With Pro Line 21, your focus is where it needs to be – on flying the aircraft. Our fully integrated flight deck for the Bombardier Challenger 605 significantly enhances crew situational awareness, providing superior operational efficiency and built-in growth capability to meet evolving airspace and regulatory requirements.
Smart avionics for your Bombardier Challenger 605 flight deck

Four large 12 x 10-inch adaptive flight displays combine with dual Rockwell Collins FMS-6000 flight management systems to enhance flight deck information management without adding workload.

Our Pro Line 21 suite for the Bombardier Challenger 605 is a true breakthrough in flight deck efficiency. It combines the latest technology sensors and displays in an integrated package that is both smaller and lighter than previous systems.

Rockwell Collins Pro Line 21 innovations for the business jet include four 12 x 10-inch adaptive flight displays. Standard pilot and copilot primary flight displays (PFDs) are teamed with dual multifunction displays (MFDs) and dual Rockwell Collins FMS-6000 Control Display Units (CDUs) to streamline and automate input functions. All primary flight, navigation, engine and sensor data are graphically presented for easy scanning and integration. The large displays allow Challenger 605 pilots the operational benefits of more display area without the weight and power requirements of previous-generation aircraft display systems.

The Engine Indication and Crew Alerting System (EICAS), with aircraft graphical system synoptic diagrams, provides critical system information for an enhanced level of crew awareness and confidence. The Maintenance Diagnostic Computer (MDC) provides aircraft level system maintenance status and troubleshooting aid. The MDC also provides electronic checklists covering normal, abnormal and emergency operations.

The baseline Rockwell Collins supplied co-pilot side display provides Cabin Electronics System annunciations, backup galley controls, as well as a second electronic chart application enabling chartless operations. A real example of flight deck and cabin systems integration synergy leading to flight crew workload reduction.
Standard flight deck features

› Four 12 x 10-inch adaptive flight displays
› Single Integrated Flight Information System (IFIS) with electronic charts
› EICAS with system synoptic diagrams
› Dual FMS-6000 flight management systems
› TCAS II
› Pro Line 21 CNS radios

› Dual HF communications system with SELCAL™
› Solid-state turbulence detection weather radar
› Maintenance diagnostic computer
› Electronic checklists
› Dual channel autopilot
An integrated approach to flight deck efficiency

Bombardier Challenger aircraft have established a proven record of dependability, reliability and solid value. As a partner in the evolution of Bombardier’s Challenger family, we work side-by-side with Bombardier to advance innovative flight deck and cabin technologies that complement the dependability and value of your aviation asset.

With your Bombardier Challenger 605, you’ll feel confident knowing you can fly anywhere, anytime and more efficiently with Rockwell Collins Pro Line 21 avionics on your flight deck and our optional Head-up Guidance System® for the available Bombardier Enhanced Vision System™ (BEVS). Furthermore, office in the sky capabilities are virtually endless in your “high-altitude boardroom” which incorporates our next generation cabin electronics system.

Flight information that keeps pilots a step ahead

With Pro Line 21 and IFIS you have enhanced situational awareness enabling your flight crew to make better decisions. Electronic charts with ownship position during approach and taxi, and optional graphical weather and enhanced maps, are all available at a moment’s notice. Now, information that would otherwise only be shown on multiple sources – or even in printed books – is intuitively presented on your aircraft’s large active matrix liquid crystal MFDs. Chartlink™, a patented Rockwell Collins feature, reduces pilot workload by integrating the FMS and electronic charts to automatically sequence relevant charts for the flight plan. In conjunction with the Rockwell Collins side-display electronic flight bag (EFB), sufficient system redundancy is available to facilitate operations without paper terminal charts.

Enhanced map overlays

Enhanced map overlays simplify routine tasks, such as establishing visual contact with the airport, by displaying aircraft position relative to water features and geopolitical boundaries on the MFD map. High- and low-altitude airway overlays eliminate the need to continually refer to paper charts; in response to Air Traffic Control changes, you can locate new airway assignments faster and easier than ever before. With enhanced map overlays, you also know your aircraft’s exact position as it relates to restricted airspace and have the information needed to make informed decisions when flight plan deviations may be necessary due to weather or traffic.

Graphical weather

Pilots have a powerful new tool to help them make more strategic decisions about their flight plans. By combining optional strategic weather information provided by IFIS with the baseline airborne turbulence-detection weather radar, you can look at the big weather picture prior to each flight and during the flight as weather develops. As a result, you can choose the most comfortable and efficient flight path around hazardous weather. XM satellite broadcast weather as well as interactive request/reply weather are available.

Electronic charting

IFIS replaces heavy and bulky printed charts with large-format, high-resolution electronic charts. Now, critical departure, arrival, approach and airport information is instantly available to the flight crew. Peace of mind on the airport surface is enhanced with a clear, easy-to-interpret display of all runways and taxiways.
Head-up guidance

Rockwell Collins, a leader in head-up display technology, is offering the HGS-6605 Head-Up Guidance System as an option. The HGS-6605, featuring advanced active-matrix liquid crystal display technology, presents critical flight information in the pilot's forward field of view. Aircraft flight path and attitude symbols overlay the outside scene enhancing situational awareness, improving energy management and increasing touchdown precision. Coupled with the Bombardier Enhanced Vision System, under specified conditions, the system enables descent down to 100 feet above touchdown zone elevation, thereby enhancing operational flexibility.

