



Pilot Handbook  
U.S. Domestic Controller/Pilot Datalink Communication (CPDLC)  
Operations

Updated: November 3, 2021

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## 1. Introduction

The purpose of the guide is to assist pilots with basic concepts and description of En Route CPDLC services within the United States National Airspace System (NAS). While CPDLC avionics systems vary in operation and presentation of CPDLC messages, the examples provided in this document are generic in nature and used for illustrative purposes only. They must not be used in lieu of the guidance or instructions published in the manufacturer's avionics manuals or the FAA-approved Airplane Flight Manual for the operation of a specific CPDLC avionics system.

A companion to this document is a Quick Reference Card (QRC) intended for use in the aircraft to serve as a ready reference for using U.S. En Route CPDLC.

The current version of AC 90-117 furnishes guidance to operators and pilots desiring En Route CPDLC services within the U.S. NAS. Aircraft must be equipped with VDL Mode 2 multi-frequency capability to participate in En Route services. Part 91 operators do not require a Letter of Authorization for CPDLC operations *within the U.S. domestic airspace*. Part 121, part 135, and part 91K operators require OpSpec/MSpec A056 for CPDLC operations. Resources to assist new CPDLC operators in obtaining authorization are available on the FAA and Harris Corporation websites.

The contents of this document are taken from numerous official FAA sources concerning the Data Comm program in the U.S. NAS. These sources are available on the L3Harris website:

<https://www.l3harris.com/datacomm>

and the FAA Flight Standards Service, Flight Operations Group - Data Communications website:

[https://www.faa.gov/about/office\\_org/headquarters\\_offices/avs/offices/afx/afs/afs400/afs410/datacomm/](https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afx/afs/afs400/afs410/datacomm/)

## 2. Using CPDLC– Basic Guidance

### Key Points:

- **EACH CPDLC CLEARANCE OR MESSAGE SENT BY ATC TO THE AIRCRAFT REQUIRES A RESPONSE.**
- **RESPOND IN TIMELY MANNER, WORKLOAD PERMITTING, WITHOUT UNDUE DELAY.**
- **DO NOT SEND FREE TEXT MESSAGES – Exception with EMERGENCY messages**
- Best practices, for multi-crewed aircraft:
  - Independently & silently review an uplinked CPDLC message sent to the aircraft.
  - Agree on content & intent of CPDLC message.
  - Confirm change & take the action: FMS or Flight Guidance Mode change, etc.
  - Confirm & agree before sending a CPDLC response, report, or request to ATC.
- Responses to a CPDLC messages should be via CPDLC, and responses to voice messages should be via voice.
- If a CPDLC message is unclear or conflicting, clarify with ATC using voice.

### Responding to a CPDLC Message

Each CPDLC message sent to the aircraft requires a response. That response should be accomplished in a timely manner, workload permitting, but without undue delay. A response timer is started when the message is first sent to the aircraft. This time alerts the controller if the pilot fails to respond to a CPDLC message in a timely manner. Additional time is provided for CPDLC messages involving the loading of a route into the FMS to allow route crosscheck/verification procedures. A reply of ACCEPT/WILCO, ROGER, or REJECT/UNABLE is required for every CPDLC message.

### When to use ACCEPT/WILCO or ROGER

Avionics systems may display either ACCEPT or WILCO for a positive response to the ATC message. Respond with an ACCEPT/WILCO the CPDLC clearance when:

- After reviewing the uplinked CPDLC message per SOP's and determining the uplinked CPDLC clearance is acceptable.
- If loadable route information is included with the CPDLC message:
  - After selecting the LOAD prompt and the FMS indicates the clearance has been successfully loaded, no FMS discontinuities exist, and the loaded route is acceptable per SOP's.
  - Manual entry of a STAR and STAR runway transition may be necessary with some FMS systems.

*Note: Some CPDLC systems display a "ROGER" in lieu of "ACCEPT" to acknowledge messages that do not involve a clearance. These messages may be system-generated without the controller's knowledge. Systems that display "ACCEPT" in lieu of "ROGER", when activated by the pilot, also send a "ROGER" response to the ground to acknowledge these types of messages.*

## When to use REJECT/UNABLE

Avionics systems may display either REJECT or UNABLE for a negative response to the ATC message. Respond REJECT/UNABLE to the CPDLC clearance when:

- The uplinked CPDLC clearance is not acceptable.
- The FMS cannot load the route, or it loads only part of the route, and pilot/flight crew are unable to resolve the clearance.
- The FMS indicates inconsistencies or discontinuities with the route modification that are not addressed by en route or terminal charts and that the pilot/flight crew is unable to resolve.
- When SOPs require the pilot/flight crew to obtain a new clearance.

After responding with REJECT/UNABLE, use voice to clarify a clearance due to any confusion concerning clearance intent, loading failures, route discontinuities, inconsistencies or CPDLC system failures. Do not respond using free text.

## When to use Standby

Select STANDBY only when a timely response is not practical. For example, when additional time is needed to assess the clearance. **STANDBY should not be a standard response to every uplink, it does not close the CPDLC message.** A CPDLC message is closed when the crew responds ACCEPT/WILCO, ROGER, or REJECT/UNABLE. Selecting STANDBY does not change the expected response time.

## When to use FREE TEXT

**DO NOT SEND FREE TEXT TO THE GROUND/ATC unless part of an EMERGENCY MESSAGE.** The controller working the aircraft **will not** receive a FREE TEXT message sent from the aircraft. See *Section 12. Emergency CPDLC Messages* concerning use of FREE TEXT with emergency messages sent to ATC.

## Using Pre-formatted REPORTS

Some CPDLC messages sent by ATC to the aircraft require a report back from the aircraft, for example, the CONFIRM ASSIGNED ALTITUDE (CAA) CPDLC message. These reports are pre-defined in the avionics as "REPORTS", and for some avionics, may pre-fill with information extracted from the FMS or from the aircraft's air data systems. Respond only using these pre-formatted REPORTS. Do not respond to the ATC CPDLC messages using FREE TEXT or append additional FREE TEXT with your response.

## Unclear or conflicting CPDLC message from ATC

If a CPDLC message is unclear or conflicting, always clarify with ATC using voice and then respond to the CPDLC message to close the message dialog.

### 3. U.S. En Route CPDLC Deployment

#### Key Points:

- Only Air Route Traffic Control Centers (ARTCC – e.g., “Washington Center”) will provide En Route CPDLC services
- CPDLC services are **not provided** while operating within a Terminal Radar Approach Control (TRACON) (e.g., “Potomac Approach”)
- CPDLC is **not used** to issue approach clearances or to issue a frequency change to an air traffic control tower
- ARTCC’s where En Route CPDLC is in use is identified by a HI & LO IFR En Route chart annotation.
- The latest En Route CPDLC deployment map is located: [www.dcis.harris.com](http://www.dcis.harris.com)

#### Where En Route Services are Provided

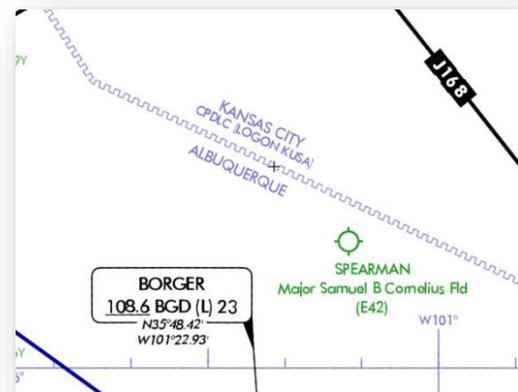
Only Air Route Traffic Control Centers (ARTCC – e.g., “Washington Center”) will provide En Route CPDLC services. CPDLC services are not provided while the flight is under control of the Terminal Radar Approach Control (TRACON) (e.g., “Potomac Approach”). If a route or altitude will enter TRACON airspace, and the flight will be under the control of the TRACON before reentering En Route airspace, CPDLC services will not be available until the flight is back under the control of an En Route CPDLC facility. The flight crew will receive a message alerting them that CPDLC operations are suspended once communication is transferred to the TRACON (CPDLC NOT IN USE UNTIL FURTHER NOTIFICATION).

#### Notification of Deployment

When an ARTCC begins 24/7 En Route CPDLC services, a NOTAM is issued, and an annotation is made on the ARTCC boundary depiction on the U.S. HI and LO IFR En Route charts with the correct CPDLC logon: “KUSA”.

