

# AMETHYST III



## ▶ REDUNDANCY SWITCHER

**For applications requiring a fast, high-density, and efficient 1+1 redundancy switcher, the Thomson Amethyst III provides a scalable and intelligent way to protect your digital TV (DTV) network—and keep it up and running.**

Thomson Video Networks' solutions include MPEG test, measurement, and monitoring solutions that are deployed in R&D labs, manufacturing facilities, and broadcast and transmission sites worldwide.

As part of these solutions, our Amethyst III offers the utmost in performance, flexibility, high-density, and delay capability to increase the robustness and maximize uptime of your broadcast and transmission chains—and ensure that your MPEG-2 transport stream (ATSC or DVB) can be properly secured.

Available in starter and advanced models with up to four switchers, the Amethyst III is equipped with dual power supplies/plugs and continuously analyzes the inputs. It performs a seamless switch if one of the inputs is detected as having been corrupted.

### Robust, Highly Configurable Testing

The Amethyst III supports a variety of tests depending on your requirements. You can individually select and configure these tests through an easy-to-use graphical user interface. For example,

it's easy to select and set error severity criteria as well as a persistence time to avoid unwanted switching when transitory events occur. The Amethyst III supports TR 101 290 tests (Priority 1/2/3), which enable a complete health-status check of your digital DVB network. It also supports testing and monitoring models that provide the same level of comprehensive information for ATSC environments. To improve redundancy, template checking of expected packet IDs, rate limits, and/or scrambling status of various critical program components is available.

### High-Density Switcher

Available as one, two, or four 2:1 switchers in 1 RU, Amethyst III monitors and performs all the configured tests simultaneously on each input. To guarantee service continuity and perform smart bypasses, the Amethyst III is equipped with up to four relays to memorize and maintain the last valid input as the main output—even in case of power failure.

Its high-density provides cost, power, and space savings allowing for operators' CAPEX and OPEX improvement.

### Delay Compensation Capability

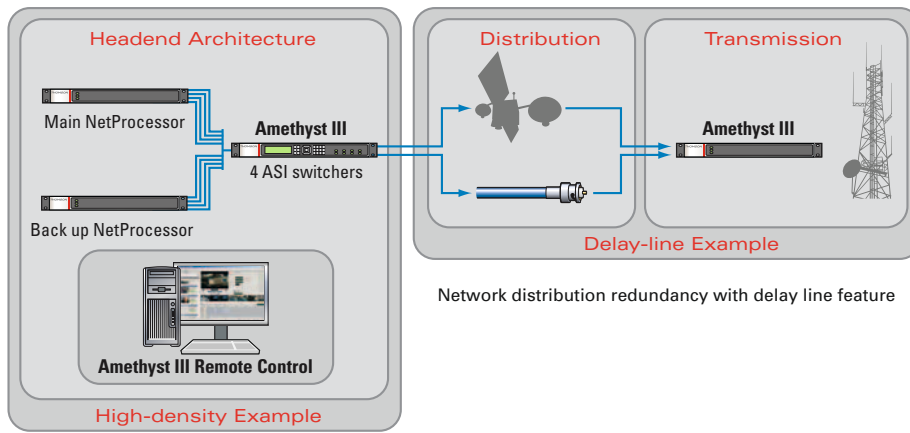
The Amethyst III also offers delay compensation capability by simultaneously analyzing delayed (from several ms to several seconds) input streams. If one input is detected as being corrupted, the Amethyst III compensates the time difference and switches seamlessly to the other, uncorrupted stream without any disturbance to end users. Typical applications include network distribution redundancy and SFN stream resynchronization.

### Configuration and Supervision

The Amethyst III has an embedded Ethernet 10/100Base-T port and contains a fully configured Web server that you can access remotely through any standard browser. It also provides a complete display of switching configurations along with easy-to-read input/output status information, error-log data, and bit-rate graphics. The Amethyst III embeds an SNMP agent for centralized management applications.

## ▶ KEY FEATURES

- Standalone 1+1 redundancy switcher family for DVB and ATSC signals
- Up to four 2:1 ASI switches in 1 RU
- Active and passive switching modes
- Seamless switch
- Network delay compensation
- Distribution network securing capability
- Smart bypass for secure, power-free operation
- TR 101 290 Priority 1, 2, and 3 analysis
- Template checking for stream content matching test
- Monitoring outputs
- Redundant power supplies with dual feeds
- Fault relays with contact-closure alarms
- Configuration scheduling
- Embedded SNMP agent



Network distribution redundancy with delay line feature

Features	Amethyst III Starter	Amethyst III Advanced
ATSC & DVB compliance	X	X
Density in 1 RU	Up to 4	Up to 4
Full real-time analysis of both inputs	X	X
Delay line capability	X	X
Active & passive switching mode	X	X
Smart bypass for secured, power-free operation	X	X
Monitoring output	X	X
TR 101 290 Analysis, Priority 1	X	X
TR 101 290 Analysis, Priority 2	Option	X
TR 101 290 Analysis, Priority 3	Option	X
Template checking	Option	X
Redundant power supplies with dual feeds	X	X
LCD front panel with keypad	N/A	X

## SPECIFICATIONS

### Input/Output Interfaces

- Up to 8 ASI inputs – up to 200 Mb/s per input
- Up to 8 ASI outputs – up to 200 Mb/s per output
  - Four smart secured outputs
  - Four smart outputs
- Monitoring outputs
- Active and passive switching
- Automatic byte or packet mode detection
- Relay contact closure for power supply, temperature, and input signal alarms
- GPI interface for external switch trigger

### Power Supply

- Dual power supply
- Dual power feeds

### Operating Modes

- Main/spare mode: automatic return from spare to main when valid
- Redundancy mode: no switching while current input remains valid
- Smart bypass using high-frequency relays guarantees service continuity even in the case of power failure

### Physical Characteristics

- 1 RU x 19", 44x482x540 mm, 1.7x19x21.3 in. (HxWxD)
- Weight: 6.5 kg (14.3 lbs.)
- 100 – 240V AC, 50 – 60 Hz power supply

### Environmental Conditions

- Operating temperature: 5° to 40°C (40° to 104°F)
- Operating relative humidity: 8 to 90% (non condensing)
- Storage temperature: 40° to 90°C (104° to 194°F)
- Storage relative humidity: 5 to 95%

## ORDERING INFORMATION

### Base Unit (Starter)

**TNM-7212-X**  
Starter model – Single switcher

**TNM-7214-X**  
Starter model – Dual switcher

**TNM-7218-X**  
Starter model – Quad switcher

### Base Unit (Advanced)

**TNM-7222-X**  
Advanced model – Single switcher

**TNM-7224-X**  
Advanced model – Dual switcher

**TNM-7228-X**  
Advanced model – Quad switcher

X: A = ATSC version, D = DVB version

### Options

**TNM-7196-M**  
TR 101 290 priority 2,3 and template checking upgrade – on TNM-7212-X

**TNM-7196-M2**  
TR 101 290 priority 2,3 and template checking upgrade – on TNM-7214-X

**TNM-7196-M4**  
TR 101 290 priority 2,3 and template checking upgrade – on TNM-7218-X

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## 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/support](http://www.thomson-networks/support)

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