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A 3. VFR FLIGHT IN SWEDEN

Cancels AIC-SWEDEN A 7/2006

INTRODUCTION

First of all: **Welcome to Sweden!**

This AIC is published yearly in order to assist you, as a VFR pilot, in your planning and conduct of flight within Swedish airspace. **It does not, however, in any way supersede or replace any official regulations or information published in the Swedish AIP, AIP-SUP or NOTAM.**

We wish you a safe and pleasant flight!

Full information and documentation for the conduct of VFR flights within Sweden, including maps and charts, can be obtained from:

The LFV Group
Sales of Publications
S-601 79 NORRKÖPING
SWEDEN

Phone: +46 (0)11 19 25 50
Fax: +46 (0)11 19 25 00
E-mail: <mailto:publikation@lfv.se>
Website: www.lfv.se

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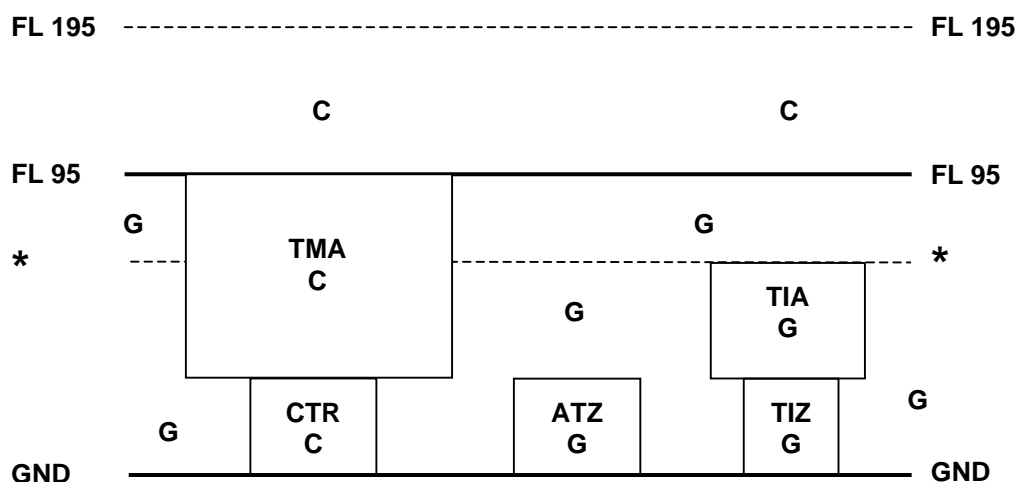
BASIC

Airspace classification

Within Sweden FIR there are mainly two classes of ATS airspace: C and G¹. G is uncontrolled airspace and C is controlled airspace where ATC clearance is required before entering. In C classified airspace you will be separated from IFR traffic and informed about other VFR traffic.

All controlled aerodromes have established Control Zones (CTR) from ground up to the Terminal Area (TMA). CTR and TMA are both C classified airspace and established only when the associated ATC unit is in operation.

Many uncontrolled AFIS aerodromes have established Traffic Information Zones (TIZ) and Traffic Information Areas (TIA). They are both uncontrolled G airspace and you will receive *suggestions* from the AFIS unit, but no clearance. Within TIZ and TIA radio communication is required with ATS.



* Highest of 5000 ft MSL/3000 ft GND

VFR flight above FL 195 requires special permission from the Swedish Civil Aviation Authority.

¹ There are also small areas of D- and E classified airspace in the southern part of Sweden FIR. (Kastrup and Rønne)

Regulations

VMC-minima in C-classified airspace

Below FL 100:
Visibility 5 km
1500 m horizontal; 300 m vertical distance from cloud

VMC-minima in G-classified airspace

Above 3000 ft MSL/1000 ft GND (whichever is higher):
Visibility 5 km
1500 m horizontal; 300 m vertical distance from cloud
Below 3000 ft MSL/1000 ft GND (whichever is higher):
Visibility 5 km²
Clear of cloud and in sight of ground or water

Special VFR-minima (CTR only)

Visibility (ground- as well as flight): 1.5 km daylight/8 km darkness
Ceiling: High enough to permit flight free of clouds and still no lower than minimum height for the area

VFR on top is permitted during the following conditions:

G airspace: the surface must be kept in sight when flying at or below 3000 ft AMSL/1000 ft GND (whichever the higher)
MET information before take-off must clearly indicate that the flight may be conducted during VMC conditions *and* that there will be only few or scattered clouds, no lower than 1000 ft, and visibility no lower than 5 km at the destination area (Planning minima)

Never commence a VFR flight on top during darkness!

VFR in darkness is permitted, during the following conditions:

Visibility 8 km
During darkness, VFR traffic will be separated from other VFR traffic as well as from IFR traffic, in controlled airspace. For VFR in darkness it is compulsory to file a flight plan for flights in G classified airspace above 5000 ft AMSL/3000 ft AGL (whichever the higher).

Please note that VFR in darkness, according Swedish regulations does *not* equal "Night Flying" according to international standards.

Two way radio communication with ATS is required in G classified airspace above 5000 ft MSL or 3000 ft GND (whichever the higher) for VFR flight in darkness and within TIA/TIZ.

Unless flying in uncontrolled airspace only, transponder is required within Sweden FIR. Any aircraft equipped with a functioning transponder shall operate it in flight, including mode C. If you're in contact with an ATS unit, you will receive a code from them, otherwise squawk 7000.

