

What do operators have to do?

Operators of mobile interrogators are normally required to use II code 0. Currently, this does not require a regional co-ordination and can be approved at national level.

Requests for the allocation of Mode S Interrogator Codes to fixed systems have to be made by civil and military Mode S operators to the appropriate National Authority of the European Region, or by a properly designated authority in the case of international organisations.

Applications should normally be submitted at least 6 months before the subject installation is to be operated. This is to allow adequate time for them to be processed by the Mode S IC Allocation Cell and for any difficulties to be resolved.

Requests for IC allocation should be accompanied by the appropriate form which has been developed for the purpose. Applications for IC allocations must state whether the allocation is required for a temporary or permanent installation.

Additional detail may be requested by the Cell.

Reference Documents

1. Attachment K to the ICAO EUR Air Navigation Plan (Doc 7754) Volume II, FASID: "Principles and Procedures for the Allocation of Secondary Surveillance Radar Mode S Interrogator Codes (IC) For ATS Purposes"
2. Annex 10 to the Convention on International Civil Aviation, "Aeronautical Telecommunications", Volume IV, "Surveillance Radar and Collision Avoidance Systems", section 3.1.2.5.2.1.4, "Operation based on lockout override for an interrogator without an assigned interrogator code", Third Edition July 2002.

Contacts

More details about the IC allocation co-ordination process, including focal points for the different European States, can be received from the EUROCONTROL Surveillance Domain:

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The Co-ordination of Mode S Interrogator Codes in Europe

Civil & Military
Mode S Interrogator Operators

Information Notice

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Information Notice

Purpose

The purpose of this information notice is to highlight to both civil and military Mode S operators, operating in or close to Europe, the critical need to co-ordinate the use of Mode S Interrogator Codes. Failure to adhere to these principles could have serious consequences on ATC and Air Defence operations.

Introduction

The introduction of SSR Mode S within Europe has identified the need for a co-ordinated allocation of the relevant Interrogator Codes used by ground-based, airborne and shipborne platforms.

Whilst traditional Secondary Surveillance Radar (SSR) stations continuously interrogate all aircraft within their range, Mode S establishes selective and addressed interrogations with aircraft within its coverage.

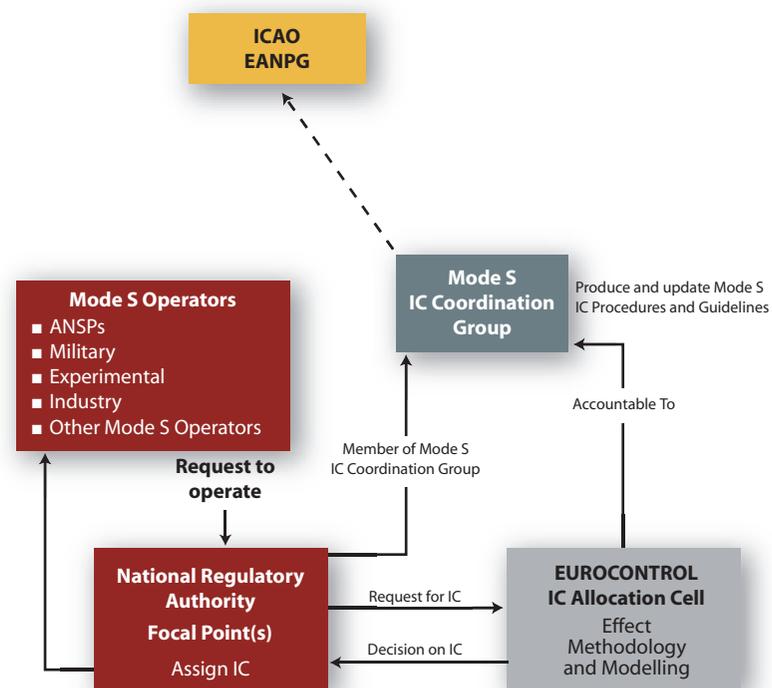
In order to avoid ambiguity in the operation of the system it is essential that each Mode S interrogator is allocated an Interrogator Code (IC) to protect it from interference by other Mode S interrogators operating in coincident or contiguous airspace.

The design of the Mode S system limits the number of Interrogator Codes available (excluding zero) to 15 Interrogator Identifier (II) codes and 63 Surveillance Identifier (SI) codes.

European Co-ordination Process

Provisions regarding the implementation and monitoring of Mode S IC allocations have been agreed by the ICAO European Air Navigation Plan Group (EANPG). In this connection, the management of the plan is exercised by Eurocontrol in close co-ordination with the European Regional Office of ICAO.

Representatives of the national regulatory authorities of European States and those international organisations applying for Interrogator Codes, meet at regular intervals to oversee and provide guidance to the Mode S IC Allocation Cell and to approve the allocations.



General Principles

The operation of Mode S interrogators requires the co-ordinated allocation of an IC to operate if at least one of the following conditions is valid:

- The interrogator relies, at least partly, on All Call interrogations and responses, in order to acquire Mode S targets;
- The interrogator locks out acquired Mode S targets to All Call interrogations;
- The interrogator uses multisite communications protocols for datalink applications.

These conditions apply to all civil and military Mode S interrogator equipments, be it for ATC or Air Defence, regardless of whether they are fixed (ground-based) or mobile (field-deployable, AD systems, airborne or shipborne interrogators).

Code allocations are not normally made to mobile installations for which special modes of acquisition (on II code 0) are used. The use of code 0 under the terms contained in Annex 10 (Ref.2) does not currently require a regional co-ordination in Europe and can be approved at National Regulatory level (i.e. national Focal Point).

Operation on any other code without prior coordination and allocation is prohibited as it could severely interfere with other Mode S surveillance systems. This would adversely impact civil and military ATC and Air Defence operations and compromise the safety of air navigation.

In addition, Mode S operators that have been allocated an Interrogator Code are required to follow the internationally agreed procedures to minimise the risk of erroneously operating on an unauthorised code.