Attachment

REGISTRATION OF AIRCRAFT ADDRESSES WITH MODE S TRANSPONDERS

1 Introduction

1.1 With respect to the Mode S transponder capability of aircraft operating in the Region, States, Territories and International Organizations should apply the procedure established by ICAO for aircraft identification [Assignment of 24-bits aircraft addresses as stipulated in Annex 10, Volume III, Part I, Appendix to Chapter 9 (*Global Plan for the allocation, assignment and application of aircraft addresses)*], considering that it would be beneficial to implement national data bases containing standardized information on aircraft with assigned 24-bits s addresses, which would give surveillance service providers updated aircraft identification information, especially for radar processing systems.

1.2 In this regard, these guidelines are drafted to help AFI States, Territories and International Organizations standardize 24-bits s address assignment registration information for the identification of aircraft with Mode S transponders.

2 Guidelines and considerations for standardized registration of aircraft with Mode S transponders

Concept of the 24-bits address

2.1 ICAO 24-bits address: Each aircraft will be identified unequivocally through an invariable 24-bits identifier assigned by the State where an aircraft is registered in accordance with standards established by ICAO for Mode S transponders. Mode S transponders with their 24-bits addresses are oriented towards the application of ACAS, ELT, SSR Mode S, and ATN with VDL, AMSS, and other functions.

2.2 The aircraft address will be one of the 16,777,214 24-bits aircraft addresses allocated by ICAO to the State of Registry or the common mark registering authority and assigned as indicated in the procedure detailed in Annex 10, Volume III, Part I, Chapter 9. The 24-bits aircraft addresses should be assigned and applied in accordance with the guidelines contained in this procedure.

Procedure for assigning 24-bits aircraft addresses (Ref.: Annex 10, Volume III, Part I, Chapter 9)

2.3 Global plan for the allocation, assignment and application of aircraft addresses: The use of global communications, navigation and surveillance systems will be based on the assignment of exclusive 24-bits aircraft addresses. In no case will an aircraft address be assigned to more than one aircraft.

2.4 **Appendix A** to this paper lists the consecutive address blocks available to States for assignment to aircraft. Each block is defined based on a fixed pattern of the first 4, 6, 9, 12 or 14 bits of the 24-bits address. Accordingly, blocks can be of different sizes (1 048 576, 262 144, 32 768, 4 096 and 1 024 consecutive addresses, respectively).
ICAO will manage the plan to maintain appropriate international distribution of aircraft addresses.

2.5 As explained in detail in the procedure, the relevant State of Registry or common mark registering authority will assign aircraft unique addresses within each block when required for use by duly equipped aircraft registered in a national or international registry. That assigned address will be a part of the aircraft registry and should not represent another different registry, and for purposes of its use by surveillance service providers, this updated aircraft identification information should come from this registry or be directly associated with it to avoid duplication of information or use of information that is out of date.

2.6 Address assignment may be sequential within the corresponding range or based on the use of a particular criterion by the State or authority responsible for the registry, the important fact being that only one 24-bits address will be assigned to each aircraft. Special care must be taken when an address is released for reassignment.

2.7 At least the following fields should be associated with each address assigned within the aircraft registry:

Aircraft data:
1) Nationality
2) Brand/manufacturer
3) Model
4) Registration
5) Aircraft serial number

Address assignment:
The 24-bits address assigned, expressed in binary/octal/hexadecimal format

Control and follow-up data:
1) Date of registry (date on which the 24-bits address was assigned)
2) Date of de-registry (date on which the assigned address ceased to be used)

2.8 These data in the Aircraft Registry can be associated with other information like aircraft owner, contact data of the owner, Mode S transponder data (manufacturer, model, serial number, part number), type of authorized operations, control data (party applying, party assigning, date of application, etc.).

2.9 As an assignment control and verification measure, it would be advisable for these addresses to be verified periodically, either through field monitoring or by using ramp tests. These verifications should also be made following a major maintenance check or when an aircraft has changed its registry, to ensure that the new addresses assigned have been properly configured.

