



U.S. Department
of Transportation

**Federal Aviation
Administration**

April 27, 2007

**Transport Airplane Directorate
Los Angeles Aircraft
Certification Office**

3960 Paramount Boulevard
Lakewood, California 90712-4137

Mr. Robert C. Uhde II
Universal Avionics Systems Corp
3260 E. Universal Way
Tucson AZ 85706

Dear Mr. Uhde:

**TYPE 2 FAA LETTER OF ACCEPTANCE
LOA0003LA**

The FAA has determined that Universal Avionics System Corporation complies with AC 20-153 and RTCA/DO-200A with regards to their processing of navigation data. Navigation databases may also include customer tailored data not originating from a state authority, such as at private airports/runways and private arrival/departure procedures. The end user has the responsibility to verify the suitability of this data for the intended operation. Compatibility has been established with the Flight Management Systems listed in Appendix A of this letter.

The following terms and conditions are applicable to this letter of acceptance:

1. The Universal Avionics System Corporation data quality requirements for the receipt of data from other sources are defined in Universal Avionics document EP0984B, *Data Requirements for the Jeppesen Source Data for the UASC Navigation Databases*. The Universal Avionics System Corporation data quality requirements for the delivery of data to their customers are defined in EP1654E, *Processing Requirements for the Group 5 Navigation Databases* and EP0994J, *Parts List and Content Requirements for the Navigation Databases*. The end user has the ultimate responsibility to ensure data requirements are met and to verify the navigation data loaded in their FMS is current and valid for the intended operation.
2. The Universal Avionics System Corporation procedures for processing data are defined in EP1852B, RTCA/DO-200A Compliance Plan for the Navigation Databases and EP1350I, Processing Checklist for the Navigation Databases.
3. Reporting of Failures, Malfunctions, and Defects. Universal Avionics Systems Corporation must report to the FAA Los Angeles Aircraft Certification Office any failure, malfunction, or defect of the aeronautical data produced under this LOA that may have a safety effect on operational use of the data.

4. Maintain a Quality Management System (QMS). Universal Avionics System Corporation must maintain a quality management system as described in RTCA/DO-200A, section 2.5. Changes to the QMS that may affect the data quality objectives must be reported to the Los Angeles Aircraft Certification Office before implementation.
5. Design Changes
 - a. Universal Avionics System Corporation must submit minor changes to the data quality requirements, the data processing standards, or the quality management system to the Los Angeles Aircraft Certification Office in accordance with procedures described within Universal documents EP1852B, *RTCA/DO-200A Compliance Plan for the Navigation Databases*, and EP1262C, *Configuration Management Plan for the Navigation Databases and Processing Software*. All other changes are considered major, and must be substantiated and accepted prior to implementation in the same manner as that for the original LOA.
 - b. Upon receipt of notification by the Los Angeles Aircraft Certification Office that an unsafe condition exists in database product supplied under this LOA, Universal Avionics System Corporation shall develop corrective action and submit it to the Los Angeles Aircraft Certification Office for approval. Universal Avionics System Corporation shall expedite distribution of the approved corrective action to customers and users.
6. Universal Avionics System Corporation must perform periodic internal audits as described in RTCA/DO-200A, section 3, with a maximum time between audits (whether total or incremental) of not more than one year. Any major non-conformities as described in RTCA/DO-200A, section 3.4 must be reported to the Los Angeles Aircraft Certification Office. Additionally, the FAA may perform periodic audits in accordance with procedures described within Universal documents EP1852B, RTCA/DO-200A Compliance Plan for the Navigation Databases, and EP0011E, Software Quality Assurance Plan.
7. Universal Avionics System Corporation must advise their customers of the status of their LOA as well as the status of LOAs (or foreign acceptance, including designation of the foreign authority that acknowledges the foreign source's compliance to RTCA/DO-200A and the means of approval or acceptance) for all previous chain participants (up to, but not including, a State's AIP). The method must be timely to ensure that customers can react to changes in the status of their LOA.

If further information concerning this project is needed, please contact the FAA's point of contact Mr. Ha A. Nguyen, Project Manager of Los Angeles Aircraft Certification Office. Mr. Nguyen can be reached by telephone at 1-562-627-5335 or by fax at 1-562-627-5210 or by email at ha.nguyen@faa.gov

Sincerely,



Joe Hashemi
Manager, Systems and Equipment Branch
Los Angeles Aircraft Certification Office

CC: ANM-111, Jeff Myers; AIR-130L, Brad Millers

FAA APPROVED

FEB 23 2018

Los Angeles
Aircraft Certification Office

INITIALS: HLT

Type 2 FAA Letter of Acceptance LOA0003LA
Appendix A
FMS Navigation Database

Reviewed By: *Geanine Ballard* Date: 1/25/18
Geanine M. Ballard, Director, Engineering Services
Organization

