Seamless switch-over of identical TS
- Seamless switch-over of T2-MI & BTS streams
- Seamless switch-over of SFN/DVB-T streams

BENEFITS

- Dense solution with up to 6 ASI switches in 1U
- Cost effective solution:
  - 3:1 switch avoid to cascade two 2:1 switches
  - Multiple ASI and IP outputs to avoid splitters
  - Includes TSoIP function
- Avoid TV black-out in SFN (and MFN in DVB-T2)
- Seamless switch-over with delayed source
- Multi-standard applicable (DVB, ATSC, ISDB,...)
- **Video agnostic**: MPEG-2 or MPEG-4/H.264
- Maintain service continuity for ASI and IP inputs

CHARACTERISTICS

- Automatic switch between 2 or 3 MPEG-2 TS
- Seamless switching between 2 or 3 T2-MI streams
- Seamless switching between 2 or 3 BTS streams
- Up to 6 ASI switch in the same unit
- Switch between 2 or 3 ASI feeds
- Switch between ASI feeds and IP feeds
- IP outputs with ProMPEG CoP#3
- Up to 4 ASI outputs or 3 ASI and 2 IP outputs
- Peering mode to peer 2 ASIIPGuard
- Flexible switching conditions configuration
- ETR290 based switching conditions
- MIP, T2-MI and advanced TS switching conditions
- ATSC1.0 and ISDB-T switching conditions
- Bypass mechanisms for ASI and IP inputs
- Real-time monitoring of incoming streams
- Easy to use web-based GUI
- Full SNMP v2 support



ASIIPGuard Innovative ASI switch

INPUTS

Control	1x Gigabit Ethernet (RJ45) for GUI/SNMP
MPEG-2 TS	2x ASI inputs (BNC 75Ω) 1x additional ASI input (BNC 75Ω) for switching over 3 inputs - Option Up to 2x Gigabit Ethernet (RJ45) for TSoIP input streams - Option 1x additional IP input from another module or external source - Option

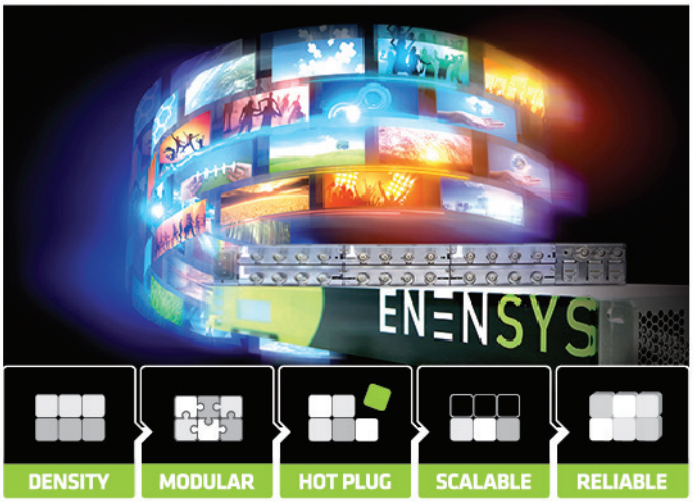
OUTPUTS

MPEG-2 TS	Up to 4x ASI outputs (BNC 75Ω) - 2x ASI outputs as minimum Up to 2x Gigabit Ethernet (RJ45) for TSoIP output streams - Option
Availability	ASI bypass to always output inputs in case of power outage IP bypass for first IP input - Option

FEATURING

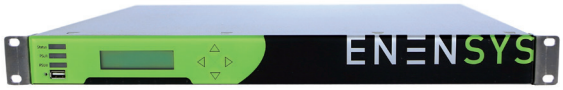
Switch capabilities	2:1 automatic redundancy switch 3:1 automatic switch - Option Switch over ASI feeds Switch over ASI and IP feeds (option) Output selected input over ASI and IP (option)
Switching modes	Automatic switch upon input failure Automatic switch with input priority Manual switch
Switching conditions	ETR 101 290 Level 1/2/3 MIP/T2-MI alarms ATSC & ISDB-T criteria Video, audio, service bit rate Advanced TS errors
Seamless switching	Maintaining DTT transmitters synchronization to avoid TV blackout DVB-T/SFN, DVB-T2, ATSC & ISDB-Tb applicable
Inputs resynchronization	Realign the stream stemming from network paths with different delays to avoid video glitches
Peering	Synchronize several ASIIPGuard
Monitoring	Real-time monitoring of incoming streams, Web-based GUI Full SNMP v2 support SNMP v2C INFORM

HDc MULTI



PHYSICAL

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 - 48V DC (option)
Power consumption	20W/module



ORDERING CODES

HDc-Multi-220V	High Density chassis with 220V input
HDc-Multi-48V	High Density chassis with 48V input

Chassis Options

HDcMulti-In220VRedundant	110V/220V redundant power supply
HDcMulti-In48VRedundant	48V DC redundant power supply

HDm-ASIIPGuard	Innovative ASI switch

Module Options

SeamlessTS	MFN and SFN seamless TS switch
SeamlessT2-MI	T2-MI MFN & SFN seamless switch
ASIIPGuard-IP	Add IP input/output management
ASIIPGuard-1ASIIn2ASIOut	Additional ASI input and outputs
ASIIPGuard-3TSIn	Automatic switch over 3 inputs
ASIIPGuard-IPc	Select input from external source
ASIIPGuard-BTS	bTS support & ISDB-T criteria
ASIIPGuard-ATSC	ATSC analysis & switching criteria
ASIIPGuard-Peering	Synchronize several ASIIPGuard
ASIIPGuard-QoS	SAE/SDE QoS monitoring

ENENSYS Networks
ENENSYS Technologies | 6 rue de la Carrière
CS 37734 | 35577 CESSON-SÉVIGNÉ | FRANCE
Tel: +33 (0)1 70 61 76 30 | Fax: +33 (0)2 99 36 03 84

RoHS