

New Zealand

Annex Reference	AERONAUTICAL TELECOMMUNICATIONS Standard or Recommended Practice	State Legislation, Regulation or Document Reference	Level of implementation of SARP's	Text of the difference to be notified to ICAO	Comments including the reason for the difference
Chapter 3 Reference 3.1.2.1.5.1.1.1 Standard	<p>3.1.2.1.5.1.1.1 Mode A/C/S all-call interrogations shall not be used on or after 1 January 2020.</p> <p><i>Note 1.— The use of Mode A/C/S all-call interrogations does not allow the use of stochastic lockout override and therefore might not ensure a good probability of acquisition in areas of high density of flights or when other interrogators lockout transponder on II=0 for supplementary acquisition.</i></p> <p><i>Note 2.— The replies to Mode A/C/S all-call interrogations will no longer be supported by equipment certified on or after 1 January 2020 in order to reduce the RF pollution generated by the replies triggered by the false detection of Mode A/C/S all-call interrogations within other types of interrogation.</i></p>	CAR 171.53(a)(1).	Less protective or partially implemented or not implemented	Yet to be addressed.	
Chapter 4 Reference 4.3.3.3.1.2 Standard	<p>4.3.3.3.1.2 For ACAS X-compliant systems, the TA warning time shall be sufficient to allow the flight crew to take actions described in PANS-OPS, Volume III and prepare for a potential resolution advisory.</p> <p><i>Note.— The nominal TA warning time is 20 s or less before the generation of the resolution advisory.</i></p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.4.3.4.2 Standard	<p>4.3.4.3.4.2 For ACAS X-compliant systems: ACAS shall receive any SLC commands from Mode S ground stations but shall not use their sensitivity level values.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress



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Chapter 4 Reference 4.3.4.6 Standard	<p>4.3.4.6 <i>Validation of ADS-B tracks for RA generation.</i> For ACAS X-compliant systems: If ADS-B tracks fail validation via active interrogation and reply, ACAS shall revert back to using active surveillance for threat resolution logic.</p> <p><i>Note.— Only validated ADS-B is used in the generation of RAs.</i></p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.4.7 Standard	<p>4.3.4.7 <i>Designation of aircraft for do not alert (DNA).</i> For ACAS X-compliant systems with Xo functionality: If an intruder aircraft is designated as do not alert (DNA), no alerts for the intruder aircraft shall be issued to the flight crew of the own aircraft.</p> <p><i>Note. — ACAS Xo provides additional modes with modified threat detection criteria in respect of designated intruders. For more details on ACAS Xo, refer to RTCA/DO-385 or EUROCAE/ED-256.</i></p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.5.1.2.2 Standard	<p>4.3.5.1.2.2 For ACAS X-compliant systems: Once an RA has been generated against a threat or threats it shall be maintained until the intruder or intruders of the RA cease to be a threat.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress



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Chapter 4 Reference 4.3.5.3.1 Standard	<p>4.3.5.3.1 New ACAS installations after 1 January 2014 shall monitor own aircraft's vertical rate to verify compliance with the RA sense. If non-compliance is detected, ACAS shall stop assuming compliance, and instead shall assume the observed vertical rate.</p> <p><i>Note 1.— This overcomes the retention of an RA sense that would work only if followed. The revised vertical rate assumption is more likely to allow the logic to select the opposite sense when it is consistent with the non-complying aircraft's vertical rate.</i></p> <p><i>Note 2.— Equipment complying with RTCA/DO-185 or DO-185A standards (also known as TCAS Version 6.04A or TCAS Version 7.0) do not comply with this requirement.</i></p> <p><i>Note 3.— Compliance with this requirement can be achieved through the implementation of traffic alert and collision avoidance system (TCAS) Version 7.1 as specified in RTCA/DO-185B, EUROCAE/ED-143 or airborne collision avoidance system X (ACAS Xa and Xo) as specified in RTCA/DO 385 or EUROCAE/ED-256.</i></p>	CAR Part 121 Appendix B, B.11; CAR Part 125 Appendix B, B.10.	Less protective or partially implemented or not implemented	Part 121 requires only ACAS II equipment meeting the requirements of TSO C119b; Part 125 specifies either C119b or C119c.	
Chapter 4 Reference 4.3.5.3.2 Recommendation	<p>4.3.5.3.2 Recommendation.— All ACAS should be compliant with the requirement in 4.3.5.3.1.</p>	CAR Part 121 Appendix B, B.11; CAR Part 125 Appendix B, B.10.	Less protective or partially implemented or not implemented	Part 121 requires only ACAS II equipment meeting the requirements of TSO C119b; Part 125 specifies either C119b or C119c.	
Chapter 4 Reference 4.3.5.3.3 Standard	<p>4.3.5.3.3 After 1 January 2017, all ACAS units shall comply with the requirements stated in 4.3.5.3.1.</p>	CAR Part 121 Appendix B, B.11; CAR Part 125 Appendix B, B.10.	Less protective or partially implemented or not implemented	No deadline for equipage is specified. At present, Part 121 requires only ACAS II equipment meeting the requirements of TSO C119b; Part 125 specifies either C119b or C119c.	



