Training Catalog 2024

THEORY AND HANDS-ON TRAINING
IN AVIONICS

Develop your skills on our
Avionics products and systems

Collins Aerospace
An **RTX** Business

TRAINING CONTENT

GENERAL COURSES

AVIONICS SUITES

SYSTEM COURSES

AVIONICS SPECIFICATIONS

EQUIPMENT COURSES

INFORMATION

TRAINING CENTER

Collins Aerospace has had a presence in France since 1959 and is based in Blagnac, close to Toulouse, to benefit from the local growth of the aerospace industry in this area.

Our highly qualified engineers and technicians are working on Airbus projects as well as the development, integration and maintenance of military and commercial solutions for other aircraft manufacturers, airlines, ministries of defense, integrators and other companies in France, in Europe and worldwide. Our key capabilities are: avionics for military transport aircraft, helicopters and UAV systems; commercial avionics; and data.

We rely on a flexible structure, advanced methodologies and an inside line on cutting-edge technologies.

Collins Aerospace is ISO 9001 certified.

For over 20 years, we have maintained a team of instructors entirely devoted to serving you.

This training center is part of the Services Business Unit, whose mission is to provide after-sales service on equipment manufactured by Avionics, including those manufactured in France.

Our instructors are supported by a whole team of highly qualified technicians and engineers. The success of our training center grows out of this close cooperation, for what we have to offer is not just the skills of individual instructors, but the industrial expertise of an entire company.

The training department constitutes an entry point into our company and showcases our technical capabilities.

Through general courses, our know-how – recognized by cutting-edge businesses the world over – is made available to all areas of activity requiring a high level of technological skills: Aeronautics, electronics, radio communication, GPS, radio navigation, radio direction finding, automatic testing, communications networks, computer hardware repair, strategic communications, data transmission, automatic HF connectivity.

Please feel free to contact our training department directly:

COLLINS AEROSPACE
6 avenue Didier Daurat BP 20008
31701 Blagnac Cedex
Phone: +33 5 34 61 87 04
email: trainingfrance@collins.com

U.S.A
Collins Aerospace Avionics Learning Center 400 Collins Road NE
Cedar Rapids, Iowa 52498 U.S.A
Phone: +1 319 295 4672
Fax: +1 319 295 1542
https://portal.rockwellcollins.com/web/publications-and-training/training
email: trainingregistrar@collins.com

PRESENTATION OF COURSES

GENERAL COURSES

Basic Principles in avionics is especially designed for people wishing to be sensitized in the aeronautical field, while Avionics Architecture is adapted for technical staff to acquire the concepts necessary to progress in the aeronautical field.

Radio Navigation, Radio Communication and Airborne Systems courses provide an opportunity for technical staff to boost their theoretical training quickly with solid fundamentals and through the experience of industry professionals.

These courses are also appropriate for more experienced technicians who wish to keep up with the latest developments in modern avionics.

More specific training courses, such as TCAS and SATCOM are designed for specialists.

AVIONICS SUITES & SYSTEM COURSES

Based on Collins Aerospace equipment, these courses provide you with a comprehensive study of the architecture and maintenance of avionics systems.

Pro Line II, Pro Line 4™, Pro Line 21™, Pro Line Fusion®, ACARS, TCAS, SATCOM, HF ALE, Data Link System AIRBUS Environment, Automatic Dependent Surveillance (ADS-B).

EQUIPMENT COURSES

These courses let you study specifics of our products in detail.

These courses are designed for technicians familiar with the principles of radio communication, radio navigation and troubleshooting microprocessor cards.

Courses can be provided at:

> ➢ LRU level (Line Replaceable Unit)
>
> ➢ SRU level (Shop Replaceable Unit)
>
> ➢ Component level
>
> ➢ « On-Job Training »

Note: all courses can take place at the customer location and can be customized as required.

BASIC PRINCIPLES IN AVIONICS

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
April 29-30, 2024	2 days	1 510 €	6 970 €
November 19-20, 2024	2 days	1 510 €	6 970 €

OBJECTIVES

➤ Present architecture of radio communication and radio navigation equipment available to the pilot.
➤ This course is open to personnel in contact with the aeronautics sector wishing to learn some avionics. Established electronics knowledge is not necessarily a prerequisite.

PROGRAM

The Pilot and their Aircraft
o All the necessary pilot functions to proceed with a safe flight
o Presentation of an airplane cockpit, the automatic pilot function, flight data display

➤ Radio communication: Why and with whom?
o Communications with Air Traffic Control (while in flight or during long range navigation)

➤ How is navigation accomplished?
o Short range (beacon, radar, management of aircraft in flight)
o Long range (GPS, gyro references)

Photo courtesy of Airbus

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AVIONICS ARCHITECTURE

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
April 15-19, 2024	5 days	3 770 €	17 370 €
September 23-27, 2024	5 days	3 770 €	17 370 €

OBJECTIVE

➢ In complement to the general courses, this training based on the avionics of an air transport aircraft presents the pilots' needs: to fly the plane, to navigate, to communicate. The utilization of the avionics (radio communication, radio navigation, and flight control) will be studied.

PROGRAM

➢ What does the pilot need to maneuver their plane?

➢ Parameters followed by the pilot for the control of their plane
  o Commands of flight
  o 3 axis (pitch, yaw, roll)
  o The speed and the attitude of the plane
  o The Air Data Computer and Inertial Reference System, Gyro, Ring Laser Gyro, IRS, AHRS

➢ The automatic navigation
  o Auto Pilot/Flight Director
  o Control of the flight plan
  o The cautions and warnings
  o Display of information to the pilot
  o FMS/FMC, MCDU, FCU
  o ACARS, FWC, CMS
  o EFIS, MFD, PFD, HSI, ADI, DMC

➢ General principles of radio navigation sensors
  o To navigate: radio sensors
  o To locate the aircraft on a map: FMS, VOR, ADF, GPS, MMR, DME
  o To land: MLS, GPS, MMR, ILS
  o For security: Radio altimeter, TAWS, TCAS Weather radar, Data recorder (FDRS)

➢ To communicate
  o The radio communication system
  o The voice: VHF, HF, SATCOM
  o The data: ACARS, ATC transponder, SATCOM, FSA (SIU/NSU/TWLU) HFDL HFDR, VHFDL/VDR, DMU

➢ The future
  o Free Flight,
  o CNS/ATM, FANS, WAAS, LAAS
  o ADS-B, GNSS/GLS/LDGPS

HELICOPTER ARCHITECTURE

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
October 14-18, 2024	5 days	3 770 €	17 370 €

OBJECTIVE

➢ Complementary to the general courses, this training based on the avionics of a helicopter presents the pilots' requirements: to fly, to navigate, to communicate. The use of the avionics (radio communication, radio navigation, and flight control) will be studied.

PROGRAM

➢ How should the pilot manage to operate their helicopter:

➢ Parameters controlled by the pilot to fly their aircraft
  o Flight control
  o 4 axis (pitch, yaw, roll, collective pitch, cyclic pitch)
  o The speed and the altitude of the aircraft
  o The Air Data computer and Inertial reference system
  o Gyro, Laser Gyro Ring, IRS, AHRS

➢ The automatic guidance
  o Auto Pilot Flight Director
  o Flight plan Control, flight and parameters
  o Display of information to the pilot
  o EFIS, MFD, PFD, HSI, ADI, DMC

➢ General principles of radio navigation sensors
  o To navigate: radio sensors
  o To locate the aircrafts on a map: FMS, VOR, ADF, GPS, DME
  o To land: GPS, ILS
  o For the security: Radio altimeter, TCAS, Weather radar Windshear

➢ To communicate: the radio communication systems
  o The voice: VHF, HF
  o The data: ACARS, ATC transponder, HFDL/HFDR, VHFDL/VDR

➢ The future
  o Free Flight
  o CPDLC, CNS/ATM, FANS, WAAS, LAAS
 o ADS-B, GNSS/GLS/LDG

FMS, TAWS, TCAS

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	3 days	2 270 €	10 400 €

OBJECTIVES

➢ This training provides fundamental knowledge on FMS, TAWS and TCAS systems.

