# Commission Regulation (EC) No 262/2009 of 30 March 2009 laying down requirements for the coordinated allocation and use of Mode S interrogator codes for the single European sky (Text with EEA relevance)

## COMMISSION REGULATION (EC) No 262/2009

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## laying down requirements for the coordinated allocation and use of Mode S interrogator codes for the single European sky

## (Text with EEA relevance)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Regulation (EC) No 552/2004 of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air traffic Management Network (the interoperability Regulation)[(1)] and in particular Article 3(5) thereof,

Having regard to Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation)[(2)], and in particular Article 8(2) thereof,

Whereas:

(1) Mode S (Select) is a cooperative surveillance technique for air traffic control. It enables the selective interrogation of aircraft and the extraction of air derived data through which new air traffic management functionalities can be developed. The design of systems supporting addressing individual aircraft through the Mode S (hereinafter Mode S interrogators) requires the use of Mode S interrogator codes for the detection and surveillance of aircraft equipped with a Mode S transponder.

(2) To secure the safety of the air traffic surveillance system, it is essential that the radar coverage areas of two Mode S interrogators using the same interrogator code do not overlap, except if they are grouped in a cluster or if other appropriate operational mitigations are in place.

(3) In order to support the deployment of an increasing number of Mode S interrogators and to resolve the problems resulting from the shortage of interrogator codes available for the interrogation of aircraft, there is a need to coordinate the allocation and use of those interrogator codes efficiently.

(4) Eurocontrol has been mandated in accordance with Article 8(1) of Regulation (EC) No 549/2004 to develop requirements for the allocation and use of Mode S interrogator codes (hereinafter interrogator codes). This Regulation is based on the resulting mandate report of 2 January 2008.

**Changes to legislation:** *Commission Regulation (EC) No 262/2009 is up to date with all changes known to be in force on or before 15 December 2020. There are changes that may be brought into force at a future date. Changes that have been made appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes*

(5) Initially, for technical reasons, only interrogator identifier codes (hereinafter II codes) 0 to 15 were defined and used as interrogator codes. Due to the expected number of Mode S interrogators, measures were later taken to allow the use of additional surveillance identifier codes (hereinafter SI codes) 1 to 63.

(6) Normally, the use of SI codes requires that all Mode S targets within the coverage of Mode S interrogators are equipped for this purpose. However, specifications were developed by Eurocontrol for an II/SI code operation which would enable the early use of SI codes by Mode S interrogators even in an environment where all Mode S targets would not be equipped for the use of SI codes. Mode S operators should therefore be required to accommodate this II/SI code operation.

(7) A centralised interrogator code allocation service, provided through the interrogator code allocation system, has been established under the authority of Eurocontrol. Member States should be required to take the necessary measures to ensure that the interrogator code allocation system delivers information supporting the consistency of the key items of an interrogator code allocation. These key items should be clearly identified.

(8) Common procedures should be defined to ensure that the key elements of the interrogator code allocations are properly implemented. They should take into account relevant provisions of the International Civil Aviation Organisation (hereinafter ICAO).

(9) Mode S operators and air traffic service providers should take appropriate measures to detect and mitigate the effect of possible conflicts between interrogator codes.

(10) This Regulation should not cover military operations and training as referred to in Article 1(2) of Regulation (EC) No 549/2004.

(11) A limited number of interrogator codes is reserved for exclusive use and management by military entities, including intergovernmental organisations, in particular the North Atlantic Treaty Organisation. Mode S interrogators using these codes therefore do not need to be subject to the coordinated allocation process. Member States should however be required to take the necessary measures to ensure that the use of these interrogator codes has no detrimental impact on the safety of general air traffic.

(12) Interrogator code 0 has been reserved by ICAO for operation without an assigned code. Mode S interrogators using interrogator code 0 in accordance with the ICAO Standards and Recommended Practices do not need to be subject to the coordinated allocation process.

(13) II code 14 has been reserved for shared use by test systems. Mode S target detection cannot be guaranteed when several test systems operate concurrently. Mode S test systems operators who need to conduct temporary trials necessitating a conflict free situation should therefore ensure proper bilateral coordination with other Mode S test system operators.

(14) The centralised interrogator code allocation service should make available to Member States and Mode S operators and update as required an interrogator code allocation

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plan ensuring safe and efficient use of interrogator codes. The allocation plan should be approved by Member States affected by its content.

(15) A mechanism should be defined to resolve situations where approval of the interrogator code allocation plan cannot be obtained in a timely fashion.

(16) With a view to maintaining or enhancing existing safety levels of operations, Member States should be required to ensure that the parties concerned carry out a safety assessment, including hazard identification, risk assessment and mitigation processes. Harmonised implementation of these processes to the systems covered by this Regulation requires the identification of specific safety requirements for all interoperability and performance requirements.

(17) In accordance with Article 3(3)(d) of Regulation (EC) No 552/2004, implementing rules for interoperability should describe the specific conformity assessment procedures to be used to assess either the conformity or the suitability for use of constituents as well as the verification of systems.

(18) The level of maturity of the market for the constituents to which this Regulation applies is such that their conformity or suitability for use can be satisfactorily assessed through internal production control, using procedures based on Module A of Decision No 768/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products, and repealing Council Decision 93/465/EEC[(3)].

