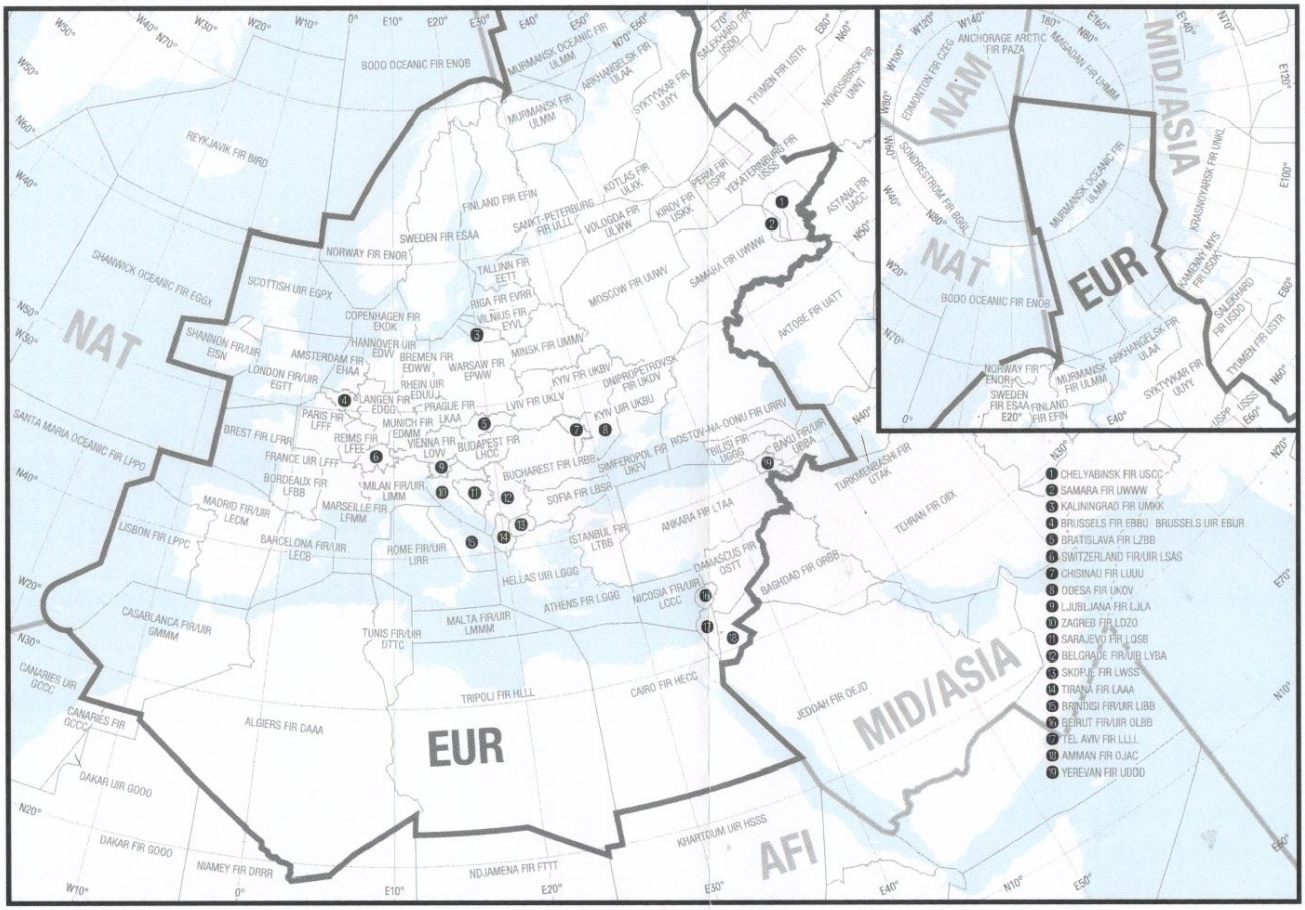
Table of Contents

1 EUR Region Overview

The RSI Europe applies to the following FIRs/UIRs:



2 RAR

2.1 Flight Information Region and Service (NIL)

See respective CRARs

2.2 Advisory Routes, Areas, Services

All IFR flights shall comply with the procedures for air traffic advisory service when operating in advisory airspace within the Amman, Beirut, Cairo, Damascus and Tel Aviv FIRs.

2.3 Controlled Airspace and ATC

2.3.1 ATC Service

Clearances issued by ATC units shall provide separation:

a) between all flights in airspace Classes A and B;

b) between IFR flights in airspace Classes C, D and E;

c) between IFR flights and VFR flights in airspace Class C;

d) between IFR flights and special VFR flights;

e) between special VFR flights unless otherwise prescribed by the competent authority;

except that, when requested by the pilot of an aircraft and agreed by the pilot of the other aircraft and if so prescribed by the competent authority for the cases listed above in airspace Classes D and E, a flight may be cleared subject to maintaining own separation in respect of a specific portion of the flight below 3050m (10000ft) during climb or descent, during day in visual meteorological conditions.

(SERA.8005)

2.3.2 Requirements for Communications and SSR Transponder in RMZ/TMZ

a a) Radio Mandatory Zone (RMZ)

a - VFR flights operating in parts of classes E, F or G airspace and IFR flights operating in parts of classes F or G airspace designated as an RMZ by the competent authority shall maintain continuous air-ground voice communication watch and establish two-way communication, as necessary, on the appropriate communication channel, unless in compliance with alternative provisions prescribed for that particular airspace by the ANSP.

a - Before entering an RMZ, an initial call containing the designation of the station being called, call sign, type of aircraft, position, level, the intentions of the flight and other information as prescribed by the competent authority, shall be made by pilots on the appropriate communication channel.

a b) Transponder Mandatory Zone (TMZ)

a - All flights operating in airspace designated by the competent authority as a TMZ shall carry and operate SSR transponders capable of operating on Modes A and C or on Mode S, unless in compliance with alternative provisions prescribed for that particular airspace by the ANSP.

a (SERA.6005)

2.3.3 Speed Limitation

Class C Airspace

For VFR flights a speed limitation of 250KT applies below 3050m (10000ft) AMSL, except where approved by the competent authority for aircraft types, which for technical or safety reasons, cannot maintain this speed.

Class D, E, F & G Airspace

A speed limitation of 250KT applies to all flights below 3050m (10000ft) AMSL, except where approved by the competent authority for aircraft types, which for technical or safety reasons, cannot maintain this speed.

(SERA.6001)

2.3.4 Uncoordinated Flights Operating Along the FIR Boundaries in the Red Sea Area

Uncoordinated flights operating along the FIR boundaries over the Red Sea area shall apply the following procedures:

a) squawk SSR Code A2000;

b) maintain a listening watch on the appropriate ATC frequencies;

c) transmit their flight details to Asmara, Cairo, Jeddah, Khartoum and Sana'a ACCs using the operational ATC channel in order to provide call sign, direction, level and the time of crossing the reporting points or FIR boundaries along the route of flight at least 10 MIN prior to the FIR boundaries; and

- if RVSM approved:
  - maintain FL300 while crossing the Red Sea area from south to north (northwest bound), or
  - maintain FL290 while crossing the Red Sea area from north to south (southeast bound), or
- if not RVSM approved:
  - maintain FL260 while crossing the Red Sea area from south to north (northwest bound), or
  - maintain FL250 while crossing the Red Sea area from north to south (southeast bound).

2.4 Alerting, Search and Rescue (NIL)

See respective CRARs

2.5 Airspace Restrictions (NIL)

See respective CRARs

Visual Departures

A visual departure is a departure by an IFR flight when either part or all of an instrument departure procedure (e.g. SID) is not completed and the departure is executed in visual reference to terrain.

An IFR flight may be cleared to execute a visual departure upon request of the pilot or if initiated by the controller and accepted by the pilot.

To execute a visual departure, the ACFT take-off performance characteristics shall allow them to make an early turn after take-off. When implemented, visual departure shall be applied under the following conditions:

a) the meteorological conditions in the direction of take-off and the following climb-out shall not impair the procedure up to an altitude to be established and published by the appropriate authority, e.g. Minimum Flight Altitude (MFA) or Minimum Sector Altitude (MSA);

b) the procedure shall be applied during the daytime. The procedure may be considered for application at night following a separate aeronautical study by the appropriate ATS authority;

c) the pilot shall be responsible for maintaining obstacle clearance until the specified altitude. Further clearance (route, heading, point) shall be specified by ATC; and

d) separation shall be provided between an ACFT cleared to execute a visual departure and other departing and arriving ACFT.

Prior to take-off, the pilot shall agree to execute a visual departure by providing a read-back of the ATC clearance.

Any local restrictions shall be agreed on in consultation between the appropriate ATS authority and operators.

RTF Phraseology Visual Departures	
Circumstances	**Phraseologies**
Request for a visual departure	REQUEST VISUAL DEPARTURE [DIRECT] TO/UNTIL [NAVAID, WPT, ALT]
ATS initiated visual departure	ADVISE ABLE TO ACCEPT VISUAL DEPARTURE [DIRECT] TO/UNTIL [NAVAID, WPT, ALT]
Clearance for visual departure	VISUAL DEPARTURE RUNWAY [number] APPROVED, TURN LEFT/RIGHT [DIRECT] TO [NAVAID, HDG, WPT] (MAINTAIN VISUAL REFERENCE UNTIL [ALT])
Read-back of visual departure clearance	VISUAL DEPARTURE TO/UNTL [NAVAID, WPT, ALT]

2.6.2 Right of Way

An aircraft that is aware that the maneuverability of another aircraft is impaired shall give way to that aircraft.

(SERA.3210)

2.6.3 Lights to be Displayed by Aircraft

Unless stationary and otherwise adequately illuminated, all aircraft on the movement area of an aerodrome shall display lights intended to indicate the extremities of their structure, as far as practicable.

(SERA.3215)

2.6.4 Aeroplane Instruments, Equipment and Flight Documents

2.6.4.1 Carriage and Operation of SSR Mode S

The carriage and operation of Mode S airborne equipment shall be mandatory in airspace designated by the appropriate ATS authorities pursuant to the implementation of SSR Mode S Elementary or Enhanced surveillance in accordance with the following requirements:

a) SSR Mode S Elementary Surveillance (ELS)

- for all IFR flights, including General Air Traffic (GAT):
  - Level 2 transponder, as a minimum, with Downlink Aircraft Parameter (DAP) capability denoted as basic functionality as detailed in Tables 1 and 2 below;
- for VFR flights in airspace designated by the appropriate ATS authority, subject to transition arrangements published by the relevant State regulatory authorities:
  - Level 2 transponder, as a minimum, with DAP capability denoted as basic functionality as detailed in Tables 1 and 2 below;

b) Mode S Enhanced Surveillance (EHS)

- for IFR flights conducted as GAT by fixed-wing aircraft having a maximum take-off mass greater than 5700kg or a maximum cruising true airspeed in excess of 250KT in designated airspace as notified by the appropriate authority:
  - Level 2 transponder, as a minimum, with DAP capability denoted as basic functionality and enhanced surveillance functionality as detailed in the tables below;

c) Mode S-equipped aircraft shall report, automatically, basic functionality which includes the transmission of aircraft identification (in the form specified in Item 7 of the ICAO flight plan);

Note 1: The aircraft identification required above is not provided by the 24-bit aircraft address.

Note 2: Level 1 transponders are not prescribed for international flights in the EUR Region.

d) Mode S-equipped aircraft with a maximum mass in excess of 5700kg or a maximum cruising true airspeed in excess of 463 km/h (250KT) shall operate with antenna diversity.

Specific requirements for DAPs are classified separately as shown in Tables 1 and 2.

Table 1

Basic Functionality	Associated Register or Protocol
Automatic reporting of aircraft identification	BDS 2.0
Data link capability report	BDS 1.0
GIBC capability report	BDS 1.7
Altitude reporting in (25ft increments subject to installation constraints)	Provision of altitude in AC field of Mode S protocol
Flight status (airborne/on the ground)	Provision of flight status field data in the Mode S protocol
Surveillance identifier (SI) code capability	

Table 2	
Enhanced Surveillance Functionality	**Associated Register**
Magnetic heading	BDS 6.0
Speed (IAS/Mach number)	
Vertical rate (barometric rate of climb/descend or, preferably, baro-inertial)	
True airspeed (provided if track angle rate is not available)	
True airspeed (TAS)	BDS 5.0
Roll angle	
Track angle rate	
True track angle	
Ground speed	
Selected vertical intention	BDS 4.0 (to provide ready access to information on aircraft current vertical intentions)

Barometric Pressure Setting (Where Readily Available)

Note 1: Any additional requirements for DAPs which may become necessary after the initial implementation of Mode S enhanced surveillance will be promulgated with due regard to an agreed minimum five-year notification period.

Note 2: IAS and Mach no. are considered as one DAP (even if technically they are two separate ARINC labels). If an aircraft can provide both, it must do so.

State regulatory authorities have delegated the EUROCONTROL Mode S Exemption Coordination Cell (ECC) to manage requests for exemption from Mode S EHS mandatory carriage requirements in the following circumstances:

a) where aircraft avionics do not permit the extraction and transmission of the full set of DAPs; and

b) for aircraft conducting flights, under existing rules, for the purpose of delivery or for transit into and out of maintenance bases.

These coordinated exemption arrangements and the operation of the EUROCONTROL Mode S ECC shall be subject to periodic review.

Note: Aircraft operators who are granted exemptions are advised that it will not be possible to provide the same level of air traffic service as that applied to aircraft which comply with the Mode S transponder carriage and operation requirements.

2.6.4.2 ACAS II Equipage Requirements

ICAO Requirements

ACAS II shall be carried and operated in the EUR Region (and the Canarias FIR) by all turbine-engined aeroplanes having a maximum certificated take-off mass exceeding 5700kg or authorized to carry more than 19 passengers.

EUROCONTROL Requirements

All civil fixed-wing turbine-engined ACFT with a maximum take-off mass over 5700kg, or capable of carrying more than 19 passengers, must be equipped with ACAS II version 7.0.

Carriage of ACAS II version 7.1 is mandatory within European Union airspace

- by all ACFT with a maximum certified take-off mass exceeding 5700kg or authorized to carry more than 19 passengers;
- with the exception of ACFT with an individual certificate of airworthiness issued before 1st March 2012 that must be equipped as of 01 DEC 2015;

- ACFT not referred above but which will be equipped on a voluntary basis with ACAS II, must be equipped with version 7.1.

Minimum Equipment List (MEL) Exemptions

Flying with an inoperative ACAS II is permitted, including within RVSM airspace, provided it is done in accordance with the applicable MEL.

The MEL for ACAS II throughout Europe is Class A - 10 days (excluding the day of discovery). JAA TGL 26 states that ACAS II "may be inoperative provided the system is deactivated and secured, and repairs or replacements are carried out within 10 calendar days".

Note: Local authorities may impose more restrictive rectification interval days.

One State in Europe applies a more restrictive requirement: in German airspace the time period during which ACAS II may be inoperative is reduced to 3 days.

For details, refer to CRAR Germany.

ATC authorities are not required to determine whether an aircraft is fitted with ACAS II, nor is it the role of ATC to police ACAS II serviceability.

ACAS II Equipage Exemptions

ACAS II equipage exemptions requests must be requested directly from the national regulatory authorities of all countries whose airspace the flight will enter.

2.6.4.3 Mandatory Carriage of 8.33KHZ Channel Spacing Capable Radio Equipment

a) **Flights Above FL195 - Entire EUR Region**

An operator shall not operate an ACFT above FL195 unless the ACFT radio equipment has the 8.33KHZ channel spacing capability.

b) **IFR Flights in ASP Class A, B or C Airspace**

An operator shall not operate an ACFT flying under IFR in ASP class A, B or C of the States listed below unless the ACFT radio equipment has the 8.33KHZ channel spacing capability.

- Germany
- Ireland
- France
- Italy
- Luxembourg
- Hungary
- Netherlands
- Austria
- United Kingdom

c) **VFR Flights in ASP Class A, B or C Airspace**

With regard to the carriage requirements of 8.33KHZ channel spacing radio equipment identified in PARA b), an operator shall not operate an ACFT flying under VFR in areas operating in 8.33KHZ channel spacing unless the ACFT radio equipment has the 8.33KHZ channel spacing capability.

Exemptions may be granted by States concerned for certain types of ACFT operation and for certain areas of operation. Refer to respective CRARs and State AIPs.

2.7 Visual Flight Rules

2.7.1 Visual Flight Rules

Except when necessary for take-off or landing, or except by permission from the competent authority, a VFR flight shall not be flown:

a) over the congested areas of cities, towns or settlements or over an open-air assembly of persons at a height less than 300m (1000ft) above the highest obstacle within a radius of 600m from the aircraft;

b) elsewhere than as specified in (a), at a height less than 150m (500ft) above the ground or water, or 150m (500ft) above the highest obstacle within a radius of 150m (500ft) from the aircraft.

(SERA.5005)

2.7.2 VMC Visibility and Distance from Cloud Minima

In airspace Class F and G, at and below 3000ft (900m) AMSL or 1000ft (300m) above terrain, whichever is the higher, the following exception to the ICAO standard applies:

When so prescribed by the competent authority, flight visibilities reduced to not less than 1500m may be permitted for flights operating:

a) at speeds of 140KT or less to give adequate opportunity to observe other traffic or any obstacles in time to avoid collision; or

b) in circumstances in which the probability of encounters with other traffic would normally be low, e.g. in areas of low volume traffic and for aerial work at low levels.

(SERA.5001)

2.8 Instrument Flight Rules

2.8.1 Special Application

Flights shall be conducted in accordance with IFR when operated:

- above FL150 within the Amman, Beirut, Cairo, Damascus, Nicosia and Tel Aviv FIRs;
- within or above the EUR RVSM airspace.

2.9 Units of Measurement (NIL)

See respective CRARs

2.10 Altimeter Setting (NIL)

See respective CRARs

2.11 Altitude Regulations (NIL)

See respective CRARs

2.12 Separation Rules

2.12.1 Lateral Separation (NIL)

2.12.2 Longitudinal Separation

Longitudinal Separation Minimum Based on Time and Radar-observed Distance

A minimum longitudinal separation of 3 MIN may be applied between ACFT on the same track or crossing tracks, whether at the same level, climbing or descending, provided that:

- their flight progress is continuously monitored by radar forming an integral part of the ATC unit concerned; and
- the distance between the ACFT, as observed by radar, is never less than 20NM.

2.12.3 Vertical Separation

RVSM shall be applicable in that volume of airspace between FL290 and FL410 inclusive in the following FIRs/UIRs:

Alger, Amman, Amsterdam, Ankara, Arkhangelsk, Baku, Barcelona, Beirut, Beograd, Berlin, Bodø, Bratislava, Brindisi, Bruxelles, Bucuresti, Budapest, Cairo, Casablanca, Chisinau, Damascus, Dnipropetrovs'k, France, Hannover, Hellas, Istanbul, Kaliningrad, Kazan, Kirov, København, Kotlas, Kyiv, Lisboa, Ljubljana, London, L'viv, Madrid, Malta, Milano, Minsk, Moscow, Murmansk, Murmansk Oceanic, Naryan-Mar, Nicosia, Novosibirsk, Odesa, Oslo, Penza, Perm, Petrozavodsk, Praha, Rhein, Riga, Roma, Rostov, Rovaniemi, Samara, Sankt-Peterburg, Saratov, Sarajevo, Scottish, Shannon, Simferopol, Skopje, Sofia, Stavanger, Sweden, Switzerland, Syktyvkar, Tallinn, Tampere, Tbilisi, Tel Aviv, Tirana, Tripoli, Trondheim, Tunis, Ufa, Varna, Velikiye Luki, Vilnius, Vologda, Vorkuta, Warszawa, Wien, Yekaterinburg, Yerevan, Zagreb.

Within the RVSM airspace, the vertical separation minimum shall be:

a) 1000ft (300m) between RVSM-approved ACFT;

b) 2000ft (600m) between:

- non-RVSM-approved State ACFT and any other ACFT operating within RVSM airspace;
- all formation flights of State ACFT and any other ACFT operating within RVSM airspace.
- non-RVSM-approved ACFT and any other aircraft operating within the airspace designated for the purpose of transitioning non-RVSM-approved ACFT operating to and from the NAT Region.

2.12.3.1 Loss of Vertical Navigation Performance Required for RVSM

General

The pilot shall inform ATC as soon as possible of any circumstances where the vertical navigation performance requirements for RVSM airspace cannot be maintained. In such cases, the pilot shall obtain a revised ATC clearance prior to initiating any deviation from the cleared route and/or flight level, whenever possible. When a revised ATC clearance cannot be obtained prior to such deviation, the pilot shall obtain a revised clearance as soon as possible thereafter.

Note: An in-flight contingency affecting flight in RVSM airspace pertains to unforeseen circumstances that directly impact on the ability of one or more ACFT to operate in accordance with the vertical navigation performance requirements of RVSM airspace. Such in-flight contingencies can result from degradation of ACFT equipment associated with height-keeping or from turbulent atmospheric conditions.

ATC shall render all possible assistance to a pilot experiencing an in-flight contingency. Subsequent ATC actions will be based on the intentions of the pilot, the overall air traffic situation and the real-time dynamics of the contingency.

Degradation of Aircraft Equipment - Pilot Reported

When informed by the pilot of an RVSM-approved ACFT operating in RVSM airspace that the aircraft's equipment no longer meets the RVSM requirements, ATC shall consider the ACFT as non-RVSM-approved.

ATC shall take action immediately to provide a minimum vertical separation of 2000ft (600m) or an appropriate horizontal separation from all other ACFT concerned that are operating in RVSM airspace. An ACFT rendered non-RVSM-approved shall normally be cleared out of RVSM airspace by ATC when it is possible to do so.

Pilots shall inform ATC, as soon as practicable, of any restoration of the proper functioning of equipment required to meet the RVSM requirements.

The first ACC/UAC to become aware of a change in an aircraft's RVSM status shall coordinate with adjacent ACCs/UACs, as appropriate.

Severe Turbulence - Not Forecast

When an ACFT operating in RVSM airspace encounters severe turbulence due to weather or wake vortex that the pilot believes will impact the aircraft's capability to maintain its cleared flight level, the pilot shall inform ATC. ATC shall establish either an appropriate horizontal separation or an increased minimum vertical separation.

ATC shall, to the extent possible, accommodate pilot requests for flight level and/or route changes and shall pass on traffic information as required.

ATC shall solicit reports from other ACFT to determine whether RVSM should be suspended entirely or within a specific flight level band and/or area.

The ACC/UAC suspending RVSM shall coordinate such suspension(s) and any required adjustments to sector capacities with adjacent ACCs/UACs, as appropriate, to ensure an orderly progression to the transfer of traffic.

Severe Turbulence - Forecast

When a meteorological forecast is predicting severe turbulence within RVSM airspace, ATC shall determine whether RVSM should be suspended and, if so, for how long and for which specific flight level(s) and/or area.

In cases where RVSM will be suspended, the ACC/UAC suspending RVSM shall coordinate with adjacent ACCs/UACs with regard to the flight levels appropriate for the transfer of traffic, unless a contingency flight level allocation scheme has been determined by letter of agreement. The ACC/UAC suspending RVSM shall also coordinate applicable sector capacities with adjacent ACCs/UACs as appropriate.

2.12.4 Wake Turbulence Categorization and Separation Minima (RECAT-EU)

2.12.4.1 Introduction

The European Organisation for the Safety of Air Navigation (EUROCONTROL), in consultation with its stakeholders, has developed a recategorization of ICAO wake turbulence scheme and associated longitudinal separation minima on approach and departure, called "RECAT-EU", to the benefits of airports and ATM network performance enhancement.

It is a new categorization of aircraft for the traditional ICAO, whose aim is to safely increase arrival and/or departure capacity at airports by redefining wake turbulence categories and their associated separation minimum.

Today's ICAO separations are based on certificated Maximum Take Off Mass (MTOM) and it includes three categories (i.e HEAVY, MEDIUM or LIGHT) allocating all aircraft into one of them. Because the separations are defined based on the worst case in each category, this leads to over separation in many instances. This means that each category may cover a wide range of different sized aircraft, what leads to over-conservative separations in many cases, and so a loss of runway throughput.

RECAT-EU divides the current HEAVY and MEDIUM categories into two sub-categories and creates a new SUPER HEAVY one for the AIRBUS A380.

Regarding phraseology for initial ATC call, no change is needed since ICAO "HEAVY" types remain "HEAVY" in RECAT-EU.

It remains optional to locally deploy part of the RECAT-EU scheme, or apply larger separation minima than proposed ones, or opt for a progressive application. Refer to AOI for aerodrome-specific procedures.

2.12.4.2 RECAT-EU Categories and Aircraft Types

a All certificated aircraft types (as per ICAO designators) before 01 JAN 2013 have been assigned in RECAT-EU scheme, with examples provided in the table below.

SUPER HEAVY	UPPER HEAVY	LOWER HEAVY	UPPER MEDIUM	LOWER MEDIUM	LIGHT
CAT-A	CAT-B	CAT-C	CAT-D	CAT-E	CAT-F
A388	A332	A306	A318	AT43	FA10
A124	A333	A30B	A319	AT45	FA20
(...)	A343	A310	A320	AT72	D328
	A345	B703	A321	B712	E120
	A346	B752	AN12	B732	BE40
	A359	B753	B736	B733	BE45
	B744	B762	B737	B734	H25B
	B748	B763	B738	B735	JS32
	B772	B764	B739	CL60	JS41
	B773	B783	C130	CRJ1	LJ35
	B77L	C135	IL18	CRJ2	LJ60
	B77W	DC10	MD81	CRJ7	SF34
	B788	DC85	MD82	CRJ9	P180
	B789	IL76	MD83	DH8D	C650
	IL96	MD11	MD87	E135	C525
	(...)	TU22	MD88	E145	C180
		TU95	MD90	E170	C152
		(...)	T204	E175	(...)
			TU16	E190	
			(...)	E195	
				F70	
				F100	
				GLF4	
				RJ85	
				RJ1H	
				(...)	

2.12.4.3 RECAT-EU Separation Minima

RECAT-EU Wake Turbulence Distance-based Separation Minima on Approach and Departure

RECAT-EU Scheme Leader / Follower		SUPER HEAVY	UPPER HEAVY	LOWER HEAVY	UPPER MEDIUM	LOWER MEDIUM	LIGHT
		A	B	C	D	E	F
SUPER HEAVY	A	3NM	4NM	5NM	5NM	6NM	8NM
UPPER HEAVY	B		3NM	4NM	4NM	5NM	7NM
LOWER HEAVY	C		MRS (Note)	3NM	3NM	4NM	6NM
UPPER MEDIUM	D						5NM
LOWER MEDIUM	E						4NM
LIGHT	F						3NM

Note: MRS = minimum radar separation, set at 2.5NM, is applicable as per current ICAO Doc 4444 provisions.

RECAT-EU Wake Turbulence Time-based Separation Minima on Departure

RECAT-EU Scheme Leader / Follower		SUPER HEAVY	UPPER HEAVY	LOWER HEAVY	UPPER MEDIUM	LOWER MEDIUM	LIGHT
		A	B	C	D	E	F
SUPER HEAVY	A		100s	120s	140s	160s	180s
UPPER HEAVY	B				100s	120s	140s
LOWER HEAVY	C				80s	100s	120s
UPPER MEDIUM	D						120s
LOWER MEDIUM	E						100s
LIGHT	F						80s

2.13 Flight Plan and Clearance

2.13.1 ICAO Flight Plan

a **Area Navigation (RNAV) Specifications**

a Operators of ACFT approved for B-RNAV / RNAV 5 shall insert the designator 'R' in Item 10a of the flight plan and PBN/ in Item 18 followed by the appropriate capability of that flight. The PBN descriptors for B-RNAV are: B1, B2, B3, B4, B5.

