

## GEN 3.4 Communication Services

### 1. Responsible Service

VOR and VOR/DME stations and En Route channels/frequencies are operated by Flyvesikringstjenesten/NAVAIR, for address see GEN 3.3 item 1.

TACAN are operated by the Royal Danish Air Force.

The broadcasting station KALUNDBORG is operated by Telestyrelsen. Irregularities will not be published by NOTAM.

All other radio navigation facilities and aerodrome channels/frequencies are operated by aerodrome operators.

The services are provided in accordance with the provisions contained in the following ICAO documents:

Annex 10;	Aeronautical Telecommunications
DOC 8400;	ICAO Abbreviations and Codes
DOC 8585;	Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services
DOC 7030;	Regional Supplementary Procedures
DOC 7910	Location Indicators

Differences to these provisions are detailed in GEN 1.7.

### 2. Area of Responsibility

Communication services are provided for the entire territory of Denmark, including its territorial waters as well as the airspace over the high seas within the København FIR.

### 3. Types of Service

#### 3.1 Radio navigation services

The following types of radio aids to navigation are available:

- Instrument landing system (ILS)
- VHF omnidirectional radio range (VOR)
- Distance-measuring equipment (DME)
- Non-directional beacon (NDB)
- Locator (L)
- VHF direction-finding station (VDF)
- UHF tactical air navigation system (TACAN)

Coordinates of radio navigation facilities refer to the position of the transmitting antenna.

Unless otherwise stated the DME zero range indication is related to the antenna site.

#### 3.2 Mobile service

The aeronautical stations maintain a continuous watch on their stated channels/frequencies during the published hours of service unless otherwise notified

#### 3.3 Broadcast service (ATIS)

ATIS broadcast are in accordance with the procedures specified in Commission Regulation (EU) No 923/2012 and ICAO Doc 7030 EUR.

ATIS frequencies are protected against interference within the area FL 200/60 NM. Reception of broadcast free of interference may therefore only be possible within this area.

ATIS broadcast are established for arriving and departing aircraft at Aalborg, Aarhus, Billund, Karup/Midtjyllands Lufthavn, København/Kastrup, København/Roskilde and Vojens/Skrydstrup. Details of these broadcast are given in the relevant AD 2 - section.

To keep the length of the ATIS broadcast within the recommended 30 seconds the following apply:

- Flow restrictions will not be broadcasted. The pilot-in-command must consult the Airport Briefing Office to obtain information about valid flow restrictions.
- Information about variation in wind direction will be broadcasted only if the mean wind velocity is 6 KT or more.
- At København/Kastrup the information about ice and snow conditions on taxiways and parking areas will be collected into a general information based on the worst values for the area.

#### 3.4 Language used

Unless otherwise indicated the languages used are Danish and English.

#### 3.5 Detailed information

Details of the various facilities available for the En-route traffic can be found in Part ENR.

Details of the facilities available at the individual aerodromes can be found in the relevant sections of Part AD. In cases where a facility is serving both the En-route traffic and the aerodromes, details are given in the relevant sections of Part ENR and Part AD.

### 3.6 Controller-Pilot Data Link Communication (CPDLC)

#### 3.6.1 General

The CPDLC application provides a means of communication between the air traffic controller and the pilot, using a predefined data link message set.

In all CPDLC communications, the highest standard of discipline shall be observed at all times. If uncertainty arises regarding a data link message, voice communication shall be used to clarify the situation.

CPDLC shall only be used for non-time-critical requests, i.e. requests that do not require the immediate reaction of the controller. Nevertheless, as in radiotelephony, the 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 shall repeat the request via radiotelephony.

- CPDLC services are guaranteed for aircraft operating above FL285. Below FL285 CPDLC services are available.
- CPDLC services are available for aircraft operating within KØBENHAVN TMA.
- CPDLC service are available for ATC initiated frequency changes for traffic operating within BILLUND TMA/CTA. Pilots are allowed to acknowledge frequency change instructions within BILLUND TMA/CTA.
- CPDLC services are not available for aircraft operating within other TMAs located within KØBENHAVN FIR. Pilots should be aware that the total turn-around time for an airborne initiated CPDLC dialogue may be up to more than four (4) minutes and for a ground initiated dialogue up to two (2) minutes; hence, voice communication will be used for any communication requiring an immediate response and/or action.

