datasheet

cProcessor

CP525

cMux Remultiplexer

The CP525 cMUX Remultiplexer is a powerful, multipurpose and easy to use toolbox for flexible processing, multiplexing and scrambling of MPEG Transport Streams.

The CP525 reduces operation costs in transport stream based systems. It perform TS multiplexing and delivers flexible, cost-effective interfacing to broadcast and telco networks such as DVB-ASI, SONET/SDH and IP networks.

CP525 cMux provides flexible and powerful opportunistic data insertion and advanced PSI/SI/PSIP playout and thereby saves bandwidth costs.

Network operators can easily perform regional insertion or filtering of local programs and SFN adaptation with MIP insertion in DVB-T networks.

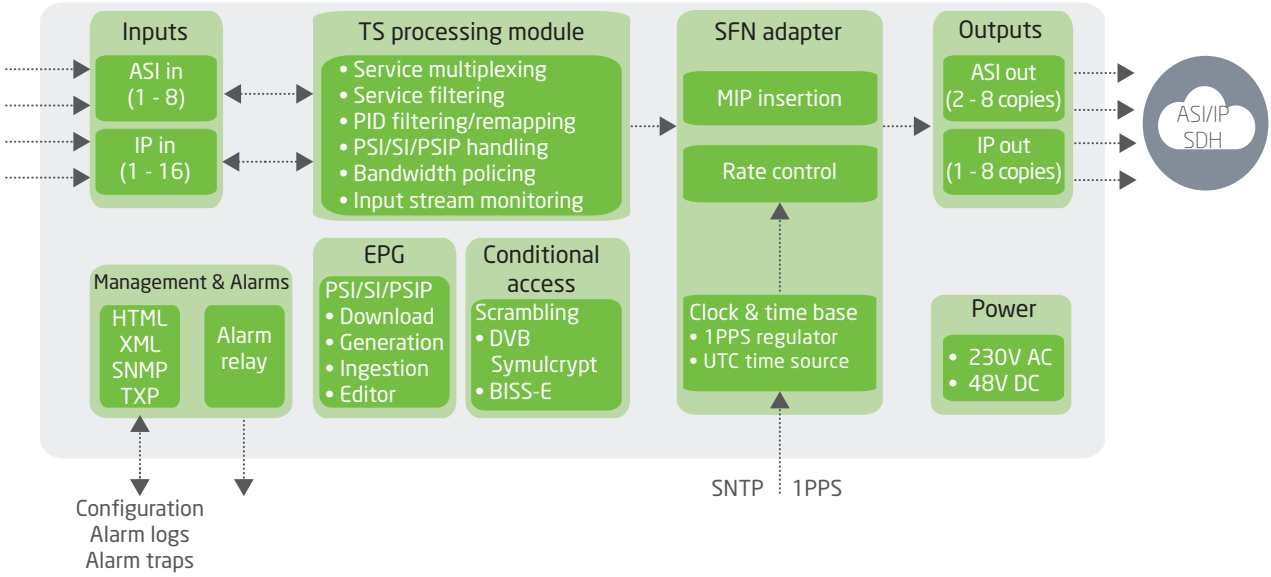
Nevion cProcessors can be configured via an easy-to-use web interface, which also offers extensive built-in stream monitoring. Scheduled software upgrades can be performed via Connect, VideoIPath, or any NMS.

Applications

- Multiplexing and re-multiplexing at regional head-ends, uplinks, downlinks and remultiplexing sites
- Regionalization of multiplexes by service add and drop
- Adaptation of SI for regional program package
- Optimized SI tables insertion for bandwidth efficiency
- SFN adaptation for DVB-T networks

Key features

- Flexible transport stream processing
- Advanced Traffic Policing
- Powerful PSI/SI/PSIP handling
- Scrambling
- Transport stream monitoring
- Input redundancy
- Flexible transport stream interfacing
- User-friendly configuration and control
- Compact, cost-effective solutions with 2 units in 1RU



Transport stream multiplexing

The CP525 performs multiplexing based on services or components offering full flexibility and ease of use. The operator can define the service line-up with one mouse click. CP525 takes care of the regeneration of the tables simplifying the operations.

Advanced traffic policing

To avoid bandwidth conflicts between different services or bit rate overflow, the operator can individually allocate bandwidth to a service or groups of services. The operator guarantees his customer full bandwidth usage by protecting their section of the spectrum.

Automatic PID/SID remapping

In case of PID and Service IDs conflict the unit can perform automatic PID and service IDs remapping according to user defined rules. Simple rules allow the user to follow internal PID naming conventions. This feature is very useful when the encoders have identical configurations.