Operators of ACFT approved for P-RNAV / RNAV 1 operations shall, in addition to the designator 'R' in Item 10a , also insert PBN/ in Item 18 followed by the appropriate capability of that flight. The PBN descriptors for P-RNAV are: D1, D2, D3, D4. depending upon the sensors used, as appropriate. Unlike RNAV 1 it is also possible to achieve P-RNAV capability using only VOR/DME in which case 'Z' should be inserted in Item 10a
a and **NAV/EURPRNAV** in Item 18.

Operators of State ACFT not approved for B-RNAV or P-RNAV operations shall not insert any of the designators B1, B2, B3, B4, B5, D1, D2, D3, D4 within the PBN/ indicator of Item 18 of the flight plan.
a Instead, the letter 'Z' shall be inserted in Item 10a and **NAV/RNAVX** shall be inserted in Item 18 of the flight plan.

Where a failure or degradation results in the ACFT being unable to meet the B-RNAV functionality and accuracy requirements before departure, the operator of the ACFT shall not insert any of the designators B1, B2, B3, B4, B5 within the PBN/ indicator of Item 18 of the flight plan. Since such flights require special
a handling by ATC, the letter 'Z' shall be inserted in Item 10a and Item 18 shall contain **NAV/RNAVINOP**.

a **RVSM-approved Aircraft**

a The ACFT registration shall be inserted in Item 18 of the ICAO flight plan form.

a Operators of RVSM-approved ACFT shall also include the letter 'W' in Item Q of the RPL, regardless of the requested flight level. If a change of ACFT operated in accordance with an RPL results in a modification of the RVSM approval status as stated in Item Q, a modification message (CHG) shall be submitted by the operator.

a **Non-RVSM-approved Aircraft**

a Operators of non-RVSM approved ACFT shall flight plan to operate outside the RVSM airspace.

a **Exception:** Designated airspace for the purpose of transitioning non-RVSM-approved aircraft operating to and from the NAT Region.

d **Controller-Pilot Data Link Communications (CPDLC)**

Flights planning to use CPDLC over the Aeronautical Telecommunication Network (ATN) shall include in Item
c 18 of the flight plan the indicator **CODE**/followed by the 24-bit ACFT address (expressed in the form of alphanumeric code of six hexadecimal characters).

Example: CODE/F00001

a **Data Link Capability (DAT)**

a The sub-field DAT shall be used to indicate data applications or capabilities, not specified in Item 10a. Where the sub-field DAT is used, the associated Item 10a should include a 'Z' to indicate that other applications or capabilities are carried.

a One of the applications of that field is to indicate CPDLC exemption for flights conducted wholly or partly in the EUR CPDLC airspace and not equipped with CPDLC capabilities.

a **Examples:**

a • Item 18: Other Information: **DAT/CPDLCX**

a • Item 10: Equipment: Z

d **Runway Visual Range (RVR)**

When RVR information is included in Item 18 of the flight plan (**RVR**/nnn) to indicate the minimum RVR requirement of the flight, it may be used for Air Traffic Flow Management (ATFM) purposes.

Slot Allocation Exemptions

The following flights are exempted from ATFM slot allocations:

c • flights carrying Head of State or equivalent status (**STS/HEAD**); and

c • flights conducting search and rescue operations (**STS/SAR**).

a • flights used for a life critical medical emergency evacuation (**STS/MEDEVAC**);

a • flights used for fire-fighting (**STS/FFR**); and

a • flights approved for exemption from ATFM measures by the appropriate ATS authority (**STS/ATFMX**).

a **Exemptions from the Carriage of 8.33KHZ Radios**

a If the ACFT is exempted from the carriage of the 8.33KHZ radios, the letter 'Y' **shall not** be inserted in Item 10, Equipment.

a **COM/EXM833** shall be inserted in the Item 18 as well as 'Z' in Item 10a of the filed flight plan.

Submission

A centralized flight planning processing and distribution service has been established under the authority of the Eurocontrol CFMU. The service is provided through the IFPS and covers part of the ICAO EUR Region known as the IFPS Zone (IFPZ).

For all IFR flights, including the IFR portions of mixed IFR/VFR flights, entering, overflying or departing the IFPZ, a FPL shall be submitted to IFPS either directly or via the Air Traffic Services Reporting Office (ARO) serving the aerodrome of departure.

Note: The area of applicability and detailed procedures pertaining to the IFPZ are contained in the Eurocontrol "Basic CFMU Handbook".

FPLs for flights which may be subject to ATFM shall be submitted at least 3 HR prior to the EOBT.

Amendments

Any changes to the EOBT of more than 15 MIN for any IFR flight within the IFPZ shall be communicated to the IFPS.

When an individual FPL or an RPL has been filed but it is decided, within 4 HR of EOBT, to use an alternate routing between the same aerodromes of departure and destination, either a CHG message may be sent or alternatively:

d • a cancellation message (CNL) shall be sent to IFPS;

• not less than 5 MIN after sending the CNL message, a Replacement Flight Plan (RFP) in form of a FPL with identical call sign shall be transmitted;

c • the RFP shall contain, in Item 18, the indication "**RFP**/Qn", where RFP signifies "Replacement Flight Plan" an "n" is "1" for the first replacement, "2" for the second replacement, and so on; and

• the last RFP shall be filed at least 30 MIN before the EOBT.

Repetitive Flight Plans (RPLs)

- RPLs will not be accepted for any flight conducted on 25 December. On this day, individual FPLs shall be filed for all flights.
- All operators filing RPLs shall include, in Item Q of the RPL, all equipment and capability information in conformity with Item 10 of the FPL.
- When there is a change of equipment or capability for a flight which is subject to an RPL, a CHG message for the day of operation shall be sent not earlier than 20 HR prior to the EOBT.
- Similarly, other changes, delays, or cancellations for the day of operation shall be sent not earlier than 20 HR prior to the EOBT.

2.13.2 Free Route Airspace (FRA) Concept

FRA Concept Definition

The Free Route Airspace (FRA) is a specified airspace within which users may freely plan a route between a defined entry point and a defined exit point, with the possibility to route via intermediate (published or unpublished) WPTs, without reference to the ATS route network, subject to airspace availability. Within this airspace, flights remain subject to ATC.

Airspace Classification

FRA will, in principle be classified as Class C airspace, with certain agreed exemptions (e.g. above FL460, within the NOTA).

Flight Level Orientation

The Flight Level Orientation Scheme (FLOS) applicable within FRA shall be promulgated through the relevant national AIS publications.

Note: This does not constitute a change to the current system of 2 FLOS in Europe.

Limited Applicability of FRA

- **Time Limited**

  Even though the goal is to implement FRA on a permanent basis, a limited implementation during defined periods could facilitate early implementation.

c Procedures for transitioning between FRA and fixed ATS route operations shall be set.

- **Structurally Limited**

c In complex airspace, the full implementation of FRA could potentially have a detrimental effect on capacity. In such airspace, States/FABs/ANSPs may decide to implement FRA on a structurally limited basis, for example by restricting the available FRA Horizontal entry/exit points for certain traffic flows, which could increase predictability and reduce the number of potential conflicts.

Airspace Organisation

General

FRA forms an integral part of the overall European ATM network, interfacing vertically or laterally with adjoining fixed ATS route operations airspace.

Airspace reservations will remain, and as all airspace users will have equal access to FRA, harmonised application of the FUA Concept and Civil/Military Coordination are taken into account in order to ensure harmonised procedures and service provision for the benefit of all the airspace users.

d **Applicable Airspace**

The FRA Concept is applicable to any area where FRA is implemented within the European airspace network.

Vertical Limits of FRA

The vertical limits of the FRA shall be published in national AIS publications.

Horizontal Limits of FRA

d The horizontal limits of the FRA shall be published in national AIS publications.

FRA Horizontal entry/exit points into/out of the FRA shall be published in national AIS publications with a clear reference to the FRA and to the nature of the point (entry, exit or entry/exit point).

If FRA is implemented in adjacent FIRs/UIRs, the publication of the FRA shall clearly reflect this cross-border application. The publication of FRA Horizontal entry/exit points on the common FIR/UIR boundary is not necessary from an operational perspective.

FRA Horizontal entry/exit points into/out of FRA shall take into account adjacent airspace where FRA is not implemented. FRA Horizontal entry/exit points will be defined to allow for a structured transition between the two operational environments, this may not necessarily be at the FIR or ATC unit boundary.

In order to ensure overall European airspace structure interconnectivity, the FRA Horizontal entry/exit points from/into adjacent non FRA shall ensure interconnectivity with the fixed ATS route network.

Vertical Connection Between FRA and the Underlying Fixed ATS Route Network

The vertical connection between FRA and the underlying fixed ATS route network shall take into account the various climbing and descending profiles. The interconnectivity between FRA and the underlying fixed ATS route network shall be ensured through the availability of a set of waypoints reflecting the typical
c | climbing/descending profiles. The publication of extended SIDs/STARs or published connecting ATS routes are also operationally recommended options.

Flight Planning

Use of DCT

Within the FRA there will be no limitations on the use of DCT, other than those recommended by ICAO.

c | **Use of Unpublished Intermediate Points for Flight Planning**

c | In order to benefit from the best operating conditions, airspace users may be allowed to use any intermediate unpublished points for flight planning defined by geographical coordinates or by bearing and distance. Such possibility shall be clearly promulgated in national AIS publications. Where such utilisation is not possible, publication of FRA Intermediate points shall be ensured.

c | **Flight Planning Routeings Through Airspace Reservations**

For the transit period of a given flight through FRA, the operator will need to know the activity of all pertinent airspace reservations areas to enable the selection of a route that will avoid them, except where none are published and tactical re-routeing is provided.

c | The selection of the route shall be based on the FRA intermediate points published to this effect.

In areas where civil/military coordination procedures and airspace conditions permit, the airspace users can be allowed to flight plan through airspace reservations. Tactical re-routings could be expected in case of
d | areas not being available for civil operations.

Route Description

c | FRA published significant points or unpublished points defined by geographical coordinates or by bearing and distance shall be described using the standard ICAO format. Route portions between all these FRA points shall be indicated by means of DCT in accordance with ICAO Doc 4444.

Flight Planning Facilitation Through the Use of DCTs

The use of published FRA Horizontal entry points with associated FRA Horizontal exit points might be required in certain cases to facilitate flight planning in FRA. This is especially valid in cases where only limited combinations of entry/exit points are permitted within FRA. Similarly, a number of DCTs might not be allowed
c | for use by the airspace users. The publication of such DCTs will be ensured at network level, through the RAD. This approach shall ensure the respect of the status of airspace within various FIRs (e.g min/max FLs, avoiding penetration of uncontrolled airspace, availability period, etc.).

a | **Cruising FL Change**

a | The airspace users may use any published significant point or unpublished point, defined by geographical coordinates or by bearing and distance for indicating changes to the cruising FL. The airspace users shall observe the Flight Level Orientation Scheme applicable within the respective FRA.

Flight Plan Checking and Correction

In addition to the normal FPL validation rules within IFPS, the flight-planned route through FRA shall be considered invalid if it:

c |
- fails to comply with published FRA horizontal entry/exit, FRA Departure/Arrival connecting points and any other airspace utilisation requirements;
- infringes an airspace reservation.

a | The flight plan shall also follow the published FLOS for the corresponding airspace.

In proposing alternative routes, IFPS will not be able to consider all the varying operator criteria for route selection. IFPS will propose routes on the basis of shortest distance and/or alternative FL above or below airspace reservations.

In case of time-limited application of FRA, IFPS shall check the FPL to ensure that it complies with the time parameters of the FRA.

a **Detailed Flight Planning Information**

c For detailed FRA flight planning information, refer to Appendix 4 of the EURCONTROL Route Availability Document (RAD):

a https://www.nm.eurocontrol.int/RAD/

FRA in the Lido/RouteManual

- **CRARs**

  For the States that apply FRA, a brief description is given in the respective CRAR. Typically, the CRAR would indicate the following FRA related information:

  - Horizontal and vertical limits
  - Time limits
  - Cross-Border Application

- **Enroute Charts**

  FRA boundaries and vertical limits are depicted on the enroute charts of the Lido/RouteManual.

Also refer to the respective State AIP publications.

FRA in the Lido/Flight Flight Planning Solution

The Lido/Flight flight planning solution supports the calculation of OFPs taking into account the FRA available at the time of flight.

2.13.2.1 FRA Glossary and Terms

DCT	Direct (in relation to flight plan clearances and type of approach) Decoded abbreviation/indicator DCT (Direct) or Encoded abbreviation/indicator Direct (DCT) should be used only: • for flight planning purposes when submitting FPL; • when executing a specified type of approach.
Free Route Airspace (FRA)	A specified airspace within which users may freely plan a route between a defined entry point and a defined exit point, with the possibility to route via intermediate (published or unpublished) way points, without reference to the ATS route network, subject to airspace availability. Within this airspace, flights remain subject to air traffic control.
FRA Arrival Connecting Point (A)	A published Significant Point to which FRA operations are allowed for arriving traffic to specific aerodromes. Indications on their use for arrivals to specific aerodromes shall be notified via the RAD.
FRA Departure Connecting Point (D)	A published Significant Point from which FRA operations are allowed for departing traffic from specific aerodromes. Indications on their use for departures from specific aerodromes shall be notified via the RAD.
FRA Horizontal Entry Point (E)	A published Significant Point on the horizontal boundary of the Free Route Airspace from which FRA operations are allowed. If this point has specific conditions of utilization, this shall be described in the RAD.
FRA Horizontal Exit Point (X)	A published Significant Point on the horizontal boundary of the Free Route Airspace from which FRA operations are allowed. If this point has specific conditions of utilization, this shall be described in the RAD.
c FRA Intermediate Point (I)	A published Significant Point or unpublished point, defined by geographical coordinates or by bearing and distance via which FRA operations are allowed. If this point has specific conditions of utilization, this shall be described in the RAD.
Route Availability Document (RAD)	A common reference document containing the policies, procedures and description for route and traffic orientation. It also includes route network and free route airspace utilization rules and availability.
Significant Point	A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigational and ATS purposes. **Note:** There are three categories of significant points: ground-based navigation aid, intersection and waypoint. In the context of this definition, intersection is a significant point expressed as radials, bearings and/or distances from ground based navigation aids.

2.13.3 Submission of a Flight Plan

A flight plan shall be submitted prior to operating any flight planned to operate at night, if leaving the vicinity of an aerodrome.

(SERA.4001)

2.13.4 European Airport Collaborative Decision Making (CDM)

For the European Airport Collaborative Decision Making (CDM) concept, refer to:

⇒ Rules and Regulations General Information 2.13.4 European Airport Collaborative Decision Making (CDM)

2.14 Communications (NIL)

⇒ Europe COM

2.15 Scheduled- / Non-scheduled Flights

2.15.1 EU Safety Authorisations for Third Country Operators (TCO)

a) On 26MAY14 the Commission Regulation (EU) No 452/2014 of 29APR14, which lays down technical requirements and administrative procedures related to flight operations of Third Country Operators (TCO) pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, entered into force.

b) In accordance with the regulation, all Third Country Operators (TCOs) shall apply for and obtain an authorisation issued by the European Aviation Safety Agency (EASA). By the end of the transition period, which lasts until 26NOV16, all TCOs engaging in scheduled commercial air transport operations into EU must hold this authorisation.

c) **Scheduled/Non-scheduled Flights:** Any TCO who intends to perform commercial air transport operations into, within or out of any of the following territories requires an authorisation issued by the Agency under Part-TCO:

- the 28 Member States of the European Union;
- the 4 EFTA States (Iceland, Liechtenstein, Norway and Switzerland);
- the following EU territories: Gibraltar, Åland Islands, Azores, Madeira, Canary Islands, Guadeloupe, French Guiana, Martinique, Réunion, Saint-Martin, Mayotte.

d) **Overflights:** A TCO authorisation will not be required for operators only overflying the abovementioned territories without intended landing.

e) **Alternate Airport:** A TCO can file an airport located in the territory of an EASA Member State as an alternate airport without holding a TCO authorisation.

f) For more information and download of the application form, refer to the EASA website: http://easa.europa.EU/TCO.

2.16 Miscellaneous (NIL)

See respective CRARs

2.17 Emergency

2.17.1 Emergency Descent Procedures

2.17.1.1 Action by the Pilot-in-Command

When an ACFT operated as a controlled flight experiences sudden decompression or a malfunction requiring an emergency descent, the aircraft shall, if able:

- initiate a turn away from the assigned route or track before commencing the emergency descent;
- advise the appropriate ATC unit as soon as possible of the emergency descent;
- set transponder to Code 7700 and select the emergency mode on the ADS/CPDLC system, if applicable;
- turn on aircraft exterior lights;
- watch for conflicting TFC both visually and by reference to ACAS (if equipped); and
- coordinate its further intentions with the appropriate ATC unit.

The aircraft shall not descend below the lowest published minimum altitude that will provide a minimum vertical clearance of 1000ft (300m) or, in designated mountainous terrain, of 2000ft (600m) above all obstacles located in the area specified.

2.17.1.2 Action by the ATS Unit

Immediately upon recognizing that an emergency descent is in progress, ATC units shall acknowledge the emergency on radiotelephony.

In particular, they may, as required by the situation:

- suggest a heading to be flown, if able, by the aircraft carrying out the emergency descent in order to achieve separation from other aircraft concerned;
- state the minimum altitude for the area of operation, only if the level-off altitude stated by the pilot is below such minimum altitude, together with the applicable QNH altimeter setting; and
- as soon as possible, provide separation from conflicting traffic, or issue essential traffic information, as appropriate.

When deemed necessary, ATC will broadcast an emergency message, or cause such message to be broadcasted, to other aircraft concerned to warn them of the emergency descent. The broadcast emergency message should contain instructions for specific actions to be taken by aircraft addressed in the broadcast or, alternatively, instructions to continue in accordance with their current clearances, and stand by on the appropriate channels for further clearances and instructions.

2.18 Interception Principles and Signals (NIL)

See respective CRARs

3 MET

3.1 General

Mostly westerly winds persist being strongest in autumn and spring.

Winter time: Often high pressure areas are present with stratus (fog season) over Central Europe and North Italy with low visibility down to 20m / 66ft.

Most aerodromes are Cat 3 equipped and Low Visibility Procedure (LVP) are in progress during the foggy season. Inversions up to 10°C on top of stratus are frequent. During front passage icing conditions have to be expected mostly along the alps.

3.2 Normative Friction Coefficient

3.2.1 Application of the Normative Friction Coefficient

In the Russian Federation, the friction coefficient is determined by ICAO compliant equipment, comparable to the SFT measurement equipment. After performing the measurement, the value is converted to a so called "normative friction coefficient".

For details regarding the normative friction coefficient, refer to CRAR Russian Federation.

3.3 Volcanic Ash Zone Classification

The Volcanic Ash Advisory Center (VAAC) in London produces volcanic ash concentration charts that predict and depict areas of contamination with volcanic ash. Web Link: http://www.metoffice.gov.uk/aviation/vaac/
The charts show forecast ash concentration levels in 3 altitude bands and in 3 different zones. This information is produced for the purpose of facilitating the decisions to be taken by the national authorities with regards to their respective airspace. These charts are for information only. Areas affected by volcanic ash will be officially notified by SIGMET and the associated airspace restrictions/warnings will be published by NOTAM.

Designation of Zone in Compliance with ICAO EUR Doc 019	Forecast Maximum Contamination in micrograms per cubic metre (mg/m3)	Color Code in Compliance with VAAC
NIL	less than 0.2 mg/m3	no color
Area of Low Contamination	0.2 mg/m3 or more, but less than 2 mg/m3	cyan
Area of Medium Contamination	2 mg/m3 or more, but less than 4 mg/m3	grey
Area of High Contamination	4 mg/m3 or more	red

These definitions replace the previously used terms Enhanced Procedure Zone (EPZ), Time Limited Zone (TLZ) and No-Fly Zone (NFZ).

Also refer to:

⇒ Meteorology General Information 1.5 Volcanic Ash Advisory Centers (VAAC)

⇒ Meteorology General Information 2.13 ASHTAM

4 NAV

4.1 Performance-Based Navigation (PBN)

4.1.1 Area Navigation (RNAV) Specifications

RNAV 5

The requirements included in the RNAV 5 (B-RNAV) specification for en-route operations shall apply to all such operations conducted under IFR on **designated RNAV 5 routes** within the following FIRs:

Amman, Beirut, Cairo, Damascus and Tel Aviv.

The requirements included in the RNAV 5 (B-RNAV) specification for en-route operations shall apply to all such operations conducted under IFR on the entire ATS route network in the following FIRs/UIRs:

Amsterdam, Ankara, Athinai, Baku, Barcelona, Bodø, Bordeaux, Bratislava, Bremen, Brest, Brindisi, Bruxelles, Bucuresti, Budapest, Canaries (AFI area of applicability), Casablanca, Chisinau, Dnipropetrovs'k, France, Hannover, Istanbul, København, Kyiv, Langen, Lisboa, Ljubljana, London, L'viv, Madrid, Malta, Marseille, Milano, Munich, Nicosia, Odessa, Oslo, Paris, Praha, Reims, Rhein, Riga, Roma, Rovaniemi, Scottish, Shannon, Simferopol, Skopje, Sofia, Stavanger, Sweden, Switzerland, Tallin, Tampere, Tbilisi, Tirana, Trondheim, Tunis, Varna, Vilnius, Warszawa, Wien, Yerevan, Zagreb.

RNAV 1

The requirements included in the RNAV 1 and/or P-RNAV specification shall be applied whenever P-RNAV Terminal Control Area (TMA) procedures, excluding the final and missed approach segments, are used.

Note 1: RNAV 1 and/or P-RNAV approvals are not mandatory in the EUR Region.
Note 2: RNAV 1 approved ACFT are approved for P-RNAV.

4.1.2 RNAV Procedures

RNAV System Operation

Correct operation of the ACFT RNAV system shall be established before joining and during operation on an RNAV route. This shall include confirmation that:

- the routing is in accordance with the clearance; and
- the RNAV navigation accuracy of the ACFT meets the navigation accuracy requirements of the RNAV route and arrival or departure procedures, as applicable.

Obstacle Clearance

Unless an IFR aircraft is receiving navigation guidance from ATC in the form of radar vectors, the pilot is responsible for obstacle clearance. Therefore, the use of RNAV does not relieve pilots of their responsibility to ensure that any ATC clearance or instruction is safe in respect to obstacle clearance. ATC shall assign levels that are at or above established minimum flight altitudes.

Terminal

For operation on RNAV arrival and departure routes, where clearance is given by ATC for an RNAV procedure for which the ACFT is not approved, the pilot shall advise ATC who will then seek to provide an alternative routing.

For relevant RTF phraseology refer to:

⇒ Europe COM 5.2.1 RNAV

ACFT equipped with RNAV equipment having a lateral track-keeping accuracy of +/-5NM (2 SD) with an ability to determine horizontal position to an accuracy sufficient to support the track-keeping requirement and having appropriate functionality, hereafter designated as basic area navigation (B-RNAV), may use RNAV (segments) of arrival and departure routes where these meet the following criteria:

a) the B-RNAV portion of the route must:

- be above the appropriate Minimum Flight Altitude (MFA) (e.g. Minimum Radar Vectoring Altitude (MRVA) and Minimum Sector Altitude (MSA)); and
- be in accordance with established PANS-OPS criteria for en-route operations; and
- conform to B-RNAV en-route design principles.

b) the departure procedures must be conventional (non-RNAV) up to a conventional fix (or a minimum altitude). Beyond that fix (or minimum altitude), a B-RNAV procedure can be provided in accordance with the criteria in a); and

c) the B-RNAV portion of an arrival route must terminate at a conventional fix in accordance with the criteria given in a) and b). Beyond that fix, the arrival shall be completed by a conventional (non-RNAV) procedure or by the provision of radar vectors; and

d) due regard must be taken of those operating procedures of the users which may affect system performance. Examples include, but are not limited to, initial position fixing on the runway and minimum Automatic Flight Control System (AFCS) engagement altitudes; and

e) arrival and departure procedures, which can be flown by B-RNAV equipment, shall be identified explicitly as approved for application of B-RNAV.

State Aircraft not Equipped with RNAV but Having a Navigation Accuracy Meeting RNP 5

Within TMAs, State ACFT may only be routed via the RNAV terminal area procedures if they are equipped with the appropriate RNAV equipment.

For such ACFT operating en-route, the following procedures apply:

a) State ACFT should be routed via VOR/DME-defined ATS routes; or

b) if no such routes are available, State ACFT should be routed via conventional NAVAIDs; i.e. VOR/DME.

Note: State aircraft routed in accordance with a) or b) may require continuous radar monitoring by the ATC unit concerned.

When the above procedures cannot be applied, the ATC unit shall provide State aircraft with radar vectors until the ACFT is capable of resuming its own navigation.

4.1.3 Degradation or Failure of the RNAV System

Action by the Pilot-in-Command

When an ACFT cannot meet the B-RNAV requirements as required by the RNAV route or procedure, as a result of a failure or degradation of the RNAV system, a revised clearance shall be requested by the pilot.

If an ACFT cannot meet the B-RNAV requirements due to a failure or degradation of the RNAV system that is detected before departure from an aerodrome where it is not practicable to effect a repair, the ACFT concerned should be permitted to proceed to the nearest suitable aerodrome where the repair can be made. When granting clearance to such ACFT, ATC should take into consideration the existing or anticipated traffic situation and may have to modify the time of departure, flight level or route of the intended flight. Subsequent adjustments may become necessary during the course of the flight.

For relevant RTF phraseology, refer to:

⇒ Europe COM 5.2.1 RNAV

With respect to the degradation/failure in-flight of an RNAV system, while the ACFT is operating on an ATS route requiring the use of B-RNAV:

a) ACFT should be routed via VOR/DME-defined ATS routes; or

b) if no such routes are available, ACFT should be routed via conventional NAVAIDs, i.e. VOR/DME; or

c) when the above procedures are not feasible, the ATC unit should, where practicable, provide the ACFT with radar vectors until the ACFT is capable of resuming its own navigation.

Note: ACFT routed in accordance with a) or b) may, where practicable, require continuous radar monitoring by the ATC unit concerned.

With respect to the degradation/failure in-flight of an RNAV system, while the ACFT is operating on an arrival or departure procedure requiring the use of RNAV:

a) the ACFT should be provided with radar vectors until the ACFT is capable of resuming its own navigation, or

b) the ACFT should be routed by conventional NAVAIDs, i.e. VOR/DME.

Action by the ATS Unit

Subsequent ATC action in respect of ACFT that cannot meet the B-RNAV requirements due to a failure or degradation of the RNAV system, will be dependent upon the nature of the reported failure and the overall traffic situation. Continued operation in accordance with the current ATC clearance may be possible in many situations. When this cannot be achieved, a revised clearance may be required to revert to VOR/DME navigation.

5 COM

5.1 Continuous Listening Watch in Uncontrolled Airspace

ACFT flying within uncontrolled airspace may be requested to maintain a continuous watch on the appropriate air-ground frequency of the ATS unit serving the FIR within which the ACFT is flying.

