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Maastricht UAC
Operations Manual

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Corrected CPDLC Logon code for configuration B2.1

List of Abbreviations

ACC	Area Control Centre
AIP	Aeronautical Information Publication
AMSL	Above Mean Sea Level
APP	Approach
CAoR	Common Area of Responsibility
CTR	Control Zone
FIR	Flight Information Region
FL	Flight Level
GAT	General Air Traffic
GND	Ground
MHz	Megahertz
NM	Nautical Mile
NOTAM	Notice to Airman
OAT	Operational Air Traffic
RVSM	Reduced Vertical Separation Minimum
SFC	Surface
TMA	Terminal Maneuvering Area
UNL	Unlimited

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1. Maastricht UAC Area of Responsibility

1.1 General

1.1.1 IFR Operations

Maastricht UAC Area of Responsibility covers IFR operations in the following FIR's / UIR:

FIR / UIR	Classification
Amsterdam FIR	Class C from FL 195 to FL 660
Brussels UIR	Class C from FL 195 to FL 660
Hannover UIR	Class C from FL 245 to FL 660 (Class C from FL 100 to FL 660 on airspace delegated from Bremen FIR and Rhein UIR)
France UIR	Class C from FL 245 to FL 660 (including airspace delegated)

1.1.2 VFR Operations

VFR Operations are not permitted in the Maastricht AoR, with the exception of OAT flights inside active Military Areas.

1.2 Sectorgroups

In Maastricht UAC there are 3 Sectorgroups, comprised of several sectors, all of them with Vertical Limits from FL 245 – UNL.

1. DECO Sectorgroup
    a. West Sector
        i. Delta
    b. East Sectors
        i. Jever
        ii. Holstein
2. Hannover Sectorgroup
    a. West Sectors
        i. Ruhr
        ii. Munster
    b. East Sectors
        i. Celle
        ii. Solling
3. Brussels Sectorgroup
    a. West Sectors
        i. Koksy
        ii. Nicky
    b. East Sectors
        i. Olno
        ii. Luxemburg

