

DVB S2EXT

wiGig™
CERTIFIED

RADITEK SATCOM

www.raditek.com/telecom

2014

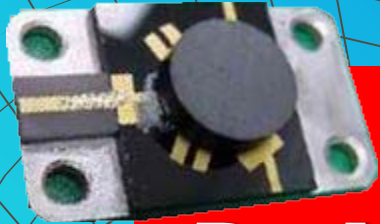


A California USA corporation



RADITEK 2014 SATCOM
OVERVIEW PRESENTATION

Component and System Products



Founded in 1993

By Malcolm Lee & Peter Corbett

**RF/Microwave Components
manufacturer...**

**Stripline, Coax, Microstrip,
waveguide isolators and circulators**

Phase locked DRO, Synthesizer

Filters, couplers, Splitters, combiners

Telecommunications SYSTEMS:-

Satellite Products BUCs

Super Compact 40W / 80W

- Super Compact and light weight
- 2.2kg for 40W
- 3.95kg for 80W

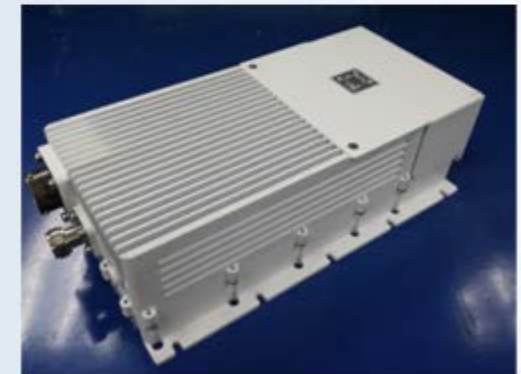


Overview :

This is a product design and build. 1st 80W unit have been provided to customer for evaluation and the rest will be delivered by Feb 14.

Series Wideband 5W Ka BUC

- Cover wide frequency range of 29.5 – 31GHz
- Switchable LO
- Keyline Features

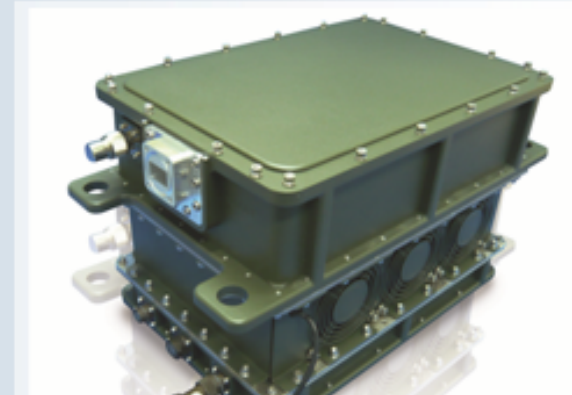


Satellite Products

Power BUCS Ku/Ka

Compact 16W Ka BUC

- Wideband frequency 28 – 30GHz
- Switchable LO



Ku / Ka Transceiver

- Consist of 40W Ku BUC, 8W Ka BUC, CW Injector, BDC and Matrix Switch
- Wide Transmit Frequency (13.75 – 14.8GHz, 29.5 – 31GHz)
- Wide Receive Frequency (10.7 – 12.95GHz, 18.2 – 20.2GHz)
- Switchable LO for BDC

Satellite Products

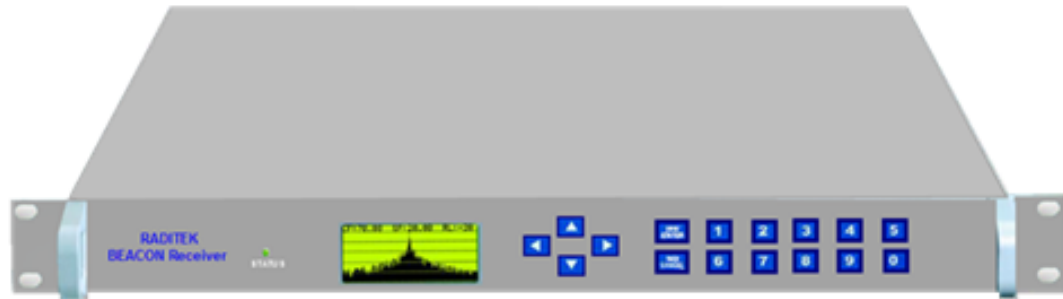
Beacon receivers



RADITEK

**Tracking Receiver
L, C, X, Ku, Ka band**

**Beacon Tracking Receiver,
L, C, X, Ku, Ka (optional) band.
Indoor Unit**



Special Features

- Front panel spectrum display of the beacon signal
- Fast signal acquisition and locking (<3s typ. optionally <1s)
- Advanced digital sideband rejection system
- Logarithmic output range, user selectable

The Beacon Tracking Receiver tracks CW beacon signals from commercial satellites.