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Chapter 4 Reference 4.3.5.5.2 Standard	<p>4.3.5.5.2 <i>Sense reversals due to inadequate predicted separation.</i> ACAS shall initiate not more than one reversal per threat per encounter due to inadequate predicted separation.</p> <p><i>Note 1.— For TCAS Version 7.1-compliant systems: The aircraft with the lower 24-bit aircraft address can initiate this type of reversal at any time during the encounter; the aircraft with the higher 24-bit aircraft address performs this type of reversal only to comply with an RAC received from the aircraft with a lower 24-bit aircraft address.</i></p> <p><i>Note 2.— For ACAS X-compliant systems: In a coordinated encounter as described in section 4.3.6.1, the aircraft with the lower 24-bit aircraft address can initiate this type of reversal at any time during the encounter; the aircraft with the higher 24-bit aircraft address can initiate this type of reversal only before it has received an RAC from the threat or after receiving cancellation of any remaining RAC from the threat.</i></p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.7.1.3.1 Standard	<p>4.3.7.1.3.1 <i>Detection.</i> ACAS shall monitor 1 090 MHz extended squitter.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.7.1.3.2 Standard	<p>4.3.7.1.3.2 ACAS shall receive and use 1 090 MHz extended squitter messages which include information on ADS-B airborne and surface position, airborne velocity, target state and status, and aircraft operational status.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress



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Chapter 4 Reference 4.3.7.3.4.2 Standard	4.3.7.3.4.2 For ACAS X-compliant systems: ACAS shall receive any SLC commands from Mode S ground stations but shall not use their sensitivity level values.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.8.4.2.2.2 Standard	4.3.8.4.2.2.2 For ACAS X-compliant systems: Subfields in MB for an RA report. When BDS1=3 and BDS2=0, the subfields indicated below shall be contained in MB.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress



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Chapter 4 Reference 4.3.8.4.2.2.2.1 Standard	<p>4.3.8.4.2.2.2.1 <i>ARA (active RAs)</i>. This 10-bit (41-50) subfield shall indicate the currently active RA if any generated by own ACAS X unit against one or more threat aircraft.</p> <p>The ARA subfield is further divided into:</p> <p>a) <i>AVRA (vertical RA)</i>. This 7-bit (41-47) subfield contains the vertical component of the ARA as defined below; and</p> <p>b) <i>AHRA (horizontal RA)</i>. This 3-bit (48-50) subfield contains the horizontal component of the ARA. For ACAS X-compliant systems, AHRA=0.</p> <p>Bits 41-50 shall have the following meanings:</p> <p><i>Note. —An RA is considered crossing if own aircraft is expected to cross the altitude of the intruder before closest approach, e.g., pass above a threat currently above own aircraft. An RA is considered crossing regardless of whether the word “crossing” is included in the aural annunciation.</i></p> <p>The strength bits indicated in bits 44 - 47 shall have the following meaning:</p> <p><i>Note. — For MTLO own aircraft with -500 ft/min to +500 ft/min is “level”; own aircraft with vertical rate > 500 ft/min is “climbing” and own aircraft with vertical rate < -500 ft/min is “descending”</i></p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress



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Chapter 4 Reference 4.3.8.4.2.2.2.2 Standard	4.3.8.4.2.2.2.2 <i>LDI (low-level descend inhibit)</i> . This 2-bit (51-52) subfield is derived from the own aircraft radar altimeter value and shall indicate whether own aircraft is in a region where low level descend inhibits may be applied. The coding shall have the following meanings:	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.8.4.2.2.2.3 Standard	4.3.8.4.2.2.2.3 <i>RMF (RA message format)</i> . This 2-bit (53-54) subfield indicates the collision avoidance (CA) system used to generate bits 41-88 of the RF message. The coding shall have the following meanings:	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.8.4.2.2.2.4 Standard	4.3.8.4.2.2.2.4 <i>RAC (RACs record)</i> . This 4-bit (55-58) subfield shall indicate all the currently active RACs, if any, received from other ACAS aircraft. The bits in RAC shall have the following meanings: A bit set to 1 shall indicate that the associated RAC is active. A bit set to 0 shall indicate that the associated RAC is inactive.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress



