

# iRG-S2 Remote Gateway

The **iRG-S2** is a low-cost, compact VSAT that is scalable in both performance and capability, making it a universal solution for businesses of all sizes and growth stages.

The **iRG-S2** supports 8PSK modulation on both inbound and outbound paths, which improves the link efficiency by 30% compared with QPSK modulation. Using **iRG-S2** saves a lot in bandwidth consumption, while keeping the same performance.

The **iRG-S2** works in dual receiver mode that can support two DVB-S carriers or one DVB-S2 and a DVB-S carrier simultaneously.

This user-friendly terminal adapts to your changing needs, allowing you to seamlessly upgrade system capabilities over satellite using a simple software “key.” This scalability allows you to make a minimal hardware investment and later move to a more powerful solution without having to purchase additional hardware.

The **iRG-S2** supports DVB-S2 in addition to DVB-S standard. Supporting standard-based solutions that employ advanced technologies to offer unparalleled efficiency and functionality. On the Forward Link the support of DVB-S2 technology includes advanced LDPC coding and 8PSK modulation for improved performance. The terminal supports turbo codes, dual continuous and burst mode operation and data rates of up to 2 Mbps. It has an advanced set of networking capabilities, including Quality of Service and acceleration.

The **iRG-S2** broadband solution is designed for small and medium enterprises, corporate and government offices, financial institutions, Internet cafés and ISP points of presence. The terminal is ideal for:

- \* Dual Hub Single Hop Applications
- \* Multi Star Applications
- \* Fast Internet Access
- \* Voice over IP Telephony
- \* Videoconferencing
- \* Interactive Distance Learning
- \* VPN (secure) Applications
- \* Reliable Business-To-Business (B2B)
- \* CRM
- \* IP Multicast Applications
- \* Telemedicine
- \* Terrestrial Backup
- \* Governmental & Military Applications



The **iRG-S2** comes equipped with a 10/100 Base T Ethernet adapter for direct connection to a LAN, WLL, ADSL and other last mile interface equipment. The terminal has low power consumption and the ruggedness required for operation in difficult environments.

Shiron Satellite Communications

## **InterSKY™ iRG-S2 Technical Specifications**

### **Indoor Unit**

Ext. AC Power	100-240V, 60/50Hz, up to 3A
DC power	24 V DC /3A (6A available for higher power)
LAN Interface	Ethernet (IEEE 802.3), 10/100BaseT, Autodetect
Operating System	VxWorks
L-Band Input/Output Connectors	F-Connector, 75 Ohm
Dimensions	250 x 205 x 40 (W x D x H) mm
Weight (including power supply)	1,5 Kg.
Management Console	RS232 - EIA/TIA-232 (D-type 9pin), Telnet RG-45

### **Transmitter- iRG-S2**

IF Range	L-band (950-1525 MHz)
Access	Dynamic BM-FDMA, DAMA & Bandwidth On Demand
Modulation	8PSK, QPSK (SQRT Raised Cosine, alpha=0.35)
Coding	Convolutional Code R=1/2, 3/4 Turbo Code (DVB-RCS) R=3/4@QPSK, R=2/3@8PSK
Information Rate	Up to 2 Mbps
Signal Level	-41 to -5 dBm
Transmission Type	Continuous and Burst
Reference Stability	+/- 0.2 ppm

### **Receiver**

IF Range	L-band (950-2150 MHz)
Access	DVB-S2, DVB/S broadcast (ETS 300 421) Packed/Unpacked mode of MPE over DVB-S MPEG2-TS
Modulation	8PSK (for DVB-S2), BPSK/QPSK (as per DVB-S)
Coding	LDPC (Low density Parity Check) For DVB-S2 (rates 02.5,0.33,0.4,0.5,0.6,0.625,0.667,0.75,0.8,0.889,0.9), Convolution Code (rates 1/2, 2/3, 3/4, 5/6, 6/7, 7/8) Concatenated with Reed-Solomon (188/204)
Channel Rate	10 to 30 Msps (Per DVB-S2), 1 to 45 Msps (Per DVB-S)
Information Rate	10 to 80 Mbps (Per DVB-S2) 1 to 72 Mbps (Per DVB-S)
Signal Level	-65 to -35 dBm

### **Outdoor Unit**

RF Frequency Band	C, Extended C, Ku, Extended Ku, Ka
Transmit level	C-band: 2 Watt, Ku band: 1-2 Watt Higher power available upon request
Receiver	Low-cost Standard DRO LNB
Power Supply	24 VDC /2A, Supplied via RF Cable
Frequency Reference	10 MHz, Supplied via RF Cable
LNB Power and Signaling	Switchable 13/18VDC up to 350 mA, 22 KHz

### **Standard Compliance**

Safety	TUV/cTUVus; CE
EMI/EMC	FCC part 15, Class B EN 55022, EN 55024, EN 61000 AS/NZS CISPR 22
Standard Conformity	DVB-S2, ETSI EN 302 307 v.1.1.1 (2004-01) DVB-S, IESS-308, ETSI TBR

### **Environmental Conditions**

#### **Indoor Unit**

Operating Temperature	0° to +50° C
Storage Temperature	-25° to +85° C
Humidity	5% to 95% Non-Condensing
Altitude	Up to 10,000 Feet

#### **Outdoor Unit**

Operating Temperature	-40° to +55° C
Storage Temperature	-40° to +70° C
Relative humidity	Up to 100%
Altitude	Up to 10,000 Feet

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