² Down to 3 km visibility if speed below 140 kt IAS, down to 1.5 km if also in traffic circuit with aerodrome in sight.

PREPARATIONS

Briefing

Integrated MET/AIS briefing material is provided by the Flight Planning Centre (FPC), which also serves as ATS Reporting Office (ARO) for Sweden FIR. Always request full briefing when calling FPC to avoid missing out on vital information.

AIS unit	Hours	Telephone	Telefax	Website	e-mail
FPC	H24	+46 (0)8 797 63 40	+46 (0)8 593 601 79	www.aro.lfv.se	fpc@lfv.se

Be aware of the limitations of forecasts and weather reports!

In low level forecasts (FL 125 and below) the terrain is not always taken into consideration and in high terrain the clouds may be at ground level although reported cloud bases seems to be well above minima.

Also remember that although the TAFs at aerodromes for both departure and destination read CAVOK, the weather conditions in the area between them may vary significantly.

Therefore, always make careful preparations and collect as much information as possible!

Flight plan

As a rule you do not have to file a flight plan when flying in uncontrolled airspace only³ but, for your own safety, it is a very good idea to do so. Sweden is a sparsely settled country with several lakes. If you have filed a flight plan you can be sure that someone will come looking for you in case you run into any kind of problem.

A flight plan will also facilitate contact with ATS. If they are prepared and know what to expect it will make your communication easier for both parts.

For flights in controlled airspace you must file a flight plan at least 60 minutes before EOBT.⁴

If you only wish to depart from a controlled aerodrome you might however file an abbreviated flight plan. Contact the local ATS, preferably by phone. Please remember: A filed flight plan does not under any circumstances mean that you can enter controlled airspace without clearance!

At several aerodromes there is a flight planning room, provided with free-of-charge telephone connection with FPC. Look for the black C against yellow background (ATS Reporting Office)

For submission of flight plan, contact Flight Planning Centre (FPC)

Internet: www.aro.lfv.se
Telephone: +46 (0)8 797 63 40
Telefax: +46 (0)8 593 601 79

Do not forget to confirm a faxed flight plan via phone: +46 (0)8 797 63 40

³ With a few exceptions: a) When crossing territorial borders. b) When flying VFR in darkness over 5000 ft AMSL/3000 ft AGL whichever the higher c) Flight in mountainous areas, see page 8.

⁴ For flight in mountainous areas, see page 8. For more information about submitting a flight plan, see AIP Sweden ENR 1.10.

FLYING IN SWEDEN

Entering and leaving Sweden

As a rule, no special permits are required to fly your own private aircraft in Sweden, as long as it is classified according to ICAO Annex 8.

If your PPL has any limitations, special permits may be required.

It might be a good idea to read through your permits and licences thoroughly a few months before your planned trip.

If you need any permits from Sweden, contact the Swedish Civil Aviation Authority in Norrköping.

www.luftfartsstyrelsen.se or phone +46 (0)11 415 21 00

Do not forget to file a flight plan when you intend to cross territorial borders.

Customs

The complete regulations for aircraft, cargo and passengers are to be found in AIP SWEDEN GEN 1.2 - 1.4.

In short: If you are an EU-citizen and arrive or depart from a member state of ICAO within the EU ⁵, and carry no cargo or provisions under custom surveillance, you may land at customs or non-customs airports with no prior permission, as long as you have filed a flight plan and is a private flight with an aircraft with a MTOW not exceeding 5700 kg.

Activating and closing flight plan

If you are departing from a controlled aerodrome, the local ATS-unit will automatically activate your flight plan. If you are departing from an uncontrolled aerodrome you have to contact the nearest ATS unit via radio and ask them to activate.

Closing your flight plan works the same way. If your destination is a controlled aerodrome, you do not have to do anything. In other cases you have to contact nearby ATS-unit via radio (make sure the ATC acknowledges your message by the words "flight plan closed") If radio contact is not possible – close your flight plan by phone as soon as possible after landing.

If the flight plan is not closed within 30 minutes after ETA an unnecessary and expensive search operation may take place.

And again: A filed flight plan does not give you permission to enter controlled airspace without clearance!

⁵ Or from Norway or Iceland.

Maps and charts

TMA charts 1:250 000 are available via:

KSAB Sales Department (KSAB):

Website: www.ksab.net
Telephone: +46 (0)8 764 60 80
Telefax: +46 (0)8 764 60 83

Aeronautical Charts ICAO 1:500 000 are also available via:

The LFV Group
Sales of Publications
S-601 79, Norrköping, Sweden

E-mail: publication@lfv.se
Telephone: +46 (0)11 19 25 50
Telefax: +46 (0)11 19 25 00

Always make sure you have the latest editions of maps and charts!

If you use a GPS, remember to update the software, and above all:
A GPS is a brilliant aid, but it is not approved as main navigation aid!

R- and D-areas

Do not enter a restricted area without having obtained permission to cross.
Avoid danger areas completely!

Frequencies

When flying VFR, it is your responsibility to contact appropriate ATS-unit and not enter controlled airspace until clearance is given. You cannot depend on the controller to give you contact instructions when flying VFR, but do not leave the frequency without saying so.