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Chapter 4 Reference 4.3.8.4.2.2.2.5 Standard	<p>4.3.8.4.2.2.2.5 <i>RAT (RA terminated indicator)</i>. This 1-bit (59) subfield shall indicate when an RA previously generated by ACAS has ceased being generated.</p> <p><i>Note 1. — After an RA has been terminated by ACAS, it is still required to be reported by the Mode S transponder for 18±1 s (4.3.11.4.1). The RA terminated indicator may be used, for example, to permit timely removal of an RA indication from an air traffic controller's display, or for assessments of RA duration within a particular airspace.</i></p> <p><i>Note 2. — RAs may terminate for a number of reasons: normally, when the conflict has been resolved and the threat is diverging in range; or when the threat's Mode S transponder for any reason ceases to report altitude during the conflict. The RA terminated indicator is used to show that the RA has been removed in each of these cases.</i></p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.8.4.2.2.2.6 Standard	<p>4.3.8.4.2.2.2.6 <i>MTE (multiple threat encounter)</i>. This 1-bit (60) subfield shall indicate whether two or more simultaneous threats are currently being processed by the ACAS threat resolution logic.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.8.4.2.2.2.8 Standard	<p>4.3.8.4.2.2.2.8 <i>TTI (threat type indicator subfield)</i>. This 1-bit subfield (62) shall define the type of identity data contained in the TID subfield.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress



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Chapter 4 Reference 4.3.8.4.2.2.2.9 Standard	4.3.8.4.2.2.2.9 <i>TID (threat identity data subfield)</i> . This 24-bit subfield (63-86) shall contain the 24-bit aircraft address of the threat or the altitude, range, and bearing if the threat is not Mode S-equipped. If two or more threats are simultaneously processed by the ACAS resolution logic, TID shall contain the identity or position data for the most recently declared threat. If TTI = 1, TID shall contain in bits 63-86 the aircraft address of the threat. If TTI = 0, TID shall contain the following three subfields (refer to 4.3.8.4.2.2.2.8).	nil	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.8.4.2.2.2.9.1 Standard	4.3.8.4.2.2.2.9.1 <i>TIDA (threat identity data altitude subfield)</i> . This 11-bit subfield (63-73) shall contain the most recent threat altitude estimated by ACAS, expressed in binary to a resolution of 100 ft as follows.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.8.4.2.2.2.9.2 Standard	4.3.8.4.2.2.2.9.2 <i>TIDR (threat identity data range subfield)</i> . This 7-bit subfield (74-80) shall contain the most recent threat range estimated by ACAS.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.8.4.2.2.2.9.3 Standard	4.3.8.4.2.2.2.9.3 <i>TIDB (threat identity data bearing subfield)</i> . This 6-bit subfield (81-86) shall contain the most recent estimated bearing of the threat aircraft, relative to the ACAS aircraft heading.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress



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Chapter 4 Reference 4.3.8.4.2.2.2.10 Standard	4.3.8.4.2.2.2.10 <i>DSI (designation indicator)</i> . This 1-bit subfield (87) shall be coded as follows:	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.8.4.2.2.2.11 Standard	4.3.8.4.2.2.2.11 <i>SPI (suppression indicator)</i> . This 1-bit subfield (88) shall be coded as follows: For single-threat encounters: For multi-threat encounters, suppression does not apply, so the SPI subfield shall indicate the following designations: <i>Note.— For ACAS X-compliant systems: Subfields in MB for an RA report.</i>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress
Chapter 4 Reference 4.3.8.4.2.3.4.2 Standard	4.3.8.4.2.3.4.2 <i>For ACAS X-compliant systems: Subfields in MU for an RA broadcast (RA broadcast interrogation message)</i> . When UDS1 = 3 and UDS2 = 1, the following subfields shall be contained in MU:	NIL	Less protective or partially implemented or not implemented	Not yet implemented	Work in progress