➢ Overview of each system functions and typical architecture.

➢ Overview of each system use by pilots

PROGRAM

➢ FMS
  o Theory (1.5 day) with the objective to operate the system, to study the functionalities of the system and provide basic elements on how the pilot should manage the flight
  o Participants with be guided on the procedure of loading the databases, pre-flight operation, flight plan creation, tuning, and performances menu
  o Practice will be conducted using Collins Aerospace FMS desktop simulator (½ day)

➢ TAWS
  o Acquire general knowledge of TAWS basics. Familiarize trainees with aircraft operation and maintenance.
  o Glossary, historical, norms and classes, database, priority alerts
  o Reactive and predictive functions; optional functions, specific functions
  o Displays and aural warning, typical architecture
  o Self-Test and maintenance

➢ TCAS/ACAS
  o Acquire general knowledge of TCAS basics. Familiarize trainees with aircraft operation and maintenance
  o Selective Interrogation, Whisper Shout, TAU criteria, area surveyed, sensitivity, Datalink capabilities
  o Operation and displays aural warning
  o Typical Architecture
  o Self-Test and maintenance
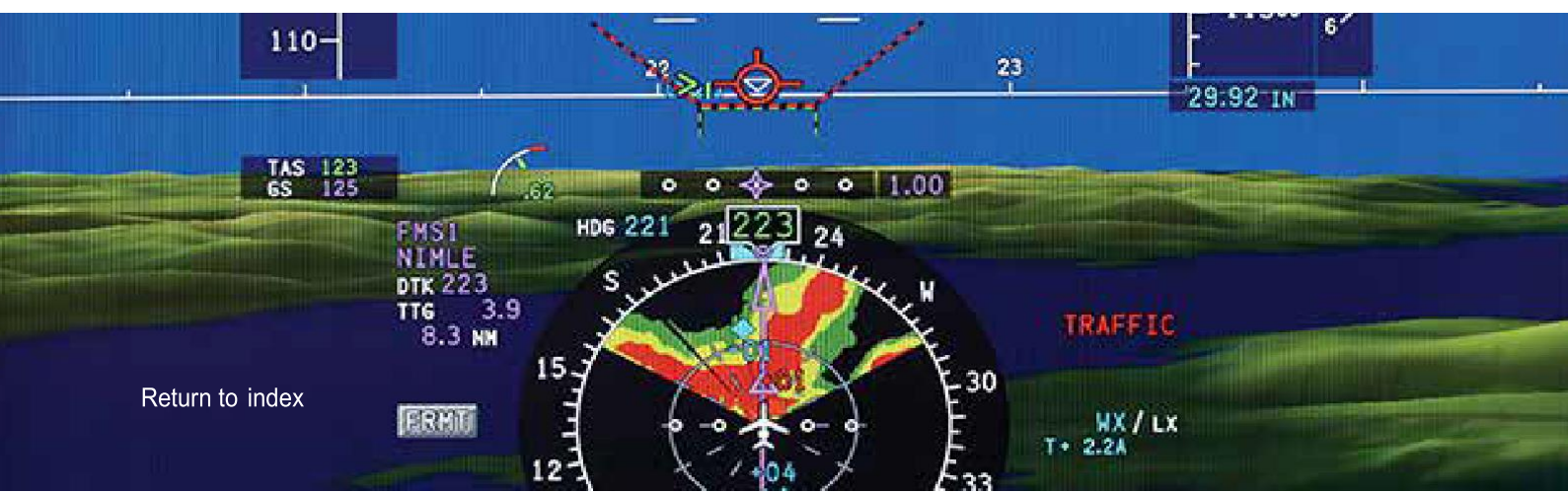
RADIO COMMUNICATION: AIRBORNE LEVEL

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
May 21-23, 2024	3 days	2 270 €	10 400 €
September 3-5, 2024	3 days	2 270 €	10 400 €

OBJECTIVE

➢ Acquire knowledge on radio communication principles used on aeronautic platforms. Acquire knowledge of HF, VHF and SATCOM systems operation with technical overview of transmit and receive principles and basics on troubleshooting and test procedures.

PROGRAM

➢ Generalities: Needs and operational use, the radio link

➢ Electromagnetic wave and propagation
   o What is an OEM, electromagnetic radiation
   o Spectrum and frequencies in use
   o Propagation modes
   o Interaction and effects on propagation

➢ Radio Link
   o Analog modulation (AM, FM, SSB, …)
   o Numerical modulation (QAM, PSK, …)
   o Software Defined Radio overview (SDR)
   o Network overview (ACARS, CPDLC)
   o Radio link efficiency, gain and loss, noises cosite

➢ Overview of typical radiocommunication system (schematic diagram, specification, operational modes, test)
   o Receiver, (selectivity, sensitivity, distortion, …)
   o Transmitter (power, range, efficiency, constraints, …)
   o RF power line (coaxial, feeder line,)
   o Antenna (impedance, gain, directivity, range, shape, loss, SWR)
   o Coupler (function and utility)
   o Control Panel
   o Connectors, Ground plane, User interfaces
   o Test and troubleshooting basis

➢ Optional practice
   o Laboratory practice at RCF repair center on equipment
   o Aircraft practice at customer facility according to availability and assistance

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RADIO COMMUNICATION: SHOP LEVEL

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
April 22-26, 2024	5 days	3 770 €	17 370 €

OBJECTIVES

- ➢ Acquire knowledge of various radio communications devices (HF, VHF, UHF).
- ➢ Acquire familiarity with technical and technological aspects of transmission-reception.
- ➢ This training is dedicated to repair shop technicians familiar with electronics.

PROGRAM

- ➢ Review of HF, VHF and UHF radio waves
- ➢ Review of different modulating signals : AM, FM, USB, LSB
- ➢ Description of the various technical characteristics of transceivers (sensitivity, selectivity, distortion)
- ➢ Review of how the different types of VHF (AM / FM) and UHF transceivers work
- ➢ Review of how the three parts of an HF transceiver (AME, SSB) work
  - o Exciter
  - o Power amplifier
  - o Coupler
- ➢ Technologies related to transceivers
  - o Phase locked loop (PLL)
  - o Frequency synthesizer
  - o Automatic gain control (AGC)
  - o Automatic frequency control (AFC)
  - o Modulator, demodulator (FM, synchronous)
- ➢ Practice making primary measurements on Collins Aerospace equipment

RADIO NAVIGATION

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
April 2-5, 2024	4 days	3 020 €	13 940 €
September 10-13, 2024	4 days	3 020 €	13 940 €

OBJECTIVES

➢ Give trainees an overview of the principles of radio navigational aids used in aeronautics.
➢ Provide detailed information on these aids by presenting fundamentals, characteristics and performance levels achieved.
➢ Present corresponding equipment.

PROGRAM

➢ Review of the fundamentals of radio navigation equipment
   o Principle in Localization: Radial, terrestrial References, Track, Waypoint, Route
   o VFR/IFR rules
   o Precision, Availability, Integrity
   o Area-Rnav, Primary means navigation

➢ Conventional radionavigation means principles of operation
   o Description of the systems ADF VOR, ILS, DME, MLS, MMR

➢ Example of Symbology displayed on the cockpit.