Voice read-back is not required for any CPDLC instruction.

#### 3.6.2 Flight Plan

In order to use the CPDLC services, pilots shall file the following in the respective items of their flight:

- Item 10a - J1 for the CPDLC ATN VDL Mode 2 capable aircraft;
- Item 18 - the indicator CODE/ followed by the aircraft 24-bit address expressed in the form of alphanumeric code of six hexadecimal characters.

Further information on how to fill the flight plan is available at: <https://ext.eurocontrol.int/WikiLink/index.php/Library>

Operators conducting flights wholly or partly in the Single European Sky airspace where ATN B1 CPDLC is required, but for which Commission Regulation (EC) 2023/1772 is not applicable in accordance with Article 3(3), or which aircraft types/models are exempted by Commission Implementing Decision 2019/2012, **shall** include the letter "Z" in item 10 and the indicator "DAT/CPDLCX" in item 18 of each flight plan **to comply with SERA.4010**.

#### 3.6.3 CPDLC use

In KØBENHAVN FIR voice communication and/or radiotelephony instructions have priority over CPDLC instructions at all times. However, a clearance requested via CPDLC should subsequently be issued

via CPDLC and a clearance requested via radiotelephony should also be issued via radiotelephony.

Clearances shall not be executed until the **WILCO** message has been sent.

3.6.4 DLIC log-on

The data link address for København ACC is **EKDK**.

CPDLC shall be established in due time to ensure that the aircraft is communicating with the appropriate ATC unit. Log-on shall be initiated by the pilot. Pilots shall log-on using their ICAO call sign as filed in the flight plan. Pilots shall not use a two-letter IATA flight ID, neither insert a leading zero (0) into the call sign, as these actions will result in a failed log-on.

Log-on should be initiated 10 to 15 minutes prior to entry into KØBENHAVN FIR airspace.

Aircraft departing from an aerodrome in close proximity to KØBENHAVN FIR can log-on when still on the ground, if ACC København is the first CPDLC-capable unit.

3.6.5 CPDLC services

The controller or pilot shall construct CPDLC messages using the pre-defined message set or free text messages. The following tables list the standard CPDLC messages available for exchange in

KØBENHAVN FIR, with appropriate operational responses.

3.6.6 ATC communications management (ACM)

When an aircraft is transferred by data link to an adjacent sector/ATC unit, the pilot shall acknowledge the instruction using data link by WILCO and shall then contact the next sector/ATC unit by voice communication on the instructed channel.

ACM Messages

ATC message element	Pilot Response
CONTACT [unit name] [frequency]	<p>WILCO, or UNABLE [+ DUE TO WEATHER] or UNABLE [+ DUE TO AIRCRAFT PERFORMANCE] or STAND BY</p>

3.6.7 ATC clearances and instructions (ACL)

Aircraft, which have logged on, may receive an ATC instruction via data uplink messages. Pilots may request changes to flight levels (ascend or descend) or clearance direct to a point on their route via data downlink messages

ACL Messages

ATC message element	Pilot Response
MAINTAIN [level]	<p>WILCO, or UNABLE [+DUE TO WEATHER] or UNABLE [+ DUE TO AIRCRAFT PERFORMANCE] or STAND BY</p>
CLIMB TO [level]	
DESCEND TO [level]	
PROCEED DIRECT TO [position]	
FLY HEADING [degrees]	
SQUAWK [code]	
SQUAWK IDENT	
CLEARED TO [position] VIA [routeClearance]	

Pilot's Message Element		ATC Response
REQUEST [level]	[+ DUE TO WEATHER]  or  [+ DUE TO AIRCRAFT PERFORMANCE]	[corresponding approving instruction], or UNABLE or STAND BY or REQUEST AGAIN WITH NEXT UNIT
REQUEST CLIMB TO [level]		
REQUEST DESCEND TO [level]		
REQUEST DIRECT TO [position]		

### 3.6.8 ATC microphone check (AMC)

A "check stuck microphone" instruction may be sent by ATC in circumstances where an aircraft is inadvertently blocking a voice communication channel.

If the "check stuck microphone" instruction relates to the RTF channel currently being used, the pilot shall check that their radio equipment is not causing the blockage. If the "check stuck microphone" instruction does not relate to the RTF channel being used, no further action by the pilot is required.

