Republic of the Philippines
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES

MEMORANDUM CIRCULAR NO. 024-2024

TO : ALL CONCERNED

FROM : DIRECTOR GENERAL

SUBJECT : AMENDMENT TO PHILIPPINE CIVIL AVIATION REGULATIONS AIR NAVIGATION SERVICES (CAR-ANS) PART 7 ADOPTING AMENDMENT 92 TO ICAO ANNEX 10 VOLUME III - AERONAUTICAL TELECOMMUNICATIONS PART I – DIGITAL DATA COMMUNICATION SYSTEMS

REFERENCE/S:

1) Philippine Civil Aviation Regulations- Air Navigation Services Part 7 Aeronautical Telecommunications Governing Digital Data Communication Systems
2) ICAO Annex 10 Volume III Part I, Amendment 92
3) CAAP Regulations Amendment Procedures
4) Board Resolution No. 2012-054 dated 28 September 2012

Pursuant to the powers vested in me under the Republic Act 9497, otherwise known as the Civil Aviation Authority Act of 2008, and in accordance with the Regulations Amendment Procedure with Board Resolution No. 2012-054 dated 28 September 2012, I hereby approve the adoption of ICAO Annex 10 Volume III Part I Amendment 92 to the Philippine Civil Aviation Regulations – Air Navigation Services (CAR-ANS) Part 7.

ORIGINAL REGULATIONS SUBJECT FOR REVIEW AND REVISION:

CAR-ANS PART 7 AERONAUTICAL TELECOMMUNICATIONS GOVERNING DIGITAL DATA COMMUNICATION SYSTEMS

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7.1 DEFINITIONS

Note 1. — All references to "Radio Regulations" are to the Radio Regulations published by the International Telecommunication Union (ITU). Radio Regulations are amended from time to time by the decisions embodied in the Final Acts of World Radiocommunication Conferences held normally every two to three years. Further information on the ITU processes as they relate to aeronautical radio system frequency use is contained in the Handbook on Radio Frequency Spectrum Requirements for Civil Aviation including statement of approved ICAO policies (ICAO Document 9718).

Note 2.— CAR-ANS Part 7 includes Standards and Recommended Practices for certain forms of equipment for communication systems. CAAP will determine the necessity for specific installations in accordance with the conditions prescribed in the relevant Standard or Recommended Practice, review of the need for specific installation and the formulation of

ICAO opinion and recommendations to Contracting States concerned, is carried out periodically by Council, ordinarily on the basis of recommendations of Regional Air Navigation Meetings (ICAO Document 8144, Directives to Regional Air Navigation Meetings and Rules of Procedure for their Conduct).

Note 3.— This chapter contains general definitions relevant to communication systems. Definitions specific to each of the systems included in this regulation are contained in the relevant chapters.

Note 4.— Material on secondary power supply and guidance material concerning reliability and availability for communication systems is contained in CAR-ANS Part 6, 6.2.4 and Attachment 6F, respectively.

Note 5.— Provisions related to information security can be found in the Procedures for Air Navigation Services — Information Management (PANS-IM, ICAO Document 10199).

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7.5 SSR MODE S AIR-GROUND DATALINK

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Table 7.5-24 Register number assignments

Transponder register No.	*Assignment*
00_{16}	Not valid
01_{16}	Unassigned
02_{16}	Linked Comm-B, segment 2
03_{16}	Linked Comm-B, segment 3
04_{16}	Linked Comm-B, segment 4
05_{16}	Extended squitter airborne position
06_{16}	Extended squitter surface position
07_{16}	Extended squitter
08_{16}	Extended squitter identification and type
09_{16}	Extended squitter airborne velocity
$0A_{16}$	Extended squitter event-driven information
$0B_{16}$	Air/air information 1 (aircraft state)
$0C_{16}$	Air/air information 2 (aircraft intent)
$0D_{16}$ _ $0E_{16}$	Reserved for air/air state information
$0F_{16}$	Reserved for ACAS
10_{16}	Data link capability report
11_{16} - 16_{16}	Reserved for extension to data link capability reports
17_{16}	Common usage GICB capability report
18_{16} - $1F_{16}$	Mode S specific services capability reports
20_{16}	Aircraft identification
21_{16}	Aircraft and airline registration markings
22_{16}	Antenna positions
23_{16}	Reserved for antenna position
24_{16}	Reserved for aircraft parameters
25_{16}	Aircraft type

26_{16} - $2F_{16}$	Unassigned
30_{16}	ACAS active resolution advisory
31_{16} - $3F_{16}$	Unassigned
40_{16}	Selected vertical intention
41_{16}	Next waypoint identifier
42_{16}	Next waypoint position
43_{16}	Next waypoint information
44_{16}	Meteorological routine air report
45_{16}	Meteorological hazard report
46_{16}	Reserved for flight management system Mode 1
47_{16}	Reserved for flight management system Mode 2
48_{16}	VHF channel report
49_{16} - $4F_{16}$	Unassigned
50_{16}	Track and turn report
51_{16}	Position report coarse
52_{16}	Position report fine
53_{16}	Air-referenced state vector
54_{16}	Waypoint 1
55_{16}	Waypoint 2
56_{16}	Waypoint 3
57_{16} - $5E_{16}$	Unassigned
$5F_{16}$	Quasi-static parameter monitoring
60_{16}	Heading and speed report
61_{16}	Extended squitter emergency/priority status
62_{16}	Reserved for target state and status information
63_{16}	Reserved for extended squitter
64_{16}	Reserved for extended squitter
65_{16}	Aircraft operational status
66_{16} - $6F_{16}$	Reserved for extended squitter
70_{16} - 75_{16}	Reserved for future aircraft downlink parameters
76_{16} - $E0_{16}$	Unassigned
$E1_{16}$ - $E2_{16}$	Reserved for Mode S BITE
$E3_{16}$	Transponder type/part number
$E4_{16}$	Transponder software revision number
$E5_{16}$	ACAS unit part number
$E6_{16}$	ACAS unit software revision number
$E7_{16}$ - $F3_{16}$	Unassigned
~~$F1_{16}$~~	~~Military applications~~
~~$F2_{16}$~~	~~Military applications~~
$F13_{16}$ - FF_{16}	Unassigned

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7.9 AIRCRAFT ADDRESSING SYSTEM

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APPENDIX TO CAR-ANS 7.9

A WORLDWIDE SCHEME FOR THE ALLOCATION, ASSIGNMENT AND APPLICATION OF AIRCRAFT ADDRESSES

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2. DESCRIPTION OF THE SCHEME

2.1 Table 7.9-1 provides for blocks of consecutive addresses available to States for assignment to aircraft. Each block is defined by a fixed pattern of the first 4, 6, 9, 11, 12 or ~~14~~ 13 bits of the 24-bit address. Thus, blocks of different sizes (1 048 576, 262 144, 32 768, 8 192, 4 096 and ~~1 024~~ 2 048 consecutive addresses, respectively) are made available.

