

United States of America
Department of Transportation - Federal Aviation Administration
Supplemental Type Certificate

Number ST02402NY-D

This certificate, issued to Delta Engineering
13 DRBA Way
New Castle County Airport
New Castle, Delaware 19720

certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 25 of the Federal Aviation Regulations.

Original Product — Type Certificate Number: A28NM
Make: Airbus
Model: A319 Series, A320 Series

Description of Type Design Change:

Configuration 1: Installation of Panasonic Avionics Corporation eFX In-Flight Entertainment System in accordance with Delta Engineering Master Data List 0164-06142-2165 Revision - dated Mar. 15, 2008 or later FAA approved revisions to Delta Engineering Master Data List previously listed. Instructions for Continued Airworthiness 0764-06151-2165 and Airplane Flight Manual Supplement 0664-06152-2165 as listed on the Master Data List are required with this installation.

Configuration 2: Installation of Panasonic Avionics Corporation eFX In-Flight Entertainment System in accordance with Delta Engineering Master Data List 0164-06179-2165 Revision E dated Dec. 2, 2008 or later FAA approved revisions to Delta Engineering Master Data List previously listed. Instructions for Continued Airworthiness 0764-06230-2165 and Airplane Flight Manual Supplement 0664-06152-2165 as listed on the Master Data List are required with this installation.

Configuration 4: Installation of Panasonic Avionics Corporation eFX In-Flight Entertainment System in accordance with Delta Engineering Master Data List 0164-06245-2165 Revision A dated Apr. 1, 2008 or later FAA approved revisions to Delta Engineering Master Data List previously listed. Instructions for Continued Airworthiness 0764-06151-2165 and Airplane Flight Manual Supplement 0664-06152-2165 as listed on the Master Data List are required with this installation.

(See Continuation Sheet 2)

Limitations and Conditions

(See Sheets 3 to 8)

This certificate and the supporting data which is the basis for approval shall remain in effect surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: December 11, 2007

Date reissued:

Date of issuance: March 16, 2008

Date amended:

March 28, 2008, April 1, 2008
July 27, 2008, October 11, 2008
October 13, 2008, December 7, 2008



By direction of the Administrator

Jonathan E. Moritz
DAS Administrator
Delta Engineering, DAS-800728-NE

(Signature)

(Title)

Any Alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

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Amendment Date: December 7, 2008

Description of Type Design Change (Continuation)

Configuration 5: Installation of Panasonic Avionics Corporation eFX In-Flight Entertainment System in accordance with Delta Engineering Master Data List 0164-06259-2165 Revision - dated Oct. 8, 2008 or later FAA approved revisions to Delta Engineering Master Data List previously listed. Instructions for Continued Airworthiness 0764-06151-2165 and Airplane Flight Manual Supplement 0664-06152-2165 as listed on the Master Data List are required with this installation.

Configuration 6: Installation of Panasonic Avionics Corporation eFX In-Flight Entertainment System in accordance with Delta Engineering Master Data List 0164-06267-2165 Revision A dated Oct. 11, 2008 or later FAA approved revisions to Delta Engineering Master Data List previously listed. Instructions for Continued Airworthiness 0764-06230-2165 and Airplane Flight Manual Supplement 0664-06152-2165 as listed on the Master Data List are required with this installation.

Configuration 9: Installation of Panasonic Avionics Corporation eFX In-Flight Entertainment System in accordance with Delta Engineering Master Data List 0164-06272-2165 Revision A dated Jul. 26, 2008 or later FAA approved revisions to Delta Engineering Master Data List previously listed. Instructions for Continued Airworthiness 0764-06230-2165 and Airplane Flight Manual Supplement 0664-06152-2165 as listed on the Master Data List are required with this installation.

(See Sheets 3 thru 8)

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Amendment Date: December 7, 2008

Limitations and Conditions (Configuration 1):

1. If the holder agrees to permit another person to use the certificate to alter the product, the holder shall give the other person written evidence of that permission.
2. Compatibility of this design change with previously approved modifications must be determined by the installer.
3. The Panasonic Avionics Corporation eFX In-Flight Entertainment System must interface with the following listed required existing components/systems, which must be installed in a manner acceptable to the FAA Administrator, The below listed required existing components/systems are not approved by this STC.