#### Discretion to use CPDLC Services

Using CPDLC is at the controller’s discretion. If the controller uses voice to communicate with the aircraft, pilots must respond using voice and not use CPDLC. Pilot desiring not to use En Route CPDLC services should not logon to “KUSA”.



## 4. Participating in U.S. Domestic En Route CPDLC – Flight Plan Filing & Flight Planning

### Key Points:

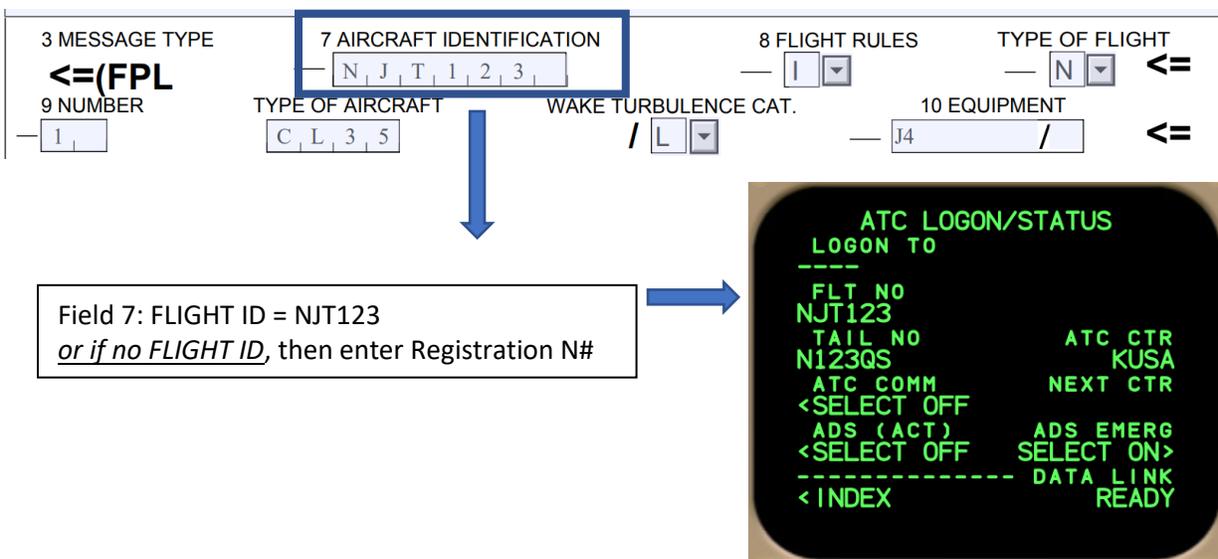
- To signify a desire for U.S. Domestic En Route CPDLC, file the following items in the ICAO Flight Plan:
  - In Field 7:** When filing a flight plan ensure that the aircraft’s FAA/ICAO approved Flight ID is included in Field #7. If no Flight ID applies, flights must use the tail number for Field 7.
  - In Field 10a:** Include “J4” in Field 10 to indicate VDL Mode 2 Capability
  - In Field 18:** Include:
    - “DAT/FANSE” or “DAT/FANSER”, as applicable (see AC 90-117 for details)
    - “REG/<aircraft registration>” when using an approved Flight ID in Field 7, e.g., “REG/N123HS”
- L3Harris has published a detailed [U.S. Domestic CPDLC Flight and Route Planning Guide](https://www.l3harris.com/datacomm) to support En Route CPDLC available at <https://www.l3harris.com/datacomm>.

### ICAO Flight Plan:

The aircraft must be equipped with a with a FANS 1/A or FANS 1/A+ avionics system using VHF Datalink (VDL) Mode 2. To signify a desire to participate in En Route CPDLC in the U.S. NAS, annotate the ICAO Flight Plan with the following entries.

### Field 7:

- Enter the aircraft’s registration **or** the FAA/ICAO approved Flight ID in Field 7
- When filing an approved Flight ID, this Flight ID must be entered into the FANS LOGON page Flight ID field **exactly as filed**
- Do not use IATA (two-character) air carrier flight designations



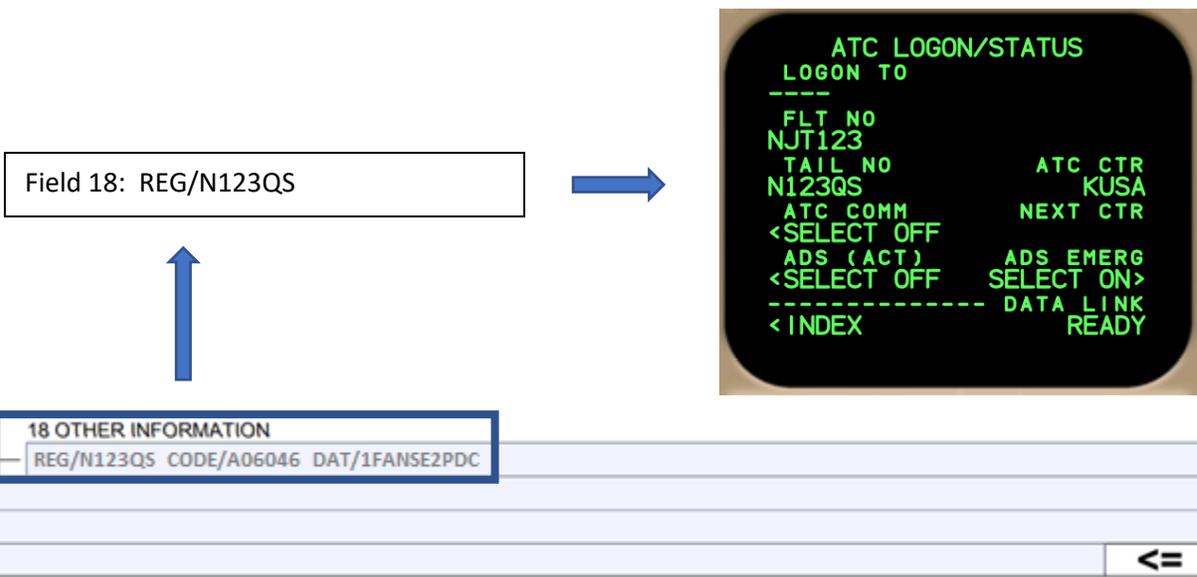
**Field 10a:**

- File the code "J4" in Field 10a to indicate this capability, this is the only permitted CPDLC media type in the U.S. NAS as per AC 90-117

3 MESSAGE TYPE <=(FPL	7 AIRCRAFT IDENTIFICATION N J T 1 2 3	8 FLIGHT RULES I	TYPE OF FLIGHT N	<=
9 NUMBER 1	TYPE OF AIRCRAFT C L 3 5	WAKE TURBULENCE CAT. / L	10 EQUIPMENT J4	<=

**Field 18:**

- **If a Flight ID is entered in Field 7**, ensure that the Registration Number (e.g., N-number) is included in the REG/ entry within Field 18
- It is important that the registration number in this field correlate with the ADS-B Mode S Address (also known as the ICAO Address) filed for the aircraft in the CODE/ entry (if these items do not correlate, the CPDLC session will be terminated)
- To participate in U.S. domestic En Route CPDLC, the pilot/operator must file either "DAT/FANSE" or "DAT/FANSER" in Field 18 (Refer to the L3Harris *U.S. Domestic CPDLC Flight and Route Planning Guide* for filing options DAT/ codes)
  - o FANSER Aircraft:
    - DAT/FANSER identifies a small group of aircraft with an FMS that is unable to load a STAR when a route CPDLC message is uplinked to the aircraft or require landing runway information to load
    - Operators should confirm with their OEMs concerning the need to file DAT/FANSER
    - Aircraft not affected by this restriction should file DAT/FANSE
- The registration number must be entered into the FANS LOGON page Flight ID field **exactly as filed**



## Datacom Clearance (DCL) and Pre-Departure Clearance (PDC)

Operators/pilots who file DAT/1FANSE or DAT/1FANSER will also receive Datalink Clearances (DCL) at those airports where DCL is provided. To specify a preference for DCL or PDC clearances, see the L3Harris *U.S. Domestic CPDLC Flight and Route Planning Guide* for filing DAT/ code options.

