NovelSat

NS3000 IP Satellite Modem

The NS3000D is the fastest satellite modem achieving data rates of up to 716Mbps. It is also the modem which presents the most compelling ROI in the market. The NS3000 incorporates innovative NS3™ state-of-the-art technology for satellite communication. It interfaces directly with IP infrastructure via a Gigabit Ethernet interface.

● Widest Support for Customer Needs

The NS3000 offers several hardware and software options to accommodate a wide range of customer needs. It supports point-to-point as well as point-to-multi point links while supporting ULE, GSE and Novelsat's high-efficiency NSPE™ encapsulation schemes.

● Best Performance

The NS3000 offers a dramatic performance upgrade over DVB-S2 and any other similar equipment available in the market. This high performance is achieved owing to the utilization of NS3™ technology coupled with the capability of transmitting a 72MHz single carrier. In addition, the NS3000 incorporates revolutionary NPEC (NovelSat Proprietary Echo Cancelation) technology and a built-in receiver equalizer that further improve performance over saturated channels.

● Highest Data Rate

Using the NS3000, customers achieve the highest data rates of up to 716Mbps while reducing dish and HPA sizes and/or required satellite leased bandwidth. The NS3000 offers a fully Integrated IP solution incorporating routing capability. Further utilization of allocated bandwidth can be accommodated using NovelSat optimized ACM mode.

The NS3000 comes with IF/extended L-Band input/output interfaces and can support BUC and LNB, offering a compact and cost effective solution in a space-saving 1U package.

Key Features:

- Compatible with the innovative NS3™ protocol
- Data rate of up to 716Mbps (bidirectional 358Mbps) with build-in ECO Cancellation
- Up to 70Msymbols/sec
- Optimized ACM mode
- Non-Linear Processing mode for saturated signals
- IP routing
- TCP acceleration
- Traffic compression
- ULE/GSE/NSPE support
- DVB-S2 compliant
- QPSK, 8PSK, 16APSK, 32APSK, 64APSK
- Optional 10MHz reference (In/Out)
- Extended L-Band 950MHz-2150MHz
- L-Band monitoring output
- Redundant Gigabit Ethernet interface
- Redundant power supply

NS3000D IP Satellite Modem – SPECIFICATIONS

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Maximizing Satellite Capacity

● Baseband

DVB-S2		NS3™		Input/output Interfaces
Inner code	BCH	Inner code	BCH	● Maximum rate: bidirectional 360 Mbit/s
Outer code	LDPC	Outer code	LDPC	● Bridge mode (Layer 2)
QPSK	1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10	QPSK	1/4, 1/3, 2/5, 13/30, 7/15, 1/2, 8/15, 17/30, 3/5, 19/30, 2/3, 32/45, 3/4, 4/5, 5/6, 8/9, 9/10	● Router mode (Layer 3) ● Supported encapsulation:
8PSK	3/5, 2/3, 3/4, 5/6, 8/9, 9/10	8PSK	2/5, 13/30, 7/15, 1/2, 8/15, 17/30, 3/5, 19/30, 2/3, 32/45 3/4 ,4/5 ,5/6 , 8/9 ,9/10	- NovelSat Proprietary Encapsulation (NSPE), NovelSat's highly efficient encapsulation protocol
16APSK	2/3, 3/4, 4/5, 5/6, 8/9, 9/10	16APSK	2/5, 13/30, 7/15, 1/2, 8/15, 17/30, 3/5, 19/30, 2/3, 32/45, 3/4, 4/5, 5/6, 8/9, 9/10	- Ultra Lightweight Encapsulation (ULE) - Generic Stream Encapsulation (GSE)
32APSK	3/4, 4/5, 5/6, 8/9, 9/10	32APSK	2/5, 13/30, 7/15, 1/2, 8/15, 17/30, 3/5, 19/30, 2/3, 32/45, 3/4, 4/5, 5/6, 8/9, 9/10	● Routing and filtering capabilities: - Unlimited VLAN filters
64APSK	N/A	64APSK	19/30, 2/3, 32/45, 3/4, 4/5, 5/6, 8/9, 9/10	- Unlimited remotes per carrier
Frame length	16200, 64800	Frame length	16200, 64800	- One NPA/MAC per remote
ROF	SRRC 20%, 25% ,35%	ROF	"SRRC Like" 5%, 10%, 15%, 20%, 25%, 35%	● Advanced encryption
				● 2 Gigabit 10/100/1000 Base-T interfaces

● Modulator Outputs

L-Band

Connector	SMA (F) 50 ohm
Freq. range	950-1750MHz (optional up to 2150MHz) in 1Hz steps
Power level	-30/0 dBm ±0.1dB
Power accuracy / temp. stability	0.5dB/±0.5dB
Return loss	> 12dB
Spurious	-55dBc in band and out of band at max power
Phase noise	@100Hz−70dBc, @1KHz−80dBc, @10KHz−85dBc @100KHz−95dBc, @1MHz−100dBc

IF-Band

Connector	BNC (F) 75 Ohm
Freq. range	70MHz±20MHz, 140MHz±40MHz in 1Hz steps
Power level	-30/0 dBm ±0.1dB
Power accuracy / temp. stability	0.5dB/±0.5dB
Return loss	> 12dB
Spurious	-55dBc in band and out of band at max power

● Demodulator Outputs

L-Band

Connector	F-Type (F) 75 ohm
Freq. range	950-1750MHz (optional up to 2150MHz) in 1Hz steps
Level	-70+10log(F)/-20 dBm (F in MBAUD)
Composite power	<-20 dBm
Return loss	> 10dB
Max. input level	0dBm
LNB power control:	
Voltage	11.5-14 V (Vert. Pol.), 16-19V (Horiz. Pol.)
Band select	22KHz ±4KHz
Max. current	350mA

IF-Band

Connector	BNC (F) 75 Ohm
Freq. range	70MHz±20MHz, 140MHz±40MHz in 1Hz steps
Power level	-30/0 dBm ±0.1dB
Power accuracy / temp. stability	0.5dB/±0.5dB
Return loss	> 10dB

● Additional Information

Monitor and Control Interfaces		Physical		Environmental	
SW interfaces	Command line interface	Weight	4Kg (8.8 lbs)	Prime power	100-240VAC,50-60Hz
	Web based graphic user interface	Size	19"W x 18"D x 1.75"H	Operating temp.	0 to 50°C
	NMP V3		48.3 x 45.7 x 4.45 cm	Operating humidity	Up to 85% Non-Condensing
	Front panel	10MHz		Storage temp.	-40°C to 70°C
Serial RS232/RS485	Female 9-Pin D-Sub connector	Stability	±1.0 ppm over 0degC to 50degC	Storage humidity	Up to 95% Non-Condensing
Ethernet 10/100	BaseT interface to monitor and control the modem	Aging	±1.0 ppm/year		
Alarm interface	Female 9-Pin D-Sub connector				