

Portugal

QUESTIONNAIRE - PART I

1. Information on national radio frequency spectrum allocations: 29.7 - 960 MHz

Attached file: "PORTUGUESE FREQUENCY ALLOCATION TABLE: 27.5 MHz-960 MHz"

2 Identification of a focal point regarding correspondence on this questionnaire (Parts I and II)

**FOCAL POINT REGARDING CORRESPONDENCE ON THIS QUESTIONNAIRE
(PARTS I AND II)**

1. Mr./Ms: **MENDES** **MARIA LUÍSA**
Family Name First Name
2. Country: **PORTUGAL**
3. Name of the
Administration/Organization: **ICP – Instituto das Comunicações de Portugal**
4. Title: **Head of Spectrum Management and Engineering Directorate**
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*To be returned no later than 31 January 2000 to:
ITU-D Study Groups Secretariat
Telecommunication Development Bureau
Fax: +41 22 730 54 84
E-Mail: devsg2@itu.int*

QUESTIONNAIRE - PART II
(To be completed by Administrations only)

General Questions on National Spectrum Management

**Describe succinctly the problems that your administration is currently experiencing
in national spectrum management
(for example subject areas in national spectrum management).**

Country: **PORTUGAL**

Focal point: **MENDES, MARIA LUISA**

The following general questions on national spectrum management are based in part on the functional requirements of spectrum management described in the handbook on "National Spectrum Management." If you need additional space to answer the questions please continue on a separate sheet of paper.

1. Do you have a national law governing spectrum management? YES NO
- Last date this law was changed or modified? **1997.08.01**
- Are any actions planned to change this law? YES NO

Have any problems been identified? and if so, do you need any assistance from the ITU in solving them?

NO.

2. Have you published regulations and procedures for national spectrum management (e.g. radio services, license requirements etc.)? YES NO

Have any problems been identified? and if so, do you need any assistance from the ITU in solving them?

NO.

3. Do you have a national radio frequency spectrum allocation table? YES NO

Have any problems been identified? and if so, do you need any assistance from the ITU in solving them?

NO.

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4. Do you have technical specifications for national spectrum use? YES NO

Have any problems been identified? and if so, do you need any assistance from the ITU in solving them?

NO.

5. Do you have a need for any spectrum redeployment* ? YES NO

* The term "redemption" is used here to refer to a process of national scope in which an assessment is conducted 1) to determine if portions of spectrum can be identified that are in limited use; and 2) to determine if such spectrum segments can be reallocated for use in delivering radiocommunication services that have expanding spectrum requirements.

- If so, do you have a strategy for achieving this redeployment in respective frequency bands and for given radiocommunication services? YES NO

- Please define the established strategy and describe the nature of the consultation, if any, with users regarding the potential costs resulting from the planned redeployment.

6. What is the total cost of national spectrum management functions performed by your Government (expressed in Swiss francs)? **22 361 500 CHF**

- What is the source of the funding required to accomplish these spectrum management functions?

FEES FROM THE USERS OF THE SPECTRUM

7. Do you have a method for establishing spectrum users' fees? YES NO

- If so, please give a brief description of the method used in establishing those fees.

ACTUAL TARIFFS ESTABLISHED ON A COST RECOVERY BASIS.

8. Do you maintain centralized databases for spectrum management? YES NO

- What is the approximate size of your database (expressed in number of records)?
120 000

- Do you have a computerized data base management system (DBMS)? YES NO

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- What DBMS system do you use?

ORACLE

- Are these frequency assignment records available to public?

YES__ NO **X**

Have any problems been identified? and if so, do you need any assistance from the ITU in solving them?

NO

9. Do you notify frequency assignments to the ITU?

YES **X** NO__

Have any problems been identified? and if so, do you need any assistance from the ITU in solving them?

NO

10. Do you have a policy and planning function for national spectrum management (i.e. a national strategy for future use of the spectrum)?

YES **X** NO__

Have any problems been identified? and if so, do you need any assistance from the ITU in solving them?

NO

11. Do you perform technical analyses of frequency assignment requests?

YES **X** NO__

Have any problems been identified? and if so, do you need any assistance from the ITU in solving them?

