

# Preparatory Workshop for WRC 2012 ASECNA

Dakar 20-22 April, 2011

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ITU Representative for West Africa



# Introduction

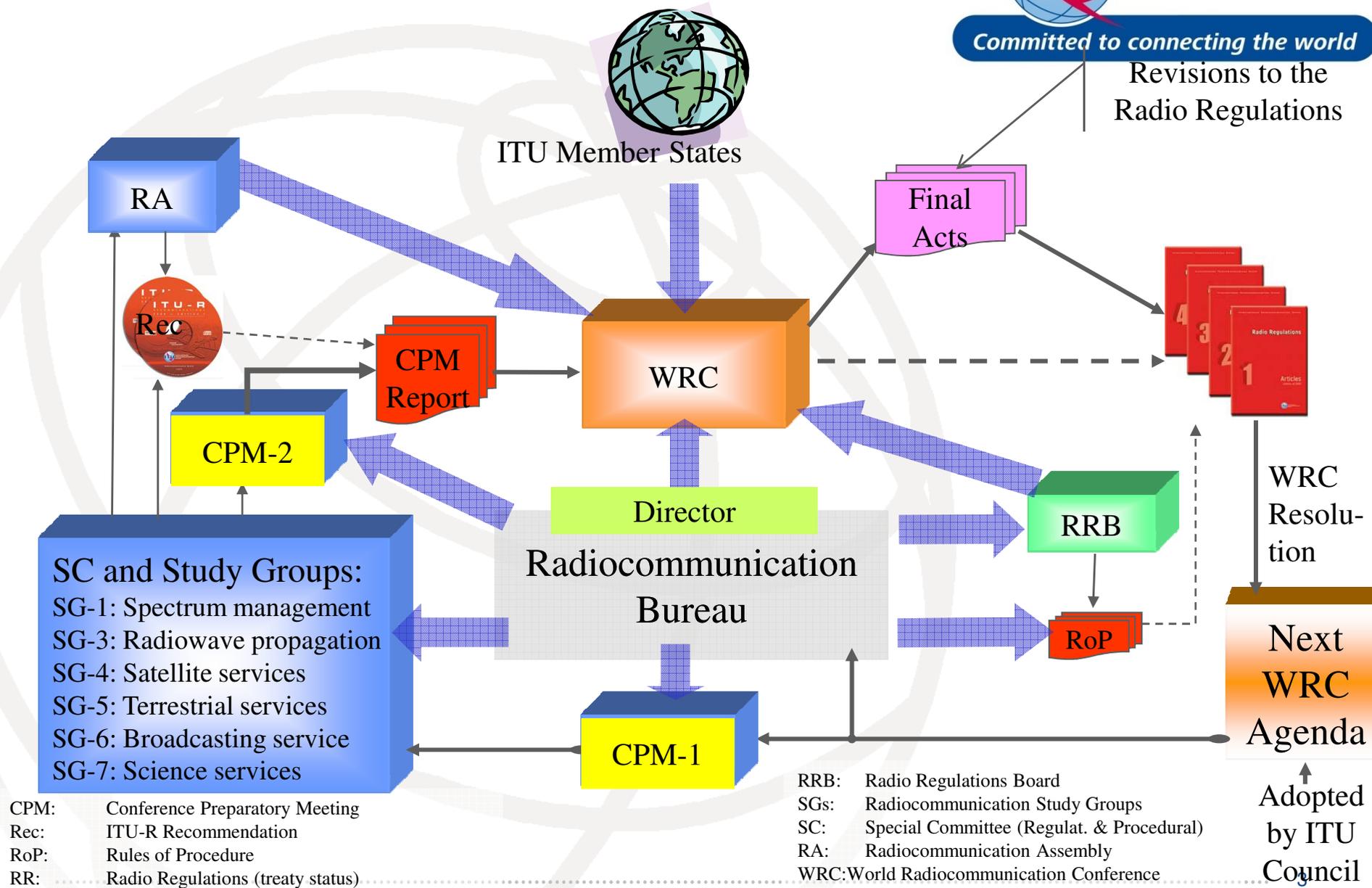
- *Main steps towards the WRC*
- *Provisions of the Radio Regulations and Regional Agreements related to Aeronautical Services*
- *Satellite Issues*

