Business Jet Avionics and Electrical Modifications





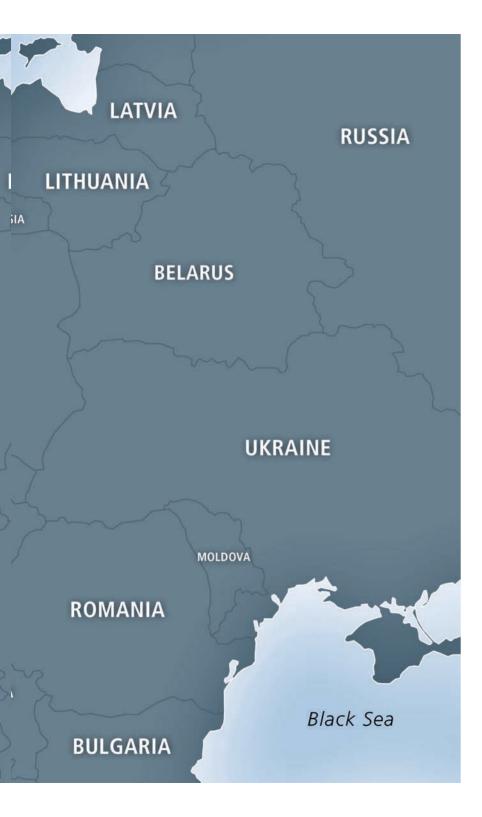


Business Jet Avionics and Electrical Modifications









Happy to welcome you to Atlas Air Service Group!

We are your maintenance facility for Embraer Executive Jets, Cessna Citation, Beechcraft, Hawker and Gulfstream Aerospace aircraft. With a team of specialists on the most diverse avionics systems we provide state-of-the-art modifications.

You bring your operational need; we present a tailored solution!

Avionics Services

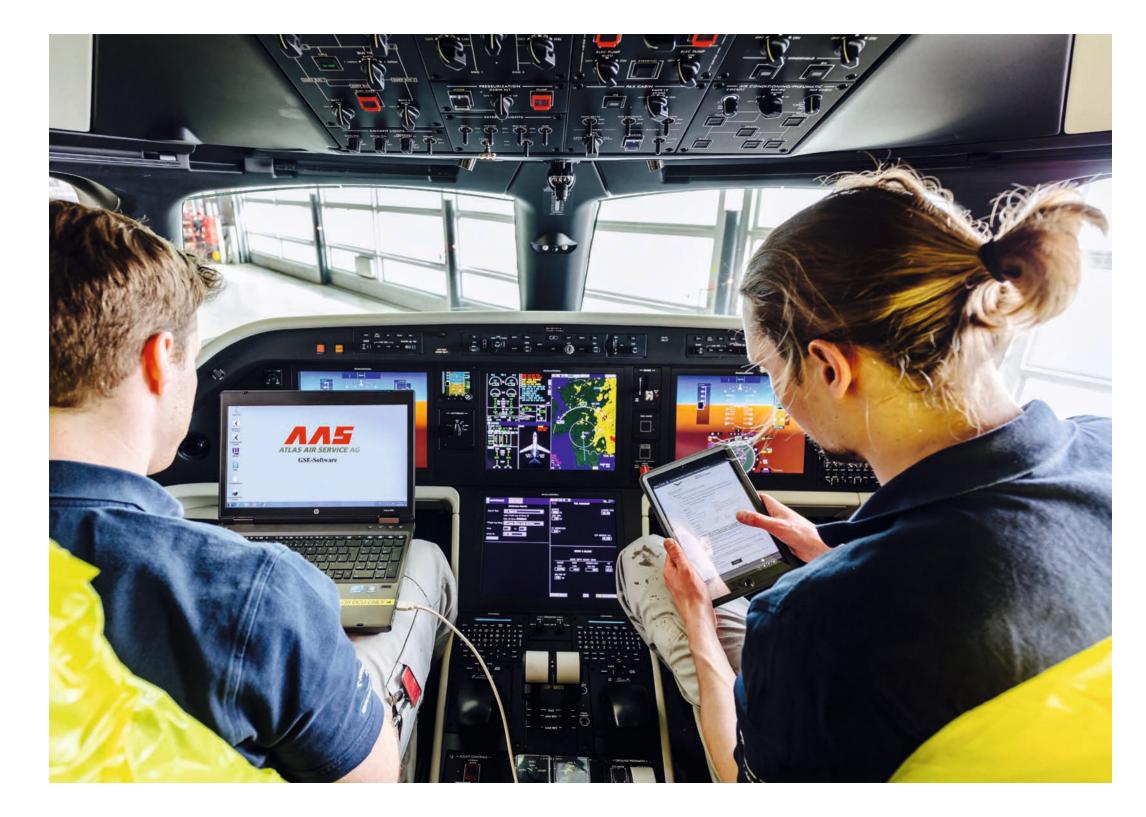
- Avionics installation, maintenance, repair, exchange and other services
 from stand-alone units and batteries to complex autopilot- and WX radar systems
- > Collins, Honeywell and Garmin avionics systems as integrated solutions
- Conversion and refitting to state-of-the-art avionics (RVSM, TCAS, EGPWS, FDR, FMS, GPS, P-RNAV, ADS-B Out)
- > Functional tests, avionics troubleshooting and repair, i.e. of transponders and altimeters due to FAA standards
- Electronic tests
- ▶ 406 MHz ELT Programming
- > Complete redesign of flight panels
- Sale and consultation for avionics equipment
- Provision of rental equipment and devices



