

# NextGen Flight Deck



Full PC-12 Avionics Suite with  
**ThrustSense®**  
Autothrottle



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# IS&S 3015 NextGen Flight Deck with ThrustSense

## The Only 4th Dimension NextGen Flight Deck - PC-12 Avionics Suite

Upgrading a cockpit is an economical way to extend an aircraft's life, increase its residual value and bring efficiency and safety benefits to every day operations. Innovative Solutions & Support's PC-12 NextGen Flight Deck is a highly integrated proven system inspired by the features developed for commercial air transport, military and OEM programs that includes significant innovations in aircraft systems to improve overall operations, direct operating costs, technology, comfort and performance.

### Pilatus PC-12 Legacy EFIS



The PC-12 NextGen Flight Deck supports dual flight management systems (FMS), electronic charts, Engine Data Concentrator Units, autothrottle quadrant assembly kit (Patent Pending), Integrated Standby Unit (ISU), satellite weather, synthetic vision (SVS) with integrated TAWS, optional enhanced vision (EVS) for Forward Looking Infrared Radar (FLIR). The package features a larger display area and more display pixels than latest generation aircraft off the production line. The Flight Deck is fully compliant with NextGen requirements for Required Navigation Performance (RNP).

### IS&S NextGen Flight Deck



The IS&S installation package is designed to minimize wiring modifications utilizing the existing equipment interfaces and wiring connections. The unique design concept permits accelerated modification of graphic display formats, and as importantly, rapid certification.

This NextGen Flight Deck will meet your needs as mission requirements evolve and future technology changes at a rapid pace. IS&S provides an avionics infrastructure that supports emerging technologies such as RNP, EVS, SVS, ADS-B and other capabilities at your fingertips today.

## NextGen Flight Deck Platform Features and Options:

### Integrated Flight Management System

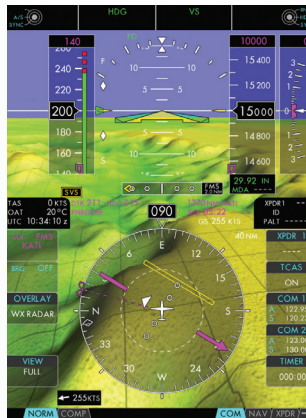
- Coupled WAAS/LPV Approaches
- Full RNP compliance to DO-236B
- Required Time of Arrival (4D trajectory to each waypoint)
- Dual Flight Management System with DME
- Dual IS&S Beta 3 GPS Receivers compliant with ADS-B Out requirements
- ADAHRS (Optional) - Replaces aging VG/DG gyros and unsupportable Attitude and Heading Reference Systems
- ThrustSense Autothrottle
- Hot Start Protection
- In Trail Spacing
- Integrated Altitude Alarmer
- Flap Position Display
- Dual remote radio controls
- Remote Audio Control and Management

### Integrated Electronic Flight Bag

- Airport Diagrams and Approach
- Moving Maps with overlay of:
  - Flight Plan
  - Airspaces
  - Airways (both High and Low)
  - Runway Depictions
  - Navigation Aids
  - Intersections
- Satellite weather supports all available weather services
- Electronic Checklists

### Display and Control of Aircraft Systems

- Approach/Land Speeds
- Checklists
- ECTM (Refresh every 10 minutes)
- Engine Parameters
- Oil Temperature Sensor
- Integrated Control & Monitoring of:
  - Radio Tuning
  - Stormscope
  - TCAS
  - Transponder
  - Wx RDR
- Weight and Balance
- Remote Controlled Electronic Circuit Breaker (Optional)
- iPad Control of All System Functions (Optional)



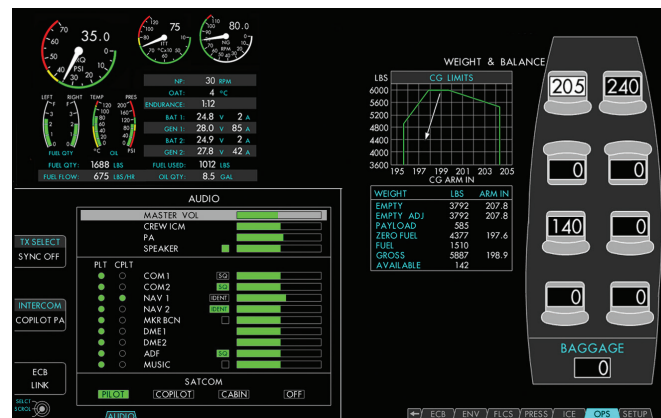
PFD with Full Screen SVS



PFD with Expanded Horizon



MFD with Full Chart and Moving Map



MFD with Engines and Synoptic Page



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## The IS&S Advantage

The IS&S PC-12 NextGen Flight Deck replaces existing Electronic Flight Instrument System (EFIS) displays and symbol generators and round dial instruments with minimal wiring changes. The display system incorporates the functionality of the existing EHSDI, EADI, electromechanical altimeter, airspeed, RDMI and vertical speed, standby flight instruments and clocks to minimize aircraft complexity.

