

FAST TRACK INITIATIVE FOR NON-AOC OPERATORS

USER'S MANUAL

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1. INTRODUCTION

The European Datalink Services Implementing Rule (DLS IR) [1] requires General Air Traffic (GAT) flights in accordance with Instrument Flight Rules (IFR) above FL285 in designated European airspace to be capable of operating Datalink Services (DLS), including Controller Pilot Datalink Communication (CPDLC), unless exempted. The rule embraces both Air Transport operations and General Aviation.

Some Operators without an AOC contract have reported difficulties in achieving datalink ATN/VDL Mode 2 datalink connectivity and using the service to participate in CPDLC. Furthermore, communication service providers also report problems in providing such service to Non-AOC operators, including missing or incorrectly configured technical information, which may impair their ability to frequency manage the flight, and the absence of point-of-contact information at Non-AOC operators typically delays resolution. Such issues have been discussed for many years and a Task Force of the Datalink Support Group (DSG) has been established to examine the problems and propose solutions as needed.

Guidance Material for Non-AOC Operators has been prepared to provide background information on datalink services and offer advice on achieving connectivity, including the configuration of datalink avionics. This material can be accessed at https://ext.eurocontrol.int/WikiLink/images/6/67/Non-AOC_Guidance_Material_v1.0_06May21.pdf. Necessarily, this guidance is of a general nature, since it cannot reflect specific characteristics of particular avionic installations.

In addition, the Task Force has also launched the Fast Track initiative for Non-AOC operators who would benefit from more targeted support in achieving optimal connectivity. The scheme is aimed at both

- operators who have not yet achieved datalink connectivity or operated CPDLC, as well as
- operators who have connected to the network, but without the benefit of multi-frequency VDL operation, and thus may be susceptible to degraded datalink performance as load on the network progressively grows.

Participation in the scheme by operators is entirely voluntary. Participating operators will be offered support tailored to their specific avionics, to enable them to satisfy technical and administrative requirements to connect to the ATN/VDL network and perform CPDLC operations.

EUROCONTROL will perform a central coordinating role, supported by other stakeholders, including communication service providers, and avionic vendors. Ordinarily, participants' first point of contact will be with EUROCONTROL.

The objectives of the scheme are to increase the number of Non-AOC operators operating CPDLC for the benefit of all airspace users, as well as to identify specific problems which Non-AOC operators may experience, develop and verify appropriate solutions, and capture and promulgate lessons learnt to aid the wider community.

This document describes the steps and working methods that are foreseen to meet the objectives of the scheme, but it is emphasised that the guiding principle is intended to pragmatic problem solving, rather than rigid adherence to protocols.

2. ENROLMENT OF OPERATORS AND AIRFRAMES

Non-AOC operators are invited to express interest in participating in the Fast Track initiative by contacting DSG_Non_AOC_Operators_TF@eurocontrol.int.

In order to proceed with enrolment, operators will be asked to complete a proforma providing the information itemised in Annex A, together with the information listed in Annex B for each specific airframe to be enrolled. EUROCONTROL will provide a template to capture this information in electronic form (*e.g.* a spreadsheet) to streamline subsequent processing of the information.

Initially, operators may be asked to limit the number of enrolled airframes, so as to avoid overwhelming the effort available within scheme in its early implementation.

Once the operator and airframe proformas have been processed, EUROCONTROL will confirm enrolment to the operator's technical and operational contacts by email.

It should be noted that aircrew training is outside the scope of support that will be provided to operators under the scheme. Accordingly, participating operators should ensure that statutory aircrew training on use of datalink for CPDLC is provided, as discussed in Section 4.4 of the Guidance Material for Non-AOC Operators [1].

3. FOLLOWING ENROLMENT

Configuration of Avionics

Generally, in order to achieve network connectivity and support CPDLC, operators will need to configure their ATN datalink avionics to indicate the technical address and other characteristics of each individual airframe, as well as other items reflecting the operator's preferences. Generic guidance on such configuration is provided by the Guidance Material for Non-AOC Operators [1] and is reproduced for convenience in Annex C of this document. However, this guidance is necessarily general in nature and cannot capture the specific details of individual equipment. If required, EUROCONTROL will aim to provide advice to participating operators on the configuration of their particular avionics, wherever the information has been made available by the vendor. Otherwise, operators should seek more specific advice directly from their vendor.