Flight Instruments Services

We offer maintenance and repair for

- Navigation instruments
- > Flight surveillance instruments
- > Engine surveillance instruments
- Attitude instruments
- ➤ Tailback / static tests
- > Torque wrench calibration
- > Tensiometer and manometer calibration
- Mobile service for FAA examinations, i.e. for transponders and altimeters
- > Installation of instruments with complete panel overhaul



MRO Supported Aircraft Types

Embraer Executive Jets

- > Phenom 100 / 300 (EMB-500 / EMB-505)
- Legacy 450 / 500 & Praetor 500 / 600 (EMB-545 / EMB-550)
- Legacy 600 / 650 / 650E(EMB-135 / EMB-135BJ / EMB-145)

Textron Aviation

- ▶ Beechcraft Beechiet 400 / Nextant 400
- ▶ Beechcraft Premier 1 / 1A
- ▶ Beechcraft King Air 90, 200, 300 Series
- ➤ Citation Mustang 510
- Citation Jet 1, 2, 3, 4 (525 / 525A / 525B / 525C) and M2
- Citation 550 / 551
- > Citation Bravo (550B)
- Citation V, Citation II, Ultra, Encore, Encore+ (560)
- ➤ Citation Excel / XLS / XLS+ (560XL)
- > Citation Sovereign / Sovereign+ (680)
- > Citation Latitude (680A)

DAHER SOCATA

> TBM 700 / 850 / 900 Series

Cirrus Aircraft Corporation

> SR20, SR22, Vision Jet

Pilatus

- ➤ Pilatus PC-6 Series
- ▶ Pilatus PC-12 Series

Gulfstream Aerospace

- > Gulfstream G100
- ▶ Gulfstream G150
- ▶ Gulfstream G200
- ➤ Gulfstream G280

and many more **Piston Engine Aircraft** Models



Cessna

GI 275

Why to upgrade?

Adaptable to a full range of instrument formats and functions, the Garmin GI 275 electronic display keeps the classic look of your panel while upgrading with modern, reliable glass touchscreen display technology

- lightweight
- maintenance-prone,
- vacuum-style instruments
- > small, cost-effective digital instrument



NOTE: Standby ADI with HSI or MFD pages is available only for Class I/II aircraft



Cessna

GTN 650/750 XI

GTN 650/750 Xi - Advantages

- Multifunction Display
- > Easy Data Entry through on-screen QWERTY keyboard
- Quick Page Access via knobs
- Faster dual processor
- > Faster Map rendering
- > Airport Recommendation considering estimated glide range
- Direct-to route
- > Smart glide: Emergency Information
- > GTN trainer app for iPad





Cessna Citation Excel / XLS G5000

Customize, Upgrade and Expand

- > Advanced flight deck for crew-flown business jets
- Displays divide into 2 pages to help display multiple systems and sensors
- Intuitive touchscreen interface with shallow menus and audible feedback
- > Automatic Flight Guidance and Control Systems
- > Weather, charts, traffic, terrain and Global connectivity options

With its touchscreen controls, G5000 eliminates visual clutter. Mechanical knobs, buttons and selector switches have been replaced with a series of large, WXGA high-resolution displays. Each all-purpose display can function independently as a Primary Flight Display (PFD) or Multifunction Display (MFD).

