

ROCKWELL COLLINS PRO LINE 21 AVIONICS SYSTEM

Smart avionics for the Cessna Citation XLS+.



Achieve a new level of situational awareness and operational efficiency. With Pro Line 21, superior information comes standard.

With Pro Line 21, your focus is where it needs to be – on flying the aircraft. Our fully integrated flight deck for the XLS+ has significantly enhanced crew situational awareness, providing superior operational efficiency and built-in growth capability to meet evolving airspace and regulatory requirements.

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Building trust every day

A new level of integration for the XLS+

Cessna's best-selling light-medium business jet has just received an upgrade that is a leap forward in avionics capabilities. The XLS+ is now outfitted with Pro Line 21, significantly enhancing crew situational awareness. These improvements include an additional display area through the introduction of a fourth display, integrated radio-tuning, Integrated Flight Information System (IFIS), next generation Flight Management System (FMS), and Engine Indication and Crew Alerting System (EICAS). We have refined the human machine interface. Flight information is presented in an intuitive, easy-to-interpret format with safety-enhancing reversion capability.

Operational efficiency and less paper with IFIS

Rockwell Collins' industry-leading IFIS is an integral component to the XLS+ and provides a higher level of operational efficiency and convenience. At the heart of the system is the File Server Unit (FSU), which uses a high-bandwidth Ethernet link to interface with the Pro Line 21 MFDs. IFIS advanced features greatly enhance situational awareness and flight crew decision making, including electronic charting, graphical weather and enhanced maps for the XLS+ flight deck. Rockwell Collins displays and IFIS control panels are optimized for ease of access, reducing pilot workload.



Enhanced map overlays

Pro Line 21's enhanced graphical capabilities and fully integrated architecture enable pilots to overlay a number of safety-enhancing database and sensor technologies on the standard flight display. Water features, geopolitical and flight plan mapping features, airspace boundaries and high- and low-altitude airway overlays can all be depicted – giving pilots a complete picture of the current navigation situation.



Graphical weather

Emerging data link technology, integrated with Pro Line 21's IFIS applications, enables XLS+ pilots to receive and overlay real-time graphical weather updates (in NEXRAD and additional formats) for a continuously updated picture of weather patterns across the entire route-of-flight. XM satellite broadcast weather is standard; data link request/reply weather is available as an option.



Electronic charting

Approaches, Standard Instrument Departures (SIDs), Standard Terminal Arrival Routes (STARs) and airport reference diagrams can all be stored for pilot reference on the Pro Line 21 adaptive flight displays. Chartlink™, a patented Rockwell Collins feature, ensures seamless integration between the FMS and electronic charts to automatically sequence relevant charts for a flight plan. The aircraft's "ownship position" greatly enhances the flight crew's situational awareness.



Cessna XLS+ high-performance flight deck

- › Four 10 x 8-inch LCD displays
- › Single FMS-3000 with coupled VNAV
- › Single File Server Unit (FSU) with electronic charts, enhanced maps and XM graphical weather
- › Pro Line 21 CNS radios
- › TCAS-4000 (TCAS II)
- › Engine Indication and Crew Alerting System (EICAS)
- › Maintenance Diagnostic System (MDS)
- › Electronic checklist
- › Turbulence detection solid-state weather radar

Reduce your workload with our next-generation FMS

Fully integrated with the Pro Line 21 avionics system, our advanced FMS-3000 combines workload-reducing automation on the flight deck with true multisensor navigation capability. The result – seamless takeoff-to-touchdown flight guidance, direct-to-anywhere simplicity and significantly improved eyes-up display capability for the Citation XLS+.

Used in conjunction with the GPS-4000S receiver, the FMS-3000 synchronizes operation of all lateral and vertical flight plans, supports time/fuel planning, and automatically flies en route, terminal and approach procedures (as well as providing missed-approach guidance), automatic FMS-ILS transfers and steering/pitch commands to the autopilot. Furthermore, the FMS incorporates many features such as Radius to Fix (RF) legs and step down approaches required for the Required Navigation Performance (RNP) environment.

