



GENEVA, 9 JUNE – 4 JULY 2003

PLENARY MEETING**Director, Radiocommunication Bureau****REPORT OF THE RADIOCOMMUNICATION BUREAU TO WRC-03****PART 9: ISSUES RELATED TO THE MONITORING IN THE BANDS
ALLOCATED TO THE MARITIME MOBILE AND
AERONAUTICAL MOBILE (R) SERVICES****1 Introduction and background information**

The World Radiocommunication Conference, Istanbul 2000 (WRC-2000) revised Resolution 207 of the Radio Regulations, in recognition of the continuous need to take "measures to address unauthorized use of and interference to frequencies in the bands allocated to the maritime mobile service and to the aeronautical mobile (R) service". This Resolution instructed the Radiocommunication Bureau to organize monitoring programmes, at regular intervals, in the maritime distress and safety channels and their guardbands and in the bands allocated exclusively to the maritime mobile service between 4 063 kHz and 27 500 kHz and to the aeronautical mobile (R) service between 2 850 kHz and 22 000 kHz, with a view to ensuring the timely distribution of monitoring data and identifying the stations of other services operating on these channels or in these bands.

By means of Resolution 350 (WRC-2000), the Radiocommunication Bureau was also instructed, in consultation with administrations, to organize monitoring programmes for the support of studies on interference to the distress and safety frequencies 12 290 kHz and 16 420 kHz caused by routine calling on channels 1221 and 1621.

In addition, WRC-2000 also examined the possibility of including in the agenda of WRC-03 the question of the appropriateness of establishing frequency allocations to the HF broadcasting service from approximately 4 MHz to 10 MHz. As the Council, at its July 2000 meeting, endorsed that agenda item, and in view of supporting consideration of this agenda item by WRC-03, the Bureau envisaged suitable monitoring programmes for collecting data relating to the occupancy of the HF bands adjacent to the HFBC allocations in the range 4-10 MHz.

2 Organization of activities

The Bureau considered the possible scope of the monitoring programmes and after preliminary consultation with some administrations, it established the following working arrangement:

- For reasons of economy, this document is being provided on CD-ROM. Participants are therefore kindly asked •
to bring their personal copies to the meeting since no others can be made available.
A CD-ROM containing all preparatory documents will be provided to each participant on arrival.

Programme	Week 1	Week 2	Week 3
1	13.11.2000 - 19.11.2000	20.11.2000 - 26.11.2000	27.11.2000 - 03.12.2000
2	18.06.2001 - 24.06.2001	25.06.2001 - 01.07.2001	02.07.2001 - 08.07.2001
3	07.01.2002 - 13.01.2002	14.01.2002 - 20.01.2002	21.01.2002 - 27.01.2002

This arrangement was published in Circular Letter CR/147 of 25 September 2000 and the Bureau invited administrations to participate in these special monitoring programmes. Each of the three-week programmes has been subdivided further, as follows:

Week 1		Week 2		Week 3	
Maritime Mobile Service (*)		Aeronautical Mobile (R) Service		Bands adjacent to HFBC	
Band (kHz)		Band (kHz)		Band (kHz)	
4 063	4 438	2 850	3 025	5 800	5 950
6 200	6 525	4 650	4 700	7 300	7 450
8 195	8 815	5 450	5 480	9 300	9 500
12 230	13 200	5 480	5 680		
16 360	17 410	6 525	6 685		
18 780	18 900	8 815	8 965		
19 680	19 800	10 005	10 100		
22 000	22 855	11 275	11 400		
25 070	25 210	13 260	13 360		
26 100	26 175	17 900	17 970		
		21 924	22 000		

* With special emphasis on 12 290 kHz and 16 420 kHz.

The definition of the structure of the form and electronic files to be used by administrations for the submission of data was made in consultation with the participants in the activities of ITU-R Study Group 1 and, more specifically, Working Party 1C (see CR/147).

3 Administration participation

The following administrations have participated and provided their monitoring observations to BR: AUS, AUT, B, BEL, BUL, CZE, D, EQA, DNK, E, F, FIN, G, HNG, HOL, I, INS, IRN, J, KOR, LVA, NOR, POR, RUS, S, SUI, THA and USA.

4 Monitoring results

The results of monitoring observations submitted by administrations in response to these special monitoring programmes have been processed and compiled by BR. Since the reception of the first set of monitoring observations, the compiled files were continuously updated and made available for free download via Internet almost immediately after reception at the address <http://www.itu.int/ITU-R/terrestrial/monitoring/index.html>.

