



## NovelSat NS-HUB4000 Multi Receiver IP Satellite Platform

Optimize Data Hub Rack Space – Up to 32 Receivers in a Single 1U Unit

The NovelSat NS-HUB4000 Multi Rx Satellite IP Demodulator Platform is the ideal choice for Point-to-Multipoint satellite network data applications in which the Hub requires a total inbound data rate of up to 2Gbps. At full capacity, the NS HUB4000 can simultaneously receive up to 32 carriers at up to 60Msps per carrier, saving both rack space and equipment and operating expenses.

The NS-HUB4000 is a major element in the NovelSat Point-to-Multipoint network solutions offering. Combined with the NovelSat NS300X/NS3000 modem series, NovelNET NMS (Network Management System), and NovelSat LIBRA (Dynamic Resource Allocation), the NS-HUB4000 contributes to an optimized and efficient Point-to-Multipoint network.

The NS-HUB4000 is a member of the NovelSat Professional Satellite Demodulators family. Like all NovelSat satellite transmission equipment, the NS-HUB4000 supports the NovelSat NS4x satellite waveform, which typically boosts spectral efficiency by 40% to 60% compared with DVB-S2 equipment.

### Optimization for Point-to-Multipoint Data Transmission

The cost-effective NS-HUB4000 includes built-in IP processing features such as the NovelSat NSPE2™, the market's most efficient IP encapsulation scheme, to improve data transmission efficiency. The NS-HUB4000 platform's unique Interfaces include Ethernet 1G/10G, dual power supply ports, and M&C interfaces such as USB ports and an SD card slot for data import/export, SW upgrade and many other uses.

The NS-HUB4000 is designed for operators who want to optimize the efficiency of their Hub with high inbound throughput – up to 2 Gbps Ethernet hub infrastructure – together with NovelSat NS4x, the world's most efficient satellite waveform.



### Key Features:

- Compact, Hub Terminal space saver
- Up to 32 IP Receivers in a single 1U unit
- Dual-active 110v or 220v AC power Interfaces
- Symbol rate of 0.1-120Msps per carrier
- Up to 2Gbps inbound data rate
- NovelSat NS4x™ technology
- NovelSat NSPE2™ – The world's most efficient IP encapsulation scheme
- Modulation: QPSK, 8APSK, 16APSK, 32APSK, 64APSK
- LDPC (Low Density Parity Check)
- Up to 8x F-Type Extended L-Band 950-2150MHz RF input ports
- Advanced M&C interfaces: SD Card Slot, USB Interfaces
- Roll-off Filter: 5%, 10%, 15%, 20%, 25%, 35%

# NovelSat NS-HUB4000 – Specifications

## Baseband

NovelSat NS4x – 64800 Frame Length		NovelSat NS4x – 16200 Frame Length	
Inner code	BCH	Inner code	BCH
Outer code	LDPC	Outer code	LDPC
Code rates and modulation:		Code rates and modulation:	
<b>QPSK</b>	1/4, 13/45, 1/3, 2/5, 9/20, 1/2, 11/20*, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9	<b>QPSK</b>	1/4, 1/3, 2/5, 7/15, 1/2, 3/5, 2/3, 3/4, 4/5, 8/9, 11/45, 4/15, 14/45, 7/15, 8/15, 32/45
<b>8APSK</b>	5/9 (L), 26/45 (L)	<b>8PSK</b>	3/5, 2/3, 3/4, 5/6, 8/9, 7/15, 8/15, 26/45, 32/45
<b>8PSK</b>	3/5, 23/36, 2/3, 25/36, 13/18, 3/4, 5/6, 8/9, 9/10	<b>16APSK</b>	2/3, 3/4, 4/5, 5/6, 8/9, 7/15, 8/15, 26/45, 3/5, 32/45
<b>16APSK</b>	26/45, 3/5, 28/45, 23/36, 2/3, 25/36, 13/18, 3/4, 7/9, 4/5, 5/6, 77/90, 8/9, 9/10, 1/2(L), 8/15(L), 5/9(L), 3/5 (L), 2/3 (L)	<b>32APSK</b>	3/4, 4/5, 5/6, 8/9, 2/3, 32/45
<b>32APSK</b>	32/45, 11/15, 3/4, 7/9, 4/5, 5/6, 8/9, 9/10, 2/3 (L)	<b>Baseband ROF</b>	“SRRC like” 5%, 10%, 15%, 20%, 25%, 35%
<b>64APSK</b>	11/15, 7/9, 4/5, 5/6, 32/45 (L)		
<b>Baseband ROF</b>	“SRRC like” 5%, 10%, 15%, 20%, 25%, 35%		

## Input Interfaces

### L-Band Input

Connector	F-Type (F) 75 ohm
Frequency range	950-2150MHz in 1Hz steps
Level	-70+10log(F)/-20 dBm (F in MBAUD)
Composite power	< -20dBm
Max. input level	0 dBm

## Additional Information

Interfaces	Physical & Environmental
<b>SW interfaces</b> Command line interface Web based GUI SNMP V3	<b>Prime power</b> 100-240 VAC, 50-60Hz, 30 to 100W Max
<b>M&amp;C Interfaces</b> CLI management USB port USB for generic use (e.g., SW upgrade) SD card slot Alarm Dry contact relay output ports	<b>Weight</b> 4Kg (8.8 lbs)* <b>Size</b> 19" W x 18" D x 1.75" H 48.3 x 45.7 x 4.45 cm *
<b>Data Interfaces</b> Ethernet Management port Ethernet data port Up to 8x F-Type L band RF input ports Ethernet 1G/10G SFP (Optional)	<b>Operating temp.</b> 0 to 50°C * <b>Storage temp.</b> -40°C to 70°C *
<b>Power</b> Dual active-active 110v or 220v AC power sockets with dual load-sharing power supplies	<b>Operating humidity</b> Up to 85% Non-Condensing * <b>Storage humidity</b> Up to 95% Non-Condensing *
	<b>Operating Altitude</b> Up to >2500 m *
	<b>Certifications</b> EMC:EN55022,EN55024,EN6100-3-2/3, FCC CFR 47-part 15 Safety: CB, TUV, CE, IEC 60950-1: 2005 (2nd Ed)+Am 1:2009

\*Preliminary figures



**Related products:** NovelSat XneT Point-to-Multipoint Data Network Solution, NovelSat NS3000 Professional High-Data Rate Satellite Modem, NovelSat NS300X IP Satellite Modem, NovelSat NS1000 Satellite Modulator, NovelNet Network Management System

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