Frequency Option table:

- L-Band
- C-band,
- X-band,
- Ku-band,
- Ka-band

Satellite Products

Dream and Super Dream (DamaREAdy Modem)

DAMA (Demand Assigned Multiple Access)

ABOD (Adaptive Bandwidth on Demand)



TPC or
LDPC
To 22MBPS
To 16QAM

ALL IP based ROUTER SCPC modem, which is always SINGLE HOP. Can be used as either:

- 1.A Stand alone SCPC, Point to Point modem or**
- 2.A remote “TDM” based modem function used in a DREAM Super Hub modem network or**
- 3.A super (satellite) efficient DAMA (Demand Assigned Multiple Access) based SCPC modem ABOD)**
 - **Multiple STAR or MESH networks**
 - **Central network status display, spectrum analyzer display etc**



DAMA HUB

Incoming RX channels for all the network
Are monitored here

Broadcasts
the TDM
control
Channel to
the whole
network

Tx From
STSR
Card

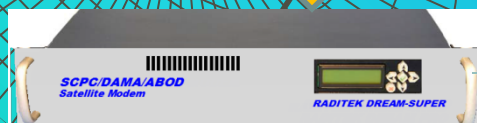
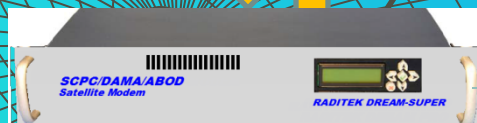
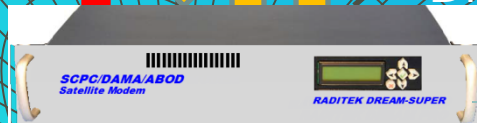
BUC LNB

SPLITTER

IF UNIT

Zero loss
active splitter

To 8RO cards
To 4 per
Dream Super



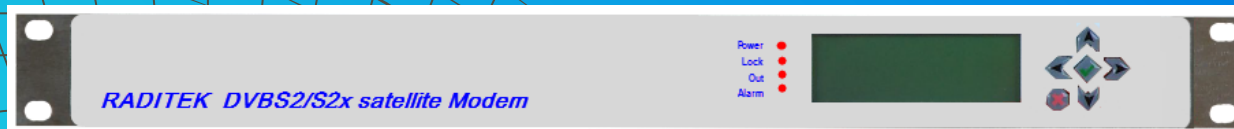
NMS Server



CAT 5 IP cables

Satellite Products

DVB-S2/S2x Modulator

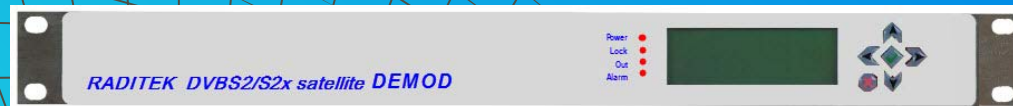


Features:

- L-Band and IF (70/140M) Band support
- Symbol rate from 0.1 to 68 Msps (with 1 sps step)
- Low channel roll-off (5% to 35%, 1% step)
- 16 APSK & 32 APSK modulations included
- Carrier ID compliant (ETSI 103 129) DVB-CID
- ASI and IP inputs
- BISS 0/1/E encryption
- Multi-stream according to EN 302 307 standard
- Block Up Converter (BUC) Driver options
- Up to 64 embedded profiles
- Physical Layer Scrambling according to EN 302 307
- 1+1 redundancy management
- Low power consumption

Satellite Products

DVB-S2/S2x DeModulator



Features:

