



nSure

TNS541

Seamless TS Monitoring Switch

The TNS541 is an ideal solution for intelligent 1+1 redundancy switchover between two MPEG transport streams. It improves the robustness of the system with dual power supply and seamless switchover with no interruption to the transport stream.

The TNS541 ensures more reliable and robust delivery of video as it continuously monitors health status of the incoming signals and switches over if errors are detected. Delay differences are handled by matching and alignment of packets and switchover is based on highly configurable switching criteria.

The TNS541 is also capable of performing synchronized and seamless switchover between two different SFN streams or T2MI streams in such a way that modulators remains synchronized.

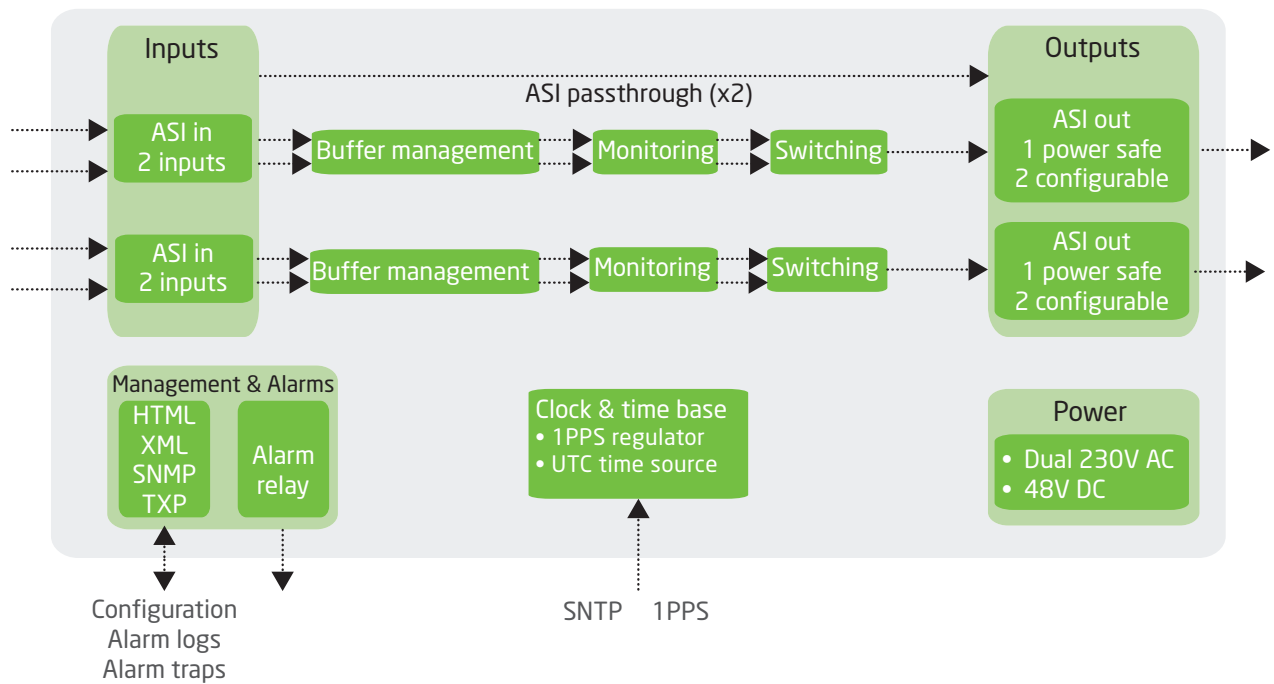
The TNS541 is part of Nevision's nSure product line which is designed to ensure the delivery of high-quality video content. The nSure product line simplifies the monitoring, analysis and switching of transport streams and services throughout video broadcast networks.

Applications

- All systems requiring intelligent 1+1 switchover between two MPEG transport streams.
- Seamless switchover in DVB-T/T2 SFN networks

Key features

- Seamless TS switchover
- Frame aligned seamless switchover
- Robustness and flexibility
- Transport stream monitoring and error detection
- User-friendly configuration and control



Seamless TS switchover

Seamless switchover between incoming streams without interruption on the output. Incoming streams are matched and aligned to handle delay differences.

SFN seamless switchover

Synchronized and seamless switchover between two different SFN streams or T2MI streams ensures that modulators remain synchronized in an SFN network.

