SONAbeam™ Z

SONA OPTICAL WIRELESS

The SONAbeam Z series was designed to provide a lightweight, economical solution for short distance links. It is ideal for high capacity links up to 500 meters. The SONAbeam Z is housed in a low-profile, all aluminum enclosure suitable for outdoor operation in all weather environments as well as for indoor installation operating through a window. Featuring near-zero latency and packet loss, the SONAbeam Z transmits full-rate, full-duplex native Gigabit Ethernet and can also operate in protocol transparent mode in order to support custom datarates or carry both TDM and IP traffic on the same link.

Typical Applications

Mobile Wireless

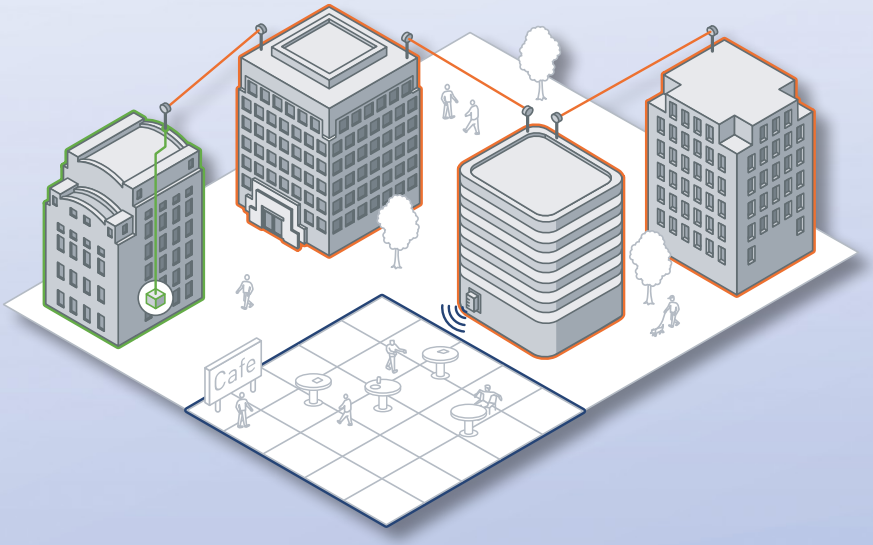
- 3G/4G Backhaul
- Backhaul Redundancy
- Remote Antenna Extension

Enterprise, Government, Military

- High-bandwidth campus
- Fiber-line replacement
- Secure links

Service Provider

- High-speed backbone
- RF/Wi-Fi-WiMax aggregation
- Private lines



The SONAbeam Advantage

By transmitting through the atmosphere, the SONAbeam eliminates the substantial costs of digging up streets and sidewalks required to install fiber, and unlike other wireless solutions, the SONAbeam is immune to electro-magnetic (EM) and radio-frequency (RF) interference which means no licensing is required. Plus, the SONAbeam's narrow, highly directional transmission all but eliminates eavesdropping or interception. Key to SONAbeam's breakthrough laser technology is its operational wavelength of 1550 nm, which provides a broad spectrum of safety and performance advantages. The SONAbeam's high-powered laser transmitters are able to penetrate heavy rain, snow and fog far more effectively and consistently than any other available FSO technology. SONAbeam's protocol transparent technology gives service provider, enterprise and government customers the ability to integrate free space optics (FSO) quickly and easily into any existing network.

- RAPID DEPLOYMENT
- HIGH CAPACITY
- NON INTERFERING
- UNLICENSED
- 1550 NM TRANSMISSION
- FULL-RATE, FULL-DUPLEX
- SECURE & UNDETECTABLE
- LOW LATENCY/PACKET LOSS

sonaBeam Z

Free-Space Optical	1250-Z[1]		
Datarate/protocol:	Fast Ethernet: 125 Mbps, full duplex; OC-3/STM-1: 155 Mbps, full duplex Gigabit Ethernet: 1.25 Gbps, full duplex; OC-12/STM-4: 622 Mbps, full duplex		
Range: 3 dB/km (clear air):	50 m to 500 m (160 ft to 0.3 mi)		
10 dB/km (extreme rain):	50 m to 350 m (160 ft to 0.2 mi)		
Laser output power:	160 mW peak		
Receive aperture:	50 mm (2 in) diameter		
Interface Options	**1000-Base-SX (850 nm)**	**1000-Base-LX (1310 nm)**	
Data physical interface:	Multimode fiber, LC	Singlemode fiber, LC	
Fiber xmtr/rcvr wavelength:	850 nm nominal	1310 nm nominal	
Fiber xmtr output power:	-9 dBm (min), -3 dBm (max)	-11 dBm (min), -3 dBm (max)	
Fiber rcvr input power:	0 dBm (min), -17 dBm (max)	-20 dBm (min), -3 dBm (max)	
Mechanical / Electrical / Environmental			
Operating temperature:	-40°C to 60°C (-40°F to 140°F)	*Dimensions (W*H*D):*	25 x 33 x 46 cm; 10 x 13 x 18 in
Pointing stability:	120 kmh/75 mph operating,	*Weight:*	10 kg (22 lbs)
	>160 kmh/100 mph survival	*Input voltage:*	-48 VDC (-40 V to -57 V) or 100-240 VAC
Environmental seal:	Water-tight, IP66/NEMA-4 Cert.	*Power consumption:*	25 watts (no heater)
Carrier-Class Reliability and Durability			
Laser cooling:	Active solid state cooling to 35°C (95°F)	*Power supply:*	Telco grade, >550,000 hour
Structure:	Aluminum housing		
Element Management and Control			
Management interface:	USB, Serial & 10/100-baseT	*GUI control program:*	SONAbeam Terminal Controller
SNMP:	Embedded v.1 agent	*Command line interface:*	Via USB, RS232 or IP address
Key parameters monitored:	Receive signal strength; Power supply currents & voltages; Laser currents, power levels & temperatures; Internal temperature; Clock recovery / sync status; Network interface signal status		
Historical logging:	Internal data and event logging		
Certifications & Classifications	**International**	**US/Canada**	
Laser safety	IEC 60825-1, Class 1M	CDRH 21 CFR including Laser Notice 50, Class 1M; ANSI	
	EN 55022 - emissions	Z136.1 & Z136.6, Class 1	
EMC	EN 55024 - immunity	FCC - Pat 15 / ICES - 003	
Electrical	EN 60950 (CB scheme)	UL 60950 / CSA 60950	

fSONA Networks Corp.
100-13200 Delf Place
Richmond BC V6V 2A2 Canada
tel 604 273 6333
fax 604 278 6340
www.fSONA.com
sales@fSONA.com

[1]100 - 1500 Mbps

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