NO

12. Do you perform radio monitoring?

YES **X** NO__

- number of fixed monitoring stations

• **4 CENTRAL MONITORING STATIONS**

• **10 REMOTE CONTROLLED STATIONS**

- facilities available at fixed monitoring stations

-- monitoring up to **2,7 GHz**

-- direction finding: **CENTRAL STATIONS up to 1 GHz**

REMOTE STATIONS up to 2.7 GHz

- number of mobile monitoring stations

8

- facilities available at mobile monitoring stations

-- monitoring up to **26,5 GHz**

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-- direction finding up to **1 GHz**

Have any problems been identified? and if so, do you need any assistance from the ITU in solving them?

NO

13. Do you perform technical analyses of radio frequency interference complaints? YES NO

- Do you have an established consultation process, involving Government and non-government organization, for resolving these complaints? YES NO

Have any problems been identified? and if so, do you need any assistance from the ITU in solving them?

NO

14. What computers and operating systems are in use for national spectrum management?

Type of computers **PENTIUM II 300 MHz**

Operating system(s) **WINDOWS NT**

Have any problems been identified? and if so, do you need any assistance from the ITU in solving them?

NO

15. Number of technical/professional staff in national spectrum management? **79**

16. Number of support staff in national spectrum management? **8**

17. Describe your country's spectrum management structure (Please enclose a copy of organization chart).

18. Do you use the ITU-R Handbooks and Reports on:

a) National Spectrum Management, version 1995 ? **YES**

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b) Spectrum Monitoring¹, version 1995? **YES**

¹ The Spectrum Monitoring Handbook is currently being updated, therefore, you are urged to contact Mr Jan Verduijn (NL), the designated Rapporteur from ITU-R Study Group 1, Working Party 1C if you have any comments that you wish included in a future version of this Handbook.

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- c) Computer-aided Techniques for Spectrum Management, version 1999? **YES**
- d) HF Broadcasting System Design, version 1999? **YES**
- e) Report SM.2012, Economic Aspects of Spectrum Management, version 1997²? **YES**
- f) Windows Basic Automated Spectrum Management System (WinBASMS) Software Version 1997, Manual Version 1997 **YES**

What additional information/handbooks do you need from the ITU?

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Fax: +41 22 730 54 84
E-Mail: devsg1@itu.int*

² This Report SM.2012 was updated during the ITU-R Study Group 1 meeting in August 1999. This new version is expected to be available in the three working languages by January 2000.

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PORTUGUESE

FREQUENCY ALLOCATION TABLE

27.5 MHz - 960 MHz

Column 1: FREQUENCY BANDS

Shows the frequency band to which each line of the table is related to.

Column 2: ITU ALLOCATIONS FROM THE RR (Art. S5) APPLICABLE TO PORTUGAL

Contains, for each frequency band:

- allocation from Art. S5 of the RR applied to Portugal;
- Services authorised in Portugal (marked in **bold**);
- Notes from Art.S5 of the RR applied to Portugal;
- Notes within parenthesis are related to the RR, Edition of 1998, applied to Portugal;
- Notes within double parenthesis are related to additional allocations, alternative or different categories of services.

Column 3: PORTUGUESE USAGE

Services / systems authorised in Portugal (marked in **bold**) and main planned services / systems.

Column 4: NOTES

Planning used;

Relevant national and international norms;

Conditioning to the usage of bands;

Other relevant information.

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
27,5 - 28	<p>METEOROLOGICAL AIDS</p> <p>FIXED</p> <p>MOBILE</p>	<p>CT0 – Cordless telephones (27,550-27,825 MHz) (MOV)</p>	<p>Government (27,85-28 MHz)</p>
28 - 29,7	<p>AMATEUR</p> <p>AMATEUR-SATELLITE</p>	<p>Amateur (AM)</p> <p>Amateur-satellite (AM-S)</p>	<p>Amateur national regulations</p> <p>CEPT Rec T/R 61-01</p>
29,7 - 30,005	<p>FIXED</p> <p>MOBILE</p>	<p>SMT – Private mobile radio (MOV)</p> <p>SRD – Low power narrowband telecommand, telemetry, telealarm and data transmission equipment for use outside the ISM bands (29,980 MHz; 29,990 MHz; 30,000 MHz)</p>	<p>40 MHz plan</p> <p>National regulation no. 859/94 of 23/9</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
30,005 - 30,01	SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH	SMT – Private mobile radio (MOV) SRD – Low power narrowband telecommand, telemetry, telealarm and data transmission equipment for use outside the ISM bands (30,010 MHz)	40 MHz plan National regulation no. 859/94 of 23/9