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4. ALLOCATION OF AIRCRAFT ADDRESSES

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~~4.3 In the future management of the scheme, advantage shall be taken of the blocks of aircraft addresses not yet allocated. These spare blocks shall be distributed on the basis of the relevant ICAO region:~~

~~Addresses starting with bit combination 00100: AFI region~~

~~Addresses starting with bit combination 00101: SAM region~~

~~Addresses starting with bit combination 0101: EUR and NAT regions~~

~~Addresses starting with bit combination 01100: MID region~~

~~Addresses starting with bit combination 01101: ASIA region~~

~~Addresses starting with bit combination 1001: NAM and PAC regions~~

~~Addresses starting with bit combination 111011: CAR region~~

~~In addition, aircraft addresses starting with bit combinations 1011, 1101 and 1111 have been reserved for future use.~~

4.4 ~~3~~ Any future requirement for additional aircraft addresses shall be accommodated through coordination between ICAO and the States of Registry or common mark registering authority concerned. A request for additional aircraft addresses shall only be made by a registering authority when at least 75 per cent of the number of addresses already allocated to that registering authority have been assigned to aircraft.

4.5 ~~4~~ ICAO shall allocate blocks of aircraft addresses to non-Contracting States upon request.

5. ASSIGNMENT OF AIRCRAFT ADDRESSES

5.1 During the registration process, uUsing its allocated block of addresses, the State of Registry or common mark registering authority shall assign an individual aircraft

address to each suitably equipped aircraft entered on a national or international register (Table 7.9-1).

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5.2 Aircraft addresses shall be assigned to aircraft in accordance with the following principles:

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b) only one address shall be assigned to an aircraft, irrespective of the composition of equipment on board. In the case when a removable transponder is shared by several light aviation aircraft such as balloons or gliders, it shall be possible to assign a unique address to the removable transponder. ~~The r~~Registers 08_{16}, and 20_{16}, ~~21_{16}, 22_{16} and 25_{16}~~ of the removable transponder shall be correctly updated each time the removable transponder is installed in any aircraft;

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5.2.1 Any method used to assign aircraft addresses shall ensure efficient use of the entire address block that is allocated to that State.

5.3 Assignment of aircraft addresses to unmanned aircraft (UA)

Note — The CAAP may need to consider withholding aircraft addresses to unmanned aircraft (UA) unless certain criteria have been met. Proper and efficient utilization of available bandwidth and capacity at 1 090 MHz is a key element to ensure the safe operation of aeronautical surveillance systems, including secondary surveillance radar (SSR), automatic dependent surveillance — broadcast (ADS-B) and airborne collision avoidance systems (ACAS). A large number of UA equipped with ADS-B OUT transmitters operating at 1 090 MHz may adversely affect the operation of surveillance systems in the area. Reference is made to the guidance material contained in the Aeronautical Surveillance Manual (ICAO Document 9924), intended to assist States when validating the utilization of 1 090 MHz.

6. ADMINISTRATION OF THE AIRCRAFT ADDRESS ASSIGNMENTS

6.1 The CAAP thru the Airworthiness Department shall administer the allocated block of aircraft addresses so that appropriate assignment of aircraft addresses within its allocated block can be maintained.

Note. — The aircraft address is an essential element that needs to be correctly configured in an aircraft to support operation of systems and functions, such as SSR Mode S, ADS-B, datalink, collision avoidance and emergency location.

6.2 The CAAP shall establish and publish an administrative procedure for requesting and assigning aircraft addresses.

Note. — An example of an effective administrative procedure, including the indication of the aircraft address in the certificate of registration, which can be used by the State of Registry or common mark registering authority, can be found in the Aeronautical Surveillance Manual (ICAO Document 9924).

6.3 The CAAP thru the Airworthiness Department shall put in place measures to ensure that aircraft registered under their responsibility are flying with a correct aircraft address.

Note. — Examples of such measures can be found in 2.1.7 of Appendix O of the Aeronautical Surveillance Manual (ICAO Document 9924).

6 7. APPLICATION OF AIRCRAFT ADDRESSES

6 7.1 The aircraft addresses shall be used in applications which require the routing of information to or from individual suitably equipped aircraft.

Note 1. — Examples of such applications are the aeronautical telecommunication network (ATN), SSR Mode S, ADS-B, emergency locator transmitter (ELT) and airborne collision avoidance system (ACAS).

Note 2. — This Standard does not preclude assigning the aircraft addresses for special applications associated with the general applications defined therein. Examples An example of such a special application is ~~are the utilization of the 24-bit address in a pseudo-aeronautical earth station to monitor the aeronautical mobile-satellite service ground earth station and in~~ the fixed Mode S transponders (reporting the on-the-ground status as specified in CAR-ANS Part 9, 9.3.1.2.6.10.1.2) to monitor the Mode S ground station operation. Address assignments for special applications are to be carried out in conformance with the procedure established by the State to manage the 24-bit address assignments to aircraft.

6 7.2 An address consisting of 24 ZEROs shall not be used for any application.

~~7~~ 8. ADMINISTRATION OF THE TEMPORARY AIRCRAFT ADDRESS ASSIGNMENTS

~~7~~ 8.1 Temporary addresses shall be assigned to aircraft in exceptional circumstances, such as when operators have been unable to obtain an address from their individual States of Registry or ~~Common Mark Registering Authority~~ common mark registering authority in a timely manner. ICAO shall assign temporary addresses from the block "ICAO1" shown in Table 7.9-1.