2.10 It should be noted that there are occasions when aircraft show an incorrect 24-bits address due to its installation or internal lay within the aircraft itself. This can occur not only during the first installation of a Mode S transponder, but also when a major modification is made to the Mode S equipment, followed by a change in registry. Incorrect installation, such as the setting of the address to all zeros or an inadvertent duplication of an address can represent a flight safety risk. The ACAS II system, in particular, operates on the assumption that each aircraft has a single unique 24-bits address. An incorrect or duplicated aircraft address can seriously degrade ACAS II performance and in some cases even disable it, as well as degrade the efficiency of Mode S radar-based surveillance services.

2.11 States and Territories should notify their users through appropriate publications about the criteria and considerations for the assignment, registry, and reporting of these addresses. **Appendix B** to this working paper offers a model of AIC in this regard.

2.12 This information on the assignment of 24-bits addresses should be available to users and contained in the aircraft registry database maintained by the State or the respective authority.

– – – – – – – – – – – – – – – – – –

APPENDIX A

Table 9-1. Allocation of aircraft addresses to States

Note.— The left-hand column of the 24-bits address patterns represents the most significant bit (MSB) of the address.

State	Number of addresses in block					Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)					
	1 024	*4 096*	*32 768*	*262 144*	*1 048 576*						
Afghanistan		*				0 1 1 1	0 0	0 0 0	0 0 0	– –	– – – – – – – – – –
Albania	*					0 1 0 1	0 0	0 0 0	0 0 1	0 0	– – – – – – – – – –
Algeria			*			0 0 0 0	1 0	1 0 0	– – –	– –	– – – – – – – – – –
Angola		*				0 0 0 0	1 0	0 1 0	0 0 0	– –	– – – – – – – – – –
Antigua and Barbuda	*					0 0 0 0	1 1	0 0 1	0 1 0	0 0	– – – – – – – – – –
Argentina				*		1 1 1 0	0 0	– – –	– – –	– –	– – – – – – – – – –
Armenia	*					0 1 1 0	0 0	0 0 0	0 0 0	0 0	– – – – – – – – – –
Australia				*		0 1 1 1	1 1	– – –	– – –	– –	– – – – – – – – – –
Austria			*			0 1 0 0	0 1	0 0 0	– – –	– –	– – – – – – – – – –
Azerbaijan	*					0 1 1 0	0 0	0 0 0	0 0 0	1 0	– – – – – – – – – –
Bahamas		*				0 0 0 0	1 0	1 0 1	0 0 0	– –	– – – – – – – – – –
Bahrain		*				1 0 0 0	1 0	0 1 0	1 0 0	– –	– – – – – – – – – –
Bangladesh		*				0 1 1 1	0 0	0 0 0	0 1 0	– –	– – – – – – – – – –
Barbados	*					0 0 0 0	1 0	1 0 1	0 1 0	0 0	– – – – – – – – – –
Belarus	*					0 1 0 1	0 0	0 1 0	0 0 0	0 0	– – – – – – – – – –
Belgium			*			0 1 0 0	0 1	0 0 1	– – –	– –	– – – – – – – – – –
Belize	*					0 0 0 0	1 0	1 0 1	0 1 1	0 0	– – – – – – – – – –
Benin	*					0 0 0 0	1 0	0 1 0	1 0 0	0 0	– – – – – – – – – –
Bhutan	*					0 1 1 0	1 0	0 0 0	0 0 0	0 0	– – – – – – – – – –
Bolivia		*				1 1 1 0	1 0	0 1 0	1 0 0	– –	– – – – – – – – – –
Bosnia and Herzegovina	*					0 1 0 1	0 0	0 1 0	0 1 1	0 0	– – – – – – – – – –
Botswana	*					0 0 0 0	0 0	1 1 0	0 0 0	0 0	– – – – – – – – – –
Brazil				*		1 1 1 0	0 1	– – –	– – –	– –	– – – – – – – – – –
Brunei Darussalam	*					1 0 0 0	1 0	0 1 0	1 0 1	0 0	– – – – – – – – – –
Bulgaria			*			0 1 0 0	0 1	0 1 0	– – –	– –	– – – – – – – – – –
Burkina Faso		*				0 0 0 0	1 0	0 1 1	1 0 0	– –	– – – – – – – – – –
Burundi		*				0 0 0 0	0 0	1 1 0	0 1 0	– –	– – – – – – – – – –
Cambodia		*				0 1 1 1	0 0	0 0 1	1 1 0	– –	– – – – – – – – – –
Cameroon		*				0 0 0 0	0 0	1 1 0	1 0 0	– –	– – – – – – – – – –
Canada				*		1 1 0 0	0 0	– – –	– – –	– –	– – – – – – – – – –