➢ Principle of Satellites Navigation System
   o GNSS, SBAS/GBAS augmented position accuracy generalities

➢ Performance Based Navigation

➢ Generalities RNAV, RNP, RNP Containment

➢ FMS

➢ Navigation in TMA
   o STAR and SID
   o Approach Type: Non-Precision, APV, Precision

PRO LINE II

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	5 days	3 770 €	17 370 €

OBJECTIVES

- ➤ Discover specificities of the PRO LINE II series
- ➤ Acquire general knowledge of equipment
- ➤ Learn to interpret test failure codes correctly

PROGRAM

- ➤ Review of CSDB communication protocol
- ➤ Functional survey of the following equipment
  - o VHF-22/CTL-22
  - o VIR-32/CTL-32
  - o DME-42/IND-42
  - o ADF-60/CAD-62/CTL-62
  - o TDR-90/CTL-92
  - o ALT-55/DRI-55/ALI-55
  - o Theory of operation
  - o Specifications
  - o Interconnection and installation options
  - o Self-test

- ➤ Demonstration of new computer assisted maintenance and troubleshooting techniques

- ➤ Introduction to PRO LINE II series 400 equipment that uses ARINC-429

PRO LINE 4™

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	5 days	3 770 €	17 370 €

OBJECTIVE

➢ Introduce trainees to the new "Integrated Digital Avionics" concept, PRO LINE IV, installed on CRJ, SAAB, F-2000 aircrafts.

PROGRAM

➢ Introduction to PRO LINE IV

➢ Primary Flight Display (PFD)
   o Presentation of attitude , altitude, air speed and navigation parameters

➢ Multi-Function Display (MFD)
   o Turbulence detection radar
   o TCAS display
   o Diagnostics

➢ Engine Indication and Crew Alerting System (EICAS)
   o Engine parameters
   o Presentation of the hydraulic circuit

➢ The Integrated Avionics Processing System (IAPS).

This course will be based on Falcon 2000 and Regional Jet avionics.
This course maybe done at customer facility in order to tailor practice and theory to customer's aircraft.

PRO LINE 21™

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
June 03-07, 2024	5 days	3 770 €	17 370 €

OBJECTIVES

➢ This course provides flight crews with operational training and flight line technician with level I maintenance for Pro Line 21 system.

➢ Introduce trainees to the new "Integrated Digital Avionics" concept PRO LINE 21, installed on Bombardier Challenger 300, Hawker 800XP, Raytheon PFP-3, Cessna CJ1/CJ2, Beechcraft King Air

PROGRAM

➢ Data Bus

➢ Integrated Avionics Processing System (IAPS)

➢ Electronic Flight Instrument System EFIS)
  o AFD, RSP, CCP

➢ Engine Indicating and Crew Alerting System (EICAS)
  o MFD, CCP, DCU, RDC

➢ Air Data System (ADS)

➢ Attitude Heading System (AHS)

➢ Attitude Heading Computer (AHC)
  o External Compensation Unit (ECU)

➢ Flight Guidance System (FGS)
  o FCC, FCP, SVO, Servo Linear Actuator
  o Autopilot and yaw damper

➢ Flight Management System (FMS)
  o FMC, CDU, DBU

➢ Flight Management
  o Data Base
  o Operations

➢ Radio Sensor System (RSS)
  o RIU, ACP and CPE, Radio Tuning Operation
  o VHF, VOR/ILS/MB/ADF, DME, HF, HF Antenna
  o Coupler, RA, Mode S transponder, TCAS

➢ General Maintenance, Procedures for Comm/Nav/ Pulse Equipment

➢ Weather Radar (WXR)
  o Microwave Radiation Hazards
  o AC 20-68B
  o Weather radar theory
  o Receiver Transmitter Assembly
  o (RTA-8XX)

➢ Lightning Detection System, TAWS

➢ Maintenance diagnostics computer (MDC)

This training can be - upon request - based on a specific aircraft version (call us).

PRO LINE FUSION® EDS (KA-350, CL-604, CJ3)
(EMBEDDED DISPLAY SYSTEM)

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
June 17-21, 2024	5 days	3 770 €	17 370 €
October 07-11, 2024	5 days	3 770 €	17 370 €

OBJECTIVE

➢ This course provides flight line technicians with level I maintenance for Collins Pro Line Fusion integrated avionics system, new concept touch-control primary flight displays installed on **King Air 350, Challenger 604, Citation CJ3.**

PROGRAM

➢ **A. Training Core System: Displays**
- o Displays: AFD-3710 architecture, MKP, CCP
- o Multiwindows concept and format
  Touch screen menu's organization, Main symbology,
- o On Board Maintenance

➢ Training Core System: System Sensors
- o Acquire familiarity with Attitude Heading System AHC-3000 and Air Data System, ADC-3010

➢ Training Core System: Flight Control system
- o Acquire familiarity on APS-3000 architecture: Servo's, FGP
- o IAPS: IOC, IEC, FGC
- o FGC Operation: Vertical guidance, Lateral Guidance, Auto trim

➢ Training Core System: FMS Familiarization
- o The FMS course covers the architecture of an FMSA-6000 system and the generation of flight plans

➢ Training Core System: Aircraft interface
- o PM, EICAS, Applications Software (EICAS-6000) Data Concentrator Unit

➢ Training Core System: Onboard Maintenance System Application (OMS)
- o Built in test, fault log download

➢ Training Core System: Data Loading (ODLA)
- o Loading Aircraft Files and DataBase
- o Loading Configuration Tables and configuration management.

➢ **B. Training Surveillance: Software organization (ATF-3510)**
- o Synthetic Vision System (SVS) and ITAWS
- o Advanced Terrain

➢ Training Surveillance: Weather Radar (WXR)
- o MultiScan™ Weather Radar
- o Principle of MultiScan and Operation

➢ **C. Training CNS: Communication**
- o VHF-4000
- o RIU-4000 Acars Router
- o HF-9000
- o SATCOM Inmarsat, SATCOM Iridium

➢ **D. Training CNS: Navigation Sensors**
- o Acquire familiarity with technical aspects of Pro Line 21 Nav radio's.
- o Nav-4000/4500: VOR/LOC/GS , MKR, ADF
- o DME-4000
- o ALT-4000
- o GPS-4000S

PRO LINE FUSION® IPS (A220, G-5000, G-6000)
(INTEGRATED PROCESSING SYSTEM)

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	5 days	3 770 €	17 370 €

OBJECTIVES

➢ This course provides flight line technicians with level I maintenance for Collins Aerospace Pro Line Fusion.

➢ Introduce trainees to the new "Integrated Digital Avionics" concept Pro Line Fusion installed on Bombardier Global 5000/6000.