These displays can also function in multi-pane mode, displaying both PFD and MFD side-by-side on the same screen.





Cessna 525 G600 TXI

What does G6000TXi bring?

- ▶ Bright, modern LCD touchscreen displays offer industry-leading modernity and flexibility in a wide range of panel configurations
- ➤ HSI mapping enhances situational awareness with MFD-like geographical map detail, weather, traffic display and more overlaid within HSI portion of the primary flight display (PFD)
- Interfaces with popular avionics and autopilots, offering full touchscreen system continuity
- > Displays Flight Director command bars
- ➤ Requires GFC 600 that brings the traditional autopilot functions with modern capabilities
- > Pilots can fly coupled 'go-arounds' during missed approach sequencing.





Phenom 100 / 300 G1000NXI

Bring the state-of-the-art G1000 NXi features and performance enhancements to your cockpit with minimal downtime and investment.

The G1000 NXi Flight Deck brings to aircraft Owners and Operators a combination of modern features, such as:

- ▶ Faster processor and sharper display
- Plug & Play solution
- SurfaceWatch™ runway monitoring technology
- > Visual approach guidance and HSI map
- Vertical Situational Display (VSD)
- ▶ Flight Stream 510 with Connext® technology
- And many additional wireless capabilities

Optional:

- GWX™ 75 weather radar
- GTX™ 345R Transponder: ADS-B IN
- > GMA™ 1360D audio panels





Cessna 525 PRO LINE FUSION STC

Advantages:

- Aircraft Value-Add Bundle for latest compliance and enhanced flight deck experience
- ▶ ADS-B out
- ▶ LPV / RNP / RF Legs
- > Three landscape touchscreens
- Configurable windows
- Graphical flight planning
- ▶ High-Resolution SVS with exclusive Airport dome
- Electronic Navigation Charts
- USB database loading
- Adapter harness addition to reduce downtime and labor costs
- ▶ Restores integrated Vspeeds / FMS fuel sense
- > Adds Predictive FMS performance computation
- Adds Sirius XM option
- > Adds CPDLC / FANS / ATN B1 datalink option





Phenom 100/300 QAR INSTALLATION

Flight Data Monitoring (FDM) is the pro-active and non-punitive use of digital flight data from routine operations to improve aviation safety.

- To identify areas of operational risk and quantify current safety margins.
- To identify and quantify changing operational risks by highlighting when non-standard, unusual or unsafe circumstances occur.
- ➤ To use the FDM information on the frequency of occurrence, combined with an estimation of the level of severity, to assess the safety risks and to determine which may become unacceptable if the discovered trend continues.
- ▶ Put in place appropriate risk mitigation to provide remedial action once an unacceptable risk, either actually present or predicted by trending, has been identified.
- > Confirm the effectiveness of any remedial action by continued monitoring.





Phenom 100/300 CONCORDE BATTERY

Reliable, Durable and Safe!

Concorde's sealed lead acid batteries combines a high performance with lower acquisition costs and reduced maintenance requirements.

Besides all the advantages, at the end of life, the lead acid battery is 100% recyclable.

- > Reduces AOG costs due to a high reliability
- Reduces the load on the engines by lowering the temperature during startup





LEGACY 600/650 **FMS 6.1**

From the 1st January 2019, thanks to the RNP APCH mandate, all runway 22 operations will be performed following the RNAV D approach only. Published in 2012 to improve flyability (the visual segment being in the continuity of the RNAV segment) and allow better operating minima, RNAV D will be the RWY 22 approach in use by default, taking full credit of its safety improvements.

FMS 6.1 System is compliant with NICE Airport (LFMN) Requirements*

Commercial Aspects

- Concurrent Requirement for:
 - WAAS/LPV (optional)
 - FANS CPDLC (optional)
- Honeywell will no longer perform hardware repairs effective JAN/ 2021.
- Navigation database pricing escalation will continue annually



www.ecologie.gouv.fr

Operational Aspects

Required navigation precision (RNP) enhancements as follows:

- ▶ RNP APPROACH
- Database and phase of flight RNP is displayed on PFD and CDU
- Estimated position uncertainty (EPU) is displayed on CDU
- > Provides alerts when EPU exceeds RNP
- VNAV temperature compensation

- Final approach altitude and descent angle modification made for extreme cold or hot operations.
- Automated sequencing of holding to altitude (HA) legs
- FMS will automatically exit hold patterns when reaching database defined altitudes.