## Flight Planning & Route Planning Considerations

Receiving a clearance via DCL & CPDLC requires strict adherence to flight plan route planning and route construction requirement. Route planning tools that significantly improve the chance of obtaining a “cleared as filed” (CAF) clearance are available at the FAA’s Air Traffic System Command Center’s website under the Route Management Tools: [https://www.fly.faa.gov/rmt/coded\\_departure\\_routes.jsp](https://www.fly.faa.gov/rmt/coded_departure_routes.jsp)

There are several important rules that must be followed to receive a clearance via CPDLC. These are:

1. Filing of an airway must include both an entry and exit point (NAVAID or waypoint).
  - a. Unnamed airway intersections are not loadable via CPDLC.
  - b. A fix-radial-distance (FRD) point may be used describe a route between NAVAIDs in place of radial-to-radial routing or an unnamed airway junction.  
(e.g., ..TCH..TCH094074..MTU..).
2. Pilot defined waypoints supporting random RNAV routes are not loadable.
3. On departures, the first route elements must be a fix or a SID/ODP. Use of a SID must exit either at the common segment terminus waypoint or transition terminus waypoint. You may not exit the SID at random waypoint.
4. Use of a STAR, enter at the first transition waypoint or at the first waypoint on the common route. It is desirable to fly an appropriate STAR transition. Do not enter a STAR at a random waypoint.

Pilots **must avoid filing multiple flight plans** from a departure airport in anticipation of changing conditions or destinations. Doing so negatively impacts the flight plan correlation process and could lead to an invalid clearance being issued to the departing aircraft.

If a flight plan needs to be amended, cancel the old flight plan before re-filing the new flight plan.

## Aircraft Change (Tail Swap) Procedures

Prior to CPDLC, aircraft changes involving a simple tail swap between the same type of aircraft could be handled with the local controller (e.g., clearance delivery). With CPDLC, this is no longer possible as this creates problems with ARTCC controllers managing flight plan correlation between aircraft using CPDLC.

If a tail swap is necessary, the flight plan with the old aircraft tail number should be canceled and a new flight plan with the new tail number should be filed if the pilot intends to use DCL or En Route CPDLC. Failure to follow these procedures could result in the aircraft’s tail number being placed on the CPDLC block list.

If it is not possible to cancel the old flight plan, and the tail swap is coordinated with the local ATC, **DO NOT LOGON TO KUSA OR USE CPDLC FOR THE FLIGHT.**



Additional flight planning information may be found in the *U.S. Domestic CPDLC Flight and Route Planning Guide* to support En Route CPDLC available at <https://www.l3harris.com/datacomm>

## 5. Logging on for CPDLC Services

### Key Points:

- **Prior to logging on, verify:**
  - That the filed flight plan is loaded in the FMS to include filed SID/ODP and STAR
  - That the registration (tail number) and/or Flight ID, departure airport, and destination airport match what is filed the ICAO flight plan.
- **Log on using “KUSA”:**
  - At DCL airports: At least 30 minutes prior to filed departure time to obtain DCL.
  - At Non DCL airport: At the pilot’s discretion; RECOMMENDED to logon on ground.
  - Prior to entry into U.S. airspace if CPDLC is not already in use.
- A successful connection is indicated when the FANS displays a logon established “KUSA”.
- A valid logon remains even if a CPDLC session has not been established with ATC.
- A logon is required only once per flight unless LOGON FAIL or RELOGON MESSAGE is displayed.
  - Attempting additional logons will terminate an existing CPDLC session in En Route airspace.
  - Unless you receive a LOGON FAIL or RELOGON MESSAGE, do not re-logon.

### Logon Procedures

Before logging on to KUSA, verify the following flight-specific information is entered into the FMS:

1. The flight plan is loaded into the FMS, including the SID/ODP and STAR.
2. The Flight ID entered into the FMS matches either the aircraft’s registration or the Flight ID filed in Field 7 of the flight plan.
3. If logon requires a separate entry of the tail number and when a Flight ID is also used, ensure that the tail number entered is identical to that used in the REG/ field in Item 18 of the filed flight plan.
4. Both departure and destination airports are the same as those filed in the flight plan.

These steps are necessary to ensure that the FAA’s CPDLC system can correlate a logon attempt with the IFR flight plan filed for that aircraft. Loading the filed flight plan, including a SID/ODP & STAR if filed, into the FMS prior to logging on at a DCL airport ensures that any ATC route modifications to the filed flight plan can be loaded directly into the FMS using the “Push-to-Load” feature of the system.

“KUSA” is the single National Data Authority (NDA) in the U.S. Domestic Airspace. Do not log on using the ARTCC identifier (e.g., KZKC for Kansas City ARTCC).

A logon to “KUSA” can occur up to four (4) hours prior to the filed departure time or prior to penetrating US airspace if arriving internationally and not using CPDLC service. At airports with DCL service, logon should be made at least 30 minutes prior to the proposed departure time to receive your IFR clearance.

Flight crews should wait at least 10 minutes after landing before initiating a new CPDLC logon to ensure that FAA’s system will have enough time to clear previous flight information.

A logon to “KUSA” can be accomplished using VDL Mode 2, VDL Mode 0 – also known as ACARS, or SATCOM. This will enable logging on when the aircraft is outside the range of VDL Mode 2 ground stations. It is therefore highly recommended that pilots log on to “KUSA” while on the ground as part of their normal preflight preparation. You do not need to wait until airborne to log on. However, before a CPDLC session between the aircraft and ATC is allowed, the aircraft must be using VDL Mode 2 for En Route CPDLC.

During oceanic operations, VDL Mode 2 may have been disabled in order to enable CPDLC via SATCOM. If this is the case, then the flight crew should ensure that VDL Mode 2 is reactivated prior to logging on to “KUSA” while airborne prior to oceanic exit.

Indications of a successful logon to “KUSA” will vary with FANS equipment:



Normally, a logon to “KUSA” is required only once per flight unless LOGON FAIL, RELOGON MESSAGE, or similar message is displayed (refer to operating manuals). Attempting additional logons or multiple logon attempts will terminate an existing CPDLC session and establish a new session. Multiple logon attempts can result in a rejection of service.



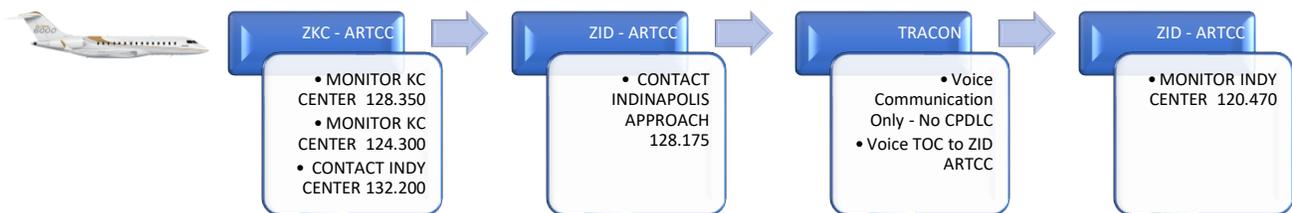


The CDA will remain “KUSA” while operating within U.S. domestic airspace. An active CPDLC session will transfer as the aircraft flies from one ARTCC to another.

If the aircraft **is not departing** from a DCL airport and the aircraft has logged on to KUSA, CPDLC messaging may begin once the aircraft receives and acknowledges the welcome message: “CONFIRM CPDLC CONTACT WITH KUSA. ROGER/ACCEPT THIS MESSAGE” and the aircraft has checked in via voice with the controlling ARTCC.

If the aircraft **is departing** from an airport with DCL services, the CDA remains “KUSA” and the ARTCC controller may begin CPDLC messaging once control of the aircraft is transferred to the ARTCC and the aircraft has checked in via voice. In this case, no welcome message is sent to the aircraft since a CPDLC session was established on the ground.

### Transfer of Communication (TOC)



As the flight progresses from one ARTCC facility to another ATC facility (e.g., from ZKC to ZID), the controller can elect to send the communication message via CPDLC. a CONTACT CPDLC message is uplinked to the aircraft providing the next facility frequency. Respond “WILCO/ACCEPT” to the CPDLC message, set the new ATC frequency, then use standard voice procedures to establish contact with the new controller. If the flight progresses into an ARTCC where CPDLC is not in use, the message: “CPDLC IS NOT IN USE UNTIL FURTHER NOTIFICATION” is also sent to the aircraft. Pilots must ACCEPT/ROGER this message.

