



30<sup>TH</sup> WORLD RADIOCOMMUNICATION SEMINAR

24 – 28 October 2022

Geneva, Switzerland

# Preface to BR IFIC (Space Services)

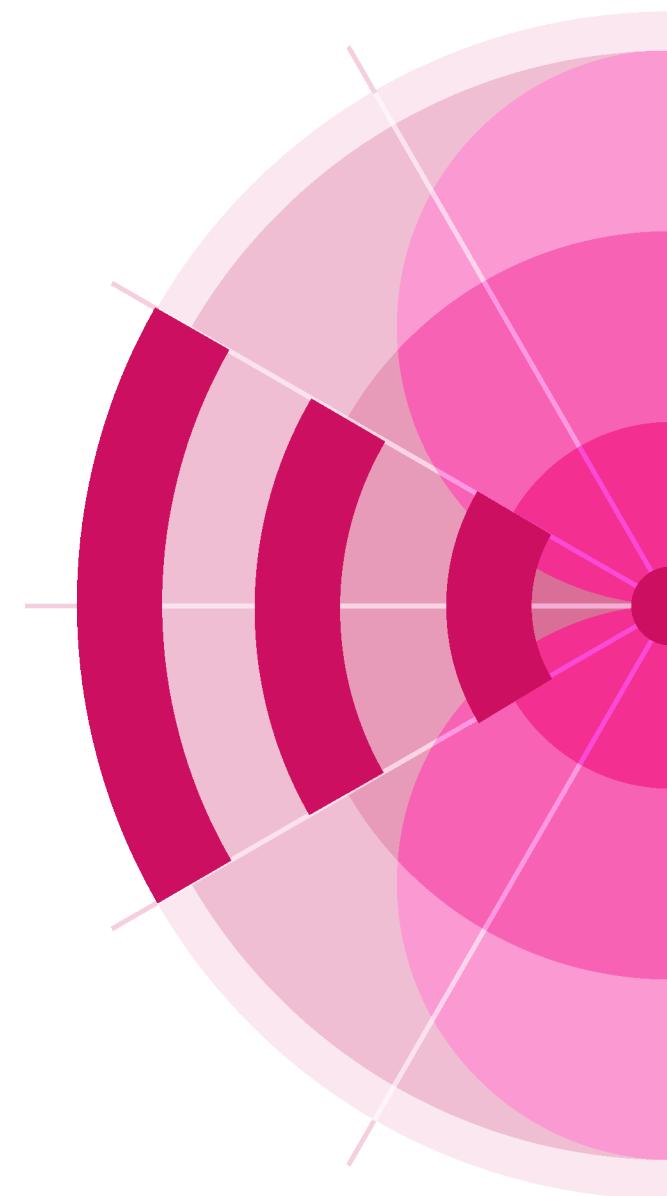
**Koichi SUMIYOSHI**

[Koichi.sumiyoshi@itu.int](mailto:Koichi.sumiyoshi@itu.int)

Space Services Department,  
Radiocommunications Bureau, ITU

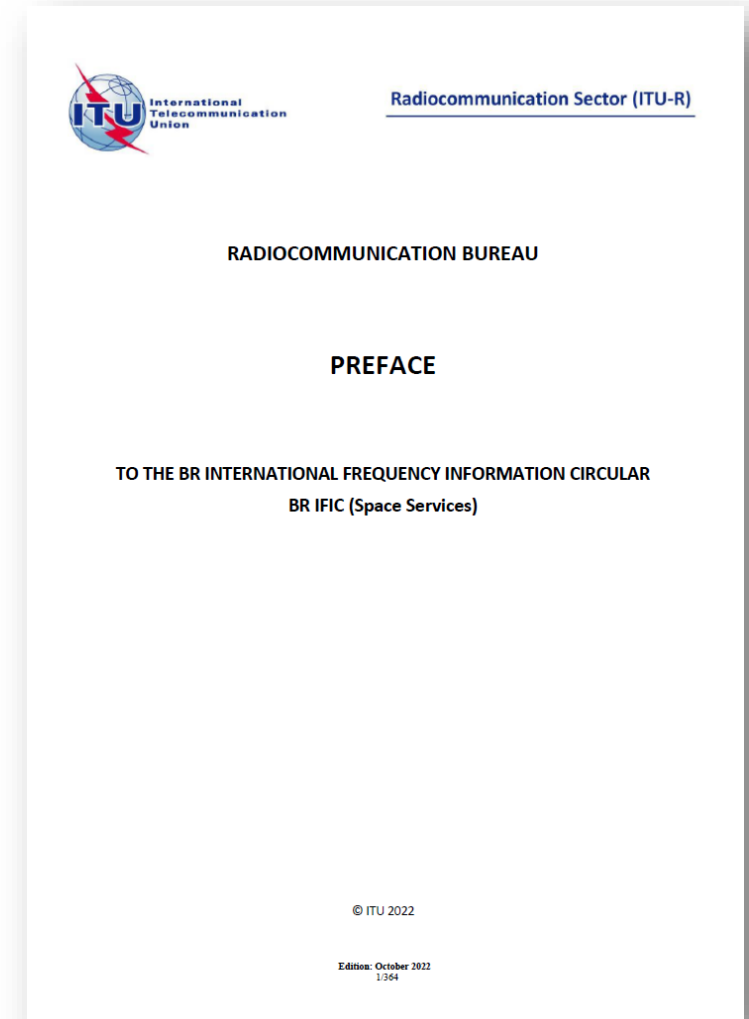
[www.itu.int/go/wrs-22](http://www.itu.int/go/wrs-22)