PROGRAM

➢ Display et Display Control System (D and DCS)
  o AFD, CTP, CCP, MKP, RSP

➢ Integrated Processing System (IPS)
  o IPC-6210, IPC-6220, Installed application Software

➢ Data Concentration System (DCS)
  o DMC, APM, EICAS, Installed application Software

➢ Data Loading
  o IMS, Aircraft data loads and Configuration Management

➢ Onboard Maintenance System (OMS)
  o Onboard diagnostics, Aircraft Condition Monitoring and Diagnostics download

➢ Enhanced Vision System (EVS)
  o EVS Infrared Sensor Unit, EVS Infrared
  o Window, AIT

➢ Synthetic Vision System (SVS)
  o SVS Modules, Installed application software

➢ Air Data System (ADS)

➢ Attitude Heading System (AHS)
  o Attitude Heading Computer (AHC)
  o External Compensation Unit (ECU)

➢ Integrated Flight Information System (IFIS)
  o Applications: File Server, Electronic Charts, Enhanced
  o Map, Graphical Weather

➢ Automatic Flight Control System (AFCS)
  o FCS Application, FCP, SERVOS, FD
  o Autopilot and yaw damper

➢ Flight Management System (FMS)
  o Flight Management Data Base Operations

➢ Communications System (COMM)
  o Digital Audio System, Radio Management, VHF-4000, HF-9000

➢ Navigation System (NAV)
  o NAV-4000, DME-4000, GPS-4000 ALT-4000

➢ Traffic and Surveillance System (TSS) and TAWS
  o TSS-4100 and the application TSSA-4100

➢ Terrain Awareness Warning System (TAWS)
  o CCM-6210 and TPM-6000

➢ Weather Radar (WXR)
  o MultiScan™ Weather Radar Receiver Transmitter Assembly
  o Weather Radar Fundamentals and MultiScan™ Theory
  o Operation

ACARS DATA LINK SYSTEM

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
November 05-06, 2024	2 days	1 510 €	6 970 €

OBJECTIVES

➢ Provide the fundamental knowledge in datalink communication.

➢ Overview of system operation through Control Display Unit type CDU 6100 examples.

PROGRAM

The course presents the principle of Ground to Air link establishment and the data message exchange via VHF, HF et SATCOM media. Using simulation software representing a real Control Display Unit CDU 6000 the different menus will be studied.

➢ Contents
  o What is Datalink in aeronautical
  o Datalink communication chain

➢ ACARS and Low Speed VHF Datalink
  o VDL mode 1, Protocol Characteristics
  o VDL mode 2, Protocol Characteristics
  o ACARS Over AVLC (AOA)
  o HFDL System Description

➢ SATCOM: the AMSS system
  o Constellation and Operations

➢ Datalink General Components
  o Airline ground processing systems
  o Datalink Service Providers (DSP)
  o Datalink airborne systems

➢ Basic Datalink Applications
  o OOOI (out-off-on-in), Weather
  o Free text telex, Maintenance

➢ Airline Operations Communication (AOC)
  o Flight initialization
  o Weather information
  o FMS position reports
  o Flight plan
  o Diversion Report

➢ Airline Maintenance
  o Automatically sent reports
  o Aircraft performance monitoring
  o Engine condition monitoring
  o Manually sent reports

➢ ATC
  o Departure Clearance
  o Oceanic Clearance

➢ Configuration
  o Aircraft System configuration
  o Peripherical
  o Discrete input

AUTOMATIC DEPENDENT SURVEILLANCE (ADS-B)

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
May 14-15, 2024	2 days	1 510 €	6 970 €
October 01-02, 2024	2 days	1 510 €	6 970 €

OBJECTIVE

➢ This course provides engineering and maintenance personnel with training to understand TCAS and transponder major installation points needed for ADS-B certification.

➢ This course also provides overview of Transponder and ACAS operation and maintenance review.

PROGRAM

➢ Introduction: airspace surveillance goals and means.

➢ XPDR Theory
  o System Architecture
  o Mode A, C and S functions
  o Mode S uplink downlink
  o Elementary Enhanced surveillance
  o Squitters

➢ TCAS/ACAS
  o History
  o Principle (Tau, range, altitude, bearing, TA, RA)
  o Displays
  o Architecture
  o Modification 7.1
  o Antenna performance

➢ ADS-B
  o Overview
  o Mandatory/regulation information
  o OUT functions
  o IN functions
  o Architecture overview
  o Strapping required (TCAS/XPDR)
  o Required labels: Non GNSS and GNSS data
  o Ground Flight testing requirements
  o - BDS 0,5 0,6 0,8 0,9 6,1 6,2 6,5
  o Non transponder aircraft system test

➢ Test of transponder and TCAS/ACAS
  o Self-Test/Built-In Test Equipment
  o LRU Front Panel Self-Test Button
  o BITE Testing using Control Head
  o ADS-B failure annunciations
  o Recommended maintenance data update for ADS-B (labels 35X)

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ALE AND HF-CPS^{TM} AUTOMATIC LINK ESTABLISHMENT CONFIGURATION USING HF-CPS^{TM} SOFTWARE*

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	5 days	3 770 €	17 370 €

OBJECTIVES

This course will present the basics of long-distance HF Radio Communication, the training enables students to efficiently use the HF Communication Planning System (HF-CPS) software tool to create Master and Operational databases to include frequencies, Self-Addresses, Net Addresses, Channels, and Scan Lists.

Upon completing this course, the student will be able to:

➢ Demonstrate knowledge of ALE databases by creating correct complete Master and Operational databases.
➢ Demonstrate knowledge of database configuration and system parameters.
➢ Output a datafill file and load it into the radio.

PROGRAM

➢ General HF: HF Propagation
  o Principles of radio propagation, HF/SSB modulation
  o Comparison and benefit of HF against amplitude modulation
  o Propagation prediction software PropMan 2000™
  o Introduction
  o Example of frequencies determination

➢ Basic Automatic Link Establishment (ALE)
  o Theory – the need for Automatic Link Establishment HF-CPS HF Administrator Role (Frequency Management and Network Administration)
  o Configuration parameters and System parameters
  o Other addresses, Self-addresses
  o Scan Lists, Net addresses, Channels, Groups
  o Messages, Scanning, Sounding
  o Link Quality Analysis (LQA)

➢ Network Designer's Guide
  o Steps to successful network design
  o Identifying the stations and networks
  o Propagation and frequency selection/assignment
  o Net calls and slot times
  o Assigning ALE addresses
  o Building datafill files

➢ Building the Master and Operational Databases
  o Database structure, content and security
  o Frequencies and frequency designators
  o Addresses, parameters,
  o Customization – radios, reports, forms, parameters, users
  o Outputting the datafill file, loading the radio
  o Operating in ALE

Course subject to Export Licence

CABIN ENTERTAINMENT: VENUE™ (HD-CMS)

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	2 days	1 510 €	6 970 €

OBJECTIVES

➢ Maintenance personnel will be provided with in-depth knowledge and skills to efficiently and effectively troubleshoot VENUE (HD Cabin Management System).

➢ Upon completing this course, the student should be able to efficiently and effectively troubleshoot the VENUE system using TST diagnostic Software and system manuals.

PROGRAM

➢ Introduction
  o Cabin control and entertainment

➢ System overview
  o System operation
  o Aircraft layout
  o MCD, HDAV, PSW, Aux and switch panels, PPC, monitors
  o Communication devices, sources devices, RS-232

➢ System diagnostic
  o Performing a continuity check using TST
  o Performing a system check using TST
  o Maintenance laptop setup

OPTIONS

➢ Practice on customer aircraft (one extra day)

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DATA LINK SYSTEM ON AIRBUS ENVIRONMENT

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
June 25-26, 2024	2 days	1 510 €	6 970 €

OBJECTIVES

➢ The purpose of this training is to provide Airbus aircraft operators with basics on datalink systems and operations.

➢ The course is based on the use of datalink for communication and surveillance in airspace management (CNS/ATM concept) applied to AIRBUS configuration.

PROGRAM

The course presents the principle of Ground to Air link establishment and the data message exchange via VHF, HF and SATCOM media.

