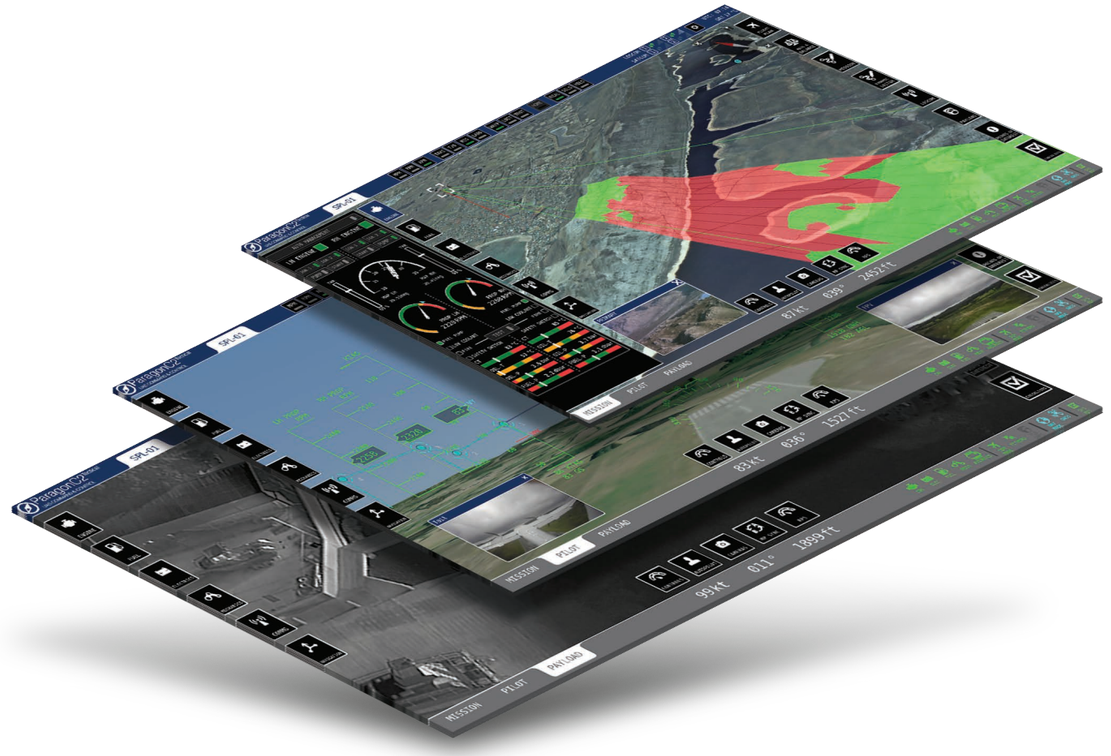
S-PLANE

Modern | Intuitive | Customisable

Paragon

Advanced HMI solution for airborne systems



Features

Overview

- Flexible user-configurable HMI software with context-sensitive user interface
- Advanced 3D graphical map interface
- Management and control of multi-vehicle missions and airborne platforms
- Mission planning and execution
- Payload management
- Available as rack-mounted or mobile computing appliance
- Add-ons available include pre-configured panels for specific sub-systems and functions
- Easily configured for integration with third-party systems

Typical Applications

- Command and control of unmanned airborne systems
- ISR payloads on board manned or unmanned airborne systems
- Multi-vehicle mission management

Overview

Paragon is an advanced user-configurable HMI solution designed to simplify command and control (C2), and exploitation of airborne ISR sensor payloads for both manned and unmanned airborne systems. Its intuitive interface supports operators through seamless operational planning and mission execution.

At the core of Paragon is an advanced 3D graphical interface that greatly enhances situational awareness while enabling efficient management and control of single or multi-vehicle missions. Paragon's modern, configurable and context sensitive user interface reduces visual clutter while prioritising critical information. This allows operators to maintain clear visibility of surveillance targets and vehicle telemetry while managing complex missions.

Developers and system integrators can use ParagonSDK Designer to configure communication protocols, create operator panel layouts, and integrate with aircraft platforms, sensors, and external subsystems. This enables them to extend their systems to meet their unique operational needs. To accelerate projects, a range of add-ons is offered including pre-configured Paragon control panels tailored for specific applications and turn-key subsystem integrations such as a range of ISR payloads. Standard configurations include ParagonC2 for UAS command and control and ParagonISR for coordinated ISR payload exploitation. Our experienced engineers are also standing by to configure custom panels and sub-system integration for customers requiring additional fast-track support.

Paragon

Feature-rich ground control application

Modern | Intuitive | Customisable

1 Context-Sensitive User Interface

- See what you need, when you need it
- Reduce clutter for mission focus
- Configure HMI for operator preferences
- Support operators to focus on primary tasks

2 Situational Awareness

- View assets & missions in intuitive 3D environment
- Viewport control: the best view for the current task with useful presets
- Standard (MIL-STD-2525D) or custom icon sets

3 Mapping Engine

- Seamlessly load geospatial data into 3D environment
- Supports common raster, elevation & vector maps
- Renders mission boundaries, airspace & no-fly-zones
- Hide/show map & imagery layers as necessary
- Integrated geographic analysis tools

4 Telemetry

- View essential telemetry from your platform
- Extensive widget library to visualise telemetry
- Complete customisation of limits, units & layout
- Always-on-top alerts to highlight critical information

5 Customisable and Extendable

- Configurable for specific applications
- Configure I/O protocols & create custom panel layouts
- Customisable to a variety of data sources & sinks
- S-PLANE engineering services to perform user-specific configuration for accelerated projects

