



***C2SAT***

1.2m Ku-band stabilised antenna

**C2SAT**

*C2SAT - The Difference  
between always on,  
and almost always on*

## **1.2m Terminal Offers Best In Class Performance And Reliability**

### ***Always On***

The *Zenith Paradox* occurs when a vessel rolls back and forth and the satellite is located close to zenith at high reflector elevations. This is a significant problem with a 3 axes system, provoking sync losses, needs for restarts and down-times. The 4 axes design antenna does not need to rotate in every roll, hence no *Zenith Paradox*. This gives a reliable Satcom that is "always on", not "almost always on" services.

### ***Better Accuracy***

The system achieves superbly high tracking accuracy (only a loss of  $\pm 0,1$  dB), comparable to a fixed antenna. C2SAT prefers to use the more accurate tracking accuracy to measure performance instead of commonly used pointing accuracy, mainly because it includes both the losses due to pointing and the polarisation misalignments. The high tracking accuracy is a result of the C2SAT *gradient tracking* method, a predetermination tracking parameter and the 4 axes design, where the fourth axis refers to the cross-level elevation. Higher accuracy results in: improved availability; more efficient use of shared lines and network bandwidth; and wider operational area in the satellite footprint. It also permits equally perfect communication while operating under severe and harsh conditions.

### ***Faster System***

The system is faster due to the gimbal design with AC servomotors on each axis, and the C2SAT *gradient satellite tracking method* on all 4 axes. The system locks on the satellite within 6 sec acquisition time, starting from its parking position. This speeds up the transition from one satellite to another and results in extremely fast recovery from sync loss.



## Robust System

Because the gimbal design excludes the balancing counter-weights usually necessary in centre pole-based systems, the servomotors on the axes are subjected to less torque. This also leads to lower stress on the mechanical rig. The construction is ruggedized and designed to meet U.S. MIL-standards, including shock, vibration and EMC.

## Simple To Service And Maintain

Simple service and maintenance is inherent to the mechanical design.

## All In One System

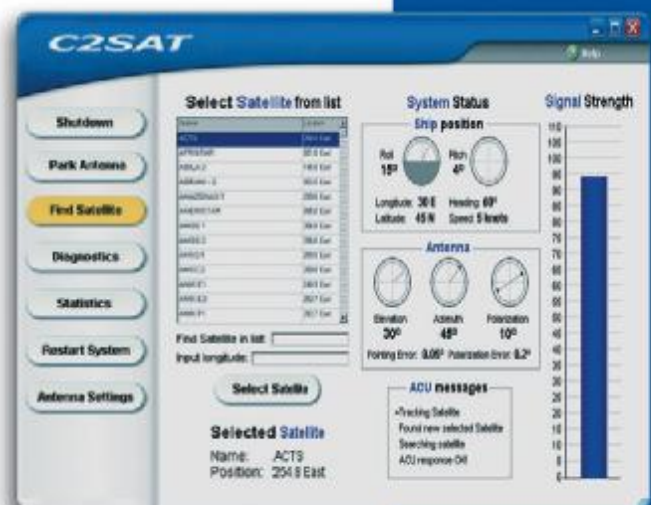
With C2SAT you simultaneously can stay connected by telephone, Skype, e-mail, Internet, Wi-Fi, Video conference, watch TV, use your Credit Card or withdraw from ATM, all in one system.

## Accessories

A specially designed Radome offers only 0.3 dB attenuation. Space in the radome is sufficient to accommodate an Air Condition device, for heat exchange and to keep condense water at a minimum. An easy to use graphical user interface (GUI) is provided which an operator with no previous satellite experience can operate.



*Designed for  
extreme environments*



### With C2SAT 1.2m Terminal it is also possible to:

Upgrade to larger High-Power amplifier for higher data rates and larger operating coverage areas

Increase the antenna size for higher bandwidths, larger operating coverage areas and other frequency bands (Ka, X or C -Band)

Deploy the system in land mobile applications

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# Technical Specifications

## C2SAT 1.2 m Ku-band (Standard Configuration)

Feature	Specification data
Stabilisation Type	4-axes gimbals servo low inertia belt drive
Reflector Diameter	1.2 m (Optional up to 2.4 m all frequency bands)
Frequencies	Rx : 10.95 – 12.75 GHz Tx : 14.0 – 14.5 GHz
Antenna Type	Prime Focus
Antenna Gain	Rx : 40.7 dBi min Tx : 42.9 dBi min
VSWR	1.3 : 1
Cross Polarisation	Rx : > 35 dB Tx : > 35 dB
Isolation Tx/Rx ( without transmit reject filter)	30 dB
Filter Rejection	55 dB
EIRP (U/L typical @ 4W PA )	46 dBW
Signal Polarisation	Linear / Circular
Tracking Accuracy	0.1dB
Antenna Movement, azimuth (z)	Continuous (Slipring)
G/T (@ 20° elevation, typical)	21 dB/K
Ship Motion	± 30° per 8 s in pitch, roll and yaw (Dynamical limit)
Antenna Movement, polarisation (pol)	± 120°
Rotational Speed	100 degrees / s (nominal)
Rotational Acceleration	100 degrees / s <sup>2</sup> (nominal)
Sensors Internal Drift	0.001 degrees/s (per hour)