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Chapter 4 Reference 4.3.8.4.2.3.4.2.1 Standard	4.3.8.4.2.3.4.2.1 <i>ARA (active RAs)</i> . This 10-bit (41-50) subfield shall be coded as defined in 4.3.8.4.2.2.2.1.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.3.4.2.2 Standard	4.3.8.4.2.3.4.2.2 <i>LDI (low-level descend inhibit)</i> . This 2-bit (51-52) subfield shall be coded as defined in 4.3.8.4.2.2.2.2.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.3.4.2.3 Standard	4.3.8.4.2.3.4.2.3 <i>RMF (RA message format)</i> . This 2-bit (53-54) subfield shall be coded as defined in 4.3.8.4.2.2.2.3.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.3.4.2.4 Standard	4.3.8.4.2.3.4.2.4 <i>RAC (RACs record)</i> . This 4-bit (55-58) subfield shall be coded as defined in 4.3.8.4.2.2.2.4.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.3.4.2.5 Standard	4.3.8.4.2.3.4.2.5 <i>RAT (RA terminated indicator)</i> . This 1-bit (59) subfield shall be coded as defined in 4.3.8.4.2.2.2.5.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	



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Chapter 4 Reference 4.3.8.4.2.3.4.2.6 Standard	4.3.8.4.2.3.4.2.6 <i>MTE (multiple threat encounter)</i> . This 1-bit (60) subfield shall be coded as defined in 4.3.8.4.2.2.2.6.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.3.4.2.7 Standard	4.3.8.4.2.3.4.2.7 <i>SPI (Suppression indicator)</i> . This 1-bit (61) subfield shall be coded as defined in 4.3.8.4.2.2.2.11.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.3.4.2.9 Standard	4.3.8.4.2.3.4.2.9 <i>CAC (Mode C altitude code)</i> . This 13-bit (76-88) subfield shall denote the Mode C altitude code of the reporting aircraft. <i>Note. — Structure of MU for an RA broadcast:</i>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.4.2.2.1 Standard	4.3.8.4.2.4.2.2.1 <i>ARA (active RAs)</i> . This 10-bit (41-50) subfield shall be coded as defined in 4.3.8.4.2.2.2.1.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	



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Chapter 4 Reference 4.3.8.4.2.4.2.2.2 Standard	4.3.8.4.2.4.2.2.2 <i>LDI (low-level descend inhibit)</i> . This 2-bit (51-52) subfield shall be coded as defined in 4.3.8.4.2.2.2.2.	nil	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.4.2.2.3 Standard	4.3.8.4.2.4.2.2.3 <i>RMF (RA message format)</i> . This 2-bit (53-54) subfield shall be coded as defined in 4.3.8.4.2.2.2.3.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.4.2.2.4 Standard	4.3.8.4.2.4.2.2.4 <i>RAC (RACs record)</i> . This 4-bit (55-58) subfield shall be coded as defined in 4.3.8.4.2.2.2.4.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.4.2.2.5 Standard	4.3.8.4.2.4.2.2.5 <i>RAT (RA terminated indicator)</i> . This 1-bit (59) subfield shall be coded as defined in 4.3.8.4.2.2.2.5.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.4.2.2.6 Standard	4.3.8.4.2.4.2.2.6 <i>MTE (multiple threat encounter)</i> . This 1-bit (60) subfield shall be coded as defined in 4.3.8.4.2.2.2.6. <i>Note. — Structure of MV for a coordination reply:</i>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	



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Chapter 4 Reference 4.3.8.4.2.7 Standard	<p>4.3.8.4.2.7 For ACAS X-compliant systems: Extended squitter ME field for use in air-to-air coordination. This 56-bit (33-88) field shall be used for air-to-air coordination involving ADS-B-only equipped intruders (intruders that cannot receive a discrete 1 030 MHz resolution message).</p> <p>Note. — ADS-B messages with TYPE code = 28 (ADS-B operational coordination message, refer to 4.3.8.4.2.7.1) and TYPE code = 31 (ADS-B aircraft operational status message, refer to 4.3.8.4.2.7.2) are used in air-to-air coordination.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.1 Standard	<p>4.3.8.4.2.7.1 Subfields in ME for ADS-B operational coordination message (OCM).</p> <p>Note. — In the subfields defined below, the bit number is relative to the start of the extended squitter, where bit 33 is the start of the ME message field.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.1.1 Standard	<p>4.3.8.4.2.7.1.1 TYPE. This 5-bit (33-37) subfield that defines the type of extended squitter shall be set to 28 for the ADS-B OCM.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.1.2 Standard	<p>4.3.8.4.2.7.1.2 Subtype. This 3-bit (38-40) subfield that further defines TYPE shall be set to 3 for the ADS-B OCM.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	