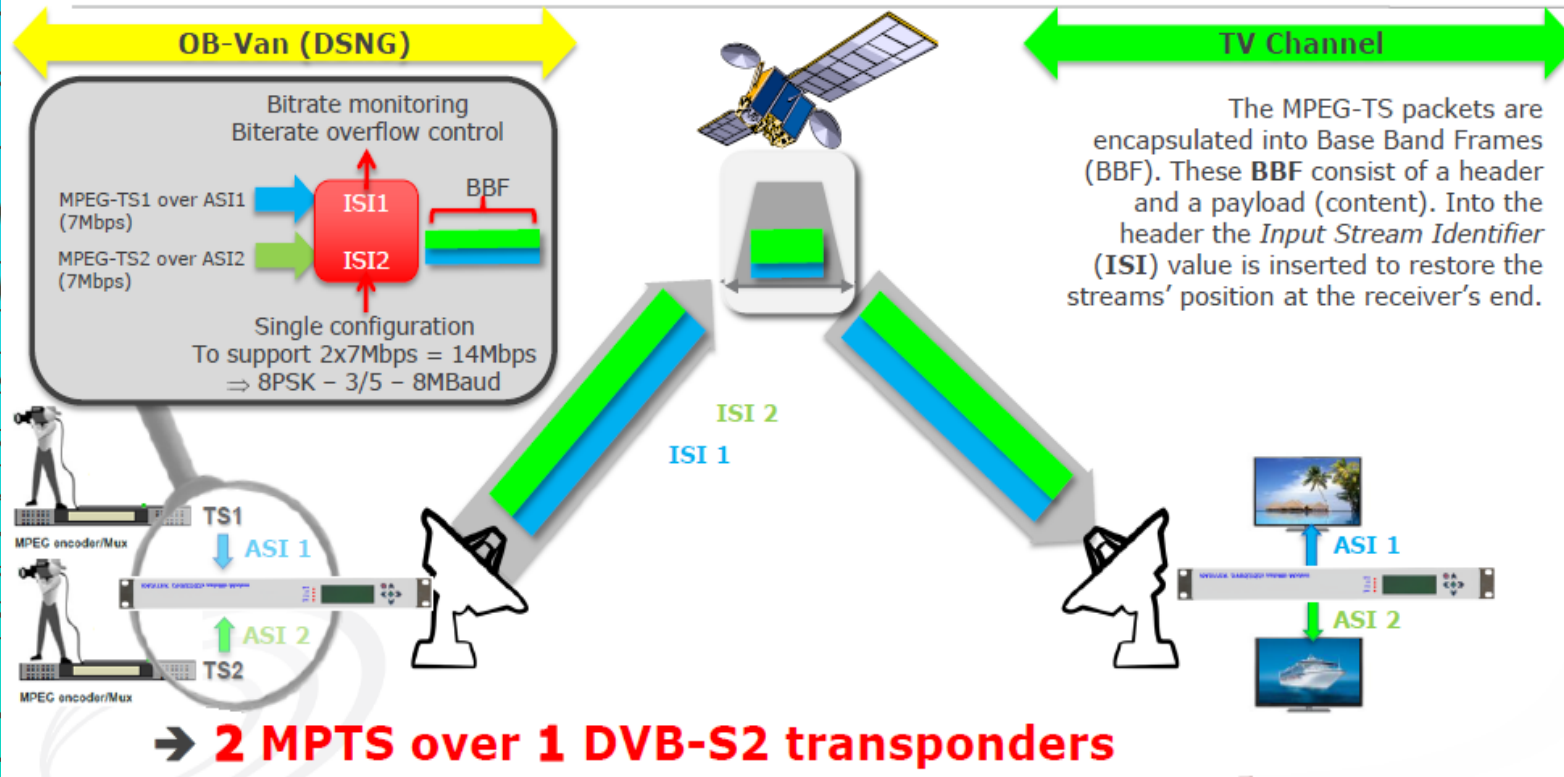
- Dual L-Band (950-2150M) ports
- Symbol rate from 0.2 to 65 Msps to 240MBPS
- Low channel roll-off: 5% to 35%, (5% step) support
- 16 APSK & 32 APSK demodulation included
- Very low implementation loss (with demod. option)
- Quick boot time
- Low power consumption (9W fan-less)
- RS232 and 12C control and monitor
- Physical layer scrambling to EN 302307 standard
- Multi-stream support
- CCM, VCM, ACM support
- Seamless switching of MODCOD with ACM