➢ Contents
  o What is Datalink in aeronautical
  o Datalink communication chain

➢ ACARS and Low Speed VHF Datalink
  o ACARS: extension to ATC, limitations
  o VDL modes: POA , AOA, VDLM2
  o Airborne components functional description VHF data radio

➢ SATCOM: the AMSS system
  o Constellation and Operations

➢ HFDL System Description
  o Principle of HF link and HF data Radio

➢ Datalink General Components
  o Airline ground processing systems, Datalink Service Providers (DSP),
  o Data Link airborne systems

➢ Typical Datalink Applications
  o OOOI (out-off-on-in), Weather, Maintenance

➢ Airline Operations Communication (AOC)
  o Flight initialization, FMS position reports, Flight plan

➢ Airline Maintenance
  o Automatically sent reports, Aircraft performance monitoring, Engine condition monitoring

➢ ATC applications
  o Departure Clearance, Oceanic Clearance, D-ATIS
  o FMS Waypoint Position Reporting (FMS WPR) Configuration

➢ Aircraft System
  o Peripheral
  o Discrete input

➢ ATSU environment
  o Databases definition
  o ATSU initialization and database loading
  o Datalink applications softwares (ATSU, FMS, CMS, DMU)
  o ATSU Hosted AOC software

➢ ATN Concept, Applications, programs and operations
  o ATN specifications
  o Context Management CM, ADS-B, CPLDC (messages, annunciation)
 o ACR environment overview

HF-9000 SYSTEM

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
November 26-28, 2024	3 days	2 270 €	10 400 €

OBJECTIVE

➢ Acquire general knowledge of theory of operation for the HF-9000 system

PROGRAM

➢ Introduction of optical fibers

➢ Optical fiber connector installation

➢ Radio frequency basic

➢ Specification HF-9000

➢ HF-9000 Block diagram study including:
  o Control box HF-9010
  o Transmitter-Receiver HF-9030/9070
  o Coupler HF-9040/9042

➢ HF-9000 Interconnection

➢ HF-9000 operations using a dedicated bench
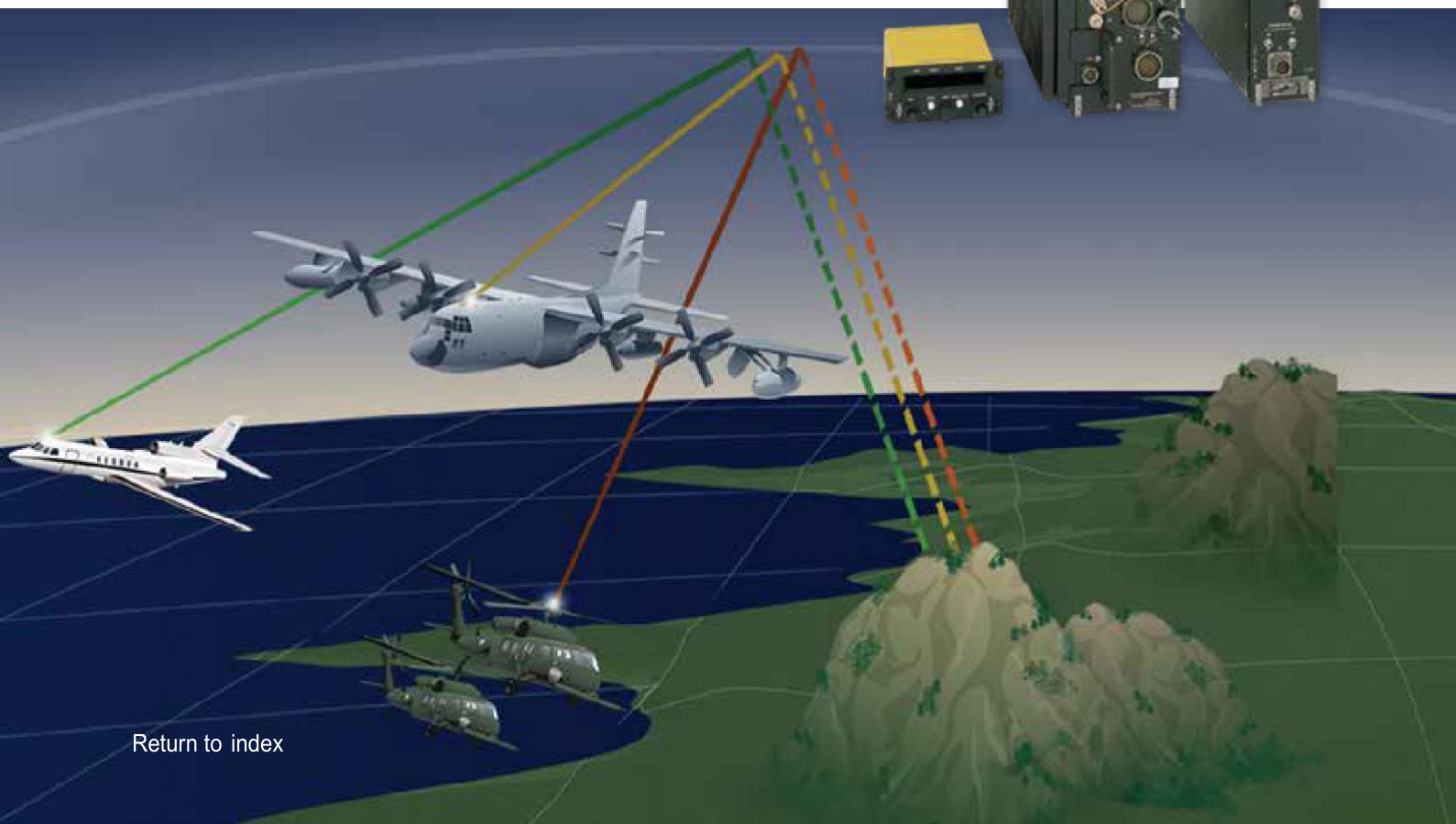
900 SERIES

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	5 days	3 770 €	17 370 €

OBJECTIVES

➢ Familiarize trainees with the basics of radio equipment used on air transport planes

➢ Present technical characteristics of Collins Aerospace equipment built to the specifications of ARINC-900

PROGRAM

➢ Review of the basics of radio navigation equipment (ADF-900, VOR-900, ILS-900, DME-900, Transponder TPR-900/901, Radio-altimeter LRA-900, MMR GLU-920) and radio communication equipment VDL (VHF-900), HFDL (HFS-900/900D)

➢ Running equipment demonstrations of Collins Aerospace equipment on the test bench

➢ Presentation of the ARINC-900 communication format and the CFDS (Centralized Fault Display System) philosophy

➢ Interpretation of the built-in self test (BIT)

SATCOM SATELLITE COMMUNICATION SYSTEM

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	3 days	2 270 €	10 400 €

OBJECTIVE

➢ This course provides students with the skills and background knowledge required for troubleshooting and isolating defective components in the Collins Aerospace SATCOM system SAT-906/B and SAT-2100/B, using tools, applicable manuals, block diagrams and maintenance guides.

PROGRAM

➢ Introduction SATCOM System Familiarization
- o Historical background
- o Identify SATCOM System Segments (space, ground, airborne)
- o Identify services (Aero L, I, H, H+, Swift64, SBB, safety)
- o Identify AES components
- o (SDU, RFU, HPA, SRT, HST, antenna)
- o Identify associated components (BSU, LNA, HPR, splitter, combiner)

➢ SATCOM operation with MCDU

➢ Main menu, Directory Display, Number Entry, GES Select
- o Priority, BITE Status, Directory Index
- o SDU log and HSDU log menu

➢ SATCOM maintenance with MCDU
- o BITE pages
- o LRU indication
- o Fault history
- o Maintenance mode
- o Test launching

➢ SATCOM maintenance on aircraft with SATCOM Tool
- o Owner Table Requirement (ORT)
- o Event Handler
- o Instrumentation Port

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TCAS AND MODE S, COLLISION AVOIDANCE SYSTEM

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
June 10-14, 2024	5 days	3 770 €	17 370 €

OBJECTIVES

➤ Acquire general knowledge of TCAS and Mode S transponder basics.
➤ Familiarize trainees with the Collins TCAS and with aircraft maintenance procedures.

