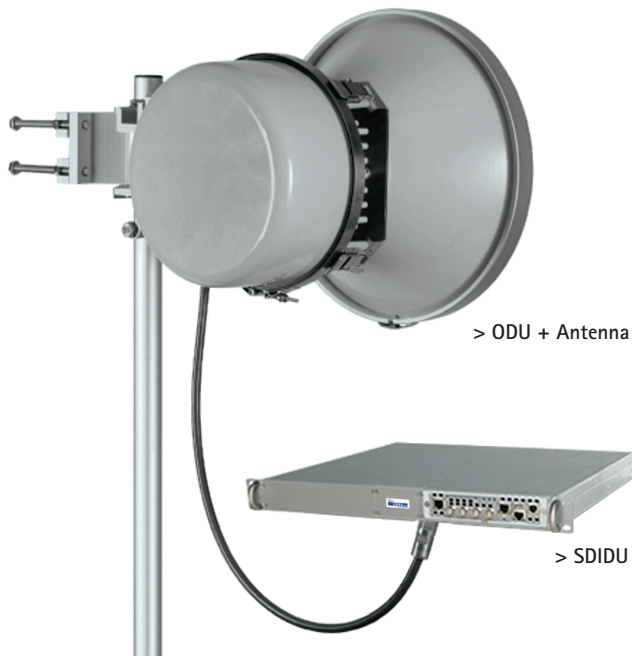


High Speed/Split Mount (IP native)



> SDIDU - HS - In configuration 1 + 0 (Option)

Main Features

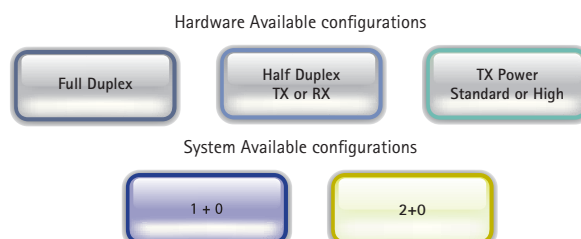
- Up to 310Mbps data throughput, full duplex.
- Available modulation schemes:
 - Programmable QPSK/6QAM/32QAM/64QAM/128QAM/256QAM.
- Available channel bandwidth:
 - ETSI standards : 7/14/28/40 and 56 MHz
 - ANSI standards : 10/20/30/40 and 50 MHz.
- Customer network data interface:
 - 1 x Gigabit Ethernet (100/1000Base-T)
 - 1.1 x 10/100BaseTX for data or management

Options

- 2 or 4 x ASI (BNC input/output)
- 1-2 x E1 / T1 plug-in extension module
- 1 x E3 / DS3 plug-in extension module

System Features

- The smallest IDU in the market! Possibility to place 2 IDUs in 1U 19" std. rack module.
- QPSK, 16 -256 QAM Modulation
- FEC – Forward Error Correction with Reed-Solomon Coding
- Built-in Adaptive Modulation system with dynamic capacity allocation and priority data transmission (PBPS – Packet Based Priority System)
- Asymmetrical data rates – different modulation setup for upstream and downstream
- On-line Ethernet packet compression with reduced length of frames allowing throughput efficiency increase up to 25%
- Two USB ports for connecting USB-flash disk or PC
- "In-Band"/"Out-of-Band" Management
- NAT, Proxy ARP support for effective IP management setup
- Large range of System and Ethernet Counters
- Adaptive Power Control ATCP
- Built-in Network Management System (NMS) – Web, SNMP, TELNET
- Built-in Bit Error Rate (BER) Tester + Built-in Spectrum analyzer



The SKYLINKS High Speed/Split Mount Radio System HS/SM provides a cost-effective solution to high capacity data transmission requirements. Operating in the licensed bands from 1.4 to 43GHz, it is composed by new very compact IDU and ODU with enhanced features that include line interface, alarms and diagnostics and network management interfaces.

Easy-to-install, HS/SM provides user accessibility functions including Transmit Power, Receive Signal Level (RSL), and operating frequency.

Additionally, HS/SM features enhanced software allowing capacity / configuration upgrade, downloadable field upgrades and an optional embedded SNMP agent for advanced network management capabilities, making it the ideal solution for networks operated by mobile service providers, internet service providers (ISP), utilities, public telephone operators, local governments, TV networks and corporate users.

These SKYLINKS Digital Radios represent a new microwave architecture designed to address universal applications for GE platforms. The advanced technology is designed to provide flexibility to customers for their current and future Ethernet network needs.

It supports links for high speed wireless Ethernet networking.