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
30,01 - 37,5	FIXED MOBILE	SMT – Private mobile radio (MOV) CT0 – Cordless telephones (37-37,275 MHz) (MOV) SRD – Model control (35,005-35,205 MHz) SRD – Radio microphones (34,41-34,59 MHz; 34,66-34,84 MHz)	40 MHz plan CEPT/ERC/REC 70-03 Annex 8 National regulation no. 859/94 of 23/9 National regulation no. 859/94 of 23/9 Government (30,0375-33,0875 MHz; 35,8625-36,9625 MHz; 37,3125-37,5 MHz)

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
37,5 - 38,25	<p>FIXED</p> <p>MOBILE</p> <p>Radio astronomy</p> <p>S5.149 (547)</p>	SMT – Private mobile radio (MOV)	<p>40 MHz plan</p> <p>Government</p> <p>(37,5-38,25 MHz)</p>
38,25 - 39,986	<p>FIXED</p> <p>MOBILE</p>	SMT – Private mobile radio (MOV)	<p>40 MHz plan</p> <p>Government</p> <p>(38,25-39,7625 MHz)</p>
39,986 - 40,02	<p>FIXED</p> <p>MOBILE</p> <p>Space research</p>	SMT – Private mobile radio (MOV)	40 MHz plan

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
40,02 - 40,98	FIXED MOBILE	SMT – Private mobile radio (MOV) SCPP – Private radio paging (MOV) (40,680 MHz) ISM – Industrial, scientific and medical applications (40,66-40,7 MHz) SRD – Non-specific short range devices (40,66-40,7 MHz); Model control (40,665 MHz; 40,695 MHz)	40 MHz plan On-site paging CEPT/ERC/REC 70-03 Annex 1, Annex 8 National regulation no. 859/94 of 23/9
	S5.150 (548)		

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
40,98 - 41,015	<p>FIXED</p> <p>MOBILE</p> <p>SPACE RESEARCH</p>	SMT – Private mobile radio (MOV)	Government
41,015 - 44	<p>FIXED</p> <p>MOBILE</p>	SMT – Private mobile radio (MOV)	Government
44 - 47	<p>FIXED</p> <p>MOBILE</p> <p>Radiolocation (S5.162A)</p>	SMT – Private mobile radio (MOV)	Government

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
47 - 68	<p>BROADCASTING</p> <p>Radiolocation (S5.162A)</p>	<p>Analogue television broadcasting (RAD)</p>	<p>Band I (47-68 MHz) (channels 2 to 4)</p> <p>ST-61</p> <p>Government</p> <p>(47,25-49,5 MHz;</p> <p>50,5-51 MHz;</p> <p>54-68 MHz)</p>
68 - 74,8	<p>FIXED</p> <p>MOBILE except aeronautical mobile</p> <p>S5.149 (568)</p>	<p>SMT – Private mobile radio (MOV)</p>	<p>80 MHz plan</p> <p>Government</p> <p>(68,8875-69,8625 MHz;</p> <p>73,3-74,1 MHz)</p>
74,8 - 75,2	<p>AERONAUTICAL RADIONAVIGATION</p> <p>S5.180 (572)</p>	<p>Aeronautical radiobeacons – ILS / glide path markers (RVA)</p>	<p>ICAO – (Annex 10)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
75,2 - 87,5	<p>FIXED</p> <p>MOBILE except aeronautical mobile</p>	<p>SMT – Private mobile radio (MOV)</p>	<p>80 MHz plan</p> <p>Government</p> <p>(75,2125-77,65 MHz; 79,4125-80,3875 MHz; 83,8250-84,6250 MHz; 85,7375-87,4875 MHz)</p>
87,5 - 108	<p>BROADCASTING</p>	<p>Sound broadcasting (RAD)</p>	<p>Band II – FM</p> <p>GE-84</p>
108 - 117,975	<p>AERONAUTICAL RADIONAVIGATION</p>	<p>Aeronautical radiobeacons – VOR and ILS localizers (RVA)</p>	<p>ICAO – (Annex 10)</p>
117,975 - 137	<p>AERONAUTICAL MOBILE (R)</p> <p>S5.111 (501), S5.198 (591), S5.199 (592), S5.200 (593), S5.203</p>	<p>Aeronautical mobile (MAR)</p>	<p>ICAO – (Annex 10)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
137 - 137,025	<p>SPACE OPERATION (space-to-Earth)</p> <p>METEOROLOGICAL-SATELLITE (space-to-Earth)</p> <p>MOBILE-SATELLITE (space-to-Earth) S5.208A, S5.209 (599B)</p> <p>SPACE RESEARCH (space-to-Earth)</p> <p>Fixed</p> <p>Mobile except aeronautical mobile (R)</p> <p>S5.208 (599A)</p>		