#### AMC Messages

ATC Message Element	Pilot's Response
CHECK STUCK MICROPHONE [frequency]	NIL

### 3.6.9 Message Restrictions and Error Management

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 reply indicating the nature of the error and, if applicable, required actions.

#### 3.6.10 Voice interruption of CPDLC dialogue

When using voice communication to correct an unanswered CPDLC message, the controller shall initiate voice communication using the phrase:

DISREGARD CPDLC (message type) MESSAGE, BREAK, (correct clearance, instruction, information or request)

The pilot shall reply to the CPDLC message with an "UNABLE" message and respond by voice communication to the clearance received by voice.

#### 3.6.11 CPDLC Imposed Silence

In order to contain the sector workload, controllers may require all stations or a specific flight to avoid sending CPDLC requests for a limited period of time. For imposing or revoking CPDLC silence the following phrases, either as a voice or a CPDLC message shall be used:

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

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

#### 3.6.12 CPDLC Failure

When alerted that CPDLC has failed, the controller will inform all stations under sector jurisdiction, using the following phrase:

ALL STATIONS, CPDLC FAILURE, [identification of the calling station].

Some failures may result in termination of the existing data link con-

nections with aircraft that are under control of a sector. In this case, it will not be possible for ATC to re-initiate dialogues via CPDLC unless the pilot re-initiates the data link logon process in order to re-establish data link connection. Controller will inform aircraft under his jurisdiction when the CPDLC service is restored, using the following phrase:

ALL STATIONS, RESUME NORMAL CPDLC OPERATIONS.

In case of a CPDLC failure, CPDLC clearances that have not yet been confirmed shall be repeated over voice communication and/or confirmed. If either the pilot or ATC consider that CPDLC should not be used in the prevailing circumstances, CPDLC shall be suspended or terminated and the other party shall be informed by voice communication.

In case of a scheduled shutdown or an unexpected failure of the CPDLC system, ATC will instruct all aircraft equipped with data link to return to voice communication. In case of an on board failure of CPDLC, the pilot shall return to voice communication and inform ATC.

#### 3.6.13 Log-off

Log-off is automatic on leaving KØBENHAVN FIR airspace, no pilot action is required. Between KØBENHAVN FIR and adjacent CPDLC equipped ATC units the ACM service will be used.

## 4. Requirements and Conditions

For further information concerning requirements and conditions, see GEN 1.5.

## 5. Other

### 5.1 Protected Areas for COM/NAV facilities.

The indications in section ENR 4.1 and section AD 2 item 18 and 19 for each aerodrome, of which an example is given below, refer to the areas of channel/frequency protection within which A/G communication and radio navigation facilities should be free of harmful interference.

Example: FL 450/60 NM; 245°-335° MAG 200 NM

Meaning: The facility is protected up to FL 450 within a range of 60 NM, except that in the sector from 245° to 335° MAG (clockwise) the range is 200 NM.

It is not permitted to establish connection with groundstations outside the indicated protection areas.

Radio navigation facilities must not be used operationally outside indicated protection areas.

#### 5.2 Air-to-air frequency

Frequency 129.805 MHz is assigned for air-to-air operational communication within København FIR up to FL100.

#### 5.3 Glider frequencies

Frequencies (MHZ) for operational communication air-to-air and air-to-ground shall, as far as possible, be used as shown hereafter:

- Jylland - North: 123.380
- Jylland - Middle: 122.480
- Jylland - South and Fyn: 129.980
- Sjælland - West and Lolland/Falster: 123.430
- Sjælland - East/Bornholm: 122.655

#### 5.4 Hanggliders and ultra light aircraft. Frequency

Frequency 130.130 MHz is assigned for operational communication between hanggliders and ultra light aircraft in København FIR.

#### 5.5 Ballooning

Frequency 122.655 MHz is assigned for operational communication between balloons and ground personnel.

#### 5.6 Parachuting

Frequency 130.130 MHz is assigned for operational communication between parachuting and ground personnel.

#### 5.7 Helicopter frequencies

The following frequencies (MHZ) are assigned only for communication between helicopter and ground personnel:

- For medical operations: 121.080
- For helicopter hoist operations: 125.405

The frequencies can be used up to 2000 FT on Danish territory.