6 Configuration options

- User-configuration with ParagonSDK Designer
- Standard configurations available
  - ParagonC2 for UAS command & control
  - ParagonISR for coordinated ISR payload exploitation
- Pre-configured control panels & turnkey subsystem integration available

7 Full Payload Integration

- Access complete feature sets of valuable payloads
- Supports AIS, RADAR, EO/IR, SIGINT, GMTI
- Fuse data from different payloads
- Exploit data from multiple payloads at a single station

8 Flight Planning & Visualisation

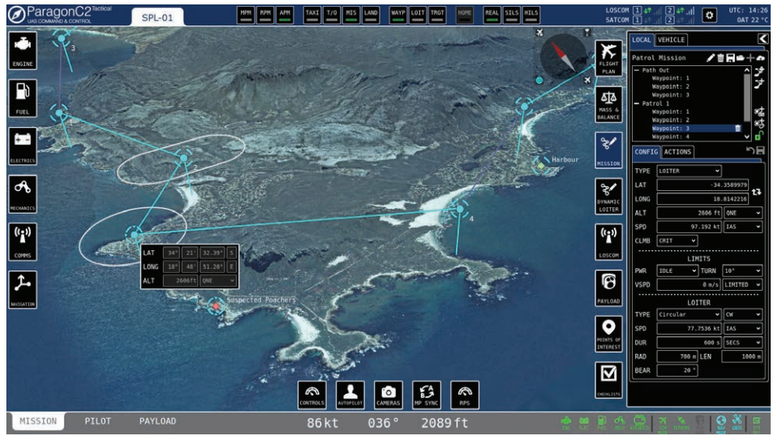
- Mass & balance tables, bingo fuel & mission time calculations
- Runway parameter & performance calculations
- Post-mission media & data log download
- Render waypoints, kinematic projection & current segment
- Render historical vehicle track

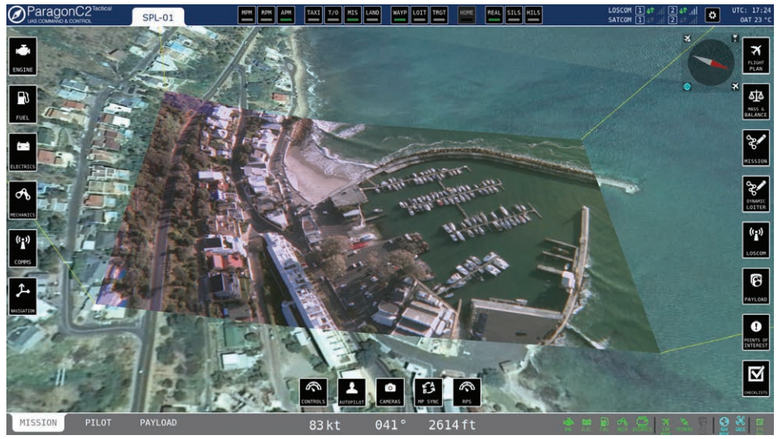
9 Operator Station Support

- Customise operator station for your exact needs
- Physical HMI designed to fit your payloads
- Multiple monitors
- Joystick support for accurate payload control

10 Payload / Mapping Engine Integration

- Visualise payload data intuitively in 3D
- Project live EO/IR video in the 3D world
- Analyse visibility & render LOS for EO/IR payloads
- Render geo-located AIS returns, RADAR returns & GMTI tracks in 3D world
- Render RADAR (strip & spot) imagery on 3D terrain





X-KIT Key Equipment

X-CUBE

- The X-CUBE is the core avionics unit of the X-KIT for UAS/OPS conversion
- Function: Flight Control Unit (FCU), Power Distribution Unit (PDU) and Input/Output (I/O) Concentrator
- Support SCP, DFR and TFR internal redundancy with dedicated voting
- Further supports dual X-CUBE external redundancy with failover architecture

X-ADT

- Airborne Data Terminal (ADT)
- Function: Mission Computer, I/O Concentrator, HD-SDI Video Encoder, Data Storage, Ethernet Switch
- Supports S-PLANE's mission software and third-party or custom containerised software
- Interfaces with and manages and controls mission payloads (RADAR, EO/IR, SIGINT, AIS and Direction Finder)

X-RPU

- Remote Piloting Unit (RPU)
- Function: Safety-critical Command & Control Computer, and I/O Concentrator
- Interfaces to Primary Flight Controls (PFC), GCC MFD, Hard I/O (buttons and switches with parallel redundancy) and to data links/tracker

TRACKER+

- Stand-alone GNSS-based antenna tracker for UHF, L-, S- and C-bands
- Function: Long-range Line of Sight Communication (LOSCom) between aircraft and Ground Control Stations (GCS)
- Mesh network enabled

GCC and Paragon

- Ground Control Console (GCC)
- Configured as a Remote Piloting Station, Payload Operating Station, or Engineering Station
- Function: HMI for Paragon, PFD with HUD, and MFD (touch display) for Remote Piloting

Equipment Chains & Products

	AIRBORNE CONTROL	GROUND CONTROL	COMMUNICATION	SIMULATION
NX-FCU	Automation & ISR Mission		Automation & ISR Mission	
X-CUBE	Automation		Automation	
X-ADT	ISR Mission		ISR Mission	
X-RPU		Automation		
GCC		Automation & ISR Mission		
Paragon	Automation & ISR Mission			
X-GDT		ISR Mission	Automation & ISR Mission	
TRACKER+			Automation & ISR Mission	
XSIM-HILS				Automation & ISR Mission
XSIM-Workbench				Automation & ISR Mission
XSIM-Video				Automation & ISR Mission

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Information provided on this brochure is subject to change without notice.