Advanced flight management has never been so simple



Advanced flight planning

The Rockwell Collins FMS-3000 provides advanced flight planning, multisensor navigation and flight management capabilities specifically tailored to the Citation XLS+. The standard performance database, keyed to aircraft flight manual parameters, makes automatic V-speed calculations available.

Full profile, coupled or advisory VNAV capability, including WAAS LPV approaches, offers complete lateral and vertical navigation programming and automation for all phases of flight. This VNAV tracking capability ensures that altitude and speed constraints are met at waypoints or step-down fixes, speed limits at altitudes are honored and the vertical flight profile, as specified by the pilot, is followed precisely.

The FMS integrates aircraft performance capability. It can automatically calculate vital takeoff and landing performance data – including V-speeds, runway length requirements and weight limits – based on XLS+ flight manual parameters. V-speeds are automatically transferred to the primary flight displays for easy reference during takeoff.

The FMS will also work seamlessly in conjunction with the electronic charts through Chartlink™, a patented Rockwell Collins feature. As the departure and destination airports are entered into the FMS, the appropriate electronic charts are automatically lined up, including possible alternates. The benefit of this feature can be clearly realized if Air Traffic Control issues a rerouting to a new approach and a new runway. The pilot can easily change to the appropriate charts through the Charts menu.

Simplified database management

The DBU-5000 is a USB-based database unit capable of loading the FMS, FSU and MDC. Furthermore, the database unit significantly reduces the time required for data loading.



Delivering critical aircraft information to the flight deck with EICAS

The EICAS system provides engine indication and aircraft system messages to enhance operational flexibility. The Crew Alerting System (CAS) messages can be displayed on either the Multifunction Display (MFD) or the Primary Flight Display (PFD) in reversionary mode. We've introduced a fourth Liquid Crystal Display (LCD) that facilitates the integrated EICAS, further enhancing operational efficiencies. This enhancement enables removal of the annunciator panel and allows the introduction of an integrated flight guidance panel in the heads-up position between the flight crew.



Your comprehensive maintenance diagnostic system

The Maintenance Diagnostic Computer (MDC) provides avionics and aircraft level system maintenance status and troubleshooting assistance. The MDC also provides electronic checklists covering normal, abnormal and emergency operations; another example of system integration and flight crew workload reduction.

Enhance your XLS+ even more

- Second IFIS (FSU and IFIS applications)
A second IFIS provides redundancy and seamlessly integrated enhanced functionality into the flight deck.
- Automatic Direction Finder (ADF)
Our ADF receiver enables operations in remote areas and allows the flight crew to cross-check navigational information and has a frequency range of 190.0 to 1799.5 kHz, selectable in 500 Hz increments.
- Second FMS
Installation of a second FMS-3000 and a second GPS-4000S provides the redundancy and reliability required for enhanced dispatch capability. The additional FMS enhances crew resource management by allowing independent operation by each crew member. For convenience it may also be synchronized with the pilot-side FMS.
- High Frequency Communication System
Our industry-leading HF-9000 High Frequency Communication System provides communication capability in oceanic and remote regions. The system provides 175 watts peak envelope power voice communications in the 2.000 to 30.000 MHz frequency range. Optional Selective Calling (SELCAL™) alerts are provided to the crew when the aircraft is being contacted.
- Data link (ACARS)
Our data link system consists of a third VHF-4000 radio and the addition of communications management function in the Radio Interface unit. Data link provides timely and reliable communications. It supports air traffic management, weather services through Universal Weather and aircraft operational communications, as well as future growth as CNS/ATM evolves.



Global service and support from a trusted source.

Total service solutions you can count on. From initial delivery and throughout your XLS+'s life cycle, we are here with comprehensive service and support solutions. Backed by our worldwide support network, we offer customized solutions from options that include performance-based maintenance and repairs, engineered solutions, provisioning, rental exchange, training and simulation solutions, all backed by the best turnaround times in the industry. Rockwell Collins delivers reliable solutions, anywhere, anytime – every time.

Building trust every day.

Rockwell Collins delivers smart communication and aviation electronics solutions to customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

For more information contact:

Rockwell Collins
400 Collins Road NE
Cedar Rapids, Iowa 52498
319.295.4085

email: csmarketing@rockwellcollins.com
www.rockwellcollins.com



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