



# NSR9100 / NSR9800 HIGH RELIABILITY REDUNDANCY SWITCHES

## PRODUCT SHEET

### CARRIER GRADE DESIGN

High availability of data and video connectivity is mission critical for every service provider and organization. When downtime is not an option, NOVELSAT redundancy switches provide a scalable 1+1 and N+1 protection, ensuring service continuity. Designed to protect traffic paths, NOVELSAT NSR9100 and NSR9800 redundancy switches offer the outmost in performance and flexibility to increase robustness and maximize service uptime.

### ASSURED CONNECTIVITY

Assuring uplink and downlink connectivity, NOVELSAT redundancy switches features redundancy setups for modulators, demodulators and modems. Connecting main and backup units, NOVELSAT NSR9100 and NSR9800 redundancy switches provide seamless switching from 1+1 to 8+1 traffic paths. Supporting a wide range of use cases and deployment scenarios, the NSR9100 and NSR9800 redundancy switches presents switching capabilities for multiple data and video connectivity options, including IF, L-band, ASI, and IP.

### FLEXIBLE AND RELIABLE OPERATION

NOVELSAT redundancy switches enable both automatic and manual switching between main and backup units. Automatic switching is done through alarm contacts and manual switching can be done via the front panel, a Web GUI or network management system. When in automatic mode, NOVELSAT redundancy switches continuously monitor the protected units. In case of alarm or manual operation, switching is triggered, and the configuration of the protected unit is copied to the backup unit, providing seamless changeover.

The NOVELSAT NSR9100 and NSR9800 redundancy switches are equipped with Ethernet port for control, configuration and operation. An intuitive Web GUI enables remote access through any standard web browser, and an embedded SNMP agent allows simple integration into network management (NMS) systems.

### TOTAL REDUNDANCY

Designed to support the changing needs of network operators, the NOVELSAT NSR9100 and NSR9800 redundancy switches feature extractable switching cards to allow scalable redundancy options. The redundancy switches are also equipped with dual redundant power supply to guarantee high system reliability.

### HIGHLIGHTS

- Scalable 1+1 to 8+1 redundancy configurations
- Automatic or manual switching mechanism
- Configuration file transfer and recovery
- Full redundancy of all interfaces - IF, L-band, ASI, and IP
- Management & Control via Web GUI, CLI, SNMP and front panel
- Front panel interface for monitoring and manual operation
- Dual redundant power supply
- Support for additional expansion units



## NOVELSAT NSR9100 / NSR9800 – SPECIFICATIONS

Mix and match redundancy card options to backup any interface combination up to 8:1

Card Options	L-band Rx	L-band Tx	Backup Interfaces				GbE	Redundancy Unit
IF Rx	IF Tx	ASI 1	ASI 2					
1	1:1			1:1	1:1			NSR9100
2		1:1		1:1	1:1			NSR9100
3			1:1	1:1	1:1			NSR9100
4				1:1	1:1	1:1		NSR9100
5	1:1	1:1	1:1					NSR9100
6	1:1	1:1		1:1				NSR9100
7	1:1	1:1			1:1			NSR9100
8							4:1	NSR9100 / NSR9800
9	4:1							NSR9100 / NSR9800
10		4:1						NSR9100 / NSR9800
11			4:1					NSR9100 / NSR9800
12				4:1				NSR9100 / NSR9800
13					4:1			NSR9100 / NSR9800

NSR9100 / NSR9800 Redundancy Units can be cascaded to expand support for additional (more than 8) components

### SWITCHING CARDS

#### IF, ASI

BNC (75Ω), DC to 500MHz

Insertion Loss: (in / out) < 1.5dB

Isolation: (in / in, in / out) > 80dB

Return Loss: (in / out) > 20db

#### L-Band Out

Type: SMA(50Ω) female, 500 to 2500MHz

Insertion Loss: (in / out) < 2.5dB

Isolation: (in / in, in / out) > 60dB

Return Loss: (in / out) > 20db

#### L-Band In

Type: F-Type (50Ω) female, 500 to 2500MHz

Insertion Loss: (in / out) < 2.5dB

Isolation: (in / in, in / out) > 60dB

Return Loss: (in / out) > 20db

E1 (Balanced): RJ-45, 2048MHz

Ethernet: RJ-45, 1000BaseT GbE

### UNIT LEDS

#### PS1, PS2

Power supply status indications

#### Alarm

##### General unit alarm

Auto: Unit operating in automatic mode

Manual: Unit is operating in manual mode

Remote: Unit is controlled from remote

#### Alarm R to 8

##### Operational units alarm status

Green no alarm

Red reporting alarm

Off – not connected

#### Protected R to 8

##### Operational units protection status

Green – can be protected

Red – not protected

Orange – is replaced by redundant unit

Off – masked

### ADDITIONAL INFORMATION

Input power: Up to +20dBm

Power monitoring: Down to -35dBm

#### DC path through:

Standard up to 18V/1A

1:1 card L band TX port up to 48V/4A

(BUC feeding support)

#### Dimensions

1U: 4.3cm H x 43.9cm W x 44cm L

3U: 13cm H x 43.9cm W x 31.7cm L

Certification: CB, CE

#### Environmental

Operating temp.: 0 to 50°C

Operating humidity:

Up to 95% Non-Condensing

Storage humidity:

Up to 95% Non-Condensing

Storage temp.: -40°C to 70°C Operating

Altitude: Up to > 2500 meters

### MONITOR AND CONTROL INTERFACES

#### Alarm In:

2x9 pin D-Type connector

8 alarms inputs

#### Alarm Out:

15 pin D-type connector

8 alarms outputs

#### RS232:

9 pin D-type connector

RS232 standard

M&C serial interface

#### Ethernet:

RJ-45, 10/100 BaseT

M&C Ethernet interface

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