When flying in uncontrolled airspace, you also want to check in on the correct frequency to receive as much information as possible.⁶

Meteorological information

VOLMET stations at JONKOPING (127.20 MHz), STOCKHOLM (127.60 MHz) and SUNDSVALL (127.80 MHz) broadcast observations from major aerodromes in English. If you contact ATS, they will help you with weather information *if* their workload permits. You can also contact the Arlanda MET-office directly, via radio, on 122.60 MHz.

⁶ See appendix for frequency table.

AERODROMES

Fuel

If you are heading for a smaller aerodrome or private airfield, always make sure, before take-off, if and when fuel is available. Also check what means of payment are possible if you prefer not to pay in cash. At state-owned and larger aerodromes fuel is normally available during normal hours of operation.

Charges

What is written below is only a summary for aircrafts with a MTOW of 5700 kg and below, for more information check AIC-SWEDEN 12/2006.⁷

Take-off charges shall be paid for every take-off⁸ and additional charges may be required at some aerodromes. When landing outside operational hours a substantial fee is normally added. It is also possible to pay an annual charge that will cover several municipal aerodromes as well as the state-owned aerodromes listed below.

Instead of paying each take-off separately it is recommended for visiting pilots on private flights only, to buy a Weekly Season Card (WSC) The card is valid for seven consecutive days and can be issued for up to three weeks within a period of twelve months. It entitles the aircraft an unspecified number of flights within Sweden FIR and landing (as well as parking if space is available) on the following state-owned aerodromes:

Göteborg/Landvetter, Halmstad, Jönköping, Kalmar, Karlstad, Kiruna, Luleå/Kallax, Malmö/Sturup, Norrköping/Kungsängen, Ronneby, Skellefteå, Stockholm/Arlanda, Sundsvall-Härnösand, Umeå, Visby, Åre Östersund, Ängelholm, Örnsköldsvik.

The WSC is *not* valid at Stockholm/Bromma and only at limited hours at Stockholm/Arlanda and Göteborg/Landvetter!

MISCELLANEOUS

Flying to Gotland

Flight plan is mandatory when flying to/from Gotland. It does not matter if you are flying in controlled or uncontrolled airspace, as there is a small section of international waters between the mainland and the island.

When flying over large areas of open water it is of utmost importance to be well briefed, as it may be very difficult to find an alternate landing place.

Flying in mountainous areas

If you are planning to fly within the mountainous area in the northwest some important special rules apply⁹, according to AIP SWEDEN GEN 1.5 and ENR. 1.1.9

The large uninhabited areas make search and rescue operations very difficult. Extra precaution should be taken due to terrain and treacherous weather conditions and maybe you should add some extra margins to your planning minima.

It is a good idea to talk to an experienced pilot before flying and to check that your aircraft is properly equipped for this special kind of flight.

⁷ For aircrafts with a MTOW above 7500 kg, check AIC SWEDEN 11/2006.

⁸ Except for take-off after turn back to departure aerodrome due to technical- or weather reasons, or for gliders, powered glider or ultra light aircrafts.

⁹ If you are flying a single engined aircraft with a MTOW of 5700 kg or below.

Military activities

Military jet activities are not unusual within Swedish airspace during weekdays. High-speed flying at low level is frequent over some sparsely settled areas. The area surrounding Linköping/Malmen aerodrome should be avoided completely due to heavy military training activities with both jets and helicopters.

Pets

Special import conditions are required for travelling with cats and dogs, within the EU as well as to and from countries outside the EU. Make sure you check in good time if you are planning to bring your pet!¹⁰

Photo

Photography (and similar recordings) is generally permitted at aerodromes¹¹ as well as in flight – provided the pictures are taken for personal use only. For publication or distribution, permission from military authorities is required. There are however a few areas where photographing is prohibited. See AIP Sweden, ENR 5.

A FEW WORDS ABOUT SAFETY

When you are flying in unknown surroundings, give yourself the benefit of extra margins and plan for all contingencies. Make sure that you are well prepared and that your information is updated and correct. This is true airmanship!