5.2 Phraseology

5.2.1 RNAV

RNAV Phraseology	
Circumstances	**Phraseologies**
RNAV arrival or departure procedure cannot be accepted by the pilot	UNABLE [designator] DEPARTURE (or ARRIVAL) DUE RNAV TYPE
Pilot is unable to comply with an assigned terminal area procedure	UNABLE [designator] DEPARTURE (or ARRIVAL) [reasons]
ATC unable to assign an RNAV arrival or departure procedure requested by a pilot due to the type of on-board RNAV equipment	UNABLE TO ISSUE [designator] DEPARTURE (or ARRIVAL) DUE RNAV TYPE
ATC unable to assign an arrival or departure procedure requested by the pilot	UNABLE TO ISSUE [designator] DEPARTURE (or ARRIVAL) [reasons]
Confirmation whether a specific RNAV arrival or departure procedure can be accepted	ADVISE IF ABLE [designator] DEPARTURE (or ARRIVAL)
Informing ATC of RNAV degradation or failure	[aircraft call-sign], UNABLE RNAV DUE EQUIPMENT
Informing ATC of no RNAV capability	[aircraft call-sign], NEGATIVE RNAV

5.2.2 ATFM (ATC Slots)

ATFM Phraseology	
Circumstances	**Phraseologies**
Calculated Take-Off Time (CTOT) delivery resulting from a Slot Allocation Message (SAM). (The CTOT shall be communicated to the pilot at the first contact with ATC.)	SLOT [time]
Change to CTOT resulting from a Slot Revision Message (SRM)	REVISED SLOT [time]
CTOT cancellation resulting from a Slot Cancellation Message (SLC)	SLOT CANCELLED, REPORT READY
Flight suspension until further notice resulting from Flight Suspension Message (FLS)	FLIGHT SUSPENDED UNTIL FURTHER NOTICE, DUE [reason]
Flight de-suspension resulting from a De-suspension Message (DES)	SUSPENSION CANCELLED, REPORT READY
Denial of start-up when requested too late to comply with the given CTOT	UNABLE TO APPROVE START-UP CLEARANCE DUE SLOT EXPIRED, REQUEST A NEW SLOT
Denial of start-up when requested too early to comply with the given CTOT	UNABLE TO APPROVE START-UP CLEARANCE DUE SLOT [time], REQUEST START-UP AT [time]

5.3 Abbreviated Position Reports

Abbreviated position reports should only contain the aircraft identification, position, time and flight level or altitude, unless otherwise specified.

In defined portions of the airspace, designated by the appropriate ATS authority, where:

a) through Secondary Surveillance Radar (SSR), individual identity and verified Mode C information are permanently available in the form of labels associated with the radar position of the aircraft concerned; and

b) reliable air-ground communications coverage and direct pilot-to-controller communications exist,

the initial call after changing a radio channel may contain only the aircraft identification and level; subsequently, position reports may contain only aircraft identification, position and time.

5.4 Read-back

5.4.1 Read-back on VHF Channels

When instructed to contact an ATS unit on a different VHF COM channel, the pilot shall read-back the newly assigned channel.

5.4.2 Read-back of Clearances and Safety-related Information

Read-back of Clearances and Safety-related Information

a) The flight crew shall read back to the air traffic controller safety-related parts of ATC clearances and instructions which are transmitted by voice. The following items shall always be read back:

- ATC route clearances;
- clearances and instructions to enter, land on, take off from, hold short of, cross, taxi and backtrack on any runway; and
- runway-in-use, altimeter settings, SSR codes, newly assigned communication channels, level instructions, heading and speed instructions; and
- transition levels, whether issued by the controller or contained in ATIS broadcasts.

b) Other clearances or instructions, including conditional clearances and taxi instructions, shall be read back or acknowledged in a manner to clearly indicate that they have been understood and will be complied with.

(SERA.8015)

5.5 Mandatory Carriage of 8.33KHZ Channel Spacing Capable Radio Equipment

⇒ Europe RAR 2.6.4.3 Mandatory Carriage of 8.33KHZ Channel Spacing Capable Radio Equipment

5.6 Data Link Services

5.6.1 Albania

Implementation pending

5.6.2 Algeria

c	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Algiers	-	DAAA	-	YES	YES	FANS 1/A

5.6.3 Austria

c	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Vienna	FL195-FL660	LOVV	15min	YES	NO	ATN B1

- CPDLC services area AVBL in the airspace of Vienna ACC between FL195 and FL660.
- Austrian stations do not cover the entire LOVV FIR for CPDLC services. The lack of coverage, especially in the Western part of the LOVV FIR is closed through stations serviced by adjacent ANSPs.
- For ACFT departing from an AD in close proximity to Vienna ACC airspace, logon can be initiated when the ACFT is still on the ground.
- The following CPDLC services are provided in this airspace:
  - Data Link Initiation Capability (DLIC)
  - ATC Clearances and Instructions (ACL)
  - ATC Communications Management (ACM)
  - ATC Microphone Check (AMC)
- The use of CPDLC is not mandatory in this airspace and is conducted at the discretion of ATC and at the initiative of the flight crew.
- Voice communication has priority over CPDLC instructions at all times. A clearance requested by the pilot via CPDLC or via radiotelephony will be issued via radiotelephony only.
- Do not use free-text messages when communicating with Vienna ACC - same would result in an error response.

CPLDC Message Sets	
ATC Uplink Clearances and Instructions	**Flight Crew Downlink Requests**
CONTACT [unit name] [frequency]	REQUEST DIRECT TO
SQUAWK [code]	REQUEST CLIMB TO [level]
SQUAWK IDENT	REQUEST LEVEL
CHECK STUCK MICROPHONE [frequency]	REQUEST DESCENT TO [level]
MONITOR [unit name] [frequency]	

5.6.4 Belgium and Luxembourg

Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
Maastricht UAC	> FL245	EDYY	15min	YES	NO	ATN B1 (Note) FANS 1/A

Note: For dual stack aircraft (ATN and FANS), ATN B1 is preferred.

- **All data link-equipped aircraft included on the Link 2000+ CRO white list which enter Maastricht UAC airspace are required to logon to EDYY as a secondary means of communication.**
- CPDLC services are available for all certified aircraft operating within the upper airspace (above FL245) of the Brussels UIR in the area under the responsibility of Maastricht UAC.
- The following CPDLC services are provided in Maastricht UAC area of responsibility:
  - Data Link Initiation Capability (DLIC)
  - ATC Clearances and Instructions (ACL)
  - ATC Communications Management (ACM)
  - ATC Microphone Check (AMC)
- Flight crews can expect to receive uplinks especially during periods of high traffic volume, and are requested to always confirm them ASAP with WILCO.
- The use of CPDLC is reserved for strategic clearances and is conducted at the discretion of ATC.
- If the pilot or ATC is of the opinion that CPDLC should no longer be used in the given circumstances, CPDLC shall be discontinued or terminated and the other party shall be informed about this by voice communication.
- To increase acceptance and use of CPDLC, it is very important to confirm and execute all CPDLC Uplinks promptly.
- Voice communication has priority over CPDLC instructions at all times. A clearance requested via CPDLC should subsequently be issued via CPDLC. A clearance requested via radiotelephony should also be issued via radiotelephony.
- Only if the controller is asking explicitly for a voice read back, the following phrase should be used by the pilot: e.g. "ABC123, CONFIRMING CPDLC, CLIMB FL370".
- No CPDLC clearances shall be executed until the WILCO message has been sent.
- If uncertainty arises regarding a data link message, voice communication shall be used. CPDLC exchanges with Maastricht UAC shall only be conducted when the aircraft is actually under control and responsibility of Maastricht UAC.
- Pilots shall not use free-format free-text messages when communicating with Maastricht UAC via CPDLC. Use of such a free-text message will result in an error response.
- When using CPDLC, the maximum dialogue time is 120sec. 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, it is of paramount importance that 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 also repeat the request via radiotelephony.

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

Pilot Downlink Request
REQUEST [level]
REQUEST DIRECT TO [position]
REQUEST CLIMB TO [level]
REQUEST DESCENT TO [level]
REQUEST [speed]

Additional FANS 1/A Procedures

- FANS 1/A is subject to potentially high network latency and changing round trip delay. FANS 1/A crews have to pay attention to the uplink time stamps to ensure they avoid in the busy airspace of Maastricht UAC the execution of old and void clearances which have been delayed in the network.
- Due to low end-to-end integrity, no flight profile change messages will be sent, e.g. FLY HEADING, and TURN uplinks.
- To protect FANS 1/A aircraft against message misdirection, Maastricht will prepend the Flight-ID to all uplink CPDLC messages. Pilots should check the Flight-ID to ensure that the correct message was received before executing the uplink message.
- Flight crews shall cross-check that the CPDLC address of any uplink corresponds to the name of the ATC unit with which the flight is conducting voice communications.
- Mitigation for any late arrival of FANS 1/A messages is referred to as "commanded termination".
- The crew will be required to disconnect from the data link service, and not allowed to re-logon to the current data authority.
- Due to the risk of undetected uplinked CPDLC message duplication, FANS 1/A crews shall be especially vigilant if they receive the same uplink twice and confirm with ATC in case of doubt, e.g. with a voice communication.

FANS 1/A+ Latency Timer

- To protect FANS 1/A+ aircraft against message latency, Maastricht will uplink the free text message UM169 (Latency Time) to all FANS 1/A+ aircraft. All FANS 1/A+ aircraft shall set the Latency Time Monitor to 40 seconds appropriately.
- In case of an uplink message time out, ATC will acknowledge receipt of the uplink message via voice communication. In case the uplink was not received, the crew will be instructed to terminate CPDLC (DM101: REQUEST END OF SERVICE) until the next ATC unit to avoid a potential late uplink message.

5.6.5 Bulgaria

Implementation pending

5.6.6 Croatia

c	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Zagreb	> FL285	LDZO	15-10min	YES	NO	ATN B1

- The use of CPDLC is not mandatory within ATCC Zagreb AoR and is to be considered as a supplementary service that would be available at the discretion of ATC only.
- CPDLC services are guaranteed for aircraft operating above FL285 at the discretion of the controller.
- In ATCC Zagreb AoR voice communication and/or radiotelephony instructions have priority over CPDLC instructions at all times.
- The following CPDLC services are provided in the ATCC Zagreb AoR:
  - Data Link Initiation Capability (DLIC)
  - ATC Clearances and Instructions (ACL)
  - ATC Communications Management (ACM)
  - ATC Microphone Check (AMC)

5.6.7 Cyprus

Implementation pending

5.6.8 Czech Republic

c	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Prague	FL195-FL660	LKAA	15min	YES	NO	ATN B1

- CPDLC services are AVBL for aircraft operating within the airspace of the Prague FIR between FL195 and FL660.
- For aircraft departing from LKPR aerodrome the logon can be initiated when the aircraft is on the ground.
- The following CPDLC services are provided in this airspace:
  - Data Link Initiation Capability(DLIC)
  - ATC Clearances and Instructions (ACL)
  - ATC Communications Management (ACM)
  - ATC Microphone Check (AMC)
- The use of CPDLC is not mandatory in this airspace and is conducted at the discretion of ATC and at the initiative of the pilots concerned.
- In the area of responsibility of ACC Prague, voice communication and radiotelephony instructions have priority over CPDLC instructions at all times.
- If the controller is asking explicitly for a voice read back of a clearance issued via CPDLC the following phrase should be used by the pilot:

  Example: "ABC123 - CONFIRMING CPDLC CLIMB FL 370".

a
- The clearance shall not be executed until the WILCO message has been sent.
- Pilots shall not use free-format free-text messages when communicating with ACC Prague via CPDLC. Use of such free-text messages will result in an error response.
- APP Prague supports only UM117, UM120 and DM0 messages (CONTACT / MONITOR / WILCO). All other DM messages addressed to APP Prague are rejected.
- The following requests and messages may be sent by pilots using CPDLC with ACC Prague / (*also APP Prague):
  - WILCO* / UNABLE / STANDBY / ROGER
  - MONITORING (unit name) (frequency)
  - REQUEST DIRECT TO (position)
  - REQUEST CLIMB / DESCENT TO (level)
  - REQUEST (level)
  - DUE TO WEATHER / DUE TO AIRCRAFT PERFORMANCE
  - WE CAN ACCEPT (level) AT (time)
  - WE CANNOT ACCEPT (level)
  - MAYDAY MAYDAY MAYDAY
  - PAN PAN PAN
  - SQUAWKING 7500

5.6.9 Denmark

Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
København	-	EKDK	15-10min	YES	NO	ATN B1

- In København FIR voice communication and/or radiotelephony instructions have priority over CPDLC instructions at all times.
- CPDLC shall only be used for non-time-critical requests, i.e. requests that do not require the immediate reaction of the controller.
- Aircraft departing from an AD in close proximity to København FIR can logon when still on the ground, if Copenhagen ACC is the first CPDLC-capable unit.
- The following CPDLC services are provided in the København FIR:
  - Data Link Initiation Capability (DLIC)
  - ATC Clearances and Instructions (ACL)
  - ATC Communications Management (ACM)
  - ATC Microphone Check (AMC)
- The system supports the reception via data link of a CPDLC Free Text Message from the pilot. No operational answer is required from ATC.
- The system provides the controller with the possibility to send a CPDLC Free Text Message. This text is pre-formatted and offline defined. No response is required from the aircraft.

5.6.10 Estonia

Implementation pending

5.6.11 Finland

Implementation pending

5.6.12 France

c	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Paris	> FL195	LFFF	15min	YES	NO	ATN B1
c	Reims	> FL195	LFEE	15min	YES	NO	ATN B1
c	Brest	> FL195	LFRR	15min	YES	NO	ATN B1
c	Marseille	> FL195	LFMM	15min	YES	NO	ATN B1
c	Bordeaux	> FL195	LFBB	15min	YES	NO	ATN B1
c	**Note:** CPDLC logon is restricted to ACFT included on the Link 2000+ CRO white list". Refer to http://www.eurocontrol.int/link2000/wiki/index.php/White_Lists						

- CPDLC operational services are available above FL195 within all metropolitan France airspace for aircraft with SITA contract.
- It will also be possible to initiate and forward logon and connection from/through Paris ACC (LFFF) and Reims ACC (LFEE) airspaces, in addition to LFRR and LFBB thus ensuring seamless operation for flight crews.
- The use of CPDLC is not mandatory and is conducted at the discretion of ATC as the only possible operational CPDLC dialogue are transfer of frequencies issued by ATC.
- Initial Operating Capabilities provided:
  - Data Link Initiation Capability (DLIC)
  - ATC Communications Management (ACM)
  - ATC Microphone Check (AMC)

  Note: ATC Clearances and Information Service (ACL) is not implemented.
- Should CPDLC dialogues be pending, voice remains in any case the primary means of communication and takes precedence on any CPDLC dialogue.
- For aircraft departing from an aerodrome in close proximity of Paris ACC, Reims ACC, Bordeaux ACC or Brest ACC, logon can be initiated when the ACFT is on the ground.

5.6.13 Germany

Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
Maastricht UAC (Hannover UIR)	> FL245	EDYY	at least 10min	YES	NO	ATN B1 (Note) FANS 1/A
Karlsruhe UAC (Rhein UIR)	> FL245	EDUU	at least 10min	YES	NO	ATN B1

Note: For dual stack aircraft (ATN and FANS), ATN B1 is preferred.

- CPDLC services are available for aircraft in the entire upper airspace of Germany.
- **In Hannover UIR (Maastricht UAC), it is mandatory for flight crews of all CPDLC-equipped aircraft included on the Link 2000+ CRO white list to logon to EDYY for safety reasons.**
- For airports underneath or adjacent, the logon is already possible when still on the ground. Connection establishment will only be possible above FL150.
- The use of CPDLC is reserved for strategic clearances in this airspace and is conducted at the discretion of ATC.
- Voice communication has priority over CPDLC instructions at all times.
- Flight crews can expect to receive uplinks especially during periods of high traffic volume, and are requested to always confirm them as soon as possible with WILCO.
- Clearances and frequency changes shall not be executed until a WILCO message has been sent.
- If the controller explicitly asks for a confirmation of a CPDLC clearance via radiotelephony, pilots should use the following phrase:

E.G. "ABC 123, CONFIRMING CPDLC, CLIMB FL370".

- CPDLC exchanges with Karlsruhe or Maastricht UACs may only be conducted when the aircraft is under the control and responsibility of that UAC.
- The following CPDLC services are provided in this airspace:
  - Data Link Initiation Capability (DLIC)
  - ATC Clearances and Instructions (ACL)
  - ATC Communicatons Management (ACM)
  - ATC Microphone Check (AMC)
- Pilots may not use free-format free-text messages when communicating with Maastricht UAC and Karlsruhe UAC via CPDLC. Use of such free-text messages will result in an error message.
- If the pilot or ATC is of the opinion that CPDLC should no longer be used in the given circumstances, CDPLC shall be discontinued or terminated and the other party shall be informed about this by voice communication.
- To increase acceptance and use of CPDLC, it is very important to confirm and execute all CPDLC uplinks promptly.

- Air carriers wishing to conduct CPDLC in Hannover UIR shall register with the EUROCONTROL Link 2000+ Central Reporting Office (CRO) at least four weeks prior to the AIRAC date before their first planned flight using data link.

E-mail: linkcro@eurocontrol.int

https://ext.eurocontrol.int/WikiLink/index.php/Main_Page

No inquiries should be made on the frequency. Contact for operational questions:

Volker Stuhlsatz Eurocontrol
MAS UAC
NL-6191 AC Maastricht Airport
The Netherlands
TEL: +3143 3661 510
FAX: +3143 3661 502
E-mail: volker.stuhlsatz@eurocontrol.int

- Pilots using CPDLC with Maastricht UAC or Karlsruhe UAC can send the following downlink requests:

Pilot Downlink Request
REQUEST [level]
REQUEST DIRECT TO [position]
REQUEST CLIMB TO [level]
REQUEST DESCENT TO [level]
REQUEST [speed]

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

FANS 1/A Accommodation at EDYY

- FANS 1/A is subject to high network latency and variations in latency. In the busy airspace of Maastricht UAC, FANS 1/A crews must pay special attention to the uplink time stamps to ensure that they do not execute old and void clearances which have been delayed in the network.
- Due to low end-to-end integrity, no flight profile change messages will be sent, e.g. FLY HEADING and TURN uplinks.
- To protect FANS 1/A aircraft from receiving misdirected messages, Maastricht will prepend the Flight ID to all uplink CPDLC messages.
- Flight crews shall check whether the Flight ID corresponds to their own flight number before executing the uplink message.
- Flight crews shall cross-check whether the CPDLC address of all uplinks corresponds to the name of the ATC unit with which the flight is conducting voice communications.
- The commanded termination procedure is used to prevent the execution of old and void FANS 1/A clearances caused by network delays.
- The crew shall disconnect from the data link service and is not allowed to re-log on to the current air traffic control unit.
- Due to the risk of undetected uplinked CPDLC message duplication, FANS 1/A crews shall be especially vigilant if they receive the same uplink twice and confirm with ATC in case of doubt, e.g. beforehand, by voice communication.

a **FANS 1/A+ Latency Timer**

a
- To protect FANS 1/A+ aircraft from receiving old or void clearances, Maastricht will uplink the free text message UM169 (Latency Time) to all FANS 1/A+ aircraft. FANS 1/A+ aircraft should set the latency time monitor to 40 seconds accordingly.

a
- In case of an uplink message timeout, ATC will acknowledge receipt of the uplink message via voice communication. In case the uplink was not received, the crew will be instructed to terminate CPDLC (DM101: REQUEST END OF SERVICE) until reaching the next ATC unit to avoid a delayed uplink message.

5.6.14 Greece

Implementation pending

5.6.15 Hungary

c	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Budapest	> FL285	LHCC	15min	YES	NO	ATN B1

- CPDLC services are available for ACFT in the entire Hungarian ASP above FL285.
- The use of CPDLC is not mandatory in this airspace and is conducted at the discretion of ATC and at the initiative of the flight crew.
- In Budapest ACC voice communication and/or radiotelephony instructions have priority over CPDLC instructions at all times.
- For ACFT departing from an AD in close proximity to the Budapest FIR, logon can be initiated on the ground or after being airborne.

  The logon will only be successful when the ACFT is within the coverage area.
- Irrespective of the number of Budapest ACC sectors entered during flight, only one logon per flight is required.
- Free-format free-text messages shall not be used when communicating with Budapest ACC via CPDLC.
- The following CPDLC services are provided:
  - Data Link Initiation Capability (DLIC)
  - ATC Clearances and Instructions (ACL)
  - ATC Communications Management (ACM)
  - ATC Microphone Check (AMC)
- Logoff is automatic on exiting from the Budapest FIR or landing in the Budapest FIR. No pilot action is then required.
- CPDLC shall only be used for non time critical requests.

5.6.16 Ireland

c	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Shannon	> FL160	EISN	see below	YES	NO	ATN B1 FANS 1/A

CPDLC Services

- Westbound aircraft entering data link mandated track on the Organised Track Structure (FL350 to FL390 inclusive all tracks within the NAT Organized Track System OTS) from the Shannon UIR/SOTA/NOTA are requested to logon to Shannon CPDLC when operating in the Shannon UIR/SOTA/NOTA.
- Limited CPDLC for ACARS equipped aircraft will be available for use in areas of the Shannon Upper Airspace (Shannon UIR), NOTA & SOTA under the responsibility of Shannon ACC.
- CPDLC will be implemented by Shannon in the ASP above FL285 in the Shannon UIR, SOTA and NOTA but may be AVBL in certain sectors from FL160 and above.
- In this ASP, voice communications and voice instructions shall have precedence over data link communications at all times.
- With the exception of the requirements outlined in the PARA "aircraft Entering from the Shanwick Area", no voice readbacks are required for CPDLC messages.

CPDLC Message Sets

The following uplink/downlink messages are accommodated by Shannon.

Uplink Messages Supported			
Message	**Description**	**FANS**	**ATN**
UM0	UNABLE	YES	YES
UM1	STANDBY	YES	YES
UM3	ROGER	YES	YES
UM237	REQUEST AGAIN WITH NEXT ATC UNIT	N/A – Accommodated as UM169	YES
UM19	MAINTAIN [level]	NO	YES
UM20	CLIMB TO [level]	YES	YES
UM23	DESCEND TO [level]	YES	YES
UM74	PROCEED DIRECT TO [position]	YES	YES
UM117	CONTACT [unit name frequency]	YES	YES
UM123	SQUAWK [code]	YES	YES
UM157	CHECK STUCK MICROPHONE [frequency]	YES	YES
UM159	ERROR [error information]	YES	YES
UM160	NEXT DATA AUTHORITY	YES	YES
UM161	END SERVICE	YES	N/A
UM162	SERVICE UNAVAILABLE	N/A - accommodated using UM159 ERROR+ UM169 freetext MESSAGE NOT SUPPORTED BY THIS ATC UNIT	YES
UM163	[ICAO facility designation]	YES	N/A
UM169	[freetext]	YES	YES
UM179	SQUAWK IDENT	YES	YES

Uplink Messages Supported			
Message	**Description**	**FANS**	**ATN**
UM183	[freetext]	N/A – accommodated as UM169	YES
UM227	LOGICAL ACKNOWLEDGEMENT	N/A	YES

Downlink Messages Supported			
Message	**Description**	**FANS**	**ATN**
DM0	WILCO	YES	YES
DM1	UNABLE	YES	YES
DM2	STANDBY	YES	YES
DM3	ROGER	YES	YES
DM6	REQUEST [level]	YES	YES
DM9	REQUEST CLIMB TO [level]	YES	YES
DM10	REQUEST DESCENT TO [level]	YES	YES
DM22	REQUEST DIRECT TO [position]	YES	YES
DM48	POSITION REPORT [position report]	YES	YES
DM55	PAN PAN PAN	YES	YES
DM56	MAYDAY MAYDAY MAYDAY	YES	YES
DM62	ERROR [error information]	YES	YES
DM63	NOT CURRENT DATA AUTHORITY	YES	YES
DM64	[icaofacilitydesignation]	YES	N/A
DM65	DUE TO WEATHER	YES	YES
DM66	DUE TO AIRCRAFT PERFORMANCE	YES	YES
DM73	[version number]	YES	N/A
DM89	MONITORING [unit name] [frequency]	YES	YES
DM98	[freetext]	N/A	YES
DM99	CURRENT DATA AUTHORITY	N/A	YES
DM100	LOGICAL ACKNOWLEDGEMENT	N/A	YES
DM107	NOT AUTHORISED NEXT DATA AUTHORITY	N/A	YES
DM112	SQUAWKING 7500	N/A	YES

Aircraft Departing Irish Airports

Aircraft departing from Irish airports and planning to enter the Shannon UIR, SOTA and NOTA above FL285 are requested to logon only when climbing through FL160.

Aircraft Entering from the Shanwick Area

Shanwick system shall automatically send the NDA message, followed by the contact advisory (FN-CAD) message to the flight 18min prior to the transfer of control point. This instructs the avionics to logon to Shannon making Shannon the NDA. Aircraft will receive the CPDLC connection request (corresponds to IMI CR1 "Connect Request") including the UM163 [ICAO facility designation] prior to the Shannon BDRY. Flights entering Shannon ASP from Oceanic Airspace will receive a UM123 (Squawk Code) message before the oceanic boundary. The up-linked code shall be regarded as valid. Aircraft shall then try to establish voice communications with Shannon on the assigned Shannon FREQ in order to make the required position report. Flights shall include their current flight level and uplinked Assigned Secondary Surveillance Radar (ASSR) code also for verification by Shannon Control on first contact on the assigned FREQ.

Westbound Aircraft Entering Shannon UIR/SOTA and NOTA

Westbound aircraft entering Shannon UIR, SOTA and NOTA, which are not logged onto another ANSP may logon 5min before the Shannon BDRY. Aircraft logged-on will automatically be offered a CPDLC connection (ATN: the CPDLC connection request corresponds to CPDLC_Start_Request) (FANS: the CPDLC connection request corresponds to IMI CR1 "Connect Request" including the UM163 [ICAO facility designation]) prior to the Shannon boundary. Except for exceptional circumstances, Shannon shall not uplink messages until aircraft are under the control of Shannon Control.

Aircraft Connected to EISN, Routing into Oceanic Airspace

Oceanic clearances shall continue to be requested as normal from Shanwick Oceanic. For flights connected to Shannon (EISN) with Shanwick (EGGX) as next ATC unit a message (UM160) shall be sent by Shannon to the flight advising of the NDA 18min prior to the BDRY. At 17min prior to the boundary, a FN_CAD (FN Contact Advisory) will be sent to FANS connected flights specifying the next ATC unit with which the aircraft has to initiate data link logon.

Aircraft Connected to EISN and Contacting Shanwick Radio

Shannon will transfer suitably equipped aircraft to Shanwick Radio, via message (UM117) CONTACT [unitname frequency]. Shanwick Radio will assign an appropriate secondary frequency on first contact. In the event that crews do not establish contact on the assigned primary frequency attempt to contact on a published frequency according to the table below.

Frequency	Opening Hours
2872kHz	0000-0800, 1900-2400
5649kHz	H24
8879kHz	0800-2000
124.175MHz	H24

Emergency Messages

The use of CPDLC to indicate emergency situations shall only be used if other methods are not possible/available.

Transition from ATN to FANS for Westbound Oceanic Traffic

- Westbound Oceanic aircraft that are connected to Shannon CPDLC on FANS will receive both an NDA and a contact advisory message (FN-CAD) for Shanwick Oceanic control.
- Westbound Oceanic aircraft that are connected to the ATN network will not be nominated to Shanwick by Shannon. Flight crew will be required to disconnect from Shannon and logon to Shanwick manually.

5.6.17 Italy

	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Brindisi	> FL285	LIBB	15min	YES	NO	ATN B1

- CPDLC services are available above FL285, within Brindisi ACC Area of Responsibility.
- The following CPDLC services are provided in this airspace:
  - Data Link Initiation Capability (DLIC)
  - ATC Clearances (ACL)
  - ATC Communications Management (ACM)
  - ATC Microphone Check (AMC)
- Whether or not CPDLC have been initiated, voice communications shall be established at the time of first contact with an ATS unit, after frequency change.
- For aircraft departing from an aerodrome in close proximity to Brindisi ACC airspace, logon may be initiated when the aircraft is on the ground.