# The WRC Cycle



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Revisions to the Radio Regulations



CPM: Conference Preparatory Meeting  
 Rec: ITU-R Recommendation  
 RoP: Rules of Procedure  
 RR: Radio Regulations (treaty status)

RRB: Radio Regulations Board  
 SGs: Radiocommunication Study Groups  
 SC: Special Committee (Regulat. & Procedural)  
 RA: Radiocommunication Assembly  
 WRC: World Radiocommunication Conference

Adopted by ITU Council

# Main Steps towards WRC-12



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**WRC-07: Draft Agenda** (Resolution 805 (WRC-07))

**Council-08: Agenda** (C08 Resolution 1291 (MOD))

## Conference Preparatory Meeting (CPM):

- CPM11-1: 19 – 20 Nov. 2007 (Results in CA/171 of 20.12.07)
- Meetings of ITU-R Working Parties/Joint Task Group
- CPM11-2: 14 – 25 Feb. 2011 (Invitation in CA/191 of 01.06.10)

**Final Meetings of regional groups**  
→ **Member States' proposals to WRC-12**

# Future steps towards WRC-12



- **Final Meetings of regional groups**  
**(APT, AMMSG, ATU, CEPT, CITELE, RCC)**
- ⇒ **Finalize regional common proposals to WRC-12 using CPM Report and other information**
- **Radiocommunication Assembly 2012 (RA-12):**  
**Geneva, 16 – 20 January 2012**
- ⇒ **CS 91: Provide necessary technical bases for WRC-12 and respond to WRC requests (CV135)**
- ⇒ **CV136: Report on progress in matters for possible inclusion on WRC-15 Agenda**
- ⇒ **Election of Ch & V-Ch for CPM and SC (CV242)**
- **World Radiocommunication Conference 2012**  
**(WRC-12): Geneva, 23 Jan. – 17 Feb. 2012**

# CPM Report – Table of contents



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## Chapters of CPM Report

## WRC-12 Agenda items

1. Maritime and  
Aeronautical issues

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[1.3](#), [1.4](#), [1.9](#), [1.10](#)

2. Radiolocation and  
Amateur issues

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[1.14](#), [1.15](#), [1.21](#), [1.23](#)

3. Fixed, Mobile and  
Broadcasting issues

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[1.5](#), [1.8](#), [1.17](#), [1.20](#), [1.22](#)

4. Science issues

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[1.6](#), [1.11](#), [1.12](#), [1.16](#), [1.24](#)

5. Satellite issues

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[1.7](#), [1.13](#), [1.18](#), [1.25](#), [7](#)

6. Future work programme  
and other issues

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[1.2](#), [1.19](#), [2, 4](#), [8.1](#), [8.2](#)

# Regulation of aeronautical services



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- Aeronautical services in the RR: aeronautical mobile services (AMS), aeronautical mobile-satellite services (AMSS), aeronautical radionavigation service (ARNS), aeronautical radionavigation-satellite service (ARNSS)
- AMS and AMSS are subdivided into route (R) and off-route (OR) services ( see RR1.33,1.34, 1.35 and 1.36)
- AM(R)S, AMS(R), ARNS and ARNSS are considered as safety services (RR1.59)
- Safety services are protected by additional margin of 6 dB and may have priority in communications, e.g. RR 5.357A

# Regulation of aeronautical services



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- Articles 35 to 45 of the RR, Appendixes 15, 26 and 27 regulate the use of aeronautical services.
- There are 2 worldwide allotment plans for AMS in AP26 and AP27 in the HF bands
- There is 1 Regional assignments Plan GE85-R1-AER for ARNS in the MF bands
- Coordination procedures through ICAO
- RR contains some additional mandatory provisions, e.g. prohibition of public correspondence (nature of Service CP and CR) in the exclusive aeronautical bands