Cape Verde	*					0 0 0 0	1 0	0 1 0	1 1 0	0 0
Central African Republic		*				0 0 0 0	0 1	1 0 1	1 0 0	– –
Chad		*				0 0 0 0	1 0	0 0 0	1 0 0	– –
Chile		*				1 1 1 0	1 0	0 0 0	0 0 0	– –
China				*		0 1 1 1	1 0	– – –	– – –	– –
Colombia		*				0 0 0 0	1 0	1 0 1	1 0 0	– –
Comoros	*					0 0 0 0	0 0	1 1 0	1 0 1	0 0
Congo		*				0 0 0 0	0 0	1 1 0	1 1 0	– –
Cook Islands	*					1 0 0 1	0 0	0 0 0	0 0 1	0 0
Costa Rica		*				0 0 0 0	1 0	1 0 1	1 1 0	– –
Côte d'Ivoire		*				0 0 0 0	0 0	1 1 1	0 0 0	– –
Croatia	*					0 1 0 1	0 0	0 0 0	0 0 1	1 1
Cuba		*				0 0 0 0	1 0	1 1 0	0 0 0	– –
Cyprus	*					0 1 0 0	1 1	0 0 1	0 0 0	0 0
Czech Republic			*			0 1 0 0	1 0	0 1 1	– – –	– –

Annex 10 — Aeronautical Communications Volume III

	Number of addresses in block									
State	*1 024*	*4 096*	*32 768*	*262 144*	*1 048 576*	*Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)*				
Democratic People's Republic of Korea			*			0 1 1 1	0 0	1 0 0	– – –	– –
Democratic Republic of the Congo		*				0 0 0 0	1 0	0 0 1	1 0 0	– –
Denmark			*			0 1 0 0	0 1	0 1 1	– – –	– –
Djibouti	*					0 0 0 0	1 0	0 1 1	0 0 0	0 0
Dominican Republic		*				0 0 0 0	1 1	0 0 0	1 0 0	– –
Ecuador		*				1 1 1 0	1 0	0 0 0	1 0 0	– –
Egypt			*			0 0 0 0	0 0	0 1 0	– – –	– –
El Salvador		*				0 0 0 0	1 0	1 1 0	0 1 0	– –
Equatorial Guinea		*				0 0 0 0	0 1	0 0 0	0 1 0	– –
Eritrea	*					0 0 1 0	0 0	0 0 0	0 1 0	0 0
Estonia	*					0 1 0 1	0 0	0 1 0	0 0 1	0 0
Ethiopia		*				0 0 0 0	0 1	0 0 0	0 0 0	– –
Fiji		*				1 1 0 0	1 0	0 0 1	0 0 0	– –
Finland			*			0 1 0 0	0 1	1 0 0	– – –	– –
France				*		0 0 1 1	1 0	– – –	– – –	– –
Gabon		*				0 0 0 0	0 0	1 1 1	1 1 0	– –
Gambia		*				0 0 0 0	1 0	0 1 1	0 1 0	– –
Georgia	*					0 1 0 1	0 0	0 1 0	1 0 0	0 0
Germany				*		0 0 1 1	1 1	– – –	– – –	– –