5.6.18 Kosovo

Implementation pending

5.6.19 Latvia

Implementation pending

5.6.20 Lithuania

Implementation pending

5.6.21 Macedonia

Implementation pending

5.6.22 Malta

Implementation pending

5.6.23 Netherlands

Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
Maastricht UAC	> FL245	EDYY	15-10min	YES	NO	ATN B1 (Note) FANS 1/A
Note: For dual stack aircraft (ATN and FANS), ATN is preferred.						

c • **All data link-equipped aircraft included on the Link 2000+ CRO white list that enter Maastricht UAC airspace are required to logon to EDYY as a secondary means of communication.**

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

c • 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.

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

a • 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.

- Aircraft departing from aerodromes in close proximity to Maastricht UAC, can logon when still on the ground.
- The following CPDLC services are provided:
  - Data Link Initiation Capability (DLIC)
  - ATC Clearances and Instructions (ACL)
  - ATC Communications Management (ACM)
  - ATC Microphone Check (AMC)

c • 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.

- CPDLC exchanges with Maastricht UAC shall only be conducted when the aircraft is actually under control and responsibility of Maastricht UAC.
- Voice communication has priority over CPDLC instructions at all times.

c • Only if the controller explicitly requests a voice read-back, the following phraseology should be used by the pilot: e.g. "ABC 123 - CONFIRMING CPDLC CLIMB FL370".

- Clearances shall not be executed until the WILCO message has been sent.
- When using CPDLC, the maximum dialogue time is 120sec. 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.

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

Pilot Downlink Request
REQUEST [level]
REQUEST DIRECT TO [position]
REQUEST CLIMB TO [level]
REQUEST DESCENT TO [level]
REQUEST [speed]

a
- 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.

Additional FANS 1/A Procedures

c
- FANS 1/A is subject to potentially high network latency and changing round trip delay. FANS 1/A crews have to pay attention to the uplink time stamps to ensure they avoid in the busy airspace of Maastricht UAC the execution of old and void clearances which have been delayed in the network.

c
- Due to low end-to-end integrity, no flight profile change messages will be sent, e.g. FLY HEADING, and TURN uplinks.

c
- To protect FANS 1/A aircraft against message misdirection, Maastricht UAC will prepend the flight ID to all uplink CPDLC messages. Pilots should check the flight ID to ensure that the correct message was received before executing the uplink message.

- Pilots shall cross-check that the CPDLC address of any uplink corresponds to the name of the ATC unit with which the flight is conducting voice communications. Mitigation for any late arrival of FANS 1/A messages is referred to as "commanded termination". The crew will be required to disconnect from the data link service, and not allowed to re-logon to the current data authority.

- Due to the risk of undetected uplinked CPDLC message duplication, FANS 1/A crews shall be especially vigilant if they receive the same uplink twice and confirm with ATC in case of doubt, e.g. with a voice communication.

c **FANS 1/A+ Latency Timer**

c
- To protect FANS 1/A+ aircraft against message latency, Maastricht UAC will uplink the free text message (UM169: LATENCY TIME) to all FANS 1/A+ aircraft. FANS 1/A+ aircraft shall set the latency time monitor to 40 seconds appropriately.

c
- In case of an uplink message timeout, ATC will acknowledge receipt of the uplink message via voice communication. In case the uplink message was not received, the pilot will be instructed to terminate CPDLC (DM101: REQUEST END OF SERVICE) until the next ATC unit to avoid potential late uplink messages.

a **Registration and Inclusion of Air Carriers on the White List**

a Air carriers wishing to conduct CPDLC in the Amsterdam UTA shall register with the EUROCONTROL Link 2000+ Central Reporting Office (CRO) at least four weeks prior to the AIRAC date before their first planned flight using CPDLC.

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

5.6.24 Norway

Implementation pending

5.6.25 Poland

Implementation pending

5.6.26 Portugal

c	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Lisbon	> FL285	LPPC	See table below	YES	NO	ATN B1

- Initially, Data Link Initiation Capability (DLIC) service only is provided and is limited to above FL285.
- Currently, only the Logon function is AVBL in Lisbon FIR.
- For flights departing ADs in Lisbon FIR, logon may also be conducted by ACFT on the ground where coverage exists.
- The following logon time criteria is applicable to Lisboa FIR airspace:

Logon Time Conditions	When	Logon Address of Data Authority
15min or more prior to BDRY estimate	When operating above FL100	CDA for the ASP in which the ACFT is operating
Less than 15min prior to BDRY estimate		NDA that provides CPDLC and/or ADS-C services on that flight
Following an unsuccessful data link transfer to another ATSU.	When detected by the flight crew or upon receipt of instruction from ATC	As instructed or per above

5.6.27 Romania

Implementation pending

5.6.28 Serbia and Montenegro

Implementation pending

5.6.29 Slovakia

Implementation pending

5.6.30 Slovenia

Implementation pending

5.6.31 Spain

c	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Canaries	-	GCCC	at least 15min	YES	YES	FANS 1/A

- Logon is mandatory for aircraft equipped with FANS 1/A flying south of 25N or west of 20W.
- CPDLC and voice have the same hierarchy from an ATC point of view. Using one or the other will be at the discretion of the pilot or controller, taking into account possible time delays in CPDLC communications. The impossibility of establishing VHF communications in remote areas of the islands must also be considered. In case of an aircraft unable to establish radio contact on VHF or HF, the controller or pilot shall establish a CPDLC connection.
- Logoff shall be done by the pilot 10min after having left the Canaries FIR/UIR.

5.6.32 Sweden

c	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Stockholm	see below	ESOS	15-10min	YES	NO	ATN B1
c	Malmö	see below	ESMM	15-10min	YES	NO	ATN B1

- In the Sweden FIR voice communication has priority over CPDLC instructions at all times.
- The use of CPDLC is not mandatory and is conducted at the discretion of ATC and the pilots concerned.
- For flights transiting through both Malmö and Stockholm AOR, pilots shall logon only to the ACC relevant to their first entry into the Sweden FIR. For subsequent transfers through sectors of the same ACC, or between Malmö and Stockholm ACC, a new logon should generally not be required.
- ACFT departing from an AD in close proximity to the Sweden FIR can logon when still on the ground, if one of Malmö or Stockholm ACC is the first CPDLC capable unit.
- CPDLC services are guaranteed for ACFT operating above FL285 south of latitude 613000N at the discretion of the controller.
- CPDLC services are available for ACFT operating below FL285 south of latitude 613000N at the discretion of the controller.
- CPDLC services within the Sweden FIR are available for ACFT in contact with Sweden Control.
- CPDLC services are not available for ACFT operating within TMAs located within Sweden FIR. If a downlink request is sent below FL200 during descent the message can be replied to by a controller initiated manual termination of CPDLC connection.
- Pilots shall avoid transmitting CPDLC messages when descending into a TMA.

5.6.33 Switzerland

c	Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
c	Geneva	> FL145	LSAG	15min	YES	NO	ATN B1
c	Zurich	> FL145	LSAZ	15min	YES	NO	ATN B1
c	CPDLC logon is restricted to ACFT which are on the "CPDLC White List". Refer to: http://www.eurocontrol.int/link2000/wiki/index.php/White_Lists						

- CPDLC services are AVBL above FL145, as a minimum, within the FIR/UIR Switzerland.
- CPDLC services provided:
  - Data Link Initiation Capability (DLIC)
  - ATC Clearances and Instructions (ACL)
  - ATC Communications Management (ACM)
  - ATC Microphone Check (AMC)
- The use of CPDLC is not mandatory and is conducted at the discretion of ATC and the flight crew concerned.
- Voice read-back is not required for any CPDLC instruction.
- For ACFT departing from an AD in close proximity of Geneva or Zurich ACC airspace, and for which one of the two is the first CPDLC capable unit, logon can be initiated when the ACFT is on the ground.
- For flights transiting through both Geneva and Zurich ACC, pilots shall logon to the ACC only on their entry to UIR/FIR Switzerland. For subsequent transfers through sectors of the same ACC, or between Geneva and Zurich ACC, logon is not required.

5.6.34 United Kingdom

Data Authority	Vertical Limits	Logon Address	Logon Time Before Entry	CPDLC	ADS-C	Capability
London	> FL195	EGTT	Any time	YES	NO	ATN B1 FANS 1/A
Scottish	> FL195	EGPX	Any time	YES	NO	ATN B1 FANS 1/A

- CPDLC services are available in domestic airspace and are distinct from Oceanic CPDLC procedures. Within the London (EGTT) and Scottish (EGPX) Data Authorities a CPDLC service will be provided at FL285 and above. The service may be available FL195 and above where possible. This excludes the London and Manchester TMAs, where a CPDLC service will not be provided.
- For flights departing aerodromes in the United Kingdom logon may also be conducted by aircraft on the ground where coverage exists.
- For aerodromes close to the boundary of EGTT/EGPX the SIDPT will advise flight crews of the appropriate CPDLC Data Authority to select prior to departure.
- Where possible, NATS ground systems will attempt to automatically nominate the appropriate Next Data Authority (NDA) to continue the CPDLC service. Crews should be aware that this may not always succeed and manual logon to the Next Data Authority may be required. This is particularly important when entering the Shanwick Oceanic Control Area (EGGX).

Europe

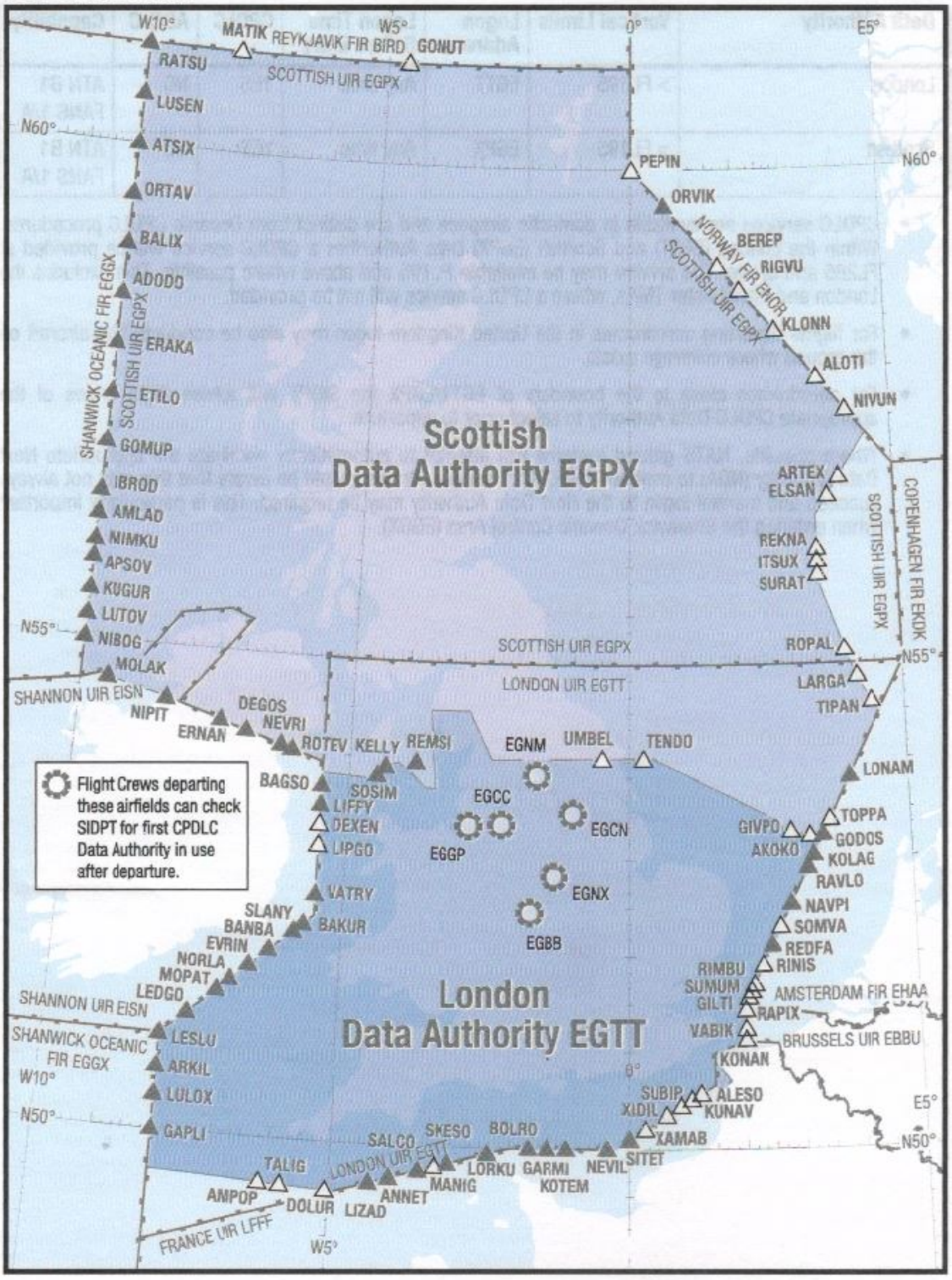
Regional SUP INFO

R-202

04-MAY-2017

EUR

Area of Applicability



CPDLC Message Set

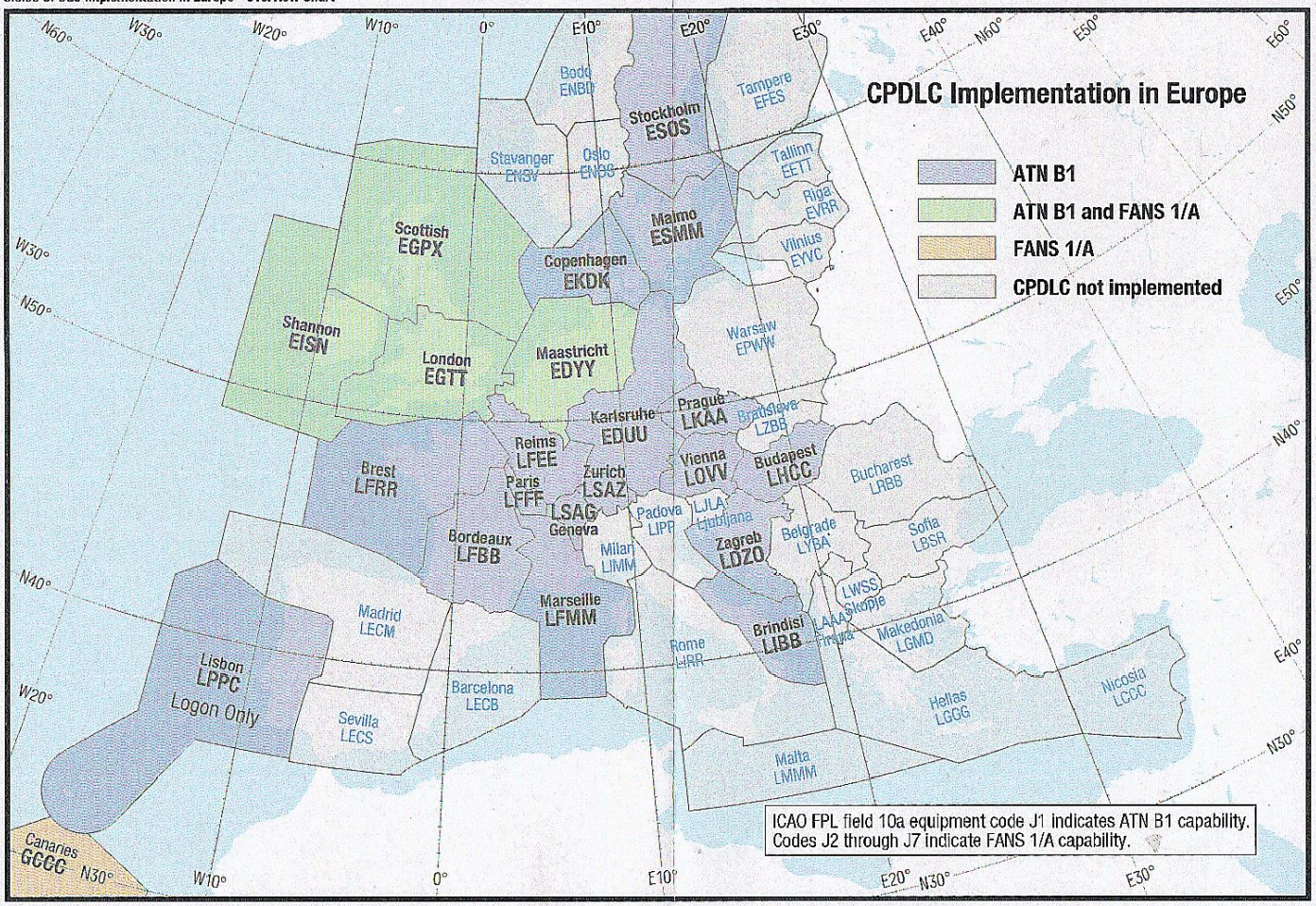
Downlink Messages (London and Scottish)	
Message Number	**Message**
DM0	WILCO
DM1	UNABLE
DM2	STANDBY
DM3	ROGER *(FANS only)*
DM4	AFFIRM *(FANS only)*
DM5	NEGATIVE *(FANS only)*
DM6	REQUEST (LEVEL)
DM9	REQUEST CLIMB TO (LEVEL)
DM10	REQUEST DESCENT TO (LEVEL)
DM22	REQUEST DIRECT TO (POSITION)
DM62	ERROR (ERROR INFORMATION)
DM63	NOT CURRENT DATA AUTHORITY
DM64	(FACILITY DESIGNATION) *(FANS only)*
DM65 (Note)	DUE TO WEATHER (Note)
DM66 (Note)	DUE TO AIRCRAFT PERFORMANCE (Note)
DM67	(FREETEXT) *(FANS only)*
DM98	(FREETEXT) (FOR ADDITIONAL ERROR INFO)
DM99	CURRENT DATA AUTHORITY
DM100	LOGICAL ACKNOWLEDGMENT
DM107	NOT AUTHORISED NEXT DATA AUTHORITY
Note: DM65 and DM66 can be combined with other downlink messages.	

Additional Downlink Messages (London Only)	
Message Number	**Message**
DM106	PREFERRED LEVEL (LEVEL) *(ATN only)*

Important Notes

- Flight crews should ensure upon receiving an UM79 CLEARED TO [position] VIA [route clearance] that the position element is part of the original flight plan to ensure that the onward route is not deleted from the FMS. Flight crews must comply with the full route clearance and not route direct to the [position]. Flight crews of aircraft that do not display the full CPDLC route clearance (Boeing Multifunction Control and Display Unit (MCDU) based aeroplanes: B737, B747, B757 & B767), must ensure that they comply with the full route clearance by selecting the LOAD function as detailed in Boeing document D6-84207; Loading of ATC Clearances into the FMS.
- Within UK continental airspace CPDLC is a supplementary means of communication. Voice over radio telephony remains the primary means of communication.
- Flight crews are reminded that following a change of frequency, there is a requirement to check in by voice prior to the use of CPDLC.

5.6.35 CPDLC Implementation in Europe - Overview Chart



5.6.36 Controller-Pilot Data Link Communications (CPDLC)

The text below is based on ICAO Document 7030 which in term is based on the European "COMMISSION REGULATION (EC) No 29/2009" of 16 JAN 2009.
However, the European Commission has postponed the application date of the Data Link Services Mandate from 07 FEB 2013 to **05 FEB 2018**.

Area of Applicability

All concerned aircraft operating flights as general air traffic in accordance with IFR in the airspace defined below shall be equipped with Context Management (CM) and CPDLC applications capable of supporting the following data link services: data link initiation capability, air traffic control clearance, air traffic control communications management and air traffic control microphone check:

a) from 07 FEB 2013, in the following FIRs/UIRs above FL285:

Amsterdam FIR, Wien FIR, Barcelona UIR, Brindisi UIR, Brussels UIR, Canarias UIR, France UIR, Hannover UIR, Lisboa UIR, London UIR, Madrid UIR, Milano UIR, Rhein UIR, Roma UIR, Scottish UIR, Shannon UIR and Switzerland UIR; and

b) from 05 FEB 2015, in the following FIRs/UIRs above FL285:

Bratislava FIR, Bucuresti FIR, Budapest FIR, Kobenhavn FIR, Ljubljana FIR, Nicosia FIR, Praha FIR, Sofia FIR, Warszawa FIR, Finland UIR south of 61°30', Hellas UIR, Malta UIR, Riga UIR, Sweden UIR south of 61°30', Tallinn UIR, Vilnius UIR.

Conformance to the equipage requirement and operator's approval shall be verified by the State of Registry or the State of the Operator, as appropriate.

Aircraft are exempted from the above requirement in the following cases:

a) aircraft with an individual certificate of airworthiness first issued before 01 JAN 2011 are exempted until 05 FEB 2015;

b) aircraft with an individual certificate of airworthiness first issued before 01 JAN 2014 and fitted with data link equipment certified against requirements specified in RTCA DO-258A/EUROCAE ED-100A (or ED-100) are exempted for the life of that particular airframe;

c) aircraft which have a certificate of airworthiness issued before 31 DEC 1997 and which will cease operation in the airspace referred to above before 31 DEC 2017 are exempted from the requirement stipulated above;

d) state aircraft;

e) aircraft flying in the airspace referred to above for testing, delivery and for maintenance purposes; and

f) operators of types of aircraft reaching the end of their production life and being produced in limited numbers, or types of aircraft for which re-engineering costs required would be disproportionate due to old design, may, based on this criteria, request from the appropriate authority the granting of an exemption. Such requests shall be made prior to 30 SEP 2012 and include detailed information justifying the need for the granting of the exemption.

5.6.36.1 Definition of Data Link Services for the Single European Sky

Data Link Communications Initiation Capability (DLIC)

The DLIC service shall enable the exchange of the necessary information for the establishment of data link communications between ground and aircraft data link systems.

The DLIC service shall be available to support:

a) the unambiguous association of flight data from the aircraft with flight plan data used by an ATS unit,

b) the exchange of the supported air–ground application type and version information,

c) and the delivery of the addressing information of the entity hosting the application.

ATC Communications Management Service (ACM)

The ACM service shall provide automated assistance to flight crews and air traffic controllers for conducting the transfer of ATC communications (voice and data) comprising:

a) the initial establishment of CPDLC with an ATS unit,

b) the transfer of CPDLC and voice for a flight from one ATS unit to the next ATS unit, or to instruct a change of voice channel within an ATS unit or sector,

c) the normal termination of CPDLC with an ATS unit.

ATC Clearances and Information Service (ACL)

The ACL service shall provide flight crews and controllers with the ability to conduct operational exchanges comprising:

a) requests and reports from flight crews to air traffic controllers,

b) clearances, instructions and notifications issued by air traffic controllers to flight crews.

ATC Microphone Check Service (AMC)

The AMC service shall provide air traffic controllers with the capability to send an instruction to several data link equipped aircraft, at the same time, in order to instruct flight crews to verify that their voice communication equipment is not blocking a given voice channel.

This instruction shall only be issued to those aircraft tuned to the frequency that is blocked.

5.6.37 Data Link Service Provision in EUR Region

In the EUR Region, ATN B1 data link services are provided above FL285. FL285 aims to govern data link equipage. However, this does not mean that CPDLC operations are limited to above FL285. Several ANSPs use CPDLC in their upper ASP below FL285.

The types of data link service provided (ATN B1, FANS 1/A or both FANS 1/A and ATN B1) are indicated in the tables of the respective country.

The use of CPDLC is conducted at the discretion of each responsible ACC and at the initiative of the flight crew. CPDLC is used for routine exchanges during en-route operations in the upper ASP and is not for time-critical situations. Voice COM has priority over CPDLC exchanges at all times.

5.6.40 Operational Timers Used by the Aircraft

Controller Initiated Dialogue

When an ATN B1 aircraft system receives an uplink message, requiring a response, it starts the expiration timer-responder (ttr), which value for the response to be sent is set at 100 seconds.

a) The timer-responder (ttr) expires if the flight crew fails to respond within 100 seconds. The flight crew is notified and reverts to voice to complete the dialogue.

Note: FANS 1/A aircraft do not have a ttr timer.

b) The ATN B1 aircraft system closes the dialogue and downlinks an error response 'AIRSYSTEM TIME-OUT'. The error response ensures that the dialogue will also be closed within the ATSU.

Note: In normal circumstances, the aircraft-timer (ttr) expires before the ground-timer (tts) expires.

If the flight crew responds to a clearance with a [DM 2 STANDBY], the aircraft- and ground timers are re-started.

Flight Crew Initiated Dialogue

When the flight crew downlinks a request, requiring an operational response, and when implemented, the ATN B1 aircraft system starts the expiration timer-initiator (tts). If used, the timer value for the operational response to be received is set at 270 seconds.

a) The timer-initiator (tts) expires, if no operational response has been received by the aircraft system within 270 seconds. The flight crew is notified and reverts to voice to resolve the situation.

b) The dialogue is closed locally by the aircraft system, ensuring that the dialogue doesn't remain open at the aircraft side.

Note: ATN B1 ground systems have implemented ground-timer. In normal circumstances, the ground-timer (ttr) expires before the aircraft-timer (tts) expires.

If the controller responds to a request with a [UM 1 STANDBY], the aircraft and ground timers are re-started.

5.6.41 Abnormal Situations

Inability to Contact the Assigned Voice Communication Channel

When the flight crew is unable to contact the assigned voice communication channel when instructed to do so by the transferring controller via CPDLC, the flight crew should revert to the voice communication channel of the transferring ATC unit for instructions.

Use of CPDLC in the Event of Voice Radio Communication Failure

The existence of a CPDLC connection between the ATS unit and the aircraft should not pre-empt the flight crew and ACC from applying all the ICAO provisions in the event of radio communication failure.

When the flight crew cannot comply with the requirement above, he/she will have to apply the provisions stipulated for the event of radio communication failure.

Flight Crew Commanded CPDLC Termination

When flight crew initiates CPDLC termination, the ATN B1 airborne system sends a CPDLC-User-abort to the ground system. The controller is notified of the abort.

To reinstate CPDLC after a flight crew initiated commanded termination, the flight crew initiates a CM-logon request.

5.7 SATCOM Short Codes & PSTN Numbers

Disclaimer:
Inmarsat short codes are provided by courtesy of Inmarsat Global Ltd. The revision of the short codes is on a "as received from Inmarsat" basis. The linkage of the short codes with valid ACC phone numbers is under the responsibility of Inmarsat Global Ltd. Lufthansa Systems FlightNav Inc. is not taking liability for the attribution of the short codes and the programming of the respective ACC phone numbers.

Public Switched Telephone Network (PSTN) numbers have been depicted from State sources (AIPs) where available.