PROGRAM

➤ Review of TCAS and Mode S transponder basics
  o Selective interrogation, Whisper-Shout sequence
  o TAU criteria, surveillance zone, level of sensitivity
  o Data link (Uplink, Downlink Formats)

➤ Operation, controls, instructions

➤ Description of the system mode S transponder, the TCAS, the antenna, the control box
  o Interconnection, input/output, cross-strapping
  o Basics of the TCAS directional antenna

➤ System tests
  o Self-test, BITE
  o Presentation of test facilities in lab
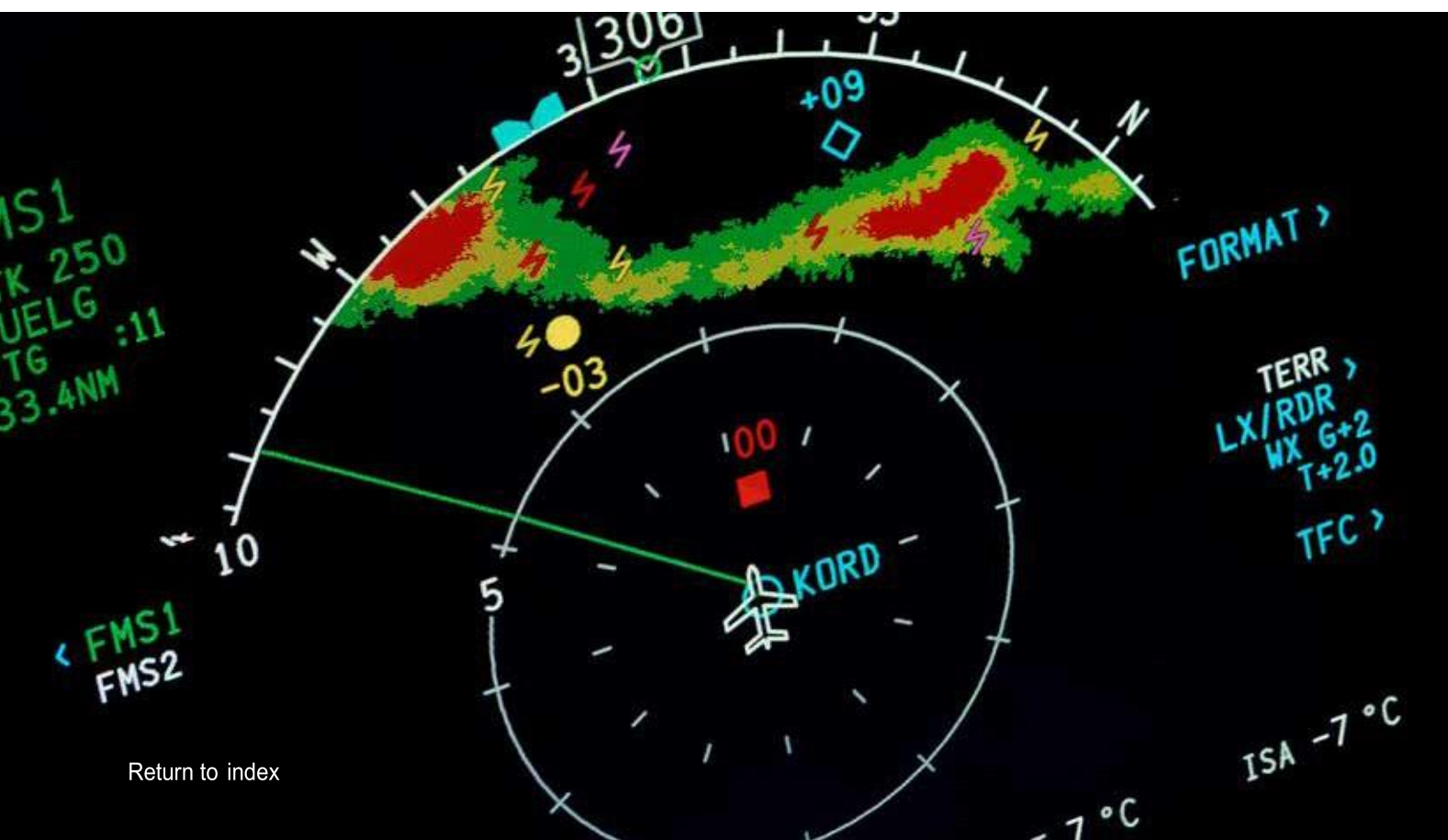
DO-178C

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	3 days	2 270 €	10 400 €

OBJECTIVES

- ➢ The course is addressed to engineering personnel working on software applications in the context of embedded avionics systems certification.

- ➢ The objective is to acquire general knowledge of DO-178C, understand its concepts and learn how to use it.

- ➢ For already DO-178B aware trainees, familiarize with evolutions since DO-178B.

PROGRAM

- ➢ Introduction
  - o Regulatory context
  - o Introduction to Safety
  - o General principles and DO-178C usage
  - o Influence of software levels on process application effort
  - o Influence of architecture choices and specific software cases

- ➢ Overview of software life cycle processes
  - o Process planning, software plans
  - o Development of requirements, design, code
  - o Verification of data and implementation
  - o Configuration management
  - o Quality Assurance
  - o Certification Liaison

- ➢ Focus on development and verification activities
  - o Development: specification, derived requirements, architecture, design, code, integration, PDI, OCA
  - o Verification: top-down/bottom-up approach, RBT, RBTCA, WCET, independence

- ➢ Changes since DO-178B

- ➢ Presentation of complementary document
  - o DO-330: Software tool qualification
  - o DO-248C: Supporting information for DO-178C and DO-278A
  - o DO-278A: DO-178 for the ground (CNS/ATM)

- ➢ Introduction to DO-178C supplements
  - o DO-331: Model-Based Development and Verification
  - o DO-332: Object-Oriented Technology and Related Techniques
  - o DO-333: Formal Methods

DO-254

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	2 days	1 510 €	6 970 €

OBJECTIVES

➢ The course is addressed to any personnel (Designer, Quality, Certification, Project or Program Manager) involved in the development of any LRU embedding electronic hardware (electronic board, FPGA, CPLD, ASIC, COTS).

➢ Acquire general knowledge of DO-254, understand its concepts and learn how to use it.

➢ Provide practical recommendations to comply with the DO-254/ED-80 requirements, addressing both EASA and FAA expectations and differences.

PROGRAM

➢ Introduction and Background
  o Introduction to the Certification Process
  o Regulation Organization
  o Certification Basis
  o Introduction to Safety including DAL allocation
  o Processes Key Aspects

➢ DO-254/ED-80 Layout
  o History to DO-254/ED-80
  o DO-254/ED-80 Scope vs Certification
  o How to handle the DO-254/ED-80
  o DO-254/ED-80 Organization
  o Comparison of DO-254 & DO-178
  o DO-254 Design Overview

➢ Development Planning
  o Objectives
  o Content
  o Hardware Standards

➢ DO-254 recommendations by process
  o Requirements Captures & Validation
  o Implementation Verification
  o Configuration Management
  o Process Assurance
  o Certification Liaison

➢ Design
  o Conceptual & Detailed Design
  o Implementation
  o Production Transition
  o Output of Design Activities

➢ Special Topics
  o Advanced Verification
  o Tool Assessment & Qualification
  o Previously Developed Hardware
  o Complex COTS
  o Intellectual Property
  o Multi-Core Processor
  o Single Event Effect

ARP-4754A

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	2 days	1 510 €	6 970 €

OBJECTIVES

➢ The course is addressed to any personnel (Designer, Quality, Certification, Project or Program Manager) involved in the development of aeronautical systems.