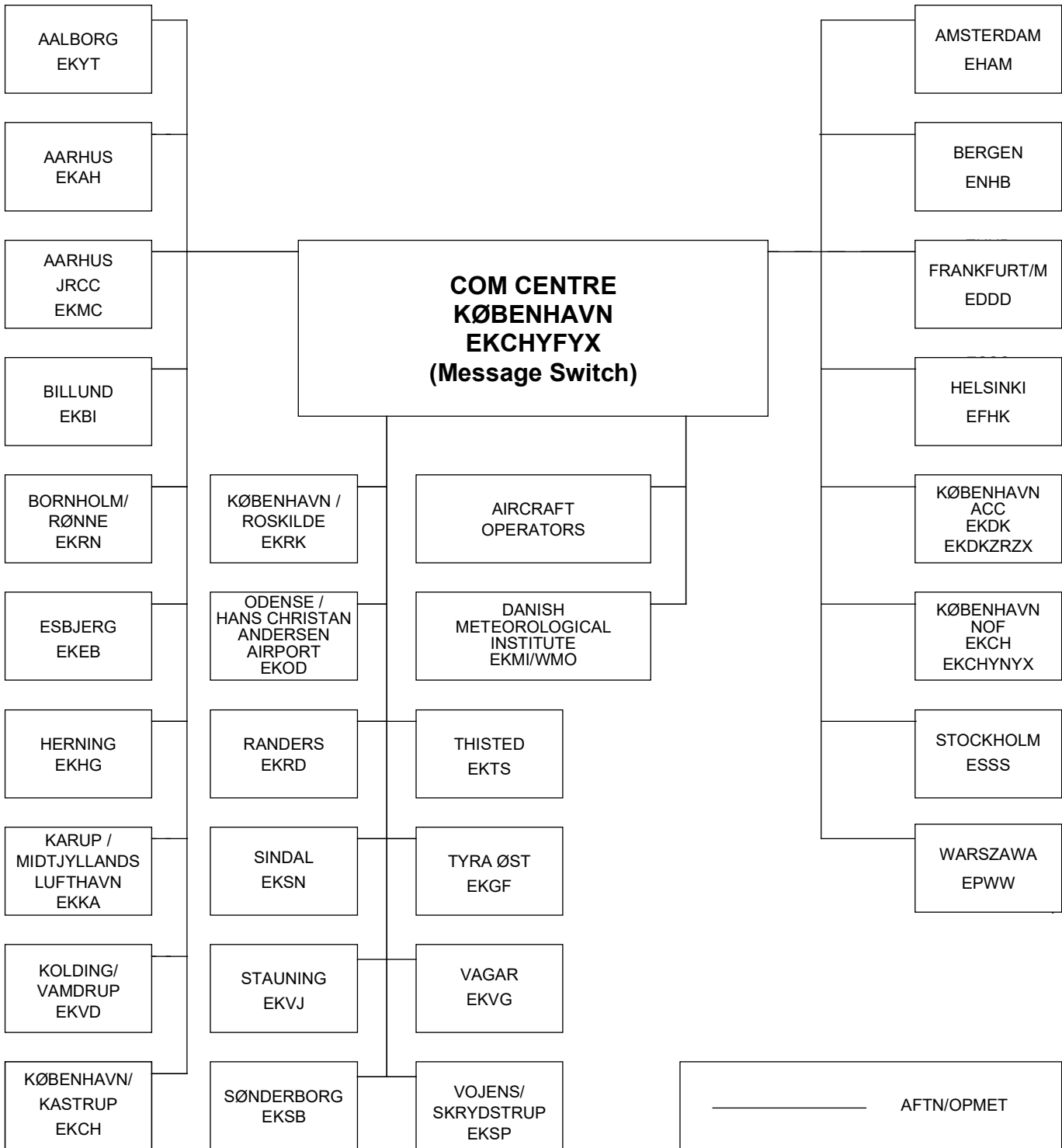
#### 5.8 Helicopter frequency in the North Sea

The following frequency (MHZ) is assigned only for communication between helicopter and helideck personnel on Off-shore installations in the North Sea:

- For helicopter Operations North of 56 00 00N 131.780
- For helicopter Operations South of 56 00 00N 123.455

The frequency can be used up to FL 100 in the North Sea.

6. AFS - Telecommunication. Diagram



6. AFS - Telephone. Diagram

