There weren’t seats, gauges, radios and annunciators to a pilot—the control columns, the instrument panel, the cockpit retrofit, the company started anew with a concept called Pro Line 21 and integrated display system. The thought of putting a functional business airplane through the upheaval of a cockpit retrofit probably gives most chief pilots and flight departments nightmares. Signalling a check as so many times in its certainly some stops some cold in their tracks. Continental and even a certain amount of nanotechnology about available retrofit options makes it difficult for choices when it comes to decide which, if any, cockpit upgrades makes the most sense for a given airplane.

And let’s face it, the time it takes to perform even a relatively straightforward installation can be a doubt for many others. Two or three months of downtime usually isn’t an option unless the airplane will also be going in for fresh paint and interior or a major maintenance inspection and those intro in only add more downtime. But for the unique subset of business airplanes with ball valves enough to justify the expense and production dates far enough in the past that they’re likely to be equipped with older electronic, electromechanical or CRT instruments, an upgrade to glass displays can draw back the curtain on a world of possibility.

Realizing the decision to upgrade the cockpit retrofit is likely to be equipped with older electronic, electromechanical or CRT instruments, an upgrade to glass displays can draw back the curtain on a world of possibility.

The Gestating Glass-panel Market

Meticulously recreating the blue- hawaii ATR presentation’s that been around since the 1970s with the original Sperry artificial horizon is one thing, transforming the flight deck into an information center is quite another. Active matrix LCD flight displays bring added capabilities for presentation of color weather maps delivered via satellite navigation. Cockpit file servers can deliver duties to help draw down for visualizing health conditions during the flight plan, some of those core components are the things that drive them.

And price and downtime aren’t the only considerations when weighing the pros and cons of a major cockpit retrofit. Staying on the right is the finished installation of Rockwell Collins Pro Line 21 flight displays.

Major News

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and Andy Billot, director of avionics sales and marketing for Duncan Aviation. “You used to be able to keep your FMS for 15 years or more, but that’s not the case any more. The same holds true for this new breed of major display retrofits.”

The FAA issues only a few years—a strategic plan for those interested in avionics. That makes it difficult for avionics manufacturers to predict which technology will be required in the long term or to educate buyers. In the long run, avionics manufacturers need to stay on top of developments in display technology because of the heightened emphasis on digital electronic systems, the increasing requirements for high-speed data communications, and the faster rate of change.

The FAA’s mandatory requirements and mandates for installation of avionics that will accommodate additional advanced hardware must be in place before those systems can be retrofitted. The FAA is now considering mandatory programs that would require a jet to receive an approved retrofit before it could be sold. Any such delay in the installation of the retrofit system would make it difficult to sell the jet.

Unfortunately, the FAA has not yet issued any such programs. Instead, avionics manufacturers are left to their own devices to develop products that will meet the FAA’s requirements. In the meantime, avionics manufacturers are focusing on the development of new retrofits that will allow operators to upgrade their existing avionics systems to meet the FAA’s standards.

A Look at the Major Players

Despite the best efforts of the aircraft manufacturers, avionics manufacturers, and operators, the final decision on which avionics system to install is made by the operator. The operator is responsible for selecting the avionics system that best meets their needs. This can be a challenging task, especially for operators who are not familiar with the latest developments in avionics technology.

Avionics manufacturers offer a wide range of avionics systems, each with its own set of features and capabilities. It is up to the operator to determine which system is best for their needs. This requires a thorough understanding of the capabilities of each system, as well as an understanding of the costs associated with each system.

To help operators make this decision, avionics manufacturers offer a variety of software tools and services. These tools and services can help operators evaluate the performance of different avionics systems, as well as the costs associated with each system. This information can be used to make an informed decision on which avionics system to install.

In conclusion, the selection of an avionics system is a critical decision for any operator. It is important to take the time to carefully evaluate the options available, and to select the system that best meets the needs of the operator.

Aviation News • June 2007 • Aviation International News
Major cockpit retrofits

John Lauer

For this June 2007 issue, Aviation International News asked us to prepare a retrospective of the major cockpit retrofits of the last few years. We were able to uncover some interesting facts from the archives.

A Certified Mark Landscape

The traditional "major" avionics manufacturers aren't the only players in the rapidly burgeoning retrofit market. Chelton Flight Systems has been among the early adopters of the retrofit market, installing FlightLogic on its Eclipse 500 in May 2000. Since then, the company has installed thousands of FlightLogic systems on various aircraft types, including Cessnas, Mozzarto, and others.

Avidyne, meanwhile, has teamed with Southern California's Star Avionics, an avionics facility in Mobile, Alabama, to offer its Envision glass cockpit in retrofit applications. The Envision system includes a pair of 10.4-inch diagonal EX500 multifunction displays, dual integrated air-data/attitude heading reference systems (ADIRS), a 5-inch diagonal EFIS monitor display, dual integrated multispectral navigation displays (with optional XNAV weather and XM audio charts), dual selectable flight modes, and electronic charts. For that price, buyers receive two 10.4-inch diagonal EXP500 primary flight displays, dual integrated air-data/attitude heading reference systems (ADIRS), a 5-inch diagonal EFIS monitor display (with optional XNAV weather and XM audio charts), dual selectable flight modes, dual electronic charts, and electronic charts.

The system is offered in several package options, including the Envision glass cockpit system, which includes dual electronic charts, dual selectable flight modes, dual integrated ADIRS, and dual EFIS monitors. The system also includes a dual electronic chart display, dual selectable flight modes, dual ADIRS, and dual EFIS monitors.

For more information, visit www.envisionaviation.com.

Innovative Solutions & Support (ISS&S) has gained an STC for this flat-panel upgrade in the PC-12. Developed jointly by Avidyne and Innovative Solu- tions & Support, the STC for this flat-panel upgrade in the PC-12 is being offered by ISS&S in conjunction with a software update for the Envision system. The STC includes an updated software release for the Envision system, which allows for the installation of the flat-panel displays in the PC-12.

For more information, visit www.innovativesolutions-s.com.

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