



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

Type 2 FAA Letter of Acceptance
LOA0003LA – Appendix A
FMS Navigation Databases



LOG OF REVISIONS

Rev: 00	Released: 16-Apr-2007	Author: Kenneth Lenger
	Initial release	

Rev: 01-60	Released: Various	Revised By: Various
	Refer to the original document for revision information	

Rev: 61	Released: 16-Jun-2022	Revised By: Wayne Fisch
Table 1:	Updated document SOP-ENG-DB-07.01 from Rev. 2 to 3 Added document EP0987D Updated document EP0994 from Rev. ZBR to ZBS Updated document EP1350 from Rev. ZBV to ZBW Updated document EP1852 from Rev. N to O	
Table 2:	Inserted Group 3 equipment from Table 3 Reformatted/expanded table to provide more specific data regarding part numbers, software, and associated TSO	
Table 3:	Removed Group 3 equipment Reformatted/expanded table to provide more specific data regarding part numbers, software, and associated TSO	

Rev: 62	Released: 1-Sep-2022	Revised By: Wayne Fisch
Table 1:	Updated EP0994ZBS to EP0994ZBT Added document EP1216D Updated document EP1350 from Rev. ZBW to ZBX Updated document EP1852 from Rev. O to P Updated document DQR-200004 from Rev. A to B	
Table 2:	Incorporated Group 4 equipment SCNs from Table 3	
Table 3:	Deleted in its entirety	

Rev: 63	Released: 19-Oct-2022	Revised By: Wayne Fisch
Table 1:	Updated document EP1350 from Rev. ZBX to ZBY	

Rev: 64	Released: 22-Nov-2022	Revised By: Wayne Fisch
Table 1:	Updated document DQR-200004 from Rev. B to C	

All changes incorporated in this revision are **highlighted**.

- 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. 03, 1-Nov-2021	<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>
EP0987D 15-Jun-2022	<i>Processing Requirements for Group 3 Navigation Databases</i>
EP0994ZBT 30-Aug-2022	<i>Parts List and Content Requirements for the FMS Navigation Databases</i>
EP1216D 30-Aug-2022	<i>Processing Requirements for Group 4 Navigation Databases</i>
EP1262Q 6-Aug-2021	<i>Configuration Plan for the FMS Navigation Databases</i>
EP1350ZBY 10-Oct-2022	<i>Data Processing Procedures for the FMS Navigation Databases</i>
EP1654T 6-Aug-2021	<i>Processing Requirements for the Group 5 FMS Navigation Databases</i>
EP1852P 30-Aug-2022	<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>
DQR-200001 Rev. A, 15-Jul-2020	<i>Data Quality Requirements for the AeroNavData Supplier Data for the Universal Avionics Systems Corporation FMS Navigation Databases</i>
DQR-200004 Rev. C, 3-Nov-2022	<i>Data Quality Requirements for the Lufthansa Systems Supplier Data for the Universal Avionics Systems Corporation FMS 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
1017-0X-XXX	UNS-1C FMS/MMMS	601	TSO-C115b TSO-C129 B1/C1
1017-0X-XXX	UNS-1C FMS/MMMS	602, 603, 604, 605	TSO-C115b TSO-C129a B1/C1
1017-3X-XXX	UNS-1C FMS/MMMS	700, 701	TSO-C115b TSO-C129 A1/B1/C1
1017-3X-XXX	UNS-1C FMS/MMMS	702, 703, 704, 705	TSO-C115b TSO-C129a A1/B1/C1
1017-4X-XXX	UNS-1C FMS/MMMS	600, 601	TSO-C115b TSO-C129 A1/B1/C1
1017-4X-XXX	UNS-1C FMS/MMMS	602, 603, 604, 605	TSO-C115b TSO-C129a A1/B1/C1
1017-5X-XXX	UNS-1C FMS/MMMS	701	TSO-C115b TSO-C129 B1/C1
1017-5X-XXX	UNS-1C FMS/MMMS	702, 703, 704, 705	TSO-C115b TSO-C129a B1/C1
1017-6X-XXX	UNS-1C FMS/MMMS	604	TSO-C115b TSO-C129a A1/B1/C1
1017-7X-XXX	UNS-1C FMS/MMMS	704	TSO-C115b TSO-C129a A1/B1/C1
1017-0X-XXX2	UNS-1C FMS/MMMS	600, 601	TSO-C115b TSO-C129 B1/C1
1017-3X-XXX2	UNS-1C FMS/MMMS	700, 701	TSO-C115b TSO-C129 A1/B1/C1
1017-4X-XXX2	UNS-1C FMS/MMMS	600, 601	TSO-C115b TSO-C129 A1/B1/C1
1017-5X-XXX2	UNS-1C FMS/MMMS	700, 701	TSO-C115b TSO-C129 B1/C1
10172-0X-XXX	UNS-1C+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a B1/C1
10172-3X-XXX	UNS-1C+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1
10172-4X-XXX	UNS-1C+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1
10172-5X-XXX	UNS-1C+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a B1/C1
10172-6X-XXX	UNS-1C+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1
10172-7X-XXX	UNS-1C+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1