Editorial Note: - Renumbering subsequent provisions.

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Note.— The left-hand column of the 24-bit 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~~ 2 048	4 096	8 192	32 768	262 144	1 048 576						
Afghanistan		•					0111	00	000	000	---	
Albania	•						0101	00	000	001	0-	
Algeria				•			0000	10	100	---	---	
Andorra	•						1100	10	010	001	0-	
Angola		•					0000	10	010	000	---	
Antigua and Barbuda	•						0000	11	001	010	0-	
Argentina					•		1110	00	---	---	---	
Armenia	•						0110	00	000	000	0-	
Australia					•		0111	11	---	---	---	
Austria				•			0100	01	000	---	---	
Azerbaijan	•						0110	00	000	000	1-	
Bahamas		•					0000	10	101	000	---	
Bahrain		•					1000	10	010	100	---	
Bangladesh		•					0111	00	000	010	---	
Barbados	•						0000	10	101	010	0-	
Belarus	•						0101	00	010	000	0-	
Belgium				•			0100	01	001	---	---	
Belize	•						0000	10	101	011	0-	
Benin	•						0000	10	010	100	0-	
Bhutan	•						0110	10	000	000	0-	
Bolivia (Plurinational State of)		•					1110	10	010	100	---	
Bosnia and Herzegovina	•						0101	00	010	011	0-	
Botswana	•						0000	00	110	000	0-	
Brazil					•		1110	01	---	---	---	
Brunei Darussalam	•						1000	10	010	101	0-	
Bulgaria				•			0100	01	010	---	---	
Burkina Faso		•					0000	10	011	100	---	
Burundi		•					0000	00	110	010	---	
Cabo Verde	•						0000	10	010	110	0-	
Cambodia		•					0111	00	001	110		
Cameroon		•					0000	00	110	100	---	
Canada					•		1100	00	---	---	---	
~~Cape Verde~~	~~•~~						~~0000~~	~~10~~	~~010~~	~~110~~	~~00~~	
Central African Republic		•					0000	01	101	100	---	
Chad		•					0000	10	000	100	---	
Chile		•					1110	10	000	000	---	
China					•		0111	10	---	---	---	
Colombia		~~•~~	~~•~~				0000	10	101	10~~0~~	---	
Comoros	•						0000	00	110	101	0-	
Congo		•					0000	00	110	110	---	
Cook Islands	•						1001	00	000	001	0-	
Costa Rica		•					0000	10	101	110	---	

State	Number of addresses in block						Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)					
	~~1 024~~ 2 048	4 096	8 192	32 768	262 144	1 048 576						
Côte d'Ivoire		•					0000	00	111	000	--	-- -- -- -- -- -- -- --
Croatia	•						0101	00	000	001	1-	-- -- -- -- -- -- -- --
Cuba		•					0000	10	110	000	--	-- -- -- -- -- -- -- --
Cyprus	•						0100	11	001	000	0-	-- -- -- -- -- -- -- --
Czechia ~~Republic~~				•			0100	10	011	-- --	--	-- -- -- -- -- -- -- --
Democratic People's Republic of Korea				•			0111	00	100	-- --	--	-- -- -- -- -- -- -- --
Democratic Republic of the Congo		•					0000	10	001	100	--	-- -- -- -- -- -- -- --
Denmark				•			0100	01	011	-- --	--	-- -- -- -- -- -- -- --
Djibouti	•						0000	10	011	000	0-	-- -- -- -- -- -- -- --
Dominica	•						1100	10	010	010	0	-- -- -- -- -- -- -- --
Dominican Republic		•					0000	11	000	100	--	-- -- -- -- -- -- -- --
Ecuador		•					1110	10	000	100	--	-- -- -- -- -- -- -- --
Egypt				•			0000	00	010	-- --	--	-- -- -- -- -- -- -- --
El Salvador		•					0000	10	110	010	--	-- -- -- -- -- -- -- --
Equatorial Guinea		•					0000	01	000	010	--	-- -- -- -- -- -- -- --
Eritrea	•						0010	00	000	010	0-	-- -- -- -- -- -- -- --
Estonia	•						0101	00	010	001	0-	-- -- -- -- -- -- -- --
Eswatini	•						0000	01	111	010	0	-- -- -- -- -- -- -- --
Ethiopia		•					0000	01	000	000	--	-- -- -- -- -- -- -- --
Fiji		•					1100	10	001	000	--	-- -- -- -- -- -- -- --
Finland				•			0100	01	100	-- --	--	-- -- -- -- -- -- -- --
France					•		0011	10	-- --	-- --	--	-- -- -- -- -- -- -- --
Gabon		•					0000	00	111	110	--	-- -- -- -- -- -- -- --
Gambia		•					0000	10	011	010	--	-- -- -- -- -- -- -- --
Georgia	•						0101	00	010	100	0-	-- -- -- -- -- -- -- --
Germany					•		0011	11	-- --	-- --	--	-- -- -- -- -- -- -- --
Ghana		•					0000	01	000	100	--	-- -- -- -- -- -- -- --
Greece				•			0100	01	101	-- --	--	-- -- -- -- -- -- -- --
Grenada	•						0000	11	001	100	0-	-- -- -- -- -- -- -- --
Guatemala		•					0000	10	110	100	--	-- -- -- -- -- -- -- --
Guinea		•					0000	01	000	110	--	-- -- -- -- -- -- -- --
Guinea-Bissau	•						0000	01	001	000	0-	-- -- -- -- -- -- -- --
Guyana		•					0000	10	110	110	--	-- -- -- -- -- -- -- --
Haiti		•					0000	10	111	000	--	-- -- -- -- -- -- -- --
Honduras		•					0000	10	111	010	--	-- -- -- -- -- -- -- --
Hungary				•			0100	01	110	-- --	--	-- -- -- -- -- -- -- --
Iceland		•					0100	11	001	100	--	-- -- -- -- -- -- -- --
India					•		1000	00	-- --	-- --	--	-- -- -- -- -- -- -- --
Indonesia				•			1000	10	100	-- --	--	-- -- -- -- -- -- -- --
Iran (Islamic Republic of)				•			0111	00	110	-- --	--	-- -- -- -- -- -- -- --
Iraq				•			0111	00	101	-- --	--	-- -- -- -- -- -- -- --
Ireland		•					0100	11	001	010	--	-- -- -- -- -- -- -- --
Israel				•			0111	00	111	-- --	--	-- -- -- -- -- -- -- --
Italy					•		0011	00	-- --	-- --	--	-- -- -- -- -- -- -- --
Jamaica		•					0000	10	111	110	--	-- -- -- -- -- -- -- --
Japan					•		1000	01	-- --	-- --	--	-- -- -- -- -- -- -- --
Jordan				•			0111	01	000	-- --	--	-- -- -- -- -- -- -- --

