
TELEPHONE:
1300 -306- 630
(local call - Aust. wide,
except from mobile
phone)
FAX: 02-6268 5111

AUSTRALIA
AERONAUTICAL INFORMATION
SERVICE
AIRSERVICES AUSTRALIA
GPO BOX 367
CANBERRA ACT 2601

AIC

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E-mail: publications.unit@airservicesaustralia.com

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VHF COMMUNICATIONS 25KHZ CHANNEL SPACING

1. INTRODUCTION

1.1 The VHF band (117.975 to 137MHZ) is the primary aeronautical communication frequency band and is divided into a number of discrete channels. Each of these channels is used for communication between an aircraft and ATC as well as other aircraft.

1.2 In Australia, aeronautical frequencies for ATS use are currently assigned with 50KHZ channel spacing.

1.3 The number of frequencies assigned in the VHF band in Australia by Airservices Australia has now increased to the extent that it will not be possible to continue to allocate interference-free frequencies for ATS in high-density traffic areas using the 50KHZ channel spacing. Frequencies based on the 25KHZ channel spacing are already assigned for non-ATS communications; ie, Company and Department of Defence (DoD) use.

2. CLASS A AIRSPACE FREQUENCIES

2.1 From November 2005, Airservices Australia will begin to assign frequencies in Class A airspace with 25KHZ channel spacing.

3. OTHER AIRSPACE FREQUENCIES

3.1 Following on from changes in Class A airspace, Airservices Australia will begin assigning 25KHZ channel spacing in other high-density traffic areas (mainly classes C, D and E airspace) from November 2006. 25KHZ will only be introduced in Class G (including CTAF and MBZ) after other fre-

quency planning options are exhausted. Pilots should note that these initial allocations will not involve mandated change to equipment fit for aircraft unless it affects their area of operation.

4. IDENTIFICATION OF 25KHZ CHANNEL SPACING

4.1 The frequency displayed on the majority of radio control panels provides either two or three decimal places when displaying the selected frequency. Channel spacing can be determined by observing the number of decimal places on the radio display and the selectable channel steps. Pilots need to be aware of the radio equipment fit of their aircraft.

4.2 The following table gives examples of radio displays with two and three decimal places that show the differences between 50 and 25KHZ spacing.

<u>Two decimal channel display with 25KHZ spacing</u>	<u>Three decimal channel display with 25KHZ spacing</u>	<u>Two decimal channel display with 50KHZ spacing</u>
118.00	118.000	118.00
118.02	118.025	
118.05	118.050	118.05
118.07	118.075	
118.10	118.100	118.10
118.12	118.125	
118.15	118.150	118.15
118.17	118.175	
118.20	118.200	118.20

Channel Spacing Steps

4.3 In the above table, the channel 118.02 (or 118.025) is the first 25KHZ channel in the VHF communications band.

5. COMMUNICATING 25KHZ CHANNELS

5.1 Whenever VHF communications channels operate on 25KHZ spacing, only the first five (5) digits should be used to identify the transmitting frequency in voice communications. Not more than two (2) significant digits after the decimal point are used. Where there are two zeros, only the first zero is considered significant.

5.2 The following examples illustrate the application of this procedure:

Channel display (2 decimal)	Channel display (3 decimal)	Communicate as...
118.00	118.000	ONE ONE EIGHT DECIMAL ZERO
118.02	118.025	ONE ONE EIGHT DECIMAL ZERO TWO
118.05	118.050	ONE ONE EIGHT DECIMAL ZERO FIVE

Frequency Communication

6. DISPLAYING 25KHZ CHANNELS IN AIP

6.1 25KHZ channel spacing will be displayed in all AIP documents (including ERSA) and charts by showing only two (2) decimal places. For example, an ATS communications facility operating on a transmitting frequency of 118.025MHZ will be represented as 118.02. 118.000MHZ will continue to be represented as 118.0, and 118.050MHZ will continue to be represented as 118.05.

7. MANDATING THE NEW FREQUENCY STANDARD

7.1 CASA will issue a notice of proposed rule making (NPRM) to introduce a modern standard mandating the transmitter frequency tolerance standard of 30 parts per million or 0.003% for all aircraft VHF transmitting radios (including Class G) from November 2009. Consequently, from November 2009, the only approved radios will be those that meet the 0.003% frequency stability specification.

8. DETERMINING FREQUENCY STABILITY OF RADIOS

8.1 All radios with 100KHZ channel spacing and some radios with 50KHZ spacing currently fitted to some aircraft in Australia will not meet the new stability specifications. In general, these radios will not be able to meet the new standard for use in Australian airspace. However, as some radios with the current 50KHZ spacing can support the tighter tolerance, a number of operators may be permitted to use these radios in low traffic density areas of Australian airspace for a number of years.

9. MORE INFORMATION

9.1 Further information on aircraft avionics and their standards can be obtained from CASA:

Charles Lenarcic
Principal Engineer, Avionics
New Technologies and Systems Section
Manufacturing, Certification and New Technologies Office
CASA
GPO Box 2005
Canberra ACT 2601
Phone: 131 757 or 02 6217 1831
Fax: 02 6217 1914
Email: charles.lenarcic@casa.gov.au

10. CANCELLATION

10.1 This AIC remains current UFN.

11. DISTRIBUTION

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