Satellite Products

DVB-S2/S2x MODEM

Additional services: Multistream

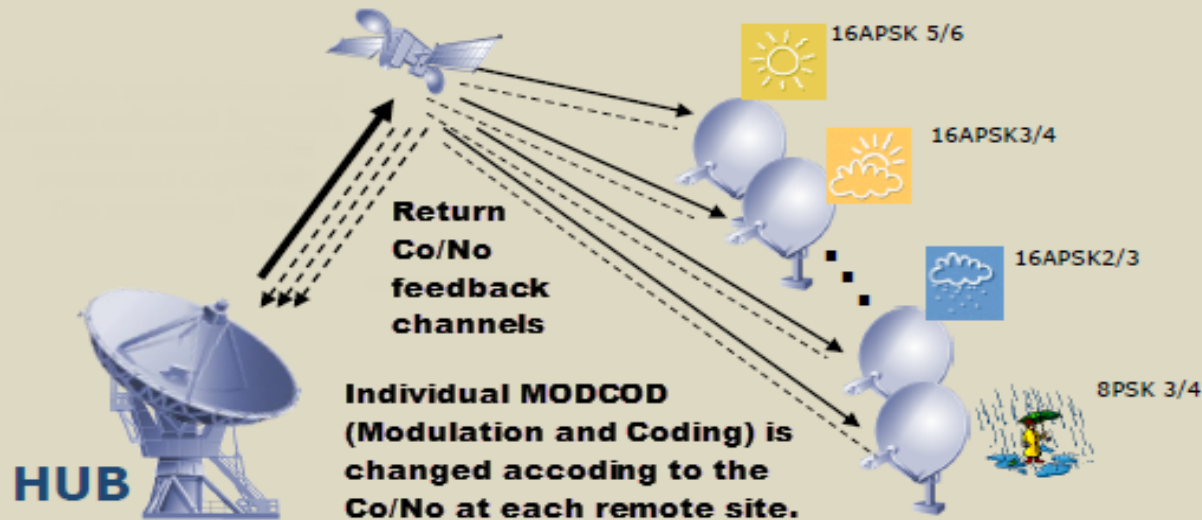
DVB-S2



Satellite Products

DVB-S2/S2x Modulator

Example: 30MHz used for Unicast IP trunking to 20 sites with rain margin varying from 2.5 to 5.5 **ACM** dB depending on location:



With **DVB-S2 ACM**: between 8PSK 3/4 and 16APSK 5/6

=> between 3.34 and 4.95 Mbits/sec per site

=> total bit rate > **85 Mbps**

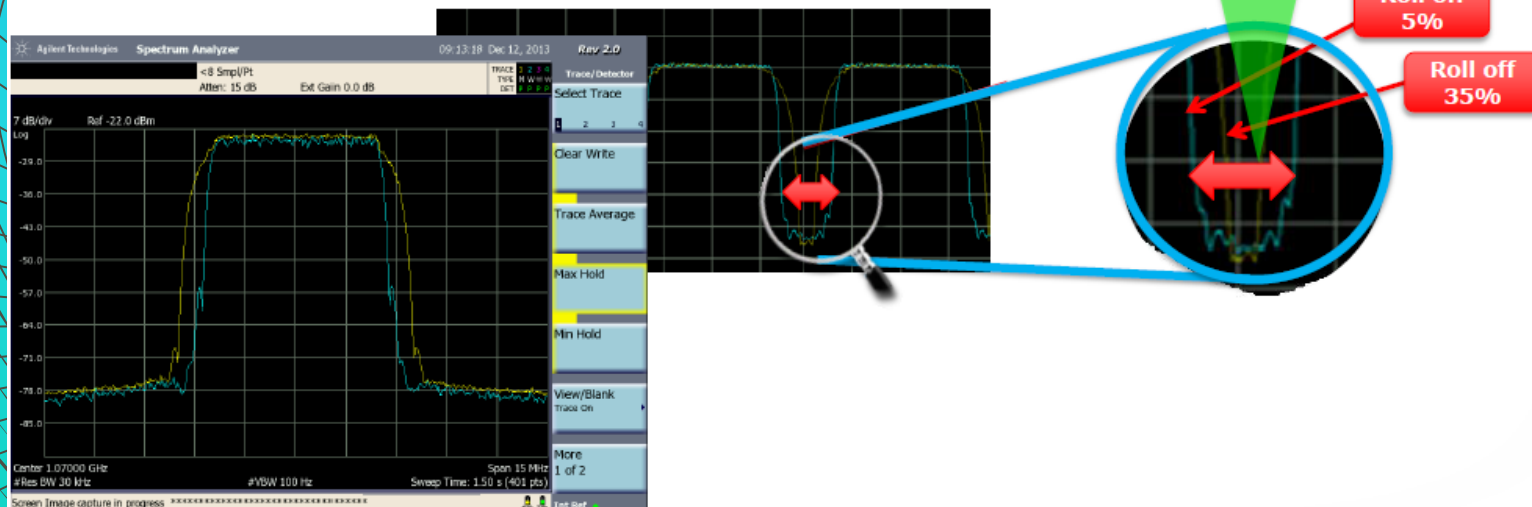
> +131 %

Satellite Products

DVB-S2/S2x Modulator

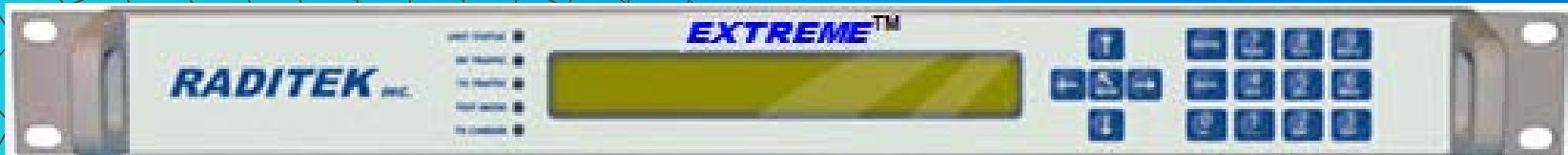
Low Roll Off Benefits

Fill in the gap with additional bitrate without interfering your neighbors
Or
Reduce your spectrum occupancy and pay less