# Allotment plan for aeronautical mobile (OR) service (AP26)



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## ■ Scope

- Worldwide plan for aeronautical mobile off-route service
- Planned band: 3 025 - 18 030 kHz (10 sub-bands)
- Carrier frequencies, allotment areas

## ■ Characteristics

- Maximum bandwidth - 2.8 kHz
- Classes of emission - J3E; A1A; A1B; F1B(A,H)2(A,B); (R,J)2(A,B,D); J(7,9)(B,D,X)
- Mean effective radiated power - 1 kW (aeronautical stations)  
50 W (aircraft stations)

# Procedure for modification of AP26 Plan



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- Requests for a new allotment - BR selects an appropriate allotment and enters it in the Plan
- Requests for an additional allotment - the allotment is entered in the Plan only if it is compatible with the remaining allotments
- Requests for the suppression of an allotment - BR cancels the allotment from the allotment arrangement

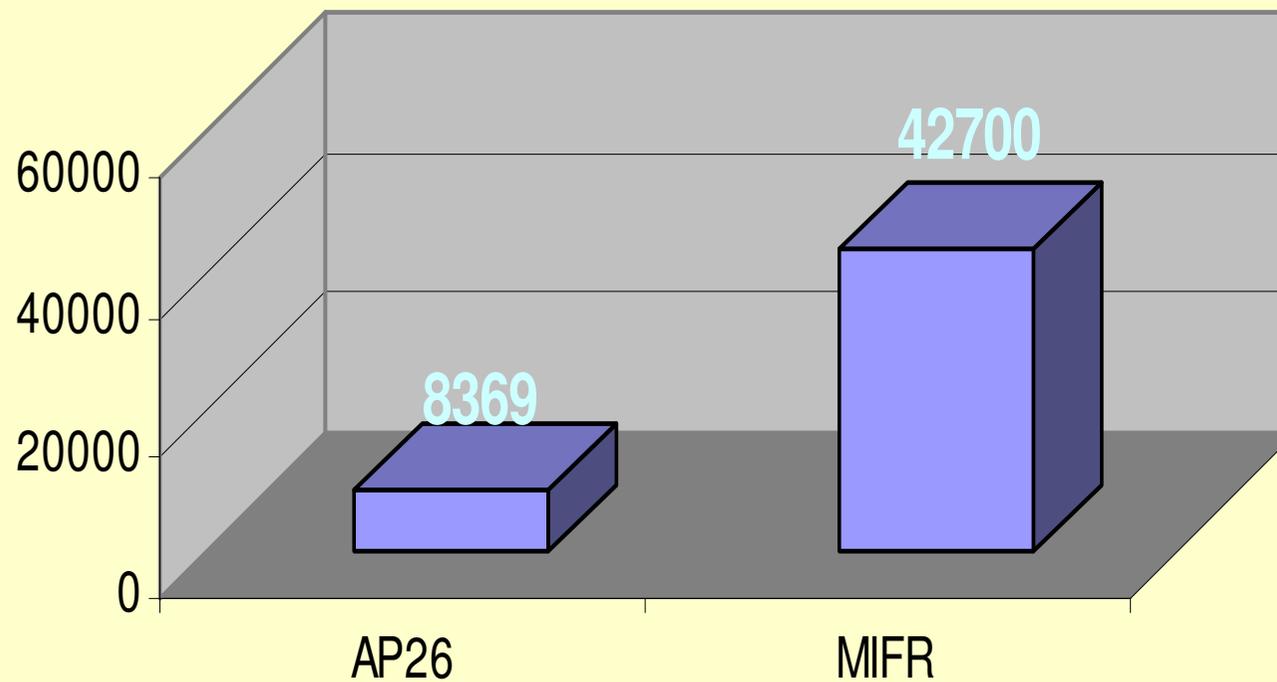
# AP26 Plan and MIFR statistics



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## Number of AP26 Plan entries and related MIFR assignments



