

# **Ku**STREAM<sup>®</sup> **1000**

THE STANDARD IN PERFORMANCE AND VALUE



The Industry Leading  
**Ku BROADBAND ANTENNA SYSTEM**  
for In-Flight Connectivity

 **TECOM**

smiths microwave

# KuStream 1000 ANTENNA SYSTEM

## Airborne Broadband Antenna System for In-flight Connectivity, 3 LRU solution:

- Satellite Antenna Assembly (SAA)
- Antenna Control Unit (ACU)
- High Power Transceiver (HPT)

## Superior antenna system performance in transmit and receive

- ➔ Enables maximum Ku Band satellite network data rates

## Industry leading geographical skew angle range

- ➔ Maximizes satellite footprint usage, resulting in fewer satellites required for network operation, therefore reducing cost

## Novel antenna pointing and tracking solution

- ➔ Full compliance with stringent FCC regulatory standards

## Well-proven and successful

- ➔ Serving millions of passengers worldwide

## Easily adaptable to most commercially available modems



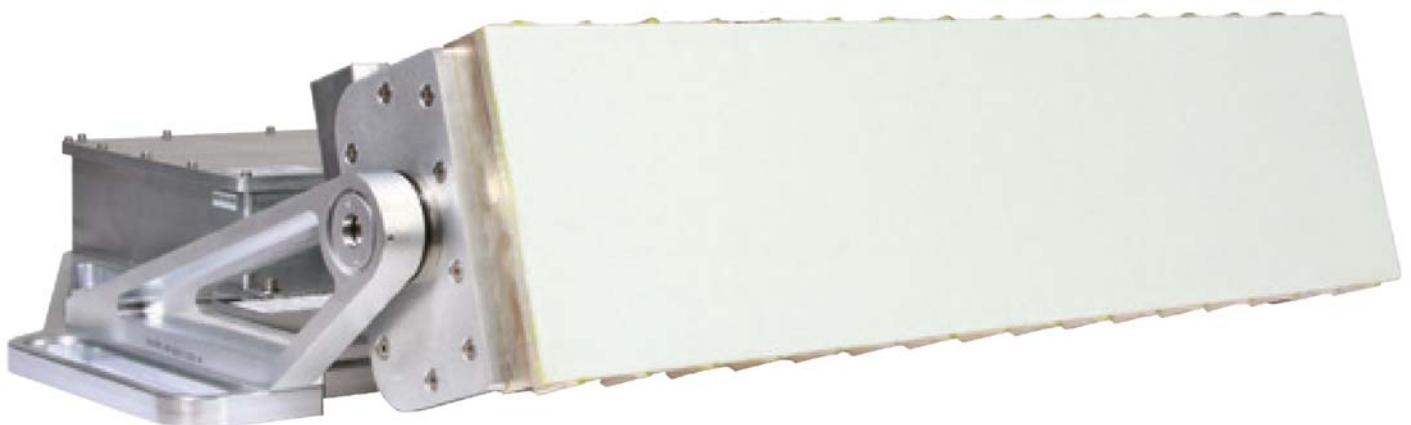
KuStream® 1000:  
Finalist for the Crystal Cabin  
Award 2010 in the category  
Entertainment  
and Communication

**CRYSTAL  
CABIN  
AWARD®**

## SATELLITE ANTENNA ASSEMBLY FEED (SAA)

- Precision horn array aperture with integrated feeding network
- Dual linear polarizations (co-pol or cross-pol), integrated diplexer architecture
- Two-axis pedestal

Transmit frequency	13.75-14.5 GHz
Receive frequency	10.7-12.75 GHz
Receive G/T	11.8 dB/K @ 11.7 GHz
Transmit EIRP	Up to 42.5 dBW (depending on service providing scheme and coverage)
Azimuth gain pattern	Complies with 47 CFR 25.209 up to geographic skew angles of at least $\pm 35^\circ$
Azimuth EIRP spectral density pattern	Complies with 47 CFR 25.222
Pedestal positioning range	Elevation: $0^\circ$ to $+90^\circ$ ; Azimuth: $0-360^\circ$ continuous
Tracking accuracy	$\leq 0.2^\circ$
Dimensions	8.0 x 32.0 inches (H x D, swept volume)
Weight	96 lbs