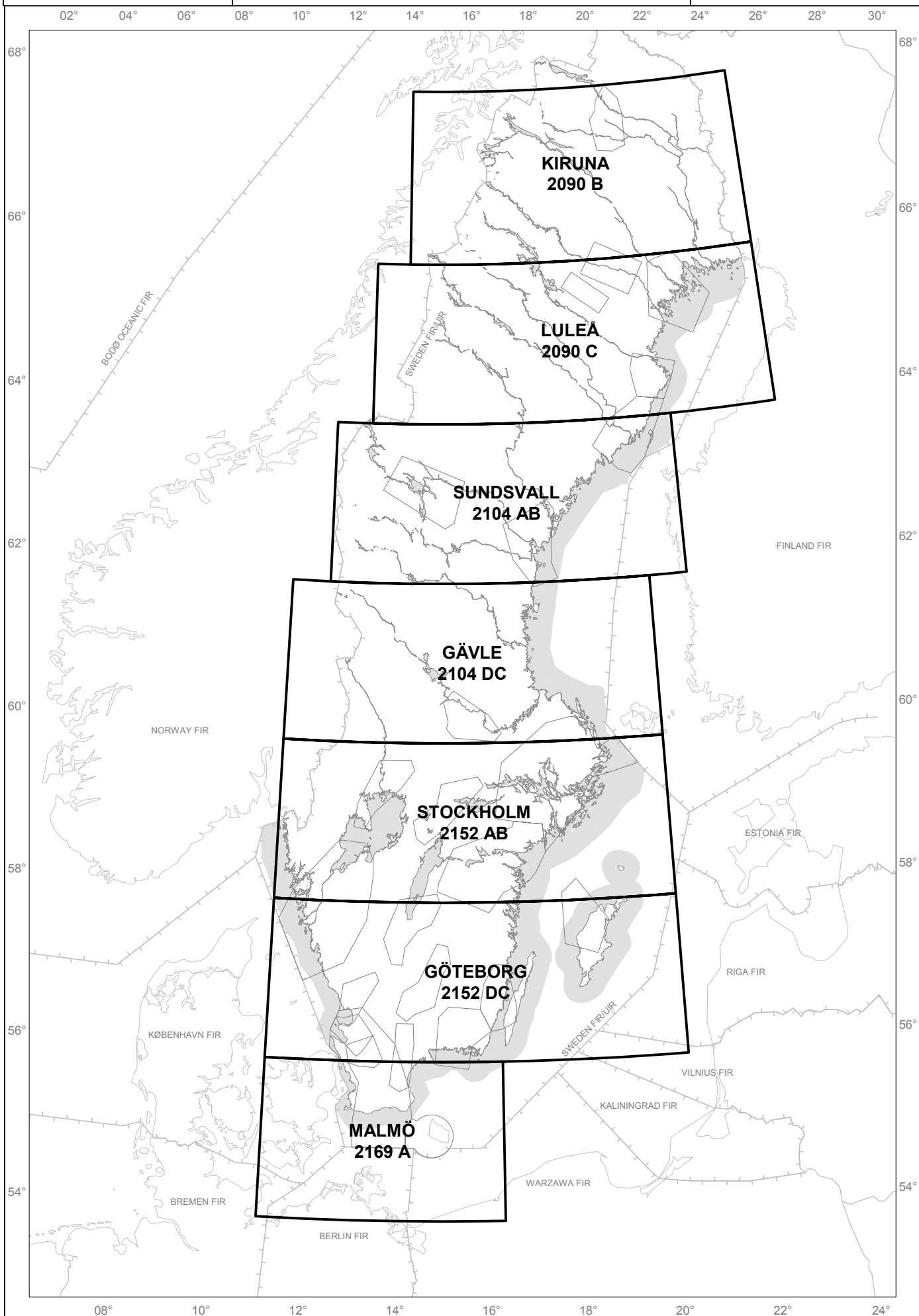
If you run into any kind of problems or become disoriented, do not hesitate to use the service and help available via ATS. If any communication difficulties occur – ask, and ask again until everything is clear!

...and last but not least – WELCOME TO SWEDEN!

- E N D -

¹⁰ Dogs and cats are free to import from Norway.

¹¹ Military aerodromes excepted.



INTENTIONALLY BLANK

Radio communication frequencies and telephone to ATS

The table below contains a list of radio communication frequencies and telephone numbers for ATS units, ATIS and VOLMET stations, and MET offices. It is emphasized that the list is completely up-to-date only on the date of publication of this AIC and subject to change. It does not supersede data published in AIP-SWEDEN.

Only the primary frequency of each ATS unit is shown. Most units also guard the emergency frequency 121,500 MHz. If in doubt of the correct frequency of a certain unit, check with the Area Control Centre (ACC) in the sector where you are flying.

If you cannot establish communication with an ATS unit, do not conclude that this unit is not in operation. The ACC in the concerned area will, on request, inform you whether or not the unit is in operation (with the exception of AFIS units at some minor aerodromes), or try to phone direct to ATS.

Call signs:

TWR = "TOWER"	}	{	preceded by the individual name (e.g. BROMMA TOWER, HULTSFRED INFORMATION, ARLANDA MET OFFICE)
AFIS = "INFORMATION"			
TMC = "CONTROL"			
MET = "MET OFFICE"			

Unit/Station	FREQ	Telephone to ATS
ARVIDSJAUR TWR/AFIS	123.000	+46-(0)960 173 85
ARVIKA AFIS	122.350	+46-(0)570 120 40
BORLÄNGE TWR	127.300	+46-(0)243 645 20
ESKILSTUNA AFIS	126.850	+46-(0)16 940 20
FALKÖPING AFIS	122.800	+46-(0)515 806 30
GÄLLIVARE AFIS	122.100	+46-(0)970 780 20
GÄVLE AFIS	122.350	+46-(0)26 24 84 14
GÖTEBORG TMC	124.675	+46-(0)31 94 11 44
GÖTEBORG/LANDVETTER TWR	118.600	+46-(0)31 94 11 39
- Taxi frequency	121.900	
GÖTEBORG/LANDVETTER ATIS	119.375	
GÖTEBORG/SÄVE TWR/AFIS	119.050	+46-(0)31 55 23 10
- Parking	123.250	
HAGFORS AFIS	122.225	+46-(0)563 603 68
HALMSTAD TWR	130.100	+46-(0)35 12 88 43
HALMSTAD TMC	135.050	
HEMAVAN AFIS	122.975	+46-(0)954 305 30
HULTSFRED AFIS	124.050	+46-(0)495 24 00 40
JÖKKMOKK AFIS	124.850	+46-(0)971 172 92
JÖNKÖPING TWR	118.250	+46-(0)36 31 12 20
KALMAR TWR	130.800	+46-(0)480 587 62
KARLSKOGA AFIS	122.550	+46-(0)586 533 60
KARLSTAD TWR	119.450	+46-(0)54 55 60 76
KIRUNA TWR/AFIS	130.150	+46-(0)980 680 20
KRAMFORS AFIS	122.150	+46-(0)612 223 55
KRISTIANSTAD TWR	129.350	+46-(0)44 23 88 58
LIDKÖPING AFIS	124.450	+46-(0)510 222 38
LINKÖPING/MALMEN TWR	129.800	+46-(0)13 28 35 90
TMC, <i>see ÖSTGÖTA</i>		
LINKÖPING/SAAB TWR	118.800	+46-(0)13 18 28 80
TMC, <i>see ÖSTGÖTA</i>		
LJUNGBYHED TWR	130.700	+46-(0)435 44 55 13
- Taxi frequency	121.650	
LJUNGBYHED TMC	129.550	

