

PRO LINE 21™ MAJOR RETROFIT PACKAGE

Enhancing the performance, safety and value of existing business aircraft



Now there's a single-source solution for achieving a higher level of sophistication, capabilities, reliability and value in your current aircraft – the Rockwell Collins Pro Line 21™ major retrofit package. It is the only all-in-one avionics upgrade path available for legacy turboprops and business jets that includes all new, large-format liquid crystal displays (LCD), digital CNS radios, WAAS-enabled FMS, digital autopilot and more. Why settle for part of a solution when, from takeoff to touch down, Pro Line 21 improves on every aspect of your current aircraft's performance and safety?

**Rockwell
Collins**

Building trust every day



When conditions are at their worst, you're flying with the best...

Your destination is reporting low minimums. The sky is full of traffic being vectored around the storms. Now is when the decision to upgrade to the Pro Line 21 major retrofit package is validated. Weather, traffic, flight plan route, checklists, approach and taxi charts with current aircraft position are presented at a glance on large high-resolution displays. So instead of trying to juggle a lot of disconnected information and communications, you are free to concentrate on delivering your passengers safely home.

Fly with the undisputed leader

Since its introduction, Pro Line 21 has become the industry standard for turboprop and turbine powered aircraft. In fact, today over 3,500 aircraft fly with Pro Line 21 avionics. And no matter where in the world they fly, each of those aircraft is backed by the industry's largest and best support organization with 58 service locations and more than 80 customer service engineers around the world.

Now you can enjoy that same high level Pro Line 21 performance, capability and support in your retrofitted aircraft. It's like buying a brand new airplane at a fraction of the cost. And because this is Rockwell Collins' package, your investment is never at risk – our ongoing support is assured.

Another advantage to the Pro Line 21 major retrofit program is that it's a complete avionics solution. Pro Line 21 has been the industry leader since its introduction and that's not going to change. The product family will receive continual improvements and upgrades that will ensure your system is always on the leading edge. That saves you time and money today, while maximizing the capabilities and value of your aircraft well into the future.



Falcon 50
4 display

Transform your aircraft's capabilities

Your aircraft fits your mission perfectly. Your pilots are comfortable with it. Your mechanic knows it inside out. It has proven reliability and performance. However, the avionics aren't as reliable as they once were, the cost to repair and replace them is increasing, and they lack some of the features of newer systems. What you'd really like is a state-of-the-art fully digital flight deck in your existing aircraft.

Upgrading your aircraft with the Pro Line 21 major retrofit package will provide you with all of the advanced capabilities, increased reliability and enhanced value of a new airplane without all the cost. You will eliminate those ever increasing avionics maintenance costs, while at the same time vastly improving your aircraft's dispatch reliability. And because this is a total solution, everything from the panel to the wiring is replaced with the new avionics. Doing it right the first time helps eliminate issues with your current flight deck.

Not a concept, but a real-world benefit

Unlike many avionics upgrade options, the Pro Line 21 major retrofit package is STC'd and already flying in more than 40 Falcons and more than 120 King Aairs around the world. Pro Line 21 is providing operators with the flexibility, capabilities, safety, sophistication and situational awareness that are dramatically ahead of what their pre-retrofit aircraft could deliver.

Another big Pro Line 21 benefit is that the overall value of a retrofitted aircraft is greatly enhanced. In many instances customers report that after they installed the Pro Line 21 package, the value of their Falcon 50 became greater than the total cost of the installation.

Plus, you have the confidence that comes with knowing that the global training leader, FlightSafety International, has installed a full motion Falcon 50 simulator with the Pro Line 21 major retrofit package.



*King Air 350
3 display*

The ultimate turbine aircraft cockpit upgrade

The typical Pro Line 21 major retrofit package includes

- › Three or four 8 x 10-inch LCDs with advanced graphics
- › All digital CNS radios with dual Comm/Navs
- › Dual transponders with Enhanced Surveillance
- › Dual DMEs
- › Single or dual Flight Management Systems with GPS WAAS
- › Digital Flight Control System with coupled VNAV
- › Single or dual Integrated Flight Information Systems (IFIS)
- › Dual channel radar altimeter
- › Dual solid-state Attitude Heading Reference Systems (AHRS)
- › Dual air data systems (RVSM compliant)
- › Solid-state radar with turbulence detection
- › Maintenance diagnostics system
- › DBU-5000 data loader
- › All new wiring and connectors

Typical Pro Line 21 major retrofit package options include

- › Engine indications on PFD or MFD
- › 2nd or 3rd FMS
- › 3rd AHRS
- › 3rd VHF-4000
- › 2nd ALT-4000
- › TCAS 4000
- › ADS-B transponders
- › Single or dual HF-9000 radios
- › Satellite communications system
- › CMU-4000 data link system
- › XM weather

Advanced systems. Superior capabilities.

Large-format PFDs and MFDs

The introduction of large LCD displays with the ability to deliver more information in ways that improve understanding, awareness and safety has virtually revolutionized the modern cockpit. That's why the Pro Line 21 major retrofit package features large-format, liquid crystal adaptive flight displays. The clearest, sharpest, most advanced displays in the business. Now, critical flight information including graphical weather, EGPWS, TCAS, lightning detection, engine information, airport location and more are available to you at the touch of a button.