# Allotment plan for aeronautical mobile (R) service (AP27)



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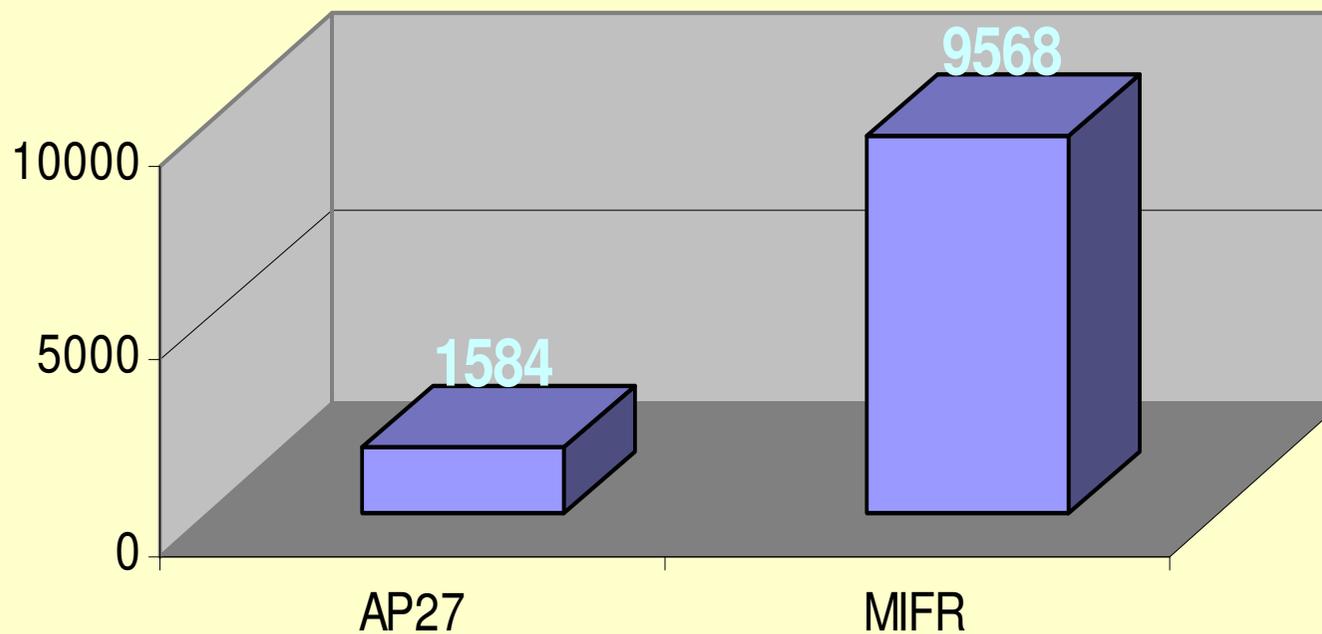
- Scope
  - Worldwide plan for aeronautical mobile route service
  - Planned band: 2 850 - 22 000 kHz
  - Carrier frequencies, geographical areas (MWARA, RDARA, VOLMET areas)
- Characteristics
  - Classes of emission: J3E; H2B, J7B, J2D, J9X (A1A/A1B) and F1A/F1B
  - Frequency separation - 3 kHz, multiple to 1 kHz
- No plan modification procedure

# AP27 Plan and MIFR statistics



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## Number of entries in AP27 Plan and related MIFR assignments



# Assignment plan for aeronautical radio navigation service in Region 1 (GE85-R1-AER)



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- Scope
  - Region 1 plan
  - Frequency bands: 415 – 435 kHz, 510 – 526.5 kHz
  - Takes into account also maritime mobile service stations
- Characteristics
  - 34 channels
  - Channel spacing - 1 kHz (0.5 kHz exceptionally)
  - Classes of emission – A1A, A2A