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Chapter 4 Reference 4.3.8.4.2.7.1.3 Standard	4.3.8.4.2.7.1.3 <i>MTB (multiple threat bit)</i> . This 1-bit (42) subfield shall indicate a multiple threat according to the codes as defined in 4.3.8.4.2.3.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.1.4 Standard	4.3.8.4.2.7.1.4 <i>CVC (cancel vertical RAC)</i> . This 2-bit (43-44) subfield shall be used by airborne ACAS X equipment to cancel a vertical resolution advisory complement sent to an ACAS-equipped threat aircraft with codes as defined in 4.3.8.4.2.3.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.1.5 Standard	4.3.8.4.2.7.1.5 <i>VRC (vertical RAC)</i> . This 2-bit (45-46) subfield shall be used by airborne ACAS X equipment to send a vertical resolution advisory complement ("do not pass above" or "do not pass below") to an ACAS-equipped threat aircraft with codes as defined in 4.3.8.4.2.3.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.1.6 Standard	4.3.8.4.2.7.1.6 <i>CHC (cancel horizontal RAC)</i> . This 3-bit (47-49) subfield shall be used by ACAS X with horizontal on-board resolution equipment to cancel a horizontal resolution advisory complement sent to an ACAS-equipped threat aircraft with codes as defined in 4.3.8.4.2.3. The CHC shall be set to 0 in TCAS resolution messages transmitted by ACAS X without horizontal resolution capability.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	



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Chapter 4 Reference 4.3.8.4.2.7.1.7 Standard	4.3.8.4.2.7.1.7 <i>HRC (horizontal RAC)</i> . This 3-bit (50-52) subfield shall be used by ACAS X with horizontal on-board resolution equipment to send a horizontal resolution advisory complement to manoeuvre ("do not turn left" or "do not turn right") to the ACAS-equipped threat aircraft with codes as defined in 4.3.8.4.2.3. The HRC shall be set to 0 in ADS-B OCMs transmitted by ACAS X without horizontal resolution capability.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.1.8 Standard	4.3.8.4.2.7.1.8 <i>HSB (horizontal sense bits subfield)</i> . This 5-bit (53-57) subfield shall be used as a parity coding field to protect the six horizontal sense bits (47-52). The originating aircraft equipped with ACAS which is capable of 1 030/1 090 MHz transmission and that sends a coordination message shall include bits 53-57 with codes as defined in 4.3.8.4.2.3 in all ADS-B OCMs sent. The receiving ACAS X aircraft shall examine HSB (bits 53-57) in the ADS-B OCMs. If the six vertical sense bits (47-52) are not in agreement with the HSB (bits 53-57), the receiving ACAS X aircraft detects there is an error in the message and shall not use the message contents.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.1.9 Standard	4.3.8.4.2.7.1.9 <i>VSB (vertical sense bits subfield)</i> . This 4-bit (58-61) subfield shall be used as a parity coding field to protect the four vertical sense bits (43-46). The originating active ACAS shall include VSB (bits 58-61) with codes as defined in 4.3.8.4.2.3 in all operational coordination messages sent. The receiving ACAS X shall examine VSB (bits 58-61) in operational coordination messages received. If four vertical sense bits (43-46) are not in agreement with VSB (bits 58-61), the receiving ACAS X aircraft detects there is an error in the message and shall not use the message contents.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	



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Chapter 4 Reference 4.3.8.4.2.7.1.10 Standard	4.3.8.4.2.7.1.10 <i>TAA (threat identity aircraft address).</i> This 24-bit (65-88) subfield shall contain the 24-bit aircraft address of the threat with codes as defined in 4.3.8.4.2.3. <i>Note. —The structure of ME for an operational coordination message is:</i>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.2 Standard	4.3.8.4.2.7.2 <i>Subfields in ME for aircraft operational status message.</i> <i>Note. — In the subfields defined below, the bit number is relative to the start of the extended squitter, where bit 33 is the start of the ME message field.</i>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.2.1 Standard	4.3.8.4.2.7.2.1 <i>TYPE.</i> This 5-bit (33-37) subfield that defines the type of extended squitter shall be set to 31 for the Aircraft operational status message.	Not yet implemented	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.2.2 Standard	4.3.8.4.2.7.2.2 <i>Subtype.</i> This 3-bit (38-40) subfield that further defines TYPE shall be set to 0 for airborne aircraft and 1 for surface aircraft. For ACAS X air-to-air coordination purposes, Subtype shall always be set to 0.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	