Conditional access

CP525 supports DVB CSA Simulcrypt and BISS scrambling to protect the streams from unauthorized reception and.

PSI/SI Editor

PSI/SI/PSIP tables can be edited directly using the built-in PSI/SI editor in the CP525 cMux. The operator can modify, add or remove tables from the transport stream and save the costs of an external PSI/SI editing system.

Dynamic PSIP generation

The built-in PMCP interface allows CP525 to download XML based PSIP data and generate the corresponding tables automatically.

Flexible interfacing

Flexible input and output interfaces allows the user to save equipment by performing interface adaptation directly on CP525 cMux (ASI/ IP/ SMPTE310).

Transport stream monitoring

In order to ensure error free processing, CP525 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.

Input redundancy

The reliability of the system can be increased using the Automatic Input Switching features that 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.

User-friendly configuration

The user interface of the CP525 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.

CP525 cMux Remultiplexer

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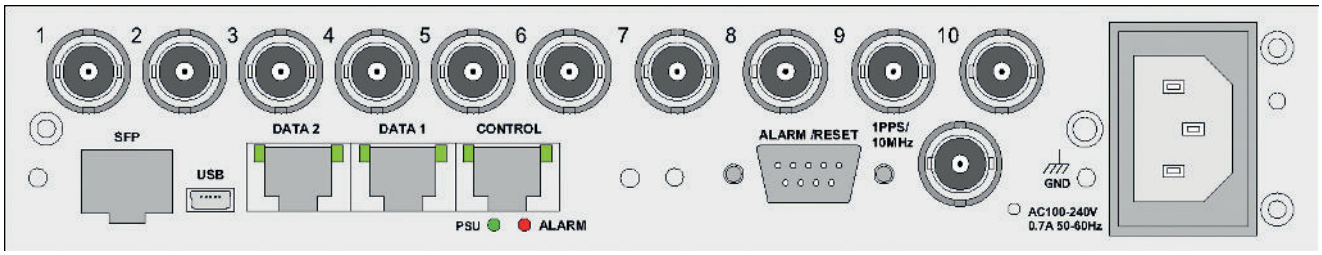

Transport stream interfaces

DVB-ASI	1-10 DVB ASI EN 50083-9, Annex B (1-8 inputs/outputs) Bit rate: 0.1 - 213 Mbit/s 188 or 204 byte packet length Burst and Spread mode Female BNC connectors 75 Ohm
SMPTE310	1 - 10 SMPTE310M-2004 (1-8 inputs/outputs) 188 bytes packet length 19.39265 Mbit/s, ±2.8 ppm Female BNC connectors 75 Ohm
Gigabit Ethernet: (option)	2 x 100/1000Base-T Ethernet, 1 x SFP 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	Service and component based multiplexing Automatic or manual remapping of PIDs and service IDs Insertion of unsignalled PID ("Ghost PID")
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 Dynamic PSIP generation Add new component signalling
Scrambling	DVB Simulcrypt TS-103-197 BISS Mode 0/1

SFN adaptation

Megaframe Initialization Packet (MIP) insertion according to ETSI TS 101 191	
SFN operational modes	2k and 8k modes in 8, 7 and 6 MHz bandwidth

Time synchronization

Clock reference	1PPS input (50 Ohm female BNC)
UTC time reference	SNTP over the management interface (RJ45)

Interface adaptation

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

Redundancy and monitoring

Input redundancy	Input switching on TR101 290 pri1 alarms and los of signal 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

CP525-DC	- 48V DC power supply
CP525-AC2	Dual 230V power supplies
CP525-SFP + x	SFP modules for interface adaptation
CP525-SFP	Enable SFP socket
CP525-IP	Enable Ethernet interfaces for TSoIP inputs and outputs
CP525-FEC	Enable Forward Error Correction for the IP interfaces
CP525-ASI	Enable ASI ports
CP525-TSIx	Additional transport stream inputs
CP525-ESI	Enhanced SI playout
CP525-DSI	EPG download and insertion
CP525-PSIE	PSI/SI/PSIP editor
CP525-PMCP	PMCP interface for dynamic generation of PSIP EIT
CP525-BISS	BISS 1 scrambling
CP525-CA	DVB Simulcrypt scrambling
CP525-SFN	SFN adaptation for DVB-T networks
CP525-ISW	Automatic input switching for input redundancy
CP525-SFB	Service fallback
CP525-IDR	IP diversity reception for redundancy on IP inputs
CP525-ESW	Emergency switching through external switch panel

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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