(19) The measures provided for in this Regulation are in accordance with the opinion of the Single Sky Committee,

HAS ADOPTED THIS REGULATION:

*Article 1*

**Subject matter and scope**

1 This Regulation lays down requirements for the coordinated allocation and use of Mode S interrogator codes (hereinafter interrogator codes) for the purposes of the safe and efficient operation of air traffic surveillance and civil-military coordination.

2 This Regulation shall apply to eligible Mode S interrogators and related surveillance systems, their constituents and associated procedures, when supporting the coordinated allocation or use of eligible interrogator codes.

*Article 2*

**Definitions**

For the purpose of this Regulation the definitions in Article 2 of Regulation (EC) No 549/2004 shall apply.

The following definitions shall also apply:

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1. ‘Mode S interrogator’ means a system, composed of antenna and electronics, supporting addressing of individual aircraft through the Mode Select, known as Mode S;

2. ‘interrogator code’ means either an interrogator identifier or a surveillance identifier code used for multisite lockout and possibly communication protocols;

3. ‘interrogator identifier code’ (hereinafter II code) means a Mode S interrogator code with a value in the range from 0 to 15 that can be used for both multisite lockout and communications protocols;

4. ‘surveillance identifier code’ (hereinafter SI code) means a Mode S interrogator code with a value in the range from 1 to 63 that can be used for multisite lockout protocols, but cannot be used for multisite communications protocols;

5. ‘multisite lockout’ means the protocol that allows Mode S target acquisition and lockout by several Mode S interrogators that have overlapping coverage;

6. ‘multisite communications protocols’ means the protocols used to coordinate, in areas of overlapping Mode S interrogators coverage, the control of communications performed in more than one transaction;

7. ‘Mode S target’ means a platform equipped with a Mode S transponder;

8. ‘lockout’ means the protocol that allows the suppression of Mode S all call replies from already acquired Mode S targets;

9. ‘Mode S operator’ means a person, organisation or enterprise operating or offering to operate a Mode S interrogator, including:

   (a) air navigation service providers;

   (b) Mode S interrogators manufacturers;

   (c) airport operators;

   (d) research establishments;

   (e) any other entity entitled to operate a Mode S interrogator;

10. ‘interrogator code allocation’ means a definition of values for at least all the key items of an interrogator code allocation as listed in Annex II, Part B;

11. ‘interrogator code allocation system’ means a system within the European Air Traffic Management Network, and the associated procedures, through which a centralised service of interrogator code allocation (hereinafter interrogator code allocation service), dealing with the processing of interrogator code applications and the distribution of an interrogator code allocation plan proposal, is provided to Mode S operators through Member States;

12. ‘interrogator code application’ means an application from a Mode S operator for the allocation of an interrogator code;

13. ‘interrogator code allocation plan proposal’ means a proposal for a complete set of IC allocations, submitted by the interrogator code allocation service for approval by Member States;

14. ‘interrogator code allocation plan’ means the most recently approved complete set of interrogator code allocations;

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15. 'eligible Mode S interrogator' means a Mode S interrogator for which at least one of the following conditions is satisfied:

    (a) the interrogator relies, at least partly, on Mode S all call interrogations and replies for Mode S targets acquisition; or

    (b) the interrogator locks out acquired Mode S targets in reply to Mode S all call interrogations, permanently or intermittently, in part or totality of its coverage; or

    (c) the interrogator uses multisite communications protocols for data link applications;

16. 'eligible interrogator code' means any code among the II codes and the SI codes, except:

    (a) II code 0;

    (b) the interrogator code(s) reserved for military entities, including intergovernmental organisations in particular North Atlantic Treaty Organisation management and allocation;

17. 'Mode S all call interrogations' means the messages that are normally used by Mode S interrogators to acquire Mode S targets entering their coverage area;

18. 'operational interrogator code' means any eligible interrogator code other than II code 14;

19. 'competent Member State' means:

    (a) in the case of an air navigation service provider, the Member State that has certified the provider in accordance with Commission Regulation (EC) No 2096/2005[(4)];

    (b) in other cases, the Member State within the area of responsibility of which the Mode S operator operates, or intends to operate, an eligible Mode S interrogator;

20. 'interrogator code conflict' means uncoordinated coverage overlap of two or more Mode S interrogators operating on the same interrogator code, potentially resulting in aircraft remaining undetected by at least one of the Mode S interrogators;

21. 'monitoring of interrogator code conflict' means the implementation, by a Mode S operator, of technical or procedural means, for identifying the effects of interrogator code conflicts with other Mode S interrogators on the surveillance data provided by its own Mode S interrogators;

22. 'implementation sequence' means the time-bounded sequence of implementation of interrogator code allocations with which Mode S operators need to comply to avoid temporary interrogator code conflicts;

23. 'matching II code' means the II code decoded by a Mode S transponder not supporting SI codes, in a Mode S all call interrogation containing an SI code, and which is used by this transponder to encode the all call reply;

24. 'lockout map' means the Mode S interrogator configuration file defining where and how to apply lockout to Mode S targets.