

## Overview

The ISIS deployable antenna system is a flight proven technology which contains up to four shape memory alloy tape antennas of up to 55 cm length, which deploy from all four sides of the structure upon command. Its innovative and compact design provides your CubeSat with the best transmissions quality for a minimum space.

## Available configurations

- 4 VHF and/or UHF monopoles
- Single VHF or UHF dipole
- Dual VHF and/or UHF dipole
- VHF or UHF Turnstile (circular polarization)
- Combination of UHF / VHF Dipole + Monopole(s)

## Flight heritage

- Design based on heritage from the Delfi-C3 satellite (2008)
- Flight heritage since July 2010 (StudSat, India)

## Applications

- CubeSat TT&C
- CubeSat RF Payloads

## Features

- Possibility to connect one, two or four radios
- Dual redundant deployment system
- Software safe/arm implementation
- Deployment confirmation switch per antenna
- Additional temperature sensors
- Special mechanical and electrical Engineering Models available

## Compatibility

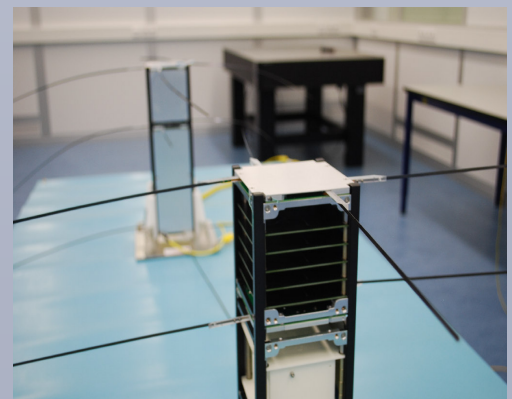
- Designed for compatibility with the ISIS VHF/UHF Transceiver Products
- Compatible with ISIS products and recent Pumpkin, Clyde Space and GomSpace products
- Compliant to CubeSat standard

## Included in shipment

- ISIS deployable antenna system
- Connectors and cables
- Burn wire refurbishment set

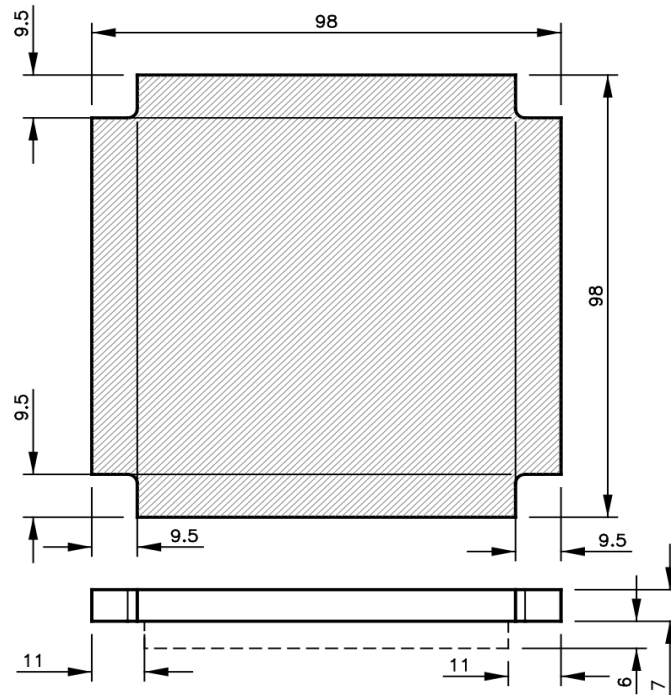
## Options

- 30 mm diameter center through-hole for pass-through of payload or other interfaces (for mono/dipole configurations)
- Solar panel on top
- Magneto torquer integrated in top panel





# Deployable UHF and VHF antennas



**Envelope fits between the feet on CubeSat top or bottom side**

Specifications	
RF Impedance (deployed)	50 Ohm
Max RF Power	2 W
Insertion loss	< 1,5 dB
Frequency Range	10-13 MHz bandwidth within 130- 500 MHz
Electrical power	Nominal: < 20mW   During Deployment: 2 W
Mass ( exact mass depends on antenna configuration)	< 100 g
Envelope stowed: ( l x w x h )	98 mm x 98 mm x 7 mm
Supply Voltage	3 V (5V and 8V available on demand)

## Qualification

- Thermal Testing range: -30 to +70 °C
- Qualification Vibration Testing for most launch vehicles
- Flight units thermally acceptance tested for workmanship

## Telemetry Outputs (over I<sup>2</sup>C)

- Safe/arm status
- Deployment status
- Temperature

## Interfaces

- One miniature 9 pin OMNETICS connector
- RF input / output: 1-4 SSMCX, female, 50 Ohm

## Qualification and Acceptance Testing

Test	QT	AT
Functional	✓	✓
Vibration	✓	-
Mechanical Shock	✓	-
Thermal Cycling	✓	✓
Thermal Vacuum	✓	■
Total Ionizing Dose	-	-

QT is performed on the design/qualification model  
AT is performed on the unit to be shipped

This document is subject to change without notice. The latest technical information and price information is available on [www.cubesatshop.com](http://www.cubesatshop.com)

# ISIS - Innovative Solutions In Space

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