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
137,025 - 137,175	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-satellite (space-to-Earth) S5.208A, S5.209 (599B) Mobile except aeronautical mobile (R) S5.208 (599A)	METEOSAT – Low resolution picture transmissions – LRPT (MET-S)	

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
137,175 - 137,825	<p>SPACE OPERATION (space-to-Earth)</p> <p>METEOROLOGICAL-SATELLITE (space-to-Earth)</p> <p>MOBILE-SATELLITE (space-to-Earth) S5.208A, S5.209 (599B)</p> <p>SPACE RESEARCH (space-to-Earth)</p> <p>Fixed</p> <p>Mobile except aeronautical mobile (R)</p> <p>S5.208 (599A)</p>	<p>METEOSAT – Low resolution picture transmissions – LRPT (MET-S)</p> <p>Automatic picture transmission – APT (MET-S) (137,5-137,62 MHz)</p>	<p>METEOSAT will replace APT systems</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
137,825 - 138	<p>SPACE OPERATION (space-to-Earth)</p> <p>METEOROLOGICAL-SATELLITE (space-to-Earth)</p> <p>SPACE RESEARCH (space-to-Earth)</p> <p>Fixed</p> <p>Mobile-satellite (space-to-Earth) S5.208A, S5.209 (599B)</p> <p>Mobile except aeronautical mobile (R)</p> <p>S5.208 (599A)</p>	<p>METEOSAT – Low resolution picture transmissions – LRPT (MET-S)</p>	
138 - 143,6	AERONAUTICAL MOBILE (OR)	Aeronautical mobile (OR) (MAOR)	Government