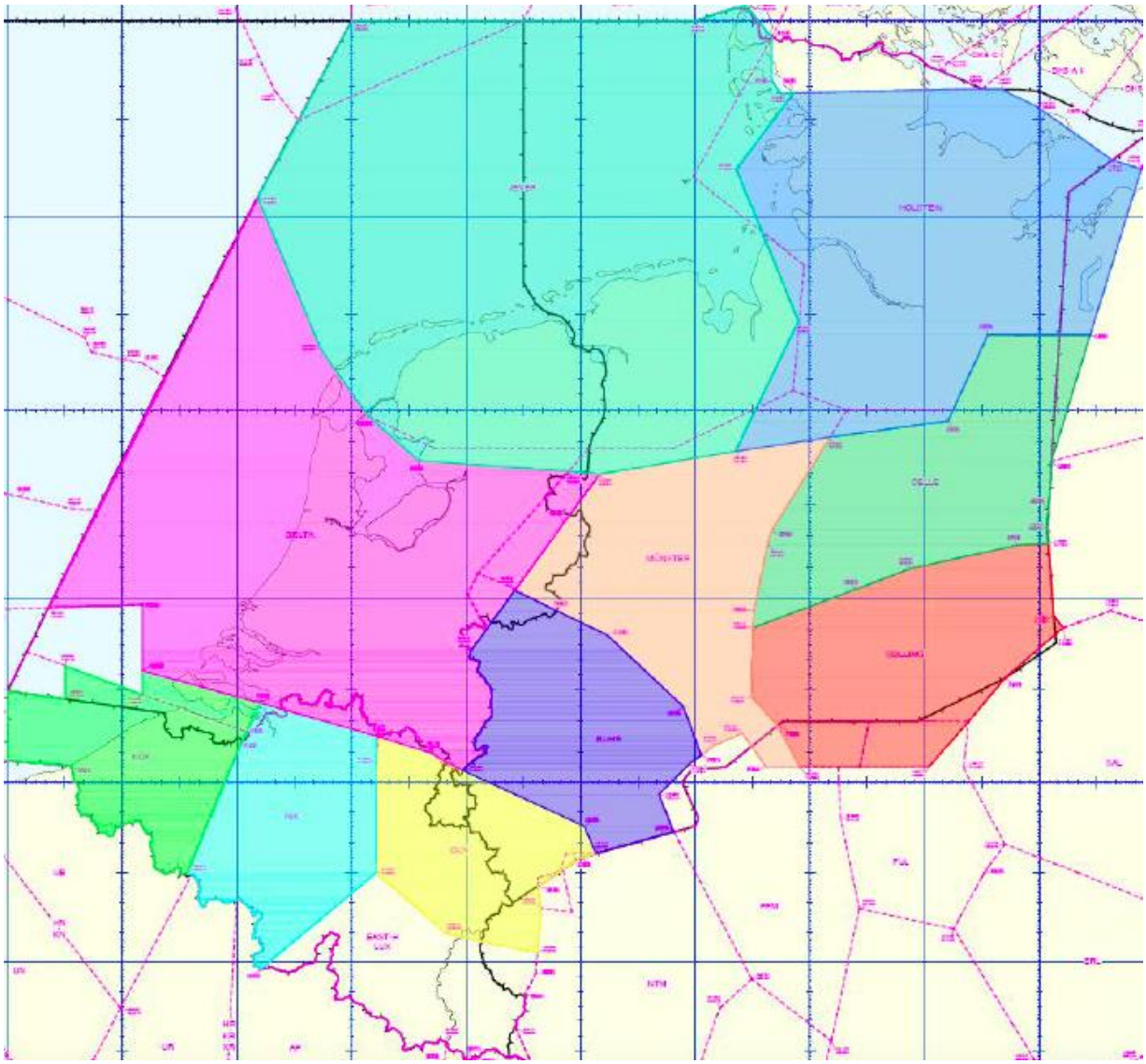

Figure 1 – MUAC Sectorization for IVAO– based on MUAC AIRAC 2103 Brief – 25/03/2021

1.3 Sectorization

The Following Sector Configurations are possible, involving both West and East Sectors. The sectors may be opened in any order with smaller sectors taking control of their respective area from the larger sector if online.

1.3.1 DECO Sectorgroup

Configuration D1.1

Volume – MDEC
Log-On – EDYY_DEC_CTR
Channel – 135.510 MHz
CPDLC Logon - EDYE
Sectors Under Responsibility:

Delta	Jever	Holstein

Configuration D2.1

Volume – MDD
Log-On – EDYY_DD_CTR
Channel – 132.085 MHz
CPDLC Logon - EDYD
Sectors Under Responsibility:

Delta

Volume – MDJH
Log-On – EDYY_DJH_CTR
Channel – 134.705 MHz
CPDLC Logon - EDYJ
Sectors Under Responsibility:

Jever	Holstein

1.3.2 Hannover Sectorgroup

Configuration H1.1

Volume – MHAN
Log-On – EDYY_HAN_CTR
Channel – 133.855 MHz
CPDLC Logon - EDYH
Sectors Under Responsibility:

Ruhr	Munster	Celle	Solling

Configuration H2.1

Volume – MHRM
Log-On – EDYY_HRM_CTR
Channel – 133.215 MHz
CPDLC Logon - EDYM
Sectors Under Responsibility:

Ruhr	Munster

Volume – MHCS
Log-On – EDYY_HCS_CTR
Channel – 131.380 MHz
CPDLC Logon - EDYS
Sectors Under Responsibility:

Celle	Solling

1.3.3 Brussels Sectorgroup

Configuration B1.1

Volume – MBRU
Log-On – EDYY_BRU_CTR
Channel – 132.855 MHz
CPDLC Logon - EDYB
Sectors Under Responsibility:

Koksy	Nicky	Olno	Luxembourg

Configuration B2.1

Volume – MBKN
Log-On – EDYY_BKN_CTR
Channel – 132.755 MHz
CPDLC Logon - EDYN
Sectors Under Responsibility:

Koksy	Nicky

Volume – MBOL
Log-On – EDYY_BOL_CTR
Channel – 125.980 MHz
CPDLC Logon - EDYO
Sectors Under Responsibility:

Olno	Luxembourg

2. General Procedures

2.1 Operation Language

The operation language of Maastricht UAC is English.
It shall be used in radio and on communication with other Units
The languages used shall be unambiguous and concise, and standard phraseology shall be used to the largest possible extent.

2.2 Radar Separation Minima

Standard lateral Radar Separation based on the use of Radar Position Symbol and/or Primary Surveillance Radar blips shall be applied so that the distance between the centres of the Radar Position Symbols and/or Primary Surveillance Radar blips, representing the positions of the aircraft concerned is never less than 5 NM.

