GEN 3.4 COMMUNICATION AND NAVIGATION SERVICES

1 RESPONSIBLE SERVICE

The authority responsible for the administration of communication service in the Netherlands is the Dutch Authority for Digital Infrastructure of the Ministry of Economic Affairs and Climate Policy.

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         Dutch Authority for Digital Infrastructure
         P.O. Box 450
         9700 AL Groningen
         The Netherlands
Tel: +31 (0)88 041 6000
Fax: +31 (0)50 587 7400
Email: info@rdi.nl
URL: https://www.rdi.nl/radiocommunications-agency

1.1 Applicable ICAO documents

ICAO Standards, Recommended Practices and Procedures contained in the following documents are applicable for the aeronautical communication service.

Annex 5	Units of measurement to be used in Air and Ground Operations
Annex 10	Aeronautical Telecommunications
Doc 7030, Part 2	Regional Supplementary Procedures (COM procedures for EUR)
Doc 7910	Location Indicators
Doc 8400	ICAO Abbreviations and Codes
Doc 8585	Designators for Aircraft Operating Agencies, Authorities and Services

1.2 Differences from ICAO Standards, Recommended Practices and Procedures

See GEN 1.7.

2 AREA OF RESPONSIBILITY

Aeronautical radio communication and navigation services within the Amsterdam FIR are provided by LVNL. This organisation is responsible for the application of the regulations concerning the design, type and installation of aircraft radio stations.

Enquiries, suggestions or complaints regarding any telecommunication or navigation service should be referred to an air traffic services reporting office (ARO).

3 TYPES OF SERVICE

3.1 Radio navigation service

The following types of radio aids to navigation are available:

- MF non-directional beacon (NDB)
- (Doppler) VHF direction-finding station (VDF)[1]
- Instrument landing system (ILS)
- VHF omnidirectional radio range (VOR)
- Distance measuring equipment (DME)
- Terminal area surveillance radar (TAR)[2]
- Surface movement radar (SMR)
- En-route surveillance radar (RSR)

[1]   According to the judgement of the direction-finding station, bearings are classified as follows:

- Class A: accurate within ± 2 degrees;
- Class B: accurate within ± 5 degrees;
- Class C: accurate within ± 10 degrees.

Normally the accuracy of the bearing is considered Class A, unless otherwise stated.

[2]   Equipped with secondary surveillance radar (SSR).

Direction-finding stations have authority to refuse to give headings to steer, when conditions are unsatisfactory or when bearings do not fall within the calibrated limits of the station, stating the reason at the time of refusal.

3.2 Aeronautical mobile service

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

An aircraft should normally communicate with the air-ground control radio station which exercises control in the area in which it is flying. Aircraft should maintain continuous watch on the appropriate frequency of the control station and should not abandon watch, except in an emergency, without informing the control station.

Note: pilots executing VFR flights in or below Nieuw Milligen TMA are requested to report their position at first radio contact with 'Dutch MIL INFO' in order to enable the air traffic controller to establish an optimum air ground communication.

3.3 Aeronautical fixed service

Messages to be transmitted over the aeronautical fixed service (AFS) are accepted only if:

a. They meet the requirements of Annex 10, Vol. II, Chapter 3, paragraph 3.3.
b. They are prepared in the form specified in Annex 10.
c. The text of an individual AFTN message has preferably less than 1500 characters, but does not exceed 1800 characters.

AERONAUTICAL FIXED SERVICES - INTERNATIONAL AND NATIONAL CIRCUITS				
Station	Correspondent	Type of circuit	Hours UTC	Remarks
1	2	3	4	5
AMSTERDAM (Schiphol)	Brussels (EBBB)	Data link	H24	AMHS
AMSTERDAM (Schiphol)	Copenhagen (EKCH)	Data link	H24	AMHS
AMSTERDAM (Schiphol)	Den Haag (city-dept. of Civil Aviation) (EHGV)	Data link	H24 [1]	AFTN
AMSTERDAM (Schiphol)	Eelde (EHGG)	Data link	H24 [1]	AFTN
AMSTERDAM (Schiphol)	Eindhoven Civil (EHEH)	Data link	H24 [1]	AFTN
AMSTERDAM (Schiphol)	EUROCONTROL/NM Brétigny (EUCB)	Data link	H24	AMHS
AMSTERDAM (Schiphol)	EUROCONTROL/NM Haren (EUCH)	Data link	H24	AMHS
AMSTERDAM (Schiphol)	Frankfurt (EDDD)	Data link	H24	AMHS
AMSTERDAM (Schiphol)	London (EGGG)	Data link	H24	AMHS
AMSTERDAM (Schiphol)	Lelystad (EHLE)	Data link	H24 [1]	AFTN
AMSTERDAM (Schiphol)	Maastricht Aachen (EHBK)	Data link	H24 [1]	AFTN
AMSTERDAM (Schiphol)	Maastricht UAC (EDYY)	Data link	H24	AMHS
AMSTERDAM (Schiphol)	Rotterdam (EHRD)	Data link	H24	AFTN
AMSTERDAM (Schiphol)	Woensdrecht (MIL MET)	Data link	H24	AFTN
AMSTERDAM (Schiphol)	Bremen	Speech circuit	H24	
AMSTERDAM (Schiphol)	Brussels	Speech circuit	H24	
AMSTERDAM (Schiphol)	Düsseldorf	Speech circuit	H24	
AMSTERDAM (Schiphol)	London	Speech circuit	H24	
MAASTRICHT/Maastricht Aachen	Düsseldorf	Speech circuit	0530-2200 (0430-2100)	
[1] outside operational hours: receipt exists, expect no reply.				