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
143,6 - 143,65	<p>AERONAUTICAL MOBILE (OR)</p> <p>SPACE RESEARCH (space-to-Earth)</p>	Aeronautical mobile (OR) (MAOR)	Government
143,65 - 144	AERONAUTICAL MOBILE (OR)	Aeronautical mobile (OR) (MAOR)	Government
144 - 146	<p>AMATEUR S5.120 (510)</p> <p>AMATEUR-SATELLITE</p>	<p>Amateur (AM) (144-145,8 MHz)</p> <p>Amateur-satellite (AM-S) (145,8-146 MHz)</p> <p>POSAT-1 (AM-S) (145,925 MHz;145,975 MHz)</p>	<p>Amateur national regulations</p> <p>CEPT Rec T/R 61-01</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
146 - 148	<p>FIXED</p> <p>MOBILE except aeronautical mobile (R)</p>	<p>Fixed (FIX)</p> <p>Mobile (MOV)</p>	<p>Government</p> <p>(146,0125-148 MHz)</p>
148 - 149,9	<p>FIXED</p> <p>MOBILE except aeronautical mobile (R)</p> <p>MOBILE-SATELLITE (Earth-to-space) S5.209 (599B)</p> <p>SPACE OPERATION (Earth-to-space) S5.218 (608)</p> <p>S5.219 (608A), (S5.221 (608C))</p>	<p>SMT – Private mobile radio (MOV)</p> <p>POSAT-1 (148,285 MHz;148,585 MHz)</p>	<p>160 MHz plan</p> <p>Low Earth orbiting satellite, under RR S4.4 (RR 342)</p> <p>Government</p> <p>(148-148,4 MHz;</p> <p>149,0125-149,8875 MHz)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
149,9 - 150,05	<p>MOBILE-SATELLITE (Earth-to-space) S5.209 (599B), S5.224A</p> <p>RADIONAVIGATION-SATELLITE S5.224B</p> <p>S5.220 (608B), S5.222 (609), S5.223 (609A)</p>	<p>TRANSIT – Radionavigation-satellite system (RV-S) (150 MHz)</p>	<p>To be cancelled</p>
150,05 - 153	<p>FIXED</p> <p>MOBILE except aeronautical mobile</p> <p>RADIO ASTRONOMY</p> <p>S5.149 (610)</p>	<p>SMT – Private mobile radio (MOV)</p> <p>SRD – Low power narrowband telecommand, telemetry, telealarm and data transmission equipment for use outside the ISM bands (150,9375 MHz; 150,9500 MHz)</p>	<p>160 MHz plan</p> <p>National regulation no. 859/94 of 23/9</p> <p>Government</p> <p>(150,5375-150,8875; 151,2-151,9875 MHz)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
153 - 154	<p>FIXED</p> <p>MOBILE except aeronautical mobile (R)</p> <p>Meteorological aids</p>	<p>SMT – Private mobile radio (MOV)</p>	<p>160 MHz plan</p> <p>Government (153,6125-154 MHz)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
154 - 156,7625	<p>FIXED</p> <p>MOBILE except aeronautical mobile (R)</p> <p>S5.226 (613), S5.227 (613A)</p>	<p>SMT – Private mobile radio (MOV)</p> <p>SMM – Maritime mobile networks (156-156,7625 MHz) (MOV)</p> <p>Coast-to-ship communications for differential GPS (MOV); ship station: 156,075 MHz; coast station: 160,675 MHz</p> <p>SRD – Low power narrowband telecommand, telemetry, telealarm and data transmission equipment for use outside the ISM bands (155,5375 MHz; 155,5500 MHz)</p>	<p>160 MHz plan</p> <p>RR Ap. S18 (Ap. 18)</p> <p>RR Ap. S13 (3010): 156,525 MHz</p> <p>RR Ap. S18 (Ap. 18) – channel 61</p> <p>National regulation no. 859/94 of 23/9</p> <p>Government</p> <p>(154-154,65 MHz;</p> <p>155,1375-155,4875 MHz;</p> <p>155,8-155,9875 MHz)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
156,7625 - 156,8375	MARITIME MOBILE (distress and calling) S5.111 (501), S5.226 (613)	Maritime mobile (MM)	RR Ap. S18 (Ap. 18) RR Ap. S13 (3010): 156,8 MHz

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
156,8375 - 174	<p>FIXED</p> <p>MOBILE except aeronautical mobile (R)</p> <p>S5.226 (613)</p>	<p>SMT – Private mobile radio (MOV)</p> <p>SCPP – Private radio paging (MOV) (169,175 MHz)</p> <p>SCP – Public national radio paging (MOV) (164,925 MHz; 167,200 MHz; 167,325 MHz; 167,375 MHz)</p> <p>ERMES – Pan-european paging system (MOV) (Frequency band: 169,4-169,8 MHz; 1st phase: 169,425 MHz; 169,475 MHz; 169,650 MHz; 169,750 MHz)</p> <p>SMM – Maritime mobile networks (MOV) (156,8375-158,0125 MHz) (160,6125-162,6125)</p>	<p>160 MHz plan</p> <p>On-site paging</p> <p>National paging</p> <p>ERC/DEC/(94)02</p> <p>Directive 90/544/EEC</p> <p>CEPT Rec T/R 25-07</p> <p>RR Ap. S18 (Ap. 18) and national planification</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
174 - 223	BROADCASTING	Analogue television broadcasting (RAD) T-DAB – Sound broadcasting (RAD) (219-230 MHz)	Band III (174-216 MHz) (channels 5 to 10) ST-61 Wiesbaden Agreement 1995 CEPT/ERC Rec T/R 52-02
223 - 230	<i>BROADCASTING</i> Fixed Mobile	T-DAB: Sound broadcasting (RAD) (219-230 MHz)	Wiesbaden Agreement 1995 CEPT/ERC Rec T/R 52-02 Government (225-230 MHz)
230 - 235	FIXED MOBILE		Government