➢ Acquire general knowledge of ARP-4754A, understand its concepts and learn how to use it all along the Aircraft/System life cycle development.

➢ Provide practical recommendations to comply with the ARP-4754A/ED-79A requirements.

➢ Introduction to the future ARP-4754B/ED-79B.

PROGRAM

➢ Introduction and Background
  o Introduction to the Certification Process
  o Regulation Organization
  o Certification Basis
  o Introduction to Safety including DAL allocation
  o Processes Key Aspects

➢ ARP-4754A/ED-79A Layout
  o Objectives of the ARP-4754A/ED-79A
  o How to handle the ARP-4754A/ED-79A (bingo chart)
  o Certification data to produce (plans, data, safety…)

➢ Development Planning
  o Planning phase description
  o Why plans are necessary and how to manage them

➢ ARP4754 requirements by process
  o Requirements Capture: types of requirements (Safety, Functional, certification, derived…), requirements management

  o Requirements Validation: objectives, correctness and completeness aspects, methods, assumptions management
  o Implementation Verification: objectives, methods, means, planning and strategy definition, detailed verification activities, requirements Validation vs Verification
  o Configuration Management: identification, baselines establishment, change control, archiving,
  o Process Assurance: objectives, activities, evidences

➢ Certification Coordination
  o Certification data
  o Certification liaison process
  o How to prepare and manage certification reviews, Authority involvement
  o How to manage modifications

➢ Special Topics
  o Supplier Monitoring Activities
  o Sub-Tier Suppliers' Activities

AERONAUTICS CERTIFICATION

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	2 days	1 510 €	6 970 €

OBJECTIVES

> The course is addressed to personnel interested in certification process overview.

> Acquire general knowledge of ARP-4754A, DO-254, DO-178C and DO-160 processes, understand their concepts and learn how to use it all along the product life cycle development.

PROGRAM

> Certification Introduction Session
>   o Introduction to the Certification strategy
>   o EASA and FAA differences

> Certification Process Session
>   o Certification Process
>   o DOA introduction
>   o PMA

> Development Processes General Approach Session
>   o Failures and Errors
>   o General Approach of the guidelines
>   o Processes: key aspects
>   o How to handle those guidelines

> Safety Introduction Session
>   o Safety Process
>   o Development Assurance Levels

> Planning Session
> Planning Documents

Requirements Management Session
  o Requirements Capture
  o Derived Requirements
  o Requirement Validation

> Design & Implementation Verification Session
>   o Information Flow
>   o Implementation Verification Process

> Configuration Management Session
>   o Configuration Management Functions
>   o Problem Report
>   o Data Control Categories

> Process Assurance Session

> Compliance Session
>   o Finding Compliance
>   o SOI Job Aid

> Environmental qualification process overview (DO-160)

COLLINS AEROSPACE EQUIPMENT COURSES

OBJECTIVES

➢ Training personnel in charge of equipment maintenance and troubleshooting.

➢ The purpose of this theoretical and practical training is to familiarize participants with the functional string of the equipment's circuits.

➢ During training, the operator will be able to perform maintenance, repair and troubleshooting tasks based on hands-on example.

➢ After completing training, trainees should be able to carry out equipment performance evaluation procedures. In the context of hands-on sessions, in case of failure, the trainees should be able to apply a logical technical approach leading to diagnosing and correcting the problem by replacing the appropriate component.

PROGRAM

➢ Review of equipment basics
➢ Presentation of the system
➢ Characteristics and performance levels
➢ General operation
➢ Interconnection
➢ Comprehensive study of the equipment (diagrams, flowcharts)

EQUIPMENT COVERED

➢ Any equipment (old or new generation) upon customer request
➢ See summary board of unscheduled courses already available, ()

DATES/ DURATION

➢ Upon request/to be defined with customers
   o Control box
   o Interpreting failure codes
   o Test bench performance check
   o Settings and adjustments

ADATE

DATES	DURATION	PRICE PER PERSON	PRICE PER GROUP
Upon request	5 days	3 770 €	17 370 €

OBJECTIVES

➢ Acquire general knowledge of ADATE software syntax in order to be able to measure and use some statements to help the troubleshooting of a unit under test.

➢ The technician will be able to copy, modify and use in memory part of the program test in order to do some specific tests and measurements to help the detection of a faulty component.

➢ This knowledge will be used on RFT-900, RFT-1000, CTS-2000 and ITS-700 ADATE test software.

PROGRAM

➢ Theory: 2 days
   o ADATE menus
   o Use of functions keys
   o Use of a test program and block
   o Files needed for a complete test program (.BLK/.PRO/.CBT/…)
   o Program structure explanation
   o Statements explanation (variables, arithmetic operation, Boolean functions,)
   o Example of test software with explanation of each statement

➢ Practical part: 3 days
   o ADATE software interface practice
   o Writing of a small software with use of statements learned (display of text, of operation result, logical functions use, …)
   o Modification of a test software (add loops, stops, pauses,), to help the troubleshooting of an equipment under test

➢ The practical part is done on computers with all the bench interfaces (simulation mode for all resources).

CUSTOMIZED TRAINING

We place particular importance on providing customers with training adapted to expressed needs: thus, you have the assurance of our technical skills but also a guarantee of success founded on the cooperative effort that goes into defining course content.

From this perspective, our first concern is to pinpoint your expectations and constraints so that we may offer you training that is closely suited to the needs of trainees.

Collins Aerospace in France organizes training in French, English or Spanish, at our facilities or at customer premises. How long training lasts is a function of the level required the trainees' professional background and the amount of hand-on training desired. We also offer ON-JOB TRAINING that is entirely hands on ().

We have defined three levels of maintenance training courses:

- ➢ Level I (A to D)
- ➢ Level II (A to G)
- ➢ Level III (only for Collins Aerospace agreed repair shops, may be subject to intellectual property extra cost)

A. Basics/System Description
B. Specifications/Interface
C. Utilization
D. Bite/Failure Code Analysis
E. Analysis of Block Diagrams
F. Acceptance Testing
G. Primary Adjustments
H. Comprehensive study of electronic diagrams
I. Component-level troubleshooting
J. Complete adjustment procedure

We propose, then, a training plan that takes into account the number of persons to be trained and the deadline for completing training.

COLLINS AEROSPACE LEVEL DEFINITION

➢   Level I = ATA-104 levels I, II, and III

This is a Flight Line Maintenance level to LRU replacement, sometimes called Organizational level (OLM).

Also applicable to pilot training RC level I is familiarization and FLM flight line maintenance with training to troubleshooting and removing failed LRU using onboard Maintenance Diagnostic data.

The training course will train the student to isolate a failure to a Line Replaceable Unit (LRU) and remove and replace the LRU and perform testing procedures using BIT and/or special/standard test equipment as described in the equipment's instruction book.

➢   Level II = ATA-104 Level IV

This is an Intermediate level to card replacement (ILM).

The training course will train the student to isolate a failure to a defective Shop Replaceable Unit (SRU), remove and replace the SRU, and perform testing procedures using BIT and/or special/ standard test equipment as described in the equipment's instruction book.

This is bench training to remove a single LRU, repair by replacing the card.

➢   Level III = ATA-104 Level V

This is a Depot level to component replacement (DLM).

This is bench training to repair LRU by replacing a component on a card, assemble and test for return to service.

The training course will train the students to recognize and isolate malfunctions to the defective component, remove and replace the defective component and perform equipment alignment and testing procedures using BIT and/or special/standard test equipment as described in the equipment instruction manual.