Appendix 2

Page 2

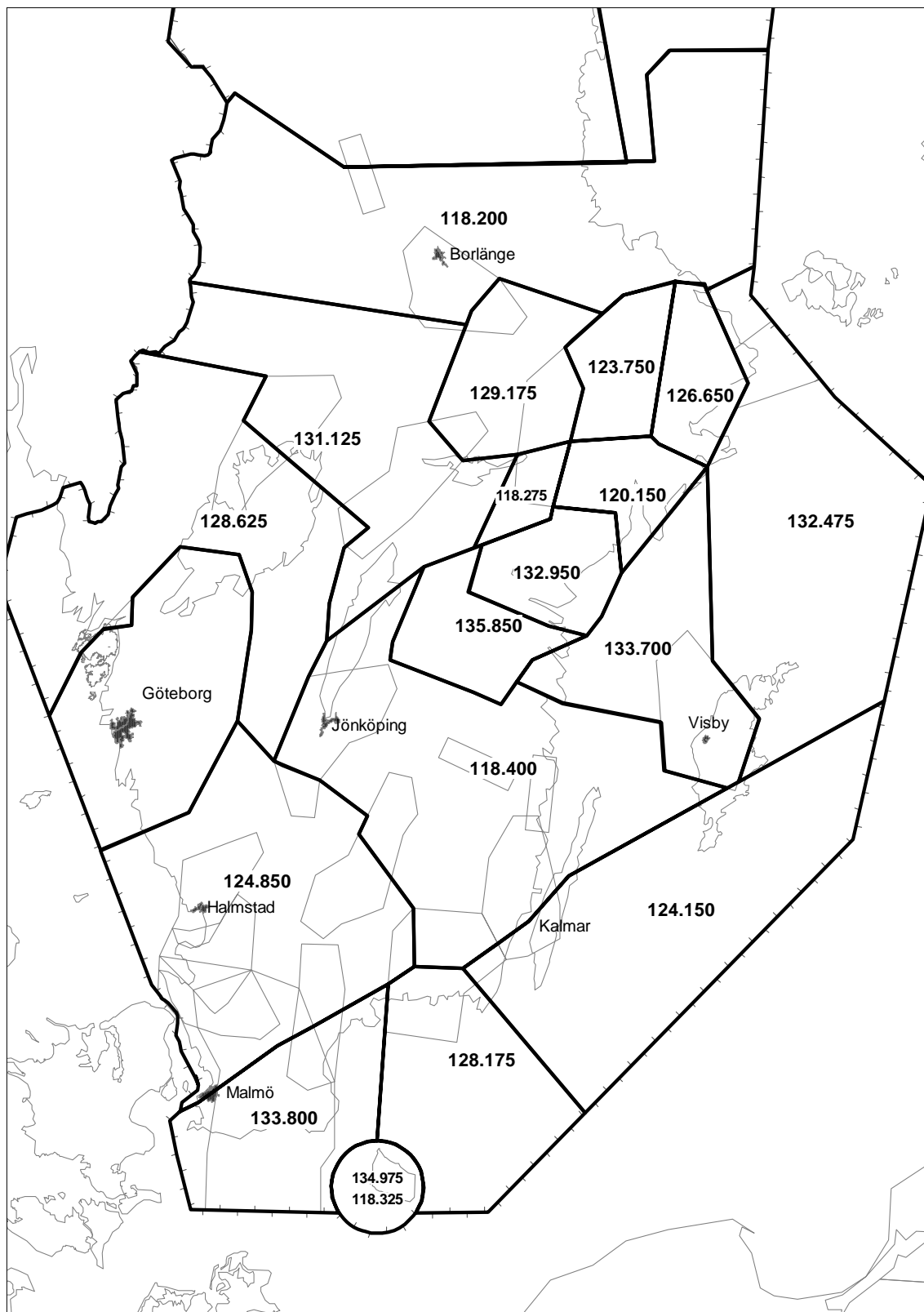
LULEÅ/KALLAX TWR	128.200	+46-(0)920 126 41
LULEÅ/KALLAX TMC	125.450	
LYCKSELE AFIS	122.225	+46-(0)950 275 51
MALMÖ/STURUP TWR	118.800	+46-(0)40 613 15 50
MALMÖ/STURUP ATIS	129.275	
MORA/SILJAN AFIS	129.850	+46-(0)250 301 98
NORRKÖPING/KUNGSÅNGEN TWR (TMC: see ÖSTGÖTA)	120.350	+46-(0)11 19 25 69
OSKARSHAMN AFIS	122.150	+46-(0)491 640 41
PAJALA AFIS	118.250	+46-(0)978 511 10
RONNYBY TWR	119.200	+46-(0)47 15 53
RONNEBY TMC	128.450	
SKELLEFTEÅ TWR	122.050	+46-(0)910 576 90
SKÖVDE AFIS	122.325	+46-(0)500 46 31 83
STOCKHOLM/ARLANDA TWR - CTR sector west - CTR sector east - Ground west - Ground east - Ground north	118.500 125.125 121.700 121.975 121.925	+46-(0)8 594 922 50
STOCKHOLM/ARLANDA ATIS - Arrival - Departure	119.000 121.625	
STOCKHOLM/BROMMA TWR - Taxi frequency	118.100 121.600	+46(0)8 28 87 22
STOCKHOLM/BROMMA ATIS	122.450	
STOCKHOLM/SKAVSTA TWR (TMC: see ÖSTGÖTA)	127.700	+46(0)155 28 04 20
STOCKHOLM/VÄSTERÅS TWR	130.600	+46(0)21 80 00 20
STOCKHOLM/VÄSTERÅS TMC	129.170	
STORUMAN AFIS	133.800	+46(0)951 400 34
SUNDSVALL TWR	129.550	+46-(0)60 19 75 25
SUNDSVALL ATIS	127.400	
SVEG AFIS	122.200	+46-(0)680 71 13 50
SÄTENÅS TWR	128.200	+46-(0)510 804 90
SÄTENÅS TMC	134.550	
SÖDERHAMN AFIS	135.350	+46-(0)270 133 33
TORSBY AFIS	122.050	+46-(0)560 717 24
TROLLHÄTTAN TWR	122.725	+46-(0)520 42 93 61
UMEÅ TWR	119.800	+46-(0)90 71 61 71
UPPSALA TWR	119.200	+46-(0)18 19 60 72
VIDSEL TWR	130.400	+46-(0)929 360 25
VIDSEL TMC	124.150	
VILHELMINA AFIS	122.550	+46-(0)940 310 09
VISBY TWR	120.300	+46-(0)498 21 23 49
VISBY TMC	126.150	
VÄXJÖ/KRONOBERG TWR/AFIS	118.150	+46-(0)470 75 85 30
ÄNGELHOLM TWR	127.100	+46-(0)431 202 14
ÄNGELHOLM TMC	132.450	
ÖREBRO TWR	120.275	+46-(0)19 30 70 08
ÖRNSKÖLDSVIK AFIS	122.250	+46-(0)660 874 80
ÖSTERSUND TWR	135.650	+46-(0)19 30 70
ÖSTGÖTA TMC	132.950	+46-(0)11 19 25 78

