

RADIO CONFIGURATION 8.33 kHz MODE

Some radio types can be configured for 8.33 kHz channel spacing operations, for example by using a mechanical toggle switch or by reprogramming. When operating in a 25 kHz only mode, such radios will not enable 8.33 kHz channels to be selected and may only display 5 digits.

In such cases, caution must be exercised to ensure that the radio is configured for 8.33 kHz channel spacing operations.



REVISED R/T PROCEDURE: 6 DIGITS FOR 8.33 kHz AND 25 kHz CHANNELS

The introduction of 8.33 kHz channel spacing has resulted in a 6-digit channel numbering scheme, where the 8.33 kHz channel designators differ from the actual frequency; e.g. 8.33 kHz channel 132.035 tunes the frequency 132.0333 MHz. Amendment 80 to Volume II, Annex 10 becomes applicable on **24 November 2005**: it introduces a procedure for a 6-digit pronunciation of both 8.33 kHz and 25 kHz channels in VHF radio telephony communication, except in the case of both the fifth and sixth digits being zeros, in which case only the first four digits should be used; the use of the term "CHANNEL" in conjunction with 8.33 kHz channels will be discontinued. The following examples illustrate the application of this procedure:

Channel (8.33 kHz/25 kHz)	Transmitted as
118.000 (25 kHz)	ONE ONE EIGHT DECIMAL ZERO
118.005 (8.33 kHz)	ONE ONE EIGHT DECIMAL ZERO ZERO FIVE
118.010 (8.33 kHz)	ONE ONE EIGHT DECIMAL ZERO ONE ZERO
118.025 (25 kHz)	ONE ONE EIGHT DECIMAL ZERO TWO FIVE
118.100 (25 kHz)	ONE ONE EIGHT DECIMAL ONE

It is essential that pilots READBACK the channel number in full, and that controllers verify that the pilot has correctly understood.



Note: Situations may arise outside of the airspace of mandatory carriage where an aircraft is equipped with a 25 kHz only capable radio and a 5-digit radio control panel, and the pilot receives a communication transfer in 6 digits. In such cases, caution must be exercised to ensure that the first five digits are tuned correctly; for example, being instructed to change to 132,025 would require setting of 132,02 in a 5-digit radio com box.

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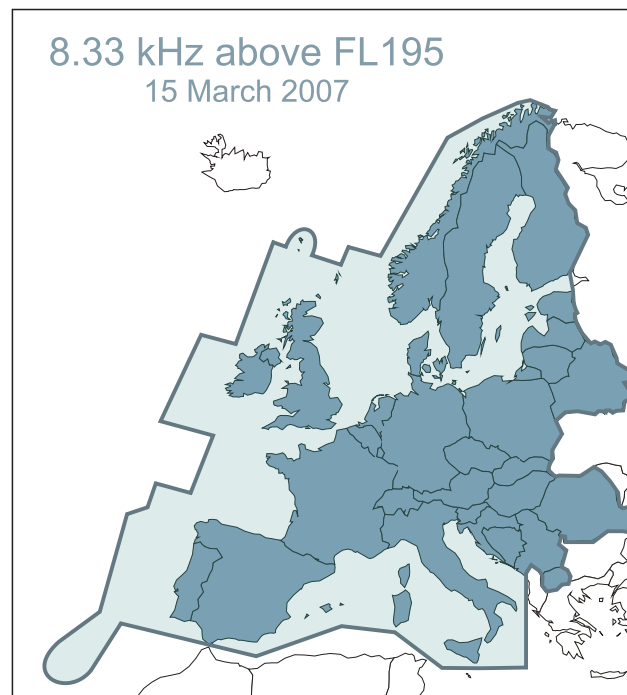
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GENERAL

The demand for VHF assignments in the aeronautical mobile radio communication service band 118 to 137 MHz continues to grow due to:

- The creation and modification of ATC sectors;
- The creation and modification of air traffic services such as approach, tower and ATIS;
- The provision of backup services and the avoidance of interference;
- The provision of aeronautical operational control (AOC) services;
- Accommodating VHF Digital Link services in the band 136.700 to 137 MHz.

MANDATORY CARRIAGE ABOVE FL195 FROM 15 MARCH 2007



Eurocontrol Permanent Commission Recommendation 05/6 supports the implementation of 8.33 kHz channel spacing above FL195 in the ICAO EUR Region with a carriage date of 15 March 2007.