Required existing components/systems:

Component/System	Manufacture	Model	Additional Requirements
Cabin Configuration	Mexicana Airlines	-	LOPA as listed on Delta Engineering Master Data List 0164-06142-2165

4. This modification may not be installed after August 30, 2010 unless (1) previously approved electrical wiring interconnection system (EWIS) instructions for continued airworthiness (ICA) have been evaluated and determined to be adequate for this installation by the FAA, or (2) revised EWIS ICA have been approved by the FAA Oversight Office. (Refer to §26.11)

Certification Basis (Configuration 1):

Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for the Airbus A319 Series aircraft with this STC is as follows:

- a. The type certification basis for Airbus A319 Series airplanes is shown on TCDS A28NM for parts **not changed or not affected** by the change.
- b. The certification basis for parts **changed or affected** by the change since the reference date of application, Dec. 11, 2007 is based upon part 25 as amended by Amendment 25-122. Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for this modification was determined to be as shown on the TCDS A28NM except the regulations listed below:

Section	Title	At Amendment
§25.831	Ventilation	25-89
§25.853	Compartment interiors	25-116
§25.869	Fire protection: systems	25-113
§25.981	Fuel tank ignition prevention	25-102
§25.1307	Miscellaneous equipment	25-72
§25.1351	General	25-72
§25.1353	Electrical equipment and installations	25-113
§25.1423	Public address system	25-115
§25.1431	Electronic equipment	25-113
§25.1557	Miscellaneous markings and placards	25-72
§25.1581	General	25-72
§25.1583	Operating limitations	25-105
§25.1585	Operating procedures	25-105
§26.11	EWIS	26-0

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Limitations and Conditions (Configuration 2):

5. If the holder agrees to permit another person to use the certificate to alter the product, the holder shall give the other person written evidence of that permission.
6. Compatibility of this design change with previously approved modifications must be determined by the installer.
7. The Panasonic Avionics Corporation eFX In-Flight Entertainment System must interface with the following listed required existing components/systems, which must be installed in a manner acceptable to the FAA Administrator, The below listed required existing components/systems are not approved by this STC.

Required existing components/systems:

Component/System	Manufacture	Model	Additional Requirements
Cabin Configuration	Mexicana Airlines	-	LOPA as listed on Delta Engineering Master Data List 0164-06179-2165

8. This modification may not be installed after August 30, 2010 unless (1) previously approved electrical wiring interconnection system (EWIS) instructions for continued airworthiness (ICA) have been evaluated and determined to be adequate for this installation by the FAA, or (2) revised EWIS ICA have been approved by the FAA Oversight Office. (Refer to §26.11)

Certification Basis (Configuration 2):

Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for the Airbus A320 Series aircraft with this STC is as follows:

- a. The type certification basis for Airbus A320 Series airplanes is shown on TCDS A28NM for parts **not changed or not affected** by the change.
- b. The certification basis for parts **changed or affected** by the change since the reference date of application, Jan. 19, 2008 is based upon part 25 as amended by Amendment 25-122. Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for this modification was determined to be as shown on the TCDS A28NM except the regulations listed below:

Section	Title	At Amendment
§25.831	Ventilation	25-89
§25.853	Compartment interiors	25-116
§25.869	Fire protection: systems	25-113
§25.981	Fuel tank ignition prevention	25-102
§25.1307	Miscellaneous equipment	25-72
§25.1351	General	25-72
§25.1353	Electrical equipment and installations	25-113
§25.1423	Public address system	25-115
§25.1431	Electronic equipment	25-113
§25.1557	Miscellaneous markings and placards	25-72
§25.1581	General	25-72
§25.1583	Operating limitations	25-105
§25.1585	Operating procedures	25-105
§26.11	EWIS	26-0
§26.47	Aging Aircraft Safety Rule	26-1

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Limitations and Conditions (Configuration 4):

9. If the holder agrees to permit another person to use the certificate to alter the product, the holder shall give the other person written evidence of that permission.
10. Compatibility of this design change with previously approved modifications must be determined by the installer.
11. The Panasonic Avionics Corporation eFX In-Flight Entertainment System must interface with the following listed required existing components/systems, which must be installed in a manner acceptable to the FAA Administrator, The below listed required existing components/systems are not approved by this STC.

