

ENR 1.6 ATS surveillance services and procedures**1. Application of Radar Services**

1.1 Air Traffic Service by Aalborg Approach, Aarhus Approach, Billund Approach, Copenhagen Approach, Copenhagen Control, Copenhagen Information, Esbjerg Information, Kastrup Tower, Odense Information, Roskilde Approach and Sønderborg Information will normally be carried out with the use of radar.

The applicable radar separation minima vary depending on the distance from the appropriate radar station and other conditions but will never be less than 3 NM, unless specifically described for the individual airport under "22. Flight Procedures".

Note: Use of SSR alone for the provision of separation in accordance with ICAO SUPPS-DOC 7030, "Regional Supplementary Procedures" will be applied within København FIR.

Attention is drawn to the fact that ATS cannot necessarily provide traffic information on aircraft without a functioning transponder, when the mentioned procedure is applied.

Radar vectors and speed instructions may be necessary to establish radar separation. These instructions shall be complied with, also if they might result in deviations from published procedures.

Due to lack of technical installation, ATC cannot provide radar service regarding CB and other weather activity.

1.2 Radar coverage

Radar data is provided from radar stations listed below.

RADAR 1 - KASTRUP

A PSR and MSSR located at Copenhagen Airport, Kastrup (55 36 44.1N 012 37 35.2E) - range respectively 60 and 120 NM.

RADAR 2 - KASTRUP

A MSSR located at Copenhagen airport, Kastrup (55 35 56.12N 012 36 22.11E) - range 200 NM.

RADAR 3 - ESBJERG

A MSSR located at Esbjerg Airport (55 31 43.62N 008 33 15.74E) - range 250 NM.

RADAR 4 - AALBORG

A PSR and MSSR located at Aalborg Airport (57 05 27.76N 009 51 20.99E) - range respectively 60 and 200 NM.

RADAR 5 - SKRYDSTRUP

A PSR and SSR located at Skrydstrup (55 15 39N 009 13 28E *) - range 200 NM.

RADAR 6 - EVJE

A MSSR located at Evje (58 37 51.79N 007 54 45.37E) - range 255 NM.

RADAR 7 - AARHUS

A MSSR located at Aarhus Airport (56 17 56N 010 37 15E *) - range 120 NM.

RADAR 8 - ROSKILDE

A RSR and MSSR located at Copenhagen Airport, Roskilde (55 35 11.84N 012 06 33.26E) - range respectively 120 and 250 NM.

RADAR 13 - BILLUND

A co-located PSR and MSSR-S located at Billund Airport (55 44 43.00N 009 10 09.35E) - range respectively 60 NM (PSR) and 256 NM (MSSR-S).

Note: Data from mentioned radar stations are also being used by København ACC for MULTI-RADAR presentation to establish MULTI-RADAR TRACKS.

2. Secondary Surveillance Radar (SSR)**2.1. Normal Operating Procedures**

a. The provision of ICAO (PANS-OPS, Volume I, Part VIII, Secondary Surveillance Radar (SSR) Transponder Operating Procedures) and SERA, Section 13, SSR Transponder, shall apply.

b. When an aircraft carries a serviceable SSR transponder, the pilot shall operate the transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where SSR is used for ATS purposes.

c. Pilots shall not operate the IDENT feature unless requested by ATS.

d. Except for flight in airspace designated by the competent authority for mandatory operation of transponder, aircraft without sufficient electrical power supply are exempted from the requirement to operate the transponder at all times.

e. Except as provided for in sub f below, pilots shall operate transponders in accordance with ATS instructions. Pilots who have already received specific instructions from ATS concerning the setting of their transponder, shall, when entering København FIR, maintain that setting until otherwise instructed.

f. Pilots, who have not received specific instructions from ATS concerning the setting of the transponder, shall operate the transponder as stated in the following:

- IFR flights within København FIR: Mode-A, Code 2000.
- VFR flights within København FIR: Mode-A, Code 7000.
- MIL VFR flights within København FIR: Mode-A, Code 0001.
- Helicopter engaged in off-shore operations: Mode-A, Code 0040.

g. When the aircraft carries serviceable Mode C equipment, the pilot shall continuously operate this mode, unless otherwise directed by ATS.

h. For aircraft flying in formation the flight leader only shall operate transponder as listed above, unless otherwise instructed by ATS.

2.2 Emergency procedures

(a) To indicate that it is in a specific contingency situation, the pilot of an aircraft equipped with SSR shall:

(1) select Code 7700 to indicate a state of emergency unless ATC has previously directed the pilot to operate the transponder on a specified code. In the latter case, a pilot may nevertheless select Code 7700 whenever there is a specific reason to believe that this would be the best course of action;

(2) select Code 7600 to indicate a general state of radio-communication failure, and follow established radio communication failure procedures of ICAO Annex 2 when over High Seas and of Commission Regulation (EU) No 923/2012 (SERA) when over Danish territory and territorial waters

(3) select Code 7601 to indicate that an IFR-flight will continue to fly in visual meteorological conditions (VMC), to land at the nearest suitable aerodrome and to report arrival by the most expeditious means to the appropriate air traffic services unit.

(4) attempt to select Code 7500 to indicate a state of unlawful interference. If circumstances so warrant, Code 7700 should be used instead.

Note: Continuous monitoring of responses of the following SSR-codes (Mode-A) is provided: 7700, 7601, 7600 and 7500.

2.3 SSR transponder failure

Note: Due to the dominating role of SSR in radar data processing, it is very complicated to accommodate a flight with a failing transponder. Pilots have to take this into account when interpreting the procedures indicated below.

For aircraft, which according to GEN 1-5 shall be equipped with a SSR transponder, the following will apply:

a. Failure before intended departure

In cases where a transponder has failed and definitely cannot be restored prior to departure, permission to perform the flight without SSR must be obtained from ACC KØBENHAVN. If the permission is granted the letter "O" shall be inserted in item 10 of the ICAO flight plan under "SSR" for indicating complete unserviceability of the transponder or - in case of partial transponder failure - the letter corresponding to the remaining transponder capability.

b. Failure after departure

In cases where a transponder failure occurs during flight pilots may expect that ATS units will endeavour to provide continuation of the flight to the aerodrome of first intended landing in accordance with the flight plan. After landing pilots shall make every effort to have the transponder restored to normal operation. If repair cannot be effected, pilots shall comply with the provisions in sub. a. above.

2.4 Code assignment method

a. SSR codes will be assigned in accordance with the European Code Assignment Plan, which is based on the Originating Region

Code Assignment Method (ORCAM).

b. VFR flights may be assigned an individual SSR code.

Note: Assignment of a discrete SSR code to a VFR flight does not imply that the flight will be continuously monitored by radar or that the flight has been cleared to enter airspace in which VFR flights in accordance with Commission Regulation (EU) No 923/2012 shall be operated as controlled flights.

2.5 Flight plan notification

For flights within København FIR the SSR capability shall be indicated in item 10 of the flight plan.