

FiberSurf™

XON600.SVSAT

**IP Managed Switch,
Voice over IP,
CATV + SAT**



BKtel's *FiberSurf* XON600.SVSAT optical network unit delivers high-speed internet and full-spectrum CATV and SAT-IF in FTTH (Fiber-to-the-Home) access networks. It combines a 100Base-FX to 10/100Base-TX managed switch, Voice over IP (VoIP) based telephony and a broadband optical television (CATV+SAT-IF) receiver, allowing up to 15 km single-mode fiber connectivity.

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| <p>Leading Edge Technology</p> | <p>✦ 100 Mbps layer 2 switching, VLAN capability, Voice over IP module with two separate analog phone ports, broadband CATV and SAT-IF reception with high output level (capable to supply multiple TV sets) in one unit</p> |
| <p>Modern Exterior</p> | <p>✦ Attractive design in high-quality, durable housing, ideal for office and apartment installation</p> |
| <p>Easy Handling and Management</p> | <p>✦ Combined with the <i>FiberSurf</i> XON20 Fiber Protection Unit easy wall mount installation, optional table-top usage, BKtel provisioning, remote management and remote diagnostics</p> |

Key Features

Layer 2 Ethernet Switch

- ▶ 100Base-BX WAN interface
- ▶ Four full-duplex Ethernet ports
- ▶ 10/100Base-TX support (LAN)
- ▶ Integrated 10/100Mbps Ethernet switch
- ▶ Auto-negotiation ability to select half/full-duplex 10Base-T/100Base-TX mode
- ▶ Virtual LAN-Support Port-based and 802.1q
- ▶ Quality of Service / Class of Service
- ▶ IGMP snooping v1/v2
- ▶ Rate Limiting Capability

Telephony with VoIP

- ▶ Two FXS ports to connect two analog phones
- ▶ Each port has its own SIP-Account for VoIP telephony

Optical CATV + SAT-IF Receiver

- ▶ Optical home receiver for multichannel television and radio signals like AM-VSB, FM, QAM and QPSK providing a bandwidth of 2.4 GHz
- ▶ Ultra low noise push-pull technology
- ▶ Very low distortion
- ▶ Wide range of optical input power
- ▶ Single-mode fiber, high return loss optical interface

Management

- ▶ BKtel Provisioning System: Remote configuration of all relevant switch- and phone-parameters
- ▶ Customer selectable device startup configuration
- ▶ Secure Firmware Update (dual image)
- ▶ Remote Diagnostics

Specifications

CATV + SAT-IF Receiver Module

Fiber type	Single-mode 9/125 μm
Optical connector	SC/APC ¹
Optical input wavelength	1280 ... 1610 nm
Optical input power	Min. -10 dBm, max. -3 dBm
RF connector	F female
RF impedance	75 Ω
RF bandwidth	47 ... 2400 MHz
Receiver noise current	Typ. 6 pA/ $\sqrt{\text{Hz}}$
RF output level	$\geq 80 \text{ dB}\mu\text{V}$ @ - 5dBm optical input power
Management and Diagnostics	Remote ON/OFF switching, optical input level monitoring

Ethernet Transceiver Module

Fiber type	Single-mode 9/125 μm
Optical WAN connector	SC/PC ¹
Ethernet wavelength	TX: 1260..1360nm, typical 1310nm RX: 1480..1600nm, typical 1550nm
Standard compliance	IEEE802.3u 100BASE-BX10

LAN Twisted Pair Interface

Standard compliance	Fully compliant with IEEE802.3 10Base-T, IEEE802.3u 100Base-TX standards and IEEE802.3x
Mode	integrated four-port switch Auto-cross-over, half/full-duplex, 10/100Mbps
Connector	4x RJ-45

Layer 2 Software Features

Layer 2 Protocols	RFC 2236 - IGMP Snooping v1, v2 802.3x Flow-Control, Pause-Frame and Backpressure, Auto-negotiation
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Switch Device Features

Device Mode	Store and Forward
VLAN	IEEE 802.1Q - VLAN: Up to 16 groups Port-based VLAN (Port-Grouping)
Quality of Service / Class of Service	IEEE 802.1p - Class of Service Layer 2, RFC 2474 / 2475 - Diffserv, four queues of priority, Port-based priority, VLAN-based priority Broadcast Storm Protection
Security	Ingress- / Egress-Rate limiting (granularity 200kbps)
Rate Limiting	2k
MAC-address table size	

Voice Features

SIP Support	SIP 2.0 - RFC 3261 - Session Initiation Protocol Version 2.0
Voice Codecs	G.711 a-Law / μ -Law - 64kbps G.726 - 16, 24, 32 and 40 kbps Optional G.729a - 8 kbps and G.723.1 - 5.3 and 6.3kbps
Features	Two separated SIP-Accounts, Caller-ID (CLIP) via FSK and DTMF, Echo cancellation (ITU G.168), DTMF-Support (via Inband, RFC2833 or SIP-Message), adjustable volumes of microphone and speaker, adjustable phone-line-impedance, Call-Waiting, Call-Transfer, 3-Way Calling, STUN-Support and T.38 Fax-Support
Connector	2x RJ-11

Management

Protocols	BKtel Provisioning System ARP, IP, ICMP, UDP, TCP, DHCP, DNS, SYSLOG, TFTP, NTP, SNMP, HTTP, Telnet
DHCP Options (Selection)	DHCP Option 66 - TFTP-Server DHCP Option 67 - Boot File Name (remote-configuration-file)
SNMP	SNMP v1, v2c supported MIBs: RFC1213, DOCSIS Cable Device MIB, BKtel Enterprise MIB

Status LEDs

Power, Device status, Phone, WAN and LAN link/activity, CATV status

General Technical Data

Size (height, depth, width)	176mm x 44mm x 288mm
Weight	710g
Power Supply Voltage	12V DC
Power Consumption	< 7W
Climatic specification	
Operation	ETS 300 019, class 3.1 Temperature: 0°C - 40°C (exceptional: 45°C)
Storage	ETS 300 019, class 1.2

¹ One-fiber version available with integrated WDM filter (1310nm/1490nm Optical Ethernet & 1550 nm CATV/SAT video overlay): SC/APC connector