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

NSR9100 (1U CHASSIS) SUPPORTED CONFIGURATIONS

Redundancy Configuration		Backup Interfaces		
Product		**ASI 1**	**ASI 2**	**GbE**
NS1000 Modulator	1:1	Full support for any interface combination		
NS1000 Modulator	Up to 4:1	Any one of three Interfaces		
NS2000 Demodulator	1:1	Full support for any interface combination		
NS2000 Demodulator	Up to 4:1	Any one of three Interfaces		
NS3000 / NS300X	1:1	Any two out of three Interfaces		

NSR9800 (3U CHASSIS) SUPPORTED CONFIGURATIONS

Redundancy Configuration		Backup Interfaces		
Product		**ASI 1**	**ASI 2**	**GbE**
NS1000 Modulator	Up to 8:1	Full support for any interface combination		
NS2000 Demodulator	Up to 8:1	Full support for any interface combination		
NS3000 / NS300X	Up to 4:1	Full support for any interface combination		
NS3000 / NS300X	Up to 8:1*	Any one of three Interfaces		

*More than one interface requires an additional NS9100 or NS9800 unit.

NSR9100 / NSR9800 Redundancy Units can be cascaded to expand support for additional (more than 8) components – Modulators, Demodulators, and Modems.

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

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

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, TUV, 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

30-08-2021

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