It is spectrum and data rate scalable from 5 to 310 Mbps, giving opportunity to service providers and companies to trade-off system gain with spectral efficiency and channel availability for optimal network connectivity.

SKYLINKS HS/SM enables network operators (mobile and private), access service providers and government to provide a portfolio of secure, scalable wireless applications for data, video, and voice over IP (VoIP).

This family includes the following blocks: Indoor Unit (IDU), Outdoor Unit (ODU) and Antenna.

Mainly used Antennas are the Arkivator (previously Comhat) low profile to connect through a flex WG up to 11 GHz or directly connect with the patented WG interface from 13 to 38 GHz; other manufactures' aeriels like, e.g., the Andrew Valuline™ might be used on custom requirement.

The Software Defined Indoor Unit is designed to be frequency independent, and the Outdoor Unit is designed to be capacity independent. The companion ODU can supports frequency bands from 1.4 to 43 GHz with high linearity allowing high order modulation scheme, high Output Power and low consumption.

The ODU is fully calibrated over the temperature range and operates down to -50°C (optional).

The ODU covers from QPSK up to 256QAM with very low Phase Noise and superior reliability (high MTBF).

The SDIDU supports 1+0 configuration and it is provided in a chassis arrangement 1U half-19" standard rack.

Additional features of the SDIDU is provision for a plug-in module to provide either 2xE1 or 1xE3 wayside channel interfaces.

The overall architecture consists of a single 1U "half size" rack mount Software Defined Indoor Unit (SDIDU) with a cable connecting to an Outdoor Unit (ODU) with an external antenna.

SYSTEM PARAMETERS

Frequency	4/6 GHz	7/8 GHz	10 GHz	11/13 GHz	15 GHz	18 GHz	23GHz	31/38 GHz
Standard	ETSI/FCC	ETSI	ETSI/FCC	ETSI	ETSI	ETSI/FCC	ETSI/FCC	ETSI/FCC
Operating Frequency (GHz)	3.7 to 4.42, 4.40 to 5.00 - 5.90 to 7.10	7.10 to 8.50	10.00 to 10.70	10,70 to 11,70 12.75 to 13.25	14.40 to 15.35	17.70 to 19.70	21.20 to 23.60 24.55 to 26.45	31.80 to 33.40 - 37.00 to 39.50
Channel BW 28 MHz Channel BW 56 MHz	128QAM STM-1 32QAM STM-1/128QAM 2*STM-1							
Tx Power (dBm) QPSK 16, 32, 64QAM 128, 256QAM	SDT / HI +27/+32 +24/+29 +22/+27		SDT / HI +26/+31 +23/+28 +21/+26		SDT +25 +22 +20	SDT +24 +21 +19	SDT +23 +20 +18	SDT +18 +15 +13
Rx Sensitivity (dBm) @10 ⁻⁶ BER 28 MHz, Mbps 56 MHz, 155/310Mbps	-70 dBm -72/-66 dBm		-69 dBm -71/-65 dBm		-69 dBm -71/-65 dBm	-67 dBm -69/-64 dBm		-66 dBm -68/-63 dBm
Frequency Stability	-----				0.0010%			
Background BER	-----				< 10-12			
Standard Compliance	Radio ETSI EN 302 217, EN 301 216, EN 301 128, EN 300 198							
	Power Supply ETSI EN 300 132-2							
	EMC / Safety ETSI EN 301 489 / IEC EN 60950							

PAYLOAD INTERFACE PARAMENTERS

E1/E3	Line Rate	1 or 2 x 2048/1 x 34.368 Mbps
	Interfaces	Optical Type SC single mode 1310nm, Electrical BNC
	Standards Compliances	Telcordia
Gigabit Ethernet	Line Rate	Full Duplex, scalable up to 310 Mbps
	Interfaces	G703 RJ45/BNC
	Test Utility	Loopback, Internal BER tester
ASI	Half-Duplex-TX	4 X AS TX
	Half-Duplex-RX	4 X ASI RX
	Full-Duplex	2X ASI TX + 2X ASI RX

CONFIGURATION

Supported Configurations	1+0 (1U), 1+1 (1U)
Radio Protection	Hot standby, hitless switching with frequency or space diversity

