

| **PROJECT TITLE:** | **X-Wings X1 Head Up Display (HUD) System** |
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| **DOCUMENT NAME:** | **HUD Plan for Software Aspects Specification** |
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List of Changes

| Section | Change Description | REV |
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List of TBDs

| TBD Number | Reference |
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## Scope

This document establishes the Software Aspects of Certification (PSAC) plan for the application of the Head Up Display (HUD) System on BERNARDOs Aircrafts X-Wing X1. The HUD software's development will align closely with EUROCAE ED12B / RTCA DO-178B guidelines and adhere to the Critical Items (CRIs) and Important Points (IPs) detailed in section ‎21. The primary objective of this development process is as follows:

1. To fully address the requirements stipulated by the PSAC, as elaborated in paragraph 11.1 of EUROCAE ED12B / RTCA DO-178B.
2. To meet the criteria outlined in documentXXT123456 - "Software, Airborne Electronic Hardware, and Databases Qualification Methodology," originating from the X-WING Certification Collection.
3. To effectively resolve the considerations highlighted in the Critical Items (CRIs) and Important Points (IPs) expounded upon in section 5.

### Identification

| System Name | – | HUD (Head Up Display) |
| --- | --- | --- |
| System Abbreviation | – | HUD |
| Document Id. | – | 000001-00 |

### Document Overview

| System Name | – | HUD (Head Up Display) |
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### List of Abbreviations

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| HUD | Head Up Display |
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## Referenced Documents

| Document Id. | Document Name |
| --- | --- |
| RTCA/DO-178C | SOFTWARE CONSIDERATIONS IN AIRBORNE SYSTEMS AND EQUIPMENT CERTIFICATION – DECEMBER 1, 1992 |
| EUROCAE ED-76 / RTCA DO-200A | Standards for Processing Aeronautical Data, September 28, 1998 |

### Project Documents

| Document Id. | Document Name |
| --- | --- |
| 000002-00 | SDP - Software Development Plan |
| 000003-00 | SQAP - Software Quality Assurance Plan |
| 000004-00 | SVP - Software Verification Plan |
| 000005-00 | SCMP - Software Configuration Management Plan |
| 000006-00 | TQP - Tool Qualification Plan |

### Vendor Documents

| Document Id. | Document Name |
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## System Overview

### Functional Description

The (HUD) Head Up Display System is an intelligent display platform designed to furnish pilots with comprehensive flight information throughout all stages of flight. This includes critical data such as flight path, air data, altitude, attitude, flight director guidance, as well as other pertinent flight cues and alerts. This data is seamlessly projected onto a transparent combiner, ensuring pilots maintain visual contact with both the external surroundings and the seamlessly integrated image.

By merging flight and mission data with the EVS camera feed, the system projects an expansive display across a wide HUD Field of View. This approach enhances flight safety by delivering precisely timed and positioned information, thereby minimizing pilot errors and reducing cognitive load. The overarching objective of the EFVS is to heighten pilots' situational awareness during pivotal flight phases and in scenarios with terrain constraints. This technology significantly enhances approach stability, facilitates the transition from IMC to visual landing, refines touchdown precision, and acts as a safeguard against runway excursions.