ALPHA-SATCOM M60K

M60K Maritime Terminal

Alpha's innovative M60K all-in-one maritime terminal is designed for fishing vessels and small yachts to deliver many kinds of services, such as VOIP, OTT live, VOD and internet access.

Lightweight

Alpha Satcom M60K is a compact, lightweight, well integrated and cost-effective SOTM terminal. It's only 53 Kg (116.85 lbs).

Built-in Gyro

Gyro is built inside radome. In some of small vessels there is no gyro system. Therefore, built-in gyro is a widely applicable solution for fishing boats and small yachts. Built-in gyro provides most reliable satellite communication link for small vessels without any external reference.

Integrated Satellite Modem/Router

iDirect X5 VSAT modem is integrated inside radome. X5 is an ultra-high performance satellite modem/router, with built-in INFINITI TDM or DVB-S2/ACM mode, adaptive TDMA or SCPC return channel technologies. The full-featured satellite IP router has application based QoS, reliable AUPC and beam switching for maritime and airborne application.

Fast installation

Alpha Satcom M60K is designed for easy and fast installation. Only one power cable is required. Automatic satellite search and skew control with any azimuth and accurate signal acquisition, topped with a 3-axis control and stabilizer. It is simple for fishmen and other consumers without any knowledge about Satcom to install or replace the complete system.

Deliver A Variety Of Services

Live OTT programs can be broadcast in IP multicast streaming via satellite link to each M60K terminal and finally delivered to individual mobile devices, for example, mobile phones, tablet computers and laptops. Other services such as VOIP, VOD and internet access will be pay-as-you-go.

Mechanical Specification
- **Dish Diameter:** 61cm (24")
- **Terminal Weight:** 53Kg(116.85 lbs) (including modem, ACU, LNB and 3W BUC)
- **Radom Size:** 85cm X 84cm (33.5" X 33") D X H
- **Radom Material:** Honeycomb FRP

Antenna Stabilization
- **Operating Platform:** 3-Axis (Yaw, Level, Cross)
- **Azimuth Angle:** 360˚ continuous
- **Skew Angle Control:** Automatic
- **Ship Motion Support:**
  Roll: ±20˚ @ 8 12 sec
  Pitch: ±10˚ at 6-12 sec
  Yaw: ±8˚ at 15 to 20 sec
- **Pointing Accuracy:** 0.2˚ peak to peak
- **Tracking Speed:** > 90˚/sec.
- **GPS Module Built In**

Operating Specifications
- **Frequency:**
  TX: 13.75 ~ 14.5GHz
  RX: 10.75 ~ 12.75GHz
- **Antenna Gain:**
  TX: 37.2 dBi @ 14.25GHz
  RX: 35.7 dBi @ 11.75GHz
- **Antenna G/T:**
  14.58 dB/K (in Radom) @ 30˚ Elevation angle and 11.75GHz, Clear Sky
- **System EIRP with 3W BUC:**
  31.2dBW @ 14.25GHz
- **System EIRP with 4W BUC:**
  33.2dBW @ 14.25GHz
- **Polarity:** Linear
- **Polarized Feed:** Cross-Pol
- **LNB:** Universal LNB
- **BUC:** 3W Standard, 4W (optional)

Terminal Interface
- **Input Power:** 90 ~ 260VAC, 47 ~ 63Hz, 4.8A/115VAC 2.4A/230VAC

Downstream
- **Standard:** DVB-S2 Adaptive Coding and Modulation (ACM) or iFINITI TDM
- **Max. Symbol Rate** 45 Msps (15 Msps)
- **Max. Info Rate** 150 Mbps1 (21 Mbps)
- **Max. Line Card IP Data Rate** 149 Mbps1 (20 Mbps)
- **Max. Remote IP Data Rate** 35 Mbps1 (17 Mbps)
- **Modulation:** QPSK, 8PSK, 16APSK (BPSK, QPSK, 8PSK)
- **FEC:** LDPC, 1/4 – 8/9 (Turbo, 0.495 – 0.879)

Upstream
- **Standard:** ATDMA or (SCPC Return)
- **Max. Symbol Rate** 7.5 Msps (15 Msps)
- **Max. Info Rate** 19.2 Mbps3 (38.5 Mbps)
- **Max. Line Card IP Data Rate** 16 Mbps (19.3 Mbps)
- **Max. Remote IP Data Rate** 10 Mbps(18.9 Mbps)
- **Modulation:** BPSK, QPSK, 8PSK (BPSK, QPSK, 8PSK)
- **FEC:** TPC, 0.431 – 0.793 2D 16-State, 1/2 - 6/7 (SCPC Return: 2D 16-State, 1/2 - 6/7)
- **Spread Spectrum Factor (Max Rate Mcps):** Up to 7.5 Mcps Spreading Factors: 1,2,4,8

Networking Features
- **Protocols Supported**: TCP, UDP, ACL, ICMP, IGMP, RIP Ver2, Static Routes, NAT, DHCP, DHCP Helper, Local DNS Caching, OpenAMIP, cRTP and GRE
- **Traffic Engineering**: Group QoS, QoS (Priority Queuing and CBWFQ), Strict Priority Queuing, Application Based QoS, Minimum CIR, CIR (Static and Dynamic), Rate Limiting

Environmental
- **Temperature:** 0ºC to 50ºC
- **Humidity:** Up to 90% @ 40ºC
- **Wind Speed:**
  60m/sec. max from any direction