ALL.SPACE

ALL.SPACE's strategic integration partnership with Teledyne provides a fully integrated Teledyne Paradise AXIOM-X board satellite modem enabling secure and ruggedised comms-on-the-move capability. AXIOM-X modem is designed for the customer with mission-critical data that require continuous availability in the most stringent mobility applications. This integrated solution will support secure high-speed SCPC point-to-point and point-to-multipoint networks for guaranteed bandwidth across GEO and NGSO constellations as part of the Paradise modem family.

Markets and Applications

- Enterprise
- Mobility Applications, Land, Sea & Air
- Cellular Backhaul for Thin Rural Routes
- Disaster Recovery

Teledyne Paradise Datacom AXIOM-X

Small Form Factor Satellite Modem Card with AES-256 Encryption

If you have mission critical data, require continuous availability and the utmost security, then you're in our world. The new AXIOM-X is our smallest, most powerful SCPC satellite modem. Designed from the ground up to be rugged, the AXIOM-X is focused on portable and comms-on-the-move applications.

The Teledyne Paradise Datacom AXIOM-X satellite modem card is a compact, powerful, IP centric, single-board satellite modem router designed for simple mechanical integration into OEM products, for portable communications and communications-on-the-move. Physically small with low power consumption does not limit the AXIOM-X, which is capable of supporting up to 575Mbps of aggregate throughput and 160,000 IP packets per second. It also supports L2 bridging and L3 routing with full QoS and Traffic Shaping.

The AXIOM-X modem card M&C is via an intuitive Ethernet based web browser that is equally at home when using a tablet, Mobile or laptop PC. The unit has an option to connect a membrane with integrated LED's for easy visual status and a fan. The AXIOM-X satellite modem card can also be provided in a small compact chassis with a separate BUC PSU. This new modem has enhanced Doppler performance for comms-on-the-move with LEO/MEO constellations. The AXIOM-X Encryption offers TCP/IP packet payload encryption using symmetric AES with 256-bit keys.

Key Features

- 25 to 33W power consumption including Eco mode for reduced bit rates under 25Mbps
- Bandwidth savings: DVB-S2X, ACM, TCP acceleration with header and payload compression
- The intuitive M&C system is equally user-friendly whether on a laptop PC, Mobile, or tablet
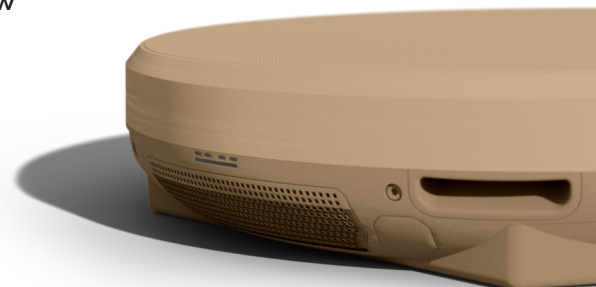- Enhanced Doppler performance for LEO/MEOs
- Extended L-band operation to 2,150MHz
- Optimised spectral roll-offs, including 5%, 10%, and 20%
- Enhanced Doppler performance - frequency shift up to ±330kHz, rate of change up to ±100kHz/s (symbol rate dependant)

Teledyne Paradise Datacom AXIOM-X Specifications

Network Configuration

Network Topology	SCPC (Point to Point or Star Modem within a Point to Multipoint Network)	**Receive and Transmit**
		DVB-S2/S2X
	DVB Features	ACM/VCM, DVB and GSE encapsulations
Modulation	DVB-S2	QPSK, 8PSK, 16APSK
	DVB-S2X	QPSK, 8PSK, 8APSK-L 16APSK, 16APSK-L, 32APSK, 32APSK-L, 64APSK, 64APSK-L
Max Rates	Symbol	100Ksps to 100Msps
Data Rates Limits	DVB-S2/S2X: 100Kbps to 345Mbps Transmit and 100Kbps to 230Mbps Receive	
Channel Roll-off and Spacing	DVB-S2: 20%, 25%, 35%; DVB-S2X: 5%, 10%, 15%, 20%, 25%, 35%	

Interfaces

Traffic	4-port Gigabit Ethernet switch (Rj45 connectors; Interface used for IP traffic and M&C)
IF Transmit and Receive	L-band: 950 to 2,150 MHz, SMA connectors
Network Support	Layer 2 Bridging, Layer 3 Routing, Jumbo Frames to 10k byte, 160k pps Trunking Mode; Supporting 230Mbps bi-directional traffic at up to 350k pps, each way
Protocol Supported	Antenna Control Interface OpenAMIP, IPv4/Ipv6, IEEE 802.1q/p VLAN, NAT, DHCP, Network Time Protocol (NTP), Active Queue Management (AQM), MPEG over IP
Advanced IP Features	Robust Header Compression (RFC 3095), Payload Compression, Dynamic Routing (RIP V1, V2; OSPF V2, V3; BGP V4), TCP Acceleration
QOS	Provides guaranteed throughput for priority traffic; supports Committed and Burst Information Rates; Stream classification by VLAN ID, IP address, IEEE 802.1p priority, Diffserv DSCP, MPLS EXP

Mechanical/Environmental

Operating Temperature	-40C to +85C
Input Voltage	+24V
Power Consumption	30 Watts Max
Compliance	FCC, CE, RoHS

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