

CPDLC & ACARS Mandates

European Mandate

By 5th February 2020 all aircraft operating at or above FL285 must be equipped with a compliant system to meet the Eurocontrol Link 2000+ mandate.

Controller – Pilot Data Link Communications (CPDLC) is a new development in the way the aircraft flying around are controlled. The Air Traffic Control (ATC) environment is slowly changing to Air Traffic Management (ATM), part of the transition is the introduction of CPDLC. It is an air to ground (and vice versa) data-link, which enables the exchange of text messages between controllers and pilots.

CPDLC complements traditional voice communications, providing pilots and controllers with an additional communications medium

CPDLC addresses the capacity limits of voice communications in designated European airspace, providing controller and pilots with an air / ground data link. ACARS facilitates communication between flight crew and ground based operations in all phases of flight.

The ATL includes:

- ATL Right to Use (RTU) for the STC (EASA).
- EASA approved modification data package for the installation.

This is an extremely cost effective solution which is easy to install and available within a short timeframe.

This solution has been successfully installed for many airlines and aircraft leasing companies globally who have aircraft operating in Europe.

What is new Envoy and Dlink+ w/CPDLC?

The Dlink+ w/CPDLC unit provides aircraft and flight crews with the ability to send and receive Controller Pilot Data Link Communication (CPDLC) and Aircraft Communication Addressing and Reporting System (ACARS) messages over Very-High Frequency Digital Link (VDL) Mode A/2 networks. Dlink+ w/CPDLC merges the data link requirements of EuroControl Link2000+ and three separate avionics units, the CDU, CMU, and VDR into one cockpit mounted Line Replaceable Unit (LRU) designed around the following standards:

- ARINC 724B/758 Communications Management Unit (CMU)
- ARINC 750 VHF Digital Radio (VDR)
- ARINC 739 Control Display Unit (CDU)

Installation of the Envoy Data Link Unit enables operators to achieve compliance with mandates across the North Atlantic Track System, European Tango routes, European Mandates and other FANS routes throughout world. Envoy contains all the hardware and software required for FANS 1/A+ CPDLC, ATN/B1 CPDLC and ADS-C, and is capable of meeting the following mandates:

- NATS Mandate, Phase 2B, (FL350 – FL390), DEC 2017.
- NATS Mandate, Phase 2C, (FL290+), JAN 2020.
- FAA NextGEN, NAS Tower and En Route Domains.
- EU Mandate: DLS-IR (EC) 29/2009 and 2015/310, (FL285+), FEB 2020.

Envoy contains True Dual Stack functionality that allows a flight crew to change between FANS 1/A+ CPDLC and ATN B1 CPDLC based on airspace requirements.

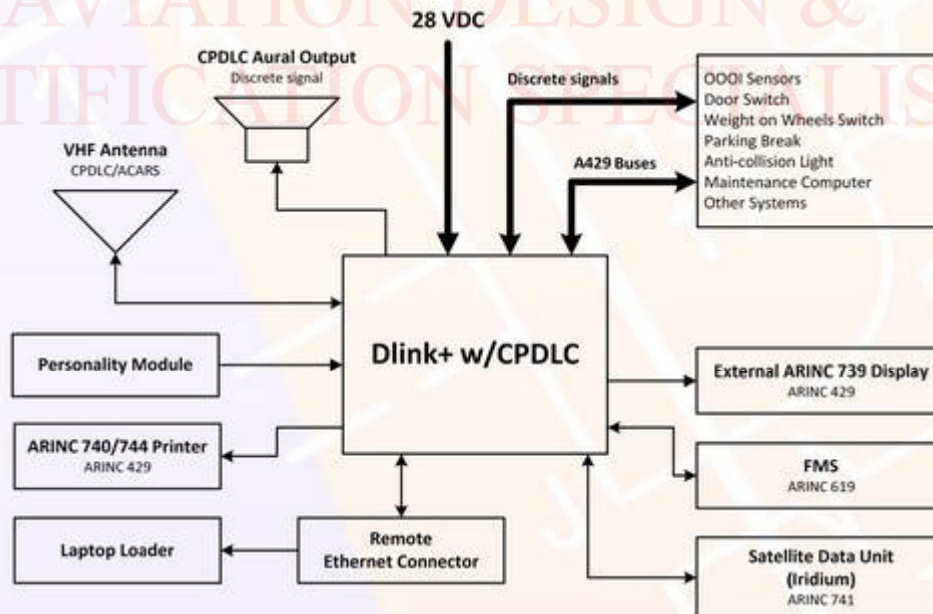


DLink+ with ATN/B1 CPDLC



Envoy FANS-1/A+ with ATN/B1 CPDLC

The Envoy and Dlink+ w/CPDLC Integrated Data Management System (IDMS) functions and Control Display Unit (CDU) crew interface are airline-configurable and allow the flight crew to carry out Aircraft Operational Communications (AOC) with dispatch centers and other airline departments as well as Air Traffic Service (ATS) providers. The CDU screen, line select keys, and keyboard allow flight crews to navigate through different menus as well as to display and respond to uplinked messages.



- (8) ARINC 429 Receive Inputs
- (4) ARINC 429 Output Transceivers
- (8) Discrete Input (Open/Ground)
- (4) Discrete Output (Active/Ground)

Your Benefits

CPDLC cuts down on voice traffic on VHF and HF and allows for faster and more accurate communications with ATC. CPDLC permits pilots to communicate directly with the controller, via both canned messages and free text, and it eliminates language barrier issues.

The benefits of CPDLC combined with voice radio are as follows:

- Increasing the availability of the voice radio frequency for the delivery of time critical clearances by using CPDLC for non-time critical communication.
- Offloading the controller by providing opportunities to automate certain communication tasks.
- Improving the workload balance within the sector team with an optimized sharing of communication task, change in the working method of controllers.
- Down-linking of various aircraft preferences and parameters. This includes details of an equipped aircraft's preferred flight level, meteorological conditions etc. These down-linked data will contribute to improved ATC awareness of an aircraft's operational preferences and better aeronautical meteorological reports and forecasts, better ATCO and aircrew environmental awareness.
- Improving safety by reducing the vulnerability of voice radio frequency for miscommunications.
- No Stuck Mike

ATL provide the easiest and most cost effective way to satisfy the CPDLC mandate or to install a standalone ACARS solution.

Only one unit to be installed results in easy installation and reduced complexity.

A 3rd VHF transceiver is built into the unit which means that any existing transceiver can be removed to reduce weight.

The engineering data package can be provided to allow for a partial installation of the provisions in the event that the modification is being completed in a non EASA facility.

Additional approvals such as FAA can be provided upon request.

Installation Criteria

Each aircraft must have the following installed in order for CPDLC to operate:

- MMR, standalone GPS antenna with a usable output or EGPWS (with suitable Mercury Card).
- 3rd VHF Antenna.

If any of the above items (or the required provisions) are not currently on the aircraft, then ATL can provide quotations to install these accordingly.

Product Description

The CPDLC system we offer comprises of one box system fitted the aircraft. This box is connected to aircraft electrical power, a dedicated VHF comm. antenna and a GNSS receiver for the time stamp.

The following equipment will be installed:

- Install a circuit breaker with the related wiring
- Install dedicated VHF antenna (if not installed yet)
- Install a Spectralux box in the pedestal
- Install a GNSS antenna with the related coax cable (if not present yet)
- Do the tests