When transferring communications from sector to sector within the same ARTCC. The receiving controller has two options when using CPDLC. The controller can use a CONTACT message, which is described above. The second option is to use a MONITOR message, this will instruct the flight crew to monitor the next sectors frequency. The crew must also confirm their assigned altitude via CPDLC. The message that the flight deck will receive as an example is MONITOR KC CENTER 128.250 along with a CONFIRM ASSIGNED ALTITUDE message. The pilot will respond to both messages using CPDLC. The CONFIRM ASSIGNED ALTITUDE REPORT is used to report **the last ATC assigned altitude** to the ATC, which is then verified against the last assigned altitude displayed to the controller. The controller will use voice to address any mismatch.



**NOTE: AS OF MAY 2021, ALL TRANSFER OF CONTROL IS BEING ACCOMPLISHED USING THE CONTACT MESSAGE. USE OF THE MONITOR/CONFIRM ASSIGNED ALTITUDE MESSAGES SET IS PLANNED TO BE IMPLEMENTED AT A FUTURE DATE.**

The CONTACT CPDLC message will be used to transfer control to a TRACON facility. While under the control of a TRACON, the CDA-Active Center/Facility will remain “KUSA” but CPDLC services are not provided until the aircraft re-enters ARTCC airspace. Any CPDLC messages sent from the aircraft to ATC will receive the response “UNABLE” along with the message “CPDLC NOT IN USE UNTIL FURTHER NOTIFICATION”.

**Temporary Loss of CPDLC Connection to the Ground**

In rare situations, the aircraft may lose its communication connection with the ground stations. This is indicated to the flight crew through a “NO ATC COMM” or similar message – refer to your OEM manual. In this situation, the CPDLC session with ATC remains active and the CDA-Active Center/Facility still displays “KUSA”, as shown above. **No immediate action is required.** Follow published aircraft procedures, if provided. Await a re-connection with the ground and use voice for ATC communications until reconnection is confirmed. Most important: **DO NOT LOG OFF AND RE-LOG ON TO “KUSA”.**

Pilots should revert to voice for all communications with ATC. CPDLC messages cannot be sent from the aircraft to the ground and vice versa during a period of loss of CPDLC connectivity with the ground stations. If this loss connection with the ground stations continues for an extended period, the active CPDLC session maybe terminated. If this occurs, the CDA-Active Center/Facility will clear and the logon with “KUSA” is terminated. An “ATC COMM TERMINATED” or similar message is may also displayed. Pilots may now attempt to re-log on to “KUSA”.

## 7. ATC Clearances and Pilot Requests Using CPDLC

### Key Points:

- ATC can use CPDLC to issue common ATC clearances.
  - Respond ACCEPT/WILCO or UNABLE/REJECT
- ATC can request a REPORT from the aircraft.
  - Respond using the pre-formatted REPORT page.
  - **DO NOT** respond using FREE TEXT.
- **DO NOT send request using FREE TEXT.** These will be rejected and are not displayed to the controller.
- **DO NOT send multiple requests at the same time in one message to ATC.**
- **DO NOT send a second request of the same type (e.g., Altitude, Route, Voice Contact) when you have not received a response to a previous request.**

### ATC Clearances

The controller may use CPDLC to send common ATC clearances to the aircraft. The pilot should respond ACCEPT/WILCO or UNABLE/REJECT as appropriate to the CPDLC clearance message.

**Do not use FREE TEXT** to send comments, inquires, or requests to ATC in response to an CPDLC clearance message. FREE TEXT CPDLC messages sent to ATC are not displayed to the controller and result in the following message being sent to the aircraft:

“MESSAGE NOT DELIVERED. FREE TEXT/DUE TO REASON NOT SUPPORTED. CONTACT ATC OR RESEND REQUEST”

There are only two (2) pre-formatted “Due To” explanation messages that are accepted by the FAA’s ground system.

1. “Due To Weather”
2. “Due To Performance”

These may be appended to a REJECT/UNABLE response to an ATC CPDLC clearance or to CPDLC REQUEST (single altitude or direct to fix) message sent by the flight crew to ATC.

Do not append additional FREE TEXT commentary to the CPDLC REJECT/UNABLE response or REQUEST message.



### Pilot-Initiated REQUEST Messages Using CPDLC

The pilot may send **the following Pre-formatted REQUEST** messages to ATC using CPDLC:

- REQUEST DIRECT TO [position] – position must be on the current ATC-assigned route.
- REQUEST [altitude] – Do not use block altitudes.
- REQUEST VOICE CONTACT
- EMERGENCY MESSAGES



**Using any other pre-formatted REQUEST available through FANS will generate an error message sent to the aircraft.** If the request is not covered by one of the four pre-formatted REQUESTs (see above), use voice to make your request.

**Send only one request at a time.** Do not send multiple requests in the same CPDLC downlink message to ATC (such as Request Direct to ABC and Request Climb to 350). The FAA ground system will respond “UNABLE” to multiple request downlink messages.

#### **Sending ATC a Request with an Open Transfer of Communications Message**

If the pilot sends a REQUEST to ATC with an open transfer of communications, CONTACT or MONITOR message from one sector to another sector within the current controlling ARTCC (e.g., within ZKC), that request is forwarded to the receiving sector and will remain open and available to the next controller.

However, if the REQUEST is sent with an open transfer of communications, CONTACT message, to a different ARTCC (e.g., transfer of control from ZKC to ZID), the ground system cannot forward the message and will respond UNABLE to the request and send the message “REQUEST AGAIN WITH NEXT ATC UNIT”

#### **Multiple Message Elements in a Single Request from the Aircraft**

Do not send multiple requests in a single downlink. For example, do not send a REQUEST DESCENT TO FL300 and REQUEST DIRECT TO PVD in the same message to ATC. The FAA ground system will respond UNABLE and send the FREE TEXT message “DOWNLINK MESSAGE NOT SUPPORTED”.

All pilot requests should be in the form a single REQUEST message to ATC. For example, the pilot should send a REQUEST DESCENT TO FL300 and then send a separate REQUEST DIRECT TO PVD. ATC can then respond individually to each CPDLC REQUEST message.

#### **ATC Response to a Pilot Request Message**

ATC will respond to a pilot-initiated REQUEST message using CPDLC with either a revised clearance approving the request or with an UNABLE response if they are not able to approve the request. The flight crew must review any UNABLE message sent by ATC. The crew must also reply ACCEPT/ROGER if there is a FREE TEXT explanation accompanying the UNABLE message explaining why ATC was unable to approve the request.

## 8. En Route CPDLC Route Messages

### Key Points:

- Route clearances that ATC can issue via CPDLC:
  - Direct-to-fix: PROCEED DIRECT TO [position]
  - Re-route to a fix on your cleared route: CLEARED TO [position] VIA [routeclearance]
  - Full route clearance: CLEARED [routeclearance]
- Pilots may only request direct-to a fix if that fix is on their active flight plan.
- Use “Push-to-Load” capability to load route clearance sent by ATC into the FMS.
  - Use LOAD or INSERT prompt to insert ATC uplinked clearance into the FMS.
    - Manually load SID and SID transition when clearance received via DCL.
    - Manually load STAR and STAR transitions, when instructed (FANSER aircraft).
  - Review new loaded route clearance.
  - If acceptable, activate/execute the route clearance modification in the FM, and then respond with an ACCEPT/WILCO.
  - Respond with a REJECT/UNABLE if you are unable to accept the clearance.

### Route Messages & Route Requests

U.S. En Route CPDLC allows a controller to issue a new route or a revised route to an aircraft. Re-routes required for traffic management purposes will include the FREE TEXT message “TRAFFIC MANAGEMENT REROUTE”. Flight crew-initiated route change requests are currently limited to a “Direct-To-Fix” request to a waypoint that is on the active flight plan in the FMS and that as part of the current IFR clearance.

### Push to Load Function

CPDLC allows route messages sent by ATC to be directly loaded into the FMS (“Push-to-Load”), a function that is required to use CPDLC within the U.S. NAS. The flight crew **should use this capability** to minimize the potential for data entry errors when executing clearances involving a loadable route.