Country	ATS Unit	Inmarsat Short Code	PSTN Number	Remarks
Albania	Tirana ACC	420101		
Algeria	Algiers ACC	460501		
Belgium	Brussels ACC	420501		
Cyprus	Nicosia ATC	420901		
Denmark	Copenhagen ACC/APP	421901		
	Sondrestrom FIR (up to FL195)	421902		
Estonia	Tallinn ATC	427387 427388		
France	Bordeaux ATC	422701		
	Brest ATC	422702		
	Marseille ACC	422703		
	Paris ACC	422704		
	Reims ACC	422705		
Germany	Bremen ATC/FIS	421102		
	Dusseldorf ACC	421103		
	Frankfurt ACC	421104		
	Munich ATC	421105		
	Karlsruhe UAC	421106		
Greece	Athens/Makedonia ACC	423701		
Hungary	Budapest ACC	424301		
Ireland	Shannon ATC	425001		
Italy	Brindisi ACC	424701		
	Milan ACC	424702		
	Padova ACC	424703		
	Rome ACC	424704		
Jordan	Amman ACC	443801		
Libya	Tripoli ACC	464201	+218 215 632 331	
Lithuania	Vilnius ACC	427389		
Malta	Malta ACC	425601		
Norway	Bodø Oceanic	425701	+47 7554 2935	EMERG or non-routine calls only

Europe

Regional SUP INFO

R-224

04-MAY-2017

EUR

Country	ATS Unit	Inmarsat Short Code	PSTN Number	Remarks
Norway	Bodø Radio	425702	+47 7552 1283	HF radio operator
	Bodø ATCC	425705	+47 7554 2900	Supervisor
	Oslo ATCC	425703		
	Stavanger ACC	425704		
Portugal	Lisbon	426301		
	Santa Maria Oceanic	426302		
	Santa Maria Radio	426305	+351 296 820 438 +351 296 886 042	HF radio operator
Romania	Bucharest ACC	426401		
Russian Federation	Moskva ACC	427340		
	Murmansk ACC	427341	+7 8152 281 314 +7 8152 281 383	
Sweden	Malmo ACC	426501		
	Stockholm ACC	426502		
Switzerland	Zurich ACC	426902		
	Geneva ACC	426901		
Ukraine	Kiev ACC	427396		
	Lvov ACC	427397		
	Odessa ACC	427398		
	Simferopol ACC	427399		
United Kingdom	RAF (U) Swanwick D & D	423202		Royal Air Force Distress & Diversion Cell
	Shanwick Oceanic	423201		Direct pilot/controller COM - EMERG only
	Shanwick Radio	425002	+353 61 368 241 +353 61 471 199	Routine ATS messages

5.8 Nicosia FIR / UIR Contact Procedure

a) Southbound

- For flights inbound from Ankara FIR contact Nicosia FIR 10 MIN prior entry for waypoint TOMBI on 125.500MHZ waypoints DOREN and VESAR on 126.300MHZ.
  Comply with instructions issued by Ankara (either directly or by relay through other station designated by Ankara, e.g. Ercan control on 126.700/126.900MHZ) up to point VESAR (UB545, UL620) or point TOMBI (UA16, UM855) or point DOREN (UA28). After these points, invitation to change to another station (e.g. Ercan control) should be politely acknowledged but disregarded. In case of insistence a check should be made with Nicosia ACC.
  However in case at which aircraft fails to establish contact in time, aircraft is requested to call Nicosia ACC on emergency frequency 121.500MHZ.
- For aircraft planning to continue the flight into Damascus FIR, additional communication requirements exist. Refer to para c) below.
- On completion of ATC formalities with Nicosia ACC after entry into the FIR and of position report for Damascus FIR, establish communication with Ercan control and pass on relevant flight details. This should be regarded as a purely courtesy call - under **NO** circumstances should any ATC instructions be accepted from Ercan.

b) Northbound

- Due to lack of contact between the two centers, advance flight information can only be provided to Ankara by relay. Provide flight information **at least 10 MIN prior to entering Ankara FIR**, along UL619, UW10, UB15, UA16, UL620 UM855 or UA28 **to Ercan control** on 126.700MHZ for relay to Ankara.
- Control authority of Nicosia remains absolute up to the point of entry into Ankara FIR.

c) Eastbound

- Eastbound aircraft entering Damascus FIR via routes UL619, UW10, UR78 or UM978 are required to establish contact with **Damascus ACC 5 MIN before ETA position NIKAS**. If for any reason this is not possible, aircraft must provide, a position report to **Latakia Radio**, a relay station for Damascus ACC, at position VESAR, ALSUS or BALMA for relay to Damascus, and maintain continuous listening watch.
- Even if a position report and flight details have been communicated to Latakia Radio two-way communication with Damascus ACC must be completed as early as possible before passing BANIAS NDB.
- Nicosia ACC remains primary station for listening watch until NIKAS, where change to Damascus shall be effected.

d) Westbound

- Aircraft from Damascus FIR establish communication with Nicosia ACC at the FIR boundary (NIKAS), unless requested by Damascus ACC to call Nicosia earlier.
- A courtesy call may be made to Ercan control. If flight continues into Ankara FIR, provide advance flight information **to Ankara ACC via ERCAN control at least 10 MIN before passing the Nicosia/Ankara FIR boundary.**
- Control authority rests firmly with Nicosia ACC until FIR boundary (VESAR); thereafter it changes to Ankara. Further calls to Ercan may be made as requested to the extent other commitments permit.

Special Communications and Control Procedures Applying to Aircraft En-Route MUT - VESAR - NIKAS - BANIAS v.v.

SOUTHBOUND, continuing eastward into Damascus FIR

a) 10 MIN before ETA VESAR:

- Primary station is Ankara ACC.
- Call Nicosia ACC and communicate essential flight details (FL, ETA FIR (VESAR), ROUTE, etc.).

Note: Avoid flight level changes from this point until FIR boundary and control transferred to Nicosia ACC. If change is absolutely necessary, obtain clearance from Ankara ACC and keep Nicosia ACC informed.

b) VESAR:

- Establish contact with Damascus ACC. If no contact, call LATAKIA Radio, transmit essential flight details for relay to Damascus ACC.
- Call Ercan, pass essential flight details (ATO VESAR, FL, ETA NIKAS).

c) Before BANIAS:

- Continue to contact Damascus ACC if communication have not been established yet, because it is requirement to establish contact well before BANIAS.

d) At NIKAS:

- Transfer control to Damascus ACC.

WESTBOUND, continuing northward into Ankara FIR

a) In Damascus FIR, before passing NIKAS:

- Primary station is Damascus ACC. No need for advance call to Nicosia FIR unless request to that effect received from Damascus ACC.

b) At NIKAS:

- Transfer control to Nicosia ACC. Control authority remains with Nicosia ACC until point VESAR.
- Call Ercan on 126.700MHZ, pass essential flight details for relay to Ankara ACC.

Note: Any flight level changes made thereafter under instructions from Nicosia ACC must be communicated at once to Ercan control for relay to Ankara ACC.

c) At VESAR:

- Transfer control to Ankara ACC.

6 Appendix

6.1 VOLMET / ATIS

6.1.1 VOLMET Stations (VHF)

6.1.1.1 A

VOLMET Station	VOLMET FREQ	Aerodromes
Adana	126.250	Adana
		Gaziantep
		Malatya Erhac
		Kayseri Erkilet
		Elazig
		Diyarbakir
		Sanliurfa Gap
Alger	126.800	Alger
		Annaba
		Constantine
		Oran
		Tunis
		Madrid Barajas
		Barcelona
		Palma
		Marseille
		Nice
Alicante	126.000	Madrid Barajas
		Palma
		Malaga
		Valencia
		Alicante
		Ibiza
		Granada
		Alger
		Oran
Amsterdam	126.200	Amsterdam
		Rotterdam
		Brussels
		Dusseldorf
		Paris Charles de Gaulle
		London Heathrow
		London Gatwick
		Copenhagen Kastrup

VOLMET Station	VOLMET FREQ	Aerodromes
Amsterdam	126.200	Hamburg
Ankara Esenboga	127.000	Ankara Esenboga
		Adana
		Antalya
		Istanbul Atatürk
		Izmir Adnan Menderes
		Trabzon
		Samsun Carsamba
		Larnaka
		Nicosia
		Beirut
Ankara Merkez	125.375	Konya
		Kayseri Erkilet
		Sivas
		Erzincan
		Tokat
Athens	127.800	Athens
		Thessaloniki
		Andravida
		Rodos
		Iraklion
		Kerkira
		Larnaka
		Cairo
		Istanbul Ataturk

6.1.1.2 B

VOLMET Station	VOLMET FREQ	Aerodromes
Baku (Heydar Aliyev)	126.675	Baku (Heydar Aliyev)
		Tehran
		Tbilisi
		Turkmenbashi
		Ashgabat
		Almaty
		Tashkent
		Nakhchivan
		Ganja
Banja Luka	135.775	Sarajevo FIR (SIGMET)
		Banja Luka
		Sarajevo
		Mostar
		Tuzla
Barcelona	127.600	Madrid Barajas
		Barcelona
		Palma
		Malaga
		Ibiza
		Girona
		Menorca
		Toulouse
		Marseille
Beirut	126.000	Beirut
		Nicosia
		Larnaka
		Damascus
		Amman
		Cairo
		Baghdad
		Abadan
		Kuwait
		Bahrain
		Istanbul Ataturk
		Ankara
		Tehran
Belgrade	126.400	Belgrade
		Nis Konstantin Veliki

VOLMET Station	VOLMET FREQ	Aerodromes
Belgrade	126.400	Zagreb
		Podgorica
		Sarajevo
		Budapest
		Bucharest Henri Coanda
		Sofia
		Thessaloniki
Berlin	128.400	Berlin Schoenefeld
		Berlin Tegel
		Dresden
		Leipzig
		Prague
		Copenhagen Kastrup
		Warsaw
		Vienna
Bordeaux	126.400 (English)	Bordeaux
		Toulouse
		Paris Charles de Gaulle
		Paris Orly
		Madrid Barajas
		Barcelona
		Palma
		Lisbon
		Geneva
	127.000 (French)	Biarritz
		Bordeaux
		Lille
		Marseille
		Nice
		Pau
		Paris Orly
		Paris Charles de Gaulle
		Tarbes Lourdes
		Toulouse
		Tours
Bratislava	126.200	Bratislava
		Prague
		Kosice
		Sliac

VOLMET Station	VOLMET FREQ	Aerodromes
Bratislava	126.200	Poprad Tatry
		Piestany
		Zilina
		Ostrava Mosnov
Bremen	127.400	Hannover
		Hamburg
		Bremen
		Cologne Bonn
		Frankfurt Main
		Berlin Tegel
		Amsterdam
		Copenhagen Kastrup
Brindisi	127.600	Brindisi
		Pisa
		Rome Fiumicino
		Rome Ciampino
		Naples
		Athens
		Thessaloniki
		Kerkira
		Andravida
Brussels	127.800	Antwerpen
		Brussels
		Oostende
		London Heathrow
		Luxembourg
		Amsterdam
		Paris Orly
		Frankfurt Main
		Cologne Bonn
		Dusseldorf
Bryansk	124.200 (Russian)	Bryansk
Bucharest	126.800	Bucharest Henri Coanda
		Bucharest Baneasa
		Constanta
		Timisoara
		Belgrade
		Sofia
		Chisinau

VOLMET Station	VOLMET FREQ	Aerodromes
		Kyiv
Bucharest	126.800	Istanbul Ataturk
		Budapest
		Budapest
		Prague
		Bratislava
Budapest	127.400	Bucharest Henri Coanda
		Belgrade
		Vienna
		Budapest FIR (SIGMET)

6.1.1.3 C - F

VOLMET Station	VOLMET FREQ	Aerodromes
Cairo	126.200	Cairo
		Hurghada
		Sharm el Sheikh
		Luxor
		Aswan
		Alexandria Borg El Arab Intl
		Alexandria Intl
		Beirut
		Damascus
		Larnaka
		Athens
		Benghazi
		Khartoum
		Jeddah
Casablanca	127.600	Agadir
		Casablanca
		Fes
		Marrakech
		Oujda
		Rabat
		Tanger
		Gran Canaria
		Malaga
		Seville San Pablo
Copenhagen	127.000	Copenhagen Kastrup
		Billund
		Aalborg
		Hamburg
		Malmo
		Goteborg Landvetter
		Stockholm Arlanda
		Oslo
		Stavanger
Dnipropetrovs'k	126.450	Dnipropetrovs'k
		Kyiv Boryspil'
		Kyiv Zhuliany
		Odesa
Dublin	127.000	Dublin

VOLMET Station	VOLMET FREQ	Aerodromes
Dublin	127.000	Shannon
		Cork
		Belfast
		Glasgow
		Prestwick
		Manchester
		London Heathrow
		London Gatwick
Ekofisk	118.975	Stavanger
		Haugesund
Erzurum	127.275	Erzurum
		Elazig
		Van Ferit Melen
		Erzincan
		Kars
		Mus
		Agri
Frankfurt 1	127.600	Frankfurt Main
		Brussels
		Amsterdam
		Zurich
		Geneva
		Basle
		Vienna
		Prague
		Paris Charles de Gaulle
Frankfurt 2	135.775	Frankfurt Main
		Cologne Bonn
		Dusseldorf
		Stuttgart
		Nurnberg
		Munich
		Hamburg
		Berlin Tegel

6.1.1.4 G - K

VOLMET Station	VOLMET FREQ	Aerodromes
Geneva	126.800	Geneva
		Zurich
		Basle
		Nice
		Lyon
		Paris Charles de Gaulle
		Paris Orly
		Milan Linate
		Milan Malpensa
		Bern Belp
Helsinki	128.400	Helsinki
		Tampere
		Turku
		Stockholm Arlanda
		St. Peterburg
		Tallinn
		Kuopio
		Oulu
		Vaasa
Innsbruck	130.475	Innsbruck
		Salzburg
		Klagenfurt
		Linz
		Munich
		Zurich
		St. Gallen Altenrhein
		Friedrichshafen
		Hohenems
		Alpe Rauz
		Zell am See
		Bolzano/Bozen
Istanbul Atatürk	127.400	Istanbul Atatürk
		Izmir Adnan Menderes
		Bursa Yenisehir
		Mugla Dalaman
		Ankara Esenboga
		Antalya
		Milas Bodrum

Europe

Regional SUP INFO

R-282

30-JUN-2016

EUR

VOLMET Station	VOLMET FREQ	Aerodromes
Istanbul Atatürk	127.400	Istanbul Sabiha Gökcen
		Athens
		Sofia
		Bucharest Henri Coanda
Izmir Adnan Menderes	127.925	Izmir Adnan Menderes
		Ankara Esenboga
		Samsun Carsamba
		Istanbul Atatürk
		Antalya
		Konya
		Denizli Cardak
		Usak
Jonkoping	127.200	Stockholm Arlanda
		Stockholm Bromma
		Stockholm Skavsta
		Goteborg Landvetter
		Goteborg Saeve
		Malmo
		Jonkoping
		Kalmar
		Karlstad
Klagenfurt	122.275	Innsbruck
		Graz
		Felbertauern Südportal
		Iselsberg
		Spittal / Drau
		Neumarkter Sattel
		Sonnblick
		Mauterndorf
		Zeltweg
		Aigen / Ennstal
Kursk	127.800 (Russian)	Kursk
Kyiv Boryspil'	129.375	Chisinau
		Kyiv Boryspil'
		L'viv
		Odesa

6.1.1.5 L - 0

VOLMET Station	VOLMET FREQ	Aerodromes
Lisbon	126.400	Lisbon
		Porto Francisco Sa Carneiro
		Faro
		Seville San Pablo
		Madrid Barajas
		Gran Canaria (Las Palmas)
		Tenerife South Reina Sofia
		Madeira
		Porto Santo
London Main	135.375	Amsterdam
		Brussels
		Dublin
		Glasgow
		London Gatwick
		London Heathrow
		London Stansted
		Manchester
		Paris Charles de Gaulle
London North	126.600	Durham Tees Valley
		Derby East Midlands
		Humberside
		Isle of Man
		Leeds Bradford
		Liverpool
		London Gatwick
		Manchester
		Newcastle
London South	128.600	Birmingham
		Bournemouth
		Bristol
		Cardiff
		Exeter
		Jersey
		London Luton
		Norwich
		Southampton
		Southend
L'viv	133.325	Bratislava

Europe

Regional SUP INFO

R-300

30-JUN-2016

EUR

VOLMET Station	VOLMET FREQ	Aerodromes
L'viv	133.325	Ivano-Frankivs'k
		Kyiv Boryspil'
		L'viv
		Odesa
Madrid	126.200	Madrid Barajas
		Barcelona
		Sevilie San Pablo
		Malaga
		Valencia
		Alicante
		Bilbao
		Lisbon
		Bordeaux
Malta Luqa	126.800	Rome Fiumicino
		Naples
		Palermo
		Catania
		Tunis
		Tripoli
		Benghazi
		Malta Luqa
Marseille	127.405 (English)	Marseille
		Nice
		Lyon
		Geneva
		Paris Charles de Gaulle
		Rome Fiumicino
		Milan Linate
		Palma
		Barcelona
	128.600 (French)	Ajaccio
		Bastia
		Lille
		Lyon
		Marseille
		Montpellier
		Nice
		Nimes
		Paris Charles de Gaulle

VOLMET Station	VOLMET FREQ	Aerodromes
Marseille	128.600 (French)	Paris Orly
		Toulouse
Milan	126.600	Milan Linate
		Milan Malpensa
		Torino
		Genoa
		Venice
		Pisa
		Rome Fiumicino
		Bergamo
		Nice
Minsk-2	126.675	Minsk-2
		Kyiv Boryspil
		Warsaw
		Riga
		Moscow Sheremetyevo
		Moscow Vnukovo
		Frankfurt Main
		Homiel
		St. Peterburg
Moscow	127.875 (English) 128.125 (Russian)	Moscow Vnukovo
		St. Peterburg Pulkovo
		Nizhny Novgorod Strigino
		Minsk-2
		Kyiv Boryspil'
		Samara Kurumoch
		Ulyanovsk/Baratayevka
		Helsinki
		Riga
Nicosia	127.200	Larnaka
		Pafos
		Athens
		Rodos
		Beirut
		Damascus
		Tel Aviv
Odesa	126.375	Bucharest
		Istanbul Sabiha Gokcen
		Chisinau

VOLMET Station	VOLMET FREQ	Aerodromes
Odesa	126.375	Kyiv Boryspil'
		Odesa
Oslo	128.600	Oslo
		Bergen
		Stavanger
		Kristiansand
		Goteborg
		Copenhagen Kastrup
		Stockholm Arlanda

6.1.1.6 P - R

VOLMET Station	VOLMET FREQ	Aerodromes
Paris	125.150 (French)	Basle
		Beauvais
		Brest
		Lille
		Nantes
		Paris Charles de Gaulle
		Paris Orly
		Reims
		Strasbourg
		Tours
	126.005 (English)	Paris Charles de Gaulle
		Paris Orly
		Lyon
		Geneva
		Zurich
		London Heathrow
		London Gatwick
		Brussels
		Amsterdam
Pisa	128.400	Pisa
		Venice
		Trieste
		Bologna
		Rimini
		Zurich
		Geneva
		Basle
		Munich
Prague	125.525 (Domestic)	Brno Turany
		Karlovy Vary
		Ostrava
		Pardubice
		Prague
		Kunovice
	128.605 (International)	Berlin Schoenefeld
		Bratislava
		Budapest
		Frankfurt Main

VOLMET Station	VOLMET FREQ	Aerodromes
Prague	128.605 (International)	Munich
		Prague
		Warsaw
		Vienna
Riga	127.650	Riga
		Vilnius
		Tallinn
		Stockholm Arlanda
		Moscow Sheremetyevo
		Moscow Vnukovo
		St. Peterburg
		Helsinki
		Warsaw
Rome	126.000	Rome Ciampino
		Rome Fiumicino
		Naples
		Catania
		Palermo
		Milan Linate
		Milan Malpensa
		Malta Luqa
		Tunis

6.1.1.6 P - R

VOLMET Station	VOLMET FREQ	Aerodromes
Paris	125.150 (French)	Basle
		Beauvais
		Brest
		Lille
		Nantes
		Paris Charles de Gaulle
		Paris Orly
		Reims
		Strasbourg
		Tours
	126.005 (English)	Paris Charles de Gaulle
		Paris Orly
		Lyon
		Geneva
		Zurich
		London Heathrow
		London Gatwick
		Brussels
		Amsterdam
Pisa	128.400	Pisa
		Venice
		Trieste
		Bologna
		Rimini
		Zurich
		Geneva
		Basle
		Munich
Prague	125.525 (Domestic)	Brno Turany
		Karlovy Vary
		Ostrava
		Pardubice
		Prague
		Kunovice
	128.605 (International)	Berlin Schoenefeld
		Bratislava
		Budapest
		Frankfurt Main

Europe

Regional SUP INFO

R-320

03-NOV-2016

EUR

VOLMET Station	VOLMET FREQ	Aerodromes
Prague	128.605 (International)	Munich
		Prague
		Warsaw
		Vienna
Riga	127.650	Riga
		Vilnius
		Tallinn
		Stockholm Arlanda
		Moscow Sheremetyevo
		Moscow Vnukovo
		St. Peterburg
		Helsinki
		Warsaw
Rome	126.000	Rome Ciampino
		Rome Fiumicino
		Naples
		Catania
		Palermo
		Milan Linate
		Milan Malpensa
		Malta Luqa
		Tunis

6.1.1.7 S - T

VOLMET Station	VOLMET FREQ	Aerodromes
Samara	126.875 (Russian)	Samara
		Ulyanovsk
		Kazan
		Saratov
		Nizhny Novgorod
		Ufa
		Volgograd
		Orenburg
Samsun Carsamba	125.275	Samsun Carsamba
		Ankara Esenboga
		Trabzon
		Sivas
		Tokat
Santiago	126.600	Madrid Barajas
		Barcelona
		Asturias
		Santiago
		Lisbon
		Porto
		Faro
		Brest
		Nantes
Scottish	125.725	Aberdeen
		Belfast
		Edinburgh
		Glasgow
		Inverness
		London Heathrow
		Prestwick
		Stornoway
		Sumburgh
Seville	127.000	Madrid Barajas
		Seville San Pablo
		Malaga
		Gibraltar
		Lisbon
		Faro
		Casablanca

Europe

Regional SUP INFO

R-322

30-JUN-2016

EUR

VOLMET Station	VOLMET FREQ	Aerodromes
Seville	127.000	Tanger
		Rabat
Simferopol	128.125 (Russian/English)	Dnepropetrovsk
		Krivoy Rog
		Kishinev
		Nikolaev
		Moscow/Sheremetyevo
		Odessa
		Simferopol
		Istanbul
		Kiev/Borispol
Sivas	124.050	Sivas
		Ankara Esenboga
		Malatya Erhac
		Kayseri Erkilet
		Elazig
		Erzincan
		Tokat
Skopje	124.325	Skopje
		Ohrid
		Belgrade
		Sofia
		Thessaloniki
		Tirana
Sochi	133.100 (English) 128.700 (Russian)	Anapa/Vityazevo
		Krasnodar/Pashkovkiy
		Rostov-na-Donu
		Mineralnyye Vody
		Sochi
		Stavropol/Shpakovkoye
Sofia	126.600	Sofia
		Varna
		Burgas
		Plovdiv
		Budapest
		Bucharest Henry Coanda
		Belgrade
		Thessaloniki
		Istanbul Atatürk

VOLMET Station	VOLMET FREQ	Aerodromes
St. Peterburg	125.875 (Russian/English)	St. Peterburg
		Moscow Sheremetyevo
		Moscow Vnukovo
		Minsk-2
		Kaliningrad
		Vilnius
		Stockholm Arlanda
		Helsinki
Stockholm	127.600	Stockholm Arlanda
		Norrkoping
		Malmo
		Copenhagen Kastrup
		Goteborg Landvetter
		Oslo
		Helsinki
		Turku
		Visby
Sundsvall	127.800	Stockholm Arlanda
		Stockholm Bromma
		Sundsvall
		Umea
		Ostersund
		Ornskoldsvik
		Skelleftea
		Lulea Kallax
		Kiruna
Tel Aviv Ben Gurion	126.800	Tel Aviv Ben Gurion
		Ovda
		Eilat
		Tel Aviv Sdedov (HJ only)
		Haifa (HJ only)
		Rosh-Pina (HJ only)
		Larnaka (when AVBL)
		Amman (when AVBL)
Tunis	126.600	Tunis
		Djerba
		Enfidha
		Monastir
		Sfax

Europe

Regional SUP INFO

R-340

30-JUN-2016

EUR

VOLMET Station	VOLMET FREQ	Aerodromes
Tunis	126.600	Tabarka
		Tozeur
		Gafsa
		Gabes
		El Borma

6.1.1.8 V - Z

VOLMET Station	VOLMET FREQ	Aerodromes
Vienna	126.000	Vienna
		Linz
		Salzburg
		Graz
		Klagenfurt
		Bratislava
		Budapest
		Zagreb
		Munich
Warsaw	127.600	Warsaw
		Poznan
		Gdansk
		Moscow Sheremetyevo
		Budapest
		Prague
		Copenhagen Kastrup
		Stockholm Arlanda
		Berlin Schönefeld
Yekaterinburg	123.000	Yekaterinburg Koltsovo
		Novosibirsk Tolmachevo
		Samara Kurumoch
		Perm Bolshoe Savino
		Ufa
		Omsk Tsentralny
		Magnitogorsk
		Tyumen Roshchino
		Chelyabinsk Balandino
Zagreb	127.800	Zagreb
		Ljubljana
		Belgrade
		Dubrovnik
		Split
		Pula
		Sarajevo
		Zurich
		Munich
		Frankfurt Main
Zurich	127.200	Zurich

Europe

Regional SUP INFO

R-342

30-JUN-2016

EUR

VOLMET Station	VOLMET FREQ	Aerodromes
		Geneva
		Basle
		Frankfurt Main
		Munich
Zurich	127.200	Stuttgart
		Milan Malpensa
		Milan Linate
		Lugano
		Bern Belp

6.1.2 VOLMET Stations (HF)

Station Call-Sign	FREQ KHZ	HR of Service	Schedule	Contents	Stations in Sequence
MOSCOW METEO	4663 10090 13279	HN H24 HJ	25-30 55-60	TAF, METAR	Moscow Sheremetyevo, Moscow Vnukovo, Kyiv Boryspil, St. Peterburg
ROSTOV METEO (Russian)	2941 6617 8939 11297	HN H24 H24 HJ	25-30 55-60	METAR, TREND	Rostov-na-Donu, Krasnodar, Sochi, Mineralnyye Vody, Stavropol, Volgograd, Anapa, Astrakhan
SAMARA METEO	2869 6693 8888 11318	HN H24 H24 HJ	15-20 45-50	No Info published	Samara, Kazan, Orenburg
SHANNON VOLMET	3413 5505 8957 13264	HN H24 H24 HJ	00-05	SIGMET	-
				TAF	Brussels, Amsterdam
				METAR	Brussels, Amsterdam, Frankfurt Main, Hamburg, Munich
			05-10	TAF	London Heathrow, London Gatwick, London Stansted
				METAR	London Heathrow, London Gatwick, London Stansted, Prestwick, Glasgow
			10-15	SIGMET	-
				TAF	Dublin, Shannon
				METAR	Dublin, Shannon, Manchester, Keflavik
			15-20	TAF	Santa Maria, Lisbon, Madrid
				METAR	Santa Maria, Lisbon, Madrid, Lajes
			20-25	SIGMET	-
				TAF	Paris Charles De Gaulle, Paris Orly
				METAR	Paris Charles De Gaulle, Paris Orly, Zurich, Geneva, Milan Malpensa
			25-30	METAR	Stockholm Arlanda, Manchester, Shannon, Copenhagen, Bergen, Dublin, Helsinki
			30-35	SIGMET	-
				TAF	Frankfurt Main, Cologne Bonn

Europe

Regional SUP INFO

R-360

30-JUN-2016

EUR

Station Call-Sign	FREQ KHZ	HR of Service	Schedule	Contents	Stations in Sequence
			30-35	METAR	Frankfurt Main, Cologne Bonn, Dusseldorf, Munich, Luxembourg
			35-40	TAF	Keflavik, Glasgow, Manchester
				METAR	London Heathrow, London Gatwick, Keflavik, Glasgow, Manchester
			40-45	SIGMET	-
				TAF	Oslo, Copenhagen
				METAR	Oslo, Copenhagen, Goteborg, Stockholm Arlanda, Bergen, Helsinki
SHANNON VOLMET	3413 5505 8957 13264	HN H24 H24 HJ	45-50	TAF	Zurich, Geneva
				METAR	Zurich, Geneva, Paris Charles De Gaulle, Paris Orly
			50-55	SIGMET	-
				TAF	Hamburg
				METAR	Brussels, Amsterdam, Frankfurt Main, Cologne Bonn, Hamburg
			55-00	TAF	Rome Fiumicino, Milan Malpensa
				METAR	Rome Fiumicino, Milan Malpensa, Torino, Lisbon, Lajes, Santa Maria
ST. PETERBURG METEO	6617 8939	H24 H24	35-45	METAR, TREND	St. Peterburg, Arkhangelsk, Moscow Sheremetyevo, Moscow Domodedovo, Moscow Vnukovo, Murmansk, Pskov, Kaliningrad
SYKTYVKAR (SIVKAR) METEO (Russian)	2869 8888 11318	HN H24 HJ	00-05 30-35	METAR, TREND	Amderma, Arkhangelsk/Talagi, Vorkuta, Norilsk/Alykel, Nizhnevartovsk, Pechora, Surgut, Syktyvkar, Usinsk, Ukhta, Khatanga

