

Internet On The Move for LAND, SEA and Air!

**Raditek IOTM can track any Satellite on the Move To 8Mbps, (2 Way):
Internet, VOIP, Video Conferencing, E-mail
In MESH and/or STAR Network and/or DVB-S2 for Full Triple Play service.**

(Depends on Satellite Service Provider options)

Applications include:

- SNG (Satellite News Gathering), Voice-Video-Data
- First responders: in-pursuit, in-route, and on-scene
- ANY mobile Internet "On The Move", one to triple play applications.
- To 8Mbps (2 Way) STAR or MESH connectivity
- Disaster recovery, ICE, FEMA, DHS mobile field ops etc

Each Outdoor unit includes:

- Transmit and receive antenna
- Positioner
- GPS based controller
- Integral LNB and Ku Band BUC
- Power supply
- All in a single Robust sealed unit

The Raditek RIOTM-Ku is the leading edge, best and unique solution (triple play: voice, video, data) "Internet on the move": solution. Continuous access at highway and aircraft speeds. The sleek, super low profile, System easily mounts on the roof of **any vehicle, boat or plane**. There is minimum set up, just connect to our modem unit, which uses the world's most efficient, 2-way satellite modulation system and 12 Volts, and it is ready to use. Data setup etc. is via RJ45 internet.

We have the Ku band model available now, and a Ka band version early next year!

General Description

RADITEK's (Mobile Terminal) is designed to meet the unique challenges of ground and airborne needs for broadband satellite geostationary communication. The low profile and lightweight design will ensure best drag performance. Efficient plug-in architecture of the electronics and control units, which combines transmission, reception and tracking capabilities with advanced stabilization system, ensures simple installation, maximum operational flexibility and minimum maintenance needs.



The IOTM-Ku- fits on a standard roof rack. Low profile, small footprint..

(8W, 16W, 25 and 40W BUC powers also available.)



Main Features

- Low profile ODU
- Standard Sat-Com IF-TX, IF-RX, for maximum network flexibility transmission and reception
- Standard modem agnostic replaceable hardware
- Azimuth continues 360° tracking, elevation wide angle tracking to enable consistent global coverage
- Simplicity and low cost, with ability to operate in extreme conditions

RF Features

- Linear or circular polarization
- High Power - SSPA

Pedestal

- 1" height
- Heavy duty hi G-force load
- Rotary joint, slip rings, encoder, bearing and mount are all horizontal assembly

Internet On The Move and RISN System-e14 Specifications may be subject to change

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Intelligent Satellite Network Solution (RISNS)

The RADITEK IOTM system uses our advanced Smart IP Switched Routers and Satellite Modem using SCPC/DAMA with uplink power control and Automatic Bandwidth On Demand (ABOD). The unit is capable of up to 8Mbps, 2 way communications, with almost 100% satellite efficiency. Each vehicle's Modem has its own IP address, and acts as if it was connected to a permanent land line.

Please see Raditek's Satellite Network brochure for detailed information.



- Advanced Modem
- (Mounts inside vehicle)

We can offer complete network solutions for 2Mbps uplink and 8Mbps downlink on the lowest cost modem and 8Mbps uplink and 8Mbps downlink on the standard. The modem operates as a complete switching Internet router, and so any Internet application can be supported. MESH and STAR network configurations are even possible, together!

- Combining our satellite RISNS Modem / Router solution with this low profile antenna / ODU module mounted on vehicles, boats or planes gives the best solution available for "Internet on the Move".
- Our unique modem line with their advanced switched Internet satellite network is ideal for any Internet based application to 8Mbps both directions.
- Our solution uses a unique combination of: SCPC with DAMA (Demand Assigned Multiple Access), with automatic uplink power control, and automatic bandwidth on demand for high satellite usage efficiency (lowest cost). Combined with the most advanced Turbo Product Code, which can give Bit Error Rates as low as 10E-8 to 10E-10 with only a few tenths of a dB more Eb/No, than the already very low level needed for 10E-6!

DVB-S/S2 Satellite TV on the Move

- If DVB video is needed, for *video on the go*, we offer our **DVB-S/S2 Demod**, combined with our SCPC/DAMA remote modulator.
- Remote DVB-S2 modem can be used up to receive 45 Msps (around 100Mbps with 0.75 coding and 8PSK) and using our SCPC/DAMA on the uplink from the vehicle back to the hub.
- This supports all 2-way, **internet triple play applications, ie VOIP voice, IPTV Video and 2-way data.**
- DVB-S2 was originally intended for broadcasting video, when "high speed" data applications were needed.
- The return channel is added for a low data rate return channel. Using RADITEK's return approach. We see around 98% satellite efficiency, i.e. ~half the satellite usage cost compared to RCS!
- **Using the competitions TDMA approaches like this is usually very ill advised, unless nothing better is available,** (like our system). The RCS efficiency on the satellite is approaching 50%.

Contact RADITEK or the nearest factory representative for more details

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Ku Specifications		Units
Antenna		
Frequency Range Ku Rx	10.95-12.75	GHz
Frequency Range Ku Tx	13.75-14.50	GHz
Uplink Data Rate	Up to 5.5 (AMC21, AMC9, Galaxy16, Horizons II and others.)	Mb
Downlink Data Rate	≤8	Mb
IF Frequency	950-2150	MHz
Ku Antenna Gain	30 32	dBRx dBTx
Ku G/T	10.3 11.1	dB _i /°K Min dB _i /°K Typ
Ku EIRP UPL	45	dBW
Ku Polarization	Linear, Adjustable	
SSPA	40	Watts
Transmit CrossPol@1dB down	21 (operator measured 28dB)	dB
Beamwidth, 3dB, Rx/Tx	1.2°/0.9°AZ, 2.8°/2.3°EL	
Pedestal		
Azimuth	360° Adjustable	
Elevation	15°-90°	
Angular Velocity	AZ=60°/S, EL=110°/S	
Angular Acceleration	AZ=45°/S ² , EL=45°/S ²	
Ku Tracking Accuracy	0.25°	
Assembly		
Input Power	12-32 Or 48	VDC VDC
Power Consumption	600	Watts overall
ODU NET Weight	37	Kg
ODU Size	Diameter 98cm Height 24cm	
ODU-IDU	One Cable Connection	
Performance Features		
Start-Up & Acquisition		
Cold Start Acquisition	<3	Min
Rescan (complete)	<20	Sec
Reacquisition after signal blockage	<100	ms
Transmit Control		
<50ms Automatic UPL transmit shutdown based on continues receive DNL signal monitoring when detecting loss of reception signal		