The Bureau analysed the observations submitted in response to these monitoring programmes and the short summary is presented hereafter.

4.1 Bands allocated to the maritime mobile service

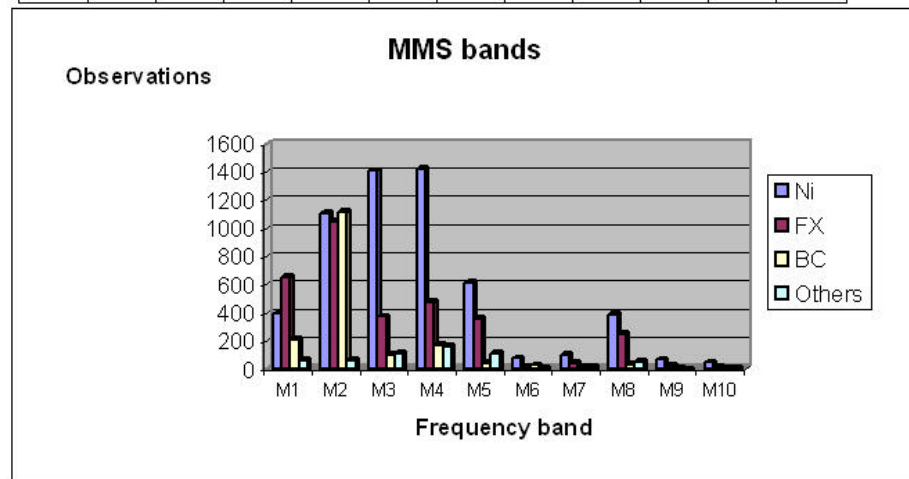
For the purpose of analysing the situation in the bands allocated to the maritime mobile service (MMS) with a view to identifying other uses, the Bureau applied a suitable filter and excluded the observations related to the MMS. The remaining data (approximately **11 200** records) has been further analysed, based on the field "class of station", and the following distribution was found:

Class of Station (CLST)	Percentage of observations
Non identified (Ni)	50%
FX	30%
BC	15%
Others	5%

The distribution of observations for each maritime frequency band is summarized below:

CLST	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	
Ni	393	1106	1405	1418	613	77	102	387	69	48	5618
FX	655	1047	374	478	357	17	43	247	21	18	3257
BC	208	1112	103	173	41	29	15	33	8	4	1726
Others	64	61	111	164	113	4	17	50	0	7	591
	1320	3326	1993	2233	1124	127	177	717	98	77	11192

MMS bands		
Band (kHz)	From	To
M1	4 063	4 438
M2	6 200	6 525
M3	8 195	8 815
M4	12 230	13 200
M5	16 360	17 410
M6	18 780	18 900
M7	19 680	19 800
M8	22 000	22 855
M9	25 070	25 210
M10	26 100	26 175



The Bureau has prepared separate files with information concerning frequencies around 12 290 kHz and 16 420 kHz in order to allow detailed evaluation of the reported use of the spectrum. The files can be downloaded from <http://www.itu.int/ITU-R/terrestrial/monitoring/index.html>.

Although a majority of emissions were not identified, many emissions in these two frequencies were reported to belong to the broadcasting and also to the fixed services.

4.2 Bands allocated to the aeronautical mobile service

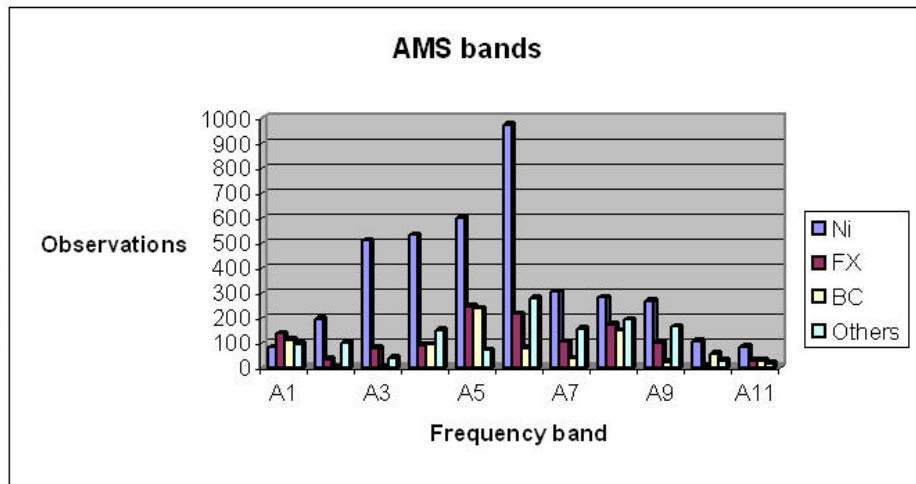
For the purpose of analysing the situation in the bands allocated to the aeronautical mobile service (AMS) with a view to identifying other uses, the Bureau applied a suitable filter and excluded the observations related to the AMS. The remaining data (approximately **7 200** records) has been further analysed, based on the field "class of station", and the following distribution was found:

