

# High-Performance Scrambler with Advanced Security Features

Synamedia's vDCM Scrambler is a converged, pure software solution that protects content for primary distribution and pay TV broadcast services. Supporting a wide range of encryption algorithms, the scrambler is pre-integrated with over 20 conditional access systems (CAS) from throughout the world. The solution offers unmatched throughput, encrypted service coverage, and simultaneous SimulCrypt connections. Leveraging Synamedia's extensive security expertise and experience, the vDCM Scrambler offers system hardening and high availability to ensure business continuity and secure customer revenue.

## Key Functionalities

### Comprehensive content protection for multiple applications

- Secures content for primary distribution and pay TV broadcast applications
- Supports largest set of encryption algorithms, including DVB CSA v3, to comply with demanding studio security requirements
- Operates with unparalleled number of CAS worldwide

### Greater operational efficiency and flexibility

- Delivers unmatched high throughput across all encryption algorithms
- Maintains SimulCrypt capacity of up to 40 simultaneous connections with various CAS
- Ensures high availability for mission-critical service delivery
- Flexibly deploys on-premises as a software-defined appliance or on a public or private cloud
- Employs licenced-based model for growing easily and rapidly activating new functions to satisfy new requirements

### Enhanced security capabilities

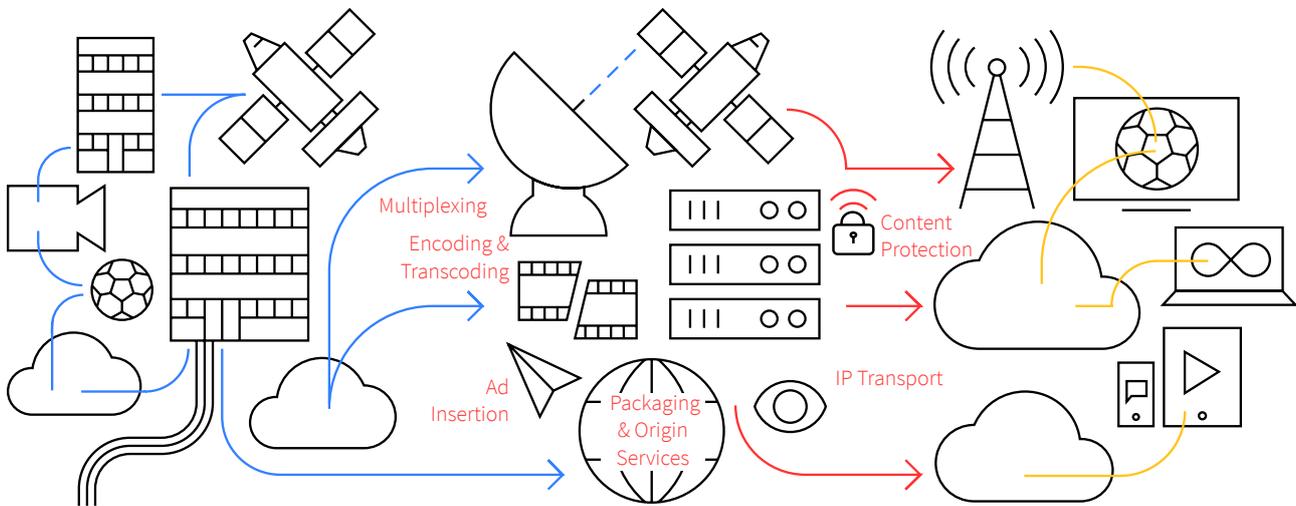
- Leverages holistic security approach featuring system hardening
- Secures beyond live-broadcast use cases with trick mode support
- Utilises embedded ECMG to integrate compact, plug-and-play PowerKey solution

## Technical Advantages

- Wide range of encryption algorithms, including BISS mode 0/1, DVB CSA v1/v2/v3, AES-CBC, AES ECB, ATIS, DVB-CPCM, AES CISSA, and SPAR
- High performance with 2,000 services capabilities with up to 20Gbps throughput
- Embedded PowerKey ECMG
- Insertion of SI/PSI over TCP/IP or MPEG-TS with editing capabilities for private data within CA descriptors
- Multiple SCS, EIS, ECMG and EMMG redundancy options, including load balancing
- Intuitive user interface for simplified configuration



