

VIGILANT TACTICAL CONTROL STATION **TCS**

Use: To Control the VIGILANT UAV and display imagery

The Unmanned Air Vehicle Security & Intelligence (UAVSI) UAV TACTICAL CONTROL STATION **TCS** is a sophisticated Command and Imagery control system. It can be used for most of the UAVSI product range of UAV's and is in service with several customers world-wide.

Incorporating full automatic flight modes the UAV flight is pre programmed before take off for autonomous flight out to ranges in excess of 80 Km. Flight pattern changes can be carried out at any time by the operator. Utilising UAVSI's own digital flight control system incorporating Global Positioning System (GPS) and Inertial Navigation Systems (INS) for navigation the system has redundancy built in. The system can be quickly deployed and is configured for fully automatic operations in both day and night time conditions. A latest generation sophisticated video link is also utilised to allow video transmission out to ranges of 50 KM. The TCS is 'light vehicle' mountable.

SYSTEM PERFORMANCE INFORMATION;

Operating range	Electronically to >80 km (50 miles) Real Time Surveillance to >50 km (31 miles) Expandable to 80 km
Command & Control RF	Spread spectrum frequency hopping
Video Downlink RF	COFDM type, Encrypted (optional)
Operating Altitude	Max >3000 m (9,800 ft) Min 50 m (160 ft)
Recovery	Skid landing (emergency parachute deployment - optional)
Tracking	GPS/INS with full telemetry including flight data recording etc.
Control	Fully automatic pre programmed flight
Payload control:	Daylight Camera (gimble mounted) Thermal Imager (gimble mounted)

FLIGHT CONTROL	
Fully automatic, multi-waypoint, 3D flight-plan following.	
Axis	3 (roll, pitch, yaw)
Auto throttle	Yes
Auto takeoff & landing	Yes
PAYLOAD MANAGEMENT	
Servo or I/O lines	16
Gyro-stabilization	Yes
Flare/parachute	Auto or manual firing
INTERFACES	
E/O or IR PTZ	Canon, VISCA, IAI/Tamam, Directed Perception
Engine management/control	EM01, JetCAT, AMT
COMMUNICATIONS	
Baud rate	115.2 Kb/s (full duplex)
Range	100Km
Frequency	915-925MHz (1.3GHz option)
Method	Freq. hopping spread spectr.
Simult. multiple UAVs	Yes
I/O	0
I/O lines	16
PWM rate	50Hz or 200Hz
PWM signal	1ms to 2ms high, 1us steps
RS232 ports baud rate	4.8K, 9.6K, 19.2K, 38.4K
REDUNDANCY & SAFETY	
Redundant processors	2
Online sensor diagnostics	Yes
Sensor failure tolerance	All single, several multiple

ADS	
Airspeed	0 to 300Kt
Altimeter	0 to 20,000ft
AHRS	
Accelerometer	3 axis
Max. acceleration	10G (vertical)
Angular rate sensors	3 axis
Max. angular rate	300°/s
Magnetometer	3 axis
Mag. attitude compensation	Yes
GPS	
Channels	12
Differential	Yes
ELECTRICAL	
Supply (unregulated)	7V to 14V
Current consumption	400mA
MECHANICAL/ENVIRONMENTAL	
Size (mm, H x W x L)	59.7 x 68.0 x 74.0
Weight	300gr
System connector	MS3112E-16-26P
Pressure connectors diameter	3.0mm
Radio link RF connector	SMA female
GPS RF connector	SMA female
Temperature range	-40°C to +85°C
Mounting screws	M4