### Route Verification Text

Except for a PROCEED DIRECT TO [position] uplink, CPDLC re-route uplinks have a FAA-produced FREE TEXT route string representing the changed portion of the CLEARED ROUTE included at the end of the route clearance message to assist in route and leg verification procedures:

----- FOD KG75M DAFLU J70 LVZ LENDY6 KJFK (Full Reroute)

----- CLEARED TO DAFLU VIA FOD KG75M DAFLU (Partial Reroute)

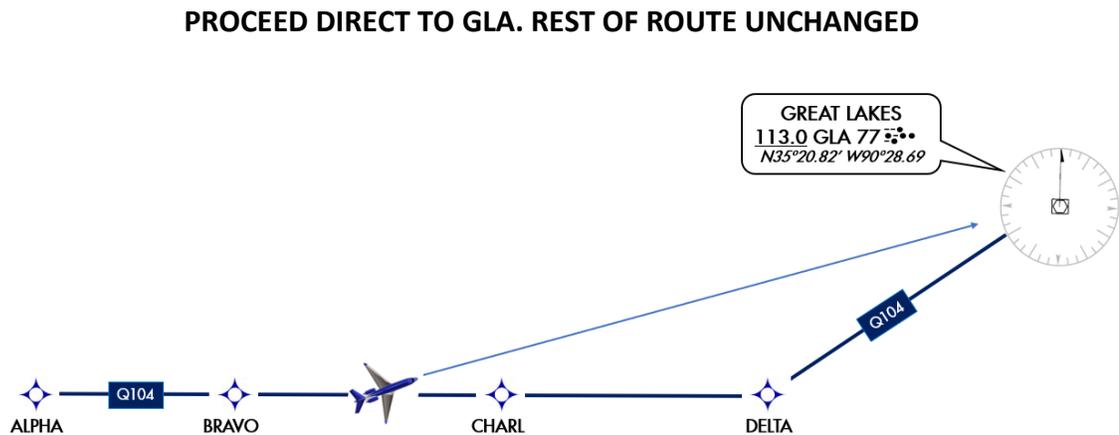
In the event the FAA produced route string exceeds 256 characters, the free text route will be truncated with a “./.” with the destination airport as the last piece of information (e.g., J70 LVZ ./ KJFK). **NOTE, THE ROUTE THAT IS LOADED INTO THE FMS IS THE ATC CLEARED ROUTE.** Resolve any discrepancies between this FREE TEXT route string and the route loaded using the LOAD prompt with ATC via voice.

## Types of Route Clearances

There are three types of route clearances presently issued using CPDLC:

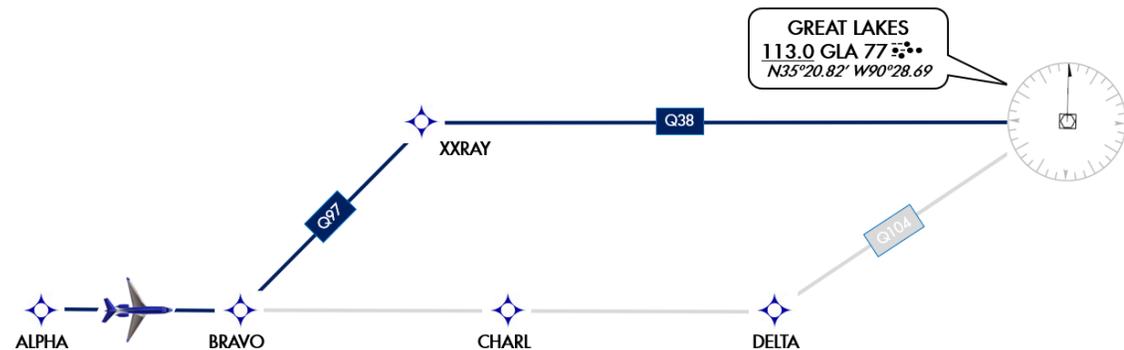
- **PROCEED DIRECT TO [position]** – Clearance to a point (fix, NAVAID, etc.) on the current ATC assigned route. When the [position] is any fix other than the destination, the clearance will include the FREE TEXT CPDLC “REST OF ROUTE UNCHANGED”. Pilot action is required to execute the direct-to-fix change within the FMS. The [position] in a Direct-To-Fix uplink must be on the currently cleared route.

Example:



*Note: If a LOAD prompt is available, it should be used. Not all aircraft have the capability to load information from CPDLC message into the FMS e.g., PROCEED DIRECT TO RBV may not be loadable on one airframe where it is loadable on others. See aircraft documentation for additional information.*

- CLEARED TO [position] VIA [route clearance]** – This is a revised route clearance to a position (fix waypoint, or NAVAID) that is on the current route and ATC clearance. This CPDLC message will include the following elements:
  - The position to which you are re-cleared to (fix, waypoint, or NAVAID),
  - FREE TEXT “LOAD NEW ROUTE TO [position]”, and
  - FREE TEXT “REST OF ROUTE UNCHANGED”.



In the figure above, ATC sends the clearance **CLEARED TO [GLA] VIA [BRAVO Q97 XXRAY Q38]** to the aircraft using **CLEARED TO [position] VIA [route clearance]**. There is no discontinuity at BRAVO because the uplink fix [BRAVO] is in the existing cleared, active flight plan loaded in the FMS.

CPDLC Message Example:

<p>           CLEARED TO GLA VIA ROUTE CLEARANCE            +LOAD NEW ROUTE TO GLA+            REST OF ROUTE UNCHANGED            ----- CLEARED GLA VIA BRAVO Q97 XXRAY Q38            GLA         </p>	or	<p>           CLEARED TO GLA VIA BRAVO Q97 XXRAY Q38            GLA            +LOAD NEW ROUTE TO GLA+            REST OF ROUTE UNCHANGED            ----- CLEARED GLA VIA BRAVO Q97 XXRAY Q38            GLA         </p>
---	----	--

*Note: Some systems may display only the message “CLEARED TO [position] VIA ROUTE CLEARANCE” and the pilot must load the route into the FMS to see/verify the modified route or re-clearance via their Nav Display. Other aircraft may display the actual uplinked route received from ATC. FAA’s Route Verification Text is intended to help resolve any ambiguity.*

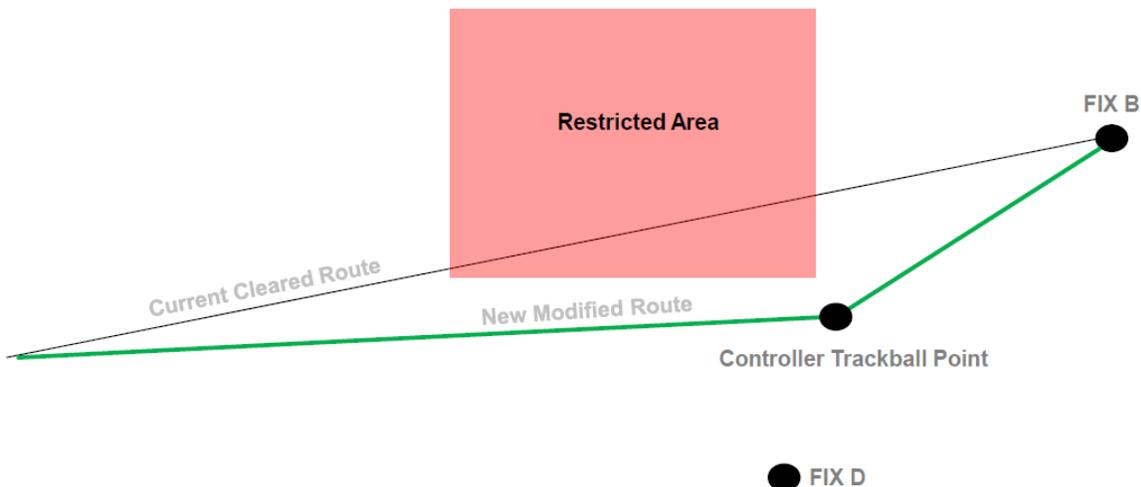
Do not confuse a “CLEARED TO [position] VIA [route clearance]” CPDLC revised route message with a “PROCEED DIRECT TO [position]” CPDLC message. Flight crews have misinterpreted the “CLEARED TO [position] VIA” message as a “direct to” [position] clearance and have executed a “direct to” in the FMS to the “CLEARED TO” waypoint. A “CLEARED TO [position] VIA [route clearance] message will always include the text “+LOAD NEW ROUTE TO [position]+”. **Using the LOAD or INSERT prompt will ensure that the new revised route is loaded into the FMS.**

Revised route messages are most often sent when it is necessary to re-route the aircraft around constrained airspace (e.g., weather/air traffic) or Special Use Airspace:



This revised route may be based on routing points defined by a fix-radial-distance (FRD) from a NAVAID or a LAT/LONG. FRD positions (Place-Bearing-Distance in the FMS) or LAT/LONG positions are included when the controller uses their trackball capability at their station to build the revised route. For example:

- The controller could clear the aircraft around the Restricted Area by re-routing the aircraft over FIX D and then to FIX B as shown above.
- However, the controller may also use the Trackball to build a route based selected points that will provide the required separation from the Restricted Area, but is shorter than a route overflying FIX D.
- The Trackball selected point(s) result in a FRD or a LAT/LONG point being included in the "CLEARED TO [position] VIA [routeclearance]" CPDLC message.
  - CLEARED TO FIX B VIA PXT270030



This capability is a powerful feature of En Route CPDLC in the US NAS. However, its benefit is only realized if flight crews use the LOAD or INSERT (i.e., "Push-to-Load") functionality of the FMS. Do not attempt to build these revised route clearances in the FMS on your own. Use the LOAD or INSERT function.