Table 2

PART No.	DESCRIPTION	SCN	Approvals
1019-0X-XXX	UNS-1Csp FMS/MMMS	600, 601	TSO-C115b TSO-C129 B1/C2
1019-0X-XXX	UNS-1Csp FMS/MMMS	602, 603, 604	TSO-C115b TSO-C129a B1/C1
1019-3X-XXX	UNS-1Csp FMS/MMMS	700, 701	TSO-C115b TSO-C129a A1/B1/C1
1019-3X-XXX	UNS-1Csp FMS/MMMS	702, 703, 704, 705	TSO-C115b TSO-C129a A1/B1/C1
1019-4X-XXX	UNS-1Csp FMS/MMMS	600, 601	TSO-C115b TSO-C129 A1/B1/C1
1019-4X-XXX	UNS-1Csp FMS/MMMS	602, 603, 604, 605	TSO-C115b TSO-C129a A1/B1/C1
1019-5X-XXX	UNS-1Csp FMS/MMMS	700, 701	TSO-C115b TSO-C129 B1/C1
1019-5X-XXX	UNS-1Csp FMS/MMMS	702, 703, 704	TSO-C115b TSO-C129a B1/C1
1019-6X-XXX	UNS-1Csp FMS/MMMS	604	TSO-C115b TSO-C129a A1/B1/C1
1019-7X-XXX	UNS-1Csp FMS/MMMS	704	TSO-C115b TSO-C129a A1/B1/C1
10192-0X-XXX	UNS-1C/sp+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a B1/C1
10192-3X-XXX	UNS-1C/sp+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1
10192-4X-XXX	UNS-1C/sp+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1
10192-5X-XXX	UNS-1C/sp+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a B1/C1
10192-6X-XXX	UNS-1C/sp+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1
10192-7X-XXX	UNS-1C/sp+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1
1116-0X-111X	UNS-1K FMS/MMMS	602, 603, 604, 605	TSO-C115b TSO-C129a B1/C1
1116-3X-111X	UNS-1K FMS/MMMS	702, 703, 704, 705	TSO-C115b TSO-C129a A1/B1/C1
1116-4X-111X	UNS-1K FMS/MMMS	602, 603, 604, 605	TSO-C115b TSO-C129a A1/B1/C1
1116-5X-111X	UNS-1K FMS/MMMS	702, 703, 704, 705	TSO-C115b TSO-C129a B1/C1
1116-6X-111X	UNS-1K FMS/MMMS	604	TSO-C115b TSO-C129a A1/B1/C1
1116-7X-111X	UNS-1K FMS/MMMS	704	TSO-C115b TSO-C129a A1/B1/C1