Ghana		*				0 0 0 0	0 1	0 0 0	1 0 0	– –	– – – – – – – – – –
Greece			*			0 1 0 0	0 1	1 0 1	– – –	– –	– – – – – – – – – –
Grenada	*					0 0 0 0	1 1	0 0 1	1 0 0	0 0	– – – – – – – – – –
Guatemala		*				0 0 0 0	1 0	1 1 0	1 0 0	– –	– – – – – – – – – –
Guinea		*				0 0 0 0	0 1	0 0 0	1 1 0	– –	– – – – – – – – – –
Guinea-Bissau	*					0 0 0 0	0 1	0 0 1	0 0 0	0 0	– – – – – – – – – –
Guyana		*				0 0 0 0	1 0	1 1 0	1 1 0	– –	– – – – – – – – – –
Haiti		*				0 0 0 0	1 0	1 1 1	0 0 0	– –	– – – – – – – – – –
Honduras		*				0 0 0 0	1 0	1 1 1	0 1 0	– –	– – – – – – – – – –
Hungary			*			0 1 0 0	0 1	1 1 0	– – –	– –	– – – – – – – – – –
Iceland		*				0 1 0 0	1 1	0 0 1	1 0 0	– –	– – – – – – – – – –
India				*		1 0 0 0	0 0	– – –	– – –	– –	– – – – – – – – – –
Indonesia			*			1 0 0 0	1 0	1 0 0	– – –	– –	– – – – – – – – – –
Iran, Islamic Republic of			*			0 1 1 1	0 0	1 1 0	– – –	– –	– – – – – – – – – –
Iraq			*			0 1 1 1	0 0	1 0 1	– – –	– –	– – – – – – – – – –
Ireland		*				0 1 0 0	1 1	0 0 1	0 1 0	– –	– – – – – – – – – –
Israel			*			0 1 1 1	0 0	1 1 1	– – –	– –	– – – – – – – – – –
Italy				*		0 0 1 1	0 0	– – –	– – –	– –	– – – – – – – – – –
Jamaica		*				0 0 0 0	1 0	1 1 1	1 1 0	– –	– – – – – – – – – –
Japan				*		1 0 0 0	0 1	– – –	– – –	– –	– – – – – – – – – –
Jordan			*			0 1 1 1	0 1	0 0 0	– – –	– –	– – – – – – – – – –
Kazakhstan	*					0 1 1 0	1 0	0 0 0	0 1 1	0 0	– – – – – – – – – –
Kenya		*				0 0 0 0	0 1	0 0 1	1 0 0	– –	– – – – – – – – – –
Kiribati	*					1 1 0 0	1 0	0 0 1	1 1 0	0 0	– – – – – – – – – –
Kuwait		*				0 1 1 1	0 0	0 0 0	1 1 0	– –	– – – – – – – – – –
Kyrgyzstan	*					0 1 1 0	0 0	0 0 0	0 0 1	0 0	– – – – – – – – – –
Lao People's Democratic Republic		*				0 1 1 1	0 0	0 0 1	0 0 0	– –	– – – – – – – – – –
Latvia	*					0 1 0 1	0 0	0 0 0	0 1 0	1 1	– – – – – – – – – –

State	*Number of addresses in block*					*Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)*					
	1 024	*4 096*	*32 768*	*262 144*	*1 048 576*						
Lebanon			*			0 1 1 1	0 1	0 0 1	– – –	– –	– – – – – – – – – –
Lesotho	*					0 0 0 0	0 1	0 0 1	0 1 0	0 0	– – – – – – – – – –
Liberia		*				0 0 0 0	0 1	0 1 0	0 0 0	– –	– – – – – – – – – –

