

# Hiltron C-/Ku-Band - 3.7m and 4.9m system

## Dual band motorized satellite antenna system

The Hiltron C-/Ku-Band solution is a *high quality antenna* for *professional* satellite payload monitoring or receive only services.



### FEATURES

- System available with two antenna diameters, 3.7m and 4.9m.
- Receive of 3 Frequency bands (C-Band, lower- and upper Ku-Band), on two polarizations
- C-Band switchable linear/circular polarization
- WG Cross-coupler for Signal insertion (Noise Source for calibration).
- Positioning accuracy is up to  $\pm 0.02^\circ$  (depending on temperature and wind load).
- IP-based control from a PC running a graphical user interface compatible with standard web browsers.
- Integrated database for potentially accessible satellites.
- Ethernet interface and control via SNMP for M&C.
- The ACU and the associated motor control electronics are contained in an IP65-rated weatherproof outdoor housing.
- Includes bias-T for DC supply and 10MHz reference signal.
- GPS synchronised 10 MHz reference as option.
- LNB functional control by settable voltage and 22 kHz tone up to four bands for each polarisation.

### OPTIONS

- Software upgrade to satellite tracking system with analog and digital beacon receiver interface.
- Extension to a satellite tracking system.
- Inclined orbit tracking, incl. POL tracking..
- Integration of de-ice system.
- Handheld control unit for manual pointing.
- Extended temperature range
- Indoor touch screen control panel, connected to the ODU via Ethernet.
- Increased hardness against salt water environment

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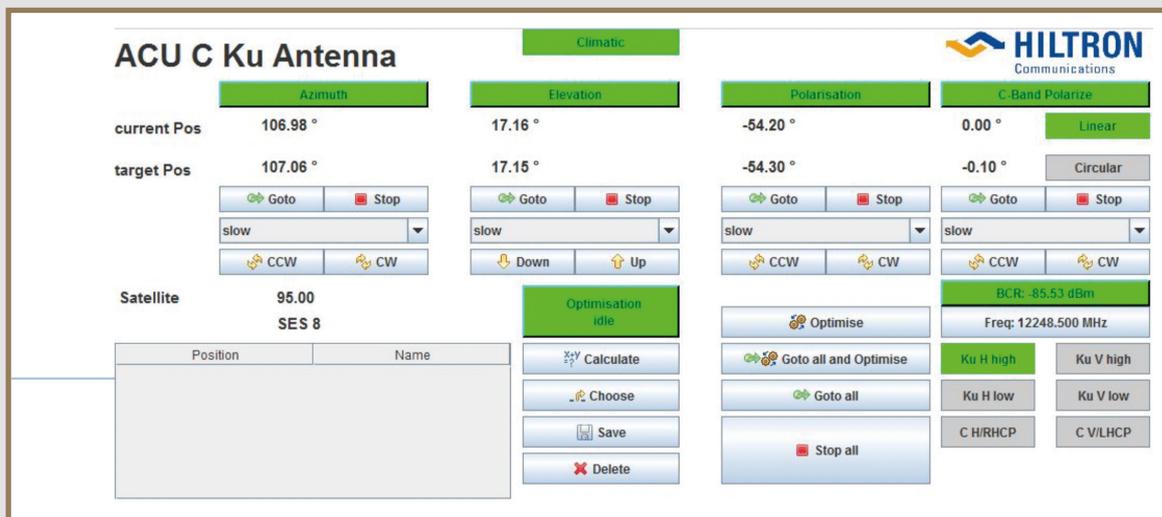
## Dual band motorized satellite antenna system

Directional WG Cross couplers allow insertion of defined signals to calibrate a connected measurement system or general check of the receive system. LNB Patch Box for easy connection.

The System combines the advantage of high quality RF performance with flexibility of the HMAM.

The antenna control unit and associated motor-control electronics are contained in an IP65-rated weatherproof outdoor housing with a hinged front access port secured by dual key screws. The azimuth and elevation drive motors are operating each through a reduction gear.