The implementation plan for 8.33 kHz above FL195 in the ICAO EUR Region foresees that in order to create a homogeneous area of operations, the mandatory carriage of 8.33 kHz radio equipment above FL195 is enforced, as a minimum, in all States that enforce mandatory carriage above FL245.

A homogeneous area of operations is required in order to:

- mitigate against safety hazards due to non-8.33 kHz compliant aircraft;
- minimise additional workload due to the handling of non-8.33 kHz compliant aircraft;
- facilitate the introduction of further 8.33 kHz channels at a later date.

Details of any exemption granted by States will be available in State AIP.

REVISED 8.33 kHz POLICY FOR STATE AIRCRAFT

The handling of non-8.33 kHz equipped State aircraft can lead to increases in ATC workload, and this needs to be taken into account in order to maintain safety levels.

To address such issues, Eurocontrol is developing a revised 8.33 kHz policy for State aircraft.

The policy seeks to maximise the 8.33 kHz equipage of State aircraft in the airspace of mandatory carriage, especially with respect to "transport type" aircraft, new procurements and planned retrofits.

Non-compliance should be based on compelling technical or military imperative reasons and only used as a last resort.

It is foreseen that States make every effort to equip "transport type" aircraft (i.e. C130, C160, C141, KC135, P180 etc.) by 15 March 2007, with a final date for compliance of **12 March 2009**.

The remaining non-8.33 kHz equipped State aircraft will be handled within the capacity limits of the ATM system, taking into account the need to maintain safety levels.

The policy will be submitted to the Eurocontrol Permanent Commission for approval.

AIRCRAFT RETROFIT

In order to enter the 8.33 kHz airspace, aircraft must be equipped with two independent sets of 8.33 kHz radios.

ETSO-2C37e (Receiver) and ETSO 2-C38e (Transmitter) are the related European standards which are comparable with FAATSO-2C37e and TSO-2C38e.

Such general regulations describe the applicable MOPS (Minimum Operational Performance Specification) documents for transceivers. This includes ED-23B, ED-14D and ED-12B in case of transmitters and receivers, and the applicable issues of these documents.

Availability of 8.33 kHz radios/upgrade kits

8.33 kHz capable radios are available for Commercial and GA aircraft. Most of the avionics manufacturers have new 8.33 kHz-capable equipment for sale. Upgrades are also available for some, but not all, older equipment.

Radio Retrofit Procedures

The 8.33 kHz retrofit effort depends on the class aircraft, the type of VHF radio equipment currently installed, and on the general avionics concept (mainly analogue vs. digital and non-integrated/integrated avionics) of particular aircraft. Thus, it may be required to:

- upgrade/configure the radio software or
- replace the radio control panel only or
- upgrade the complete VHF radio or
- replace the complete VHF radio

Aircraft Re-Certification

As for any other avionic retrofit, the installation of new radio components or the upgrade of existing radio components have to be certified for the particular make and model of the aircraft. This certification is typically done through a STC (Supplemental Type Certificate) or a SB (Service Bulletin).

Many radio manufacturers, airframe manufacturers, and maintenance organisations have already developed such STCs or SBs for a variety of aircraft types. In case a STC is not yet available for a particular aircraft and the envisaged radio equipment, the maintenance/design organisation in charge of the retrofit can assist to develop such a STC.

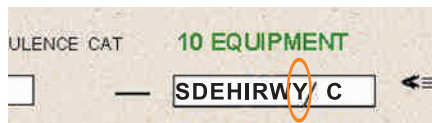
FLIGHT PLANNING

Filed Flight Plans (FPL)

- ▶ If your aircraft is equipped with 8.33 kHz capable radios: insert the letter 'Y' in field 10 of the filed flight plan, regardless of the requested flight level.
- ▶ If your aircraft is NOT equipped with 8.33 kHz capable radios and you are a State aircraft equipped with UHF: insert the letter U in field 10 and the indicator 'STS/EXM 833' in field 18 of the filed flight plan.
- ▶ If your aircraft is NOT equipped with 8.33 kHz capable radios but your flight is exempted from the carriage

requirement: insert the indicator 'STS/EXM833' in field 18 of the filed flight plan.