State	Number of addresses in block						Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)				
	~~1 024~~ 2 048	4 096	8 192	32 768	262 144	1 048 576					
Kazakhstan	•						0110	10	000	011	0-
Kenya		•					0000	01	001	100	--
Kiribati	•						1100	10	001	110	0-
Kuwait		•					0111	00	000	110	--
Kyrgyzstan	•						0110	00	000	001	0-
Lao People's Democratic Republic		•					0111	00	001	000	--
Latvia	•						0101	00	000	010	1-
Lebanon				•			0111	01	001	--	--
Lesotho	•						0000	01	001	010	0-
Liberia		•					0000	01	010	000	--
~~Libyan Arab Jamahiriya~~				•			0000	00	011	--	--
Lithuania	•						0101	00	000	011	1-
Luxembourg	•						0100	11	010	000	0-
Madagascar		•					0000	01	010	100	--
Malawi		•					0000	01	011	000	--
Malaysia				•			0111	01	010	--	--
Maldives	•						0000	01	011	010	0-
Mali		•					0000	01	011	100	--
Malta	•						0100	11	010	010	0-
Marshall Islands	•						1001	00	000	000	0-
Mauritania	•						0000	01	011	110	0-
Mauritius	•						0000	01	100	000	0-
Mexico				•			0000	11	010	--	--
Micronesia (Federated States of)	•						0110	10	000	001	0-
Monaco	•						0100	11	010	100	0-
Mongolia	•						0110	10	000	010	0-
Montenegro	•						0101	00	010	110	0-
Morocco				•			0000	00	100	--	--
Mozambique		•					0000	00	000	110	--
Myanmar		•					0111	00	000	100	--
Namibia	•						0010	00	000	001	0-
Nauru	•						1100	10	001	010	0-
Nepal		•					0111	00	001	010	--
Netherlands, ~~Kingdom of the~~				•			0100	10	000	--	--
New Zealand				•			1100	10	000	--	--
Nicaragua		•					0000	11	000	000	--
Niger		•					0000	01	100	010	--
Nigeria		•					0000	01	100	100	--
North Macedonia	•						0101	00	010	010	0-
Norway				•			0100	01	111	--	--
Oman	•						0111	00	001	100	0-
Pakistan				•			0111	01	100	--	--
Palau	•						0110	10	000	100	0-
Panama		•					0000	11	000	010	--
Papua New Guinea		•					1000	10	011	000	--
Paraguay		•					1110	10	001	000	--

State	Number of addresses in block						Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)					
	~~1 024~~ 2 048	4 096	8 192	32 768	262 144	1 048 576						
Peru		•					1110	10	001	100	--	--------
Philippines				•			0111	01	011	--	--	--------
Poland				•			0100	10	001	--	--	--------
Portugal				•			0100	10	010	--	--	--------
Qatar	~~•~~	•					0000	01	101	010	~~00~~	--------
Republic of Korea				•			0111	00	011	--	--	--------
Republic of Moldova	•						0101	00	000	100	1+	--------
Romania				•			0100	10	100	--	--	--------
Russian Federation						•	0001	--	--	--	--	--------
Rwanda		•					0000	01	101	110	--	--------
Saint Kitts and Nevis	•						1100	10	010	011	0	--------
Saint Lucia	•						1100	10	001	100	0~~0~~	--------
Saint Vincent and the Grenadines	•						0000	10	111	100	0~~0~~	--------
Samoa	•						1001	00	000	010	0~~0~~	--------
San Marino	•						0101	00	000	000	0~~0~~	--------
Sao Tome and Principe	•						0000	10	011	110	0~~0~~	--------
Saudi Arabia				•			0111	00	010	--	--	--------
Senegal		•					0000	01	110	000	--	--------
Serbia				•			0100	11	000	--	--	--------
Seychelles	•						0000	01	110	100	0~~0~~	--------
Sierra Leone	•						0000	01	110	110	0~~0~~	--------
Singapore				•			0111	01	101	--	--	--------
Slovakia	•						0101	00	000	101	1+	--------
Slovenia	•						0101	00	000	110	1+	--------
Solomon Islands	•						1000	10	010	111	0~~0~~	--------
Somalia		•					0000	01	111	000	--	--------
South Africa				•			0000	00	001	--	--	--------
South Sudan	•						1100	10	010	100	0	--------
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	0~~0~~	--------
Thailand				•			1000	10	000	--	--	--------
~~The former Yugoslav Republic of Macedonia~~	~~•~~						~~0101~~	~~00~~	~~010~~	~~010~~	~~00~~	~~--------~~
Timor-Leste	•						1100	10	010	101	0	--------
Togo		•					0000	10	001	000	--	--------
Tonga	•						1100	10	001	101	0~~0~~	--------
Trinidad and Tobago		•					0000	11	000	110	--	--------
Tunisia				•			0000	00	101	--	--	--------
Turkiye ~~Turkey~~				•			0100	10	111	--	--	--------
Turkmenistan	•						0110	00	000	001	1~~0~~	--------
Tuvalu	•						1100	10	010	111	0	--------
Uganda		•					0000	01	101	000	--	--------

State	Number of addresses in block						Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)					
	~~1 024~~ 2 048	4 096	8 192	32 768	262 144	1 048 576						
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	1+	--------
Vanuatu	•						1100	10	010	000	0+	--------
Venezuela (Bolivarian Republic of)				•			0000	11	011	---	--	--------
Viet Nam				•			1000	10	001	---	--	--------
Yemen		•					1000	10	010	000	--	--------
Zambia		•					0000	10	001	010	--	--------
Zimbabwe	•						0000	00	000	100	0+	--------
Other allocations												
ICAO[1]				•			1111	00	000	---	--	--------
ICAO[2]	•						1000	10	011	001	0+	--------
ICAO[2]	•						1111	00	001	001	0+	--------