Libyan Arab Jamahiriya			*			0 0 0 0	0 0	0 1 1	– – –	– –	– – – – – – – – – –
Lithuania	*					0 1 0 1	0 0	0 0 0	0 1 1	1 1	– – – – – – – – – –
Luxembourg	*					0 1 0 0	1 1	0 1 0	0 0 0	0 0	– – – – – – – – – –
Madagascar		*				0 0 0 0	0 1	0 1 0	1 0 0	– –	– – – – – – – – – –
Malawi		*				0 0 0 0	0 1	0 1 1	0 0 0	– –	– – – – – – – – – –
Malaysia			*			0 1 1 1	0 1	0 1 0	– – –	– –	– – – – – – – – – –
Maldives	*					0 0 0 0	0 1	0 1 1	0 1 0	0 0	– – – – – – – – – –
Mali		*				0 0 0 0	0 1	0 1 1	1 0 0	– –	– – – – – – – – – –
Malta	*					0 1 0 0	1 1	0 1 0	0 1 0	0 0	– – – – – – – – – –
Marshall Islands	*					1 0 0 1	0 0	0 0 0	0 0 0	0 0	– – – – – – – – – –
Mauritania	*					0 0 0 0	0 1	0 1 1	1 1 0	0 0	– – – – – – – – – –
Mauritius	*					0 0 0 0	0 1	1 0 0	0 0 0	0 0	– – – – – – – – – –
Mexico			*			0 0 0 0	1 1	0 1 0	– – –	– –	– – – – – – – – – –
Micronesia, Federated States of	*					0 1 1 0	1 0	0 0 0	0 0 1	0 0	– – – – – – – – – –
Monaco	*					0 1 0 0	1 1	0 1 0	1 0 0	0 0	– – – – – – – – – –
Mongolia	*					0 1 1 0	1 0	0 0 0	0 1 0	0 0	– – – – – – – – – –
Morocco			*			0 0 0 0	0 0	1 0 0	– – –	– –	– – – – – – – – – –
Mozambique		*				0 0 0 0	0 0	0 0 0	1 1 0	– –	– – – – – – – – – –
Myanmar		*				0 1 1 1	0 0	0 0 0	1 0 0	– –	– – – – – – – – – –
Namibia	*					0 0 1 0	0 0	0 0 0	0 0 1	0 0	– – – – – – – – – –
Nauru	*					1 1 0 0	1 0	0 0 1	0 1 0	0 0	– – – – – – – – – –
Nepal		*				0 1 1 1	0 0	0 0 1	0 1 0	– –	– – – – – – – – – –
Netherlands, Kingdom of the			*			0 1 0 0	1 0	0 0 0	– – –	– –	– – – – – – – – – –
New Zealand			*			1 1 0 0	1 0	0 0 0	– – –	– –	– – – – – – – – – –
Nicaragua		*				0 0 0 0	1 1	0 0 0	0 0 0	– –	– – – – – – – – – –
Niger		*				0 0 0 0	0 1	1 0 0	0 1 0	– –	– – – – – – – – – –
Nigeria		*				0 0 0 0	0 1	1 0 0	1 0 0	– –	– – – – – – – – – –
Norway			*			0 1 0 0	0 1	1 1 1	– – –	– –	– – – – – – – – – –
Oman	*					0 1 1 1	0 0	0 0 1	1 0 0	0 0	– – – – – – – – – –
Pakistan			*			0 1 1 1	0 1	1 0 0	– – –	– –	– – – – – – – – – –
Palau	*					0 1 1 0	1 0	0 0 0	1 0 0	0 0	– – – – – – – – – –
Panama		*				0 0 0 0	1 1	0 0 0	0 1 0	– –	– – – – – – – – – –
Papua New Guinea		*				1 0 0 0	1 0	0 1 1	0 0 0	– –	– – – – – – – – – –
Paraguay		*				1 1 1 0	1 0	0 0 1	0 0 0	– –	– – – – – – – – – –
Peru		*				1 1 1 0	1 0	0 0 1	1 0 0	– –	– – – – – – – – – –
Philippines			*			0 1 1 1	0 1	0 1 1	– – –	– –	– – – – – – – – – –
Poland			*			0 1 0 0	1 0	0 0 1	– – –	– –	– – – – – – – – – –
Portugal			*			0 1 0 0	1 0	0 1 0	– – –	– –	– – – – – – – – – –
Qatar	*					0 0 0 0	0 1	1 0 1	0 1 0	0 0	– – – – – – – – – –

Republic of Korea			*			0111	00	011	---	--
Republic of Moldova	*					0101	00	000	100	11
Romania			*			0100	10	100	---	--
Russian Federation					*	0001	--	---	---	--
Rwanda		*				0000	01	101	110	--
Saint Lucia	*					1100	10	001	100	00