HGS-6605 key benefits

- Enhances crew awareness of the aircraft’s position relative to the runway and surrounding terrain
- Improves monitoring and control of the aircraft’s energy state and flight path through intuitive display of attitude, altitude, airspeed, inertial flight path and acceleration
- Improves stability and precision on all landing approaches including “black hole” approaches to airports not equipped with precision landing aids
- Combines bright BEVS imagery with sharp flight guidance symbology using Rockwell Collins advanced LCD projection and LED illumination technology
- Wide display field of view and unprecedented display brightness and contrast

Advanced flight management

Fully integrated within the Pro Line 21 avionics system, the Rockwell Collins FMS-6000 combines workload-reducing automation on the flight deck with true multisensor navigation capability. The FMS-6000 synchronizes operation of all lateral and vertical flight plans through coupled or advisory VNAV capability, supports time/fuel planning and automatically flies en route, terminal and approach procedures, as well as providing missed-approach guidance.

The system’s optional 3-D flight plan map is an intuitive representation of the FMS flight plan and performance-predicted flight path, enabling flight crews to view the intended flight path, including waypoints and altitude constraints through an easy-to-interpret 3-D map. The associated cruise speed option computes one of two selected cruise speeds to allow maximum range or highest speed flight.

Performance database

The FMS-6000’s performance functions enable automatic calculation of vital takeoff and landing performance parameters – including Vspeeds, weight limits and runway length requirements – based on the aircraft’s flight manual parameters. Together, these features help streamline and simplify flight deck performance while enhancing safety of flight.

Simplified database management

The DBU-5000 is a USB-based database unit capable of loading both the flight management system (FMS) and the File Server Unit (FSU), as well as downloads from the Maintenance Diagnostic System. Furthermore, the database unit significantly reduces the time required for data loading.
Enhance your Bombardier Challenger 605 even more

Options available

**Head-up Guidance System**
The HGS-6605 presents critical flight information in the pilot’s forward field of view. Aircraft flight path and attitude symbols overlay the outside scene enhancing situational awareness, improving energy management and increasing touchdown precision. Coupled with the Bombardier Enhanced Vision System, under specified conditions, the system enables descent down to 100 feet above touchdown zone elevation, thereby enhancing operational flexibility.

**3-D Map and Long Range Cruise**
3-D Flight Plan Map is an innovative three-dimensional graphical representation of the FMS flight plan and performance-predicted flight path. Real-time display of the aircraft’s present position both laterally and vertically with respect to the 3-D flight plan improves situational awareness. Pilots can easily adjust the viewing angle via a manual control, and can plan collaboratively for departures and arrivals by using the “MFD Advance” key on the CDU for a three-dimensional preview of the flight plan. In addition, the FMS will compute two cruise speeds, based on flight manual data, to allow maximum range flight or highest speed flight.

**Enhanced Maps on Multifunction Display**
This option adds functionality to our Integrated Flight Information System (IFIS) to increase situational awareness through the addition of map overlays including high-and low-altitude airways, restricted and controlled airspace, and geopolitical information including state and international boundaries, rivers, lakes and ocean coastlines.

**XM Weather**
This option gives pilots a powerful new tool to help make strategic decisions about en route weather by providing a continuously updated picture of weather patterns across the entire route, which allows pilots to see and plan options long before weather becomes an issue. The XM Graphical Weather system provides the capability to display U.S. only graphical and textual weather information on the two MFDs. Available weather information includes:

- NEXRAD (1 NM resolution)
- Echo tops and movement
- Graphical and textual METARs
- Graphical and textual SIGMETs
- Textual AIRMETs and TAFs
Data Link with Graphical Weather Maps
This option provides the capability to display graphical and textual weather information on the FMS CDU, and additional data link capabilities that reduce crew workload by digitally transferring mission information between the aircraft, information service providers and air traffic control. Available graphical weather information includes:

- NEXRAD images (Continental United States, 7 NM resolution)
- NEXRAD with tops/movement (Continental United States)
- Icing
- Winds/temps
- Turbulence
- Weather depiction

Other capabilities include text weather, FMS flight plan uplink, aircraft operational communications and text messaging, and air traffic services functions including taxi, pre-departure and oceanic clearances, ATIS, NO TAMS, TWIP and future growth to controller pilot data link.

Data link is comprised of an upgraded Communication Management Unit (CMU) and third VHF radio. The system supports both Mode A ACARS and VDL Mode 2 ACARS over AVLC (AOA) network communications.

Universal Weather on Multifunction Display
This option provides the capability to display the data link graphical weather on the two MFDs, complementing the Data Link with Graphical Weather Maps option. The images are requested from the ground station via the CDUs. This option requires the Data Link with Graphical Weather Maps option.

Lightning Detection System
The L3 WX-1000 detects and displays electrical activity associated with thunderstorms and can be displayed as a weather radar overlay on Rockwell Collins Pro Line 21 MFD. This option includes a lightning processor and antenna.
Global service and support from a trusted source.

Life cycle service solutions you can count on. From initial delivery and throughout your Challenger 605 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 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.

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