

SONABEAM™ 155-M from fSONA. Your First Choice in the Last Mile.

At fSONA, we deliver optical connectivity solutions that bridge the last-mile gap with unmatched simplicity and performance. Our free-space optical solutions offer the lowest cost-per-bit of any broadband technology while providing the carrier-class availability and reliability you demand.

Utilizing a flexible point-to-point architecture and protocol transparent design, fSONA created the most powerful free-space optical (FSO) technology ever brought to market - capable of providing fiber-like availability of up to 99.999%.

Whether you're expanding a SONET/SDH, Gigabit Ethernet, PCS/Cellular backhaul, Metro LAN, or Bandwidth-on-Demand network, our SONABeam systems are uniquely able to leverage your legacy architecture investments and create vast new connectivity and revenue opportunities—without digging, without licensing, without hassles.

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SONABeam™ 155-M OC-3

Free-Space Optical

Transmission rates	155 Mbps (OC-3, STM-1 compliant) or 125 Mbps (Fast-E, FDDI compliant)
Operational range	200m to 4000m (.12 mi to 2.5 mi)
Laser output power	640 mw peak (4 transmitters at 160mW)
Free-space wavelength	1550 nm
Transmitter type	Directly modulated laser diode
Receive aperture	20cm (8 in) diameter
Xmtr/Rcvr dynamic range	60 dB

Mechanical / Electrical / Environmental

Operating temperature	-40 to 60°C (-40 to 140°F) tested to -50 to 80°C (-58 to 176°F)
Solar filters	2 spatial, 2 spectral
Pointing stability	120 km/h (75 mp/h) operating 160 km/h (100 mp/h) survivability
Environmental seal	Water-tight
Dimensions (W*H*D)	Cm: 41 x 41 x 43 (in: 16 x 16 x 17)
Weight	Optical Head: 20 kg (44 lbs); PCA: 8 kg (17 lbs); Yoke: 8 kg (17 lbs)
Power supply	-48v DC source (7.5 amp, 350 watt recommended)
optional AC -	External AC/DC supply available
Power consumption	Transceiver: 55 watt, Heaters: 200 watt

Carrier-Class Reliability and Durability

Interior heating	30°C (86°F) prevents optics from fogging and snow/sleet accumulation
Laser cooling	Active solid state cooling to 25°C (77°F), even in desert conditions
Adaptive laser power	Reduces laser power in clear weather: increased laser life and dynamic range
Redundant transmitters	4 totally independent lasers, drivers, coolers and cooler controllers
Power supply	2 million hour MTBF, telco grade
Structure	Cast aluminum housing, yoke & mount
Service life	15 years

Fiber-Optic Interface

Interface type	Single-mode fiber, SC terminated
Fiber Xmtr interface	1310nm nominal (1280nm to 1335nm)
Fiber Rcvr interface	1200nm to 1580nm
Fiber Xmtr output	-15dBm(min), -13dBm(typical), -8dBm(max)
Fiber Rcvr interface	-34dBm
Maximum input power	-3dBm

Element Management and Control

Interface	RS-232 serial (DB9 or RJ-45)
SNMP	Yes: includes custom MIBs
GUI control program	SONABeam Terminal Controller (STC155-M)
Command line interface	Telnet style interface and/or STC155-M program
Key parameters monitored	Receive signal strength Adaptive power control settings Laser bias currents Laser modulation currents Laser temperatures Internal temperature and humidity Clock recovery / sync status Network interface signal status
Historical logging	Both SNMP Agent and STC155-M offer extended term logging capability

Certifications and Classifications

	North America	Europe
Electrical	CSA 60950 UL 60950	EN60950 (CB scheme)
Laser Safety	21 CFR 1040	IEC 60825-1 IEC 60825-2
Eye Safety	CDRH - Class 1M ANSI - Class 1	IEC - Class 1 M
EMC	FCC - Part 15 ICES - 003	EN550081-1 EN550081-2