

The Wireless Infrastructure Experts

Sygnus Hybrid TDD 4.9-5.XGHz 1x2x4x-T1s + Ethernet

In/Out-Door Half Duplex Backhaul Hybrid TDM + Ethernet

The **Star Microwave Sygnus Hybrid** series operates over the 4.9 GHz Public safety band or the 5.X GHz UNII band and delivers throughput for Ethernet and 1, 2 or 4 ports of T1 traffic. The system supports a variety of spectrum bands and employs Time Division Duplex (TDD) transmission, which simplifies the installation and configuration procedure. There is no need to plan and to allocate separate channels for the uplink and downlink data streams.

This hybrid is reliable, cost effective and is very easy to deploy as a last mile solution, which converges T1 and Ethernet interfaces with high reliability OFDM radio.

The Ethernet ports support flow control to limit the throughput pass through and guarantee the quality of the T1 transmission. A higher priority is automatically given to the T1 packets than those containing other LAN traffics. This ensures that T1 packets are not delayed and high voice service quality is maintained.

This series offers more than just an attractive price-point per link and powerful performance characteristics. Ease of installation and alignment along with smart management capabilities make setup and configuration a snap.

Product Highlights

- High quality Voice / Data / Video transmission
- Cost-effective alternative to traditional T1 devices
- High reliability of radio link provides excellent BER
- Various frequency bandwidth options with OFDM technology
- End to end transmission of multiple user services over packet switched networks
- Transparent Ethernet forwarding
- Supports SNMP for remote monitor and management
- Window based utility provides user friendly interface to configure the IDU/ ODU
- Rapid installation and easy configuration for deploying the link.
- Enhanced Security and access control
- Power over Ethernet to ODU
- IP-68 rated weather-proof housing for ODU

INDUSTRY LEADING

HYBRID T1 + ETHERNET

WIRELESS BACKUP

EMERGENCY DEPLOYMENT

SOLUTION for MMDS and 3/4G

Integrated or External Antenna

APPLICATIONS

Fill-in for Hot Spots

VOIP / Video

Data convergence Backhaul

TDM with IP Cellular Backhaul

Double-play WISP -

(VoIP + Data) Backhaul

Commercial / Private Enterprise

Network Infrastructure

Monitoring of remote systems

and

Much more ...



1/2 T1s + 2x Ethernet



4 T1s + 1x Ethernet

Specifications — 1/2 T1s + Ethernet

Configuration				
Architecture	IDU: Indoor Unit			
	ODU: Outdoor Unit			
IDU to ODU Interface	Outdoor CAT-5 cable: Maximum cable length: 90m			
Radio				
Frequency bands	4.940 – 4.950 GHz			
	5.150 – 5.850 GHz			
Throughput	Up to 18 Mbps			
Channel Bandwidth	20 MHz			
Duplex Technique	TDD			
Modulation	OFDM-BPSK, QPSK, 16QAM, 64QAM			
Transmit Power	20dBm			
Rx Sensitivity @ Packet Error Rate: 1E-6	54Mbps	36Mbps	18Mbps	6Mbps
	-60dBm	-65dBm	-72dBm	-77dBm
Received Dynamic Range	> 60dB			
Ethernet Interface				
Type	10/100Base T Interface with Auto-negotiation (IEEE 802.3)			
Number of Ethernet Ports	1 (LAN Traffic Bandwidth Control)			
Framing / Coding	IEEE 802.3/U			
Bridging	Self-learning up to 2047 MAC addresses IEEE 802.1Q			
Traffic Handling	MAC layer bridging, self-learning			
Line Impedance	100 Ω			
VLAN Support	Transparent			
Connector	RJ-45			
T1 Interface				
Framing	Unframed (transparent) / framed			
Number of T1	0, 1, 2			
Standard Compliance	G.703, G.826			
Line Code	T1-B8ZS/AMI @ 1.544Mbps			
Impedance	T1 – 100 Ω , Balanced			
Connector	RJ-48C			
Jitter & Wander	According to G.823, G.824			
Management				
Local Management	CLI / RS232, SNMP			
Remote Management	CLI, SNMP			
SNMP Agent	MIB II, Private MIB			
Security	User log on, MAC Access control list, WEP Encryption 40,128,152 bit			
Power and Mounting				
Power Feeding	AC version: 100~240 VAC / DC version: \pm 48VDC			
Mounting	Pole and Wall			
Mechanics				
ODU Dimensions (includes integrated antenna)	335 (L) \times 335 (W) \times 81 (H) ; mm / Weight: 2.9 Kg			
ODU (integrated antenna not included)	259 (L) \times 250 (W) \times 75 (H); mm. / Weight: 1.8kg			
IDU Dimensions	AC version	350 (L) \times 185 (W) \times 44.5 (H)		
	DC version	350 (L) \times 155 (W) \times 44.5 (H)		
Environmental				
Outdoor Unit Enclosure	IP-68 rated weather-proof enclosure			
ODU Operating Temperatures	-30 $^{\circ}$ ~ 60 $^{\circ}$			
IDU Operating Temperatures	-5 $^{\circ}$ - 55 $^{\circ}$			
Humidity	Up to 90% non-condensing			
Ordering Information				
Sygnus HY5 1T1i	5GHz UNII band, 1xT1, 1x Ethernet IDU / 23dBi panel antenna integrated ODU; AC/DC			
Sygnus HY5 1T1e	5GHz UNII band, 1xT1, 1x Ethernet IDU / antenna detachable ODU; AC/DC			
Sygnus HY4 1T1i	4.9GHz Public safety band, 1xT1, 1x Ethernet IDU / 23dBi panel antenna integrated ODU; AC/DC			
Sygnus HY4 1T1e	4.9GHz Public safety band, 1xT1, 1x Ethernet IDU / antenna detachable ODU; AC/DC			
Sygnus HY5 2T1i	5GHz UNII band, 2xT1, 1x Ethernet IDU / 23dBi panel antenna integrated ODU; AC/DC			
Sygnus HY5 2T1e	5GHz UNII band, 2xT1, 1x Ethernet IDU / antenna detachable ODU; AC/DC			
Sygnus HY4 2T1i	4.9GHz Public safety band, 2xT1, 1x Ethernet IDU / 23dBi panel antenna integrated ODU; AC/DC			
Sygnus HY4 2T1e	4.9GHz Public safety band, 2xT1, 1x Ethernet IDU / antenna detachable ODU; AC/DC			