1. ICAO administers this block for assigning temporary aircraft addresses as described in section 8.

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

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NEW / AMENDED REGULATIONS:

7. 1 DEFINITIONS

Note 1. — All references to "Radio Regulations" are to the Radio Regulations published by the International Telecommunication Union (ITU). Radio Regulations are amended from time to time by the decisions embodied in the Final Acts of World Radiocommunication Conferences held normally every two to three years. Further information on the ITU processes as they relate to aeronautical radio system frequency use is contained in the Handbook on Radio Frequency Spectrum Requirements for Civil Aviation including statement of approved ICAO policies (ICAO Document 9718).

Note 2.— CAR-ANS Part 7 includes Standards and Recommended Practices for certain forms of equipment for communication systems. While the Contracting State will determine the necessity for specific installations in accordance with the conditions prescribed in the relevant Standard or Recommended Practice, review of the need for specific installation and the formulation of ICAO opinion and recommendations to Contracting States concerned, is carried out periodically by Council, ordinarily on the basis of recommendations of Regional Air Navigation Meetings (ICAO Document 8144, Directives to Regional Air Navigation Meetings and Rules of Procedure for their Conduct).

Note 3. — This chapter contains general definitions relevant to communication systems. Definitions specific to each of the systems included in this regulation are contained in the relevant chapters.

Note 4.— Material on secondary power supply and guidance material concerning reliability and availability for communication systems is contained in CAR-ANS Part 6, 6.2.4 and Attachment 6F, respectively.

Note 5.— Provisions related to information security can be found in the Procedures for Air Navigation Services — Information Management (PANS-IM, ICAO Document 10199).

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Table 7.5-24 Register number assignments

Transponder register No.	*Assignment*
00_{16}	Not valid
01_{16}	Unassigned
02_{16}	Linked Comm-B, segment 2
03_{16}	Linked Comm-B, segment 3
04_{16}	Linked Comm-B, segment 4
05_{16}	Extended squitter airborne position
06_{16}	Extended squitter surface position
07_{16}	Extended squitter
08_{16}	Extended squitter identification and type
09_{16}	Extended squitter airborne velocity
$0A_{16}$	Extended squitter event-driven information
$0B_{16}$	Air/air information 1 (aircraft state)
$0C_{16}$	Air/air information 2 (aircraft intent)
$0D_{16}$ _ $0E_{16}$	Reserved for air/air state information
$0F_{16}$	Reserved for ACAS
10_{16}	Data link capability report
11_{16} - 16_{16}	Reserved for extension to data link capability reports
17_{16}	Common usage GICB capability report
18_{16} - $1F_{16}$	Mode S specific services capability reports
20_{16}	Aircraft identification
21_{16}	Aircraft and airline registration markings
22_{16}	Antenna positions
23_{16}	Reserved for antenna position
24_{16}	Reserved for aircraft parameters
25_{16}	Aircraft type
26_{16} - $2F_{16}$	Unassigned
30_{16}	ACAS active resolution advisory
31_{16} - $3F_{16}$	Unassigned
40_{16}	Selected vertical intention
41_{16}	Next waypoint identifier
42_{16}	Next waypoint position
43_{16}	Next waypoint information

44_{16}	Meteorological routine air report
45_{16}	Meteorological hazard report
46_{16}	Reserved for flight management system Mode 1
47_{16}	Reserved for flight management system Mode 2
48_{16}	VHF channel report
49_{16} - $4F_{16}$	Unassigned
50_{16}	Track and turn report
51_{16}	Position report coarse
52_{16}	Position report fine
53_{16}	Air-referenced state vector
54_{16}	Waypoint 1
55_{16}	Waypoint 2
56_{16}	Waypoint 3
57_{16} - $5E_{16}$	Unassigned
$5F_{16}$	Quasi-static parameter monitoring
60_{16}	Heading and speed report
61_{16}	Extended squitter emergency/priority status
62_{16}	Reserved for target state and status information
63_{16}	Reserved for extended squitter
64_{16}	Reserved for extended squitter
65_{16}	Aircraft operational status
66_{16} - $6F_{16}$	Reserved for extended squitter
70_{16} - 75_{16}	Reserved for future aircraft downlink parameters
76_{16} - $E0_{16}$	Unassigned
$E1_{16}$ - $E2_{16}$	Reserved for Mode S BITE
$E3_{16}$	Transponder type/part number
$E4_{16}$	Transponder software revision number
$E5_{16}$	ACAS unit part number
$E6_{16}$	ACAS unit software revision number
$E7_{16}$ - $F3_{16}$	Unassigned
$F1_{16}$ - FF_{16}	Unassigned

...

7.9 AIRCRAFT ADDRESSING SYSTEM

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APPENDIX TO CAR-ANS 7.9

A WORLDWIDE SCHEME FOR THE ALLOCATION, ASSIGNMENT AND APPLICATION OF AIRCRAFT ADDRESSES

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2. DESCRIPTION OF THE SCHEME

2.1 Table 7.9-1 provides for blocks of consecutive addresses available to States for assignment to aircraft. Each block is defined by a fixed pattern of the first 4, 6, 9, 11, 12 or 13 bits of the 24-bit address. Thus, blocks of different sizes (1 048 576, 262 144, 32 768, 8 192, 4 096 and 2 048 consecutive addresses, respectively) are made available.

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4. ALLOCATION OF THE AIRCRAFT ADDRESSES

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4.3 Any future requirement for additional aircraft addresses shall be accommodated through coordination between ICAO and the States of Registry or common mark registering authority concerned. A request for additional aircraft addresses shall only be made by a registering authority when at least 75 per cent of the number of addresses already allocated to that registering authority have been assigned to aircraft.