Adaptive stream matching

Transport streams can be matched and aligned according to several criteria. The TNS544 can perform regular TS matching or use SFN information for matching.

Flexible switching criteria

Easy configurable switching criteria to provide maximum flexibility to the user. Manual or automatic switching based on ETR 290 alarm conditions enable the tailoring of the redundancy behaviour.

Robustness and reliability

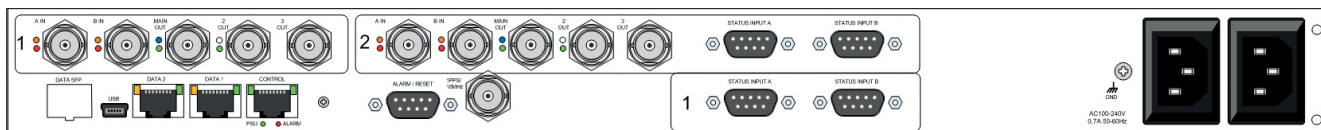
Dual power supply for increased reliability. Relay protected ASI outputs ensure signal passthrough in the event of power loss or power supply failure.

Transport stream monitoring

Continuous and simultaneous monitoring and error detection of input signals to ensure error-free operation. Error detection is performed according to ETR 101 290 priority 1,2 and 3.

User-friendly configuration

The user interface of the TNS541 is simple and very intuitive, it is designed to help the operator configure the unit quickly. Running on any web browser the GUI can be accessed from any computer.



Transport stream interfaces

DVB-ASI	2 DVB ASI EN 50083-9, Annex B inputs Up to 2 failsafe DVB ASI outputs Up to 4 additional configurable DVB ASI outputs (buffered) 188 or 204 byte packet length Burst and Spread mode Female BNC connectors 75 Ohm
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Switching capabilities

No. of switches	1-2 switches per unit
No. of input per switch	2 TS inputs per switch
Switch configurations	2:1
No. of outputs	1-6 TS outputs copies per switch
Switching modes	Manual Automatic with input prioritization
Matching modes	Transport stream SFN using MIP (DVB-T) and T2-MI (DVB-T2)
TS delay compensation	Automatic or manual
Frame aligned switchover	between SFN streams from two CP525 cMUX Remultiplexers with preservation of MIP packets
Frame aligned switchover between T2MI streams from two CP560 DVB-T2 Gateways with preservation of T2 time stamps.	

Monitoring & alarms

Monitoring	ETR 101 290 Priority 1, 2, 3 real-time monitoring of all inputs Configurable thresholds values. Effective and total bitrate overview of all PIDs. Service analysis with Service Id, name and components. PID analysis (Type, scrambling and dynamic bitrate) Graphical view of bitrate Bit rate monitoring with configurable min and max threshold for any PID
Alarms & logs	Standardized alarm levels according to ITU-T X.733 Configurable alarm severity level (individual, PID level, service level, input level) Circular events log for 10.000 entries Configurable and exportable (XML, CSV) logs

Time synchronization

UTC time reference	SNTP over the management interface (RJ45)
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Management & control

Management port	10/100 Base-T Ethernet Connector: RJ45
Element control through HTTP/WEB based GUI	
XML Configuration import and export via HTTP	
SNMP agent for integration with Network Management System (NMS)	
Protocols	HTTP, XML, SNMPv2c
Alarm relay	9 pin D-SUB. Four relays supported, one at configurable alarm level
Maintenance port	USB version 1.1

Physical and environmental characteristics

Input voltage	100-240V AC +/- 10%, 50/60 Hz, Dual power supply, optional -48V DC
Power consumption	35W max
Dimensions	1RU, full-width 19" (WxDxH) 420 x 300 x 44.5mm
Operating temperature	0°C to 50°C
Storage temperature	-20°C to 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, EN6100-3-2

Product options

TNS541/DC	-48V DC power supply
TNS541/SW	Input switching units
TNS541/GNG	Dual gang switch
TNS541/SSFN	Seamless SFN switching



nSure

By adding intelligence to monitoring and switching, our nSure products protect both the content owner and the network operator.

We deliver solutions for service fallback, redundancy switching including seamless switching and continuous monitoring of Video signals, transport streams, services, PIDs and PSI/SI/PSIP tables. In an increasingly complex broadcast infrastructure, our solutions simplify the day to day operations of the network operator and provide an ideal tool for video signals and transport stream handling, redundancy, error detection and correction and fast diagnostics of erroneous signals.

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