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
235 - 267	<p>FIXED</p> <p>MOBILE</p> <p>S5.111 (501), S5.199 (592), S5.254 (641), S5.256 (642)</p>		Government
267 - 272	<p>FIXED</p> <p>MOBILE</p> <p>Space operation (space-to-Earth)</p> <p>S5.254 (641), S5.257 (643)</p>		Government
272 - 273	<p>SPACE OPERATION (space-to-Earth)</p> <p>FIXED</p> <p>MOBILE</p> <p>S5.254 (641)</p>		Government

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
273 - 312	<p>FIXED</p> <p>MOBILE</p> <p>S5.254 (641)</p>		Government
312 - 315	<p>FIXED</p> <p>MOBILE</p> <p>Mobile-satellite (Earth-to-space) S5.254 (641), S5.255 (641A)</p>		Government
315 - 322	<p>FIXED</p> <p>MOBILE</p> <p>S5.254 (641)</p>		Government

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
322 - 328,6	<p>FIXED</p> <p>MOBILE</p> <p style="text-align: center;"><i>RADIO ASTRONOMY</i></p> <p>S5.149 (644)</p>		Government
328,6 - 335,4	<p>AERONAUTICAL RADIONAVIGATION</p> <p>S5.258 (645)</p>	Aeronautical radiobeacons – ILS / glide path markers (RVA)	ICAO – (Annex 10)
335,4 - 387	<p>FIXED</p> <p>MOBILE</p> <p>S5.254 (641)</p>	TETRA emergency (380-383 MHz)	<p>ERC/DEC(96)01</p> <p>Sub-band 383-385 MHz is reserved for future use by TETRA emergency systems</p> <p>Government</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
387 - 390	<p>FIXED</p> <p>MOBILE</p> <p>Mobile-satellite (space-to-Earth) S5.208A, S5.254 (641), S5.255 (641A)</p>		<p>Government</p>
390 - 399,9	<p>FIXED</p> <p>MOBILE</p> <p>S5.254 (641)</p>	<p>TETRA emergency (390-393 MHz)</p>	<p>ERC/DEC(96)01</p> <p>Sub-band 393-395 MHz is reserved for future use by TETRA emergency systems</p> <p>Government</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
399,9 - 400,05	<p>MOBILE-SATELLITE (Earth-to-space) S5.209 (599B), S5.224A</p> <p>RADIONAVIGATION-SATELLITE S5.222 (609), S5.224B, S5.260 (645B)</p> <p>S5.220 (608B)</p>	<p>TRANSIT – Radionavigation-satellite system (RV-S) (399,968 MHz)</p>	<p>To be cancelled</p>
400,05 - 400,15	<p>STANDARD FREQUENCY ANT TIME SIGNAL-SATELLITE (400,1 MHz)</p> <p>S5.261 (646)</p>		
400,15 - 401	<p>METEOROLOGICAL AIDS</p> <p>METEOROLOGICAL-SATELLITE (space-to-Earth)</p> <p>MOBILE-SATELLITE (space-to-Earth) S5.208A, S5.209 (599B)</p> <p>SPACE RESEARCH (space-to-Earth) S5.263 (647A)</p> <p>Space operation (space-to-Earth)</p> <p>S5.264 (647B)</p>		

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
401 - 402	<p>METEOROLOGICAL AIDS</p> <p>SPACE OPERATION (space-to-Earth)</p> <p>EARTH EXPLORATION-SATELLITE (Earth-to-space)</p> <p>METEOROLOGICAL-SATELLITE (Earth-to-space)</p> <p>Fixed</p> <p>Mobile except aeronautical mobile</p>	<p>DORIS system (401,25 MHz ± 350 Hz)</p> <p>DCP – Data collecting platforms for meteorological service (MET-S) (401,9 MHz ± 200 kHz)</p>	

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
402 - 403	<p>METEOROLOGICAL AIDS</p> <p>EARTH EXPLORATION-SATELLITE (Earth-to-space)</p> <p>METEOROLOGICAL-SATELLITE (Earth-to-space)</p> <p>Fixed</p> <p>Mobile except aeronautical mobile</p>	<p>DCP – Data collecting platforms for meteorological service (MET-S) (401,9 MHz ± 200 kHz)</p>	
403 - 406	<p>METEOROLOGICAL AIDS</p> <p>Fixed</p> <p>Mobile except aeronautical mobile</p>	<p>Radiosondes (METAX)</p>	