4.4 ICAO shall allocate blocks of aircraft addresses to non-Contracting States upon request.

5. ASSIGNMENT OF AIRCRAFT ADDRESSES

5.1 During the registration process, using its allocated block of addresses, the State of Registry or common mark registering authority shall assign an individual aircraft address to each suitably equipped aircraft entered on a national or international register (Table 7.9-1).

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5.2 Aircraft addresses shall be assigned to aircraft in accordance with the following principles:

...

b) only one address shall be assigned to an aircraft, irrespective of the composition of equipment on board. In the case when a removable transponder is shared by several light aviation aircraft such as balloons or gliders, it shall be possible to assign a unique address to the removable transponder. Registers 08_{16} and 20_{16} of the removable transponder shall be correctly updated each time the removable transponder is installed in any aircraft;

...

5.2.1 *Any method used to assign aircraft addresses should ensure efficient use of the entire address block that is allocated to that State.*

5.3 Assignment of aircraft addresses to Unmanned Aircraft (UA)

Note — The CAAP may need to consider withholding aircraft addresses to unmanned aircraft (UA) unless certain criteria have been met. Proper and efficient utilization of available bandwidth and capacity at 1 090 MHz is a key element to ensure the safe operation of aeronautical surveillance systems, including secondary surveillance radar (SSR), automatic dependent surveillance — broadcast (ADS-B) and airborne collision avoidance systems (ACAS). A large number of UA equipped with ADS-B OUT transmitters operating at 1 090 MHz may adversely affect the operation of surveillance systems in the area. Reference is made to the guidance material contained in the Aeronautical Surveillance Manual (ICAO Document 9924), intended to assist States when validating the utilization of 1 090 MHz.

6. ADMINISTRATION OF THE AIRCRAFT ADDRESS ASSIGNMENTS

6.1 The CAAP thru the Airworthiness Department shall administer the allocated block of aircraft addresses so that appropriate assignment of aircraft addresses within its allocated block can be maintained.

Note. — The aircraft address is an essential element that needs to be correctly configured in an aircraft to support operation of systems and functions, such as SSR Mode S, ADS-B, datalink, collision avoidance and emergency location.

6.2 The CAAP shall establish and publish an administrative procedure for requesting and assigning aircraft addresses.

Note. — An example of an effective administrative procedure, including the indication of the aircraft address in the certificate of registration, which can be used by the State of Registry or common mark registering authority, can be found in the Aeronautical Surveillance Manual (ICAO Document 9924).

6.3 The CAAP thru the Airworthiness Department shall put in place measures to ensure that aircraft registered under their responsibility are flying with a correct aircraft address.

Note. — Examples of such measures can be found in 2.1.7 of Appendix O of the Aeronautical Surveillance Manual (ICAO Document 9924).

7. APPLICATION OF AIRCRAFT ADDRESSES

7.1 The aircraft addresses shall be used in applications which require the routing of information to or from individual suitably equipped aircraft.

Note 1. — Examples of such applications are the aeronautical telecommunication network (ATN), SSR Mode S, ADS-B, emergency locator transmitter (ELT) and airborne collision avoidance system (ACAS).

Note 2. — This Standard does not preclude assigning the aircraft addresses for special applications associated with the general applications defined therein. An example of such a special application is the fixed Mode S transponders (reporting the on-the-ground status as specified in CAR-ANS Part 9, 9.3.1.2.6.10.1.2) to monitor the Mode S ground station operation. Address assignments for special applications are to be carried out in conformance with the procedure established by the State to manage the 24-bit address assignments to aircraft.

7.2 An address consisting of 24 ZEROs shall not be used for any application.

8. ADMINISTRATION OF THE TEMPORARY AIRCRAFT ADDRESS ASSIGNMENTS

8.1 Temporary addresses shall be assigned to aircraft in exceptional circumstances, such as when operators have been unable to obtain an address from their individual States of Registry or common mark registering authority in a timely manner. ICAO shall assign temporary addresses from the block "ICAO1 " shown in Table 7.9-1.

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Editorial Note: - Renumbering of subsequent provisions.

Table 7.9-1. Allocation of aircraft addresses to States

Note.— The left-hand column of the 24-bit 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)					
	2048	4 096	8 192	32 768	262 144	1 048 576						
Afghanistan		•					0111	00	000	000	--	-- -- -- -- -- -- -- --
Albania	•						0101	00	000	001	0	-- -- -- -- -- -- -- --
Algeria				•			0000	10	100	-- --	--	-- -- -- -- -- -- -- --
Andorra	•						1100	10	010	001	0	-- -- -- -- -- -- -- --
Angola		•					0000	10	010	000	--	-- -- -- -- -- -- -- --
Antigua and Barbuda	•						0000	11	001	010	0	-- -- -- -- -- -- -- --
Argentina					•		1110	00	-- --	-- --	--	-- -- -- -- -- -- -- --
Armenia	•						0110	00	000	000	0	-- -- -- -- -- -- -- --
Australia					•		0111	11	-- --	-- --	--	-- -- -- -- -- -- -- --
Austria				•			0100	01	000	-- --	--	-- -- -- -- -- -- -- --
Azerbaijan	•						0110	00	000	000	1	-- -- -- -- -- -- -- --
Bahamas		•					0000	10	101	000	--	-- -- -- -- -- -- -- --
Bahrain		•					1000	10	010	100	--	-- -- -- -- -- -- -- --
Bangladesh		•					0111	00	000	010	--	-- -- -- -- -- -- -- --
Barbados	•						0000	10	101	010	0	-- -- -- -- -- -- -- --
Belarus	•						0101	00	010	000	0	-- -- -- -- -- -- -- --
Belgium				•			0100	01	001	-- --	--	-- -- -- -- -- -- -- --
Belize	•						0000	10	101	011	0	-- -- -- -- -- -- -- --
Benin	•						0000	10	010	100	0	-- -- -- -- -- -- -- --
Bhutan	•						0110	10	000	000	0	-- -- -- -- -- -- -- --
Bolivia (Plurinational State of)		•					1110	10	010	100	--	-- -- -- -- -- -- -- --
Bosnia and Herzegovina	•						0101	00	010	011	0	-- -- -- -- -- -- -- --
Botswana	•						0000	00	110	000	0	-- -- -- -- -- -- -- --
Brazil					•		1110	01	-- --	-- --	--	-- -- -- -- -- -- -- --
Brunei Darussalam	•						1000	10	010	101	0	-- -- -- -- -- -- -- --
Bulgaria				•			0100	01	010	-- --	--	-- -- -- -- -- -- -- --
Burkina Faso		•					0000	10	011	100	--	-- -- -- -- -- -- -- --
Burundi		•					0000	00	110	010	--	-- -- -- -- -- -- -- --
Cabo Verde	•						0000	10	010	110	0	-- -- -- -- -- -- -- --
Cambodia		•					0111	00	001	110	--	-- -- -- -- -- -- -- --
Cameroon		•					0000	00	110	100	--	-- -- -- -- -- -- -- --
Canada					•		1100	00	-- --	-- --	--	-- -- -- -- -- -- -- --
Central African Republic		•					0000	01	101	100	--	-- -- -- -- -- -- -- --
Chad		•					0000	10	000	100	--	-- -- -- -- -- -- -- --
Chile		•					1110	10	000	000	--	-- -- -- -- -- -- -- --
China					•		0111	10	-- --	-- --	--	-- -- -- -- -- -- -- --
Colombia			•				0000	10	101	10	--	-- -- -- -- -- -- -- --
Comoros							0000	00	110	101	0	-- -- -- -- -- -- -- --
Congo		•					0000	00	110	110	--	-- -- -- -- -- -- -- --
Cook Islands	•						1001	00	000	001	0	-- -- -- -- -- -- -- --
Costa Rica		•					0000	10	101	110	--	-- -- -- -- -- -- -- --
Côte d'Ivoire		•					0000	00	111	000	--	-- -- -- -- -- -- -- --
Croatia	•						0101	00	000	001	1	-- -- -- -- -- -- -- --
Cuba		•					0000	10	110	000	--	-- -- -- -- -- -- -- --
Cyprus	•						0100	11	001	000	0	-- -- -- -- -- -- -- --