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Chapter 4 Reference 4.3.8.4.2.7.2.3 Standard	4.3.8.4.2.7.2.3 <i>CC (airborne capability class code)</i> . This 16-bit (41-56) subfield which is part of Subtype=0 messages shall be coded as defined in 4.3.8.4.2.7.2.3.1 to 4.3.8.4.2.7.2.3.4.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.2.3.1 Standard	4.3.8.4.2.7.2.3.1 <i>Bit (41-42)</i> . This 2-bit (41-42) subfield shall be set to 0 for ACAS air-to-air coordination purposes.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.2.3.2 Standard	4.3.8.4.2.7.2.3.2 <i>CA Operational (collision avoidance operational)</i> . This 1-bit (43) subfield shall be set to 1 to indicate that a collision avoidance system is available and operational and capable of issuing resolution advisories. When this bit is set to 1, the collision avoidance coordination capability bits shall be examined to provide detailed coordination information. <i>Note. — For all TCAS II versions and ACAS X-compliant systems, the associated Mode S transponder sets the CA Operational bit=1 when RI=3 or 4.</i>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.2.3.3 Standard	4.3.8.4.2.7.2.3.3 Bits (44-54) shall not be used by the ACAS X air-to-air coordination process but are reserved for future use.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	



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Chapter 4 Reference 4.3.8.4.2.7.2.3.4 Standard	<p>4.3.8.4.2.7.2.3.4 <i>DAA (detect and avoid)</i>. This 2-bit (55-56) subfield shall be used as defined below:</p> <p><i>Note 1. — The DAA bits indicate whether and what type of coordination information needs to be provided to the aircraft so that the DAA system of the threat aircraft can listen and provide guidance that is interoperable with ACAS. These bits are independent of the CA Coordination capability bits, as aircraft with a DAA system may or may not have an ACAS. For more details of DAA bits, refer to RTCA/DO-365.</i></p> <p><i>Note 2. — The type of coordination message transmitted, resolution message or ADS-B OCM, depends both on the receive capability of the DAA system and on the transmit capability of the ACAS. If the DAA system can receive both the resolution message and the OCM, an ACAS with 1 030 MHz transmit capability is required to transmit the resolution message.</i></p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.2.4 Standard	<p>4.3.8.4.2.7.2.4 <i>OM (airborne operational mode)</i>. This 16-bit (57-72) subfield which is part of Subtype=0 messages shall be coded as defined in 4.3.8.4.2.7.2.4.1 to 4.3.8.4.2.7.2.4.3.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.2.4.1 Standard	<p>4.3.8.4.2.7.2.4.1 <i>Bits (57-58)</i>. This 2-bit (57-58) subfield shall be set to 0 for ACAS X air-to-air coordination purposes.</p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	



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Chapter 4 Reference 4.3.8.4.2.7.2.4.2 Standard	4.3.8.4.2.7.2.4.2 <i>Bits (59-64) and Bit 72.</i> The bits (59-64) and bit 72 shall not be used by the ACAS X air-to-air coordination process.	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.7.2.4.3 Standard	4.3.8.4.2.7.2.4.3 <i>CCCB (collision avoidance coordination capability bits).</i> This 7-bit (65-71) subfield shall be used as defined below: <i>Note. — The two reserved bits marked 'Intended for unmanned aircraft systems use' are envisioned as a priority field to distinguish among users with different levels of capability or as directed by regulatory authorities.</i>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	
Chapter 4 Reference 4.3.8.4.2.8 Standard	4.3.8.4.2.8 <i>ACAS unit part number and ACAS software part number.</i> If the ACAS and associated transponder have the necessary capacity, ACAS shall transmit its unit part number to transponder register E516 and shall transmit its software part number to transponder register E616. <i>Note. — The data formats for transponder registers E516 and E616 are specified in the Technical Provisions for Mode S Services and Extended Squitter (Doc 9871).</i>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	



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Chapter 4 Reference 4.5.1.6.2 Standard	<p>4.5.1.6.2 Adequate protection against residual ADS-B position data shall be provided in track state computation when transitioning from passive to active surveillance, in order to avoid unnecessary advisories during such transitions.</p> <p><i>Note.— A suitable means of protection can be found in RTCA DO-300 Change 2 and RTCA DO-300A Change 1/EUROCAE ED-221A – Minimum Operational Performance Standards (MOPS) for Traffic Alert and Collision Avoidance System II (TCAS II) Hybrid Surveillance, Section 2.2.6.2.</i></p>	NIL	Less protective or partially implemented or not implemented	Not yet implemented	

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