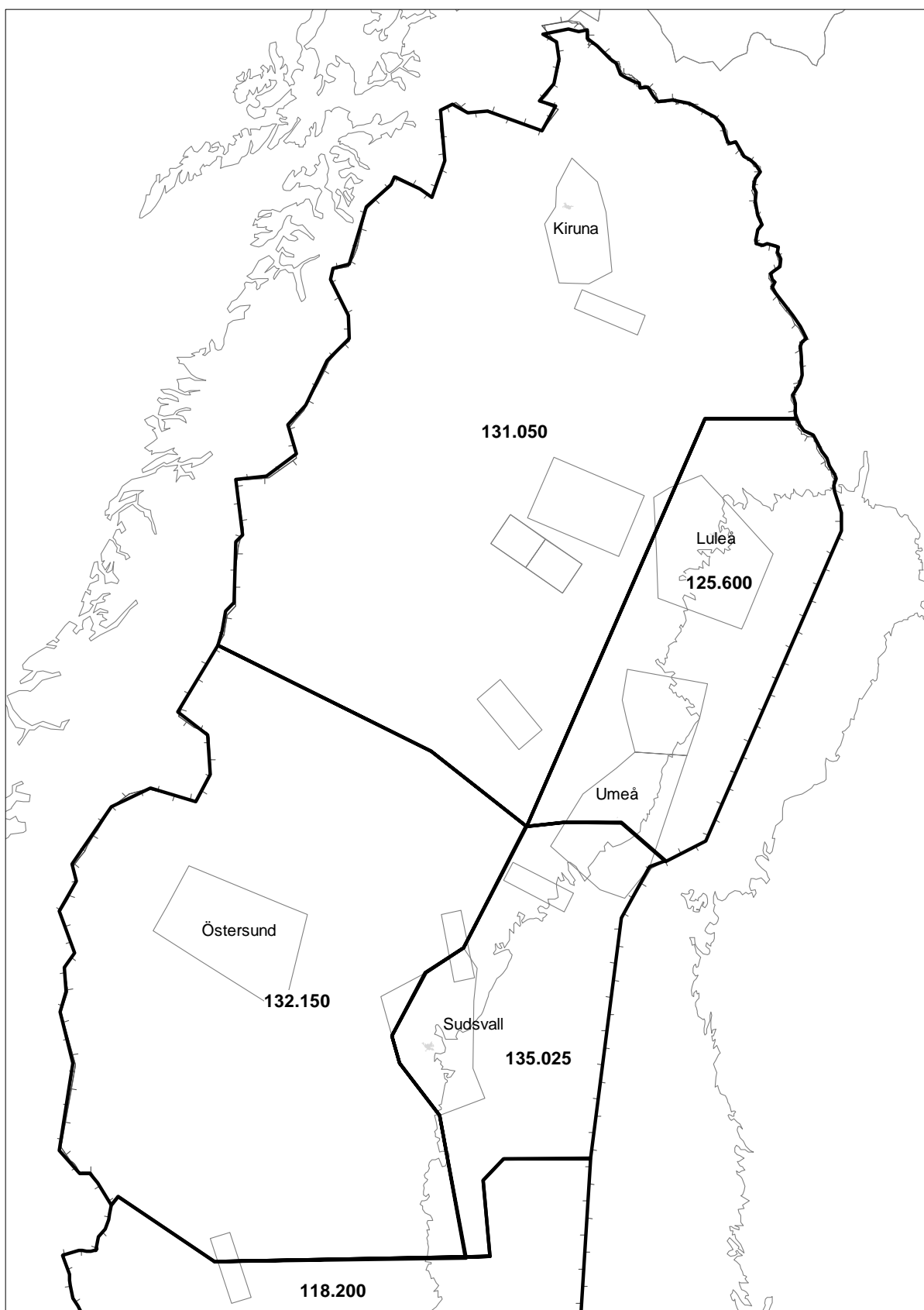
Radio communication frequencies

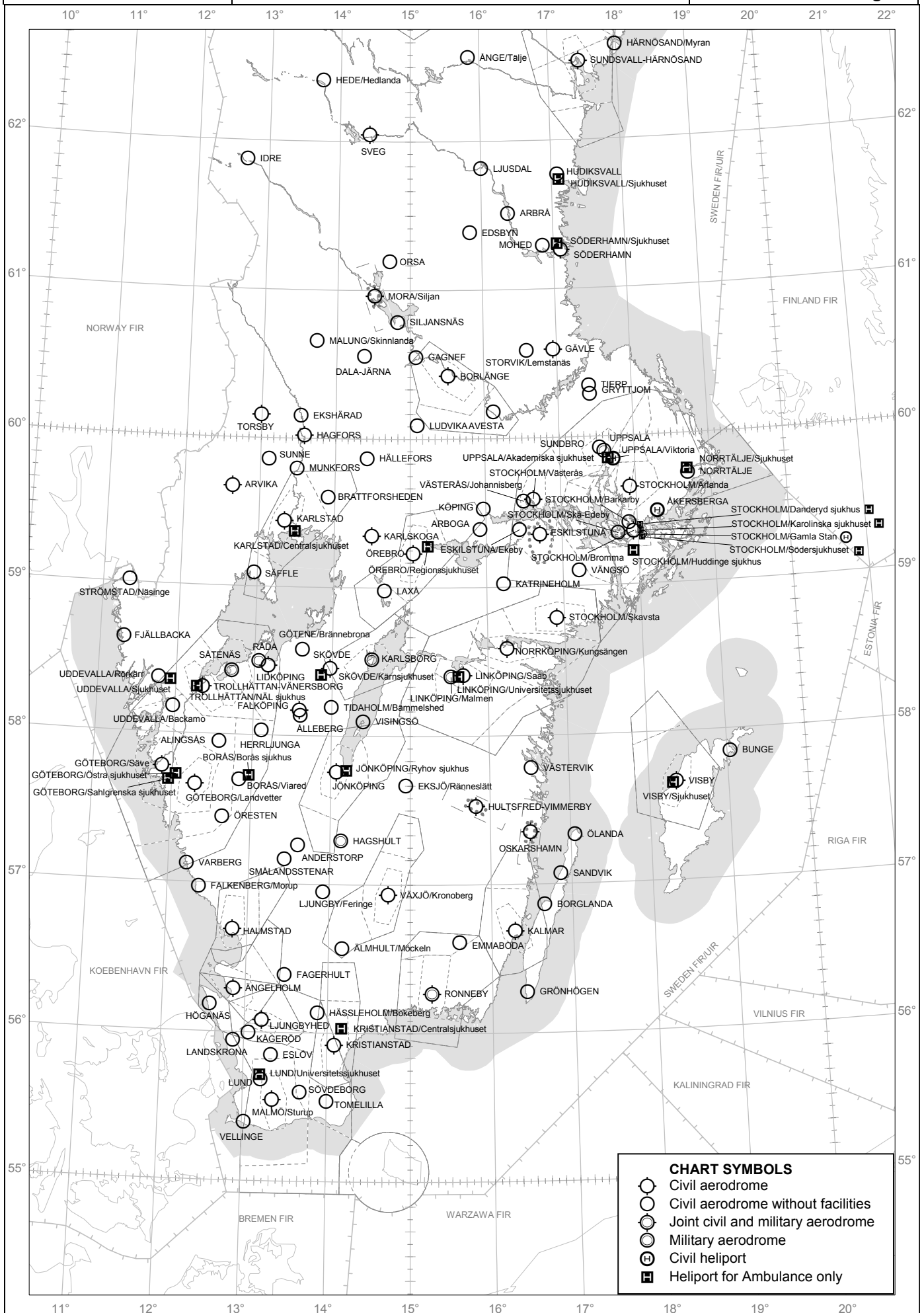
The following two charts contains the communication frequencies for the ACC. It is emphasized that the list is completely up-to-date only on the date of publication of this AIC and subject to change. It does not supersede data published in AIP-SWEDEN.

ACC also guard the emergency frequency 121,500 MHz.