6.1.3 Aerodromes Covered by VOLMET Service

ICAO	Airport Name	VOLMET Station	FREQ	Language
DAAG	Alger Houari Boumediene	Alger	126.800	
DAAG	Alger Houari Boumediene	Alicante	126.000	
DABB	Annaba Rabah Bitat	Alger	126.800	
DABC	Constantine Mohamed Boudiaf	Alger	126.800	
DAOO	Oran Ahmed Benbella	Alger	126.800	
DAOO	Oran Ahmed Benbella	Alicante	126.000	
DTKA	Tabarka Ain Draham	Tunis	126.600	
DTMB	Monastir Habib Bourguiba	Tunis	126.600	
DTNH	Enfidha Hammamet	Tunis	126.600	
DTTA	Tunis Carthage	Alger	126.800	
DTTA	Tunis Carthage	Malta Luqa	126.800	
DTTA	Tunis Carthage	Rome	126.000	
DTTA	Tunis Carthage	Tunis	126.600	
DTTF	Gafsa Ksar	Tunis	126.600	
DTTG	Gabes Matmata	Tunis	126.600	
DTTJ	Djerba Zarzis	Tunis	126.600	
DTTR	El Borma	Tunis	126.600	
DTTX	Sfax Thyna	Tunis	126.600	
DTTZ	Tozeur Nefta	Tunis	126.600	
EBAW	Antwerpen Deurne	Brussels	127.800	
EBBR	Brussels National	Amsterdam	126.200	
EBBR	Brussels National	Brussels	127.800	
EBBR	Brussels National	Frankfurt 1	127.600	
EBBR	Brussels National	London Main	135.375	
EBBR	Brussels National	Paris	126.005	
EBBR	Brussels National	Shannon	HF (Note)	
EBOS	Oostende Brugge Oostende	Brussels	127.800	
EDDB	Berlin Schoenefeld	Berlin	128.400	
c EDDB	Berlin Schoenefeld	Prague	128.605	
EDDB	Berlin Schoenefeld	Warsaw	127.600	
EDDC	Dresden	Berlin	128.400	
EDDF	Frankfurt/Main	Bremen	127.400	
EDDF	Frankfurt/Main	Brussels	127.800	
EDDF	Frankfurt/Main	Frankfurt 1	127.600	
EDDF	Frankfurt/Main	Frankfurt 2	135.775	
EDDF	Frankfurt/Main	Minsk-2	126.675	
c EDDF	Frankfurt/Main	Prague	128.605	
EDDF	Frankfurt/Main	Shannon	HF (Note)	

Europe

Regional SUP INFO

R-380

03-NOV-2016

EUR

ICAO	Airport Name	VOLMET Station	FREQ	Language
EDDF	Frankfurt/Main	Zagreb	127.800	
EDDF	Frankfurt/Main	Zurich	127.200	
EDDH	Hamburg	Amsterdam	126.200	
EDDH	Hamburg	Bremen	127.400	
EDDH	Hamburg	Copenhagen	127.000	
EDDH	Hamburg	Frankfurt 2	135.775	
EDDH	Hamburg	Shannon	HF (Note)	
EDDK	Cologne/Bonn	Bremen	127.400	
EDDK	Cologne/Bonn	Brussels	127.800	
EDDK	Cologne/Bonn	Frankfurt 2	135.775	
EDDK	Cologne/Bonn	Shannon	HF (Note)	
EDDL	Dusseldorf	Amsterdam	126.200	
EDDL	Dusseldorf	Brussels	127.800	
EDDL	Dusseldorf	Frankfurt 2	135.775	
EDDL	Dusseldorf	Shannon	HF (Note)	
EDDM	Munich	Frankfurt 2	135.775	
EDDM	Munich	Innsbruck	130.475	
EDDM	Munich	Pisa	128.400	
c EDDM	Munich	Prague	128.605	
EDDM	Munich	Shannon	HF (Note)	
EDDM	Munich	Vienna	126.000	
EDDM	Munich	Zagreb	127.800	
EDDM	Munich	Zurich	127.200	
EDDN	Nurnberg	Frankfurt 2	135.775	
EDDP	Leipzig/Halle	Berlin	128.400	
EDDS	Stuttgart	Frankfurt 2	135.775	
EDDS	Stuttgart	Zurich	127.200	
EDDT	Berlin Tegel	Berlin	128.400	
EDDT	Berlin Tegel	Bremen	127.400	
EDDT	Berlin Tegel	Frankfurt 2	135.775	
EDDV	Hannover	Bremen	127.400	
EDDW	Bremen	Bremen	127.400	
EDNY	Friedrichshafen	Innsbruck	130.475	
EETN	Tallinn Lennart Meri	Helsinki	128.400	
EETN	Tallinn Lennart Meri	Riga	127.650	
EFHK	Helsinki Vantaa	Helsinki	128.400	
EFHK	Helsinki Vantaa	Moscow	127.875	
EFHK	Helsinki Vantaa	Moscow	128.125	Russian
EFHK	Helsinki Vantaa	Riga	127.650	

ICAO	Airport Name	VOLMET Station	FREQ	Language
EFHK	Helsinki Vantaa	Sankt-Peterburg	125.875	
EFHK	Helsinki Vantaa	Shannon	HF (Note)	
EFHK	Helsinki Vantaa	Stockholm	127.600	
EFKU	Kuopio	Helsinki	128.400	
EFOU	Oulu	Helsinki	128.400	
EFTP	Tampere Pirkkala	Helsinki	128.400	
EFTU	Turku	Helsinki	128.400	
EFTU	Turku	Stockholm	127.600	
EFVA	Vaasa	Helsinki	128.400	
EGAA	Belfast Aldergrove	Dublin	127.000	
EGAA	Belfast Aldergrove	Scottish	125.725	
EGBB	Birmingham	London South	128.600	
EGCC	Manchester	Dublin	127.000	
EGCC	Manchester	London Main	135.375	
EGCC	Manchester	London North	126.600	
EGCC	Manchester	Shannon	HF (Note)	
EGFF	Cardiff	London South	128.600	
EGGD	Bristol	London South	128.600	
EGGK	London Gatwick	London Main	135.375	
EGGK	London Gatwick	London North	126.600	
EGGP	Liverpool	London North	126.600	
EGGW	London Luton	London South	128.600	
EGHH	Bournemouth	London South	128.600	
EGHI	Southampton	London South	128.600	
EGJJ	Jersey	London South	128.600	
EGKK	London Gatwick	Amsterdam	126.200	
EGKK	London Gatwick	Dublin	127.000	
EGKK	London Gatwick	Paris	126.005	
EGKK	London Gatwick	Shannon	HF (Note)	
EGLL	London Heathrow	Amsterdam	126.200	
EGLL	London Heathrow	Brussels	127.800	
EGLL	London Heathrow	Dublin	127.000	
EGLL	London Heathrow	London Main	135.375	
EGLL	London Heathrow	Paris	126.005	
EGLL	London Heathrow	Scottish	125.725	
EGLL	London Heathrow	Shannon	HF (Note)	
EGMC	Southend	London South	128.600	
EGNJ	Humberside	London North	126.600	
EGNM	Leeds Bradford	London North	126.600	

Europe

Regional SUP INFO

R-382

03-NOV-2016

EUR

ICAO	Airport Name	VOLMET Station	FREQ	Language
EGNS	Isle Of Man	London North	126.600	
EGNT	Newcastle	London North	126.600	
EGNV	Durham Tees Valley	London North	126.600	
EGNX	Derby East Midlands	London North	126.600	
EGPB	Sumburgh	Scottish	125.725	
EGPD	Aberdeen Dyce	Scottish	125.725	
EGPE	Inverness	Scottish	125.725	
EGPF	Glasgow	Dublin	127.000	
EGPF	Glasgow	London Main	135.375	
EGPF	Glasgow	Scottish	125.725	
EGPF	Glasgow	Shannon	HF (Note)	
EGPH	Edinburgh	Scottish	125.725	
EGPK	Prestwick	Dublin	127.000	
EGPK	Prestwick	Scottish	125.725	
EGPK	Prestwick	Shannon	HF (Note)	
EGPO	Stornoway	Scottish	125.725	
EGSH	Norwich	London South	128.600	
EGSS	London Stansted	London Main	135.375	
EGSS	London Stansted	Shannon	HF (Note)	
EGTE	Exeter	London South	128.600	
EHAM	Amsterdam Schiphol	Amsterdam	126.200	
EHAM	Amsterdam Schiphol	Bremen	127.400	
EHAM	Amsterdam Schiphol	Brussels	127.800	
EHAM	Amsterdam Schiphol	Frankfurt 1	127.600	
EHAM	Amsterdam Schiphol	London Main	135.375	
EHAM	Amsterdam Schiphol	Paris	126.005	
EHAM	Amsterdam Schiphol	Shannon	HF (Note)	
EHRD	Rotterdam	Amsterdam	126.200	
EICK	Cork	Dublin	127.000	
EIDW	Dublin Intl	Dublin	127.000	
EIDW	Dublin Intl	London Main	135.375	
EIDW	Dublin Intl	Shannon	HF (Note)	
EINN	Shannon	Dublin	127.000	
EINN	Shannon	Shannon	HF (Note)	
EKBI	Billund	Copenhagen	127.000	
EKCH	Copenhagen Kastrup	Amsterdam	126.200	
EKCH	Copenhagen Kastrup	Berlin	128.400	
EKCH	Copenhagen Kastrup	Bremen	127.400	
EKCH	Copenhagen Kastrup	Copenhagen	127.000	

ICAO	Airport Name	VOLMET Station	FREQ	Language
EKCH	Copenhagen Kastrup	Oslo	128.600	
EKCH	Copenhagen Kastrup	Shannon	HF (Note)	
EKCH	Copenhagen Kastrup	Stockholm	127.600	
EKCH	Copenhagen Kastrup	Warsaw	127.600	
EKYT	Aalborg	Copenhagen	127.000	
ELLX	Luxembourg	Brussels	127.800	
ELLX	Luxembourg	Shannon	HF (Note)	
ENBR	Bergen Flesland	Oslo	128.600	
ENBR	Bergen Flesland	Shannon	HF (Note)	
ENCN	Kristiansand Kjevik	Oslo	128.600	
ENGM	Oslo Gardermoen	Copenhagen	127.000	
ENGM	Oslo Gardermoen	Oslo	128.600	
ENGM	Oslo Gardermoen	Shannon	HF (Note)	
ENGM	Oslo Gardermoen	Stockholm	127.600	
ENHD	Haugesund Karmoy	Ekofisk	118.975	
ENZV	Stavanger Sola	Copenhagen	127.000	
ENZV	Stavanger Sola	Ekofisk	118.975	
ENZV	Stavanger Sola	Oslo	128.600	
EPGD	Gdansk Lech Walesa	Warsaw	127.600	
EPPO	Poznan Lawica	Warsaw	127.600	
EPWA	Warsaw Chopin	Berlin	128.400	
EPWA	Warsaw Chopin	Budapest	127.400	
EPWA	Warsaw Chopin	Minsk-2	126.675	
EPWA	Warsaw Chopin	Prague	128.605	
EPWA	Warsaw Chopin	Riga	127.650	
EPWA	Warsaw Chopin	Warsaw	127.600	
ESGG	Goteborg Landvetter	Copenhagen	127.000	
ESGG	Goteborg Landvetter	Jonkoping	127.200	
ESGG	Goteborg Landvetter	Oslo	128.600	
ESGG	Goteborg Landvetter	Shannon	HF (Note)	
ESGG	Goteborg Landvetter	Stockholm	127.600	
ESGJ	Jonkoping	Jonkoping	127.200	
ESGP	Goteborg Save	Jonkoping	127.200	
ESKN	Stockholm Skavsta	Jonkoping	127.200	
ESMQ	Kalmar	Jonkoping	127.200	
ESMS	Malmo	Copenhagen	127.000	
ESMS	Malmo	Jonkoping	127.200	
ESMS	Malmo	Stockholm	127.600	
ESNN	Sundsvall Timra	Sundsvall	127.800	

Europe

Regional SUP INFO

R-400

03-NOV-2016

EUR

ICAO	Airport Name	VOLMET Station	FREQ	Language
ESNO	Ornskoldsvik	Sundsvall	127.800	
ESNQ	Kiruna	Sundsvall	127.800	
ESNS	Skelleftea	Sundsvall	127.800	
ESNU	Umea	Sundsvall	127.800	
ESNZ	Are Ostersund	Sundsvall	127.800	
ESOK	Karlstad	Jonkoping	127.200	
ESPA	Lulea Kallax	Sundsvall	127.800	
ESSA	Stockholm Arlanda	Copenhagen	127.000	
ESSA	Stockholm Arlanda	Helsinki	128.400	
ESSA	Stockholm Arlanda	Jonkoping	127.200	
ESSA	Stockholm Arlanda	Oslo	128.600	
ESSA	Stockholm Arlanda	Riga	127.650	
ESSA	Stockholm Arlanda	Sankt-Peterburg	125.875	
ESSA	Stockholm Arlanda	Shannon	HF (Note)	
ESSA	Stockholm Arlanda	Stockholm	127.600	
ESSA	Stockholm Arlanda	Sundsvall	127.800	
ESSA	Stockholm Arlanda	Warsaw	127.600	
ESSB	Stockholm Bromma	Jonkoping	127.200	
ESSB	Stockholm Bromma	Sundsvall	127.800	
ESSP	Norrkoping Kungsangen	Stockholm	127.600	
ESSV	Visby	Stockholm	127.600	
EVRA	Riga	Minsk-2	126.675	
EVRA	Riga	Moscow	127.875	
EVRA	Riga	Moscow	128.125	Russian
EVRA	Riga	Riga	127.650	
EYVI	Vilnius Intl.	Riga	127.650	
EYVI	Vilnius Intl.	Sankt-Peterburg	125.875	
GCLP	Gran Canaria	Lisbon	126.400	
GCTS	Tenerife South Reina Sofia	Lisbon	126.400	
GMAD	Agadir Al Massira Intl	Casablanca	127.600	
GMFF	Fes Saiss Intl	Casablanca	127.600	
GMFO	Oujda Angads Intl	Casablanca	127.600	
GMME	Rabat Sale Intl	Casablanca	127.600	
GMME	Rabat Sale Intl	Sevilla	127.000	
GMMN	Casablanca Mohammed V Intl	Casablanca	127.600	
GMMN	Casablanca Mohammed V Intl	Sevilla	127.000	
GMMX	Marrakech Menara Intl	Casablanca	127.600	
GMTT	Tanger Ibn Batouta Intl	Casablanca	127.600	
GMTT	Tanger Ibn Batouta Intl	Sevilla	127.000	

ICAO	Airport Name	VOLMET Station	FREQ	Language
HEAX	Alexandria Intl	Cairo	126.200	
HEBA	Alexandria Borg El Arab Intl	Cairo	126.200	
HECA	Cairo Intl	Athens	127.800	
HECA	Cairo Intl	Beirut	126.000	
HECA	Cairo Intl	Cairo	126.200	
HEGN	Hurghada Intl	Cairo	126.200	
HELX	Luxor Intl	Cairo	126.200	
HESH	Sharm El Sheikh Intl	Cairo	126.200	
HESN	Aswan Intl	Cairo	126.200	
HLLB	Benghazi Benina Intl	Cairo	126.200	
HLLB	Benghazi Benina Intl	Malta Luqa	126.800	
HLLT	Tripoli Intl	Malta Luqa	126.800	
LATI	Tirana Mother Teresa	Skopje	124.325	
LBBG	Burgas	Sofia	126.600	
LBPD	Plovdiv	Sofia	126.600	
LBSF	Sofia	Belgrade	126.400	
LBSF	Sofia	Bucharest	126.800	
LBSF	Sofia	Budapest	127.400	
LBSF	Sofia	Istanbul Ataturk	127.400	
LBSF	Sofia	Skopje	124.325	
LBSF	Sofia	Sofia	126.600	
LBWN	Varna	Sofia	126.600	
LCLK	Larnaka Intl	Ankara Esenboga	127.000	
LCLK	Larnaka Intl	Athens	127.800	
LCLK	Larnaka Intl	Beirut	126.000	
LCLK	Larnaka Intl	Cairo	126.200	
LCLK	Larnaka Intl	Nicosia	127.200	
LCLK	Larnaka Intl (when AVBL)	Tel Aviv Ben Gurion	126.800	
LCNC	Nicosia Intl	Ankara Esenboga	127.000	
LCNC	Nicosia Intl	Beirut	126.000	
LCPH	Pafos Intl	Nicosia	127.200	
LDDU	Dubrovnik Cilipi	Zagreb	127.800	
LDPL	Pula	Zagreb	127.800	
LDSP	Split Kastela	Zagreb	127.800	
LDZA	Zagreb Pleso	Belgrade	126.400	
LDZA	Zagreb Pleso	Vienna	126.000	
LDZA	Zagreb Pleso	Zagreb	127.800	
LEAL	Alicante Elche	Alicante	126.000	
LEAL	Alicante Elche	Madrid	126.200	

Europe

Regional SUP INFO

R-420

03-NOV-2016

EUR

ICAO	Airport Name	VOLMET Station	FREQ	Language
LEAS	Asturias	Santiago	126.600	
LEBB	Bilbao	Madrid	126.200	
LEBL	Barcelona El Prat	Alger	126.800	
LEBL	Barcelona El Prat	Barcelona	127.600	
LEBL	Barcelona El Prat	Bordeaux	126.400	
LEBL	Barcelona El Prat	Madrid	126.200	
LEBL	Barcelona El Prat	Marseille	127.405	
LEBL	Barcelona El Prat	Santiago	126.600	
LEGE	Girona	Barcelona	127.600	
LEGR	Granada F.Garcia Lorca Granada-Jaen	Alicante	126.000	
LEIB	Ibiza	Alicante	126.000	
LEIB	Ibiza	Barcelona	127.600	
LEMD	Madrid Adolfo Suarez Madrid-Barajas	Alger	126.800	
LEMD	Madrid Adolfo Suarez Madrid-Barajas	Alicante	126.000	
LEMD	Madrid Adolfo Suarez Madrid-Barajas	Barcelona	127.600	
LEMD	Madrid Adolfo Suarez Madrid-Barajas	Bordeaux	126.400	
LEMD	Madrid Adolfo Suarez Madrid-Barajas	Las Palmas (Gran Canaria)	126.200	
LEMD	Madrid Adolfo Suarez Madrid-Barajas	Lisbon	126.400	
LEMD	Madrid Adolfo Suarez Madrid-Barajas	Madrid	126.200	
LEMD	Madrid Adolfo Suarez Madrid-Barajas	Santiago	126.600	
LEMD	Madrid Adolfo Suarez Madrid-Barajas	Sevilla	127.000	
LEMD	Madrid Adolfo Suarez Madrid-Barajas	Shannon	HF (Note)	
LEMG	Malaga Costa del Sol	Alicante	126.000	
LEMG	Malaga Costa del Sol	Barcelona	127.600	
LEMG	Malaga Costa del Sol	Casablanca	127.600	
LEMG	Malaga Costa del Sol	Madrid	126.200	
LEMG	Malaga Costa del Sol	Sevilla	127.000	
LEMH	Menorca	Barcelona	127.600	
LEPA	Palma De Mallorca	Alger	126.800	
LEPA	Palma De Mallorca	Alicante	126.000	
LEPA	Palma De Mallorca	Barcelona	127.600	
LEPA	Palma De Mallorca	Bordeaux	126.400	

ICAO	Airport Name	VOLMET Station	FREQ	Language
LEPA	Palma De Mallorca	Marseille	127.405	
LEST	Santiago	Santiago	126.600	
LEVC	Valencia Manises	Alicante	126.000	
LEVC	Valencia Manises	Madrid	126.200	
LEZL	Sevilla San Pablo	Casablanca	127.600	
LEZL	Sevilla San Pablo	Lisbon	126.400	
LEZL	Sevilla San Pablo	Madrid	126.200	
LEZL	Sevilla San Pablo	Sevilla	127.000	
LFBD	Bordeaux Merignac	Bordeaux	126.400	
LFBD	Bordeaux Merignac	Bordeaux	127.000	French
LFBD	Bordeaux Merignac	Madrid	126.200	
LFBO	Toulouse Blagnac	Barcelona	127.600	
LFBO	Toulouse Blagnac	Bordeaux	126.400	
LFBO	Toulouse Blagnac	Bordeaux	127.000	French
LFBO	Toulouse Blagnac	Marseille	128.600	French
LFBP	Pau Pyrenees	Bordeaux	127.000	French
LFBT	Tarbes Lourdes Pyrenees	Bordeaux	127.000	French
LFBZ	Biarritz Pays Basque	Bordeaux	127.000	French
LFKB	Bastia Poretta	Marseille	128.600	French
LFKJ	Ajaccio Napoleon Bonaparte	Marseille	128.600	French
LFLL	Lyon Saint Exupery	Geneva	126.800	
LFLL	Lyon Saint Exupery	Marseille	127.405	
LFLL	Lyon Saint Exupery	Marseille	128.600	French
LFLL	Lyon Saint Exupery	Paris	126.005	
LFML	Marseille Provence	Alger	126.800	
LFML	Marseille Provence	Barcelona	127.600	
LFML	Marseille Provence	Bordeaux	127.000	French
LFML	Marseille Provence	Marseille	127.405	
LFML	Marseille Provence	Marseille	128.600	French
LFMN	Nice Cote d'Azur	Alger	126.800	
LFMN	Nice Cote d'Azur	Bordeaux	127.000	French
LFMN	Nice Cote d'Azur	Geneva	126.800	
LFMN	Nice Cote d'Azur	Marseille	127.405	
LFMN	Nice Cote d'Azur	Marseille	128.600	French
LFMN	Nice Cote d'Azur	Milan	126.600	
LFMT	Montpellier Mediterranee	Marseille	128.600	French
LFOB	Beauvais Tille	Paris	125.150	French
LFOT	Tours Val De Loire	Bordeaux	127.000	French
LFOT	Tours Val De Loire	Paris	125.150	French

Europe

Regional SUP INFO

R-440

03-NOV-2016

EUR

ICAO	Airport Name	VOLMET Station	FREQ	Language
LFPG	Paris Charles de Gaulle	Amsterdam	126.200	
LFPG	Paris Charles de Gaulle	Bordeaux	126.400	
LFPG	Paris Charles de Gaulle	Bordeaux	127.000	French
LFPG	Paris Charles de Gaulle	Frankfurt 1	127.600	
LFPG	Paris Charles de Gaulle	Geneva	126.800	
LFPG	Paris Charles de Gaulle	London Main	135.375	
LFPG	Paris Charles de Gaulle	Marseille	127.405	
LFPG	Paris Charles de Gaulle	Marseille	128.600	French
LFPG	Paris Charles de Gaulle	Paris	125.150	French
LFPG	Paris Charles de Gaulle	Paris	126.005	
LFPG	Paris Charles de Gaulle	Shannon	HF (Note)	
LFPO	Paris Orly	Bordeaux	126.400	
LFPO	Paris Orly	Bordeaux	127.000	French
LFPO	Paris Orly	Brussels	127.800	
LFPO	Paris Orly	Geneva	126.800	
LFPO	Paris Orly	Marseille	128.600	French
LFPO	Paris Orly	Paris	125.150	French
LFPO	Paris Orly	Paris	126.005	
LFPO	Paris Orly	Shannon	HF (Note)	
LFQA	Reims Prunay	Paris	125.150	French
LFQQ	Lille Lesquin	Bordeaux	127.000	French
LFQQ	Lille Lesquin	Marseille	128.600	French
LFQQ	Lille Lesquin	Paris	125.150	French
LFRB	Brest Bretagne	Paris	125.150	French
LFRB	Brest Bretagne	Santiago	126.600	
LFRS	Nantes Atlantique	Paris	125.150	French
LFRS	Nantes Atlantique	Santiago	126.600	
LFSB	Basle Mulhouse	Frankfurt 1	127.600	
LFSB	Basle Mulhouse	Geneva	126.800	
LFSB	Basle Mulhouse	Paris	125.150	French
LFSB	Basle Mulhouse	Pisa	128.400	
LFSB	Basle Mulhouse	Zurich	127.200	
LFST	Strasbourg Entzheim	Paris	125.150	French
LFTW	Nimes Garons	Marseille	128.600	French
LGAD	Andravida	Athens	127.800	
LGAD	Andravida	Brindisi	127.600	
LGAV	Athens Eleftherios Venizelos	Athens	127.800	
LGAV	Athens Eleftherios Venizelos	Brindisi	127.600	
LGAV	Athens Eleftherios Venizelos	Cairo	126.200	

ICAO	Airport Name	VOLMET Station	FREQ	Language
LGAV	Athens Eleftherios Venizelos	Istanbul Ataturk	127.400	
LGAV	Athens Eleftherios Venizelos	Nicosia	127.200	
LGIR	Iraklion Nikos Kazantzakis	Athens	127.800	
LGKR	Kerkira Ioannis Kapodistrias	Athens	127.800	
LGKR	Kerkira Ioannis Kapodistrias	Brindisi	127.600	
LGRP	Rodos Diagoras	Athens	127.800	
LGRP	Rodos Diagoras	Nicosia	127.200	
LGTS	Thessaloniki Makedonia	Athens	127.800	
LGTS	Thessaloniki Makedonia	Belgrade	126.400	
LGTS	Thessaloniki Makedonia	Brindisi	127.600	
LGTS	Thessaloniki Makedonia	Skopje	124.325	
LGTS	Thessaloniki Makedonia	Sofia	126.600	
LHBP	Budapest Liszt Ferenc	Belgrade	126.400	
LHBP	Budapest Liszt Ferenc	Bucharest	126.800	
LHBP	Budapest Liszt Ferenc	Budapest	127.400	
LHBP	Budapest Liszt Ferenc	Prague	128.605	
LHBP	Budapest Liszt Ferenc	Sofia	126.600	
LHBP	Budapest Liszt Ferenc	Vienna	126.000	
LHBP	Budapest Liszt Ferenc	Warsaw	127.600	
LIBR	Brindisi Casale	Brindisi	127.600	
LICC	Catania Fontanarossa	Malta Luqa	126.800	
LICC	Catania Fontanarossa	Rome	126.000	
LICJ	Palermo Punta Raisi	Malta Luqa	126.800	
LICJ	Palermo Punta Raisi	Rome	126.000	
LIMC	Milan Malpensa	Geneva	126.800	
LIMC	Milan Malpensa	Milan	126.600	
LIMC	Milan Malpensa	Rome	126.000	
LIMC	Milan Malpensa	Shannon	HF (Note)	
LIMC	Milan Malpensa	Zurich	127.200	
LIME	Bergamo Orio Al Serio	Milan	126.600	
LIMF	Torino Caselle	Milan	126.600	
LIMF	Torino Caselle	Shannon	HF (Note)	
LIMJ	Genoa Sestri	Milan	126.600	
LIML	Milan Linate	Geneva	126.800	
LIML	Milan Linate	Marseille	127.405	
LIML	Milan Linate	Milan	126.600	
LIML	Milan Linate	Rome	126.000	
LIML	Milan Linate	Zurich	127.200	
LIPB	Bolzano	Innsbruck	130.475	