Preferred Communication Service Provider

Some avionics require a 'preferred communication provider' to be nominated during the configuration process. For operators of such avionics participating in the scheme, in the absence of any preference from the operator itself, EUROCONTROL will allocate a preferred provider to the operator, using an algorithm designed to provide an approximately equitable allocation of the load between the communication service providers. Nomination of the 'preferred provider' means that the avionics will connect preferentially to that provider whenever possible, but does not preclude connection to other providers when out of coverage of the preferred provider.

Technical Validation Checks

Some early versions of certain avionics are known to suffer from problems in operation, and may not be eligible to perform CPDLC with all ANSPs. Similarly, certain versions of avionics may not support functionality required to support multi-frequency VDL operation. EUROCONTROL will check for any known issues with operators' avionics, and advise if updates to their avionics are recommended.

Once configuration of the datalink avionics has been achieved, EUROCONTROL will seek to facilitate some simple initial technical checks to ensure that the avionics on airframes enrolled in the scheme are functioning as expected, including the correct configuration of the NSAP address and the provision of mandatory downlink XID parameters.

These initial checks may be undertaken in a number of ways, and EUROCONTROL will liaise with participating operators to establish the most convenient approach. EUROCONTROL may be able to use its own monitoring tools to verify the expected functionality while an aircraft is airborne, without CPDLC necessarily being used. Alternatively, if an aircraft is located at an airfield benefitting from ATN/VDL surface coverage, the checks may be undertaken readily while the aircraft is on the ground. EUROCONTROL will advise the operator if the checks reveal that any remedial action is necessary.

The Logon List

In order to perform CPDLC with all ANSPs in the core European area, aircraft equipped with eligible avionics are required to be registered on the 'Logon List' maintained by EUROCONTROL, including details of their avionics. Further information on the Logon List is provided in Annex D. Ordinarily, operators are expected to perform this process of registration, but in the case of participants in the Fast Track scheme, EUROCONTROL will aim to import the electronic proforma provided by the operator at enrolment into the Logon List, once it has been reviewed, thus avoiding the burden on operators of providing the same information twice. Operators will remain responsible for updating the Logon List to reflect any changes.

Provision of Information to Communication Service Providers

The communication service providers require certain technical and administrative information about operators and their airframes to be confident that connection to the ATN/VDL network will not cause detriment to its integrity and performance. All the necessary information is captured by the proformas by which operators enrol in the Fast Track initiative, and accordingly, EUROCONTROL will share this information with communication service providers requiring it, thus avoiding any further administrative burden on operators participating in the scheme.

Enrolment in the Fast Track initiative by an operator will be taken to imply consent to the sharing of this information with the Communication Service Providers as described above.

Follow Up

After following the above steps, in the event that a participating operator continues to experience difficulty in connecting to the ATN/VDL network, and/or performing a Logon to an ATC service or operating CPDLC, they are requested in the first instance to report this to their EUROCONTROL contact, who will liaise with other stakeholders as necessary to resolve any outstanding issues.

4. OPERATION OF CPDLC

Once an operator is successfully connected to the ATN/VDL network, they are encouraged to use CPDLC operationally whenever it is available.

In order to perform CPDLC, operators are expected to include in the Flight Plan for the flight in which they intend to use CPDLC the required information for datalink. Information and guidance on what needs to be indicated in the flight plan is provided in Annex E.

Participation in the Fast Track scheme is not intended to have any impact on the operation of CPDLC, and should not give rise to any burden or overhead on the operator or aircrew.

EUROCONTROL or other stakeholders may passively monitor the technical datalink performance achieved by participating airframes, in order to ensure that safety and performance requirements are satisfied, and identify any issues that may require further investigation. Any problems that may be detected will be handled by generation of a Problem Report, as described in the following section, and the operator will be notified.

Similarly, if an operator or aircrew become aware of any anomalous or unexpected behaviour of the datalink system or service, they are also encouraged to submit a Problem Report as described below.

5. PROBLEM REPORTING

EUROCONTROL maintains a database of Problem Reports (PRs) relating to the provision and operation of datalink services. PRs embrace both technical and operational issues affecting any part of the overall system. PRs are generated and reviewed online in the Jira tool at <https://ext.eurocontrol.int/ticketingservices/secure/Dashboard.jspx>.