Vertically the minimum separation shall be 1000ft below FL290, 2000ft between FL290 and FL410 and 2000ft above FL410.

If both aircraft are RVSM equipped/approved, a minimum vertical separation of 1000ft applies between FL290 and FL410.

2.3 Separation Wake Turbulence

Standard Radar Separation for a light aircraft operating directly behind a Heavy/Super aircraft at the same level or less than 1000ft below shall be 6 NM.

2.4 Separation Formation Flights

A formation flight is a set-up of more than one aircraft in which all succeeding aircraft maintain the following parameters to the formation leader:

- a lateral or longitudinal distance of not more than 1NM, and
- a maximum vertical distance of 100ft

Vertical separation minima between a formation flight and other traffic are as follows:

- 2000ft vertical separation shall apply in RVSM airspace (since a formation flight is never RVSM approved);
- Outside RVSM airspace, normal separation minima apply, i.e. 1000ft below FL290 and 2000ft above FL410.

The lateral separation between a single flight and a formation flight shall be 6NM.

The lateral separation between two formation flights shall be 7NM.

2.5 Separation to Airspace Boundaries

2.5.1 Lateral Separation Values

A Minimum Radar Separation of 2.5 NM shall be applied to airspace boundaries of Adjacent Airspaces and to any Military Area.

2.5.2 Vertical Separation Values

To Adjacent Civil Airspaces, the first level of the Sector can be used.
To Military Areas, a Vertical Separation shall be as follows:

- 1000ft if the boundary is below FL290
- 1000ft below and 2000ft above, if the boundary is at FL290
- 2000ft if the boundary is above FL290

2.5.2.1 Exceptions

Below FL290,

- A Vertical distance of 500ft is sufficient if the published boundary is at an intermediate level (e.g. FL105 or FL145) below FL290

2.6 Flight Level Allocation

Maastricht UAC and some adjacent units operate a Flight Level Allocation system for flights entering and leaving the Maastricht Area. Those FLAs can be found on the respective LoAs, and only apply at Entry or Exit Points.

This means that other flight level assignments may be used while the aircraft transits through the Maastricht Area of Responsibility. However, the assignment shall in principle be assigned Flight Levels in accordance to the West-East Semi-circular rule as described on 3.1.

2.7 Direct Route Assignment

Normally, traffic shall be cleared to operate on published ATS Routes and DCT in the context of Free Route Airspace. Coordination can be made for flights to proceed on direct routes to relevant fixes inside other units, with the approval of all units/sectors concerned.

This does not apply for those directs that are already published on the relevant LoAs with the relevant Unit, to which further coordination is not needed.

3. RVSM Procedures

3.1 General

Reduced Vertical Separation Minimum (RVSM) permits the application of a 1000ft vertical separation minimum (VSM) between suitably equipped aircraft in the level band FL290-FL410 inclusive, thereby making available six additional usable flight levels.

Track from 180º and 359º [Westbound]	Track from 000º and 179º [Eastbound]

FL430	
	FL410
FL400	
	FL390
FL380	
	FL370
FL360	
	FL350
FL340	
	FL330
FL320	
	FL310
FL300	
	FL290
FL280	

Phraseology related to RVSM operations in the EUR RVSM airspace is listed ICAO Doc 4444, Chapter 12 Phraseology.

The vertical limits of the RVSM airspace are FL290 up to and inclusive FL410.

Note: FL280 is the next usable FL below RVSM airspace. FL430 is the next usable FL above RVSM airspace (2000ft separation).

3.2 Hannover UIR RVSM Procedures

Following the RVSM procedure:

a) Controllers shall only clear RVSM approved aircraft into the RVSM airspace. State aircraft, if non-RVSM, are exempted. Controllers may clear non-RVSM Approved State aircraft into RVSM airspace applying 2000 ft vertical separation
b) An approval shall be obtained from a control position or ATC Unit below or above a division level, before a non-RVSM aircraft is cleared to a flight level which would result in less than 2000ft vertical separation to traffic in that respective sector
c) Controllers shall provide a minimum of 1000ft vertical separation between RVSM approved aircraft operating within the RVSM airspace
d) Controllers shall provide a minimum of 2000ft vertical separation between all formation flights of State aircraft and any other aircraft operating within the RVSM airspace
e) Controllers shall withhold clearance into the RVSM airspace to all civil formation flights

Note that State Aircraft are exempted from having to meet the RVSM MASPS, and can be accommodated in the EUR RVSM airspace, provided that ATC maintains a minimum vertical separation of 2000ft between such aircraft and all other IFR aircraft. All Operators of non-RVSM with RFL of FL290 or above shall insert “STS/NONRVSM” in item 18 of the ICAO Flight Plan.