# Plan modification procedure for GE85-R1-AER



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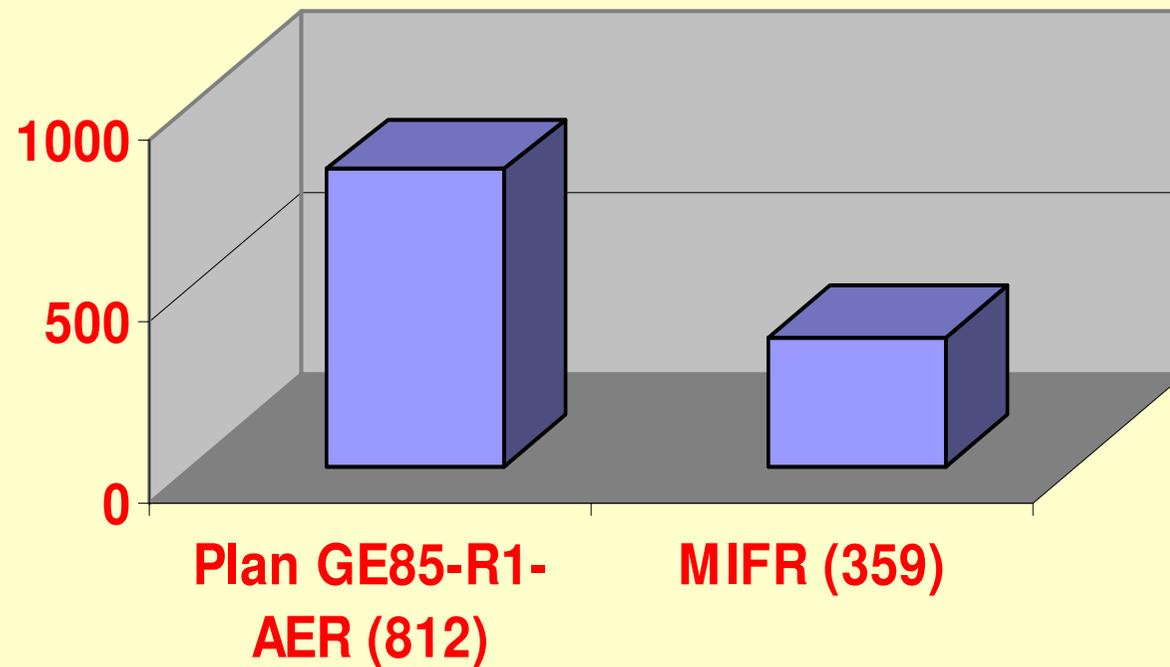
- Submission of AP4 information to the BR
- Publication of the complete information in BRIFIC
- Coordination with affected administrations having assignments in conformity with the Plan
- Informing the BR about the results (90 days)
- Successful coordination - recording in the Plan
- Disagreement – coordination between administrations

# GE85-R1-AER Plan and MIFR statistics



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## Number of entries in GE85-R1-AER Plan and related MIFR assignments



# Coordination procedures in the aeronautical mobile service



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- No special procedures, but coordination is desirable
- Role of ICAO and its regional offices: coordination of frequencies for (R) service in exclusive HF bands and in 117.975 - 137 MHz band
- Notification after coordination through ICAO regional office

## Satellite Issues

### WRC-12 Agenda items

#### 1.7

- 1.7: to meet requirements for AMS(R)S, while retaining unchanged generic MSS allocations at 1525–1559 & 1626.5–1660.5 MHz

meet requirements for AMS(R)S, while retaining generic MSS allocations at 1525-1559 MHz and 1626.5-1660.5 MHz

See Resolution [222 \(Rev.WRC-07\)](#)

## From the ITU-R studies

- ✓ AMS(R)S spectrum requirements vary depending on:
  - the geographical area or Region being considered;
  - assumptions for the overall system design and characteristics of each AMS(R)S system;
  - number of systems operating under such a service and compatibility between each other
- ✓ Long term AMS(R)S spectrum requirements (up to year 2025) estimated to be  $< 2 \times 10$  MHz and could be accommodated in the frequency bands defined by No. **5.357A**, even if some ADMs indicated that this may lead to undue constraints on existing MSS systems

meet requirements for AMS(R)S, while retaining generic MSS allocations at 1525-1559 MHz and 1626.5-1660.5 MHz

See Resolution [222 \(Rev.WRC-07\)](#)

