COM'TRACK - Compact Tracking Antenna System

The cost effective and high performance COTS tracking antenna

Compact Ground Station with Cortex RTR

IN-SNEC®

COM'TRACK is an S- L- and C-band auto tracking phase array antenna designed for various **telemetry** applications : aircraft and helicopter flight tests, UAV datalink and surveillance solutions on fixed and mobile stations. Indeed, its light weight, its compactness and its easy installation make the COM'TRACK the ideal solution for fast deployable transportable stations in the field.

The data link version features a single polarized down-link and up-link while the flight test COM'TRACK offers a dual polarized phase array to take advantage of the diversity by using the Cortex RTR pre-d combiner.

Not only its ultra low noise RF head provides an outstanding G/T performance but its design allows the COM'TRACK to perform high speed and accurate tracking. The smart commutation to an omnidirectional antenna insures continuous reception and tracking during the zenithal pass. Thus, the overall COM'TRACK performance is equivalent to a conventional 1.5 m 2-axis tracking antenna.

The radome provides full environmental protection for the antenna, ensuring the COM'TRACK is maintenance - free.

Finally, the PC-based ACU proposes Autotrack, Slave, Sector and Scan modes and allows remote monitoring and operation.

Main Applications

- Flight test (aircraft, helicopter ...)
- Real time video transmission
- Surveillance solutions
- Full duplex LOS data link
- Fixed, mobile and shipborne

Main Features

- Available in L- S- and C-band
- Long range high gain directional antenna
- Short range omnidirectionnal antenna
- Elevation tilt angle adjustable
- Intuitive PC-based ACU interface
- ACU modes : scan, autotrack, slave, sector
- Automatic acquisition of the carrier
- Smart switching between directional and omnidirectional antennas
- Fast and accurate unlimited Az tracking
- Single and Dual Polarization
- Up-link capability with FM 2 W transmitter (additional 25 W booster possible)
- Radome protected
- Light weight and compact
- Transport case
- Remote monitoring and control

Main Benefits

- Excellent short & long range coverage
- Transportability
- Fast installation
- Easy operation (local or remote)
- Outstanding range performances
- Maintenance free
- Ground echoes reduced

ZODIAC DATA SYSTEMS
AEROSAFETY & TECHNOLOGY
Telemetry & Telecommunications

ZODIAC AEROSPACE

COM'TRACK

Specifications

Electrical

Directional antenna	L-band	S-band	C-band
Bandwidth	1425 -1535 MHz	2175 -2480 MHz	4091-5250 MHz
Gain (typ)*	16.5 dBi	21 dBi	27 dBi
G/T (typ)*	-6 dBi	-2.5 dB/K	+2 dB/K
Polarization	RHCP +LHCP	RHCP +LHCP	RHCP +LHCP
Beamwidth*	AZ15°/EL30°	AZ11°/EL18°	AZ5°/EL9°
Typ. tilt elevation	15°	10°	2.5°
Side lobes (typ.)	–15 dB	–15 dB	–15 dB

Acquisition antennas	Omnidirectional	Panel
Bands	L, S, C	C
Polarization	RHCP +LHCP	RHCP +LHCP
Coverage	Zenith down to 35° EL	10° to 80° EL
Gain*	3 dBi	15 dBi

* @ midband

Dynamics / ACU

Pointing accuracy	± 1°
Azimuth rotation	continuous, unlimited
Rotation speed	> 30°/s
Acceleration	> 30°/s²
Modes	Autotrack, Scan, Slave, Sector
Omni/Directionnal antenna switch	Manual Automatic with predifined threshold (elevation angle, GPS...) Combining (with Cortex RTR)

Mechanical characteristics

Dimensions (HxD)	635 x 800 mm
Weight	< 35 kg
Shocks / Vibration	MIL-STD 810E

Electromagnetics design compliant with MIL-STD 461D

Power supply

Voltage	230 or 115 VAC ± 5% /50-60 Hz
Consumption	typical 150 W

Environmental specifications

Temperature range	
Operating	–25°C to +44 °C
Storage	–35°C to +60 °C
Relative humidity	100%, at 25°C
Environment	IP63
Wind	180 km/h

COM'TRACK BASELINE

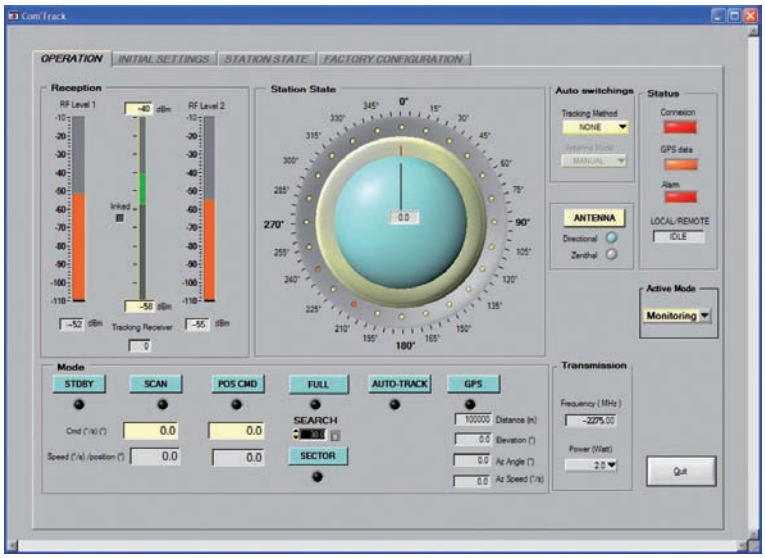
COM'TRACK is delivered with the following :

- 1 transport case
- 1 set of 20m cables (power supply, RF, IF, AGC)
- 1 test result book
- 1 set of manuals (installation, user, maintenance)
- 1 CDrom with PC and ACU software

OPTIONS

- Dual polarization phase array antenna
- Narrow band receiving filter : 2250-2360 MHz
- Up-link capability
- Dual channel and pre-d combiner Cortex RTR receiver with embedded bit sync, decommutator and display.
- Set of longer cables : 40m or 80 m
- 1m Riser
- ACU computer
- Stabilizer for shipborne installation

MMI windows



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