## Video Network Chain



## Product Specifications

Content Protection	
Encryption Algorithms	<ul style="list-style-type: none"> <li>• DVB CSA v1/v2/v3</li> <li>• BISS mode 0/1 scrambling and descrambling</li> <li>• PowerKey</li> <li>• Synamedia PowerVu® technology</li> <li>• AES: AES ECB, ATIS, DVB-CPCM, AES CBC, and AES CISSA, according to ETSI TS 103 127 scrambling and descrambling</li> <li>• Synamedia SPAR system hardening</li> <li>• Open CAS</li> </ul>
Conditional Access Systems	<ul style="list-style-type: none"> <li>• Viaccess</li> <li>• Conax</li> <li>• VideoGuard</li> <li>• Irdeto Access MCrypt</li> <li>• Irdeto Access PiSys</li> <li>• NagraVision Aladdin</li> <li>• NagraVision Merlin</li> <li>• MediaGuard</li> <li>• Verimatrix</li> <li>• Enigma</li> <li>• Sidsa KeyFly</li> <li>• Secuencia SafeView</li> <li>• Latens</li> <li>• BetaCrypt</li> <li>• Abel</li> <li>• Communicate Technologies Inc (CTI)</li> <li>• Novel SuperTV</li> <li>• PowerKey</li> <li>• Synamedia PowerVu</li> </ul>
DVB-SimulCrypt	<ul style="list-style-type: none"> <li>• DVB-SimulCrypt compliance, according to ETSI TS 103 197</li> <li>• Embedded SCS and CWG</li> <li>• Interfaces with EIS, ECMG, EMMG, and PSIG</li> </ul>
Advanced Integration	<ul style="list-style-type: none"> <li>• Embedded ECMG for PowerKey</li> </ul>
Performance	<ul style="list-style-type: none"> <li>• Scrambling capacity of up to 2,000 services with 20 Gbps throughput (encryption-dependent)</li> <li>• SimulCrypt capacity of up to 40 simultaneous connections with different conditional access systems (CAS)</li> </ul>
Other	<ul style="list-style-type: none"> <li>• System hardening</li> <li>• Trick mode support</li> <li>• Editing of private data as part of CA description</li> <li>• Headend-based watermarking</li> </ul>

Operations	
Redundancy	<ul style="list-style-type: none"> <li>• 1:1 redundancy with control word synchroniser for minimum downtime</li> <li>• Redundancy support for EIS, ECM-G, and EMM-G</li> <li>• Active/standby and live/live redundancy with load balancing</li> </ul>
Monitoring and Management	<ul style="list-style-type: none"> <li>• Integrated Grafana dashboards</li> <li>• Elastic Search, Logstash, and Kibana (ELK) stack support</li> <li>• Alarm notifications, including SNMP traps</li> <li>• Syslog</li> <li>• Easily controlled local web GUI</li> <li>• VSM support for line-up configuration, resource pool redundancy for hybrid setups (mix of hardware DCM and software Synamedia DCM), capacity modelling, and centralized monitoring</li> <li>• Fully documented open API allowing third-party component integration and basic SNMP traps/mibs</li> </ul>

## Platform Support and Compatibility

Deployment	
Appliance	See details below
Private Cloud	Virtual machine, Docker container
Public Cloud	Multi-cloud supporting all major cloud providers

### vDCM Appliance Chassis Specifications

Physical and Power	
Size	SFF Chassis: 1.69 x 17.11 x 27.83 in, 4.29 x 43.46 x 70.7 cm
Weight	28.74lb/13.04 kg minimum, 35.86 lb/ 16.78 kg maximum
Power Supply	AC input 100-240 VAC
Consumption	800W (power supply) – 500W (for VN-Node XS)
Environmental	
Operating Temperature	50-95°F (10-35°C)
Storage Temperature	-40-140°F (-40-60°C)
Cooling	Smart array controller and seven fans
Operating Humidity	8-90% (non-condensing)
Operating Altitude	0 to 3,050 m (0 to 10,000 ft)
Regulatory Compliance	
Compliance	CE Markings per directives 2004/108/EC and 2006/95/EC
Safety	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment -Safety -Part 1: General Requirements CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment -Safety -Part 1: General Requirements)
EMC Compliance	EN 55032:2015/AC:2016 EN 61000-3-2:2014 EN 61000-3-3:2013 EN 55024:2010 +A1:2015 EN 61000-4-2:2009 EN 61000-4-3:2006 +A1:2008 +A2:2010 EN 61000-4-4:2012 EN 61000-4-5:2014 EN 61000-4-6:2014 EN 61000-4-8:2010 EN 61000-4-11:2004

## Ordering Information

For ordering information, please contact your sales representative.

## Services & Support

Synamedia provides a broad portfolio of services and support to increase your network's business value and return on investment. We take a customer-centric approach, aligning our level of support to your technological requirements and network complexity. That way, you can successfully operate our products and solutions to ensure that you achieve optimal performance throughout your network's life cycle.

## Warranty & Contact Information

[Read our detailed warranty information.](#)

Learn more about Synamedia's [video network distribution solutions](#).

For more information, contact your account manager or [visit our site](#).

## About Synamedia Video Network Solutions

Synamedia's video network solutions enable media, web and pay TV providers to deliver pristine-quality broadcast and broadband video securely over any network to any screen. Anchored by the industry's most comprehensive processing platform and built with high-quality standards, our solutions ensure outstanding performance and reliability for over 1,000 customers worldwide. Synamedia's solution portfolio covers the entire video network chain – from distribution, through processing, to delivery – enabling you to offer outstanding value-added and personalised experiences while saving costs.