State	2048	Number of addresses in block					Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)					
		4 096	8 192	32 768	262 144	1 048 576						
Czechia				•			0100	10	011			
Democratic People's Republic of Korea				•			0111	00	100			
Democratic Republic of the Congo		•					0000	10	001	100		
Denmark				•			0100	01	011			
Djibouti	•						0000	10	011	000	0	
Dominica	•						1100	10	010	010	0	
Dominican Republic		•					0000	11	000	100		
Ecuador		•					1110	10	000	100		
Egypt				•			0000	00	010			
El Salvador		•					0000	10	110	010		
Equatorial Guinea		•					0000	01	000	010		
Eritrea	•						0010	00	000	010	0	
Estonia	•						0101	00	010	001	0	
Eswatini	•						0000	01	111	010	0	
Ethiopia		•					0000	01	000	000		
Fiji		•					1100	10	001	000		
Finland				•			0100	01	100			
France					•		0011	10				
Gabon		•					0000	00	111	110		
Gambia		•					0000	10	011	010		
Georgia	•						0101	00	010	100	0	
Germany					•		0011	11				
Ghana		•					0000	01	000	100		
Greece				•			0100	01	101			
Grenada	•						0000	11	001	100	0	
Guatemala		•					0000	10	110	100		
Guinea		•					0000	01	000	110		
Guinea-Bissau	•						0000	01	001	000	0	
Guyana		•					0000	10	110	110		
Haiti		•					0000	10	111	000		
Honduras		•					0000	10	111	010		
Hungary				•			0100	01	110			
Iceland		•					0100	11	001	100		
India					•		1000	00				
Indonesia				•			1000	10	100			
Iran (Islamic Republic of)				•			0111	00	110			
Iraq				•			0111	00	101			
Ireland		•					0100	11	001	010		
Israel				•			0111	00	111			
Italy					•		0011	00				
Jamaica		•					0000	10	111	110		
Japan					•		1000	01				
Jordan				•			0111	01	000			
Kazakhstan	•						0110	10	000	011	0	
Kenya		•					0000	01	001	100		
Kiribati	•						1100	10	001	110	0	
Kuwait		•					0111	00	000	110		
Kyrgyzstan	•						0110	00	000	001	0	

State	2048	Number of addresses in block: 4 096	8 192	32 768	262 144	1 048 576	Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)
Lao People's Democratic Republic		•					0111 00 001 000 -- -- -- -- -- -- -- --
Latvia	•						0101 00 000 010 1 -- -- -- -- -- -- --
Lebanon				•			0111 01 001 -- -- -- -- -- -- -- -- --
Lesotho	•						0000 01 001 010 0 -- -- -- -- -- -- --
Liberia		•					0000 01 010 000 -- -- -- -- -- -- -- --
Libya				•			0000 00 011 -- -- -- -- -- -- -- -- --
Lithuania	•						0101 00 000 011 1 -- -- -- -- -- -- --
Luxembourg	•						0100 11 010 000 0 -- -- -- -- -- -- --
Madagascar		•					0000 01 010 100 -- -- -- -- -- -- -- --
Malawi		•					0000 01 011 000 -- -- -- -- -- -- -- --
Malaysia				•			0111 01 010 -- -- -- -- -- -- -- -- --
Maldives	•						0000 01 011 010 0 -- -- -- -- -- -- --
Mali		•					0000 01 011 100 -- -- -- -- -- -- -- --
Malta	•						0100 11 010 010 0 -- -- -- -- -- -- --
Marshall Islands	•						1001 00 000 000 0 -- -- -- -- -- -- --
Mauritania	•						0000 01 011 110 0 -- -- -- -- -- -- --
Mauritius	•						0000 01 100 000 0 -- -- -- -- -- -- --
Mexico				•			0000 11 010 -- -- -- -- -- -- -- -- --
Micronesia (Federated States of)	•						0110 10 000 001 0 -- -- -- -- -- -- --
Monaco	•						0100 11 010 100 0 -- -- -- -- -- -- --
Mongolia	•						0110 10 000 010 0 -- -- -- -- -- -- --
Montenegro	•						0101 00 010 110 0 -- -- -- -- -- -- --
Morocco				•			0000 00 100 -- -- -- -- -- -- -- -- --
Mozambique		•					0000 00 000 110 -- -- -- -- -- -- -- --
Myanmar		•					0111 00 000 100 -- -- -- -- -- -- -- --
Namibia	•						0010 00 000 001 0 -- -- -- -- -- -- --
Nauru	•						1100 10 001 010 0 -- -- -- -- -- -- --
Nepal		•					0111 00 001 010 -- -- -- -- -- -- -- --
Netherlands				•			0100 10 000 -- -- -- -- -- -- -- -- --
New Zealand				•			1100 10 000 -- -- -- -- -- -- -- -- --
Nicaragua		•					0000 11 000 000 -- -- -- -- -- -- -- --
Niger		•					0000 01 100 010 -- -- -- -- -- -- -- --
Nigeria		•					0000 01 100 100 -- -- -- -- -- -- -- --
North Macedonia	•						0101 00 010 010 0 -- -- -- -- -- -- --
Norway				•			0100 01 111 -- -- -- -- -- -- -- -- --
Oman	•						0111 00 001 100 0 -- -- -- -- -- -- --
Pakistan				•			0111 01 100 -- -- -- -- -- -- -- -- --
Palau	•						0110 10 000 100 0 -- -- -- -- -- -- --
Panama		•					0000 11 000 010 -- -- -- -- -- -- -- --
Papua New Guinea		•					1000 10 011 000 -- -- -- -- -- -- -- --
Paraguay		•					1110 10 001 000 -- -- -- -- -- -- -- --
Peru		•					1110 10 001 100 -- -- -- -- -- -- -- --
Philippines				•			0111 01 011 -- -- -- -- -- -- -- -- --
Poland				•			0100 10 001 -- -- -- -- -- -- -- -- --
Portugal				•			0100 10 010 -- -- -- -- -- -- -- -- --
Qatar		•					0000 01 101 010 -- -- -- -- -- -- -- --
Republic of Korea				•			0111 00 011 -- -- -- -- -- -- -- -- --
Republic of Moldova	•						0101 00 000 100 1 -- -- -- -- -- -- --

