



Subject : En-Route DATA LINK services

1. CONTEXT AND PURPOSE:

The purpose of this AIC is to present the provision of data link services in French metropolitan airspace.

These provisions will be incorporated into the AIP.

2. CONCEPT OF OPERATIONS

The CPDLC application provides an alternative to radiotelephony communications (voice) means of communication between the controller and pilot using data link for air traffic control (ATC) communication. The CPDLC application includes a set of clearance / information / request message elements that correspond to the phraseology used in radiotelephony.

Pilots shall make initial contact with each ATC Unit by voice, irrespectively of having logged on or not.

The use of CPDLC is expected and preferred when operations allow its use. CPDLC may only be used for non-time-critical requests, i.e. requests that do not require the immediate reaction of the pilot. Nevertheless, as in radiotelephony, CPDLC messages shall be answered with the least possible delay. If the downlink request is cut off because the time limit was exceeded, the pilot should also repeat the request via radiotelephony.

In case of uncertainty regarding an operational situation with open CPDLC dialogue, voice communications should be used to clarify the situation.

If the controller or the pilot is of the opinion that CPDLC should no longer be used in the given circumstances, CPDLC shall be terminated and the other party shall be informed about this by voice communication.

Urgent tactical ATC clearances will continue to be issued via radiotelephony communications.

3. DESCRIPTION AND AVAILABILITY OF SERVICES

In metropolitan France, provision of CPDLC services is based on the requirements of the Commission regulation (EC) n° 29/2009, revised by regulation (EC) n°2015/310 laying down requirements for CPDLC services provision.

Hence, CPDLC is provided only to ATN Protected Mode (PM) CPDLC equipped aircraft using VDL mode 2 sub-network. Log-on from FANS1/A or non-PM CPDLC capable aircraft are not accepted.

Aeronautical VHF Data Link uses the 117.975–137 MHz band which is assigned by the International Telecommunication Union to Aeronautical mobile (route) services. VDL Mode 2 has been operationally implemented to support Controller Pilot Data Link Communications (CPDLC).

The frequency 136.975 MHz is reserved on a worldwide basis to provide a common signaling channel (CSC) to the VDL Mode 2.

Additional frequencies have been allocated:

- 136.775 MHz and 136.875 MHz only used by SITA
- 136.725 MHz and 136.825 MHz only used by ARINC

The following CPDLC services are provided for eligible aircraft in the entire French metropolitan airspace above FL195:

- DLIC (datalink initiation capability)
- ACL (ATC clearances and instructions, pilot requests)
- ACM (ATC communications management)
- AMC (ATC microphone check)

ATS services are provided in French metropolitan airspace by five ATS Units : LFBB, LFEE, LFFF, LFMM, LFRR

Provided CPDLC services are:

- LFEE, LFMM, LFBB: all services
- LFFF, LFRR: pilot requests will be rejected

4. CPDLC OPERATIONAL USE

The **ACM (ATC Communication Management) service** facilitates the change of voice frequencies. The pilot response to an ATC instruction to change frequency shall be WILCO. Any other answer is immediately followed by a vocal clarification made by the controller. If the pilot is unable to comply with this data link instruction, or if he has not answered before the timer expires, he shall revert to voice communication to inform ATC. When an aircraft is transferred by data link to an adjacent sector / ATSU, the pilot shall acknowledge the instruction by WILCO, **before** contact the next sector / ATSU by voice communication on the given frequency.

The **AMC (ATC Microphone Check) service** allows a controller to send the "Check Stuck Microphone" instruction in cases where an aircraft is inadvertently blocking a radio frequency. Pilot shall check that their radio equipment is not causing the blockage.

ACL service :

Clearances shall not be executed until the WILCO message has been sent back, furthermore, having confirmation that the response has reached the controller secures the exchanges. If uncertainty arises regarding a data link message, voice communication shall always be used.

Flight crews are requested to take into account CPDLC clearances as soon as possible, and answer, if possible, with the same mean of communication.

5. FLIGHT PLANNING

For a successful logon, aircraft operators must fill flight plans with all following items:

- Item 10a – J1 indicating CPDLC ATN VDL Mode 2 capability
- Item 18 – CODE/24-bit address in hexadecimal

Flight plan shall not contain J1 if the crew is not trained to use CPDLC.

Exemptions to data link equipage requirements shall be indicated in the flight plan, as follows, according to EASA bulletin SIB 2020-03:

- Item 10 - 'Z'
- Item 18 - DAT/CPDLCX

6. LOGON, LOG OFF, LOGON FORWARD

In French metropolitan airspace, logon addresses are :

- LFFF: PARIS Control
- LFEE: REIMS Control
- LFMM: MARSEILLE Control
- LFBB: BORDEAUX Control
- LFRR: BREST Control

Datalink Logon is mandatory for all capable and eligible flights in the French metropolitan airspace.

CPDLC shall be initiated by the flight crew, in sufficient time (app. 15 mn) to ensure that CPDLC is established and with the appropriate ATS Unit, unless logon has been already established with an upstream adjacent ATSU providing logon forward.

For aircraft departing from an aerodrome in close proximity to the crossed ATS Unit, logon can be initiated on the ground or after being airborne, if coverage allows, but it is expected that the connection will only be effective when the aircraft arrives into the responsibility of the ATS Unit.

Flight crews shall ensure that they only execute instructions from the same CDA, they are in radio contact as well.

Flight crews will ensure:

- that they use the exact ICAO call sign, and flight identifier (callsign/aircraft Id) as specified in item 7 of the flight plan;
- that they shall not use a two-letter IATA flight ID, or insert a leading zero (0) into the call sign,

as these actions will result in a failed log-on.