Satellite Products

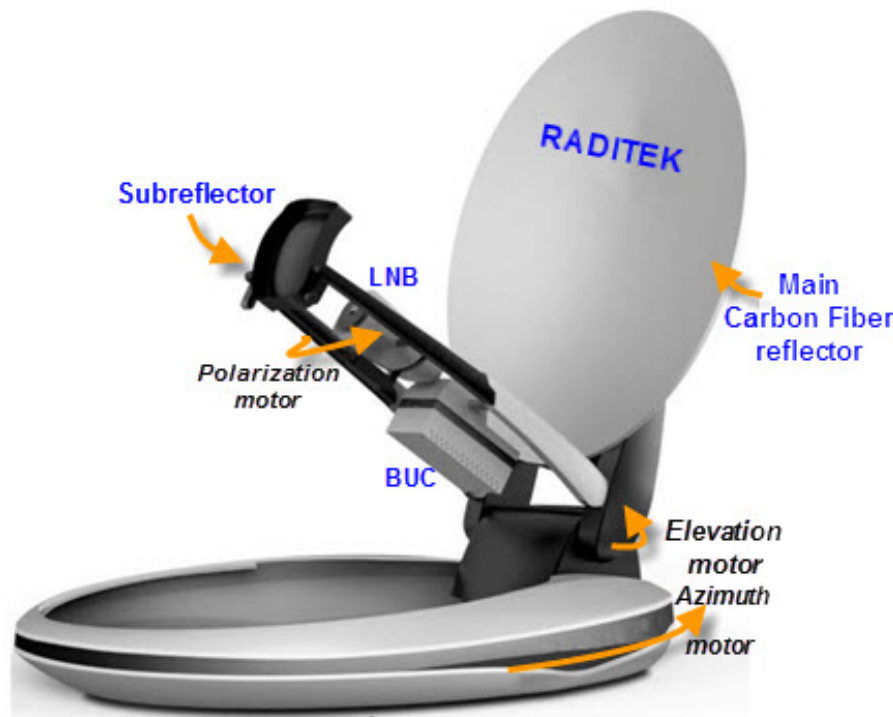
EXTREME MODEM



Multi IF band support: (70M/140MHz and L-band)
Data rates 18Kbps to 155Mbps
DVB-S2-/ACM, to 16APSK. LDPC/BCH, TPC FEC options
Terrestrial interface options including Ethernet:
EIA-530, G.703 (balanced & unbalanced), OC-3, STM-1,
Serial LVDS, ASI, HSSI, Quad E1,
Modulation up to 64QAM
Simu-Carrier™ option (reusing uplink frequencies)
Uplink Power control (AUPC)
Signal-under-carrier™ real time interferer detection tool
Built-in spectrum and constellation monitors tool
IPv6 compliant
Drop and insert: T1-D4, T1-ESF, E1-G.732
Interoperable with other Raditek SCPC modems

Satellite Products

Antenna



Antenna Control Unit (ACU) in Base
with GPS compass
Incl. Microprocessor, Servo controllers, Tracking receiver etc

Satellite Products

Man Pack Antenna system



Satellite Products

IOTM antenna Ku, Ka



- Linear or circular polarization available
- Compatible with RADITEK DREAM modems, BUCs and LNBs
- Cold start acquisition <3min,
- <100ms re-acquisition after signal loss/block
- Rescan <20s
- High Power, low profile BUC (eg 40W) available

Satcom

Special Projects.



RADITEK can provide turnkey solutions

Example1 : Rapid response system (using manpacks and vehicles) using Satellite backhaul, with TETRA/LTE micro-base stations, handsets etc. Also connects to VHF, UHF radio systems and video over Internet. Using video servers and multi large screen displays of 1000s of video feeds.

Example2: Design single and multi-hop satellite links around the world, connecting to multi-redundant, ship borne and ground locations to track a Mars Orbiter launch.

**Contact us for more information,
We want to be your turn-key solutions partner
(408) 266-7404, sales@raditek.com**