The antenna control unit is designed for IP-based control from a PC running a graphic user interface compatible with standard web browsers. The control GUI (see Figure below) displays all the information required to set and maintain azimuth, elevation and polarization, including current position and target position plus a database of potential accessible satellites.



Besides position, drive and tracking control the GUI allows control-access to linear/circular switch, beacon receiver, signal matrix and cabinet temperature conditioning.

Once a satellite is selected, precise access parameters can be calculated at the press of a single button. Azimuth and elevation can be adjusted at up to three different speeds.

The entire system is built to withstand standard atmospheric pollutants and to operate from zero to 95 per cent humidity over a temperature range of 35°C (option 55°C) down to -25°C. As an option the entire system can be built to withstand pollutants such as salt encountered in coastal and industrial areas. The rotating pedestal mount is made of corrosion-resistant hot-dip galvanized steel.

Azimuth movement is accomplished via an axle bearing with a drive motor and allows the entire satellite arc to be covered from any position on the planet.

Elevation movement is via a jackscrew with a further drive motor. The design and the use of 17 to 24bit SSI encoders provide highly reliable and extremely accurate positioning.

Options for the Hiltron HMAM motorized antenna mount include a satellite tracking system, inclined orbit tracking, integration of parabolic reflectors according to customer preference, a handheld control unit, de-ice systems, and a choice of standard steel mounts or non-penetrating mounts.

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### SPECIFICATIONS (FOR THE 3.7M ANTENNA ONLY)

<b>Frequency</b>	Ku-Band	10.7 – 12.75 GHz
	C-Band	3.4 – 4.2 GHz
<b>Gain</b>	Ku-Band	51.0 dB @ 11.700 GHz
	C-Band	39.7 dB @ 3.625 GHz
<b>Antenna Noise Temperature</b>	Ku-Band	39 K @ 30° EL
	C-Band	37 K @ 30° EL
<b>Typical G/T</b>	Ku-Band	31.1 dB/K @ 11.7 GHz (70K LNB)
	C-Band	22.6 dB/K @ 3.8 GHz (30K LNB)
<b>Cross-pole Isolation</b>	Ku-Band	30 dB
	C-Band	25 dB
<b>Mount</b>		
Mount Type:	Elevation over Azimuth	
Travel Range (mechanical)		
Azimuth	+/- 90°	
Elevation	+10° to +80° (mechanical elevation)	
Polarization	- 60° to +60°	
Travel Rate (slow/medium/fast speed mode)		
Azimuth	Up to 2,5°/s (in fast speed mode)	
Elevation	Up to 0,7°/s (in fast speed mode)	
Polarization	Up to 3,0°/s (in fast speed mode)	
Wind Load	125 km/h (positioning accuracy degraded)	
Operational	200 km/h	
Survival	-25°C to +35°C (option: -25°C to +55°C)	
Ambient Temperature	Up to 95% non condensing	
Humidity	To withstand standard atmospheric pollutants, as an option to withstand	
Atmosphere	pollutants as encountered in coastal and industrial areas	
Weight	530kg (without reflector, hub and feed)	
<b>Positioning</b>		
Position Accuracy	Absolute up to +/- 0.05° (AZ & EL)	
Position Accuracy	Reproducible up to +/- 0.005° (AZ & EL)	
Position Accuracy	Relative in the range of +/-2° up to +/- 0.01° (AZ & EL)	
Power Drive	Three different Speed Modes (slow/medium/fast)	
Azimuth	Frequency inverters	
Elevation	Frequency inverters	
Polarization	PWM – DC Voltage	
Housing	Outdoor cabinet, IP65	
M&C Interface	Ethernet, Web-interface, SNMP	
Supply Voltage	95-245VAC; 47-63Hz (for ACU control module)	
	230VAC +/- 15% single phase; 50/60 Hz	
	400VAC +/- 15% 3phase (alternatively)	
	208VAC +/- 15% 3phase (only upon special order)	