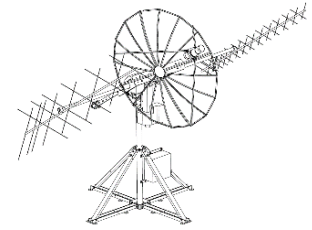


The ISIS Ground Station Kit is a turnkey solution to prioritize, autonomously track, and communicate with earth-orbiting satellites operating on VHF and UHF frequencies. The Kit consists of an antenna-rotor unit and an indoor tracking and communications system that work together to create a fully-functional satellite tracking suite.



Radio Characteristics

VHF – UHF Transceiver		
Frequency Ranges	RX	Amateur: 144 – 146 MHz and 435 – 438 MHz Commercial: 400.15 – 402 MHz
	TX	Amateur: 145.8 – 146 MHz and 435 – 438 MHz Commercial: 148 – 149.9 MHz
Frequency Stability		±2 ppm at 25°C
Modulation Schemes & Data rates	RX	AFSK @ 1.2 kbps BPSK(-G3RUH) @ 1.2, 2.4, 4.8, and 9.6 kbps FSK @ 1.2, 2.4, and 4.8 kbps FSK-G3RUH @ 2.4, 4.8, and 9.6 kbps
	TX	AFSK @ 1.2 kbps FSK-G3RUH @ 2.4, 4.8, 9.6 kbps
Output Power		Switchable 40 dBm and 50dBm
Reference Input		External 10 MHz input
Data link layer protocol		AX.25
Data Interfaces		IQ data output, Raw bytes output, KISS input & output, Binary input & output

Rotor Characteristics

Description		
Rotational Range	Azimuth	360°
	Elevation	180°
Rotational Speed		0 – 6 °/sec
Rotor Pointing Accuracy		≤ 0.2°



VHF/UHF Ground Station Kit Data Sheet

Antenna Characteristics

Description		Amateur	Commercial
Gain	VHF	12.3 dBic	11.5 dBic
	UHF	15.5 dBic	15.0 dBic
Front-to-Back Ratio	VHF	20 dB	
	UHF	18 dB	20 dB
Beamwidth	VHF	52°	53°
	UHF	30°	35°
Polarization		Switchable LHCP and RHCP	
Overall System Noise Figure (typical)*	VHF	2.2 dB	-
	UHF	2.6 dB	3.3 dB

Mechanical/Environmental Specifications

Outdoor System	
Height (from ground to cross-boom)	2.3 m
Clearance radius	2.7 m
Weight	208 kg
Operating Temperature	-10 °C to 50 °C
Humidity	95%, non-condensing
Lightning Protection	< 10kA
Survival Wind Speed	120 km/h
Indoor System	
Size (w x h x d)	9U 19" rack: 56x46x60 cm
Weight	< 46 kg
Operating Temperature	10 °C to 35°C
Humidity	95%, non-condensing
Supply Voltage	100 to 240 VAC, 50 to 60 Hz
Supply Current	max 3.5 A @220V, max 7.0 A @110V

* As measured relative to the RF connection plane between antenna and Lightning Protection Box (LPB); 20 m RF cable between LPB and indoor rack unit.