datasheet

cProcessor

CP524

Transport Stream Adapter

The CP524 Transport Stream Adapter is the ideal tool for multi-channel transport stream (TS) processing, multiplexing and interface adaptation for service providers, network operators, satellite service providers.

The CP524 reduces the costs for interface and format adaptation. It provides features for MPEG-2 TS format conversion between ASI, SMPTE310 and IP and telco interfaces.

The CP524 multi-stream (any input to any output), filtering/remultiplexing features enable operators and service providers to save valuable bandwidth in their networks by tailoring the streams according to their customer needs.
The CP524 TS Adapter provides a powerful MPEG-2 TS toolbox in a single unit reducing costs and space requirements.

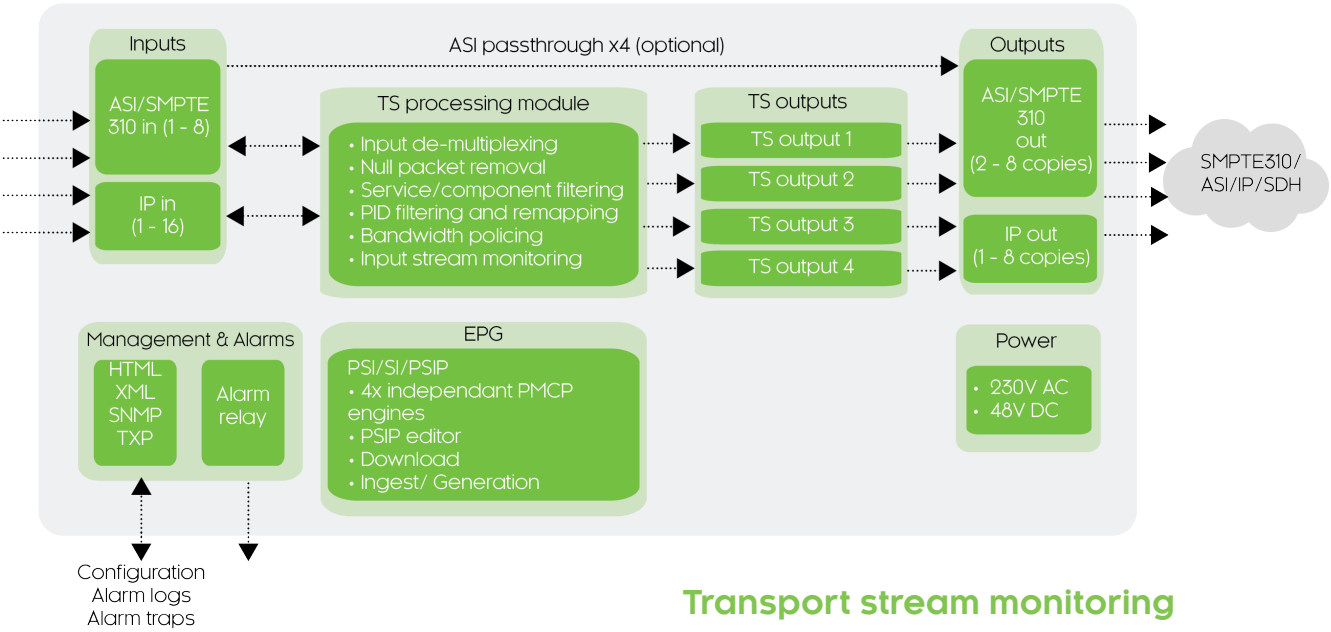
Nevion cProcessors can be configured via an easy-to-use web interface, which also offers extensive built-in stream monitoring. Scheduled software upgrades can be performed via Connect, VideoIPath, or any NMS.

Applications

- Four dynamic PSIP ingest engines with PMCP support
- Multi-channel multiplexing and re-multiplexing - any input to any output, at regional head-ends, uplinks and remultiplexing sites
- Interface adaptation for microwave link transmitter feeds
- Contribution and distribution of MPEG-2 Transport Streams
- Network adaptation and transport stream interface conversion between IP/Ethernet, ASI, SMPTE 310 and SONET/SDH

Key features

- PSIP ingest for up to four transport streams
- Flexible transport stream processing, interfacing and adaptation
- Powerful PSI/SI/PSIP editing and handling
- Embedded redundancy control
- Transport stream Monitoring
- User-friendly configuration and control
- Compact, cost-effective solutions with 2 units in 1RU
- Optional relay protected ASI outputs



Multi-channel multiplexing

The CP524 TS Adapter can generate and process four transport streams simultaneously. The operator can build the four transport streams by multiplexing and filtering services and components from any input. Each transport stream can be sent over several interfaces. The CP524 performs multiplexing based on services or components offering full flexibility and ease of use.

Flexible interfacing

Flexible input and output interfaces allows the user to save equipment by performing interface adaptation (ASI/ IP/ SMPTE310/SDH/SONET) directly with the CP524 TS Adapter.

Dynamic PSIP generation

To resolve the challenges of updating the program guide the CP524 supports Programming Metadata Communication Protocol (PMCP) described in the ATSC A76/B. Based on a PMCP XML file the CP524 generates sectioned TS packets containing PSIP tables and multiplexes these packets into the stream. The unit includes up to four independent engines for dynamic PSIP ingest

PSI/SI Editor

PSI/SI/PSIP tables can be edited directly using the built-in PSI/SI editor in the CP524 TS Adapter. The operator can modify, add or remove tables from the transport stream saving the cost of an external PSI/SI editing system.

Transport stream monitoring

In order to ensure error free processing, the CP524 monitors all the input streams according to TR 101 290 priority 1. In case of errors in the input streams, alarms will be raised to inform the operator and traps are forwarded to the NMS.

