

# NETPROCESSOR 9030



## ▶ MPEG MULTIPLEXER, SCRAMBLER, IP STREAMER

**The NetProcessor 9030 solution provides multiplexing, remultiplexing, PSI/SI processing, data injection, and the scrambling of hundreds of services received and delivered over DVB ASI and telecom interfaces.**

The Thomson NetProcessor range of products, a family of video and network processing solutions is designed for the full range of digital TV applications.

The NetProcessor line is a hierarchical range of products that provides:

- Network adaptation for the transport of MPEG compressed video over telecom networks
- MPEG processing, including multiplexing, demultiplexing, scrambling, as well as IP streaming
- Video processing, including transrating, splicing, and ad insertion

These products include the NetProcessor 9030 solution, a highly integrated and powerful MPEG transport-stream processor. Providing a rich set of

interfaces and features, it represents a new generation of equipment for DTV headends—and provides innovative features to meet the need for increased levels of performance and scalability.

The NetProcessor 9030 solution provides multiplexing, remultiplexing, PSI/ SI processing, data injection, and the scrambling of hundreds of services received and delivered over DVB ASI and telecom interfaces. It is also a bandwidth manager that can statistically multiplex, in the same pool, the outputs of local or geographically distributed encoders thanks to its remote Flexstream™ technology.

Complementing these functions is a range of interfaces, including ASI, Gigabit Ethernet/IP, PDH-SONET, DVB-S/S2, and

SDH/ATM. Together, this feature set makes the NetProcessor platform a highly integrated device that can replace multiple previous-generation multiplexers and network adaptors with a single device.

Highly serviceable, the NetProcessor 9030 solution features dual network interfaces (IP and/or ATM) and N+P redundancy to address the most mission-critical applications.

With this combination of flexibility, scalability, and serviceability, the NetProcessor 9030 platform can handle everything from one transport stream over an ASI connection to remultiplexing several hundreds of programs into multiple output streams with scrambling and IP encapsulation.

## ▶ KEY FEATURES

- Most compact and efficient MPEG-2 multiplexer available
- Up to 22 ASI mix of inputs and outputs, up to 213 Mb/s per interface
- Input and output telecom interfaces:
  - 2x PDH-SDH-SONET/ATM
  - 2x Gigabit Ethernet/IP ports
- Dual DVB-S/S2 front end
- Multiplexing/remultiplexing of a large number of transport streams received over ASI and telecom interfaces
- Multiple transport streams generated and delivered over the output interfaces
- Embedded service redundancy and service substitution
- Advanced management of PSI/SI/PSIP tables, service filtering, and remapping
- Opportunistic data insertion
- DVB common scrambling algorithm, simultaneous support of multiple conditional access (CA) systems
- Supports remote Flexstream statistical-multiplexing of local/remote encoder pool
- Bandwidth monitoring and policing, advanced overflow prevention
- Embedded SFN adaptation on each generated transport stream for DTTV applications
- Error-free transmission over any network thanks to IP and ATM forward error correction (FEC) and advanced clock recovery mechanisms
- Web and SNMP control and monitoring
- Compact 1 RU cabinet with single power supply (dual power supplies are available with NetProcessor 9030/40)
- Applications:
  - Satellite TV
  - Terrestrial TV
  - Cable TV
  - IPTV
  - Mobile TV (DVB-H, MediaFLO)
  - Contribution/backhaul

## SPECIFICATIONS

### DVB-ASI Interfaces (optional)

- Up to 22 ASI inputs and up to 10 ASI outputs are available
- Up to 213 Mb/s per interface

### Gigabit Ethernet/IP Interfaces (optional)

- Two independent Gigabit Ethernet ports, each providing 1000Base-T (twisted pair, RJ-45) and 1000Base-X (SFP)
- 10/100/1000Base-T auto-sensing
- Half and full duplex
- Up to 520 Mb/s per IP stream
- Video encapsulation over IP compliant with Pro-MPEG Forum COP#3 rev2 including FEC
- Unicast and multicast (IGMP V2 and V3)
- VLAN 802.1p and 802.1q and IntServ/DiffServ ToS byte field tagging for quality-of-service support
- Static and dynamic IP routing (RIP, OSPF)