3.4 Broadcasting service

Sub-area meteorological broadcasts (VOLMET VHF-RTF broadcasts) are available for the use of aircraft in flight. Full details are given in GEN 3.5 paragraph 7.

Automatic terminal information service (ATIS) broadcasts are used to pass routine arrival and departure information on channels given in AD 2.18.

3.5 Languages used

The radio communication shall be executed in the English language.

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. This application includes a set of clearance/information/request message elements which correspond to the phraseologies used in the radiotelephony environment.

CPDLC services are available for all certified aircraft operating within the upper control area (above FL 245) of the Amsterdam FIR in the Maastricht UAC area of responsibility.

The following CPDLC services are provided in the Maastricht UAC area of responsibility:

-   Data link initiation capability (DLIC)
-   ATC clearances and instructions (ACL)
-   ATC communications management (ACM)
-   ATC microphone check (AMC)

The use of CPDLC is reserved for strategic clearances in this airspace and is conducted at the discretion of ATC.

In the Amsterdam UTA (Maastricht UAC) it is mandatory for all flight crews of CPDLC-equipped, EUROCONTROL NM Logon-listed ATN aircraft to log on to Maastricht UAC's data link address (EDYY).

If in the opinion of the pilot or ATC CPDLC should no longer be used in the given circumstances, CPDLC shall be discontinued or terminated and the other party shall be informed thereof by voice communication.

To increase acceptance and use of CPDLC, it is very important to confirm and execute all CPDLC uplinks promptly. Flight crews shall ensure that they only execute uplink (UL) instructions from the same ATC unit they are in VHF contact with as well.

3.6.2 Registration and inclusion of air carriers on the Logon list

Air carriers wishing to conduct CPDLC in the Amsterdam UTA shall register their latest avionics status with EUROCONTROL NM data link performance monitoring, at least four weeks prior to the AIRAC date before their first planned flight using CPDLC.

URL: https://ext.eurocontrol.int/WikiLink/index.php/Main_Page
Email: dpmf@eurocontrol.int

No inquiries shall be made via radiotelephony. Contact for operational questions:

Post: MUAC Datalink Team
Eurocontrol MAS-UAC
6191 AC Maastricht-Airport
The Netherlands
Email: masuac.datalink@eurocontrol.int

Technical issues can be reported to the EUROCONTROL data link services central reporting office (DLS CRO) in the Jira ticket tool. Usage is described: https://ext.eurocontrol.int/WikiLink/index.php/How_to_use_the_DLS_CRO_Issue_Management_Tool.

3.6.3 Flight plan

Pilots shall file their correct aircraft 24-bit Mode-S address code in the flight plan item 18 CODE/ (6 hexadecimal characters).

3.6.4 CPDLC use

In the Maastricht UAC area of responsibility voice communication and/or radiotelephony instructions have priority over CPDLC instructions at all times. However, a clearance requested by the pilot via CPDLC shall subsequently be issued by the controller via CPDLC, a clearance requested via radiotelephony shall be issued via radiotelephony.

Only if the controller explicitly requests a voice read-back, the following phraseology should be used by the pilot: e.g. "Call sign – confirming CPDLC climb FL 370".

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

If uncertainty arises regarding a data link message, voice communication shall always be used. CPDLC exchanges with Maastricht UAC shall only be conducted when the aircraft is actually under control and responsibility of Maastricht UAC.

3.6.5 DLIC log on

All data link-equipped aircraft included on the EUROCONTROL NM data link performance monitoring ATN Logon list that enter Maastricht UAC airspace are required to log on to EDYY. Aircraft which do not qualify for NM data link performance monitoring function (DPMF) Logon listing, should refrain from log on attempts to avoid deterioration of the VHF data link (VDL) Mode 2 performance.

This improves air traffic safety during VHF frequency interference and failures, adverse weather and traffic congestion. It also mitigates the consequences of a LOST COM.

Data link capability is displayed on the radar screens at Maastricht UAC and the controllers will request appropriately equipped aircraft to LOG ON. CPDLC capability shall not be mentioned on VHF.

Pilots can expect to receive data uplink messages especially during periods of high traffic volume. Pilots are requested to always confirm data uplink messages as soon as possible with WILCO.