Navigation database and functional enhancements are as follows:

- Addition of circling approaches
- Addition of multi-area navigation (RNAV) on same runway end (X,Y,Z)
- Decreases time to cross load custom database
- Up to 1,200 terminal area procedures restored to the navigation database

^{*} Subjected to operational approval



LEGACY 600/650

HONEYWELL – LPV ACTIVATION



778 LPVs

*Under implementation

EGNOS based procedures at more than 400 airports and helipads



www.essp-sas.eu



4,100 LPVs

1,976 airports served

1,209 are non-ILS airports

734 LPs

537 airports served

434 are non-ILS airports



www.faa.gov



LEGACY 600/650 CABIN LED INSTALLATION

Replace the old fluorescent light tubes by the modern LED solution.

Features & Benefits

- > It increases brightness, color consistency, reliability
- Available in warm and cool white color spectrum
- ➤ Low profile, surface mounted LEDs produce high intensity light using minimal aircraft power
- Direct, even lighting without dark spots
- > Easy to install, minimum modification required
- > Eliminates maintenance costs





LEGACY 600/650

DATALINK SOLUTIONS

FANS 1/A +

- > CPDLC + ADS-C, VDL MO/A
- Enables Transoceanic operation while maintaining continuous contact with ATC
- ▶ FANS 1/A+ and PBCS capable, per FAA AC 90-117
- Aligns with FAA improvements for CPDLC Departure Clearances
- Enables optimal ATC prioritization, minimizing flight times

PM-CPDLC STC

- ➤ EASA Mandate compliance
- ▶ Facilitates operation within ATN-B1 airspace
- ▶ Enables optimal ATC prioritization, minimizing flight times
- ▶ Enables compliance with FAA AC 90-117 requirements
- ▶ Enables FANS CPDLC Departure Clearance (DCL)
- ➤ Enables use of FANS CPDLC and ATN PM-CPDLC on non-FANS2 equipped aircraftProvides legacy aircraft a path to modern datalink communications in U.S., North Atlantic and European airspaces
- Minimizes retrofit impact and aircraft down time





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CPDLC VDL M2

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ATN CPDLC (Link 2000+)

(Only 3 FIRs)

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Legacy 600/650 **DU 875 UPGRADE**

OEM Solution

- > Charts, integrated map, XM Wx, more
- > Reduced cost of operation
- > Reliability, weight, trade in
- Growth to future enhancements: Synthetic vision, TCAS on map, added XM features etc
- > Worldwide product support, OEM backed solution

STC Solution

> That allow change displays 1 by 1



Legacy 600/650 CD-830 UPGRADE

- > Honeywell's 4th-generation CDU
- > Plug-and-play replacement for CD-820.
- ➤ A High-resolution display that offers full touch screen functionality with enhanced visibility
- > The latest design increases reliability, reduces weight,
- Improved cockpit aesthetics and touch-screen display technologies that are proven in the cockpit environment to enhance the humanmachine interface.



All models

ADS-B OUT

Who shall install ADS-B Out?

Aircraft with an MTOW superior to 5,700 kg or having a maximum cruising true airspeed capability greater than 250 knots

Aircraft receiving their certificate of airworthiness (CofA) on or after December 7th, 2020.

Aircraft with CofA between June 6th 1995, and Dec. 7th, 2020.

The Deadline is June 7th 2023.







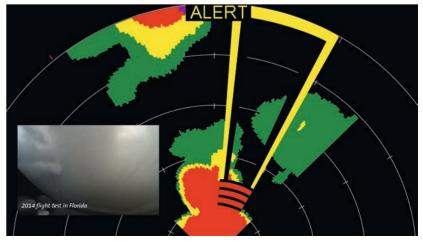
Embraer SB550-34-0017

PREDICTIVE WINDSHEAR & VERTICAL WEATHER

We can not control bad weather, but we can avoid it with Collins full-color storm cell tracking that is automatic and clutter-free, scanning 320 nautical miles ahead of your aircraft.

- An enhanced feature of MultiScan weather radar provides you with visual and aural cautions before windshear becomes an immediate threat.
- ▶ Improve Crew AWARENESS
- Innovative package that combines two functionalities to enhance flight crew decision making







Contacts

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