Media Edge Gateway ATSC 3.0 Receiver

ATSC Edge Reception Processing Platform for MVPDs and Broadcasters

Use Software-Based Media Edge Gateway for ATSC Distribution

Synamedia's Media Edge Gateway (MEG) ATSC 3.0 Receiver is a new application-specific gateway supporting ATSC 1.0/3.0 applications. Scalable and efficient, the futureproof gateway leverages multiple deployment options such as bare metal, container and full virtual. Designed with software-based architecture, the platform supports on-premise applications and public or hybrid clouds.

The receiver is part of MEG, the industry's most comprehensive edge reception and processing platform. The software-centric, cloud-native integrated receiver/decoder (IRD) performs all distribution and processing functions – from secure reception, through transcoding and decoding with grooming/multiplexing capabilities, to IP transport.

Key Functionalities

Software-centric application and converged platform

- Translates from one transmission scheme to another
- Easily upgrades as your ATSC 3.0 network evolves
- Utilizes intuitive drag-and-drop interface, rich APIs, flexible workflows, and automation

Transport stream redundancy

- Maintains embedded failover mechanisms to protect against input loss by facilitating failover across RF to IP inputs
- Features failover processes such as PID filtering and remapping, fixed output PID remapping, dynamic PSI/SI/PSIP regeneration, and service/component merging
- Includes advanced re-multiplexing and PID management options

Future-flexible decoding and transcoding

- Simultaneously outputs up to full high definition (FHD) and UHD

- Transcodes multiple video services within single or multiple transport streams, including HEVC, AVC and MPEG-2
- Transcodes to ABR profiles for transport into CDN networks

Built-in dashboard capabilities

- Offers Triveni Digital StreamScope dashboard (future option)
- Provides comprehensive ATSC 3.0 analysis engine, visual verification, and custom dashboard

Technical Advantages

- Optional transcode to MPEG2 and AVC from HEVC and AVC
- Architecture accommodating multiple RF channels with each channel supporting multiple services
- ATSC 1.0 and 3.0 reception support
- Appliance options for decoding MPEG-2, AVC and HEVC services to SMPTE2110 or SDI
- Extensive IP support options such as MPEGoIP with FEC, Zixi, and SRT
- ASI transport output

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Product Specifications

Processing	
Input Formats	• MPEG TS over IP • Multiple program transport stream (MPTS) or single program transport stream (SPTS) • SD, HD, full HD (FHD), and future ultra-HD (UHD) format support • Unicast or multicast • Adaptive transport stream (ATS) input for ABR-to-TS functionality (optional) • Zixi and SRT support for reliable transport over Internet (optional) • 12 RF inputs supported, up to 6-8 ATSC 3.0 and 6 ATSC 1.0 (as part of ATSC 3.0 receiver bundle) • ROUTE/ DASH processing for each ATSC 3.0 input; future MMT processing • Future DRM input support
Output Formats	• MPEG TS over IP and/or ASI • MPTS or SPTS • Live linear ABR support (optional) • ATS • Embedded packaging, including HLS and MPEG-DASH • SD, HD and FHD, including down conversion support
Video Processing	• Optional support for up to 4 CH decodes to HD-SDI baseband and SMPTE ST2110 outputs • HEVC, AVC, MPEG-2 • HD, FHD • Video transcoding option for HEVC, AVC inputs to AVC, MPEG-2 outputs for SD, HD, FHD, and UHD (number of services is limited based on resolution) • ATSC 3.0 DASH-to-MPEG TS conversion; AC4-to-AC3 transcoding
Splicing and Switching	• Live linear broadcast splicing • Linear stream switching
Redundancy	• 1:1 IP interface backup • IP port mirroring • Input service and transport stream redundancy • Hitless merge for MPEG-2 transport stream input • User-configurable triggers • 1:1 and N:M MEG node redundancy
Monitoring and Management	• Integrated Grafana dashboards • Elasticsearch, Logstash and Kibana (ELK) stack support • Alarm notifications, including SNMP traps • Syslog • Easily controlled local web GUI • Future VSM support for line-up configuration, resource pool redundancy, capacity modelling, and centralized monitoring • Fully documented open API enabling third-party component integration

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Platform Support and Compatibility

Appliance Chassis Specifications (MEG-ATSC3RF-A, MEG-DEC-A, MEG-IPGW-A)

Physical and Power	
Size	1RU, 1.70 x 17.11 x 15.05 in, 4.32 x 43.46 x 38.22 cm
Weight	17.41 lb/7.9 kg
Power Supply	2 AC PSU, AC input 100 to 120 VAC/ 200 to 240 VAC
Consumption	550W (at 100 VAC)

Environmental	
Operating Temperature	50-95°F (10-35°C)
Storage Temperature	-40-140°F (-40-60°C)
Operating Humidity	8-90% (non-condensing)
Operating Altitude	0-3,050 m (0-10,000 ft)

Regulatory Compliance	
Compliance	CE Markings per directives 2004/108/EC and 2006/95/EC

Ordering Information

Description	Part Number
Synamedia ATSC 3.0 receiver appliance	MEG-ATSC3RF-A
Synamedia MEG license options	R-MEG-APPS (contact Sales)