SAMIM
Media & Communication Technologies

1RU | DVB-S/S2/S2X | DVB-T/T2 | DVB-ASI | TSoIP

TSP-1000

Integrated Receiver, TS Multiplexer, Descrambler & IP Streamer

2023 Datasheet

The TSP-1000 is a hardware-based, 1 RU, real-time transport stream multiplexer with IP, ASI, and tuner (DVB-S/DVB-T) support capabilities. Providing a rich set of interfaces and features, it represents a new generation of equipment for DTV headends. It offers innovative features to meet the need for increased levels of performance and scalability.

The TSP-1000 solution provides multiplexing, re-multiplexing, PSI/SI processing, and data injection of hundreds of services received and delivered over DVB-ASI and IP outputs with auto PSI/SI table generation and PCR correction. TSP-1000 supports both service and component-level multiplexing. Powerful Real-Time MPEG TS analyzer and output TS program modifying such as name, PID, PCR PID, and program number are available in TSP-1000.

With this combination of flexibility, scalability, and serviceability, the platform can handle everything from one transport stream over an ASI connection to re-multiplexing hundreds of programs into multiple output streams with IP encapsulation. Its high-integrated and cost-effective design makes it widely used in various digital broadcasting distribution systems.

Key Features

- Automatic advanced PSI/SI insertion and processing
- Service, component, PID, PMT management and re-mapping
- Automatically supports PCR re-stamping
- BISS 1 & E decoding
- Input stream monitoring with redundancy
- Supports UDP and RTP encapsulation
- Web and SNMP control and monitoring
- Compact 1RU cabinet
- Up to 22 ASI inputs and outputs, up to 213 Mb/s per interface
- Up to 10 Tuner DVBS/S2 & DVBST/T2 Types
- Up to 255 UDP/RTP TSoIP input stream support on GbE
- Multiplexing/Re-multiplexing of a large number of transport streams received over ASI, TSoIP, DVBS/T Tuner

- Advanced management of PSI/SI/PSIP tables, service filtering, and remapping
- Multiple transport streams generated and delivered over the output interfaces
- Redundant hot-swap power modules (from front side)
- Front control panel

Applications

- Satellite TV
- Terrestrial TV
- Cable TV
- IPTV
- Contribution/backhaul headend to the regional headend and the transmitter sites

DVB-ASI Interfaces

- Up to 22 ASI inputs and up to 8 ASI outputs are available (optional)
- Up to 213 Mb/s per interface

Gigabit Ethernet/IP Interfaces

- Two independent gigabit ethernet ports, each providing 1000Base-T (twisted pair, RJ-45)
- 10/100/1000Base-T Auto-Sensing
- Half and full duplex
- Up to 550 Mb/s per IP stream
- Unicast and multicast (IGMP v2 and v3)
- UDP and RTP encapsulation support

DVB-S/S2 Interfaces

- Up to 10 DVBS/S2 Tuner Support
- Frequency: from 950 MHz to 2150 MHz
- LNB control and alimentation
- DVB-S or DVB-S2 standard selectable
- Demodulation: QPSK/8PSK/16APSK/32APSK
- Maximum Symbol Rate (DVB-S2):
  - QPSK 1- 60 MSps
  - 8PSK 1- 60 MSps
  - 16APSK 1- 58 MSps
  - 32APSK 1- 55 MSps
- Maximum Symbol Rate (DVB-S): 1-54 MSps
- Half SyQuest Baseband filler(Roll off factor):
  - 0.35 for DVB-S
  - 0.05 to 0.35 for DVB-S2
- Supported Code Rate (DVB-S): QPSK 1/2, 2/3, 3/4, 5/6, 7/8
- Supported Code Rate (DVB-S2):
  - QPSK: 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
  - 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10

  - 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
  - 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10
- DiSEqC 2.0 compliant
- Upgradeable to support DVBS2X

DVBT/T2/C Interfaces

- Up to 10 DVBT/T2 Tuner Support
- DVB-T2 Bandwidth: 5, 6, 7, 8MHz and 1.7MHz
- DVB-T2 FET size 1K, 2K, 4K, 8K, 16K, 32K (Included extended mode)
- DVB-T2 Modulation type QPSK, 16QAM, 64QAM, 256QAM
- DVB-T2 Code rate 1/2, 3/5, 2/3, 3/4, 4/5, 5/6
- DVB-T Bandwidth 6, 7, 8MHz
- DVB-T FET size 2K, 8K
- DVB-T Modulation type QPSK, 16QAM, 64QAM
- DVB-T Code rate 1/2, 2/3, 3/4, 5/6, 7/8
- Frequency acquisition range $\pm$600KHz
- Modulation type 16QAM, 32QAM, 64QAM, 128QAM, 256QAM
- Automatic modulation detection
- Sophisticated equalizer cancels co-channel tones and echoes

MPEG Processing

- x4 Independent re-mux core
- N to P transport stream grooming and routing capability
- Processing performance: up to 200 services per re-mux Core
- Advanced management of PSI/SI/PSIP tables, service, and component filtering and remapping
- Embedded Input redundancy mechanism
- BISS-1 & E decoding
- EIT bypass or re-generate with Service ID mapping capability
- TS Analyzing in three View Mode: PID, Service and Table

Management

- 100Base-T (RJ-45) for management over IP/Ethernet
- Embedded Web server for control and configuration
- SNMP v3
- Preset store and recall

Ordering Information

Product	Description	Type
TSP-1000-C1	Integrated Receiver, TS Multiplexer, Descrambler & IP Streamer Platform 4x ASI in, 4+4x ASI out, 2x GbE, 3x IO Slot	Base Unit
TSP-1000-C2	Integrated Receiver, TS Multiplexer, Descrambler & IP Streamer Platform 2x ASI in, 2x ASI out (identical), 1x GbE, 5x IO Slot	Base Unit
TSP-DVBTT2-DRXA	Dual DVB-T/T2 Tuner Module for TSP-1000	Option for IO Slot
TSP-DVBSS2-DRXA	Dual DVB-S/S2 Tuner Module for TSP-1000	Option for IO Slot
TSP-ASI-4RXA	Four DVB-ASI Receiver Module for TSP-1000	Option for IO Slot

With over two decades of extensive experience in the broadcast and media industry, Samim Group has emerged as a rapidly growing manufacturer and developer of professional-grade hardware and software solutions that cater to Broadcast Production Infrastructure, Intercom Systems, and Media Business Automation. We remain attuned to the latest technological advancements, ensuring we deliver high-standard solutions and products that can be marketed globally.

SAMIM

sales@samimgroup.com
www.samimgroup.com