## Methods to satisfy the agenda item

- ✓ NOC to MSS allocation in 1525-1559 and 1626.5-1660.5 MHz
- Method A: No change to RR Articles **5** and **9**
- Method B: same as A with MOD Res. **222 (Rev.WRC-07)** to implement additional procedures, supporting No. **5.357A**, with 2 distinct types of meetings (consultation & coordination).
- Method C: Use of a part of existing AMS(R)S allocation in 5091-5150 MHz, for satisfying long-term AMS(R)S requirements only for communications with priority categories 1 to 6 in Art. **44**
- Method D: same as A with MOD Res. **222 (Rev.WRC-07)** identifying coordination process used to ensure spectrum access and protection of AMS(R)S long-term spectrum needs, with coordination meetings only

# List of radio service abbreviations <sup>(1)</sup>



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<b>Abbreviations</b>	<b>Radio services</b>	<b>RR definition</b>
AMS	aeronautical mobile service	No. <b>1.32</b>
AM(R)S	aeronautical mobile (route) service	No. <b>1.33</b>
AMSS	aeronautical mobile-satellite service	No. <b>1.35</b>
AMS(R)S	aeronautical mobile-satellite (route) service	No. <b>1.36</b>
ARNS	aeronautical radionavigation service	No. <b>1.46</b>
ARNSS	aeronautical radionavigation-satellite service	No. <b>1.47</b>
ARS	amateur service	No. <b>1.56</b>
ARSS	amateur-satellite service	No. <b>1.57</b>
BS	broadcasting service	No. <b>1.38</b>
BSS	broadcasting-satellite service	No. <b>1.39</b>
EESS	Earth exploration-satellite service	No. <b>1.51</b>
FS	fixed service	No. <b>1.20</b>
FSS	fixed-satellite service	No. <b>1.21</b>
ISS	inter-satellite service	No. <b>1.22</b>
LMS	land mobile service	No. <b>1.26</b>
LMSS	land mobile-satellite service	No. <b>1.27</b>
MetAids	meteorological aids service	No. <b>1.50</b>

# List of radio service abbreviations <sup>(2)</sup>



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<b>Abbreviations</b>	<b>Radio services</b>	<b>RR definition</b>
MetSat	meteorological-satellite service	No. <b>1.52</b>
MMS	maritime mobile service	No. <b>1.28</b>
MMSS	maritime mobile-satellite service	No. <b>1.29</b>
MRNS	maritime radionavigation service	No. <b>1.44</b>
MRNSS	maritime radionavigation-satellite service	No. <b>1.45</b>
MS	mobile service	No. <b>1.24</b>
MSS	mobile-satellite service	No. <b>1.25</b>
RAS	radio astronomy service	No. <b>1.58</b>
RDS	radiodetermination service	No. <b>1.40</b>
RDSS	radiodetermination-satellite service	No. <b>1.41</b>
RLS	radiolocation service	No. <b>1.48</b>
RLSS	radiolocation-satellite service	No. <b>1.49</b>
RNS	radionavigation service	No. <b>1.42</b>
RNSS	radionavigation-satellite service	No. <b>1.43</b>
SOS	space operation service	No. <b>1.23</b>
SRS	space research service	No. <b>1.55</b>

# Regional Group Web Pages (1/2)

<http://www.itu.int/ITU-R/go/wrc-12>



## World Radiocommunication Conference 2012 (WRC-12)



World

(Geneva, Switzerland, 23 January-17 February 2012)



### Agenda and References (Resolutions and Recommendations) TIES

Collapse all

[General Information](#)

[Documents](#)

[Delegate Registration](#)

[Publications](#)

[Related Conferences](#)

[Related activities](#)

[Newsroom](#)

#### Informal Group

▶ [Contacts](#)

▶ [Agenda for the WRC-12 Informal Group Meeting \(Geneva, 18 February 2010\)](#)

▶ [Notes of the Informal Group Meeting of 5th February, 2009](#) English only

▶ [Proposed Structure](#) TIES

#### [Regional preparation for WRC-12](#)

▶ [Resolution 72 \(Rev. WRC-07\)](#)

#### [ITU information meetings on WRC-12 Preparation](#)

[Other information](#)

- Thank you for your attention