

SEM SmartStream Encryptor Modulator



The SmartStream Encryptor Modulator (SEM), Motorola's High Density Encryptor/Modulator/Upconverter product family provides cable operators with a cost and space efficient means to perform encryption, modulation and upconversion functions within the digital headend. Providing for up to 8 multiplexes of processing functionality in a single RU package, the SEM significantly lowers the barrier to entry in an on-demand environment. Providing high-speed interfaces to servers and content aggregation systems, the SEM performs multiplex creation, encryption, 64/256QAM modulation and upconversion across the full HFC band. The SEM provides system operators with the necessary tools to launch narrowcast services as the HFC infrastructure evolves to allow subscribers to watch what they want, when they want.

The SEM is ideal for:

- Secure Session Based VOD Applications
- Cost Effective 256QAM Upgrades
- Lower Cost Digital Headend Deployments

Product configurations include:

- 1) Edge Configuration (On Demand applications) - Digital Baseband Input, encryption, modulation/upconversion
- 2) Uplink/Central Encryptor - Digital Baseband Input, encryption, high-speed output (no RF)
- 3) Dense Modulation/Upconversion - Digital Baseband Input, modulation/upconversion

Cost and space efficient means to perform encryption, modulation and upconversion functions within a digital cable headend

HIGHLIGHTS INCLUDE:

Multiplex Creation

- Generation of 16 output streams from up to 1024 input streams
- PID filtering/re-mapping

Encryption

- DigiCipher® II/MediaCipher encryption of up to 128 services

Modulation

- 64/256 QAM Modulation for eight multiplexes
- Support for ITU J.83 Annex A (DVB), Annex B (SCTE), Annex C (Japan)

Upconversion

- 4 Upconverters - 2 multiplexes per upconverter
- 88-864 MHz RF output

INPUTS/OUTPUTS INCLUDE:

General

- Receipt of up to 1024 input transport streams
- Output of up to 16 transport streams (MPTS)
- 900 Mbps aggregate input, 900 Mbps aggregate output
- ASI monitoring port

GigaBit Ethernet

- 3 physical ports
- Optical support - 850, 1310, 15xx nm pluggable modules
- Loop through capable
- Output of up to 16 individual MPTS

8 ASI Interfaces

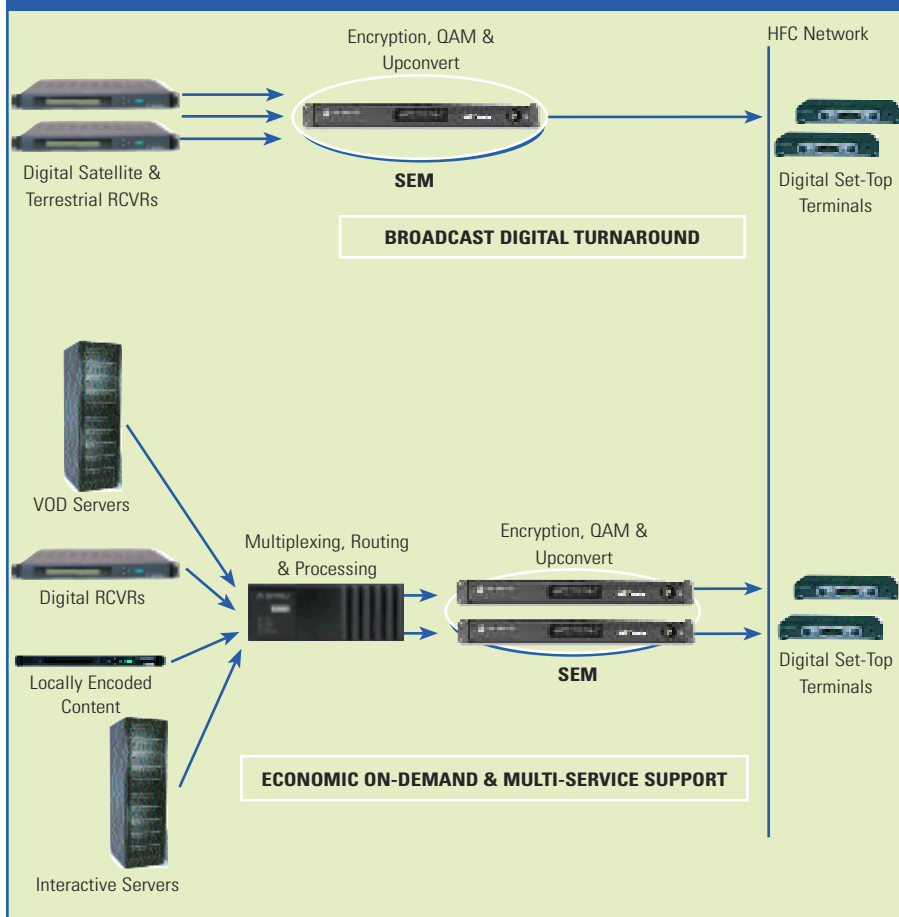
- 4 ports always inputs, 4 ports configurable as "In" or "Out"
- 213 Mbps per input port, 206 Mbps per output port

8 On-Channel RF Outputs

- 4 physical output connections each with two adjacent RF channels
- 64/256 QAM



MULTIPLE DIGITAL SYSTEM SUPPORT



GENERAL SPECIFICATIONS

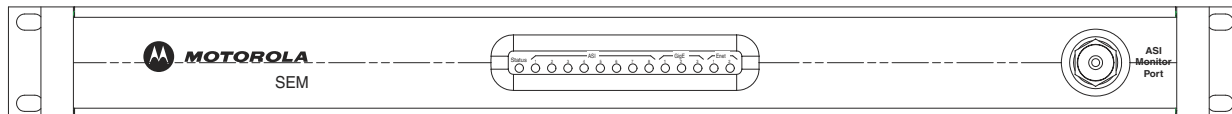
Physical

Dimensions: Single RU
 Inputs: GigaBit Ethernet
 High-speed ASI
 Output: QAM-RF
 GigaBit Ethernet
 High-speed ASI

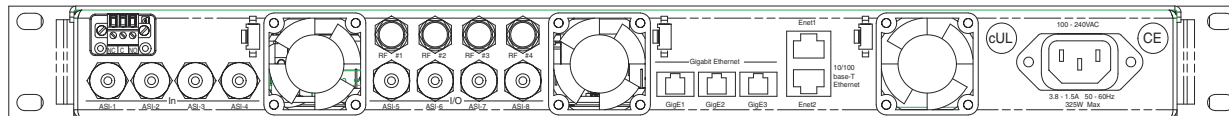
Other

Limited Warranty: One year

INPUTS/OUTPUTS



Front Panel



Back Panel



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 Connected Home Solutions
 101 Tournament Drive
 Horsham, Pennsylvania 19044

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www.motorola.com/broadband

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