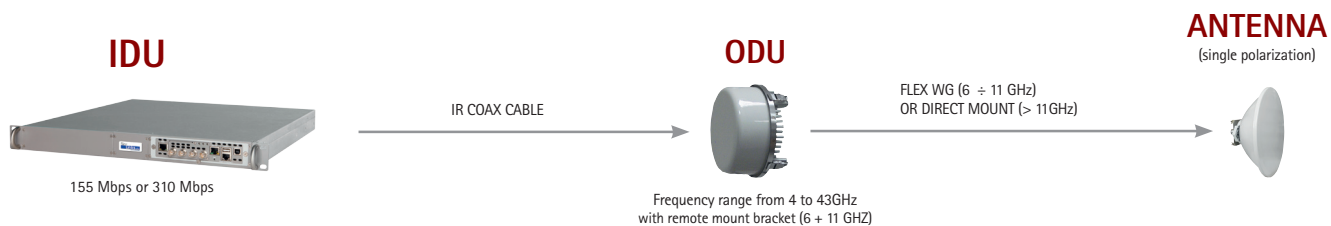
MECHANICAL/ENVIRONMENTAL

Dimensions	IDU: Half 19" standard rack (1U), 210 x 44 x 210 mm. ODU: 260mm x 160mm
Weight	IDU: 2 Kg; ODU: 6.0 Kg
Operating Temperature	IDU: -5° to +45°C; ODU: -33° to +55°C (arctic Option -55°C)
Altitude	Up to 4500 meters
Humidity	IDU: 95% condensing; ODU: 100% all-weather
Power Input	-48V DC (-36V to -60V DC)
Power Consumption	IDU + ODU: Standard <25W, High <35W
Cooling	Natural convection
Coaxial Interfaces	IDU N-Type connector female, ODU N-Type connector female
IDU-ODU Cable	Belden 9913/RG-8, up to 300m
Antenna Interface	Standard Rectangular WG or Coaxial N-type connector (6-11 GHz); proprietary direct mount (13GHz and above)
Standards Compliance	ETSI ETS 300 019, Part 1-3 Class 3.2 (IDU) - Part 1-4 Class 4.1 (ODU)

NETWORK MANAGEMENT

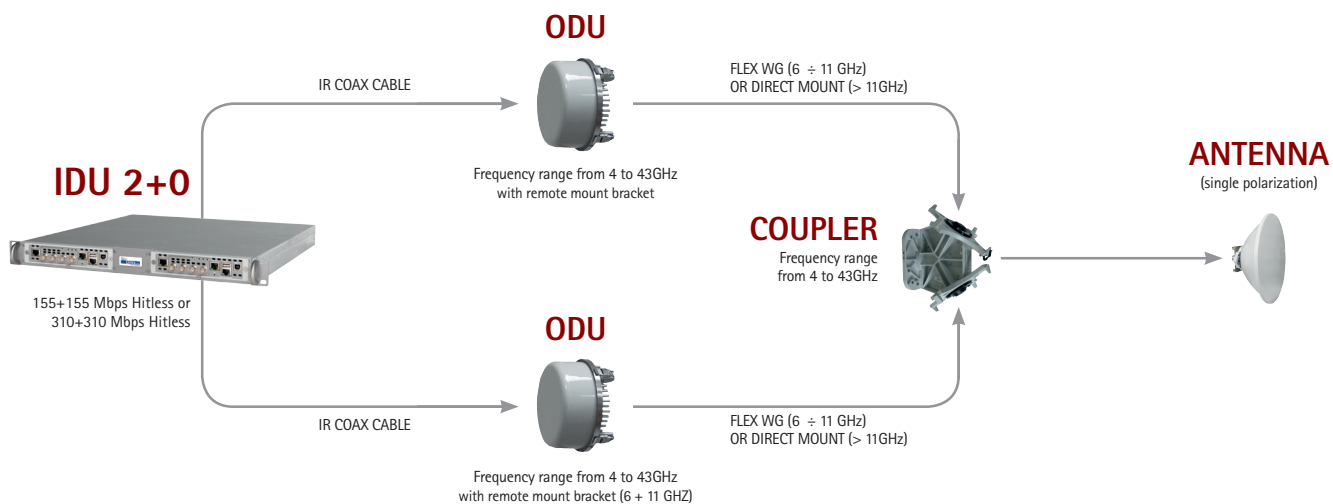
Support	SNMP, WEB based GUI, TELNET, ASCII console
Local Access	Ethernet 10/100 Base-T / RJ-45, RS232, USB-A, USB-B
Out-of-Band Management	115 Mbps
In-band Management	Via LAN
IP Addresses	Primary, secondary
IP Option	NAT, Proxy ARP
IP Utilities	Ping, telnet