- CLEARED [route clearance]** – This clearance represents a **new route** that is different from the filed route or the previous routing issued by ATC. This CPDLC route will always include the routing to the destination airport. This uplink is a route replacement; executing the LOAD or INSERT command will cause the FMS to delete your entire active flight plan from the aircraft to the destination and replace it with the uplinked flight plan. It may also delete performance data along with En Route wind & temperature data. For example:

Original ATC Clearance: KMEM to KATL: \_\_\_\_\_  
 BBKNG7 KERMI DCT HUTCC DCT KNSAW DCT RUSSA GLAVN1

New ATC Clearance KMEM to KATL: \_\_\_\_\_  
 SELPH7 SELPH BNA NEWBB IHAVE MTHEW CHPPR1



CLEARED ROUTE CLEARANCE  
 MANUALLY LOAD ARRIVAL MTHEW.CHPPR1 .  
 ----- CLEARED SELPH7.SELPH BNA NEWBB IHAVE  
 MTHEW.CHPPR1 KATL.

OR

CLEARED SELPH7.SELPH BNA NEWBB IHAVE  
 MTHEW.CHPPR1 KATL.  
 ----- CLEARED SELPH7.SELPH BNA NEWBB IHAVE  
 MTHEW.CHPPR1 KATL.

*Note: Some systems may display only the message “CLEARED ROUTE CLEARANCE” and the pilot must load the route into the FMS to see/verify the new/modified route clearance on the nav display. Other aircraft may display the actual uplinked route received from ATC. FAA’s FREE TEXT is intended to help resolve any ambiguity.*

**PILOTS MUST MANUALLY LOAD THESE ROUTE ELEMENTS** (exceptions to the “Push-to-Load” functionality):

1. SID and SID transitions received via a DCL clearance.
2. STAR runway-dependent transitions (normally selected by loading the approach)
3. STARs only when prompted by the CPDLC message “MANUALLY LOAD ARRIVAL [STAR Name]” (Aircraft that file “DAT/FANSER” due to known STAR loading issues)

CLEARED ROUTE CLEARANCE

**MANUALLY LOAD ARRIVAL OMN.HILEY6.**

CLEARED YAZUU EMJAY J174 ORF ISO J121 CHS J79 OMN.HILEY6 KMIA.

After using the “Push-to-Load” functionality to load CPDLC route clearance, pilots may need to update or re-initialize performance, route wind/temperature data, and airport/alternate data in the FMS.

If no load prompt is displayed on the FMS (e.g., no “LOAD”, “APPLY”, “INSERT” or “ACTIVATE” prompt displayed), this may indicate a partial clearance load, or that a load failure exists. It is possible that the route sent has an unresolvable discontinuity, a partial load occurred, or a failure exists within the system. The crew may select STANDBY and attempt to resolve the discontinuity or the loading issue using SOPs. Otherwise, respond REJECT/UNABLE to the CPDLC message sent by ATC and revert to voice.

If the fix cleared to in the route clearance is too close to the aircraft’s position, or behind the current position, contact ATC via voice for further guidance **before accepting or rejecting the clearance.**

## 9. En Route CPDLC Altitude & Speed Messages

### Key Points:

- Altitude clearances may be issued by ATC via CPDLC.
  - Climb Via & Descend Via clearances are not issued using CPDLC.
  - DCL may include a Climb Via clearance (but recall that SIDs must be manually inserted).
- Pilots may request **a single altitude**
- DO NOT use FREE TEXT to request an altitude.
- CPDLC will be used to send the current local altimeter setting when below FL180 or assigned an altitude that is below FL180. You must ACCEPT/WILCO this altimeter setting CPDLC message.
- ATC may send a CONFIRM ASSIGNED ALTITUDE (CAA) CPDLC message.
  - Pilots must use the CONFIRM ASSIGNED ALTITUDE REPORT function to send this report.
  - DO NOT respond using FREE TEXT

### Types of Altitude and Speed Messages

ATC may send the following CPDLC altitude instructions to an aircraft:

- MAINTAIN [altitude]
- CLIMB TO AND MAINTAIN [altitude]
- DESCEND TO AND MAINTAIN [altitude]
- EXPEDITE CLIMB TO [altitude]
- EXPEDITE DESCENT TO [altitude]
- IMMEDIATELY CLIMB TO [altitude]
- IMMEDIATELY DESCEND TO [altitude]
- CROSS [position] AT AND MAINTAIN [altitude]
- CROSS [position] AT AND MAINTAIN [altitude] AT [speed]

ATC may include “AT PILOTS DISCRETION” to an uplinked altitude message.

*Note: CPDLC is not used to issue immediate or expeditious clearances unless voice communication is not operationally feasible or when voice communications have failed.*

Pilots/Flight Crews may send the following CPDLC altitude REQUESTS to ATC:

- REQUEST [altitude] – Single altitude only. Cannot request a block altitude.
- REQUEST CLIMB TO [altitude]
- REQUEST DESCENT TO [altitude]

*NOTE: Some aircraft may only have a single flight crew selectable altitude request. The avionics will send the appropriate clearance request e.g., REQUEST CLIMB TO [altitude] or REQUEST DESCENT TO [altitude] based on aircraft automation.*

**PILOTS MUST NOT APPEND “AT PILOTS DISCRETION” TO THIS ALTITUDE REQUEST.**

However, pilots may append these preformatted message explanations this altitude REQUEST:

- “Due to Weather”
- “Due to Performance”

**DO NOT USE ANY OTHER PRE-FORMATED MESSAGES OR ADD FREE TEXT TO THE REQUEST.** Revert to voice with any other request or explanation.

When an altimeter setting is required to be provided with an altitude clearance, ATC will send a CPDLC altimeter setting message. Pilots must ACCEPT/ROGER the CPDLC message.

The En Route CPDLC provided altimeter setting is not to be used for final approach. Use normal altimeter setting procedures when conducting approach maneuvers within TRACON or Tower airspace. In the event a Remote Altimeter Setting Source (RASS) is required for operations into a facility’s airspace/approach flight crews should use approved procedures in obtaining the appropriate RASS before commencing such operations.

When a controller requires a verification of assigned altitude, the controller may send a CONFIRM ASSIGNED ALTITUDE (CAA) request to the aircraft. The flight crew will select the requested REPORT and respond with an ASSIGNED ALTITUDE report indicating their assigned altitude, which may be the altitude set in the altitude pre-selector.

**DO NOT USE FREE TEXT TO REPORT ASSIGNED ALTITUDE.**

ATC will not use CPDLC to issue “Climb Via” or “Descend Via” clearances, which are not currently supported by the CPDLC message set defined by the ICAO Global Data Link Manual. Pilots should expect “Climb Via” and “Descend Via” clearances via voice.

## 10. Controller Uplink Cancellation

### Key Points:

- ATC will cancel a CPDLC clearance issued in error and issue alternate instructions using voice.
- Phraseology:

DISREGARD CPDLC (type) CLEARANCE (description of clearance) AND SEND AN UNABLE (clearance)

*“American Fifty-Two, disregard CPDLC altitude clearance to flight level three five zero and send an unable. Climb and maintain flight level three one zero.”*

*“Delta Four Twenty-Three, disregard CPDLC route clearance direct Memphis and send an unable. Cleared direct Nashville, direct Memphis, rest of route unchanged.”*

- Flight crew must REJECT/UNABLE the CPDLC message sent in error by ATC.