Under normal conditions, only one logon per flight to the first ATS Unit downstream is required, as the logon will be automatically forwarded to the next ATC Unit by the ground. However, if the automatic forward has not worked, or can't be implemented, pilots should logon manually to next ATS Unit in sufficient time, unless requested otherwise by controller via voice.

Nota Bene: for all aircraft flying westbound, entering EGGX oceanic airspace via LFRR airspace, there is a transition zone between LFRR (ATN VDLm2) and EGGX (FANS 1/A) where Logon forward is not implementable. To enter the oceanic airspace, crews shall ensure, in compliance with AIP United Kingdom, that they meet all technical requirements, as filed, and respect OCL elements, and shall report any problem to do so as soon as possible to the controller with whom they are in contact. Pilots shall log on with EGGX, 15 to 25 mn before entering the oceanic airspace, at the latest 4 min before the boundary.

In French metropolitan airspace, datalink connection status of eligible aircraft is displayed on the controllers' screens. Therefore the aircraft CPDLC capability shall not be additionally announced on the frequency.

Aircrafts leaving French metropolitan airspace to ATS Units where CPDLC services are not available will be automatically disconnected by the Ground system, no flight crew action is required.

7. MESSAGE SET – TIMERS

When using CPDLC, maximum timer durations are:

- ATC uplink messages: 120 seconds (maximum timer on board is 100 seconds)
- Pilot downlink messages: 250 seconds.

If the ground system receives a message that is not supported, or constitutes an error to the technical rules for CPDLC communication, flight crew will receive an automatic system reply indicating the nature of the error and, if applicable, required actions.

Notably, urgency or Distress CPDLC messages, nor free text messages are not supported by the French metropolitan ATM systems.

8. CLEARANCES, INFORMATION OR REQUEST MESSAGES FOR ATC

Following messages can be used by the controller:

- MAINTAIN [level]
- CLIMB TO [level]
- DESCEND TO [level]
- REPORT PRESENT LEVEL¹
- WHEN CAN YOU ACCEPT [level]¹
- STATE PREFERRED [level]¹
- PROCEED DIRECT TO [position]
- MAINTAIN [speed]
- RESUME NORMAL SPEED¹
- NO SPEED RESTRICTION
- CONTACT [unit name] [frequency]
- FLY HEADING [degrees]
- TURN [direction] [degrees] DEGREES²
- STATE TOP OF DESCENT¹
- CHECK STUCK MICROPHONE
- [free text]¹⁻³

Note :

¹ : except LFBB, LFFF, LFRR

² : except LFEE, LFMM

³ : should be used for non implemented UM, or non nominal situations (ex : loss of communications)

9. PILOT REQUESTS

Following downlink messages will be taken in charge by the controller:

- REQUEST CLIMB TO [level]
- REQUEST DESCEND TO [level]
- REQUEST DIRECT TO [position]
- DUE TO WEATHER*
- DUE TO AIRCRAFT PERFORMANCE*

Note: * only when concatenated to DM1 UNABLE, or route/vertical profile modification requests

10. VOICE INTERRUPTION OF A CPDLC MESSAGE

When using voice to correct a CPDLC message (error or timeout), the controller shall initiate voice communication using the following phraseology: "[call sign] DISREGARD CPDLC [message type] MESSAGE, BREAK, [voice clearance, information or request]".

Following such a voice message, pilots shall disregard, or send UNABLE to same type of datalink clearances that may be pending, or not yet treated.

Nota Bene: systems implemented for LFBB and LFRR uplink an "UNABLE" message to a pilot request during voice recovery, even if the value of the control instruction is the same as that initially sent by CPDLC, or requested by the pilot, for instance, if the request should be accepted with a constraint.

11. CPDLC SILENCE

In order to manage the sector workload, controllers may require all stations or a specific flight to avoid sending CPDLC requests for a limited period of time, with the following voice message:

ALL STATIONS (or [call sign] as applicable), STOP SENDING CPDLC REQUESTS [UNTIL ADVISED] [(reason)]

For revoking CPDLC silence, the following phrase, following voice message shall be used:

ALL STATIONS (or [call sign] as applicable), RESUME NORMAL CPDLC OPERATIONS

12. CPDLC INTERRUPTIONS, FAILURES AND ERRORS

Generally, in the case of a CPDLC failure/outage, CPDLC clearances that have not yet been confirmed by flight crew shall be repeated and/or confirmed/informed over radiotelephony, using following voice phraseology:

"[call sign] DISREGARD CPDLC [message type] MESSAGE, BREAK, [voice clearance, information or request]".

In the case of a planned shut down or an unexpected failure of the CPDLC system, ATC will instruct all data link equipped aircraft to return to voice communication only, with following phraseology :

"DATA LINK WILL BE SHUT DOWN. DISCONNECT CPDLC. CONTINUE ON VOICE"

In the case of a planned update of aeronautical data in ATM systems, regarding AIRAC (every Thursday, à 00:00UTC, every 28 days), logon will be aborted, flight crew shall renew logon request manually to the crossed ATS Unit, on the instruction of the controller.

In the case of an on board failure or operational issue regarding CPDLC, the pilot shall inform the ATC, with the following phraseology :

"[call sign] UNABLE CPDLC"

and return to voice communication only.

If any problem related to CPDLC is encountered by flight crew, aircraft operators are invited to mail an ASR to :

DO-analyse-incident@aviation-civile.gouv.fr

with keyword [DATALINK] in the mail's subject