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
406 - 406,1	MOBILE-SATELLITE (Earth-to-space) S5.266 (649), S5.267 (649A)	Low power EPIRB COSPAS – SARSAT (MV-S)	RR Ap. S13 (RR 3010)
406,1 - 410	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY S5.149 (650)	Single channel (FIX)	Single channel links plan Planned for unidirectional links Government (408,7875-409,9875 MHz)

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
410 - 420	<p>FIXED</p> <p>MOBILE except aeronautical mobile</p> <p>SPACE RESEARCH (space-to-space) S5.268 (651A)</p>	<p>Single channel (FIX)</p> <p><i>TETRA civil</i></p>	<p>Single channel links plan</p> <p>Planned for bidirectional links</p> <p>ERC/DEC/(96)04</p> <p>Some channels within the sub-band 413-417,6 MHz</p> <p>Government</p> <p>(417,5875-418,5875 MHz)</p>
420 - 430	<p>FIXED</p> <p>MOBILE except aeronautical mobile</p> <p>Radiolocation</p>	<p>Single channel (FIX)</p> <p><i>TETRA civil</i></p> <p>POSAT-1 (429,450 MHz; 429,520 MHz; 429,880 MHz; 429,950 MHz)</p>	<p>Single channel links plan</p> <p>ERC/DEC/(96)04</p> <p>Some channels within the sub-band 423-427,6 MHz</p> <p>Low Earth orbiting satellite, under RR S4.4 (RR 342)</p> <p>Government</p> <p>(427,5875-428,5875 MHz)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
430 - 440	<p>AMATEUR</p> <p>Amateur-satellite S5.282 (664)</p> <p>RADIOLOCATION</p> <p>S5.138 (661), (S5.280 (662))</p>	<p>Amateur (AM)</p> <p>Amateur-satellite (AM-S) (435-438 MHz)</p> <p>ISM – Industrial, scientific and medical applications (433,05-434,79 MHz)</p> <p>SRD – Non-specific short range devices (433,05-434,79 MHz)</p>	<p>Amateur national regulations</p> <p>CEPT Rec T/R 61-01</p> <p>The amateur-satellite uses have a secondary allocation in the sub-band 435-438 MHz, under RR S5.282 (664)</p> <p>CEPT/ERC/REC 70-03 Annex 1</p> <p>National regulation no. 859/94 of 23/9</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
440 - 450	<p>FIXED</p> <p>MOBILE except aeronautical mobile</p> <p>Radiolocation</p> <p>S5.286 (668)</p>	<p>SMT – Private mobile radio (MOV)</p> <p>PMR446 (446-446,1 MHz)</p>	<p>440-450 MHz plan</p> <p>CEPT/ERC/DEC(98)25</p> <p>National regulation no. 802/99 of 20/9</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
450 - 455	FIXED MOBILE S5.209, S5.286 (668), S5.286A	SMT – Private mobile radio (MOV) SMRP – National trunking mobile system (MOV) (frequency assignments in the sub-band 450,0125-451,3875 MHz) TETRA civil	450 MHz plan MPT 1327 ERC/DEC/(96)04 Some channels within the band 450-470 MHz

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
455 - 456	FIXED MOBILE S5.209, S5.286A	SMT – Private mobile radio (MOV) TETRA civil	450 MHz plan ERC/DEC/(96)04 Some channels within the band 450-470 MHz