Specifications — 4 T1s + Ethernet

Configuration				
Architecture	IDU: Indoor Unit ODU: Outdoor Unit			
IDU to ODU Interface	Outdoor CAT-5 cable: Maximum cable length: 75m			
Radio				
Frequency bands	4.940 – 4.950 GHz 5.150 – 5.850 GHz			
Throughput	Configurable up to 23 Mbps			
Channel Bandwidth	20 MHz			
Duplex Technique	TDD			
Modulation	OFDM-BPSK, QPSK, 16QAM, 64QAM			
Transmit Power	23dBm max.			
Rx Sensitivity @ Packet Error Rate: 1E-6	54Mbps -62dBm	36Mbps -68dBm	18Mbps -74dBm	6Mbps -80dBm
Received Dynamic Range	> 60dB			
Ethernet Interface				
Type	10/100Base T Interface with Auto-negotiation (IEEE 802.3)			
Number of Ethernet Ports	1 (LAN Traffic Bandwidth Control)			
Framing / Coding	IEEE 802.3/U			
Bridging	Self-learning up to 2047 MAC addresses IEEE 802.1Q			
Traffic Handling	MAC layer bridging, self-learning			
Line Impedance	100 Ω			
VLAN Support	Transparent			
Connector	RJ-45			
T1 Interface				
Framing	Unframed (transparent)			
Number of T1	0, 1, 2, 3, 4			
Standard Compliance	G.703, G.826			
Timing	Independent Tx and Rx timing			
Line Code	T1: B8ZS/AMI @ 1.544Mbps			
Impedance	T1 - 100 Ω, Balanced			
Connector	RJ-48C			
Jitter & Wander	According to G.823, G.824			
Management				
Local Management	CLI / RS232, SNMP			
Remote Management	SNMP			
SNMP Agent	MIB II, Private MIB			
Security	User log on, MAC Access control list, WEP Encryption 40,128,152 bit			
Power and Mounting				
Power Feeding	100/240 VAC; ± 48VDC (optional)			
Mounting	Pole and Wall			
Mechanics				
ODU (integrated antenna not included)	259 (L) x 250 (W) x 75 (H); mm.		Weight: 1.8kg	
IDU Dimensions	425 (L) x 256 (W) x 44.5 (H); mm.			
Environmental				
Outdoor Unit Enclosure	IP-68 rated weather-proof enclosure			
ODU Operating Temperatures	-30°C ~ 60°C			
IDU Operating Temperatures	-5°C - 55°C			
Humidity	U p to 90% non-condensing			
Ordering Information				
Sygnus HY5 4T1i	5GHz UNII band, 4xT1, 1x Ethernet IDU with 23dBi panel antenna integrated ODU; AC/DC			
Sygnus HY5 4T1e	5GHz UNII band, 4xT1, 1x Ethernet IDU with antenna detachable ODU; AC/DC			
Sygnus HY4 4T1i	4.9GHz Public safety band, 4xT1, 1x Ethernet IDU with 23dBi panel antenna integrated ODU; AC/DC			
Sygnus HY4 4T1e	4.9GHz Public safety band, 4xT1, 1x Ethernet IDU with antenna detachable ODU; AC/DC			



Contact your Star Microwave Salesperson to choose from the twelve (12) different configurations

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