Accounts and logon credentials for the technical and operational contacts at all participating operators in the Fast Track initiative will be generated to allow access to the Jira PR database, and permit new PRs to be filed.

Once a PR has been generated, it will be assessed by EUROCONTROL, a priority established, and an appropriate expert allocated to lead any investigation. All findings are recorded under the PR in the Jira database.

6. REFERENCES

- [1] Guidance Material for Non-AOC Operators on Achieving Connectivity over ATN/VDL Mode 2 to Support ATC Datalink Services. EUROCONTROL NMD/INF/CNS/DLS. Edition 2.0 29th Jun 21.

ANNEX A – PROFORMA FOR OPERATOR

Operator Name		
Address		
Operator Code <i>(if allocated)</i>		
Preferred Communication Service Provider <i>(if any)</i>		
Technical Contact	Name	
	Telephone	
	Email	
Operational Contact	Name	
	Telephone	
	Email	

ANNEX B – PROFORMA FOR EACH AIRFRAME

Airframe Type	Name	
	ICAO Type Code	
Tail No		
24 bit Address		
Avionic CMU/CMF	Vendor	
	Model	
	Part No	
	Core Software Version	
Avionic VDR	Vendor	
	Model	
	Part No	
	Core Software Version	
SITA VAQ Qualification Completed <i>(vendor to advise Y/N)</i>		
ARINC AQP Qualification Completed <i>(vendor to advise Y/N)</i>		

ANNEX C – GUIDANCE ON AVIONIC CONFIGURATION

Configuration of avionics to support Datalink Services by Non-AOC operators inevitably depends on the features of individual avionics, and so the guidance provided in this document is of a general nature.

In line with known requirements from Communication Service Providers, avionics, and taking into account the ICAO EUR NSAP Address Registry (EUR Doc 028 Version 10.0 30th Apr 2020), avionic configuration is expected to embrace the following points, although individual avionics may not offer all options:

- **Aircraft's ICAO 24 bit technical address.**
- **Aircraft's Registration.**
- **The VER field of the ATN NSAP address.** In the absence of more specific instructions from the preferred Communication Service Provider, for General Aviation this should be set to "C1" (hex), and for IATA registered airline operators to "41" (hex), in accordance with ICAO EUR Doc 028.
- **The ADM field of the ATN NSAP address.** In the absence of more specific instructions from the preferred ACSP, for General Aviation this should be set in accordance with [3] to reflect the State of registration of the aircraft. Typically the first octet should be set to ICAO Region Identifier, followed by the two character alphanumeric ISO 3166 (ALPHA-2) Country Code, represented as upper case characters. Airline operators using VER field "41" (hex) should set the ADM field to their three character identifier (typically the ICAO airline designator) which should also be registered with IATA. If avionics require configuration of other fields of the NSAP address, these should also be set in accordance with the default values specified by ICAO EUR Doc 028.
- **The preferred Communication Service Provider.** Determination of the preferred provider in the context of the Fast Track initiative is discussed in Section 3 of the body of the present document. Certain avionics may nominate the preferred provider randomly at start-up for a Non-AOC flight.
- **Enable multiple Communication Service Providers.** AOC operators may elect to restrict connection only to the preferred provider to preserve AOC connectivity at all times, but it is more appropriate for Non-AOC operators to allow connectivity with other providers if the preferred provider is not available. Some avionics may require selection of specific 'Less Preferred' providers to enable this.
- **Establish initial VHF contact in VDL Mode 2 on the CSC (136.975 MHz).** AOC operators may elect to establish contact initially on the ACARS frequency of their preferred provider, and switch to VDL only if service is available. This is not appropriate for Non-AOC operators.

Additional configuration options relating to application level options may be offered by individual vendors.

ANNEX D – THE LOGON LIST

The Logon List (previously referred to as the ‘White List’), is a method employed by some ANSPs to protect their controllers from engaging in datalink operations with the most disruptive aircraft equipped with datalink.

The Logon List aims in particular, to exclude aircraft with avionics observed to experience a high rate of the so called Provider Aborts (PAs). A PA indicates a loss of data connectivity between the pilot and the controller and they are very disruptive operationally.

Currently, only aircraft on the Logon List are allowed to logon to use data link in the airspace shaded orange in the map below.