Europe

Regional SUP INFO

R-460

ICAO	Airport Name	VOLMET Station	FREQ	Language
LIPE	Bologna Borgo Panigale	Pisa	128.400	
LIPQ	Trieste Ronchi dei Legionari	Pisa	128.400	
LIPR	Rimini Miramare	Pisa	128.400	
LIPZ	Venice Tessera	Milan	126.600	
LIPZ	Venice Tessera	Pisa	128.400	
LIRA	Rome Ciampino	Brindisi	127.600	
LIRA	Rome Ciampino	Rome	126.000	
LIRF	Rome Fumicino	Brindisi	127.600	
LIRF	Rome Fumicino	Malta Luqa	126.800	
LIRF	Rome Fumicino	Marseille	127.405	
LIRF	Rome Fumicino	Milan	126.600	
LIRF	Rome Fumicino	Rome	126.000	
LIRF	Rome Fumicino	Shannon	HF (Note)	
LIRN	Naples Capodichino	Brindisi	127.600	
LIRN	Naples Capodichino	Malta Luqa	126.800	
LIRN	Naples Capodichino	Rome	126.000	
LIRP	Pisa San Giusto	Brindisi	127.600	
LIRP	Pisa San Giusto	Milan	126.600	
LIRP	Pisa San Giusto	Pisa	128.400	
LJLJ	Ljubljana Brnik	Zagreb	127.800	
LKKU	Kunovice	Prague	125.525	
LKKV	Karlovy Vary	Prague	125.525	
LKMT	Ostrava Mosnov	Bratislava	126.200	
LKMT	Ostrava Mosnov	Prague	125.525	
LKPD	Pardubice	Prague	125.525	
LKPR	Prague Ruzyne	Berlin	128.400	
LKPR	Prague Ruzyne	Bratislava	126.200	
LKPR	Prague Ruzyne	Budapest	127.400	
LKPR	Prague Ruzyne	Frankfurt 1	127.600	
LKPR	Prague Ruzyne	Prague	125.525	
LKPR	Prague Ruzyne	Prague	128.605	
LKPR	Prague Ruzyne	Warsaw	127.600	
LKTB	Brno Turany	Prague	125.525	
LLBG	Tel Aviv Ben Gurion	Nicosia	127.200	
LLBG	Tel Aviv Ben Gurion	Tel Aviv Ben Gurion	126.800	
LLET	Eilat	Tel Aviv Ben Gurion	126.800	
LLHA	Haifa Intl (HJ only)	Tel Aviv Ben Gurion	126.800	
LLIB	Rosh-Pina (HJ only)	Tel Aviv Ben Gurion	126.800	
LLOV	Ovda	Tel Aviv Ben Gurion	126.800	

ICAO	Airport Name	VOLMET Station	FREQ	Language
LLSD	Tel Aviv Sdedov (HJ only)	Tel Aviv Ben Gurion	126.800	
LMML	Malta Luqa	Malta Luqa	126.800	
LMML	Malta Luqa	Rome	126.000	
LOWG	Graz	Klagenfurt	122.275	
LOWG	Graz	Vienna	126.000	
LOWI	Innsbruck	Innsbruck	130.475	
LOWI	Innsbruck	Klagenfurt	122.275	
LOWK	Klagenfurt	Innsbruck	130.475	
LOWK	Klagenfurt	Vienna	126.000	
LOWL	Linz	Innsbruck	130.475	
LOWL	Linz	Vienna	126.000	
LOWS	Salzburg	Innsbruck	130.475	
LOWS	Salzburg	Vienna	126.000	
LOWW	Vienna Schwechat	Berlin	128.400	
LOWW	Vienna Schwechat	Budapest	127.400	
LOWW	Vienna Schwechat	Frankfurt 1	127.600	
LOWW	Vienna Schwechat	Prague	128.605	
LOWW	Vienna Schwechat	Vienna	126.000	
LOXZ	Zeltweg	Klagenfurt	122.275	
LPFR	Faro	Lisbon	126.400	
LPFR	Faro	Santiago	126.600	
LPFR	Faro	Sevilla	127.000	
LPMA	Madeira	Lisbon	126.400	
LPPR	Porto Francisco Sa Carneiro	Lisbon	126.400	
LPPR	Porto Francisco Sa Carneiro	Santiago	126.600	
LPPS	Porto Santo	Lisbon	126.400	
LPPT	Lisbon	Bordeaux	126.400	
LPPT	Lisbon	Las Palmas (Gran Canaria)	126.200	
LPPT	Lisbon	Lisbon	126.400	
LPPT	Lisbon	Madrid	126.200	
LPPT	Lisbon	Santiago	126.600	
LPPT	Lisbon	Sevilla	127.000	
LPPT	Lisbon	Shannon	HF (Note)	
LQBK	Banja Luka	Banja Luka	135.775	
LQMO	Mostar / Ortijes	Banja Luka	135.775	
LQSA	Sarajevo	Banja Luka	135.775	
LQSA	Sarajevo	Belgrade	126.400	
LQSA	Sarajevo	Zagreb	127.800	
LQTZ	Tuzla Intl.	Banja Luka	135.775	

Europe

Regional SUP INFO

R-480

ICAO	Airport Name	VOLMET Station	FREQ	Language
LRAR	Arad	Budapest	127.400	
LRBS	Bucharest Baneasa - Aurel Vlaicu	Bucharest	126.800	
LRCK	Constanta Mihail Kogalniceanu-Constanta	Bucharest	126.800	
LROP	Bucharest Henri Coanda	Belgrade	126.400	
LROP	Bucharest Henri Coanda	Bucharest	126.800	
LROP	Bucharest Henri Coanda	Budapest	127.400	
LROP	Bucharest Henri Coanda	Istanbul Ataturk	127.400	
LROP	Bucharest Henri Coanda	Odesa	126.375	
LROP	Bucharest Henri Coanda	Sofia	126.600	
LRTR	Timisoara Traian Vuia	Bucharest	126.800	
LSGG	Geneva	Bordeaux	126.400	
LSGG	Geneva	Frankfurt 1	127.600	
LSGG	Geneva	Geneva	126.800	
LSGG	Geneva	Marseille	127.405	
LSGG	Geneva	Paris	126.005	
LSGG	Geneva	Pisa	128.400	
LSGG	Geneva	Shannon	HF (Note)	
LSGG	Geneva	Zurich	127.200	
LSZA	Lugano	Zurich	127.200	
LSZB	Bern Belp	Geneva	126.800	
LSZB	Bern Belp	Zurich	127.200	
LSZH	Zurich	Frankfurt 1	127.600	
LSZH	Zurich	Geneva	126.800	
LSZH	Zurich	Innsbruck	130.475	
LSZH	Zurich	Paris	126.005	
LSZH	Zurich	Pisa	128.400	
LSZH	Zurich	Shannon	HF (Note)	
LSZH	Zurich	Zagreb	127.800	
LSZH	Zurich	Zurich	127.200	
LSZR	St Gallen Altenrhein	Innsbruck	130.475	
LTAC	Ankara Esenboga Intl.	Ankara Esenboga	127.000	
LTAC	Ankara Esenboga Intl.	Beirut	126.000	
LTAC	Ankara Esenboga Intl.	Istanbul Ataturk	127.400	
LTAC	Ankara Esenboga Intl.	Izmir Adnan Menderes	127.925	
LTAC	Ankara Esenboga Intl.	Samsun Carsamba	125.275	
LTAC	Ankara Esenboga Intl.	Sivas	124.050	
LTAF	Adana	Adana	126.250	
LTAF	Adana	Ankara Esenboga	127.000	

ICAO	Airport Name	VOLMET Station	FREQ	Language
LTAI	Antalya Intl	Ankara Esenboga	127.000	
LTAI	Antalya Intl.	Istanbul Ataturk	127.400	
LTAI	Antalya Intl.	Izmir Adnan Menderes	127.925	
LTAJ	Gaziantep	Adana	126.250	
LTAN	Konya	Ankara Merkez	125.375	
LTAN	Konya	Izmir Adnan Menderes	127.925	
LTAR	Sivas Nuri Demirag	Ankara Merkez	125.375	
LTAR	Sivas Nuri Demirag	Samsun Carsamba	125.275	
LTAR	Sivas Nuri Demirag	Sivas	124.050	
LTAT	Malatya	Adana	126.250	
LTAT	Malatya	Sivas	124.050	
LTAU	Kayseri	Adana	126.250	
LTAU	Kayseri	Ankara Merkez	125.375	
LTAU	Kayseri	Sivas	124.050	
LTAW	Tokat	Ankara Merkez	125.375	
LTAW	Tokat	Samsun Carsamba	125.275	
LTAW	Tokat	Sivas	124.050	
LTAY	Denizli Cardak	Izmir Adnan Menderes	127.925	
LTBA	Istanbul Ataturk Intl.	Ankara Esenboga	127.000	
LTBA	Istanbul Ataturk Intl.	Athens	127.800	
LTBA	Istanbul Ataturk Intl.	Beirut	126.000	
LTBA	Istanbul Ataturk Intl.	Bucharest	126.800	
LTBA	Istanbul Ataturk Intl.	Istanbul Ataturk	127.400	
LTBA	Istanbul Ataturk Intl.	Izmir Adnan Menderes	127.925	
LTBA	Istanbul Ataturk Intl.	Simferopol	128.125	Russian/English
LTBA	Istanbul Ataturk Intl.	Sofia	126.600	
LTBJ	Izmir Adnan Menderes Intl.	Ankara Esenboga	127.000	
LTBJ	Izmir Adnan Menderes Intl.	Istanbul Ataturk	127.400	
LTBJ	Izmir Adnan Menderes Intl.	Izmir Adnan Menderes	127.925	
LTBO	Usak	Izmir Adnan Menderes	127.925	
LTBR	Bursa Yenisehir	Istanbul Ataturk	127.400	
LTBS	Mugla Dalaman	Istanbul Ataturk	127.400	
LTCA	Elazig	Adana	126.250	
LTCA	Elazig	Erzurum	127.275	
LTCA	Elazig	Sivas	124.050	

Europe

Regional SUP INFO

R-500

03-NOV-2016

EUR

ICAO	Airport Name	VOLMET Station	FREQ	Language
LTCC	Diyarbakir	Adana	126.250	
LTCD	Erzincan	Ankara Merkez	125.375	
LTCD	Erzincan	Erzurum	127.275	
LTCD	Erzincan	Sivas	124.050	
LTCE	Erzurum	Erzurum	127.275	
LTCF	Kars Harakani	Erzurum	127.275	
LTCG	Trabzon	Ankara Esenboga	127.000	
LTCG	Trabzon	Samsun Carsamba	125.275	
LTCI	Van Ferit Melen	Erzurum	127.275	
LTCK	Mus	Erzurum	127.275	
LTCO	Agri Ahmed-i Hani	Erzurum	127.275	
LTCS	Sanliurfa Gap Intl.	Adana	126.250	
LTFE	Milas Bodrum	Istanbul Ataturk	127.400	
LTFH	Samsun Carsamba	Ankara Esenboga	127.000	
LTFH	Samsun Carsamba	Izmir Adnan Menderes	127.925	
LTFH	Samsun Carsamba	Samsun Carsamba	125.275	
LTFJ	Istanbul Sabiha Gokcen	Istanbul Ataturk	127.400	
LTFJ	Istanbul Sabiha Gokcen	Odesa	126.375	
LUKK	Chisinau Intl	Bucharest	126.800	
LUKK	Chisinau Intl	Kyiv Boryspil'	129.375	
LUKK	Chisinau Intl	Odesa	126.375	
LUKK	Chisinau Intl	Simferopol	128.125	Russian/English
LWOH	Ohrid St Paul the Apostle	Skopje	124.325	
LWSK	Skopje Alexander the Great	Skopje	124.325	
LXGB	Gibraltar	Sevilla	127.000	
LYBE	Belgrade Nikola Tesla	Belgrade	126.400	
LYBE	Belgrade Nikola Tesla	Bucharest	126.800	
LYBE	Belgrade Nikola Tesla	Budapest	127.400	
LYBE	Belgrade Nikola Tesla	Skopje	124.325	
LYBE	Belgrade Nikola Tesla	Sofia	126.600	
LYBE	Belgrade Nikola Tesla	Zagreb	127.800	
LYNI	Nis Konstantin Veliki	Belgrade	126.400	
LYPG	Podgorica	Belgrade	126.400	
LZIB	Bratislava M.R.Stefanik	Bratislava	126.200	
LZIB	Bratislava M.R.Stefanik	Budapest	127.400	
LZIB	Bratislava M.R.Stefanik	L'viv	133.325	
LZIB	Bratislava M.R.Stefanik	Prague	128.605	
LZIB	Bratislava M.R.Stefanik	Vienna	126.000	

ICAO	Airport Name	VOLMET Station	FREQ	Language
LZKZ	Kosice	Bratislava	126.200	
LZPP	Piestany	Bratislava	126.200	
LZSL	Sliac	Bratislava	126.200	
LZTT	Poprad Tatry	Bratislava	126.200	
LZZI	Zilina	Bratislava	126.200	
OJAI	Amman Queen Alia Intl (when AVBL)	Tel Aviv Ben Gurion	126.800	
OJAM	Amman Marka Intl	Beirut	126.000	
OLBA	Beirut Rafic Hariri Intl	Ankara Esenboga	127.000	
OLBA	Beirut Rafic Hariri Intl	Beirut	126.000	
OLBA	Beirut Rafic Hariri Intl	Cairo	126.200	
OLBA	Beirut Rafic Hariri Intl	Nicosia	127.200	
OSDI	Damascus Intl	Beirut	126.000	
OSDI	Damascus Intl	Cairo	126.200	
OSDI	Damascus Intl	Nicosia	127.200	
UBBB	Baku Heydar Aliyev Intl	Baku	126.750	
UBBG	Ganja	Baku	126.750	
UBBN	Nakhchivan	Baku	126.750	
UGTB	Tbilisi	Baku	126.750	
UKBB	Kyiv Boryspil' Intl	Bucharest	126.800	
UKBB	Kyiv Boryspil' Intl	Dnipropetrovs'k	126.450	
UKBB	Kyiv Boryspil' Intl	Kyiv Boryspil'	129.375	
UKBB	Kyiv Boryspil' Intl	L'viv	133.325	
UKBB	Kyiv Boryspil' Intl	Minsk-2	126.675	
UKBB	Kyiv Boryspil' Intl	Moscow	127.875	
UKBB	Kyiv Boryspil' Intl	Moscow	128.125	Russian
UKBB	Kyiv Boryspil' Intl	Moscow	HF (Note)	
UKBB	Kyiv Boryspil' Intl	Odesa	126.375	
UKBB	Kyiv Boryspil' Intl	Simferopol	128.125	Russian/English
UKDD	Dnipropetrovs'k Intl	Dnipropetrovs'k	126.450	
UKDD	Dnipropetrovs'k Intl	Simferopol	128.125	Russian/English
UKDR	Kryvyi Rih	Simferopol	128.125	Russian/English
UKKK	Kyiv Zhuliany Intl	Dnipropetrovs'k	126.450	
UKLI	Ivano-Frankivs'k Intl	L'viv	133.325	
UKLL	L'viv Intl	Kyiv Boryspil'	129.375	
UKLL	L'viv Intl	L'viv	133.325	
UKON	Mykolaiv	Simferopol	128.125	Russian/English
UKOO	Odesa Intl	Dnipropetrovs'k	126.450	

ICAO	Airport Name	VOLMET Station	FREQ	Language
URMM	Mineralnyye Vody	Sochi	128.700	Russian
URMT	Stavropol Shpakovskoye	Rostov-na-Donu	HF (Note)	Russian
URMT	Stavropol Shpakovskoye	Sochi	133.100	
URMT	Stavropol Shpakovskoye	Sochi	128.700	Russian
URRR	Rostov-na-Donu	Rostov-na-Donu	HF (Note)	Russian
URRR	Rostov-na-Donu	Sochi	133.100	
URRR	Rostov-na-Donu	Sochi	128.700	Russian
URSS	Sochi	Rostov-na-Donu	HF (Note)	Russian
URSS	Sochi	Sochi	133.100	
URSS	Sochi	Sochi	128.700	Russian
URWA	Astrakhan	Rostov-na-Donu	HF (Note)	Russian
URWW	Volgograd Gumrak	Rostov-na-Donu	HF (Note)	Russian
URWW	Volgograd Gumrak	Samara	126.875	Russian
USNN	Nizhnevartovsk	Syktyvkar	HF (Note)	Russian
USPP	Perm Bolshoe Savino	Yekaterinburg	123.000	
USRR	Surgut	Syktyvkar	HF (Note)	Russian
USSS	Yekaterinburg Koltsovo	Yekaterinburg	123.000	
UUBP	Bryansk	Bryansk	124.200	Russian
UUDD	Moscow Domodedovo	Sankt-Peterburg	HF (Note)	Russian/Eng–lish
UUEE	Moscow Sheremetyevo	Minsk-2	126.675	
UUEE	Moscow Sheremetyevo	Moscow	HF (Note)	
UUEE	Moscow Sheremetyevo	Riga	127.650	
UUEE	Moscow Sheremetyevo	Sankt-Peterburg	125.875	
UUEE	Moscow Sheremetyevo	Sankt-Peterburg	HF (Note)	Russian/Eng–lish
UUEE	Moscow Sheremetyevo	Simferopol	128.125	Russian/Eng–lish
UUEE	Moscow Sheremetyevo	Warsaw	127.600	
UUOK	Kursk Vostochny	Kursk	127.800	Russian
UUWW	Moscow Vnukovo	Minsk-2	126.675	
UUWW	Moscow Vnukovo	Moscow	127.875	
UUWW	Moscow Vnukovo	Moscow	128.125	Russian
UUWW	Moscow Vnukovo	Moscow	HF (Note)	
UUWW	Moscow Vnukovo	Riga	127.650	
UUWW	Moscow Vnukovo	Sankt-Peterburg	125.875	
UUWW	Moscow Vnukovo	Sankt-Peterburg	HF (Note)	Russian/Eng–lish
UUYH	Ukhta	Syktyvkar	HF (Note)	Russian
UUYP	Pechora	Syktyvkar	HF (Note)	Russian
UUYS	Usinsk	Syktyvkar	HF (Note)	Russian

Europe

Regional SUP INFO

R-520

03-NOV-2016

EUR

ICAO	Airport Name	VOLMET Station	FREQ	Language
UUYW	Vorkuta	Syktyvkar	HF (Note)	Russian
UUYY	Syktyvkar	Syktyvkar	HF (Note)	Russian
UWGG	Nizhny Novgorod Strigino	Moscow	127.875	
UWGG	Nizhny Novgorod Strigino	Moscow	128.125	Russian
UWGG	Nizhny Novgorod Strigino	Samara	126.875	Russian
UWKD	Kazan	Samara	126.875	Russian
UWKD	Kazan	Samara	HF (Note)	Russian
UWLL	Ulyanovsk Baratayevka	Moscow	127.875	
UWLL	Ulyanovsk Baratayevka	Moscow	128.125	Russian
UWLW	Ulyanovsk Vostochny	Samara	126.875	Russian
UWOO	Orenburg	Samara	126.875	Russian
UWOO	Orenburg	Samara	HF (Note)	Russian
UWSS	Saratov Tsentralny	Samara	126.875	Russian
UWUU	Ufa	Samara	126.875	Russian
UWUU	Ufa	Yekaterinburg	123.000	
UWWW	Samara Kurumoch	Moscow	127.875	
UWWW	Samara Kurumoch	Moscow	128.125	Russian
UWWW	Samara Kurumoch	Samara	126.875	Russian
UWWW	Samara Kurumoch	Samara	HF (Note)	Russian
UWWW	Samara Kurumoch	Yekaterinburg	123.000	

Note: For HF VOLMET Service, refer to:
⇒ Europe Appendix 6.1.2 VOLMET Stations (HF)

6.1.4 ATIS Frequencies

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
BKPR	Pristina Intl		132.000		English
DAAG	Aiger Houari Boumediene		128.525		English
DTMB	Monastir Habib Bourguiba		128.125		English
DTNH	Enfidha Hammamet		136.300		English
DTTA	Tunis Carthage	YES	118.675		English
DTTJ	Djerba Zarzis	YES	124.525		English
EBAW	Antwerpen Deurne	YES	124.200		English
EBBR	Brussels National	YES	110.600	ARR	English
			112.050	ARR	English
			114.600	ARR	English
			114.900	ARR	English
			117.550	ARR	English
			121.750	DEP	English
			132.475	ARR	English
EBCI	Charleroi Brussels South	YES	115.700		English
			134.625		English
EBLG	Liege	YES	115.450		English
			126.250		English
EBOS	Brugge Oostende	YES	126.125		English
EDDB	Berlin Schoenefeld	YES	123.775		English
EDDC	Dresden	YES	118.875		English
EDDE	Erfurt Weimar	YES	133.450		English
EDDF	Frankfurt /Main	YES	118.025	ARR	English
			118.725	DEP	English
EDDG	Munster/Osnabruck		127.175		English
EDDH	Hamburg	YES	123.125		English
EDDK	Cologne/Bonn		112.150		English
			122.100		English
			132.125		English
EDDL	Dusseldorf		115.150		English
			123.775		English
EDDM	Munich		123.125		English, German
EDDN	Nurnberg		123.075		English
EDDP	Leipzig/Halle	YES	123.950		English
EDDR	Saarbruecken		125.475		English
EDDS	Stuttgart		126.125		English
EDDT	Berlin Tegel	YES	112.300		English
			125.900		English

Europe

Regional SUP INFO

R-540

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
EDDV	Hannover	YES	136.575		English
EDDW	Bremen	YES	132.375		English
EDFH	Frankfurt-Hahn		136.350		English
EDHI	Hamburg Finkenwerder		123.125		English
EDHL	Lubeck Blankensee		119.925		English
EDJA	Memmingen		118.850		English
EDLN	Monchengladbach		109.800		English, German
EDLP	Paderborn-Lippstadt		125.725		English
EDLV	Weeze Niederrhein		124.450		English
EDLW	Dortmund		125.125		English
EDMA	Augsburg		124.575		English
EDMO	Oberpfaffenhofen		126.575		English
EDNY	Friedrichshafen		129.600		English
EDOP	Schwerin-Parchim		126.125		English
EDSB	Karlsruhe/Baden-Baden		121.275		English
EDTY	Schwabisch Hall		133.875		English
EDVE	Braunschweig -Wolfsburg		134.450		English
EDVK	Kassel Calden		129.200		English
EDXW	Westerland /Sylt		118.400		English
EETN	Tallinn Lennart Meri		124.875		English
EETU	Tartu		123.125		English
EFET	Enontekio	YES	134.825		English
EFHK	Helsinki Vantaa	YES	114.200	DEP	English
			135.075	ARR	English
EFIV	Ivalo	YES	123.200		English
EFJO	Joensuu	YES	136.175		English
EFJY	Jyvaskyla	YES	134.150		English
EFKE	Kemi Tornio	YES	123.150		English
EFKI	Kajaani	YES	118.225		English
EFKK	Kokkola Pietarsaari	YES	125.025		English
EFKS	Kuusamo	YES	135.800		English
EFKT	Kittila	YES	133.850		English
EFKU	Kuopio	YES	113.000		English
EFLP	Lappeenranta	YES	136.325		English
EFMA	Mariehamn	YES	130.425		English
EFMI	Mikkeli		118.250		English
EFOU	Oulu	YES	135.450		English
EFPO	Pori	YES	136.075		English
EFRO	Rovaniemi	YES	117.700		English

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
EFSA	Savonlinna	YES	136.050		English
EFSI	Seinajoki	YES	124.800		English
EFTP	Tampere Pirkkala	YES	133.550		English
EFTU	Turku	YES	130.050		English
EFVA	Vaasa	YES	136.450		English
EFVR	Varkaus	YES	-		English
EGAA	Belfast Aldergrove		128.200		English
EGAC	Belfast City		136.625	ARR	English
EGAE	Londonderry Eglinton		119.375		English
EGBB	Birmingham		136.025		English
EGBE	Coventry		126.050		English
EGCC	Manchester	YES	113.550	ARR	English
			121.975	DEP	English
			128.175	ARR	English
EGCN	Doncaster Sheffield		134.950		English
EGDX	St Athan		132.475		English
EGFF	Cardiff		132.475		English
EGGD	Bristol		126.025		English
EGGP	Liverpool		124.325		English
EGGW	London Luton		120.575		English
EGHH	Bournemouth		133.725		English
EGHI	Southampton		130.875		English
EGHQ	Newquay		127.400		English
EGJB	Guernsey		109.400		English
EGJJ	Jersey		134.675		English
EGKB	Biggin Hill		135.675		English
EGKK	London Gatwick	YES	136.525		English
EGLC	London City		136.350		English
EGLF	Farnborough		128.400		English
EGLL	London Heathrow	YES	113.750	ARR	English
			115.100	ARR	English
			121.935	DEP	English
			128.075	ARR	English
EGMC	Southend		136.050		English
EGNC	Carlisle		118.425		English
EGNH	Blackpool		127.200		English
EGNJ	Humberside		124.125		English
EGNM	Leeds Bradford		118.025		English
EGNO	Warton		121.725		English

Europe

Regional SUP INFO

R-560

01-JUN-2017

EUR

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
EGNS	Isle Of Man		123.875		English
EGNT	Newcastle		118.375		English
EGNV	Durham Tees Valley		132.375		English
EGNX	Derby East Midlands		122.675		English
EGPB	Sumburgh		125.850		English
EGPD	Aberdeen Dyce	YES	114.300		English
			121.850		English
EGPE	Inverness		109.200		English
EGPF	Glasgow		129.575		English
EGPH	Edinburgh		131.350		English
EGPK	Prestwick		121.125		English
EGPO	Stornoway		115.100		English
EGSC	Cambridge		134.600		English
EGSH	Norwich		128.625		English
EGSS	London Stansted		114.550		English
			127.175		English
EGTE	Exeter		119.325		English
EGVN	Brize Norton AB		126.500		English
EGWU	Northolt		125.125		English
EHAM	Amsterdam Schiphol	YES	108.400		English
			122.205	DEP	English
			131.355	DEP	English
			132.980	ARR	English
EHBK	Maastricht /Aachen		124.580		English
EHEH	Eindhoven		126.030		English
EHGG	Groningen Eelde		133.555		English
EHRD	Rotterdam		110.400		English
EICK	Cork		120.925		English
EIDW	Dublin Intl	YES	124.525		English
EIKY	Kerry		118.025		English
EIME	Baldonnel Casement		122.800		English
EINN	Shannon	YES	130.950		English
EKBI	Billund		118.775		English
EKCH	Copenhagen Kastrup	YES	122.750	ARR	English
			122.850	DEP	English
EKKA	Karup		120.575		English
EKRK	Copenhagen Roskilde	YES	123.800		English
EKSP	Vojens Skrydstrup		133.900		English
EKYT	Aalborg		120.475		English