### Enhanced Readability

- High resolution multi-color LCD flat panel display
- Exceptional cross cockpit viewing angle
- Knob-in-Motion, patented "Zoom" feature
- More display pixels than latest generation aircraft
- Expanded Horizon

### Improved Reliability

- Digital electronics for improved accuracy and dependability
- Dual redundancy with reversionary display capability
- Reduced down time and operation costs
- Fault tolerant built-in test

### Functional Evolution

- Flexible graphic symbology for user customization
- On-aircraft software updates
- High bandwidth processors
- Supports NextGen requirements





### Weight and Heat Savings

- Light weight design - removes legacy equipment
- Reduced power consumption
- No forced air cooling required

### Minimized Downtime for Retrofit

- Flexible interface box reduces installation time
- Simplified wiring between Data Concentrator Unit and Displays

### Engine Instrument System and Engine Monitoring

- Primary and Secondary Engine Display
- Large color display/readout
- Ability to have reversionary EIS display on PFD

### Engine Instrument System and Engine Monitoring-continued

- Caution and Warning lights
- Exceedance "Zooming"
- Trending Monitoring and data recording
- Support multiple engine types
- Oil Temperature Sensor



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## NextGen Flight Deck Components:

### ThrustSense Autothrottle:

The IS&S developed ThrustSense Autothrottle allows a pilot to automatically control the power setting of the engine. The autothrottle computes and controls appropriate power levels reducing pilot workload and enhancing safety.

#### ThrustSense Features:

- Full Regime Autothrottle System
- Take off to landing phases of flight including go-around
- FADEC like engine protection
- Vmc Protection Thrust Control with Under/Over Speed Protection
- Reduced Pilot Workload
- Stabilized approaches with increased situational awareness
- RTA Speed Management
- Asymptotic approach into speed targets - no overshoot (+2 to -0 knot speed tolerance)
- No additional force required to override Power Control Lever
- Increased Range/Endurance (10% fuel savings flying constant AoA)



Torque Indicator with Thrust Control

### Integrated Standby Unit (ISU):

The IS&S Integrated Standby Unit (ISU) calculates, processes and displays altitude, attitude, airspeed, slip/skid, and navigation display information in a logical and concise single instrument display.



### Global Positioning System Sensor Unit (GPSSU):

The IS&S GPS Sensor Unit is a satellite receiver that utilizes the signals coming from Global Positioning System (GPS) satellite constellation and satellite-based augmentation systems (SBAS) such as the USA Wide Area Augmentation System (WAAS).



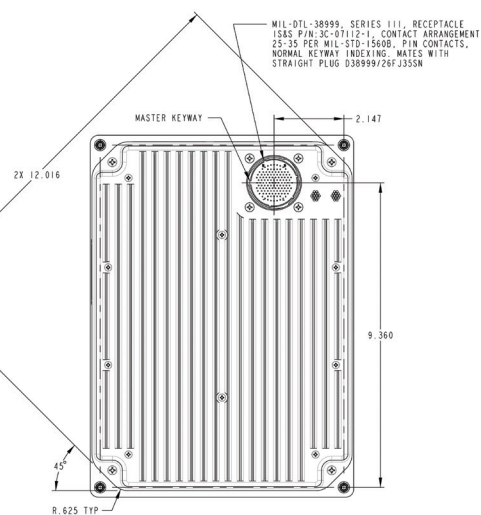
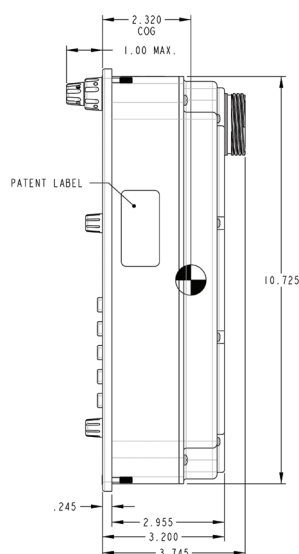
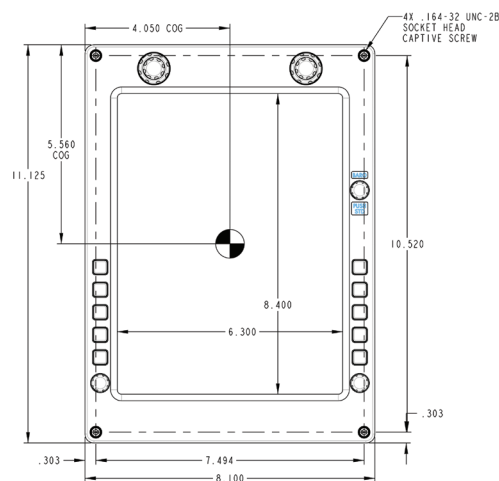
## NextGen Flight Deck Optional Features:

- ThrustSense Autothrottle
- Video
- SVS
- (2) Remote Communications Radios and Install Kit
- (2) ADAHRS instead of ADMs (additional cost to above ADM Cost)
- Integrated Standby Unit (ISU)
- VNAV
- RVSM (additional ADM and 2 ICMs)
- RVSM Certification Fee
- EVS

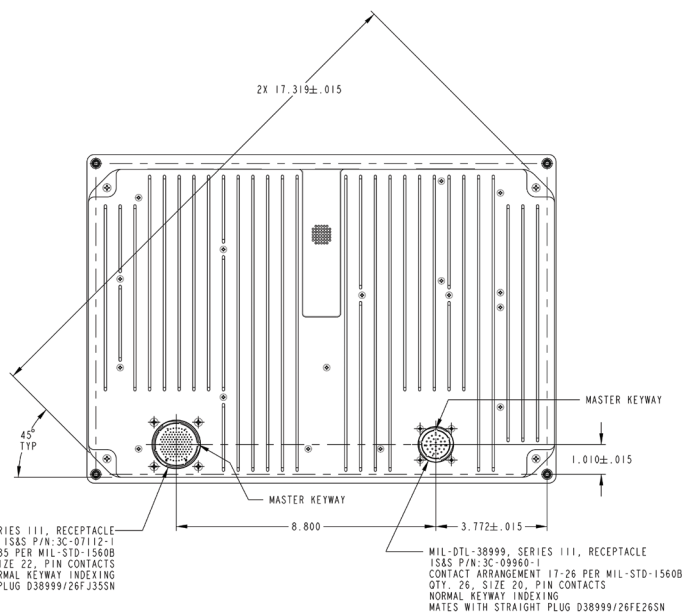
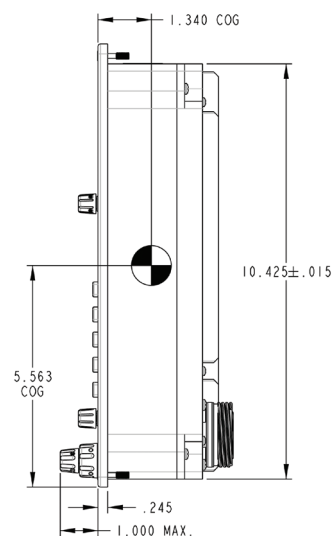
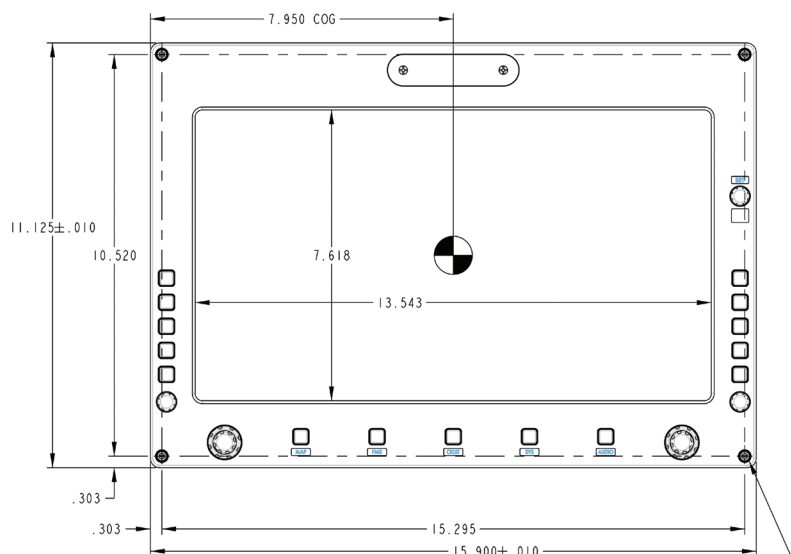


# Outline Dimensions for Flat Panel Displays:

## PFD



## MFD







Since 1988, IS&S has worked with our industry partners in developing unique and impactful cockpit avionics solutions in Commercial, Defense and Business Aviation markets. Our entrepreneurial, inventive culture has brought sophistication and efficiency to flight operations in 172 countries, through collaborative development.....listening to our customers' ideas, designing systems that follow the guidelines of their needs, and then fully supporting their utilization of IS&S products for maximum benefit.

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