Required existing components/systems:

Component/System	Manufacture	Model	Additional Requirements
Cabin Configuration	Mexicana Airlines	-	LOPA as listed on Delta Engineering Master Data List 0164-06245-2165

12. This modification may not be installed after August 30, 2010 unless (1) previously approved electrical wiring interconnection system (EWIS) instructions for continued airworthiness (ICA) have been evaluated and determined to be adequate for this installation by the FAA, or (2) revised EWIS ICA have been approved by the FAA Oversight Office. (Refer to §26.11)

Certification Basis (Configuration 4):

Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for the Airbus A319 Series aircraft with this STC is as follows:

- a. The type certification basis for Airbus A319 Series airplanes is shown on TCDS A28NM for parts **not changed or not affected** by the change.
- b. The certification basis for parts **changed or affected** by the change since the reference date of application, Jan. 19, 2008 is based upon part 25 as amended by Amendment 25-122. Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for this modification was determined to be as shown on the TCDS A28NM except the regulations listed below:

Section	Title	At Amendment
§25.831	Ventilation	25-89
§25.853	Compartment interiors	25-116
§25.869	Fire protection: systems	25-113
§25.981	Fuel tank ignition prevention	25-102
§25.1307	Miscellaneous equipment	25-72
§25.1351	General	25-72
§25.1353	Electrical equipment and installations	25-113
§25.1423	Public address system	25-115
§25.1431	Electronic equipment	25-113
§25.1557	Miscellaneous markings and placards	25-72
§25.1581	General	25-72
§25.1583	Operating limitations	25-105
§25.1585	Operating procedures	25-105
§26.11	EWIS	26-0

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Limitations and Conditions (Configuration 5):

13. If the holder agrees to permit another person to use the certificate to alter the product, the holder shall give the other person written evidence of that permission.
14. Compatibility of this design change with previously approved modifications must be determined by the installer.
15. The Panasonic Avionics Corporation eFX In-Flight Entertainment System must interface with the following listed required existing components/systems, which must be installed in a manner acceptable to the FAA Administrator, The below listed required existing components/systems are not approved by this STC.

Required existing components/systems:

Component/System	Manufacture	Model	Additional Requirements
Cabin Configuration	Mexicana Airlines	-	LOPA as listed on Delta Engineering Master Data List 0164-06259-2165
Cabin Assignment Module Software	Mexicana Airlines	-	EO 19-23-046

16. This modification may not be installed after August 30, 2010 unless (1) previously approved electrical wiring interconnection system (EWIS) instructions for continued airworthiness (ICA) have been evaluated and determined to be adequate for this installation by the FAA, or (2) revised EWIS ICA have been approved by the FAA Oversight Office. (Refer to §26.11)

Certification Basis (Configuration 5):

Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for the Airbus A319 Series aircraft with this STC is as follows:

- a. The type certification basis for Airbus A319 Series airplanes is shown on TCDS A28NM for parts **not changed or not affected** by the change.
- b. The certification basis for parts **changed or affected** by the change since the reference date of application, Mar. 13, 2007 is based upon part 25 as amended by Amendment 25-122. Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for this modification was determined to be as shown on the TCDS A28NM except the regulations listed below:

Section	Title	At Amendment
§25.831	Ventilation	25-89
§25.853	Compartment interiors	25-116
§25.869	Fire protection: systems	25-113
§25.981	Fuel tank ignition prevention	25-102
§25.1307	Miscellaneous equipment	25-72
§25.1351	General	25-72
§25.1353	Electrical equipment and installations	25-113
§25.1423	Public address system	25-115
§25.1431	Electronic equipment	25-113
§25.1557	Miscellaneous markings and placards	25-72
§25.1581	General	25-72
§25.1583	Operating limitations	25-105
§25.1585	Operating procedures	25-105
§26.11	EWIS	26-0
§26.47	Aging Aircraft Safety Rule	26-1

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Limitations and Conditions (Configuration 9):

17. If the holder agrees to permit another person to use the certificate to alter the product, the holder shall give the other person written evidence of that permission.
18. Compatibility of this design change with previously approved modifications must be determined by the installer.
19. The Panasonic Avionics Corporation eFX In-Flight Entertainment System must interface with the following listed required existing components/systems, which must be installed in a manner acceptable to the FAA Administrator, The below listed required existing components/systems are not approved by this STC.