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
ELLX	Luxembourg		134.750		English
ENAL	Aalesund Vigra		128.650		Norwegian, English
ENAN	Andoya Andenes		136.125		Norwegian, English
ENAT	Alta		118.175		Norwegian, English
ENBO	Bodo		123.900		Norwegian, English
ENBR	Bergen Flesland		125.250		English, Norwegian
ENCN	Kristiansand Kjevik		124.475		Norwegian, English
ENDU	Bardufoss		129.725		Norwegian, English
ENEV	Harstad-Narvik Evenes		126.025		Norwegian, English
ENGM	Oslo Gardermoen	YES	126.125	ARR	English, Norwegian
			127.150	DEP	English, Norwegian
ENHD	Haugesund Karmoy		118.175		Norwegian, English
ENKB	Kristiansund Kvernberget		135.075		English
ENKR	Kirkenes Hoybuktmoen		118.025		English
ENML	Molde Aro		130.075		English
ENNA	Lakselv Banak		136.325		English
ENOL	Oerland		119.325		English
ENRO	Roros		136.350		English
ENRY	Rygge		136.175		English
ENTC	Tromso Langnes		126.125		English
ENTO	Sandefjord Torp		119.075		English
ENVA	Trondheim Vaernes		127.550		English
ENZV	Stavanger Sola		126.000		English
EPGD	Gdansk Lech Walesa		129.625		Polish, English
EPKK	Krakow Balice		126.125		English
EPKT	Katowice Pyrzowice		120.225		Polish, English
EPLL	Lodz Lublinek		135.675		English
EPPO	Poznan Lawica		124.700		English
EPRZ	Rzeszow Jasionka		124.950		English
EPSC	Szczecin Goleniow		132.125		English
EPWA	Warsaw Chopin		120.450		English
EPWR	Wroclaw Strachowice		124.325		English
ESGG	Goteborg Landvetter	YES	114.600		Swedish, English
			118.375		Swedish, English
ESKN	Stockholm Skavsta		126.275		Swedish, English
ESMS	Malmo		129.275		English
ESNN	Sundsvall Timra		127.400		English
ESOW	Stockholm Vaesteraas AB		127.550		Swedish, English
ESSA	Stockholm Arlanda	YES	119.000	ARR	English, Swedish

Europe

Regional SUP INFO

R-580

01-JUN-2017

EUR

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
			121.625	DEP	English, Swedish
ESSB	Stockholm Bromma	YES	122.450		English
EVRA	Riga	YES	120.175		English
EYKA	Kaunas Intl.		129.050		English
EYPA	Palanga Intl.		127.800		English
EYSA	Siauliai Intl.		120.750		English
EYVI	Vilnius Intl.		125.800		English
GMAD	Agadir Al Massira Intl	YES	127.750		English
GMFF	Fes Saiss Intl	YES	127.800		English
GMFO	Oujda Angads Intl	YES	121.600		English, French
GMME	Rabat Sale Intl	YES	127.700		English, French
GMMN	Casablanca Mohammed V Intl	YES	126.300		English
GMMX	Marrakech Menara Intl		121.950		English, French
GMTT	Tanger Ibn Batouta Intl		123.700		English
HECA	Cairo Intl	YES	122.600		English
HEGN	Hurghada Intl		120.450		English
HELX	Luxor Intl		122.600		English
HESH	Sharm El Sheikh Intl		134.000		English
HLLM	Tripoli Mitiga Intl		126.400		English
HLLT	Tripoli Intl		127.000		English
LATI	Tirana Mother Teresa		132.275		English
LBBG	Burgas		126.975		English
LBGO	Gorna Oryahovitsa		127.125		English
LBPD	Plovdiv		127.200		English
LBSF	Sofia		126.675		English
LBWN	Varna		126.875		English
LCEN	Lefkosa / Ercan Intl.		118.350		English, Turkish
LCGK	Gazimagosa Gecitkale /		118.350		English, Turkish
LCLK	Larnaka Intl		126.550		English
LCPH	Pafos Intl		127.325		English
LCRA	Akrotiri AB		125.000		English
LDPL	Pula		129.150		English
LDSP	Split Kastela		125.300		English
LDZA	Zagreb Pleso		124.575		English
LEAL	Alicante Elche		120.075		English
LEBB	Bilbao	YES	118.825		English
LEBL	Barcelona El Prat	YES	118.650	ARR	English
			121.975	DEP	English
LEGE	Girona	YES	128.750		English

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
LEIB	Ibiza		119.800		English
LEJR	Jerez		125.650		English
LEMD	Madrid Adolfo Suarez -Barajas	YES	118.250	ARR	English
			130.850	DEP	English
LEMG	Malaga Costa del Sol	YES	120.375	ARR	English
			124.475	DEP	English
LEMH	Menorca	YES	129.150		English
LEPA	Palma De Mallorca	YES	119.250		English
LEVC	Valencia Manises		121.075		English
LEZL	Sevilla San Pablo		118.175		English
LFAT	Le Touquet Cote D'Opale		123.125		English
LFBA	Agen La Garenne		129.600		English, French
LFBD	Bordeaux Merignac		131.150		English
LFBE	Bergerac Roumaniere		127.475		English
LFBF	Toulouse Francazal		123.125		English, French
LFBH	La Rochelle Ile de Re		126.875		English
LFBI	Poitiers Biard		121.775		English
LFBL	Limoges Bellegarde		128.075		English
LFBO	Toulouse Blagnac		123.125		English
LFBP	Pau Pyrenees	YES	128.475		English
LFBT	Tarbes Lourdes Pyrenees		125.950		English, French
LFBZ	Biarritz Pays Basque		128.225		English
LFGJ	Dole Tavaux		121.600		English, French
LFJL	Metz Nancy Lorraine		136.575		English
LFKB	Bastia Poretta		125.925		English
LFKC	Calvi St Catherine		131.175		English
LFKF	Figari Sud Corse		118.725		English
LFKJ	Ajaccio Napoleon Bonaparte		126.925		English
LFLB	Chambery Aix-Les-Bains		127.100		English
LFLC	Clermont-Ferrand Auvergne		136.400		English, French
LFLL	Lyon Saint Exupery		126.175		English
LFLN	St Yan		132.475		English, French
LFLS	Grenoble Isere		133.850		English, French
LFLV	Vichy Charmeil		136.400		English, French
LFLY	Lyon Bron		128.125		English, French
LFMD	Cannes Mandelieu		130.475		English
LFMH	St Etienne Loire		132.800		English
LFMK	Carcassonne Salvaza		120.025		English
LFML	Marseille Provence		125.350		English

Europe

01-JUN-2017

Regional SUP INFO

R-600

EUR

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
LFMN	Nice Cote d'Azur	YES	129.600		French
			136.575		English
LFMP	Perpignan Rivesaltes		127.875		English
LFMT	Montpellier Mediterranee		124.125		English, French
LFMU	Beziers Vias		127.525		English
LFMV	Avignon Caumont		120.825		English
LFOB	Beauvais Tille		118.375		English
LFOK	Chalons Vatry		136.375		English
LFOP	Rouen Vallee De Seine		120.725		English, French
LFPB	Paris Le Bourget	YES	120.000		English, French
			128.175		English, French
LFPG	Paris Charles de Gaulle	YES	127.130		English
			128.225		French
LFPM	Melun Villaroche		128.175		English, French
LFPO	Paris Orly	YES	126.500		French
			131.350		English
LFPT	Pontoise Cormeilles En Vexin		124.125		English, French
LFQQ	Lille Lesquin		119.325		English, French
LFRB	Brest Bretagne		129.350		English
LFRC	Cherbourg Maupertus		119.625		English
LFRD	Dinard Pleurtuit-St Malo		124.575		English
LFRG	Deauville Normandie		119.175		English
LFRH	Lorient Lann-Bihoue		129.125		English
LFRN	Rennes St Jacques		136.400		English
LFRS	Nantes Atlantique		126.925		English
LFRZ	St Nazaire Montoir		126.925		English
LFSB	Basle Mulhouse		127.875		English, French
LFST	Strasbourg Entzheim		126.925		English
LFTH	Hyeres Le Palyvestre		129.650		English
LFTW	Nimes Garons		129.350		English
LFZZ	Airbus Trng		132.475		English, French
LGAV	Athens Eleftherios Venizelos		136.125		English
LGIR	Iraklion Nikos Kazantzakis		127.550		English
LGKF	Kefallinia Anna Pollatou		126.450		English
LGKO	Kos Ippokratis		126.950		English
LGKR	Kerkira Ioannis Kapodistrias		126.350		English
LGKV	Kavala Megas Alexandros		128.150		English
LGMK	Mikonos		128.850		English
LGRP	Rodos Diagoras		126.350		English

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
LGSA	Chania Ioannis Daskalogiannis		130.175		English
LGSM	Samos Aristarchos of		127.050		English
LGSR	Santorini		126.450		English
LGTS	Thessaloniki Makedonia		127.550		English
LGZA	Zakinthos Dionysios Solomos		127.050		English
LHBP	Budapest Liszt Ferenc		117.300		English
			132.375		English
LIBD	Bari Palese		124.050		English
LICC	Catania Fontanarossa		127.675	DEP	English
LICJ	Palermo Punta Raisi		123.875		English
LIEA	Alghero Fertilia		125.025		English
LIEO	Olbia Costa Smeralda		113.900		English
LIMC	Milan Malpensa		120.025	ARR	English, Italian
			121.625	DEP	English, Italian
LIME	Bergamo Orio Al Serio		114.950		English
LIMF	Torino Caselle		120.475		English
LIMJ	Genoa Sestri		122.825		English
LIML	Milan Linate		136.375		English
LIPE	Bologna Borgo Panigale		134.875		English
LIPZ	Venice Tessera		128.650		English
LIRA	Rome Ciampino		122.425		English
LIRF	Rome Fiumicino		120.175	ARR	English
			121.850	DEP	English
			126.125	ARR	English
LIRN	Naples Capodichino		135.975		English
LIRQ	Florence Peretola		129.350		English
LJLJ	Ljubljana Brnik		112.700		English
			128.175		English
LKKV	Karlovy Vary		118.955		English
LKMT	Ostrava Mosnov		118.055		English
LKPR	Prague Ruzyne		122.160		English, Czech
LKTB	Brno Turany		131.105		English
LLBG	Tel Aviv Ben Gurion		132.500		English
LLET	Eilat		132.550		English
LMML	Malta Luqa		127.400		English
LOWG	Graz	YES	126.125		English
LOWI	Innsbruck	YES	126.025		English
LOWK	Klagenfurt	YES	126.325		English
LOWL	Linz	YES	128.125		English

Europe

Regional SUP INFO

R-620

01-JUN-2017

EUR

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
LOWS	Salzburg	YES	133.325		English
LOWW	Vienna Schwechat	YES	121.725	DEP	English, German
			122.950	ARR	English, German
LOXZ	Zeltweg		132.525		English
LPFR	Faro	YES	124.200		English
LPMA	Madeira	YES	130.350		English
LPPR	Porto Francisco Sa Carneiro	YES	124.300		English
LPPT	Lisbon	YES	121.950	DEP	English
			124.150	ARR	English
LQMO	Mostar / Ortijes		126.225		English
LQSA	Sarajevo		124.125		English
LRAR	Arad		123.125		English
LRBS	Bucharest Baneasa - Aurel Vlaicu		126.125		English
LRCK	Constanta Mihail Kogalniceanu-		118.750		English
LRCL	Cluj Napoca Avram Iancu		125.525		English
LROP	Bucharest Henri Coanda	YES	118.500		English
LRSB	Sibiu		126.950		English
LRTM	Targu Mures Transilvania -		125.950		English
LRTR	Timisoara Traian Vuia		123.125		English
LSGG	Geneva	YES	124.750		English, French
			135.575		English, French
LSGS	Sion		130.625		English
LSZA	Lugano		121.175		English, Italian
LSZB	Bern Belp		125.125		English
LSZH	Zurich	YES	125.725	ARR	English
			129.000	DEP	English
LSZR	St Gallen Altenrhein		123.775		English
LTAC	Ankara Esenboga Intl	YES	123.600		English, Turkish
LTAF	Adana		119.225		English
LTAG	Adana Incirlik		129.750		English
LTAI	Antalya Intl.		118.275	ARR	English
			136.125		English
LTAJ	Gaziantep		119.275		English
LTAP	Amasya Merzifon		122.425		English
LTAS	Zonguldak Caycuma		119.275		English
LTAU	Kayseri		127.225		Turkish, English
LTAZ	Kapadokya		119.375		English
LTBA	Istanbul Ataturk Intl.	YES	128.200	DEP	English
			130.250	ARR	English

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
LTBF	Balikesir Merkez		127.225		Turkish, English
LTBG	Balikesir Bandirma		128.350		English
LTBJ	Izmir Adnan Menderes Intl.		129.200		English
LTBR	Bursa Yenisehir		124.575		English
LTBS	Mugla Dalaman		127.350		English
LTBU	Tekirdag Corlu Intl.		119.925		Turkish, English
LTCC	Diyarbakir		118.675		English
LTCE	Erzurum		119.800		English
LTCG	Trabzon		118.625		Turkish, English
LTCS	Sanliurfa Gap Intl.		128.250		English
LTDA	Hatay		121.250		English
LTFE	Milas Bodrum		128.500		English
LTFG	Alanya Gazipasa		120.950		English
LTFH	Samsun Carsamba		129.350		Turkish, English
LTFJ	Istanbul Sabiha Gokcen		128.550		English
LUKK	Chisinau Intl		125.225		English
LWSK	Skopje Alexander the Great		130.125		English
LYBE	Belgrade Nikola Tesla		122.925		English
LZIB	Bratislava M.R.Stefanik		128.650	ARR	English, Slovak
			133.875	DEP	English, Slovak
LZKZ	Kosice		133.725		English
LZTT	Poprad Tatry		133.125		English
OJAI	Amman Queen Alia intl		127.600		English, Arabic
OJAM	Amman Marka Intl		127.600		English, Arabic
OJAQ	Aqaba King Hussein Intl		127.600		English, Arabic
OLBA	Beirut Rafic Hariri Intl	YES	120.600		English, French
OSDI	Damascus Intl		128.225		English
UBBB	Baku Heydar Aliyev Intl		126.800		English
UBBG	Ganja		119.250		English, Russian
UBBL	Lenkoran		128.200		Russian, English
UBBN	Nakhchivan		127.500		Russian, English
UBBQ	Gabala		126.600		English
UDYE	Yerevan Erebuni MIL		119.500		Russian
UDYZ	Yerevan Zvartnots		118.000		English, Russian
			119.500		English, Russian
UGTB	Tbilisi		132.800		English
UKBB	Kyiv Boryspil' Intl		119.425	DEP	Russian
			125.950	DEP	English
			126.700	ARR	English

Europe

Regional SUP INFO

R-640

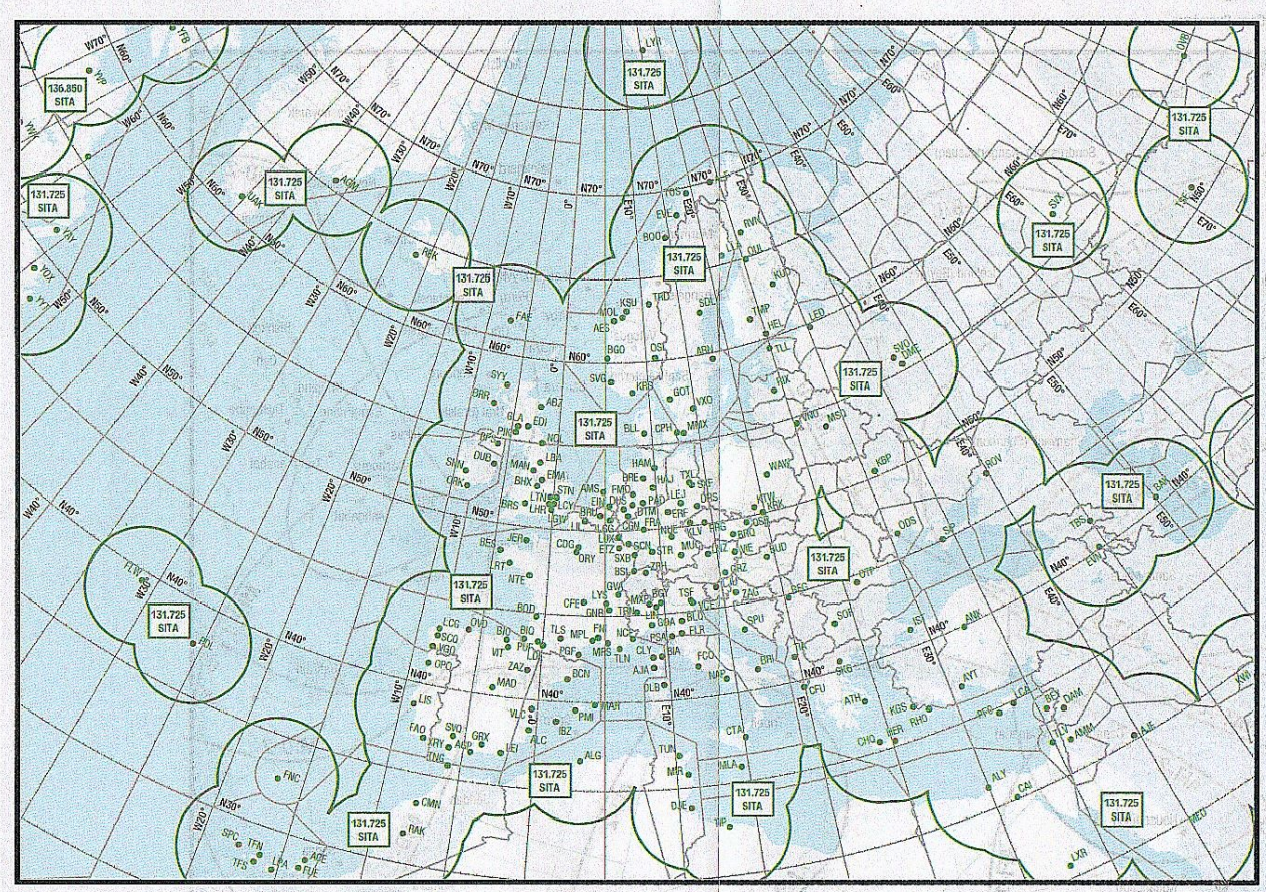
01-JUN-2017

EUR

ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
			134.250	ARR	Russian
UKDD	Dnipro petrovs'k Intl		130.900		English
			134.900		Russian
UKHH	Kharkiv Osnova Intl		126.750		English
			127.600		Russian
UKKK	Kyiv Zhuliany Intl		126.800		Russian
			127.475		English
UKLL	L'viv Intl		122.925		Russian
			128.700		English
UKOO	Odesa Intl		124.800		Russian
			133.100		English
ULAA	Arkhangelsk Talagi		126.675		Russian
			130.675		English
ULLI	Sankt-Peterburg Pulkovo		127.300		English
			127.400		Russian
ULMM	Murmansk		127.400		Russian, English
UMKK	Kaliningrad Khrabrovo		122.050		Russian
			122.475		English
UMMS	Minsk -2	YES	128.850		English
			135.850		Russian
URFF	Simferopol		122.150		English
			127.200		Russian
URKA	Anapa Vityazevo		125.400		English
			135.900		Russian
URKG	Gelendzhik		133.375		Russian
			134.875		English
URKK	Krasnodar Pashkovskiy		121.800		Russian
			122.450		English
URMG	Grozny Severny		127.200		English, Russian
URML	Makhachkala Uytash		124.800		Russian
			125.475		English
URMM	Mineralnyye Vody		125.250		English
			127.400		Russian
URMO	Vladikavkaz Beslan		118.500		English, Russian
URMT	Stavropol Shpakovskoye		128.825		Russian
			134.200		English
URRR	Rostov-na-Donu		121.700		Russian, English
			132.400		English
URSS	Sochi		126.200		Russian

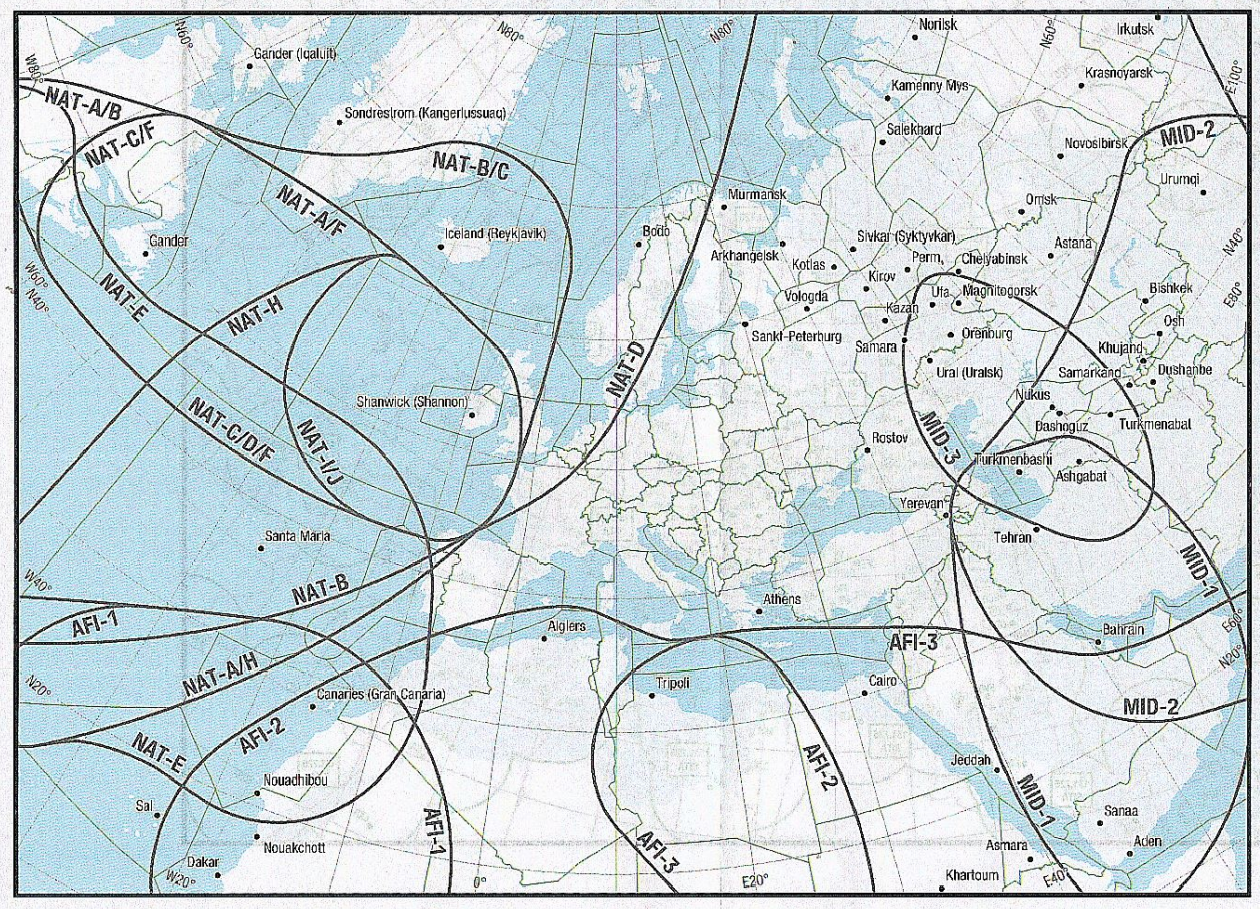
ICAO	Airport	D-ATIS	FREQ	DEP/ARR	Language
			129.375		English
URWA	Astrakhan		125.625		English
			131.500		Russian
URWI	Elista		126.400		English, Russian
URWW	Volgograd Gumrak		127.000		English
			129.900		Russian
USKK	Kirov Pobedilovo		134.900		Russian
USPP	Perm Bolshoe Savino		126.400		English, Russian
USSS	Yekaterinburg Koltsovo		127.800		Russian, English
UUBC	Kaluga Grabtsevo		126.800		Russian, English
UUBW	Ramenskoye		127.750		Russian
UUDD	Moscow Domodedovo		122.950		Russian
			128.300		English
UUDL	Yaroslavl Tunoshna		127.350		Russian, English
UUEE	Moscow Sheremetyevo		125.125		English
			126.375		Russian
UUOB	Belgorod		130.300		English, Russian
UUOO	Voronezh Chertovitskoye		120.800		English, Russian
UUWW	Moscow Vnukovo		124.450	DEP	English
			125.875	ARR	Russian
			127.800	DEP	Russian
			131.850	ARR	English
UUYW	Vorkuta		126.400		Russian
UUYY	Syktyvkar		126.600		English, Russian
UWGG	Nizhny Novgorod Strigino		127.800		English, Russian
UWKD	Kazan		126.800		English, Russian
UWKE	Begishevo		134.200		English, Russian
UWKS	Cheboksary Senyaly		120.900		Russian
			123.600		English
UWLL	Ulyanovsk Baratayevka		126.600		Russian
UWOO	Orenburg		126.400		English, Russian
UWOR	Orsk		125.900		English, Russian
UWSS	Saratov Tsentralny		132.800		English
			135.100		Russian
UWUU	Ufa		119.400		English
			124.800		Russian
UWWW	Samara Kurumoch		134.100		English
			134.900		Russian

6.2 SITA VHF AIRCOM ACARS Service Coverage



6.3 HF Frequencies - EUR Region

6.3.1 HF Networks and Stations Overview



6.3.2 HF Frequency List

Note 1: Only the words in bold character are part of the call sign. Example: "**ADDIS** ABEBA" = call sign "ADDIS".

Note 2: SELCAL is given where published in the AIP. Not all countries publish the SELCAL capabilities.

Call Sign (Note 1)		FREQ KHZ	OPS HR	SELCAL (Note 2)	HF Network	PRY/SEC	Remarks
ALGIERS MAGHREB	INFO	**3419**	U/S	YES	AFI-2		
ALGIERS MAGHREB	INFO	**5652**		YES	AFI-2		
ALGIERS MAGHREB	INFO	**8894**		YES	AFI-2		
ALGIERS MAGHREB	INFO	**13273**		YES	AFI-2		
ALGIERS MAGHREB	INFO	**17961**	U/S	YES	AFI-2		
ARKHANGELSK	RADIO	**3422**	HN				
ARKHANGELSK	RADIO	**4672**					
ARKHANGELSK	RADIO	**5596**	HJ				
ATHENS	RADIO	**2989**	1700-0400				
ATHENS	RADIO	**5637**	0400-1700				
CAIRO	RADIO	**3467**	HN		AFI-3		
CAIRO	RADIO	**5517**			AFI-3		
CAIRO	RADIO	**6574**			AFI-3		
CAIRO	RADIO	**11300**			AFI-3		
CAIRO	RADIO	**13288**	HJ		AFI-3		
CAIRO	RADIO	**5637**					
KAZAN	RADIO	**4712**					
KAZAN	RADIO	**5520**					
KIROV	RADIO	**3440**	HN				
KIROV	RADIO	**5586**	HJ				
KOTLAS	RADIO	**3422**	HN				
KOTLAS	RADIO	**4672**					
KOTLAS	RADIO	**5596**	HJ				
a **MURMANSK**	RADIO	**3920**					
MURMANSK	CONTROL	**4672**		YES			OCEANIC SECTOR
MURMANSK	CONTROL	**5694**		YES			OCEANIC SECTOR
MURMANSK	CONTROL	**8950**		YES			OCEANIC SECTOR
MURMANSK	CONTROL	**11390**		YES			OCEANIC SECTOR
PERM	RADIO	**4712**					
PETERBURG	RADIO	**4672**					
ROSTOV	RADIO	**2926**	HN				
ROSTOV	RADIO	**4712**					
ROSTOV	RADIO	**5487**	HJ				
SAMARA	RADIO	**4712**					
SIVKAR	RADIO	**3422**	HN				
SIVKAR	RADIO	**4712**					

Call Sign (Note 1)		FREQ KHZ	OPS HR	SELCAL (Note 2)	HF Network	PRY/SEC	Remarks
SIVKAR	RADIO	5596	HJ				
STOCKHOLM	RADIO	3494	HN	YES			LDOC
STOCKHOLM	RADIO	5541		YES			LDOC
STOCKHOLM	RADIO	8930		YES			LDOC
STOCKHOLM	RADIO	11345		YES			LDOC
STOCKHOLM	RADIO	13342		YES			LDOC
STOCKHOLM	RADIO	17916		YES			LDOC
STOCKHOLM	RADIO	23210	HJ	YES			LDOC
TRIPOLI	RADIO	13273		YES	AFI-2		
TRIPOLI	INFO	5517			AFI-3		
TRIPOLI	INFO	11300			AFI-3		
URAL	RADIO	4712					
VOLOGDA	RADIO	4672	0500-1700				
YEREVAN	RADIO	4712	HJ				