In rare circumstances, a controller may need to override a CPDLC clearance sent to the aircraft and issue alternate control instructions. The CPDLC clearance being overridden may not have been received on the flight deck at the time of this voice communication. This phraseology tells the pilot exactly which clearance requires an UNABLE response.

## 11. En Route CPDLC Termination, Transfer, & Log Off

### Key Points:

- When En Route CPDLC is not in use by an ARTCC, aircraft receives message:

CPDLC NOT IN USE UNTIL FURTHER NOTIFICATION

- CDA will remain “KUSA” on Logon/status page.
- No CPDLC messages except EMERGENCY REPORTS can be sent.
- CPDLC sessions are automatically terminated by FAA when flight will no longer need CPDLC services.
- CPDLC sessions are automatically transferred between the U.S. domestic airspace border and international border when CPDLC is used in both airspaces.
- If CPDLC is not in use in the receiving airspace or the aircraft is not eligible for CPDLC services, CPDLC services are terminated at handoff.

### Non CPDLC Equipped Airspace

Except when operating in TRACON airspace or non-domestic airspace, aircraft are automatically notified when En Route CPDLC is not in use by an ARTCC and the following CPDLC message is sent to the aircraft:

CPDLC NOT IN USE UNTIL FURTHER NOTIFICATION

Flight crews have the option to terminate the use of CPDLC by logging off from “KUSA”, providing they have accepted/rejected all pending clearances that require a response. This also applies to military aircraft entering Special Use Airspace (SUA).

All accepted CPDLC clearances up to that point remain in force unless ATC issues an amended clearance.

### Aircraft Outbound from the U.S.

The FAA ground system will initiate a CPDLC transfer to an adjacent CPDLC enabled external facility (e.g., CZEG - Edmonton Center, Canada) automatically and without flight crew action. The FAA ground system sends a Next Data Authority (NDA) message to notify the aircraft avionics of the identity of the next Air Traffic Service Unit (ATSU) permitted to establish a CPDLC connection, for example, CZEG. The FAA ground system will then instruct the aircraft to automatically log on to the next ATSU allowing it to establish an NDA CPDLC connection. When the aircraft is near the next ATSU’s airspace, a CONTACT CPDLC message is sent to the pilot(s). Once the pilot sends ACCEPT/WILCO to the CONTACT CPDLC, the next ATSU identified as “NDA” automatically becomes the CDA.

If the aircraft enters adjacent Non-U.S. airspace (e.g., Mexico) where CPDLC services are not provided, or if the aircraft enters oceanic airspace but did not file as Satellite Communication (SATCOM) equipped in the flight plan, then flight crews can expect a termination of CPDLC services upon handoff via voice or via a CONTACT CPDLC message. Any future CPDLC connection must be initiated by the flight crew if desired.



## **Aircraft Inbound to the U.S.**

The FAA will coordinate with the adjacent FIRs and ensure that as soon as En Route CPDLC is in use at any ARTCC, NDA processing will occur in the adjacent FIR so the aircraft will automatically log on to KUSA and KUSA will become CDA upon transfer of control. The CPDLC welcome message is sent to the aircraft.

*Note: During the initial 2019 En Route CPDLC rollout, in some cases the CDA session with the adjacent FIR will be terminated prior to the NDA session being setup with the aircraft, because the first CPDLC enabled ARTCC is not a boundary ARTCC. In this case, the flight crew will receive an indication that the CPDLC session is terminated, rather than a change in CDA. The previous logon to KUSA will be removed from the avionics in some aircraft. When this occurs, the flight crew will need to manually log on to KUSA. When the aircraft approaches a CPDLC enabled ARTCC, session initiation will occur. The aircraft may never receive a session if they do not fly into a CPDLC enabled ARTCC.*

## 12. Emergency Messages

### Key Points:

- **VOICE REMAINS PRIMARY FOR EMERGENCY COMMUNICATIONS**
- Pilots can send a CPDLC EMERGENCY REPORT to ATC.
  - FREE TEXT can be used only with EMERGENCY messages, but only as a one-way aircraft to ground link (e.g., in case of loss of VHF voice radio capability).
- ATC will receive the CPDLC EMERGENCY REPORT but will not acknowledge it using CPDLC.
- Pilot & controller will revert to voice to resolve the emergency.

### Emergency CPDLC Messages

The flight crew may send the following EMERGENCY CPDLC messages to ATC:

- PAN PAN
- MAYDAY MAYDAY
- [remainingfuel] OF FUEL REMAINING AND [remainingsouls] SOULS ON BOARD
- CANCEL EMERGENCY
- DIVERTING TO [position] VIA [routeclearance]
- OFFSETTING [distanceoffset] [direction] OF ROUTE
- DESCENDING TO [altitude]
- [freetext]



**FREE TEXT is permitted when sending an EMERGENCY REPORT. This is an exception to the general rule and anticipates situations where VHF voice radios may be unusable.**

When an emergency downlink is received, the En Route Controller can display and review the emergency message but is not able to acknowledge the emergency downlink via CPDLC. Flight crews can expect voice contact from the controller and both parties should use standard operating procedures to resolve the emergency condition.

If an aircraft is transiting airspace where a CPDLC session is not active, the emergency message will be made available to a supervisor of the En Route facility. In addition, the National CPDLC site will receive an alert that will be provided to the affected facility notifying that an Emergency downlink has been received.



## 13. Quick Reference Card

Below is the Quick Reference Card (QRC) which is a short and concise document that lists the best practices for using En Route CPDLC. This Quick Reference Card was designed to be referenced on the go, on an iPad or mobile device for pilots.

## Enroute CPDLC Quick Reference Guide

### Flight Plan Requirements

- ✦ Verify Reg Number or Flight ID in Item 7
- ✦ Include in Item 10a "J4" to indicate VDL Mode 2 capability
- ✦ Verify REG/ and CODE/ in Item 18
- ✦ Include in Item 18 for En Route CPDLC:
  - "DAT/FANSE", or
  - "DAT/FANSER" for aircraft with STAR loading issues
  - May substitute "DAT/1FANSE2PDC" or "DAT/1PDCFANSE"

### On CPDLC LOGON STATUS PAGE/MENU

- ✦ Verify
  - Registration Number
  - Flight ID
- ✦ LOAD Flight Plan:
  - Departure Airport
  - Destination Airport
  - Route
  - SID/ODP & Dept. Runway
  - STAR

### Logon for DCL or CPDLC Services

- ✦ Log on using "KUSA"
  - DCL Airports: EDT - 30 minutes
  - Other Airports: EDT - 5 minutes

*If network coverage available, log on is accepted on the ground. Otherwise, log on is accepted once airborne and within network coverage.*

- ✦ Successful log on – CDA/ATC CTR shows "KUSA"
- ✦ Do not re-log on if CDA/ATC CTR shows "KUSA"

### Initiation & Management of En Route CPDLC Services

- ✦ Start of in-flight CPDLC services begins with welcome message:

"CONFIRM CPDLC CONTACT WITH  
KUSA. ROGER/ACCEPT THIS MESSAGE"

*Except when departing a DCL airport*
- ✦ Respond to the welcome message with ACCEPT/WILCO  

*CPDLC services transfer from ARTCC to ARTCC  
Suspended while operating in TRACON airspace*

### Enroute CPDLC Quick Reference Guide

### "NO COMM" or "DATALINK LOST"

*These indicate a temporary loss of datalink communications with the ground.*

- ✦ Verify CDA/ATC CTR is still "KUSA"
- ✦ If CDA/ATC CTR is "KUSA", no immediate action is required. DO NOT RE-LOGON
- ✦ Follow published aircraft procedures, if available. Await re-connection with the ground. Use voice for ATC communications until reconnection is confirmed
- ✦ If the NO COMM state continues for 16 minutes, then the active CPDLC session will terminate and the CDA will clear
- ✦ If CDA/ATC CTR does not show "KUSA", attempt re-log on. If not successful, contact ATC via voice

### Recommended Pilot/Flight Crew CPDLC Procedures

- ✦ Every CPDLC message sent by ATC requires a response
- ✦ Respond as soon as possible to all CPDLC messages
- ✦ Respond appropriately:
  - ACCEPT/WILCO/ROGER
  - REJECT/UNABLE
  - STANDBY  
*If STANDBY selected, follow with a  
ACCEPT/REJECT or WILCO/UNABLE  
response*
  - Select REPORT
- ✦ When appropriate, for multi-crewed aircraft:
  - Independently & silently review an uplinked CPDLC message sent to the aircraft
  - Agree on content & intent of CPDLC message
  - Confirm change & take the action: FMS or Flight Guidance Mode change, etc.
  - Confirm & agree before sending a CPDLC response, report, or request to ATC