Reviewed By: *Rick Williams* Date: 1/25/18
Rick D. Williams, Manager, Certification

LOG OF REVISIONS

| Rev No. | Revision Date | Description of Changes |
|---------|---------------|---|
| 40 | 15-Mar-2017 | Change(s) highlighted in light yellow. SOP-ENG-QA-07.01 Rev. 01 to 02 EP0994 Rev. ZBB to ZBC EP1262 Rev. L to M EP1350 Rev ZBG to ZBH EP1852 Rev. I to J EP3571 Rev. O to P |
| 41 | 11-Jul-2017 | Change(s) highlighted in light yellow. Added: SOP-ENG-DB-07.01, Rev. 02 SOP-ENG-DB-07.02, Rev. 04 SOP-ENG-DB-03.01, Rev. 03 Revised: EP0984 Rev. M to N EP0994 Rev. ZBC to ZBD EP1654 Q to R Removed: EP2891L EP2898C EP2899C EP2900C EP3372G EP3500D EP3506D EP3571P EP3572E |
| 42 | 30-Aug-2017 | Change(s) highlighted in light yellow. Revised: EP0994 Rev. ZBD to ZBE EP1350 Rev. ZBH to ZBI |
| 43 | 01-Dec-2017 | Change(s) highlighted in light yellow. Revised: EP1350 Rev. ZBI to ZBJ EP0994 Rev. ZBE to ZBF |
| 44 | 26-Jan-2018 | Change(s) highlighted in light yellow. EP1350 Rev. ZBJ to ZBK EP0994 Rev. ZBF to ZBG |

- a. Acceptance of Universal Avionics System Corporation aeronautical data process is provided based on the specification and control of the data quality requirements provided in Table 1, compliance with AC 20-153A and RTCA/DO-200A, and the compatibility of the delivered data with the Flight Management System products listed in Table 2.

Table 1

| Document Number | Description |
|--|---|
| SOP-ENG-DB-07.01 Rev. 02, 19-Aug-2016 | <i>Aeronautical Database Development and Sustainment</i> |
| SOP-ENG-DB-07.02 Rev. 04, 19-Aug-2016 | <i>Tool Development and Qualification for Aeronautical Databases</i> |
| SOP-ENG-DB-03.01 Rev. 03, 19-Aug-2016 | <i>Aeronautical Database Support Procedures</i> |
| EP0984N 29-Jun-2017 | <i>Data Requirements for the Jeppesen Source Data for the UASC FMS Navigation Databases</i> |
| EP0994ZBG 24-Jan-2018 | <i>Parts List and Content Requirements for the FMS Navigation Databases</i> |
| EP1262M 09-Mar-2017 | <i>Configuration Plan for the FMS Navigation Databases</i> |
| EP1350ZBK 24-Jan-2018 | <i>Data Processing Procedures for the FMS Navigation Databases</i> |
| EP1654R 13-Jun-2017 | <i>Processing Requirements for the Group 5 FMS Navigation Databases</i> |
| EP1852J 09-Mar-2017 | <i>RTCA/DO-200A Compliance Plan for the FMS Navigation Databases</i> |
| EP3031B 29-Jun-2012 | <i>Data Quality Requirements for the EAG Source Data for the UASC Navigation Databases</i> |

- b. Universal Avionics has established compatibility with the following Flight Management Systems. Compilation of data to the compatible format has been accomplished using Universal Avionics System Corporations' aeronautical data process.