Table 2

PART No.	DESCRIPTION	SCN	Approvals
11162-0X-XXXX	UNS-1K+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a B1/C1
11162-3X-XXXX	UNS-1K+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1
11162-4X-XXXX	UNS-1K+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1
11162-5X-XXXX	UNS-1K+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a B1/C1
11162-6X-XXXX	UNS-1K+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1
11162-7X-XXXX	UNS-1K+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1
1190-0X-211X	UNS-1B+ FMS/MMMS	600, 601	TSO-C115b TSO-C129 B1/C1
1190-0X-211X	UNS-1B+ FMS/MMMS	602, 603, 604	TSO-C115b TSO-C129a B1/C1
1190-3X-211X	UNS-1B+ FMS/MMMS	700, 701	TSO-C115b TSO-C129 B1/C1
1190-3X-211X	UNS-1B+ FMS/MMMS	702, 703, 704, 705	TSO-C115b TSO-C129a B1/C1
1192-00-11100X	UNS-1D FMS/MMMS	600, 601	TSO-C115b TSO-C129 B1/C1
1192-00-11100X	UNS-1D FMS/MMMS	602, 603, 604, 605	TSO-C115b TSO-C129a B1/C1
1192-00-11110X	UNS-1D FMS/MMMS	600, 601	TSO-C115b TSO-C129 A1/B1/C1
1192-00-11110X	UNS-1D FMS/MMMS	602, 603, 604, 605	TSO-C115b TSO-C129a A1/B1/C1
1192-00-11120X	UNS-1D FMS/MMMS	604	TSO-C115b TSO-C129a A1/B1/C1
1192-30-11100X	UNS-1D FMS/MMMS	700, 701	TSO-C115b TSO-C129 B1/C1
1192-30-11100X	UNS-1D FMS/MMMS	702, 703, 704	TSO-C115b TSO-C129a B1/C1
1192-30-11110X	UNS-1D FMS/MMMS	700, 701	TSO-C115b TSO-C129 A1/B1/C1
1192-30-11110X	UNS-1D FMS/MMMS	702, 703, 704, 705	TSO-C115b TSO-C129a A1/B1/C1
1192-30-11120X	UNS-1D FMS/MMMS	704	TSO-C115b TSO-C129a A1/B1/C1
11922-0X-XXX0XX	UNS-1D+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a B1/C1
11922-0X-XXX1XX	UNS-1D+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1

Table 2

PART No.	DESCRIPTION	SCN	Approvals
11922-0X-XXX2XX	UNS-1D+ FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1
11922-3X-XXX0XX	UNS-1D+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a B1/C1
11922-3X-XXX1XX	UNS-1D+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1
11922-3X-XXX2XX	UNS-1D+ FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1
2017-0X-XXX	UNS-1E FMS/MMMS	800, 801	TSO-C115b TSO-C129a B1/C1
2017-0X-XXX	UNS-1E FMS/MMMS	802, 803	TSO-C115b TSO-C129a A1/B1/C1
2017-3X-XXX	UNS-1E FMS/MMMS	900, 901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1
2017-4X-XXX	UNS-1E FMS/MMMS	800, 801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1
2017-5X-XXX	UNS-1E FMS/MMMS	900, 901, 902, 903	TSO-C115b TSO-C129a B1/C1
2019-0X-XXX	UNS-1Esp FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a B1/C1
2019-3X-XXX	UNS-1Esp FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1
2019-4X-XXX	UNS-1E/Esp FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1
2019-5X-XXX	UNS-1E/Esp FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a B1/C1
2019-7X-XXX	UNS-1E/Esp FMS/MMMS	902, 903	TSO-C115b TSO-C129a A1/B1/C1
2116-0X-XXXX	UNS-1L FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a B1/C1
2116-3X-XXXX	UNS-1L FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1
2116-4X-XXXX	UNS-1L FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1
2116-5X-XXXX	UNS-1L FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a B1/C1
2116-7X-XXXX	UNS-1L FMS/MMMS	902, 903	TSO-C115b TSO-C129a A1/B1/C1
2192-0X-XXX0XX	UNS-1F FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a B1/C1
2192-0X-XXX1XX	UNS-1F FMS/MMMS	801, 802, 803	TSO-C115b TSO-C129a A1/B1/C1
2192-3X-XXX0XX	UNS-1F FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a B1/C1

