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CPDLC Operations

Introduction

The upcoming FSLabs A321-X will have integrated Hoppie CPDLC functionality for use on the VATSIM and IVAO online flying networks.

Although the Hoppie ACARS network has been available for many years using standalone pilot and ATC clients, only recently have we started to see a move from addon developers toward integrating its functionality directly within their aircraft. As a result it is anticipated that this greater functionality for pilots will drive greater take-up and development on the ATC side of operations.

With this in mind, the information below is aimed at providing crews with an overview of how to correctly operate the system.

This notice contains background information and an attachment with the most important operational procedures. Additional resources and information are available as described below.

What is CPDLC?

Controller Pilot Data-Link Communications. This is part of the ICAO Future Air Navigation Systems (FANS) project which brings new technology to improve Communications, Navigation and Surveillance:

- Communications evolve from Voice to Datalink
- Navigation evolves from RNAV to RNP
- Surveillance evolves from Mode S Transponders to ADS-B (Continental) and ADS-C (Oceanic)

This FAN describes the implementation of CPDLC via the Hoppie ACARS system for use over continental Europe.

What's so great about CPDLC anyway?

In real life, implementation of CPDLC is mandatory in Europe by early 2020.

The purpose of the mandate is primarily to reduce voice channel congestion in busy ATC sectors, thereby reducing workload and increasing safety.

Many sectors are RT 'time-limited' rather than full of aircraft or beyond the cognitive capacity of controllers. Many routine RT calls are rather poor value for the time they consume on busy frequencies - e.g. routine frequency changes, so migrating these to Datalink will allow more time for higher-value or safety-critical communications.

The use of text rather than voice also reduces errors, such as mis-heard call-signs, ambiguous phraseology or stepped-on transmissions.

However, there is a potential loss of the situational awareness gained by passively hearing other traffic - hence Datalink is not used in Terminal Areas.

What do I need?

If you are using the FSLabs Airbus A321-X CPDLC functionality is built-in to the aircraft and all you need is a Hoppie logon code (available free from the [Hoppie ACARS website](#)).

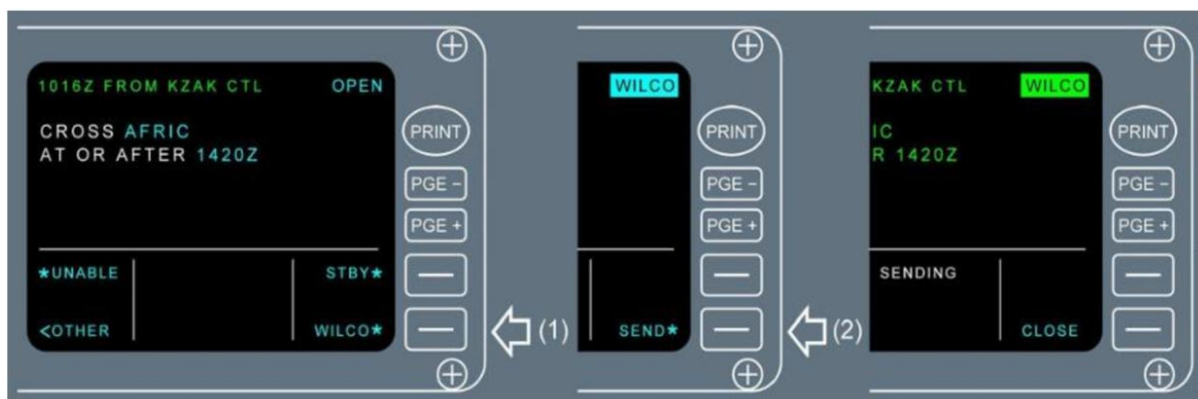
For other aircraft there are standalone clients available to download from the Hoppie ACARS website and [Project A330](#).

What kind of messages can I expect?

Initially you can expect to receive ATC frequency changes, Climb/Descent clearances and re-routing clearances.

Whilst the initial log on is via the MCDU, the communication itself is via the DCDUs.

The DCDU displays the ATC Messages in the upper portion, with the soft keys for standardised replies and acknowledgements in the lower left and right and the Information area in the lower middle:



Urgent Messages appear automatically, but Normal Messages may be hidden if the Message area is not empty. In this case the MSG number will flash in the Information Area.

Use the soft keys which display available responses. Crews should use pre-defined messages and avoid using free-text. Having selected your response, it remains BLUE until it has successfully been sent, when the colour changes to green.

Where can I find out more information?

- [Hoppie ACARS website](#)
- FSLabs A321-X Introduction Guide Section 5
- [VATSIM CPDLC Quick Start Guide](#)
- Project A330 CPDLC Tutorial Videos: [Part 1](#) | [Part 2](#) | [Part 3](#)
- [Airbus "Getting to Grips with FANS"](#) e-book available in BAVirtual DocStore

Hoppie CPDLC Guide

Cockpit Prep:

- ATC Datalink Communication: ***MSG RECORD (MCDU).....ERASE**
- **Notify** ATC that you can participate in CPDLC (ETD -30 to ETD -10 if departing in to CPDLC airspace):
 - On MCDU select ATC COMM pb, NOTIFICATION page.
 - Check/enter ATC Flight Number - must be the **ATC callsign** as per the ATC Flight Plan in Cirrus.
 - Enter ATC identifier code (usually in VATSIM Controller Info – **London generally use e.g. LONS for LON_S_CTR as opposed to EGTT**)
 - Press NOTIFY. ATC then **initialises** the connection
- **DCDU** shows the ACTIVE ATC

In-Flight

- 'Check in' on new frequency using voice but suffix with 'CPDLC'
- Respond to Voice clearances using Voice
- Respond to Datalink clearances using Datalink
 - Respond within 60 seconds, using 'STANDBY' if necessary
 - There is no need to follow up Datalink responses with voice.
- Voice remains the primary means of communication, so you must continue to listen to the applicable VHF frequency on headset. Crew must revert to voice if:
 - There is an emergency
 - There is any doubt about a datalink message
 - Below FL195 in UK
- No need to tell ATC you are CPDLC - your Datalink status is visible on their screen
- The system should automatically move from one ATC area to another, providing a frequency to establish voice contact with the receiving ATC area.

Responding to Datalink Messages

- Cancel ATC MSG on glareshield
- Select the appropriate response (eg WILCO)
- Send response (SEND)
- Cross-check and execute the ATC clearance as per SOP
- Verbalise FMAs
- Close the message to clear the DCDU for next message