FLIGHT LINE MAINTENANCE

DATES / DURATION

To be defined according to the equipment that is the subject of training and according to customer requirements.

OBJECTIVES

➢ Training personnel in charge of ground maintenance of Collins Aerospace equipment

➢ This course can be adapted to train personnel on a specific aircraft equipment type

➢ In this course, operators will learn about operating procedures, how the equipment works and how to interpret the built-in self-test (BITE) and maintenance operations to be performed

PROGRAM

➢ Review of equipment basics

➢ Presentation of the system

➢ General operation

➢ Operating procedures

➢ Interpreting failure codes

➢ Preventive and corrective maintenance

HANDS-ON LAB TRAINING (ON-JOB TRAINING)

DATES / DURATION

To be defined according to the equipment that is the subject of training and according to customer requirements.

OBJECTIVES

- ➢ Training personnel in charge of equipment maintenance and troubleshooting

- ➢ During training, the operator will be able to perform maintenance, repair and troubleshooting tasks based on hands-on examples

- ➢ In the context of this hands-on training, trainees should be able to apply a logical technical approach leading to diagnosing and correcting the problem by replacing the appropriate component

PROGRAM

- ➢ Presentation of the system

- ➢ Equipment characteristics and performance levels

- ➢ Test bench performance check

- ➢ Test run on test stand

- ➢ Removal and reinstallation

- ➢ Settings and adjustments

- ➢ Troubleshooting

NOTES:

- ➢ This course can be given at our facilities or at your premise

- ➢ See summary board of unscheduled courses already available,

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EQUIPMENT TRAINING CAPABILITY LIST

RADIO NAVIGATION

ADF
51Y-7/A/B/C/D
ADF-60A/B/462
ADF-4000
ADF-700/900
DF-206NFC (NRAN-28) *
DF-206A (AN/ARN-149) *
DME/TACAN
DME-40/42/442
DME-4000
DME-700/900/2100
TCN-118 (AN/ARN-118) *
TCN-500 (AN/ARN-153) *
VOR ILS MARKER
ILS-700/720/900
NAV-4000/4500
VIR-30/31/32/33/432/433
VIR-4000
VOR-700/900
GLU/GNLU-9X0/925/2100
VIR-130A (AN/ARN-147) *
RADIO ALTIMETER
860F-2/4/5
ALT-50A/55B
ALT-1000/4000
LRA-700/900/2100
DF/SAR/CSAR
DF-301/DF-430
MDF-124F
RSC-125G* / DF-500
TCAS ATC
ISS-2100
TDR-94/94D
TPR-900/901
TPR-710A /720
TTR-920/921
TTR-2100/4000/4100
GPS
GPS-4000A/S
GLU-9XX – GNLU-9XX
GLU-2100

RADIO COMMUNICATION

HF
CPL-920D
490S-1/490TX
628B/T
HF-121 (AN/ARC-230*)
HFS-900/900D/2200
HF-90XX
HF-9000D *
HF-9500 *
VHF
618M-3/4/5
VHF-20/21/22/422
VHF-2100/2200
VHF-4000
VHF-700/700A/700B
VHF-900/900B/920
RT-1000 (AN/ARC-186) *
V/UHF
AN/ARC-182 *
AN/ARC-210 *
TALON (RT-8XXX)*
MODEM/DATALINK
MDM-2002/2202/2402*
COMM INTERFACE UNIT
CIU-906
CIU-6000
DLM-7XX/900

AVIONICS SYSTEM

AIR DATA
ADC-80X
ADC-8X
ADC-850
ADC-30X0
ADS-65/65C
ATTITUDE HEADING SYSTEM
AHC-3000
AHC-4000
DISPLAYS
AFD-2000/21X0/3010/33X0
AFD-5220/6510/6520
EFD-74
EFD-84/85/86/871
EFD-4076/4077
MFD-255X
MFD-2810*
MFD-85/871
ETC-4XXX (EDU & MPU)*
TCP-2100
DCP-85X/2810X/2100
DCP-30X0/400X
CCP-2810/3X00/4000/5X00/6XX0
MKP-2100/3500/6000
AUTO PILOT/FMS/FCS
APS-65/80/85 (APA & APC)
FCC-730/850/40XX
IAPS Pro Line IV/ 21/Fusion
WEATHER RADAR
WRT-2100
WRT-701X
CABIN ENTERTAINMENT
AIRSHOW 4000/4200
VENUE FCMS HD
OTHER
AFDX-3800

*****Subject to U.S. and French
export regulation**

REGISTRATION FORM

To be returned by mail or email at:

Collins Aerospace, France – Training Center
6 avenue Didier Daurat 31701 Blagnac, France

Email: trainingfrance@collins.com
Phone: +33 5 34 61 87 04
Fax: +33 5 61 71 78 87

COURSE REGISTRATION AND AUTHORIZATION REQUEST FOR TRAINING

Customer: First and last name_____

Job Title_____

Company Name_____

Company Address_____

Street or PO Box_____

_____

City_____State_____Country_____

Phone_____

e-mail_____

| Course Title |
| Date |
| Signature |

Language   ☐ French   ☐ English

Trainee's list

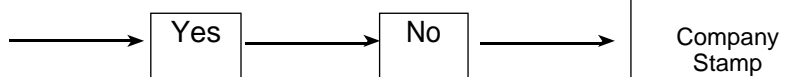| Last Name, First Name	Job Title	Date and Place of birth	Passport Number	Nationality

Your purchase order number_____

Invoice address _____

VAT number _____

Total cost_____Euros

Convention:
N° 73.31.00170.31   → Yes → No → Company Stamp   Date _____

PRICE

Training duration per day	Price per person	Group rate
5 days	3 770 €	17 370 €
4 days	3 020 €	13 940 €
3 days	2 270 €	10 400 €
2 days	1 510 €	6 970 €
1 day	760 €	3 480 €

CONDITIONS: COMPANY GROUP RATE

A five-person minimum is required to apply the group rate and is limited to 10 person maximum.

CONDITIONS: PRICES PER PERSON

Training course is confirmed with a minimum of four attendees, all companies included.

Prices are applicable only at Collins Aerospace France Training Center.

These courses can be delivered in French or English at our facilities or customer premises with associated material supplied in English or French where applicable.

o Any training cost referenced "upon request" is not subject to stated pricing
o For training at customer premises, Collins Aerospace will quote accordingly

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GENERAL TERMS AND CONDITIONS

All scheduled courses are governed by a bilateral occupational training agreement.

Our registration number is 73 31 00170 31. Training is carried out in French or in English language at our Blagnac facility, located at the following address:

Collins Aerospace
6 Avenue Didier Daurat
31701 BLAGNAC

Collins Aerospace does not handle trainees' additional expenses (food, lodging, transportation).

Lunch is included in the training rate.

In case of cancellation, the customer shall pay to Collins Aerospace a lump sum for compensation described as follows:

Date of cancellation's notice	Amount compensation courses' sell price
Less than 7 days	100%
From 7 to 14 days	50%
From 15 to 30 days	30%

Collins Aerospace reserves the right to cancel training if there are fewer than four participants registered.

Registration for any one of our courses implies acceptance of all terms and conditions.

PRACTICAL INFORMATION

Course schedule: 9am to 12am - 1:30pm to 4:30pm

ACCOMMODATION

Upon request, training department secretary can book hotel reservations in participant's name.

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To learn more, go to
collinsaerospace.com

COLLINS AEROSPACE

+33 5 34 61 87 04
trainingfrance@collins.com
collinsaerospace.com

Collins Aerospace
An **RTX** Business