### ATC CPDLC Reports

- ✦ ATC can request a REPORT using CPDLC (e.g. CONFIRM ASSIGNED ALTITUDE)
- ✦ Respond using the pre-formatted REPORT page

### Pilot Requests Using CPDLC

- ✦ Send only these pre-formatted REQUESTS via CPDLC to ATC
  - REQUEST [altitude] – request a single altitude  
*Do not request block altitudes*

### REQUEST VOICE CONTACT

- REQUEST DIRECT TO [position] *position must be on the current ATC assigned route.*
- EMERGENCY MESSAGES
- ✦ DO NOT send any other pre-formatted REQUEST *They are not currently supported*
- ✦ Send ONLY ONE REQUEST with each CPDLC message

#### CPDLC Route Messages

- ✦ Route clearances issue via CPDLC:
  - PROCEED DIRECT TO [position] *Direct-to-fix*
  - CLEARED TO [position] VIA [route clearance] *Re-Route to a fix on your current cleared route*
  - CLEARED [route clearance] *Full Route Clearance – Replaces entire flight plan*
- ✦ Load route clearance sent by ATC into the FMS
  - Select LOAD, APPLY, or INSERT new route into FMS
  - Manually insert Departure Procedures
  - Manually insert Arrival Procedures, when required
- ✦ Review new route clearance
- ✦ If acceptable, activate the new route clearance in the FMS, respond ACCEPT/WILCO
- ✦ If not acceptable, respond REJECT/UNABLE

#### HELPFUL REMINDERS:

- NEVER USE FREE TEXT EXCEPT FOR AN EMERGENCY
- VOICE REMAINS PRIMARY FOR EMERGENCY COMMUNICATIONS
- ALWAYS REVERT TO VOICE TO CLARIFY IF THERE IS CONFUSION

#### Enroute CPDLC Quick Reference Guide

##### CPDLC Altitude Messages

- ✦ Use CPDLC to request a single altitude
- ✦ ACCEPT/WILCO an altimeter setting CPDLC message
- ✦ Respond to a CONFIRM ASSIGNED ALTITUDE REPORT request:
  - Select & send ALTITUDE REPORT

##### CPDLC Termination, Transfer, & Log Off

- ✦ “CPDLC NOT IN USE UNTIL FURTHER NOTIFICATION”
  - Indicates En Route CPDLC is not in use
  - CDA/ATC CTR remains “KUSA” • No CPDLC messages except EMERGENCY REPORTS can be sent
- ✦ CPDLC sessions are automatically transferred between the U.S. domestic airspace and international FIR when CPDLC is used in both airspaces
- ✦ If CPDLC is not in use in the receiving FIR, or the aircraft is not eligible for CPDLC services, CPDLC services are terminated at handoff

##### CPDLC Emergency Messages

- ✦ **VOICE REMAINS PRIMARY FOR EMERGENCY COMMUNICATIONS**
- ✦ Pilots may send a CPDLC EMERGENCY REPORT to ATC if voice is not available
- ✦ ATC will receive the CPDLC report but **will not** acknowledge it using CPDLC. ATC will attempt to contact the aircraft via voice
- ✦ FREE TEXT can be used only with EMERGENCY messages, but only as a one-way aircraft to ground link – e.g., in case of loss of VHF voice radio capability

## Terms and Acronyms

### Acronym Definition

ACARS	Aircraft Communications Addressing and Reporting System
ACID	Aircraft Identification (Code)
ACK	Acknowledge
ADAR/PDAR	Adapted Departure-Arrival Route/Preferential Departure-Arrival Route
ADR/PDR	Adapted Departure Route/ Preferential Departure Route
ANSP	Air Navigation Service Provider
AOC	Airline Operations Center
ARTCC	Air Route Traffic Control Centers
ATC	Air Traffic Control
ATS	Air Traffic Services
ATSU	Air Traffic Services Unit
CAA	Confirm Assigned Altitude
CAF	Cleared As Filed
CDA	Current Data Authority
CPDLC	Controller-Pilot Data Link Communication
CSP	Communication Service Provider
DAT	Data Application information
DCIT	Data Comm Implementation Team
DCL	Departure Clearance
DCNS	Data Communications Network Service
DM	Departure Message
DP	Departure Procedure
DPP	Departure Procedure information (SID/Climb via and Climb out)
ERAM	En Route Automation Modernization
ERR	Error indicator
FAA	Federal Aviation Administration
FANS	Future Air Navigation System
FIR	Flight Information Region
FLID	Flight Identification
FMS	Flight Management System
FPL/FP	Flight Plan
FRC	Full Route Clearance
IATA	International Air Transport Association
IC	Initial Contact
ICAO	International Civil Aviation Organization
ID	Identification
IFR	Instrument Flight Rules
NAS	National Airspace System
NAVAID	Navigational Aid
NDA	Next Data Authority
PDC	Pre-Departure Clearance
REG	Registration
SATCOM	Satellite Communication
SID	Standard Instrument Departure
STAR	Standard Terminal Arrival Route
STBY	Standby indicator
TDLS	Tower Data Link System
TFM	Traffic Flow Management
TMU	Traffic Management Unit
TOC	Transfer of Communication
TRACON	Terminal Radar Approach Control
UM	Uplink Message
VDL	VHF Data Link
VHF	Very High Frequency

# ICAO Flight Plan Mask

PRIORITY Priorité <<< <b>FF</b> >>>		ADDRESSEE(S) Destinataire(s)	
FILING TIME Heure de dépôt		ORIGINATOR Expéditeur	
SPECIFIC IDENTIFICATION OF ADDRESSEE(S) AND/OR ORIGINATOR Identification précise du(des) destinataire(s) et/ou de l'expéditeur			
3 MESSAGE TYPE Type de message <<< <b>(FPL)</b> >>>		7 AIRCRAFT IDENTIFICATION Identification de l'aéronef <b>H R R S 1 2 3</b>	
9 NUMBER Nombre		10 EQUIPMENT Équipement <b>SDGE3J3J4</b>	
13 DEPARTURE AERODROME Aéroport de départ <b>K J F K</b>		8 FLIGHT RULES Règles de vol	
15 CRUISING SPEED Vitesse croisière		WAKE TURBULENCE CAT. Cat. de turbulence de sillage	
LEVEL Niveau		TIME Heure	
ROUTE Route		TYPE OF FLIGHT Type de vol	
16 DESTINATION AERODROME Aéroport de destination <b>K M C O</b>		TOTAL EET Durée totale estimée HR. MIN	
18 OTHER INFORMATION Renseignements divers <b>REG/N123HS CODE/A05F97 DAT/1FANSE2PDC NAV/D1</b>		ALTN AERODROME Aéroport de dégagement	
2ND. ALTN AERODROME 2 <sup>e</sup> aéroport de dégagement		) <<<	
SUPPLEMENTARY INFORMATION (NOT TO BE TRANSMITTED IN FPL MESSAGES) Renseignements complémentaires (A NE PAS TRANSMETTRE DANS LES MESSAGES DE PLAN DE VOL DÉPOSÉ)			
19 ENDURANCE Autonomie HR. MIN <b>E /</b>		PERSONS ON BOARD Personnes à bord <b>P /</b>	
SURVIVAL EQUIPMENT/Équipement de survie POLAR Polaire DESERT Désert MARITIME Maritime JUNGLE Jungle <b>S / P D M J</b>		JACKETS/Gilets de sauvetage LIGHT Lampes FLUORES Fluores UHF VHF <b>R / U V E</b>	
DINGHIES/Canots NUMBER Nombre CAPACITY Capacité COVER Couverture COLOUR Couleur <b>D / C</b>		AIRCRAFT COLOUR AND MARKINGS Couleur et marques de l'aéronef <b>A /</b>	
REMARKS Remarques <b>N /</b>			
PILOT-IN-COMMAND Pilote commandant de bord <b>C /</b>			
FILED BY/Dépose par		SPACE RESERVED FOR ADDITIONAL REQUIREMENTS Espace réservé à des fins supplémentaires	