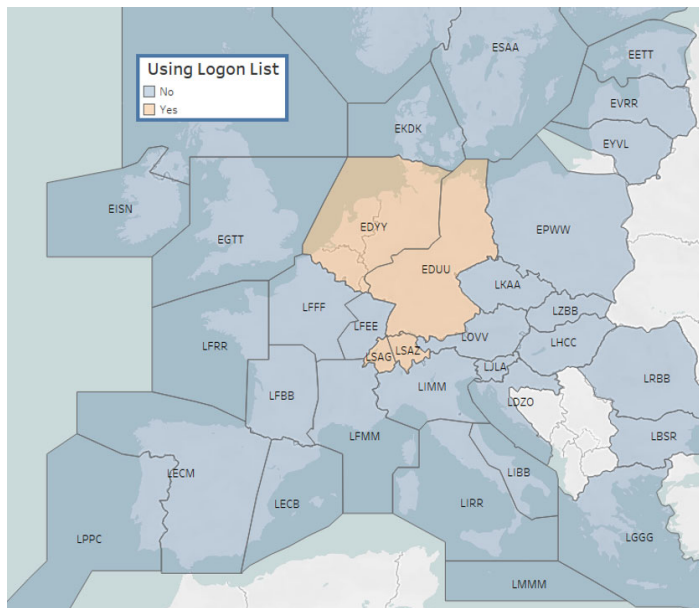


Figure 1: Centres using the Logon List March 2021

In the airspace of the Logon List ANSPs aircraft on the Logon List make approximately 50% of the flights, whereas approximately 75% of flights indicate in their flight plan that they are capable of performing CPDLC.

NM believes that there are aircraft that would be eligible for the Logon List but are not registered. Therefore NM invites all aircraft operators to apply to join the Logon List so that the overall usage of CPDLC can increase.

To register an aircraft on the Logon List, one needs to have access to the EUROCONTROL Datalink Performance Monitoring Function (DPMF) One Sky Team (OST).

Access to the DPMF OST is via the general EUROCONTROL online One Sky Teams platform and the same personal credential are used to access all eligible platforms. If you do not have a EUROCONTROL OneSky account, please register at

<https://ext.eurocontrol.int/elsh/registerNewUserForApplication.do?eurocontrolresourceid=circa>.

If you do not have access to the DPMF OST, you can make an online request in the OST general platform to obtain access, or send an email to dpmf@eurocontrol.int, indicating your OST login and we will provide you access.

When in the DPMF OST (<https://ost.eurocontrol.int/sites/dpmf/SitePages/Home.aspx>), there are dedicated pages for the Logon List including tutorials and explanations for how to register each eligible aircraft selecting the appropriate avionics from the drop down menus.

For more details about the Logon List see: https://ext.eurocontrol.int/WikiLink/index.php/Logon_List

ANNEX E – FLIGHT PLAN FILING GUIDLINES

This Annex provides a short summary of what should be filed in the flight plan for aircraft operating above FL285 in the airspace covered by the EC regulation 29/2009 (as amended). As from February 5th 2020 all aircraft operating in this airspace should be capable of performing CPDLC over the ATN unless the aircraft has been granted an exemption.

Listed below are different cases of capability and examples of what should be filed in the flight plan for an aircraft assuming as example an ICAO code '1CA0DE'

- **The aircraft is CPDLC/ATN equipped and the crew are trained**

File 'J1' in field 10 and 'CODE/1CA0DE' in field 18

- **The aircraft is CPDLC/ATN equipped but the crew are not trained**

Nothing should be filed for CPDLC/ATN. This flight is in contravention of the regulation.

- **The aircraft is not exempt and is not capable of CPDLC over the ATN**

Nothing should be filed for CPDLC/ATN. This flight is in contravention of the regulation.

- **The aircraft is exempt**

File 'Z' in field 10 and 'DAT/CPDLCX' in field 18

- **The aircraft is exempt but capable of CPDLC over FANS 1/A**

File the appropriate J codes for FANS1/A capability and 'Z' in field 10 and 'DAT/CPDLCX' in field 18

- **The aircraft is exempt but capable of CPDLC over the ATN**

File either:

- i) 'J1' in field 10 and 'CODE/1CA0DE' in field 18, or
- ii) 'Z' in field 10 and 'DAT/CPDLCX' in field 18

depending on whether or not the crew intends to use CPDLC/ATN on this particular flight