State	2048	Number of addresses in block					Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)					
		4 096	8 192	32 768	262 144	1 048 576						
Romania				•			0100	10	100			
Russian Federation						•	0001					
Rwanda		•					0000	01	101	110		
Saint Kitts and Nevis	•						1100	10	010	011	0	
Saint Lucia	•						1100	10	001	100	0	
Saint Vincent and the Grenadines	•						0000	10	111	100	0	
Samoa	•						1001	00	000	010	0	
San Marino	•						0101	00	000	000	0	
Sao Tome and Principe	•						0000	10	011	110	0	
Saudi Arabia				•			0111	00	010			
Senegal		•					0000	01	110	000		
Serbia				•			0100	11	000			
Seychelles	•						0000	01	110	100	0	
Sierra Leone	•						0000	01	110	110	0	
Singapore				•			0111	01	101			
Slovakia	•						0101	00	000	101	1	
Slovenia	•						0101	00	000	110	1	
Solomon Islands	•						1000	10	010	111	0	
Somalia		•					0000	01	111	000		
South Africa				•			0000	00	001			
South Sudan	•						1100	10	010	100	0	
Spain					•		0011	01				
Sri Lanka				•			0111	01	110			
Sudan		•					0000	01	111	100		
Suriname		•					0000	11	001	000		
Sweden				•			0100	10	101			
Switzerland				•			0100	10	110			
Syrian Arab Republic				•			0111	01	111			
Tajikistan	•						0101	00	010	101	0	
Thailand				•			1000	10	000			
Timor-Leste	•						1100	10	010	101	0	
Togo		•					0000	10	001	000		
Tonga	•						1100	10	001	101	0	
Trinidad and Tobago		•					0000	11	000	110		
Tunisia				•			0000	00	101			
Türkiye				•			0100	10	111			
Turkmenistan	•						0110	00	000	001	1	
Tuvalu	•						1100	10	010	111	0	
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	1	

State	2048	Number of addresses in block: 4 096	8 192	32 768	262 144	1 048 576	Allocation of blocks of addresses (a dash represents a bit value equal to 0 or 1)
Vanuatu	*						1100 10 010 000 0 -- ----------
Venezuela (Bolivarian Republic of)				*			0000 11 011 -- -- ----------
Viet Nam				*			1000 10 001 -- -- ----------
Yemen		*					1000 10 010 000 -- ----------
Zambia		*					0000 10 001 010 -- ----------
Zimbabwe	*						0000 00 000 100 0 ----------
Other allocations							
ICAO[1]				*			1111 00 000 -- -- ----------
ICAO[2]	*						1000 10 011 001 0 ----------
ICAO[2]	*						1111 00 001 001 0 ----------

1. ICAO administers this block for assigning temporary aircraft addresses as described in section 8.
2. Block allocated for special use in the interest of flight safety.

xxx

"End of Amendment"

Separability Clause. **-** If for any reason, any provision of this Memorandum Circular is declared invalid or unconstitutional, the other part or parts thereof which are not affected thereby shall continue to be in full force and effect.

Repealing Clause. **-** All orders, rules, regulations, and issuances, or parts thereof which are inconsistent with this Memorandum Circular are hereby repealed, superseded, or modified accordingly.

Determination of changes. – To highlight the amendments and/or revisions in the Memorandum Circular, the deleted text shall be shown with strikethrough and the newly inserted text shall be highlighted with grey shading, as illustrated below:

1. Text deleted: Text to be deleted is shown with a line through it.
2. New text inserted: New text is highlighted with grey shading.
3. New text replacing existing text: ~~Text to be deleted is shown with a line through it~~ followed by the replacement text which is highlighted with grey shading.

Effectivity Clause. **-** This Memorandum Circular shall take effect fifteen (15) days following completion of its publication in a newspaper of general circulation or the Official Gazette and a copy filed with the U.P. Law Center - Office of the National Administrative Register. These amendments shall be incorporated into the Philippine Civil Aviation Regulations – Air Navigation Services (CAR-ANS) Part 7.

Signed this 28th day of October 2024, at the Civil Aviation Authority of the Philippines, MIA Road, Pasay City.

CAPTAIN MANUEL ANTONIO L. TAMAYO
Director General