Table 2

PART No.	DESCRIPTION	SCN	Approvals
2192-3X-XXX1XX	UNS-1F FMS/MMMS	901, 902, 903	TSO-C115b TSO-C129a A1/B1/C1
3017-3X-XXX	UNS-1Ew MMMS	1100	TSO-C115b TSO-C146c Class B
3017-3X-XXX	UNS-1Ew MMMS	1101	TSO-C115c TSO-C146c Class B
3017-3X-XXX	UNS-1Ew MMMS	1102	TSO-C115c TSO-C146d Class B
3017-3X-XXXM	UNS-1Ew MMMS (ITAR)	1101M	TSO-C115c TSO-C146c Class B
3017-3X-XXXM	UNS-1Ew MMMS (ITAR)	1102M	TSO-C115c TSO-C146d Class B
3017-4X-XXX	UNS-1Ew FMS	1000	TSO-C115b TSO-C146c Class B
3017-4X-XXX	UNS-1Ew FMS	1001	TSO-C115c TSO-C146c Class B
3017-4X-XXX	UNS-1Ew FMS	1002	TSO-C115c TSO-C146d Class B
3019-3X-X0X	UNS-1Espw MMMS	1100	TSO-C115b TSO-C146c Class B
3019-3X-X0X	UNS-1Espw MMMS	1101	TSO-C115c TSO-C146c Class B
3019-3X-X0XM	UNS-1Espw MMMS (ITAR)	1101M	TSO-C115c TSO-C146c Class B
3019-3X-X0XM	UNS-1Espw MMMS (ITAR)	1102M	TSO-C115c TSO-C146d Class B
3019-4X-X0X	UNS-1Espw FMS	1000	TSO-C115b TSO-C146c Class B
3019-4X-X0X	UNS-1Espw FMS	1001	TSO-C115c TSO-C146c Class B
3019-4X-X0X	UNS-1Espw FMS	1002	TSO-C115c TSO-C146d Class B
3116-3X-111X	UNS-1Lw MMMS	1100	TSO-C115b TSO-C146c Class B
3116-3X-111X	UNS-1Lw MMMS	1101	TSO-C115c TSO-C146c Class B
3116-3X-111	UNS-1Lw MMMS	1102	TSO-C115c TSO-C146d Class B
3116-3X-X11XM	UNS-1Lw MMMS (ITAR)	1101M	TSO-C115c TSO-C146c Class B
3116-3X-X11XM	UNS-1Lw MMMS (ITAR)	1102M	TSO-C115c TSO-C146d Class B
3116-4X-111X	UNS-1Lw FMS	1000	TSO-C115b TSO-C146c Class B

Table 2

PART No.	DESCRIPTION	SCN	Approvals
3116-4X-XXX	UNS-1Lw FMS	1001	TSO-C115c TSO-C146c Class B
3116-4X-XXX	UNS-1Lw FMS	1002	TSO-C115c TSO-C146d Class B
3116-5X-1110	UNS-1Lw LP/LPV Monitor	1000	TSO-C115c TSO-C146b Class B
3116-5X-1110	UNS-1Lw LP/LPV Monitor	1101	TSO-C115c TSO-C146c Class B
3116-5X-1110	UNS-1Lw LP/LPV Monitor	1102	TSO-C115c TSO-C146d Class B
3192-0X-11110X	UNS-1Fw FMS	1000	TSO-C115b TSO-C146c Class B
3192-0X-X1110X	UNS-1Fw FMS	1001	TSO-C115c TSO-C146c Class B
3192-0X-X1110X	UNS-1Fw FMS	1002	TSO-C115c TSO-C146d Class B
3192-3X-X1110X	UNS-1Fw MMMS	1100	TSO-C115b TSO-C146c Class B
3192-3X-X1110X	UNS-1Fw MMMS	1101	TSO-C115c TSO-C146c Class B
3192-3X-X1110X	UNS-1Fw MMMS	1102	TSO-C115c TSO-C146d Class B
3192-3X-X1110XM	UNS-1Fw MMMS (ITAR)	1101M	TSO-C115c TSO-C146c Class B
3192-3X-X1110XM	UNS-1Fw MMMS (ITAR)	1102M	TSO-C115c TSO-C146d Class B