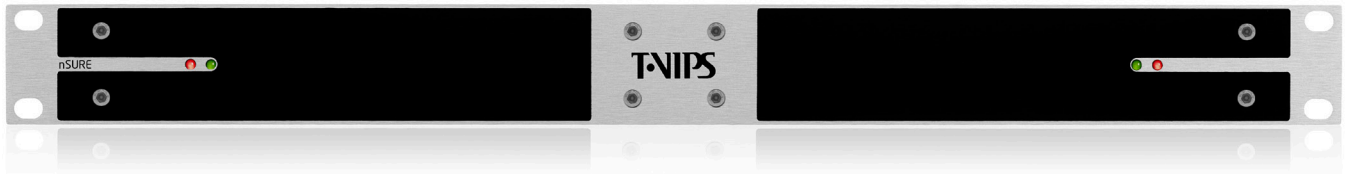


TNS541 Seamless TS Monitoring Switch



The TNS541 is an ideal solution for intelligent 1+1 redundancy switch-over between two MPEG transport streams.

It ensures the robustness with dual power supply and seamless switch-over with no interruption to the transport stream.

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

The TNS541 is part of T-VIPS' 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.

The TNS541 ensure more reliable and robust delivery of video as the actual signals are monitored and not only the hardware equipment health status. The product monitors both incoming MPEG transport streams for health status and switch-over is based on configurable switching criteria.

Applications

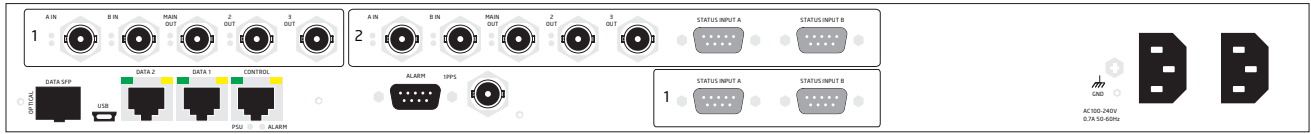
- All systems requiring intelligent 1+1 switch-over between two MPEG transport streams.
- Seamless switch-over in SFN and DVB-T2 networks

Key Features

- **Seamless TS switch-over**
 - Switches between two non-identical input streams at the TS packet boundary without loss of in downstream equipment
 - Delay alignment of two identical transport streams provides seamless switching of Transport Stream content
 - Two DVB ASI inputs and 1 main ASI output
 - 2 additional configurable ASI outputs
 - Fully configurable switching criteria
- **Frame aligned seamless switch-over**
 - Alignment and seamless switch-over between SFN streams from two T-VIPS CP511 SFN Adapters with preservation of MIP packets.
 - Alignment and seamless switch-over between T2MI streams from two T-VIPS CP560 DVB-T2 Gateways with preservation of T2 time stamps.
- **Robustness and flexibility**
 - Dual power supply
 - 1 or 2 switch functions in 1RU 19" (option)
 - Relay protected main output ensures signal through even in the event of power loss or power supply failure
- **Transport Stream monitoring and error detection**
 - Simultaneous monitoring of two MPEG transport streams
 - Complete support for all ETSI TR 101 290 alarm conditions
 - PSIP related alarms from ATSC A/78
 - Minimum and maximum PID rate monitoring
- **User-friendly configuration and control**
 - WEB/XML based remote control
 - SNMP agent for easy integration with NMS systems
 - Integrated with T-VIPS Connect



TNS541 Seamless TS Monitoring Switch



Transport Stream Interfaces

- Inputs: 2 DVB ASI
- Outputs: 1 main DVB ASI
- 2 additional configurable DVB ASI outputs (buffered)
- Connector: Female BNC
- Bitrate: Max. 600 Mbit/s total over 4 inputs

Features

- Redundancy switching: 1+1 Redundancy switching
- Seamless SFN/T2 switching: MIP and T2 frame alignment
- Monitoring: TR 101 290 Priority 1-3 real-time monitoring of both inputs
- Configurable thresholds values.
- Direct control: Optional
- Transport Stream analysis: Effective and total bitrate.
- Overview of all PIDs
- Service analysis: 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
- PCR analysis: Histogram view of jitter
- Table analysis: Comprehensive PSI/SI/PSIP table analysis
- SLA monitoring: Top level statistics of up time
- Alarm log: Circular persistent log of up to 10 000 entries

Control and Management

- Type: 1 x 10/100 Base-T Ethernet, RJ45
- Features: Element control through HTTP/ WEB.
- XML Configuration import and export via HTTP. SNMP traps for integration with NMS. SNMP MIBs for export of transport stream information and alarm status
- Protocol: HTTP, XML, SNMPv2c
- Local control: USB
- Alarm Relay: 9 pin D-SUB
- Maintenance Port: USB version 1.1
- Status Inputs: Relay or TTL input
- 9 pin D-SUB

Physical and Power

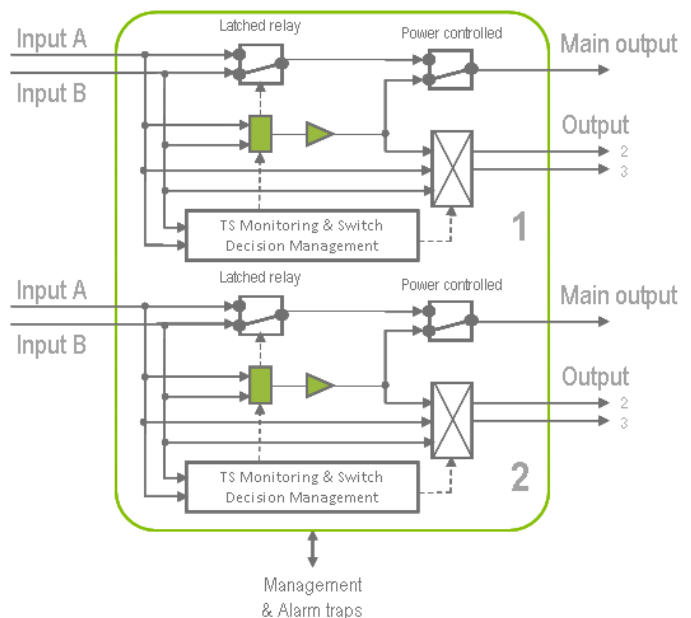
- Input Voltage: 100-240V AC +/- 10%, 50/60 Hz
- Dual power supply
- Dimensions: 1RU, full-width 19"
- (WxDxH) 420 x 300 x 44.5mm

Environmental Conditions

- Operating Temperature: 0°C - +50°C
- Storage Temperature: -20°C - +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



Block diagram of CP541 with two switch modules