IPGuardV2 for HDc

1+1 Smart switch for IP redundancy

TERRESTRIAL MARKET

IPGuardV2 is ENENSYS' unique and secure solution that enables 1+1 automatic redundancy of IP streams with bypass mechanism.

Automatic IP Switch

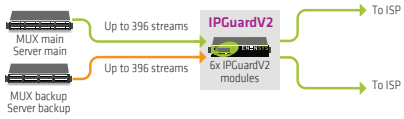
IPGuardV2 is the ENENSYS solution to secure the delivery of any IP streams. It is designed to provide automatic 1+1 redundancy of:

- any equipment that delivers TSoIP or IP streams such as encoders, multiplexers, DVB-T2 gateways, MIP inserters, data servers,...
- any IP network used to transport IP streams, handling dierent delays.

By default, the IPGuardV2 oers an IP bypass mechanism in order to oer 100% of service availability in case of power outage: incoming IP streams are still delivered at the output although the IPGuardV2 has no power. In addition, it can perform FEC correction of incoming TSoIP streams to cope with packet loss. On the output FEC configuration can be kept, modified or even removed.

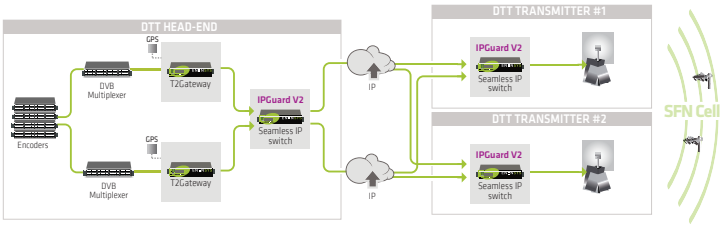
High Density Solution

Up to 6 IPGuardV2 modules can be housed in the same 1RU HDc chassis. One IPGuardV2 module is able to manage up to 6 TSoIP switches based on advanced TS criteria and up to 60 IP switches based on IP conditions. With DaisyChain option, several IPGuardV2 can be serialized, increasing the whole processing capability to be convenient in applications dealing with high number of streams.



Seamless Switching

The IPGuardV2 oers seamless switching capability between two identical MPEG-2 TS, bTS, T2-MI, RTP or STL streams that are carried over redundant IP-based networks with dierent delays: it aligns both streams to perform a seamless switching. When combined with ENENSYS gateways, IPGUARDV2 can provide a seamless switch-over between two gateways for ATSC3.0, DVB-T/T2 & ISDB-Tb networks.



Applications

- 1+1 automatic redundancy of IP equipment
- 1+1 automatic redundancy between IP streams
- DVB-T/T2 and ISDB-T automatic switch-over
- ATSC 1.0 & 3.0 automatic switch-over
- Seamless TS over IP switch-over
- Seamless T2-MI, bTS & STL over IP switch-over
- Seamless RTP switch-over
- High Density redundancy switching for Cable, IPTV, OTT Head-End

Benefits

- Multi-standard applicable (DVB, ATSC, ISDB,...)
- Video agnostic: MPEG-2, H.264 or HEVC
- Maintain service continuity
- Running in High Density chassis (HDc):
- to allow up to 6 IPGuardV2 modules in 1U
- to combine with other Enensys products
- to extend processing with daisy chain mode
- Avoid TV black-out in SFN (and MFN in DVB-T2)
- Avoid video glitches with delayed sources
- Transparent for end-to-end devices

ENENSYS Technologies

www.enensys.com

IPGuardV2 for HDc

TERRESTRIAL MARKET

INPUT

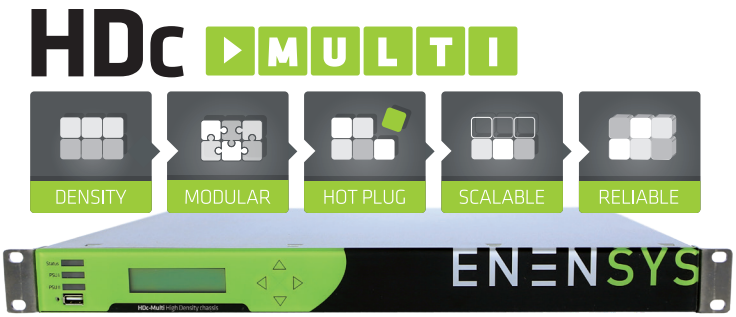
Control	1x Gigabit Ethernet (RJ45) for GUI/SNMP
Data	• 2x Gigabit Ethernet (RJ45) for UDP/IP input streams • 2x optional SFP ports

OUTPUT

Data	• 2x mirrored Gigabit Ethernet (RJ45) for UDP/IP output streams • 2x optional SFP ports
Availability	Bypass mechanism to always output IP streams in case of power outage

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



FEATURING

UDP/IP stream management	• Unicast/Multicast stream • RTP support • VLAN management
IP switch	• Up to 60 IP streams switches • Up to 6 TS or T2-MI over IP switches • Up to 6 STL over IP switches • IP Bypass for service availability
Seamless switch	• Seamless switch-over between TS, T2-MI,STL or RTP identical streams • SMPTE2022-7 support • Alignement of delayed streams (up to several seconds for RTP switch)
Switching modes	• Automatic or Manual switch • Priority input • Peering to allow switching synchronisation between 2 IPGuardV2
Switching conditions	• IP alarms (presence, bit rate,...) • ETR290, MIP, and T2-MI alarms • Advanced TS alarms
Daisy chain mode	Serialization of several IPGuards to increase processing capacities
FEC management	• SMPTE 2022-1 (Pro MPEG CoP#3) • FEC input correction (TSoIP) • FEC output generation (option)
T2 Gateways N+1 redundancy	• N+1 automatic redundancy of ENENSYS DVB-T2 Gateways
Monitoring Supervision	• Real-time monitoring of incoming streams, Web-based GUI • Full SNMP v2 support

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-IPGuardV2		**1+1 smart switch for IP redundancy**
Hardware Module Options	IPGuardV2-SFP	Add SFP ports to the module
Software Module Options	IPGuardV2-2/6 TSoIP	Manage up to 2 or up to 6 TSoIP streams
	IPGuardV2-SeamlessTS	Seamless switching capabilities for TS or T2-MI streams
	IPGuardV2-SeamlessRTP	Manage up to 6 RTP streams with seamless switching capabilites (2022-7 extended)
	IPGuardV2-2/6 STL	Manage up to 2 or up to 6 STL streams
	IPGuardV2-SeamlessSTL	Seamless switching capabilites for STL streams
	IPGuardV2-GWRedundant	Automatic N+1 redundancy of ENENSYS T2 Gateways
	IPGuardV2-CriteriaPriority	Switching criteria priorities for Head-End Redundancy

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RoHS