Required existing components/systems:

Component/System	Manufacture	Model	Additional Requirements
Cabin Configuration	Mexicana Airlines	-	LOPA as listed on Delta Engineering Master Data List 0164-06272-2165

20. This modification may not be installed after August 30, 2010 unless (1) previously approved electrical wiring interconnection system (EWIS) instructions for continued airworthiness (ICA) have been evaluated and determined to be adequate for this installation by the FAA, or (2) revised EWIS ICA have been approved by the FAA Oversight Office. (Refer to §26.11)

Certification Basis (Configuration 9):

Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for the Airbus A320 Series aircraft with this STC is as follows:

- a. The type certification basis for Airbus A320 Series airplanes is shown on TCDS A28NM for parts **not changed or not affected** by the change.
- b. The certification basis for parts **changed or affected** by the change since the reference date of application, Mar. 13, 2008 is based upon part 25 as amended by Amendment 25-122. Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for this modification was determined to be as shown on the TCDS A28NM except the regulations listed below:

Section	Title	At Amendment
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§25.853	Compartment interiors	25-116
§25.869	Fire protection: systems	25-113
§25.981	Fuel tank ignition prevention	25-102
§25.1307	Miscellaneous equipment	25-72
§25.1351	General	25-72
§25.1353	Electrical equipment and installations	25-113
§25.1423	Public address system	25-115
§25.1431	Electronic equipment	25-113
§25.1557	Miscellaneous markings and placards	25-72
§25.1581	General	25-72
§25.1583	Operating limitations	25-105
§25.1585	Operating procedures	25-105
§26.11	EWIS	26-0

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Limitations and Conditions (Configuration 6):

21. If the holder agrees to permit another person to use the certificate to alter the product, the holder shall give the other person written evidence of that permission.
22. Compatibility of this design change with previously approved modifications must be determined by the installer.
23. The Panasonic Avionics Corporation eFX In-Flight Entertainment System must interface with the following listed required existing components/systems, which must be installed in a manner acceptable to the FAA Administrator, The below listed required existing components/systems are not approved by this STC.

Required existing components/systems:

Component/System	Manufacture	Model	Additional Requirements
Cabin Configuration	Mexicana Airlines	-	LOPA as listed on Delta Engineering Master Data List 0164-06267-2165

24. This modification may not be installed after August 30, 2010 unless (1) previously approved electrical wiring interconnection system (EWIS) instructions for continued airworthiness (ICA) have been evaluated and determined to be adequate for this installation by the FAA, or (2) revised EWIS ICA have been approved by the FAA Oversight Office. (Refer to §26.11)

Certification Basis (Configuration 6):

Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for the Airbus A320 Series aircraft with this STC is as follows:

- a. The type certification basis for Airbus A320 Series airplanes is shown on TCDS A28NM for parts **not changed or not affected** by the change.
- b. The certification basis for parts **changed or affected** by the change since the reference date of application, Mar. 13, 2008 is based upon part 25 as amended by Amendment 25-122. Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for this modification was determined to be as shown on the TCDS A28NM except the regulations listed below:

Section	Title	At Amendment
§25.831	Ventilation	25-89
§25.853	Compartment interiors	25-116
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§25.981	Fuel tank ignition prevention	25-102
§25.1307	Miscellaneous equipment	25-72
§25.1351	General	25-72
§25.1353	Electrical equipment and installations	25-113
§25.1423	Public address system	25-115
§25.1431	Electronic equipment	25-113
§25.1557	Miscellaneous markings and placards	25-72
§25.1581	General	25-72
§25.1583	Operating limitations	25-105
§25.1585	Operating procedures	25-105
§26.11	EWIS	26-0
§26.47	Aging Aircraft Safety Rule	26-1

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