

Anacom's Kromos IP-2000L Hub is designed for implementing an IP network for two-way communication of voice, video, multi-media and data traffic over satellite. The platform has a flexible architecture that allows system integrators to configure the Hub proportional to the size of the network. In addition, the scalable architecture allows for the Hub to grow as the network grows in size without having to replace the unit.

Network Capabilities

The Kromos IP-2000L Hub can be configured to operate the network in SCPC, MCPC or DAMA mode and implement various topologies e.g. STAR, MESH or a combination of these. TDM/FDMA DAMA feature allows large number of remotes to operate with minimal bandwidth usage. Built-in routing allows for easy configuration when connecting to WAN, Internet Backbone or Routers. Efficient TCP acceleration mitigates poor performance of TCP over satellites and continues to provide robust throughput even over noisy channels

The Hub is designed to work seamlessly with the Kromos NMS platform for centralized management of entire network. The Hub can be accessed via Web or Telnet locally or remotely. The Dial-up modem allows PSTN access to the Hub for out-of-band management. The Kromos Hub also implements the queuing schemes to facilitate QoS for the entire network. The Hub is also designed to work with Kromos IPX Switch for routing and terminating all VoIP calls for intranet or PSTN connectivity.

Ideal applications for the Flexible/Scalable Kromos Hub include: operating large networks bringing Broadband Connectivity, Voice/PSTN Connectivity (VoIP) and Internet access over large geographic area in a cost effective manner.

Applications

- ✓ Broadband Connectivity over Large Geographic Area
- ✓ Voice/PSTN Connectivity
- ✓ Cyber Cafes
- ✓ Cellular Backhaul
- ✓ Distance Learning
- ✓ Telemedicine
- ✓ Emergency Response and Business Continuity Networks
- ✓ Remote Sensing and SCADA Networks

Features

- ✓ Star, Mesh, Point to Point or Mixed Network Topologies
- ✓ Up to 20 Mbps forward channel and up to 5 Mbps return channels
- ✓ Flexible/Scalable Architecture for "Pay as you Grow" Network Design
- ✓ Built-in Routing and Webserver
- ✓ Hot-swappable 1+1 Power Supply
- ✓ Hot-Swappable Redundant Fans
- ✓ IPMax – TCP Acceleration as Standard Feature using Adaptive Window Sizes, Flow Control and Selective Retransmission
- ✓ TDM/FDMA DAMA for Efficient Bandwidth Utilization among a large number of Remotes
- ✓ Automatic Multi-queue QoS for all traffic to ensure prioritization
- ✓ Web and Telnet Based Network Management including M&C for Outdoor Units
- ✓ SNMP Support for Centralized NMS with Kromos NMS or other third party products
- ✓ Dial-up Access for Out-of-band Monitoring & Control
- ✓ Complete VoIP Solution with Kromos IPX Switch, PSTN Access
- ✓ Low Latency DAMA Mode for Mission Critical Applications



2000L Satellite IP Hub

Detailed Specifications

Key Features	IPMax – TCP Acceleration, DAMA or SCPC Mode, QoS - Priority for VoIP/Video/Multi-media, Web Server, Built-in Routing, Multiple IF Modes	
Network Management	SNMP, Web, Telnet and Dial-up access via PSTN for out of band Access, M&C Support for Outdoor Equipment (if supported by Outdoor Equipment)	
Interfaces	Ethernet (RJ-45), RS-232, RJ-11 (Optional For Dial-up), Keyboard, Monitor, Tx IF – TNC 50 Ohm, Rx IF – Type F 75 Ohm	
TX/RX Line Card Slots	15	
IF Center Frequency	950-1700 MHz, Programmable in 2.5 kHz Steps.	Diff Encoding Selectable: on/off
Output Level Range	0 to –25 dBm into 50 ohms (0.5 dB Steps)	Spectral Inversion Selectable: on/off
Spurious Outputs	<-40 dBc	Scrambling Selectable: on/off
Modulation	QPSK, or none (pure carrier)	FEC (Viterbi & Reed-Solomon) Selectable: Viterbi R $\frac{1}{2}$, R $\frac{3}{4}$, R $\frac{7}{8}$, Concatenated Reed-Solomon Outer Code (219, 201), (194,178), (126, 112), (204, 188), (219, 200)
CW Mode Operation	950-1700 MHz, Frequency and Power adjustable in steps of 2.5 kHz and 0.5 dB steps respectively.	DC Power on Center Conductor 0 to 60v @ 3Amps (resettable fuse). External DC power to connector on faceplate of PCA.
Acquisition Range	+/-50 kHz with adjustable sweep width	10 MHz on Center Conductor Selectable on/off (Internal/External)
Data Rate	Variable rate: 128 kbps to 5 Mbps in 2 kbps steps.	10 MHz Reference +/- 0.01 ppm,

Eb/No Performance in dB vs BER for Various Coding Rates

	BER	R $\frac{1}{2}$	R $\frac{3}{4}$	R $\frac{7}{8}$
Performance with Viterbi Only	1.00E-09	7.8	9.4	10.3
	1.00E-08	7.25	8.75	9.6
	1.00E-07	6.65	8.1	9.0
Performance with Viterbi and RS (219,201) Outer Coding	1.00E-09	4.5	5.9	6.7

Environmental Specifications

Operating Conditions	0 to +50 deg. C amb. To 95% humidity non-condensing (typical)
Storage Temperature	-25 to + 85 deg. C. amb
Dimensions	26.5" x19" x7"
Power Consumption	145W
Shipping Dimensions	33.5" x23.5" x13"
Shipping Weight	80 Lbs



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