3.6.6 CPDLC services

3.6.6.1 ATC clearances and instructions (ACL)

Pilots may receive ATC instructions via data uplink messages. Pilots may request changes to flight levels (ascent or descent) or clearance direct to a point on their route via data downlink messages.

3.6.6.2 ATC communications management (ACM)

The pilot response to a data link ATC instruction to change the communication channel shall be WILCO. If the pilot is unable to comply with this data link instruction, he shall revert to voice communication to inform ATC.

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

3.6.6.3 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.

3.6.7 Message restrictions

Pilots shall not use free-format free-text messages when communicating with Maastricht UAC via CPDLC. Use of such free-text messages will result in an error response.

3.6.8 Log-off

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

3.6.9 CPDLC failure

In case of a CPDLC failure, CPDLC clearances that have not yet been confirmed shall be repeated over radiotelephony 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.

3.6.10 CPDLC messages

The controller or pilot shall construct CPDLC messages using the defined message set. The following uplink clearances and instructions may be expected when using CPDLC with Maastricht UAC:

3.6.10.1 ATC uplink clearances and instructions

Vertical clearances:

- MAINTAIN *(level)*
- CLIMB TO *(level)*
- DESCEND TO *(level)*
- CLIMB TO REACH *(level)* BY *(position)*
- DESCEND TO REACH *(level)* BY *(position)*
- CLIMB TO (level), TO CROSS (position) (level) AT or ABOVE
- DESCEND TO (level), TO CROSS (position) (level) AT or BELOW

Lateral offsets:

- RESUME OWN NAVIGATION

Route modifications:

- TURN (*direction*) HEADING (*degrees*)
- FLY HEADING (*degrees*)
- CONTINUE PRESENT HEADING
- PROCEED DIRECT TO *(position)*
- CLEARED *(route clearance)*
- CLEARED TO *(position)* VIA *(route clearance)*

Speed changes:

- MAINTAIN *(speed)*
- MAINTAIN PRESENT SPEED
- MAINTAIN *(speed)* OR GREATER
- MAINTAIN *(speed)* OR LESS
- RESUME NORMAL SPEED

Contact/monitor/surveillance requests:

- CONTACT *(unit name) (frequency)*
- MONITOR *(unit name) (frequency)*
- SQUAWK *(code)*
- SQUAWK IDENT

Air traffic advisories:

- CHECK STUCK MICROPHONE *(frequency)*
- WHEN CAN YOU ACCEPT *(level)*
- STATE PREFERRED LEVEL
- STATE TOP OF DESCENT

3.6.10.2 Pilot downlink request

The following downlink requests may be sent by pilots using CPDLC with Maastricht UAC.
Vertical requests:

- REQUEST *(level)*
- REQUEST CLIMB TO *(level)*
- REQUEST DESCENT TO *(level)*

Speed requests:

- REQUEST *(speed)*

Route modifications requests:

- REQUEST DIRECT TO *(position)*

When using CPDLC, the maximum dialogue time is 120 seconds. 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 should repeat the request via radiotelephony.

4 ADDITIONAL INFORMATION TO ENR 2.1, ENR 4.1, AD 2.18 and AD 2.19

4.1 General

The co-ordinates listed in the tables refer to the transmitting antennae.
The co-ordinates of the receiving antennae of DF-stations are not given.

Close-down periods of VDF stations and VDF channels for technical reasons will *not* be notified by NOTAM.

If stations have the possibility of direction finding the abbreviation VDF is inserted in the column "Remarks" against the appropriate channel.

The expressions designated operational coverage or designated operational range and/or height as used will mean the following:

a. Designated operational range or height.

   The range or height to which an aid is needed operationally in order to provide a particular service.

   Note: the designated value for range or height is determined in accordance with the criteria for deployment of the aid in question.

   Note: the designated value for range or height forms the basis of the technical planning of aids.

b. Designated operational coverage.

   The designated operational coverage consists of the designated operational range and height.

4.2 Instrument landing system (ILS)

a. Achieved ILS reference datum height.

   The achieved ILS reference datum is a point at a specified height located vertically above the intersection of the runway centre line and the threshold, through which the downward extended straight portion of the ILS glide path, measured and averaged between the points 1830 M and 300 M from threshold, passes.

   The values of the achieved ILS reference datum height will only be given on the relevant instrument approach chart (AD 2.24).

b. Glide path angle and front course sector angle.

   On all civil airports in the Netherlands the existing ILS glide path installations have a glide path angle of 3 degrees and a front course sector angle of ± 35 degrees. Normally these values will not be given in AD 2.19; however deviating values will be published.

c. ILS classification.

   The mentioned classification indicates that the performance of the ground equipment of the instrument landing system conforms to the ICAO requirements in Annex 10 Vol. I for the relevant category (see attachment C Vol. I item 2.14).

4.3 Military radio navigation aids

For TACANs used by civil aviation only details regarding the DME-elements are provided.

Only close-down periods or periods of unserviceability of the TACAN EHV will be notified by Civil NOTAM.