RADITEK INC.

RoHS COMPLIANT

code-j8

IP Based Intelligent Satellite Network Solution

RISNS-HUB-BT - Base Terminal, Smart IP Switched, Router Modem, 4 Slot Chassis

4 slot Chassis: each slot takes up to 4x2 way channels, or 8x1way channels

The RISN-HUB is a hub based modem, mountable in an industrial 2U, 19 inch standard rack. Supporting SCPC, MCPC to VSAT networking. It uses super efficient Turbo Product Code for data rates from 16Kbps to 8192Kbps. It can Support up to four MCPC carriers and 16 receive channels or up to 32 demodulators. Space savings capable to directly replace 32 X 1U SCPC modems. With standard features including, but not limited to Header Compression, SNMP, and embedded router, this unit plays an important role in supporting a very wide range of applications.

Each Unit comes with a LCD front panel with controls for local monitor and control, for terminal operation and status. The terminal can be configured with one to many transmitter and receivers, with either 70MHz or L-band (950 ~ 1450 MHz) IFs. An RJ-45 connector supports 10/100 Base T and an optional RS-530 synchronous serial interface and G.703 E1 interface are available.

Feature Highlights:

- Turbo Product Code (TPC)
- Forward Error Connection (FEC)
- Encryption
- High-speed interface

Highlights:

- Avoids limitations by competing VSAT Products
- Optimized for outbound traffic requirements
- Reduced, recurring bandwidth requirements without compromising peak traffic demand
- Designed to implement low cost Star and/or Mesh communications

Modem/Router Cards

Modulation/Demodulation	Coherent BPSK /QPSK /8PSK with differential encoding
Forward Error Correction	Concatenated Convolutional / Reed Solomon & Turbo Product Code (TPC)
FEC Rates	1/2, 3/4, or 7/8 rate Concatenated and (16, 11) X (32, 26) R=0.559 TPC and (64, 57) X (32, 26) R=0.718 TPC and (64, 57) X (64, 57) R=0.793 TPC
IF Output Frequency	70±18 MHz IF with 2.5 KHz step size
IF Input Frequency	70±18 MHz IF with 2.5 KHz step size
Transmit Level	-15dBm to -45dBm with 0.5dB step size, 10dB (15dB optional) of additional power for uplink power control.
Receive Level	-30 to -60 dBm @ 70±18 MHz
Impedance	50 ohms BNC
Information Data Rates	Variable 16 to 8192 KBs
Modem/Router Card types	Single TX Single RX (STSR) Single TX Quad RX (STQR) Quad RX Only (QRO) Eight RX Only (8RO)
Number of Cards Supported	Four for "PRO" chassis
Modem Carrier Spacing	1.20 or 1.30 times the Symbol Rate for < 0.20 dB degradation

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DATA/ROUTER

Physical Interface	DB-25 Pin synchronous& RJ-45 for Ethernet
Acquisition Time	Typically 2 sec, including satellite delay at 32 KBs Data rate
Serial Data Interface	RS-530 Standard; RS-422, RS-449, or V.35 using ribbon cable adapter
Ethernet Interface	10/100 Base-T, IEEE802.3
Synchronous Interface	Type DCE
Clocking Buffer	0 Kbit to 1024 Kbit; optional and selectable via software control
Ethernet Protocols	TCP UDP RIP ARP DHCP ICMP IGMP Telnet PPP FTP HTTP SMTP SNMP

ENVIRONMENTAL CONDITIONS

Standard Operating Indoor Equipment Temperature	+5° to +40°C
Storage Temperature	-10° to +70°C

DIMENSION AND POWER

Dimensions "PRO" Chassis	3.5" H X 19" W X 17.25" D
Power	115 VAC - 240 VAC, 50Hz or 60Hz, 30 Watts per Modem/Router card

BIT ERROR RATE PERFORMANCE (LINEAR CHANNEL at IF)

Configuration	BER	Ebi/No for ½	Ebi/No for 3/4	Ebi/No for 7/8
BPSK/QPSK	1X10-6	4.1 dB	5.6 dB	6.8 dB
Concatenated, Convolutional, and RS FEC	1X10-8	4.5 dB	6.0 dB	7.3 dB
	1X10-10	4.8 dB	6.3 dB	8.0 dB

Turbo Product Code Rate	BER	Ebi/No for BPSK	Ebi/No for QPSK	Ebi/No for 8PSK
(16, 11) X (32, 26) R=0.559 TPC	1 x 10-6	3.5	3.5	7.0
	1 x 10-8	4.1	4.1	7.5
	1 x 10-9	4.5	4.5	8.0
(64, 57) X (32, 26) R=0.718 TPC	1 x 10-6	3.5	3.5	7.0
	1 x 10-8	4.1	4.1	7.5
	1 x 10-9	4.5	4.5	8.0
(64, 57) X (64, 57) R=0.793 TPC	1 x 10-6	3.5	3.5	7.0
	1 x 10-8	4.1	4.1	7.5
	1 x 10-9	4.5	4.5	8.0

(Where Ebi/No is referenced to information rate)

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