FMS-3000/6000 Flight Management System

The FMS-3000/6000 system includes the advanced GPS-4000S WAAS-enabled GPS sensor – the same FMS found on a Falcon 50EX. Integrated with the Pro Line 21 suite, the system gives you the tools you need to safely and efficiently navigate through today's complex ATC network. The advanced functionality and ease-of-use of the FMS-3000/6000 extends the operational flexibility and enhances your situational awareness by providing capabilities that are not available in prior-generation systems. These functions include an "Eyes Forward" presentation on the MFD, scratchpad data entry for reduced pilot workload, full flight phase, multiple waypoint vertical navigation, calculated Vs speeds (Falcon 50) and more.

FCS-3000/4000 Flight Control System

Because autopilot certification costs are substantially higher than other avionics, most other solutions don't replace the older, less capable existing autopilot. The new generation FCS-3000/4000 is the perfect complement to the Pro Line 21 avionics suite. The system features dual independent flight directors and a three-axis autopilot with automatic pitch control signals. But there's more to upgrading with the FCS-3000/4000 than just replacing your worn out autopilot with a new digital system. The system not only reduces your workload, it delivers an exceptionally smooth ride for your passengers. The FCS-3000/4000 provides a list of advanced features including high reliability from reduced parts count, coupled VNAV, Category II approach capability, RVSM compatible altitude tracking performance, extensive self diagnostics mode for reduced maintenance time, growth potential to provide on-going functionality and more.

Turbulence Detection Weather Radar

Safely, efficiently and comfortably delivering passengers to their destination is the ultimate goal of every pilot. And at the heart of that ability is a new-generation turbulence detection weather radar. The Pro Line 21 major retrofit package includes a new digital radar with advanced Doppler™-based turbulence and weather detection capabilities for faster, more accurate weather analysis so you can spot cell buildups sooner. And because it uses a solid-state transmitter, there is no magnetron to fail so you enjoy greater reliability and performance at a lower cost of ownership.



The solution to equipment integration problems

Another key advantage to selecting the Pro Line 21 major retrofit package for your current aircraft is that because it is a virtual "all-in-one solution," issues with component incompatibility and legacy wiring are eliminated. The Pro Line 21 package includes all new wiring so there are no lingering issues with old wiring, corrosion, broken shielding or legacy splices.

Your aircraft will deliver the functionality, capabilities, reliability and the look of a brand new airplane. All the while, keeping the airplane you know and are comfortable with. It's the best of all worlds.

Enhanced graphical capabilities

Integrated Flight Information System

The ability to access critical flight information at a moment's notice is essential to enhance the safety and capability of every flight. The Pro Line 21 major retrofit package features our industry leading IFIS with dual file server units. Welcome to the "paperless cockpit." Now you have real-time access to a virtually endless

array of information presented in easy-to-read formats. No more searching multiple sources, navigation charts, graphical weather or even checklists – with IFIS it's all on the aircraft's MFD and it's all controlled through a logical, easy-to-use interface.



IFIS electronic charts



Know your position on the airport diagram



Controlled airspace information

XM weather option

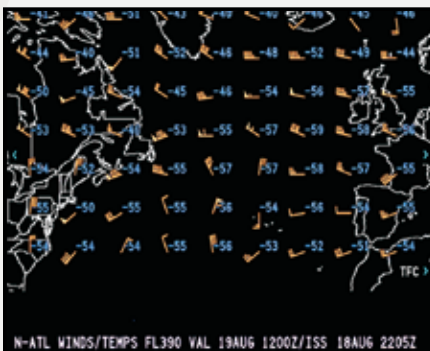


Graphical weather – U.S.



Graphical weather – regional


Universal weather option



Wind direction and temperature



Turbulence display capability



Protecting your investment today and tomorrow

Our innovative approach to developing the Pro Line 21 major retrofit package means that you not only get the most advanced cockpit available for your aircraft today, it also assures you of easy system upgradeability for tomorrow.

Features being added to the Pro Line 21 major retrofit package include enhanced graphics with wall-to-wall ADI, and NTSC inputs to the MFD for camera's and EVS. FMS upgrades that will enable the lower 200-foot LPV approach minimums. Upgrades to the IFIS that will enable more XM weather features like satellite image with NEXRAD, winds aloft, TFR's and lightning.

Rockwell Collins has an ongoing enhancement plan for the entire Pro Line 21 family. This will provide you with an active upgrade path to ensure that the system you install today will be upgradeable to meet upcoming technology advancements and regulatory demands. With the Pro Line 21 major retrofit in your aircraft, you are assured of always flying with the best.

If you want the easiest, most complete and most cost effective way to upgrade your aircraft to a whole new level of capabilities, safety, efficiency and value, contact your Rockwell Collins representative about the Pro Line 21 major retrofit package. From takeoff to touch down, it is the best investment you can make in improving both your aircraft and your business travel capabilities.

Service wherever, whenever.

Total service solutions you can count on. From initial delivery and throughout your aircraft's life cycle, we are here with comprehensive service and support solutions. Our worldwide support network offers life cycle support solutions from options including performance-based maintenance and repairs, engineered solutions, 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 electronic 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



Chart © Jeppesen Sanderson, Inc. 1999, 2002.
Chart is for illustration purposes and not to be used for navigation.
Chart data reproduced with permission of Jeppesen Sanderson, Inc.

**Rockwell
Collins**

Building trust every day