4. Radar Procedures

Before providing an ATS surveillance service to an aircraft, identification shall be established and the pilot informed. Thereafter, identification shall be maintained until termination of the ATS surveillance service. If identification is subsequently lost, the pilot shall be informed accordingly and, when applicable, appropriate instructions issued. Identification shall be established by at least one of the methods specified in 4.1 and 4.2.

4.1 SSR Procedures

Where SSR is used for identification, aircraft may be identified by one or more of the following procedures:

a) Recognition of the aircraft identification in an SSR label
b) Recognition of an assigned discrete code, the setting of which has been verified, in an SSR label
c) Direct recognition of the aircraft identification of a Mode-S equipped aircraft in an SSR label
d) By transfer of identification
e) Observation of compliance with an instruction to set a specific code
f) Observation of compliance with an instruction to squawk IDENT

In case an aircraft doesn't have a discrete squawk code assigned, use the "REQ SSR" function and assign it. If a correct symbol and label appear on the Radar Screen at the expected place and time, the aircraft may be considered as being identified. If for any reason the controller has doubts as to the identification, the IDENT feature shall be used to verify the identity of the aircraft concerned.

4.2 PSR Procedures

Where PSR is used for identification, aircraft may be identified by one or more of the following procedures:

a) By correlating a particular radar position indication with an aircraft reporting its position over, or as bearing and distance from, a point shown on the situation display, and by ascertaining that the track of the particular radar position is consistent with the aircraft path or reported heading

Note 1. — Caution must be exercised when employing this method since a position reported in relation to a point may not coincide precisely with the radar position indication of the aircraft on the situation display

b) By transfer of identification from previous control unit.
c) By ascertaining the aircraft heading, if circumstances require, and following a period of track observation:
   - Instructing the pilot to execute one or more changes of heading of 30 degrees or more and correlating the movements of one particular radar position indication with the aircraft's acknowledged execution of the instructions given; or
   - Correlating the movements of a particular radar position indication with maneuvers currently executed by an aircraft having so reported.

When using these methods, the controller shall:

• verify that the movements of not more than one radar position indication correspond with those of the aircraft; and

• ensure that the manoeuvre(s) will not carry the aircraft outside the coverage of the radar or the situation display

5. Sectorgroup Procedures

5.1 DECO Sectorgroup Procedures

5.1.1 EH-N dep Release Area

Departures from Amsterdam FIR are released by the Delta Sector for turn and climb up to FL290 to the Jever Sector

5.1.2 Jever Sector

The Jever Sector shall deliver traffic with destination in the Brussels FIR and Langen FIR Group (EHAA LoA D.2.1.2.1) to the Delta Sector at FL320 or below

5.2 Brussels Sectorgroup Sectors

5.2.1 Nicky Sector

The Nicky Sector shall deliver traffic with destination:

- EDDL, EDDG, EDLA, EDLP, EDLS, EDLW, EDWO and EDVK to the Olno Sector at FL330 or below;
- EDDF, EDFE, EDFM, EDFV, EDFZ and EDRY to the Olno Sector at FL 350 or below;
- LFxx inbounds and LSZR routing via GTQ to the Luxemburg Sector at FL290 or below.

5.2.2 Olno Sector

The Olno Sector shall deliver traffic with destination EHAM, EHRD, EHLE, EHHV and EHKD to the Nicky Sector at FL320 or below.

5.2.3 Luxemburg Sector

The Luxemburg Sector shall deliver traffic with destination EHAM, EHRD, EHLE, EHHV and EHKD to the Nicky Sector at FL320 or below.

5.3 Hannover Sectorgroup Sectors

5.3.1 Muenster Sector

The Muenster Sector shall deliver traffic with destination EDDC-NOMKA group and EDDP to the Celle or Solling Sector at FL350 or below.

Note EDDC-NOMKA group: EDDC, EDAC, EDDN, EDAB, EDQC. EDQD, EDQG, EDQK, EDQM and EDQT

5.3.2 Solling Sector

The Solling Sector shall deliver traffic with destination:

- EBBR-ABAMI group to the Muenster Sector at FL340 or below
- EHBK-HMM group to the Muenster Sector at FL280 or below

Note EBBR-ABAMI group: EBBR/EBMB, EBAW, EBCI, EBCV, EBLG and ELLX
EHBK-HMM group: EHBK, EHEH, EHTE, EHBD and EHLE

6. Inter-SectorGroup Procedures

NB: In the absence of the upper sector, the lower sector is responsible for the upper airspace in accordance with the normal borders of their airspace. Air traffic entering these areas shall be transferred accordingly.