State	*Number of addresses in block*					*Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)*				
	1 024	*4 096*	*32 768*	*262 144*	*1 048 576*					
Saint Vincent and the Grenadines	*					0000	10	111	100	00
Samoa	*					1001	00	000	010	00
San Marino	*					0101	00	000	000	00
Sao Tome and Principe	*					0000	10	011	110	00
Saudi Arabia			*			0111	00	010	---	--
Senegal		*				0000	01	110	000	--
Seychelles	*					0000	01	110	100	00
Sierra Leone	*					0000	01	110	110	00
Singapore			*			0111	01	101	---	--
Slovakia	*					0101	00	000	101	11
Slovenia	*					0101	00	000	110	11
Solomon Islands	*					1000	10	010	111	00
Somalia		*				0000	01	111	000	--
South Africa			*			0000	00	001	---	--
Spain				*		0011	01	---	---	--
Sri Lanka			*			0111	01	110	---	--
Sudan		*				0000	01	111	100	--
Suriname		*				0000	11	001	000	--
Swaziland	*					0000	01	111	010	00
Sweden			*			0100	10	101	---	--
Switzerland			*			0100	10	110	---	--
Syrian Arab Republic			*			0111	01	111	---	--
Tajikistan	*					0101	00	010	101	00
Thailand			*			1000	10	000	---	--
The former Yugoslav Republic of Macedonia	*					0101	00	010	010	00
Togo		*				0000	10	001	000	--

Tonga	*					1100	10	001	101	00
Trinidad and Tobago		*				0000	11	000	110	--
Tunisia			*			0000	00	101	---	--
Turkey			*			0100	10	111	---	--
Turkmenistan	*					0110	00	000	001	10
Uganda		*				0000	01	101	000	--
Ukraine			*			0101	00	001	---	--
United Arab Emirates		*				1000	10	010	110	--
United Kingdom				*		0100	00	---	---	--
United Republic of Tanzania		*				0000	10	000	000	--
United States					*	1010	--	---	---	--
Uruguay		*				1110	10	010	000	--
Uzbekistan	*					0101	00	000	111	11
Vanuatu	*					1100	10	010	000	00
Venezuela			*			0000	11	011	---	--
Viet Nam			*			1000	10	001	---	--
Yemen		*				1000	10	010	000	--
Yugoslavia			*			0100	11	000	---	--
Zambia		*				0000	10	001	010	--
Zimbabwe	*					0000	00	000	100	00

State	*Number of addresses in block*					*Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)*				
	1 024	*4 096*	*32 768*	*262 144*	*1 048 576*					
Other allocations							00	000	---	--
ICAO[1]			*			1111				
ICAO[2]	*					1000	10	011	001	00
ICAO[2]	*					1111	00	001	001	00