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
456 - 459	<p>FIXED</p> <p>MOBILE</p> <p>S5.287 (669)</p>	<p>SMT – Private mobile radio (MOV)</p> <p>On board communications (maritime) (457,525 MHz; 457,5375 MHz; 457,550 MHz; 457,5625 MHz; 457,575 MHz) (MOV)</p> <p>SRD – Low power narrowband telecommand, telemetry, telealarm and data transmission equipment for use outside the ISM bands (458,1125 MHz; 458,1250 MHz; 458,1370 MHz; 458,1500 MHz)</p> <p>TETRA civil</p>	<p>450 MHz plan</p> <p>National regulation no. 859/94 of 23/9</p> <p>ERC/DEC/(96)04</p> <p>Some channels within the band 450-470 MHz</p> <p>Government (458,2125-459 MHz)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
459 - 460	<p>FIXED</p> <p>MOBILE</p> <p>S5.209, S5.286A</p>	<p>SMT – Private mobile radio (MOV)</p> <p>SCPP – Private radio paging (MOV) (459,650 MHz)</p> <p>TETRA civil</p>	<p>450 MHz plan</p> <p>On-site paging</p> <p>ERC/DEC/(96)04</p> <p>Some channels within the band 450-470 MHz</p> <p>Government</p> <p>(459-459,3625 MHz)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
460 - 470	<p>FIXED</p> <p>MOBILE</p>	<p>SMT – Private mobile radio (MOV)</p> <p>SMRP – National trunking mobile system (MOV) (frequency assignments in the sub-band 460,0125 – 461,3875 MHz)</p> <p>SCPP – Private radio paging (MOV) (468,1125 MHz; 468,1250 MHz; 469,275 MHz)</p> <p>ECAR – Equipment of coverage in a restricted area (468,15 MHz; 468,1375 MHz)</p> <p>On board communications (maritime) (467,525 MHz; 467,5375 MHz; 467,550 MHz; 467,5625 MHz; 467,575 MHz) (MOV)</p> <p>TETRA civil</p>	<p>450 MHz plan</p> <p>MPT 1327</p> <p>On-site paging</p> <p>ERC/DEC/(96)04</p> <p>Some channels within the band 450-470 MHz</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
470 - 790	<p>BROADCASTING</p> <p>Land mobile (S5.296 (677A))</p> <p>S5.149 (689), S5.306 (689), S5.311 (693)</p>	<p>Analogue television broadcasting (RAD)</p> <p>DVB-T – Digital television broadcasting (646-862 MHz) (RAD)</p>	<p>Bands IV (470-582 MHz) and V (582-790 MHz) (channels 21 to 60)</p> <p>ST-61</p> <p>Band V (some channels between 43 and 69)</p>
790 - 862	<p>FIXED</p> <p>BROADCASTING</p> <p>MOBILE except aeronautical mobile (S5.316 (697))</p>	<p>STL – Studio transmitter link (FIX) (838,75-852,25 MHz)</p> <p>Analogue television broadcasting (RAD)</p> <p>DVB-T – Digital television broadcasting (646-862 MHz) (RAD)</p>	<p>To be completely abandoned until the end of 1999</p> <p>Band V (some channels between 43 and 69)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
862 - 890	<p>FIXED</p> <p>MOBILE except aeronautical mobile</p>	<p>GSM – Global system for mobile communications (MOV) (extension band: 880-890 MHz)</p> <p>Social alarms (869,2-869,25 MHz)</p>	<p>CEPT Rec T/R 75-02 (862-960 MHz)</p> <p>ERC/DEC/(97)02</p> <p>ERC/DEC/(97)06</p> <p>Government (873-878 MHz)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
890 - 942	<p>FIXED</p> <p>MOBILE except aeronautical mobile</p> <p>Radiolocation</p>	<p>GSM – Global system for mobile communications (MOV) (frequency assignments in the sub-bands 890-914 MHz and 935-942 MHz); (extension band: 925-935 MHz)</p> <p>CT1 – Cordless telephones (MOV) (914-915 MHz)</p>	<p>CEPT Rec T/R 75-02 (862-960 MHz)</p> <p>ERC/DEC/(94)01</p> <p>Directive 87/372/EEC</p> <p>CEPT Rec T/R 20-08</p> <p>ERC/DEC/(97)02</p> <p>CEPT Rec T/R 24-03 (914-915 MHz; 959-960 MHz)</p> <p>Government (918-923 MHz)</p>

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FREQUENCY BAND (MHz)	ITU ALLOCATIONS APPLICABLE TO PORTUGAL	NATIONAL USAGE	NOTES
942 - 960	<p>FIXED</p> <p>MOBILE except aeronautical mobile</p>	<p>GSM – Global system for mobile communications (MOV) (frequency assignments in the sub-band 942-959 MHz)</p> <p>CT1 – Cordless telephones (MOV) (959-960 MHz)</p>	<p>CEPT Rec T/R 75-02 (862-960 MHz)</p> <p>ERC/DEC/(94)01</p> <p>Directive 87/372/EEC</p> <p>CEPT Rec T/R 20-08</p> <p>CEPT Rec T/R 24-03 (914-915 MHz; 959-960 MHz)</p>