Embedded redundancy

The CP524 includes an embedded redundancy control feature that reduces transport costs by avoiding dual transmission on IP networks for units in 1+1 configuration. The spare unit monitors the status of the active unit without transmitting signals. In case of failure of the main unit the spare unit starts transmitting.

Input redundancy and robustness

The reliability of the system can be increased using the Automatic Input Switching features. This input redundancy feature allows the unit to switch between redundant inputs (ASI and/or IP) based on TR101 290 pri1 alarms. IP diversity reception ensures the redundancy of IP inputs based on RTP monitoring. The relay protected ASI outputs ensures signal passthrough in the event of power loss or power supply failure

User-friendly configuration

The user interface of the CP524 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.

CP524 TS Adapter

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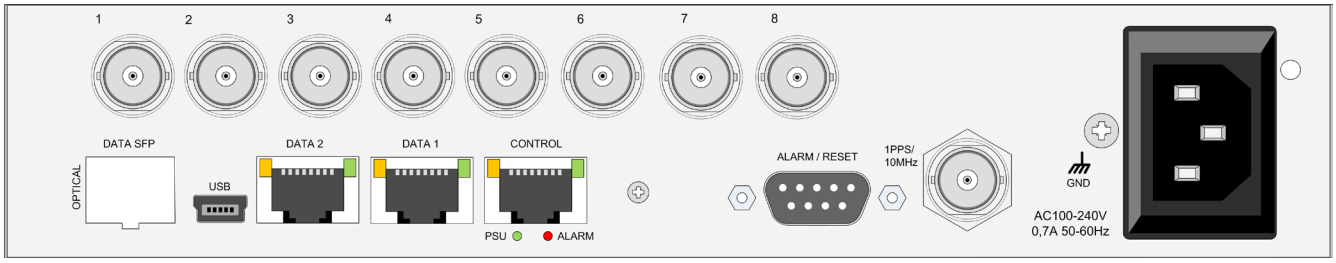

Transport stream interfaces

DVB-ASI	1 - 8 DVB ASI EN 50083-9, Annex B (1 - 8 inputs/1-8 outputs with 1-4 optional passthrough) Bit rate: 0.1 - 213 Mbit/s 188 or 204 byte packet length Burst and Spread mode Female BNC connectors 75 Ohm
SMPTE 310M	1 - 8 SMPTE 310M-2004 (1 - 8 inputs/outputs) 188 bytes packet length 19.39265 Mbit/s, ±2.8 ppm Female BNC connectors 75 Ohm
Gigabit Ethernet:	2 x 100/1000Base-T Ethernet, 1 x SFP 16 IP streams Connectors: 2 x RJ45 (100/1000Base-T), SFP TS Encapsulation: SMPTE 2022 -1/2 Protocols: IEEE 802.3 Ethernet, VLAN (802.1Q) ARP, IPv4, UDP, TCP, RTP, IGMPv2/3

Transport stream processing

TS Multiplexing	Demultiplexing Multiple Program Transport Stream (MPTS) to Single Program Transport Stream (SPTS) Rate adaptation (add/remove null packets) PID and service filtering and remapping Remultiplexing of services and components Up to four output multiplexes (licensed 1-4) Service component routing based on PID or component tag Insertion of unsignalled PID ("Ghost PID") on outgoing services
Advanced traffic policing	Individual policing of service and PID bandwidth
PSI/SI/PSIP handling	PSI/SI/PSIP editing or regeneration PSI/SI/PSIP download and playout
Add new component signalling	

Transport stream adaptation

IP smallcasting	Up to eight output copies on IP per TS
FEC insertion	Variable matrix size for each output copy
Unicast to Multicast conversion	
Format conversion	ASI to IP, IP to ASI ASI to SMPTE310, SMPTE310 to ASI SMPTE310 to IP, IP to SMPTE310

Redundancy and monitoring

Embedded redundancy	Nevion Embedded Redundancy Controller for fast redundancy between units in 1+1 configuration to avoid dual transmission on through the IP network.
Input redundancy	Input switching on loss of signal and TR101 290 pri1 alarms RTP/IP diversity reception
Input signal monitoring	TR 101 290 priority 1

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. Two 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, optional: -48V DC
Power consumption	35W max
Dimensions	1RU, ½-width 19" (WxDxH) 210 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

CP524-DC	- 48V DC power supply
CP524-AC	Single 100/240V AC power supply
CP524-AC-FBR	.
CP524-AC2	Dual 230V power supplies
CP524-AC2-FBR	.
CP524-SFNX1	SFN adaptation for one (1) DVB-T SFN network
CP524-SFP	Enable SFP socket
CP524-FEC	Enable Forward Error Correction for the IP interfaces
CP524-TSIx	Additional transport stream inputs
CP524-TSOx	Additional transport stream outputs
CP524-PMCPx	PMCP engines for dynamic PSIP ingest
CP524-MUX	Multiplexing and remultiplexing
CP524-PSIE	PSI/SI/PSIP editor
CP524-ISW	Automatic input switching for input redundancy
CP524-SFB	Service fallback
CP524-IDR	IP diversity reception for redundancy on IP inputs
CP524-ER	Embedded redundancy control for 1+1 redundancy
CP524-APU	automatic rebranding of the PSIP VCT major/ minor channel number

cProcessor

Our award-winning cProcessor transport stream processing and multiplexing products make the complex simple.

Even better, they enable tailoring of regional and local service packages, component filtering, advanced updating of PSI/SI/PSIP tables, and enhanced quality of service.
User friendly, highly robust and cost effective. It's this simplicity and performance that has secured our place in some of the world's most advanced terrestrial networks.

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