1. ICAO administers this block for assigning temporary aircraft addresses as described in section 7.

2. Block allocated for special use in the interest of flight safety.

APPENDIX B

SAMPLE AERONAUTICAL INFORMATION CIRCULAR (AIC)
RECOMMENDED TEXT OF STATE AIC

Notes		ICAO 24-bits Aircraft Addresses and Aircraft Identification Reporting	
1. State to insert date and reference of last circular issued for Mode S Surveillance, if applicable.		**1**	**INTRODUCTION**
		1.1	The provision of air traffic services (ATS) using SSR Mode S will rely on a unique ICAO 24-bits aircraft address for selective interrogation of individual aircraft. The 24-bits aircraft address is also an essential element of the airborne collision and avoidance system, ACAS II. In addition, Mode S surveillance requires the reporting of aircraft identification as stated in previous circulars concerning Mode S airborne equipment requirements. (note 1).
		1.2	The aircraft address shall be one of 16 777 214 twenty-four-bit aircraft addresses allocated by ICAO to the State of Registry or common mark registering authority and assigned as prescribed in the Appendix to Chapter 9, Part I, Volume III, ICAO Annex 10.
		1.3	All Mode S equipped aircraft engaged in international civil aviation are required to have an aircraft identification feature as prescribed in ICAO Annex 10, Volume IV, Chapter 2, 2.1.5.2.
		1.4	This circular provides guidance to ensure consistency regarding 24-bits aircraft addresses and the reporting of aircraft identification relevant to the operational introduction of Mode S Elementary and Enhanced Surveillance. In particular: a) Adherence to the world-wide scheme for assignment of ICAO 24-bits Aircraft Addresses. b) Correct setting of Aircraft Identification by flight crew.
2. Insert name of State and title of applicable organisation responsible for 24-bits aircraft address assignment		**2**	**THE ICAO 24-bits AIRCRAFT ADDRESS**
		2.1	Instances occur of incorrect 24-bits aircraft addresses being installed/hard-wired on individual aircraft. This has happened not only on first installation of a Mode S transponder but also when a major modification has been made to the Mode S equipment and following a change of State of Registration. Incorrect installation, such as setting the address to all zeros, or inadvertent duplication of an address can pose a severe risk to flight safety. In particular, the airborne collision avoidance system, ACAS II, performs on the assumption that only a single, unique 24-bits aircraft address per airframe exists. The performance of ACAS II can be seriously degraded and, in some instances, disabled if an incorrect or duplicate address is installed on an aircraft.
		2.2	Incorrect or duplicated 24-bits aircraft addresses will also undermine the effectiveness of surveillance services based on SSR Mode S.
		2.3	It is essential that aircraft operators comply with the aircraft address assignment procedures of the State regulatory authority to which blocks of addresses have been allocated by ICAO (note 2).
		2.4	The world-wide addressing scheme has been designed so that, at any one time, no address is assigned to more than one aircraft. Only one address can be assigned to an aircraft and it cannot be changed except under exceptional circumstances authorized by the State regulatory authority concerned.
		2.5	When an aircraft changes its State of Registry, the previously assigned address is to be relinquished and a new address assigned by the new registering

authority.

2.6 It is essential that the aircraft address is periodically verified using ramp tests. Such checks must also be conducted when a major maintenance check has taken place and when the aircraft has changed registration, to ensure that a newly assigned address has been properly set.

3 CORRECT SETTING OF AIRCRAFT IDENTIFICATION

3.1 To comply with European airborne equipment requirements, Mode S transponder equipped aircraft must incorporate an Aircraft Identification Feature. Correct setting of aircraft identification is essential for the correlation of radar tracks with flight plan data in the ATM and Airport Operator ground systems. Initial operational trials using SSR Mode S have shown that many aircraft are transmitting incorrect aircraft identification, e.g. BC_1234 instead of ABC1234. Such erroneous settings of aircraft identification prohibit automatic flight plan correlation and, if perpetuated, will severely limit the effectiveness of Mode S to relieve the shortage of SSR codes.

3.2 In accordance with ICAO Doc 8168 *[PANS-OPS]* Vol. I, Part VIII, 1.3, flight crew of aircraft equipped with Mode S having an aircraft identification feature shall set the aircraft identification in the transponder. This setting shall correspond to the aircraft identification specified in item 7 of the ICAO flight plan, or, if no flight plan has been filed, the aircraft registration.

3.3 Aircraft Identification, not exceeding 7 characters is to be entered in item 7 of the flight plan and set in the aircraft as follows:

Either,

a) The ICAO three-letter designator for the aircraft operating agency followed by the flight identification (e.g. KLM511, BAW213, JTR25), when:

in radiotelephony the callsign used consists of the ICAO telephony designator for the operating agency followed by the flight identification (e.g. KLM 511, SPEEDBIRD 213, HERBIE 25).

Or,

b) The registration marking of the aircraft (e.g. EIAKO, 4XBCD, OOTEK), when:

1) in radiotelephony the callsign used consists of the registration marking alone (e.g. EIAKO), or preceded by the ICAO telephony designator for the operating agency (e.g. SVENAIR EIAKO), 2) the aircraft is not equipped with radio.

Note 1 No zeros, dashes or spaces are to be added when the Aircraft Identification consists of less than 7 characters.

Note 2 Appendix 2 to ICAO Doc 4444 *[PANS-ATM]*, refers. ICAO designators and telephony designators for aircraft operating agencies are contained in ICAO Doc 8585.

4 FURTHER INFORMATION

Further information or guidance may be obtained from
CAAs contact information or Website

3. State to insert local points of contact

- END -