## HIGH POWER TRANSCEIVER (HPT)

- Block Up Converter
- Block Down Converter
- High Power Amplifier
- Single chassis configuration

Transmit power	Up to 25 watts with option for 40 watts
Power	115 VAC, 380 - 800 Hz, < 300 watts
Dimensions	2.5 x 17.5 x 13.6 inches (H x W x L)
Mounting	Inside fuselage
Weight	22 lbs



## ANTENNA CONTROL UNIT (ACU)

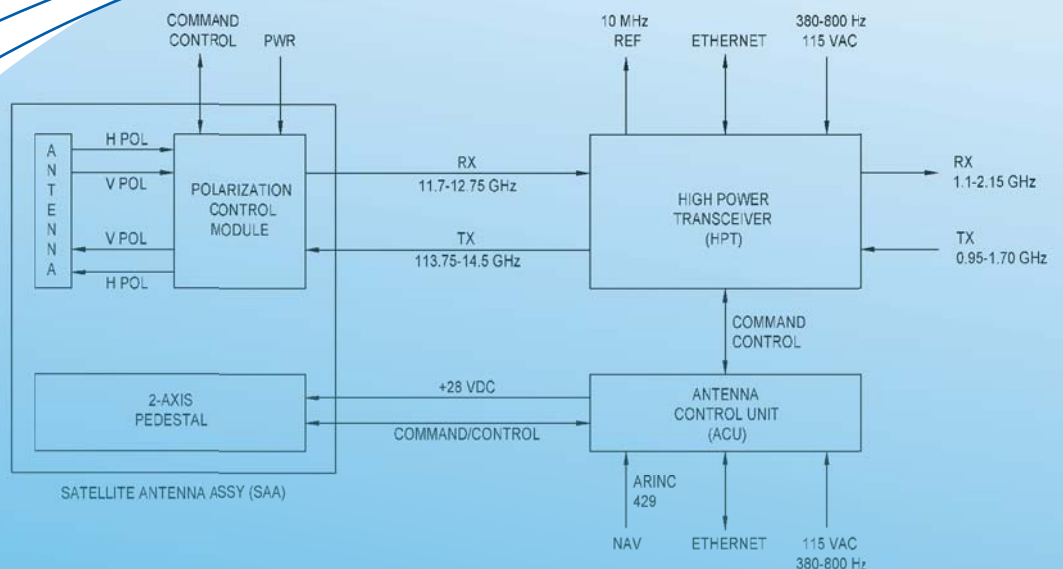
- Interfaces with aircraft for navigation information
- Provides antenna positioning command and control
- Controls HPT

Power	115 VAC, 47 - 800 Hz, < 150 watts
Dimensions	2.5 x 14.0 x 14.7 inches (H x W x L)
Mounting	Inside fuselage
Weight	11 lbs



## SYSTEM SPECIFICATIONS

Total system current requirements	6 amps	
Total system power requirements	700 watts	
Built In Test (BIT)	Extensive	
Mean Time Between Failure (MTBF)	> 30,000 hrs (SAA + ACU)	15,000 hrs (HPT)
Environmental Qualification	RTCA/DO-160 E	



**BLOCK  
DIAGRAM**

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### **TECOM/SMITHS MICROWAVE**

375 Conejo Ridge Avenue  
Thousand Oaks, CA 91361

phone: 866 840-8550

fax: 805 267-0181

email: [sales@tecom-ind.com](mailto:sales@tecom-ind.com)

[www.tecom-ind.com](http://www.tecom-ind.com)

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