



## **IMPLEMENTATION OF 8.33 kHz CHANNEL SPACING ABOVE FL245 IN THE ICAO EUR REGION EFFECTIVE 7th OCT 1999.**

(extract from EUROCONTROL 8.33 User Guide, 4th edition. For further information and update refer to <http://eurocontrol.be/projects/eatchip/vhf833>).

### **General**

Due to a shortage of VHF r/t frequencies in the European airspace a decision has been made to reduce the current spacing from 25 kHz to 8.33 kHz. This will result in an increase in available frequencies which permits the creation of new control sectors, thereby contributing to an increase in ATM capacity in the ECAC area. An increase in capacity is expected for Summer 2000.

### **Date of operation and mandatory carriage**

The mandatory carriage of 8.33 kHz radio equipment will be effective from **07 OCT 99** throughout the ICAO European Region above FL 245. A vertical extension is possible later.

### **Area of operation**

States initially implementing 8.33 kHz operations are: Austria, Belgium, France, Germany, Luxembourg, Netherlands and Switzerland.



### **Aircraft equipment**

Aircraft must be equipped with two independent sets of 8.33 kHz radios.

### **Exemptions**

No exemption can be granted within sectors where 8.33 kHz channel spacing is in use. The States are responsible for the publication of exemptions outside the 8.33 sectors.

### **FLIGHT PLAN**

#### **The aircraft is equipped**

Letter "Y" must be inserted in field 10 of the flight plan.

Repetitive flight plans above FL 245 assume that the aircraft is equipped unless it is differently specified in item Q (EQPT field).

#### **The aircraft is not equipped**

The aircraft operator must check whether or not the flight is exempted. If exempted, the indication STS/EXM833 must be inserted in field 18 of the flight plan. If applicable, this indication should also be inserted in the RPL. If the RPL is filed as compliant and a non-8.33 aircraft is used on the day of operation, a change message must be issued not earlier than 20 hours prior to EOBT. The requested cruising level must be modified as necessary. The IFPS will reject a flight plan not complying with these rules when the aerodrome of departure is within the IFPS zone and will add a warning in the FPL when the aerodrome of departure is outside of the IFPS zone.

#### **Communication failure**

In this case, the standard procedure in the airspace concerned has to be applied.

#### **State aircraft**

Frequent users of the 8.33 airspace must be equipped with 8.33 radios; infrequent users without 8.33 capability but with UHF, will be permitted to use UHF, where UHF is available. In this case, the letter "U" must be inserted in field 10, and the exemption indicator STS/EXM833 must be inserted in field 18 of the flight plan.

The other exemptions may also be applicable to State aircraft.

Note that a State aircraft without either 8.33 or UHF is not allowed to enter 8.33 sectors.

#### **Medical flights and SAR flights**

Due to the urgency of the situation, these flight plans are not rejected by the IFPS, even if not correctly filed.

However, the carriage requirement applies equally to HOSP/SAR flights, and verification of 8.33 capability will be requested by ATC. An aircraft without either UHF or 8.33 is not allowed to enter 8.33 sectors.

#### **Phraseology**

The phraseology has been approved by ICAO. It is complementary to the existing one. The 8.33 kHz frequencies must be identified in pilot and controller voice communications.

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Circumstances	Phraseology
To request the capability of the radio equipment	Advise eight point three three equipped
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 indicate UHF capability	UHF equipped
To request the status in respect of exemption	Advise eight point three three exemption status
To indicate 8.33 kHz exempted status	( <i>aircraft call sign</i> ) Exempted eight point three three
To indicate that a certain clearance is given because otherwise a non-equipped aircraft would enter the airspace of mandatory carriage	( <i>clearance/instruction</i> ) Due eight point three three requirement
To request the pilot to confirm the 8.33 selection	- Confirm eight point three three - Affirm eight point three three channel ( <i>name</i> )
Transfer of control and/or channel change	- Contact ( <i>unit call sign</i> ) channel ( <i>name</i> ) - At (or OVER)( <i>time or place</i> ) contact ( <i>unit call sign</i> ) channel ( <i>name</i> ) - If no contact ( <i>instructions</i> ) - Stand by channel ( <i>name</i> ) for ( <i>unit call sign</i> ) - Request change to channel ( <i>name</i> ) - Channel change approved - Monitor ( <i>unit call sign</i> ) channel ( <i>name</i> ) - Monitoring Channel ( <i>name</i> ) - When ready contact ( <i>unit call sign</i> ) channel ( <i>name</i> ) - Remain this channel

**Equipment standards**

The 8.33 kHz spacing standards and definition have been approved by the following bodies:

- Aeronautical Mobile Communication Panel (AMCP) "Standard and Recommended Practices".
- European Organization for Civil Aviation Equipment (EUROCAE) - "Minimum Operational Performance Standards".
- Requirements and Technical Concepts for Aeronautics (RTCA) - "RTCA AC-172/D0-186A".
- Airlines Electronic Engineering Committee (AEEC)-"Supplement 8.33 kHz mode to ARINC 716".
- European Telecommunication Standardization Institute (ETSI) - "Document ETS 676 - Radio Transmitters and Receivers and Aeronautical Stations for Aeronautical Mobile Service operating in the VHF Band".

**Frequency List**

Spacing (kHz)	Frequencies (MHz)	25 kHz mode "frequency"	8.33 kHz mode "channel"
<b>25</b>	<b>132.0000</b>	<b>132.00</b>	<b>132.000</b>
8.33	132.0000	-	132.005
8.33	132.0083	-	132.010
8.33	132.0167	-	132.015
<b>25</b>	<b>132.0250</b>	<b>132.02</b>	<b>132.025</b>
8.33	132.0250	-	132.030
8.33	132.0333	-	132.035
8.33	132.0417	-	132.040
<b>25</b>	<b>132.0500</b>	<b>132.05</b>	<b>132.050</b>
8.33	132.0500	-	132.055
8.33	132.0583	-	132.060
8.33	132.0667	-	132.065
<b>25</b>	<b>132.0750</b>	<b>132.07</b>	<b>132.075</b>
	etc		

During 8.33 operations, the word "**CHANNEL**" must be used by the pilot and the controller as a unique identification to avoid a mistuning.

**Jeppesen publications**

- 50 or 25 kHz spacing
 

118.0	or	118.00	or	118.000	is shown as	118.0
118.02	or	118.025			is shown as	118.02
118.15	or	118.150			is shown as	118.15
118.17	or	118.175			is shown as	118.17
- 8.33 kHz spacing
 

The "**CHANNEL numbers**" are always shown as three decimal places (e.g. 132.035).

**END**

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