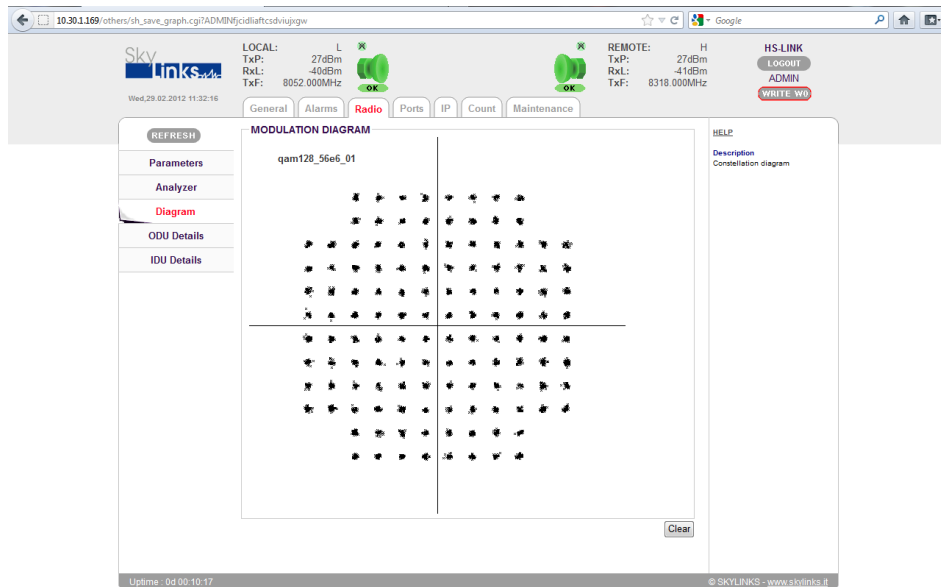
1+0 Basic Configuration



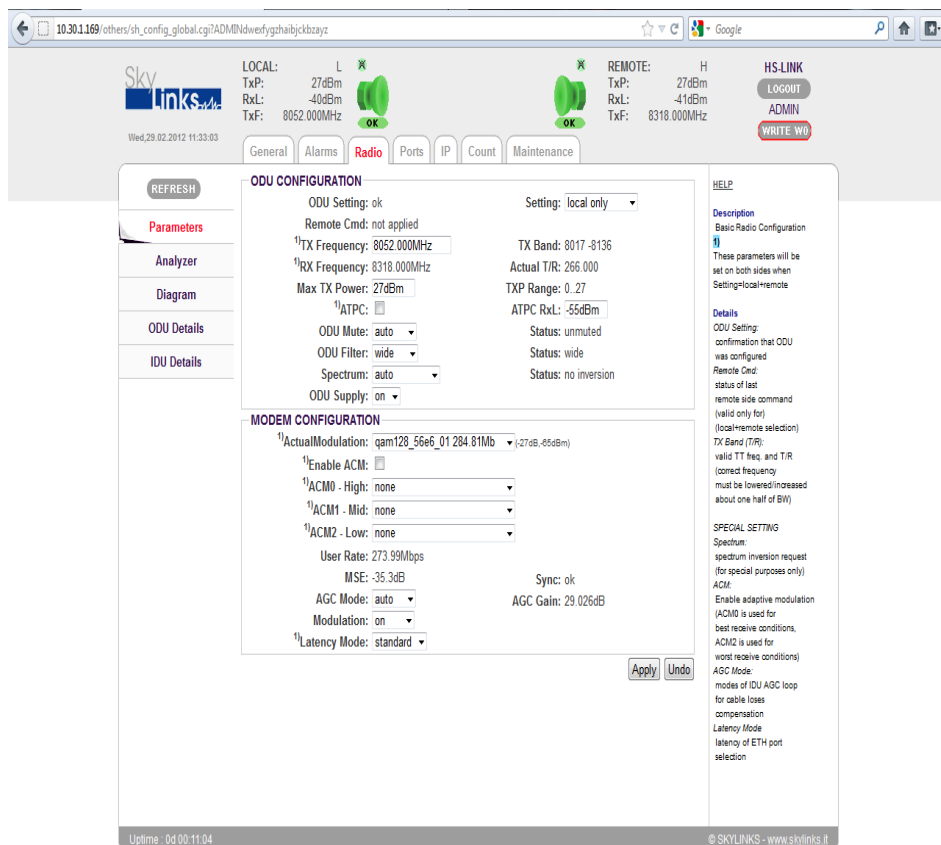
HS/SM 2+0

2+0 Capacity Doubler Configuration





GUI EXAMPLE



GUI EXAMPLE