

# Publications and Training Solutions

## Course Syllabus: 523-0824953



**COURSE TITLE:** CabinConnect™ System (for Norwegian Air Shuttle).

### PREREQUISITES:

1. Students should have an avionics background, a working knowledge of aircraft avionic systems and troubleshooting techniques, plus a working command of the English language.

### PURPOSE:

1. Operate the CabinConnect™ In-Flight Entertainment (IFE) System.
2. Perform maintenance activities including software loading and content loading.
3. Perform system troubleshooting in order to diagnose faults and repair the system.

**OBJECTIVES:** Upon completing this course, the student should be able to:

1. Describe the purpose of the CabinConnect™ system of systems.
2. List the individual systems and their component parts.
3. Describe how the individual systems interface together (top level).
4. Identify and locate system components and describe the functions and operational characteristics of each Line Replaceable Unit (LRU).
5. Perform software loading and content loading on the systems.
6. Perform fault isolation and troubleshooting procedures.

**COURSE LENGTH:** 3 Days

### REFERENCES:

1. AWCS System Requirement Document (SRD) – (441-2087-569, Rev A).
2. JetWave™ SATCOM System Training Slides - (ATMA0170, Rev 0, Sept 2015).
3. Web page: <https://www.inmarsat.com/service/global-xpress/> - (Mar 2018).
4. Web page: <http://spacenews.com/inmarsat-undecided-on-how-it-will-use-the-satellite-spacex-is-launching-next-week/> - (Mar 2018).
5. Inmarsat Video: <https://www.youtube.com/watch?v=FcC6ionuLPM> (Mar 2018).
6. JetWave™ System, System Description and Installation Manual (Pub No. D201401000049, Rev 4).
7. AWCS Wireless System Description (WSD) – (441-2087-566, Rev B).
8. AWCS System Interface Unit (SIU) Product Description – (441-2064-660, Rev -).

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9. AWCS Cabin Wireless Access Point (CWAP) Product Description Document – (441-2067-660, Rev -).
10. Interconnect Diagram, B737 AWCS – (441-2087-201, Rev D).
11. Interconnect Diagram, B787 AWCS – (441-2087-200, Rev F).
12. B737 Max Connectivity Block Diagram (Rev Z).
13. B787 Max Connectivity Block Diagram (Rev Z1).
14. AWCS Boeing System Functional Test (SFT) – (441-2087-815, Rev B).
15. Norwegian Air Shuttle B737 Max and B787-9 CabinConnect™ System Aircraft Maintenance Manual (AMM) – (523-0824323, 1st Edition, Aug 24/18).

### **TRAINING DEVICE:**

Access to the CabinConnect™ lab is preferable, in order to perform practical training tasks.

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### COURSE OUTLINE

#### 0. CabinConnect™ Course Introduction

- A. Training Overview
  - 1. Welcome
  - 2. Student Registration
  - 3. Student Policies and Procedures
  - 4. Course Content
  - 5. Customer Support Details

#### 1. CabinConnect™ System of Systems Overview

- A. Purpose of CabinConnect™
- B. CabinConnect™ Individual Systems:
  - 1. Advanced Wireless Cabin System (AWCS)
  - 2. JetWave™
- C. Inmarsat Global Xpress (GX)
- D. System Interfacing and Operation (Top Level)

#### 2. Inmarsat Global Xpress (GX)

- A. GX System Purpose
- B. System Segments:
  - 1. Aircraft Earth Station
  - 2. I-5 Satellites
  - 3. Satellite Access Stations
- C. GX System Basic Operation
- D. Inmarsat I-5 Satellite Characteristics
- E. Global Satellite Coverage
- F. Satellite Spot Beams and Steerable Beams
- G. Satellite Access Stations

#### 3. The Honeywell JetWave™ System

- A. JetWave™ System Purpose
- B. Antenna Safety
- C. Line Replaceable Unit (LRU) Locations:
  - 1. Boeing 737
  - 2. Boeing 787
- D. LRU Purpose and Functions:
  - 1. Modem Manager (MODMAN)
  - 2. Aircraft Personality Module (APM)

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3. Ka Aircraft Network Data Unit (KANDU)
4. Ka Radio Frequency Unit (KRFU)
5. Fuselage Mounted Antenna (FMA)
6. Maintenance Port

#### 4. The Rockwell Collins Advanced Wireless Cabin System (AWCS)

- A. AWCS System Purpose
- B. Passenger Graphical User Interface (GUI)
- C. Wi-Fi Connections
- D. Line Replaceable Unit (LRU) Locations:
  1. Boeing 737
  2. Boeing 787
- E. LRU Purpose and Functions:
  1. System Interface Unit (SIU)
  2. Cabin Wireless Access Points (CWAPs)
  3. Medial Load Panel (MLP)
  4. Remote Antenna Unit (RAU)

#### 5. System Power Up and Operation

- A. Boeing 737 Power Supplies
- B. Boeing 787 Power Supplies
- C. JetWave™ Power-up, Operational Modes and BITE Indications
- D. AWCS Power-up
- E. AWCS System Operation and BITE Indications
- F. JetWave™ System Operation
- G. Wiring Diagrams

#### 6. Maintenance Activities

- A. AWCS BITE Checks and Indications
- B. Accessing the CabinConnect™ GUI
- C. AWCS Content Loading
- D. AWCS LRU Software Loading
- E. AWCS Configuration Database Loading
- F. AWCS Reset Procedure
- G. JetWave™ BITE Checks and Indications
- H. Accessing the JetWave™ GUI
- I. JetWave™ Software Loading
- J. JetWave™ Reset Procedure
- K. Scheduled and Unscheduled Maintenance Tasks

#### 7. System Troubleshooting

- A. BITE Checks
- B. CabinConnect™ GUI Header Bar

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- C. Short-Term Troubleshooting
  - 1. CabinConnect™ GUI Troubleshooting Pages
    - a. Fault Summary Page
    - b. Cabin WAP Page
    - c. SATCOM Page
    - d. Operational Information Page
    - e. Keyline Status Page
    - f. Configuration Load Page
- D. In-Depth-Term Troubleshooting
  - 1. CabinConnect™ GUI Troubleshooting Pages
    - a. Flight Data Page
    - b. Offload Data Page
    - c. Interactive Test page
  - 2. JetWave™ GUI Troubleshooting
    - a. Status Info
    - b. AES Summary and Link Status
    - c. Configuration Files
    - d. Log Files
- E. CabinConnect™ Repair Policy

### 8. Review

- A. Course Review
- B. End Of Course Assessment
- C. Course Critique

### EQUIPMENT TYPE:

EQUIPMENT	NOMENCLATURE	PART NUMBER
SIU	System Interface Unit	441-2064-100
CWAP	Cabin Wireless Access Point	441-2067-100
APM	GXA Aircraft Personality Module	90401121
Modman	GXA Modem Manager Unit	90400012-0002
KANDU	GXA Ka-Band Aircraft Networking Data Unit	90404518
KRFU	GXA Ka-Band Radio Frequency Unit	90401203
FMA	GXA Fuselage Mounted Antenna	90000380-1