SureSight®

See More
with SureSight®
Integrated Sensor Systems
for Enhanced Flight Vision
System Applications

- Superior image quality - key to expanding operational capabilities at lower minima
- Improved image processing - optimized for performance in adverse visual conditions
- Packaged in a single, lightweight enclosure, with performance designed to meet your needs

Esterline® CMC Electronics
MONTREAL • OTTAWA • CHICAGO • www.cmcelectronics.ca
Loss of Situational Awareness — a Major Contributor to Business Jet Accidents

- 62.9% of business jet accidents attributed to loss of situational awareness\(^{(1)}\)
  - 41.4% of accidents occurred during approach and landing phase of flight
  - 48.1% of 27 CFIT (Controlled Flight Into Terrain) accidents cited loss of situational awareness as contributing factor
- 64.4% of ALA (Approach and Landing Accidents) involved lack of stabilized approach
  - 10% of accidents involved hard landings

\(^{(1)}\) Source: Flight Safety Digest, Flight Safety Foundation, May 2004
SureSight Imaging Sensors for Enhanced Flight Vision Systems

- Single LRU (Line Replaceable Unit) Imaging Systems
- Certified on 8 different aircraft platforms

CMA-2700, the culmination of many years of experience:
- 4 times the resolution of previously certified systems
- End-to-end digital video system with low latency
- Developed to Design Assurance Level B
- Compatible with single or dual HUD installations
- Backward compatible with CMA-2600 installations

Evolution of CMC’s I-Series Sensors

<table>
<thead>
<tr>
<th>Second-Generation EVS</th>
<th>Third-Generation EVS</th>
<th>Software Updates</th>
</tr>
</thead>
<tbody>
<tr>
<td>256 x 256 pixels</td>
<td>512 x 512 pixels</td>
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<tr>
<td>Adaptive automatic gain control</td>
<td>Advanced digital image processing</td>
<td></td>
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<tr>
<td>RS-170 interfaces</td>
<td>Improved optics and filtering</td>
<td></td>
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<tr>
<td>256</td>
<td>ARINC 818 interfaces</td>
<td></td>
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<tr>
<td>256</td>
<td>RS-170 interfaces</td>
<td></td>
</tr>
<tr>
<td>4x</td>
<td>Similar form factor/electronic interface to CMA-2600</td>
<td></td>
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Software updates for improved image processing

Typical Nose Installations
### SureSight™ Integrated Sensor System (ISS) for Enhanced Vision System applications

<table>
<thead>
<tr>
<th></th>
<th>CMA-2600</th>
<th>CMA-2700</th>
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</thead>
<tbody>
<tr>
<td><strong>APPLICATION</strong></td>
<td>Operators seeking additional operational credits through the use of an Enhanced Flight Vision System (EFVS).</td>
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<tr>
<td><strong>WEIGHT</strong></td>
<td>Less than 21 lb</td>
<td>Less than 21 lb</td>
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<tr>
<td><strong>FIELD OF VIEW</strong></td>
<td>30° x 30°</td>
<td>30° x 30°</td>
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| **SENSOR TECHNOLOGY**| • Cryogenically cooled Indium Antimonide (InSb) Focal Plane Array  
  Sealed, Stirling cycle cooler – no maintenance required  
  • 256 pixels x 256 pixels | • Cooled Indium Antimonide (InSb) Focal Plane Array  
  Sealed, Stirling cycle cooler - no maintenance required  
  • Highest resolution ISS for EFVS applications: 512 x 512 pixels  
  • Next-generation image processing: advanced 14-bit digital processing  
  • Improved optics and wave band filtering |
| **DETECTED WAVELENGTHS** | Broadband filtering  
  • 1.2 – 5 microns | Multi band filtering  
  • 1.4 – 2.5 microns shortwave infrared  
  • 3.5 – 5.0 microns midwave infrared |
| **CERTIFICATION STANDARDS** | • Hardware: RTCA DO-160D  
  • Software: RTCA DO-178B, DAL C  
  • Firmware: RTCA DO-254, DAL C | • Hardware: RTCA DO-160F  
  • Software: RTCA DO-178B, DAL B  
  • Firmware: RTCA DO-254, DAL B |
| **TEMPERATURE (Continuous)** | -55° C to + 50° C | -55° C to + 50° C |
| **INPUT POWER**       | 28 Volts DC – 70 watts (nominal) | 28 Volts DC – 70 watts (nominal) |
| **INSTALLATION CONFIGURATIONS** | • Sensor may be installed upright or inverted with image inversion selectable on installation. | • Sensor may be installed upright or inverted with image inversion selectable on installation  
  • Mechanical and electrical compatibility with the CMA-2600 ISS  
  -- ideal for retrofit of legacy CMC SureSight ISS |
| **SENSOR CONTROL INPUTS** | ARINC 429 and discrete signals for installation flexibility  
  • Display configuration  
  • Sensor orientation  
  • Sensor on/off/standby  
  • Non uniformity calibration (NUC)  
  • Infrared window (IRW) temperature  
  • Troubleshooting test port | ARINC 429 and discrete signals for installation flexibility  
  • Display configuration  
  • Sensor orientation  
  • Sensor on/off/standby  
  • Non uniformity calibration (NUC)  
  • Infrared window (IRW) temperature  
  • Troubleshooting test port  
  • Supports EFVS with dual Head-Up Display installations |
| **SENSOR OUTPUTS**    | • Two (2) – ANSI/SMPTE 170M (formerly RS-170 - monochrome NTSC)  
  • Sensor status (via ARINC 429)  
  • Aircraft IR window heater control (when desired)  
  • Troubleshooting test port | • Two (2) ARINC 818 Digital Interfaces  
  • Two (2) ANSI/SMPTE 170M (formerly RS-170 monochrome NTSC)  
  • Sensor status (via ARINC 429 and A818)  
  • Aircraft IR window heater control (when desired)  
  • Troubleshooting test port  
  • Supports EFVS with dual Head-Up Display installations |
| **BUILT IN TEST (BIT)** | Power up testing  
  Continuous background testing  
  On request testing | Power up testing  
  Continuous background testing  
  On request testing |

For further information, please contact:

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