Class of Station (CLST)	Percentage of observations
Non identified (Ni)	55%
FX	17%
BC	11%
Others	17%

The distribution of observations for each aeronautical frequency band is summarized below:

CLST	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	
Ni	82	196	509	531	600	974	303	282	269	105	84	3935
FX	136	33	77	90	245	215	104	172	100	9	27	1208
BC	111	3	4	92	237	80	36	147	23	56	27	816
Others	94	99	40	151	71	279	155	193	165	28	18	1293
	423	331	630	864	1153	1548	598	794	557	198	156	7252

AMS bands		
Band (kHz)	From	To
A1	2 850	3 025
A2	4 650	4 700
A3	5 450	5 480
A4	5 480	5 680
A5	6 525	6 685
A6	8 815	8 965
A7	10 005	10 100
A8	11 275	11 400
A9	13 260	13 360
A10	17 900	17 970
A11	21 924	22 000



4.3 Bands adjacent to the HFBC allocations in the range 4-10 MHz

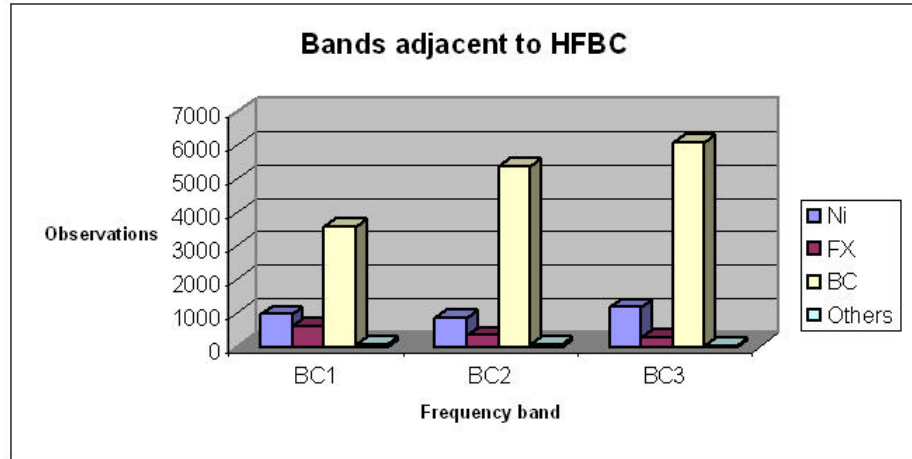
The analysis of the data based on the field "class of station" shows the following distribution from a total of approximately **19 400** records:

Class of Station (CLST)	Percentage of observations
Non identified (Ni)	15%
FX	6%
BC	77%
Others	2%

The distribution of observations for each frequency band is summarized below:

CLST	BC1	BC2	BC3	
Ni	965	859	1176	3000
FX	601	342	263	1206
BC	3567	5377	6080	15024
Others	86	70	35	191
	5219	6648	7554	19421

Bands adjacent to HFBC		
Band (kHz)	From	To
BC1	5 800	5 950
BC2	7 300	7 450
BC3	9 300	9 500



NOTE - It should be taken into account that one or several observations could correspond to one emission.

5 Concluding remarks

The volume of data submitted to the special monitoring programmes provides for the possibility of performing different types of studies, for various purposes. Administrations and other interested entities can perform their own analysis of the data available on the ITU website mentioned above, according to their needs. However, the Bureau wishes to emphasize the fact that, despite the participation of several monitoring centres, it was not possible to come to a global coverage, as some regions (e.g. Africa) are not adequately covered.

Several emissions in all frequency bands have been identified as not in conformity with the Table of Frequency Allocations.