ACC callsign: SWEDEN CONTROL









Appendix 4

Sunrise/Sunset Table (Local Times)

The table presents the times of sunrise and sunset together with the length of morning and evening twilight periods, at selected locations. Subtract the twilight period from the time of sunrise to obtain the beginning of morning and add the twilight time to the time of sunset to obtain the end of evening twilight. The times are intended for general information only and may vary slightly.

--- Twilight prevails from sunset to sunrise
XX The sun is above the horizon H24 ("midnight sun")

DAY	Lund 5542N1313E sunrise/sunset - twilight	Stockholm 5921N1800E sunrise/sunset - twilight	Sundsvall 6225N1720E sunrise/sunset - twilight	Kiruna 6750N2015E sunrise/sunset - twilight
JAN 1	0839/1543 – 0:46	0847/1455 – 0:55	0923/1421 – 1:09	Below horizon – 2:37
JAN 11	0834/1557 – 0:45	0839/1512 – 0:53	0911/1442 – 1:05	1038/1256 – 1:48
JAN 21	0822/1616 – 0:43	0824/1535 – 0:50	0850/1509 – 0:59	0949/1352 – 1:26
FEB 1	0804/1639 – 0:41	0802/1602 – 0:47	0822/1542 – 0:54	0901/1446 – 1:12
FEB 11	0744/1700 – 0:39	0737/1628 – 0:44	0753/1613 – 0:50	0818/1530 – 1:03
FEB 21	0721/1722 – 0:38	0711/1653 – 0:42	0722/1643 – 0:48	0736/1611 – 0:58
MAR 1	0701/1739 – 0:38	0649/1713 – 0:41	0656/1706 – 0:46	0703/1642 – 0:56
MAR 11	0636/1800 – 0:37	0620/1738 – 0:41	0623/1735 – 0:46	0621/1719 – 0:55
MAR 21	0610/1820 – 0:37	0550/1801 – 0:42	0550/1803 – 0:46	0540/1755 – 0:56
APR 1	0641/1942 – 0:38	0618/1927 – 0:42	0613/1933 – 0:48	0554/1935 – 0:59
APR 11	0616/2002 – 0:39	0548/1951 – 0:44	0540/2001 – 0:51	0511/2012 – 1:05
APR 21	0551/2022 – 0:41	0520/2015 – 0:48	0507/2029 – 0:56	0428/2050 – 1:18
MAY 1	0528/2042 – 0:44	0453/2039 – 0:52	0435/2057 – 1:04	0344/2131 – 1:39
MAY 11	0507/2102 – 0:48	0428/2102 – 0:58	0405/2126 – 1:18	0258/2217 - ---
MAY 21	0449/2120 – 0:53	0406/2124 – 1:06	0337/2154 – 1:47	0204/2312 - ---
JUN 1	0434/2137 – 0:56	0347/2145 – 1:19	0312/2221 - ---	Above horizon – XX
JUN 11	0426/2147 – 1:00	0336/2159 – 1:29	0257/2240 - ---	Above horizon - XX
JUN 21	0425/2153 – 1:01	0334/2205 – 1:34	0252/2248 - ---	Above horizon - XX
JUL 1	0430/2152 – 0:59	0339/2203 – 1:28	0259/2244 - ---	Above horizon - XX
JUL 11	0440/2144 – 0:56	0352/2153 – 1:17	0316/2229 - ---	Above horizon - XX
JUL 21	0455/2131 – 0:52	0410/2136 – 1:07	0340/2207 – 1:49	0156/2328 - ---
AUG 1	0514/2112 – 0:47	0434/2113 – 0:57	0410/2137 – 1:17	0259/2228 - ---
AUG 11	0532/2051 – 0:44	0457/2048 – 0:52	0438/2107 – 1:04	0344/2241 – 1:49
AUG 21	0552/2028 – 0:42	0520/2021 – 0:48	0506/2035 – 0:56	0425/2056 – 1:18
SEP 1	0613/2001 – 0:39	0545/1949 – 0:44	0536/1959 – 0:51	0507/2009 – 1:04
SEP 11	0632/1635 – 0:38	0608/1920 – 0:42	0603/1925 – 0:48	0543/1927 – 0:58
SEP 21	0651/1908 – 0:37	0631/1850 – 0:41	0630/1852 – 0:46	0617/1845 – 0:56
OCT 1	0711/1842 – 0:37	0653/1820 – 0:40	0656/1818 – 0:45	0652/1803 – 0:55
OCT 11	0731/1817 – 0:37	0717/1751 – 0:41	0724/1745 – 0:46	0728/1722 – 0:56
OCT 21	0751/1752 – 0:38	0741/1723 – 0:42	0752/1713 – 0:48	0806/1640 – 0:58
NOV 1	0714/1627 – 0:39	0708/1554 – 0:44	0724/1539 – 0:51	0750/1454 – 1:04
NOV 11	0735/1607 – 0:41	0733/1530 – 0:47	0754/1510 – 0:55	0834/1412 – 1:13
NOV 21	0756/1550 – 0:43	0757/1509 – 0:50	0823/1444 – 0:59	0921/1328 – 1:26
DEC 1	0814/1538 – 0:45	0819/1454 – 0:53	0851/1423 – 1:05	1017/1239 – 1:49
DEC 11	0828/1532 – 0:46	0837/1445 – 0:55	0912/1410 – 1:09	Below horizon – 2:36
DEC 21	0837/1533 – 0:47	0847/1445 – 0:56	0924/1408 – 1:11	Below horizon – 2:33