- ▶ If you change from an 8.33 kHz equipped aircraft to a non-8.33 kHz equipped aircraft: follow the applicable filed flight plan modification procedure, including in the modification message (CHG) or new flight plan, as appropriate, a field 10 without the letter 'Y'. Do not forget to modify your requested cruising levels if the original were higher than the mandatory carriage level.



Repetitive Flight Plans (RPL)

In RPL of flights that are operated with aircraft equipped with 8.33 kHz capable radios: insert the letter 'Y' in item Q within the EQPT/element.

In RPL of flights that are subject to exemption, include in item Q the indicator 'STS/EXM833'.

If on the day of operation there is a change in the 8.33 kHz capability status or the exemption status of the flight, use the RPL modification-for-the-day procedure, including in the modification message (CHG to be sent not earlier than 20 hours prior to EOBT) or the new flight plan, as appropriate, a field 10 without the letter 'Y'. Do not forget to also modify your requested cruising level(s) if required.

Rejections and warnings for non-8.33 kHz compliant FPLs

From 15 March 2007 flight plans with a requested FL above FL195 which are deemed to be 'non-8.33 kHz compliant' will fail IFPS processing.

If the aerodrome of departure is within the IFPS Zone, then the FPL will be rejected, and a rejection message returned to the FPL originator.

If the aerodrome of departure is outside the IFPS Zone, then the FPL will be marked as non-compliant and distributed to the ATC Units concerned with IFP/NON833 added in field 18.

Do not enter a 'Y' in field 10 if the aircraft is not equipped with 8.33 kHz capable radio equipment. This is a serious infringement and will be dealt with accordingly.

Warning Phase for above FL195

26 October 2006 to 15 March 2007

During this period, IFPS will issue warning messages for non-8.33 kHz equipped aircraft filing above FL195 and below FL245. Flight plans for such aircraft will not fail IFPS processing; however, the ACK message returned to the flight plan originator will contain a warning indication.

HOSP flights and flights on SAR missions

Hospital flights and aircraft engaged in search and rescue missions are not exempt from the 8.33 kHz mandatory carriage requirement. However, due to the frequently urgent nature of these flights, they are subject to a special IFPS processing.

To ensure the correct processing of the flight plan, HOSP and SAR flights are required to insert STS/HOSP and

STS/SAR, as appropriate, in field 18 of the flight plan. Flight plans containing either of these indicators will not be rejected by IFPS, even if there is no 'Y' in field 10 to indicate 8.33 kHz equipage, and the aircraft is planned to enter airspace where no exemption is applicable.

It is important to note that a non-8.33 kHz and non-UHF equipped HOSP or SAR flight will be handled outside of the 8.33 kHz airspace.

8.33 kHz AND UHF STATUS : PHRASEOLOGY

To mitigate against the risk of non-8.33 kHz compliant aircraft, air traffic controllers must know the 8.33 kHz equipage status of aircraft under their control. In the event that an aircraft is not 8.33 kHz compliant, this will usually be indicated on the flight progress strip and/or the radar track label. Should ATC be uncertain about the **8.33 kHz equipage status** of any aircraft or the **UHF status of a State aircraft**, then the following phraseology applies:

Circumstance	Phraseology
To request confirmation of 8.33 kHz capability	CONFIRM EIGHT POINT THREE THREE
To indicate 8.33 kHz capability	* AFFIRM EIGHT POINT THREE THREE
To indicate lack of 8.33 kHz capability	* NEGATIVE EIGHT POINT THREE THREE
To request UHF capability	CONFIRM UHF
To indicate UHF capability	* AFFIRM UHF
To indicate lack of UHF capability	* NEGATIVE UHF
To request status in respect of 8.33 kHz exemption	CONFIRM EIGHT POINT THREE THREE EXEMPTED
To indicate 8.33 kHz exempted status	*AFFIRM EIGHT POINT THREE THREE EXEMPTED
To indicate 8.33 kHz non-exempted status	* NEGATIVE EIGHT POINT THREE THREE EXEMPTED
To indicate that a certain clearance is given because otherwise a non -8.33 equipped and/or non-exempted aircraft would enter the airspace of mandatory carriage	DUE EIGHT POINT THREE THREE REQUIREMENT

* Denotes pilot transmission.

The above phraseology is approved by ICAO in the Procedures for Air Navigation Services Air Traffic Management (PANS-ATM, Doc 4444)