6.1 DECO Sectorgroup – Brussels Sectorgroup

6.1.1 FLAs between Sectorgroups

Eastbound traffic shall be transferred at an Odd Flight Level, Delta Sector is responsible for separation.

Westbound traffic shall be transferred at an Even Flight Level, Nicky Sector is responsible for separation.

6.1.2 Koksy and Nicky Sector

The Koksy and Nicky Sectors Sector shall deliver traffic destination:

- Amsterdam FIR and
- EDDL, EDDG, EDDK, EDFQ, EDGS, EDKB, EDLA, EDLE, EDLI, EDLN, EDLP, EDLS, EDLV and EDLW

To the Delta Sector at FL 330 or below.

6.1.3 Koksy Sector

The Koksy Sector shall transfer departures EBCI to the Delta Sector at or climbing to FL310.

6.1.4 Delta to Nicky Sector

Traffic is released for turns by not more than 20 degrees by the Delta Sector when passing abeam GISEB

6.1.5 Delta Sector

The Delta Sector shall deliver traffic destination:

- LFOB, LFOH, LFOI, LFOP, LFOE, LFOK, LFRC, LFRK and LFRG to the Nicky Sector at FL310 or below;
- ELLX, LFSF, EDDR and EDRZ to the Nicky or Olno Sector at FL 330 or below;
- EDFH to the Nicky Sector at FL 330 or below.

6.1.6 EH-S dep Release Area

Departures from Amsterdam FIR are released by the Delta Sector for turn and climb up to FL290.

6.2 Hannover Sectorgroup – Brussels Sectorgroup

6.2.1 Ruhr Sector

The Ruhr Sector shall deliver traffic destination EBOS-SOGRI group, LFOB-SOGRI group, LFQQ-SOGRI group and EGMD to the Olno Sector at FL 340 or below.

Note *EBOS-SOGRI group: EBOS, EBKT and EBFN*
LFOB-SOGRI group: LFOB, LFOH, LFRG, LFOI, LFOP, LFOE, LFOK, LFRC and LFRK
LFQQ-SOGRI group: LFQQ, LFAC, LFAT, LFAQ, LFQT, LFQO, LFAV and LFQI

6.3 Hannover Sectorgroup – DECO Sectorgroup

6.3.1 Delta Sector

The Delta Sector shall deliver traffic destination:

- EDDF-LIMPI group, EDFM, EDFV and EDRY at FL 370 or below;
- EDDV-OSN group at FL350 or below.

Note *EDDF-LIMPI group: EDDF, EDFE, EDFZ and EDFH*
EDDV-OSN group: EDDV, EDDW, EDVK, EDWE and EDWI

6.3.2 Ruhr and Muenster Sectors

The Ruhr and Muenster Sectors shall deliver traffic destination:

- Brussels FIR and LFQQ-D group at FL 320 or below;
- LFOB-D group at FL 340 or below

Note *LFOB-D group: LFOB, LFOH, LFRG, LFOI, LFOP, LFOE, LFOK, LFRC and LFRK*
LFQQ-D group: LFQQ, LFAC, LFAT, LFAQ, LFQT, LFQO, LFAV and LFQI

6.3.3 Holstein Sector

The Holstein Sector shall deliver traffic destination:

- EDVK, EDLP and EDFQ to the Celle sector at FL 330 or below;
- EDDB, EDDT, EDAE, EDAV, EDAY, EDAZ, EDBW, EDON, EDDP and EDBC to the Celle Sector at FL 310 or below;
- EDDL, EDDG, EDLA, EDLW, EHEH, EDLV and EHBK via KEGAB-MOBSA to the Celle Sector at FL 300 or below;
- EDDG, EDLW, EDLA via BASUM to the Muenster Sector at FL 300 or below.

6.3.4 EH-E dep Release Area

Departures from Amsterdam FIR are released by the Delta Sector for turn and climb up to FL290.

6.3.5 Hamburg Release Area

Departures from EDDH and EDHI are released by the Holstein Sector for turn and climb up to FL290 to the Celle and Muenster Sectors.