### PDH-SDH-SONET/ATM Interfaces (optional)

- E3, DS3 (BNC connectors)
- STM1/OC3 – electrical and optical (multimode and single mode)
- PVC, full range of VPI/VCI, AAL1 with FEC
- Traffic policing and shaping
- Up to 10 input and 10 output transport streams over ATM
- IP data over ATM services, up to 50 Mb/s per direction

### DVB-S/S2 Interfaces

- Dual DVB-S/S2 RF inputs
- Features for each RF input/tuner/demodulator:
- Frequency: from 950 MHz to 2150 MHz
- LNB control and alimentionation
- DVB-S or DVB-S2 standard selectable
- DVB-S features are as follows:
- Symbol rate: 5 to 45 Mbaud
- Demodulation: QPSK
- FEC: Auto, 1/2, 2/3, 3/4, 5/6, 7/8
- DVB-S2 features are as follows:
- Application area and profile: broadcast service only
- Symbol rate: 7 to 30 Mbaud
- Demodulation: QPSK/8PSK
- BCH
- One DVB-CI slot allowing one transport stream to be partially descrambled (specifications depend on DVB-CI module used)

### MPEG Processing

- [N to P] transport stream grooming and routing capability
- Processing performance: up to 400 services
- No signaling, ISO, DVB, and ATSC signaling modes
- Interfaces with external signaling manager

- Advanced management of PSI/SI/PSIP tables, service, and component filtering and remapping
- Embedded service redundancy mechanism
- Support for time-shared service through service substitution
- Compliant with DVB common scrambling
- Incoming bit-rate monitoring and policing (component/service/transport stream) and smart management of exceeding outgoing bit rate
- Support for remote statistical multiplexing pool of encoders (extended Flexstream capability)
- Visualization of MPEG stream structure (services, components, bit rates)
- ETR 290 monitoring over all interfaces

### IP Data Injection

- Injection of up to 8 Mb/s over a dedicated 100Base-T interface supporting DVB simulcrypt, constant or opportunistic bit rate for optimum use of allocated bandwidth
- Injection over any ASI interfaces, gigabit Ethernet or ATM interfaces (data in MPEG in IP or ATM)

### SFN Adaptation

- Interface for external GPS receiver, 1 pps and 10 MHz, BNC connectors
- MIP insertion, inserts synchronization marks in the DVB-T transport stream

### Management

- 100Base-T (RJ-45) for management over IP/Ethernet
- Embedded Web server for control and configuration
- In-band and out-of-band management
- SNMP v.2 agent
- Multiple configuration files stored in flash memory, activation via GUI and SNMP
- FTP, telnet, secure administration through SSH and HTTPS
- Two USB ports
- One RS-232C port for local maintenance
- Supported by Thomson XMS™ management system

### Physical Characteristics

- 1 RU x 19" (44.5 mm high x 484 mm wide x 620 mm deep)
- Weight: 9 kg (19.8 lbs.)
- 110V to 240V AC power supply

### Environmental Conditions

- Operating temperature: 5° to 50°C (41° to 122°F)
- Storage temperature: -25° to 70°C (-13° to 158°F)
- Maximum humidity: 85%

### Compliance

- CE and UL certifications

## ORDERING INFORMATION

### N903BMSGAA

NetProcessor 9030. Single AC power supply in a 1 RU chassis. No ASI module (optional). Includes licenses for four transport streams in and one transport stream out. Scrambling capability. Two Gigabit Ethernet ports for MPEG-over-IP transmissions.

### N903ASB4AA

Main ASI module with 10 ASI ports configurable as inputs or outputs, GPS inputs for SFN adaptation, and GPI I/O.

Please contact your authorized Thomson Video Networks representative for additional hardware and software options.

**E-mail:** [sales@thomson-networks.com](mailto:sales@thomson-networks.com)

## PROFESSIONAL SERVICES

Our professional services offerings ensure optimal system performance and maximize uptime. These services include call centers staffed around the clock; system planning, design, and commissioning; professional training courses; and technical maintenance programs and service agreements. [www.thomson-networks.com/support](http://www.thomson-networks.com/support)

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