Table 2

| PART No. | DESCRIPTION | SCN | Approvals |
|-----------------|---------------------|-------------------------|--|
| 10172-XX-XXX | UNS-1C+ FMS/MMMS | 802, 803, 902, 903 | TSO-C115b TSO-C129 A1/B1/C1 |
| 10192-XX-XXX | UNS-1C/sp+ FMS/MMMS | 802, 803, 902, 903 | TSO-C115b TSO-C129 A1/B1/C1 |
| 11922-X0-XXXX0X | UNS-1D+ FMS/MMMS | 802, 803, 902, 903 | TSO-C115b TSO-C129 A1/B1/C1 |
| 11162-XX-XXXX | UNS-1K+ FMS/MMMS | 802, 803, 902, 903 | TSO-C115b TSO-C129 A1/B1/C1 |
| 2017-XX-XX1 | UNS-1E FMS/MMMS | 802, 803, 902, 903 | TSO-C115b TSO-C129 A1/B1/C1 |
| 2019-XX-X01 | UNS-1E/Esp FMS/MMMS | 802, 803, 902, 903 | TSO-C115b TSO-C129 A1/B1/C1 |
| 2192-X0-XXXX0X | UNS-1F FMS/MMMS | 802, 803, 902, 903 | TSO-C115b TSO-C129 A1/B1/C1 |
| 2116-XX-XXXX | UNS-1L FMS/MMMS | 802, 803, 902, 903 | TSO-C115b TSO-C129 A1/B1/C1 |
| 3017-XX-2X1 | UNS-1Ew FMS/MMMS | 1000, 1100, | TSO-C115b TSO-C146c Class B |
| 3019-XX-201 | UNS-1Espw FMS/MMMS | 1000, 1100 | TSO-C115b TSO-C146c Class B |
| 3192-X0-11110X | UNS-1Fw FMS/MMMS | 1000, 1100 | TSO-C115b TSO-C146c Class B |
| 3116-X2-X11X | UNS-1Lw FMS/MMMS | 1000, 1100 | TSO-C115b TSO-C146c Class B |
| 3017-XX-XX1X | UNS-1Ew FMS/MMMS | 1001.X, 1101.X, 1101.XM | TSO-C115c (Dev) TSO-C146c Class 3 (Dev) |
| 3019-XX-X01X | UNS-1Espw FMS/MMMS | 1001.X, 1101.X, 1101.XM | TSO-C115c (Dev) TSO-C146c Class 3 (Dev) |
| 3192-X0-X1110XX | UNS-1Fw FMS/MMMS | 1001.X, 1101.X, 1101.XM | TSO-C115c (Dev) TSO-C146c Class 3 (Dev) |
| 3116-X2-X11X | UNS-1Lw FMS/MMMS | 1001.X, 1101.X, 1101.XM | TSO-C115c (Dev) TSO-C146c Class 3 (Dev) |

c. Compliance to Paragraph 19b of AC 20-153A:

TABLE 3

| PART No. | DESCRIPTION | SCN | Approvals |
|-----------------|--------------------|------------------------------|---------------------------------|
| 1017-XX-XXX | UNS-1C FMS/MMMS | 601, 701 | TSO-C115b TSO-C129 A1/B1/C1 |
| 1017-XX-XXX | UNS-1C FMS/MMMS | 602, 603, 604, 702, 703, 704 | TSO-C115b TSO-C129a A1/B1/C1 |
| 1019-XX-XXX | UNS-1Csp FMS/MMMS | 601, 701 | TSO-C115b TSO-C129 B1/C2 |
| 1019-XX-XXX | UNS-1Csp FMS/MMMS | 602, 603, 604, 702, 703, 704 | TSO-C115b TSO-C129a A1/B1/C1 |
| 1116-XX-111X | UNS-1K FMS/MMMS | 601, 701 | TSO-C115b TSO-C129 A1/B1/C1 |
| 1116-XX-111X | UNS-1K FMS/MMMS | 602, 603, 604, 702, 703, 704 | TSO-C115b TSO-C129a A1/B1/C1 |
| 1190-XX-211X | UNS-1B+ FMS/MMMS | 601, 701 | TSO-C115b TSO-C129 A1/B1/C1 |
| 1190-XX-211X | UNS-1B+ FMS/MMMS | 602, 603, 604, 702, 703, 704 | TSO-C115b TSO-C129a A1/B1/C1 |
| 1192-X0-111X0X | UNS-1D FMS/MMMS | 601, 701 | TSO-C115b TSO-C129 A1/B1/C1 |
| 1192-X0-111X0X | UNS-1D FMS/MMMS | 602, 603, 604, 702, 703, 704 | TSO-C115b TSO-C129a A1/B1/C1 |
| 2017-XX-XXX | UNS-1E FMS/MMMS | 800, 801, 900, 901 | TSO-C115b TSO-C129a A1/B1/C1 |
| 2019-XX-XXX | UNS-1Esp FMS/MMMS | 800, 801, 900, 901 | TSO-C115b TSO-C129a A1/B1/C1 |
| 2116-XX-XXXX | UNS-1L FMS/MMMS | 800, 801, 900, 901 | TSO-C115b TSO-C129a A1/B1/C1 |
| 2192-XX-XXXXXX | UNS-1F FMS/MMMS | 800, 801, 900, 901 | TSO-C115b TSO-C129a A1/B1/C1 |
| 10172-XX-XXX | UNS-1C+ FMS/MMMS | 800, 801, 900, 901 | TSO-C115b TSO-C129a A1/B1/C1 |
| 10192-XX-XXX | UNS-1Csp+ FMS/MMMS | 800, 801, 900, 901 | TSO-C115b TSO-C129a A1/B1/C1 |
| 11162-XX-XXXX | UNS-1K+ FMS/MMMS | 800, 801, 900, 901 | TSO-C115b TSO-C129a A1/B1/C1 |
| 11922-XX-XXXXXX | UNS-1D+ FMS/MMMS | 800, 801, 900, 901 | TSO-C115b TSO-C129a A1/B1/C1 |