#ITUWRS



# Agenda

1. General Introduction about Preface
2. Contents of Preface (Space Services)
3. Typical Reference Tables
  1. Table 1A Codes designating Notifying Administrations
  2. Table 1B Codes designating Countries or Geographical Areas
  3. Table 3 Class of Station
  4. Table 7 Antenna radiation reference pattern
  5. Table 12A/12B Operating Agencies and Responsible Administrations



# What is Preface?

 Preface helps to understand

- The **content** of the BR IFIC (Space services) DVD-ROM
- The **SNS data**
- Special section or PART **Findings**
- **Symbols** of Intergovernmental satellite organizations
- **Symbols** of Class of station/services
- **Code** used for Antenna patterns
- **Number** of Operating Agency
- **Code** used for remarks on publications

Preface describes the contents and the layout of BR IFIC (space services), and is also for use in consulting various SNS databases such as IFIC data, SRS data and so on.



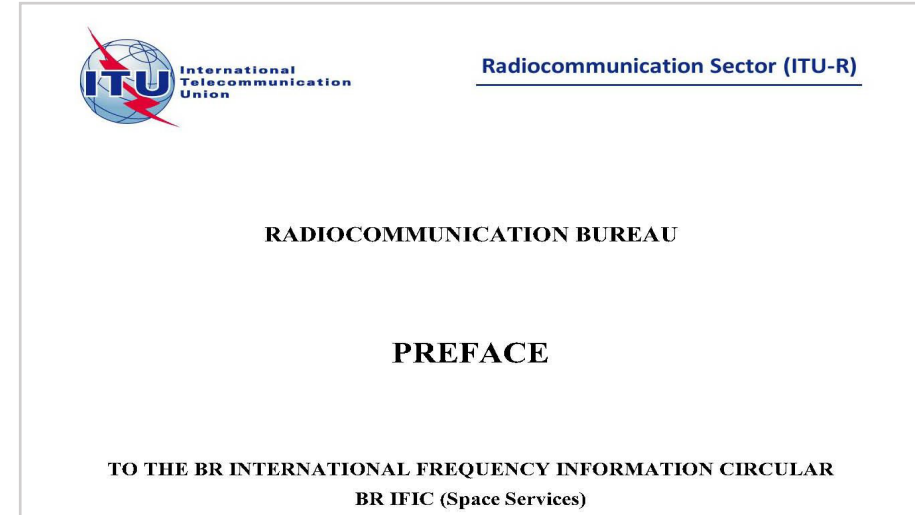
# Preface (Space services)

- Distributed in the BR IFIC DVD-ROM in **six** languages (English, French, Spanish, Arabic, Chinese and Russian) or download it from the SSD website:

<https://www.itu.int/ITU-R/go/space-preface/en>

- Preface is requested to be updated regularly by the Radio Regulations.

✓ **Always look for Edition and New Changes**



NEW CHANGES

This section contains the list of any changes made to this version, except those concerning the regularly updated Table 12A/12B.

Edition	Changes
October 2022	NOC
September 2022	Update of Note 6 in Section III Chapter 1
August 2022	NOC
July 2022	Modification in Table 12A/12B (addition of the title to the table)
June 2022	NOC
May 2022	Update of Note 5 in Section III Chapter 1
April 2022	New Table 8 (Code for the reference body (data item A.4.b.2)) Update of Section III Chapter 1 (Table Name: notice, Data Item: ntf_occurs)
March 2022	NOC
February 2022	Update of Section III Chapter 1 related to Column Format
January 2022	NOC

# Contents of the Preface (Space services) (1)

## CONTENTS

Preface consists of 4 Sections.

1. **Section I – General**
2. **Section II - Description of the BR IFIC and the Space Radiocommunication Stations (SRS) database information**
3. **Section III - Description of the Space Networks System (SNS)**
4. **Section IV - Reference Tables**

Section	Title	Last update
SECTION I	General	01.2012
SECTION II	Description of the BR IFIC and the Space Radiocommunication Stations on DVD-ROM	
Chapter 1	BR IFIC (Space Services)	10.2012
	Definition of the BR IFIC	
	Part I-S	
	Part II-S	
	Part III-S	
	Appendix to the BR IFIC	
	Annex to the BR IFIC	
	The Special Sections - currently in use	07.2021
	The Special Sections – discontinued	
Chapter 2	Cover pages of Parts I-S, II-S, III-S and the Special Sections currently in use	07.2021
Chapter 3	Space Radiocommunication Stations Database on the BR IFIC DVD-ROM	11.2012
SECTION III	Space Networks System (SNS)	
Chapter 1	Details relating to the contents of the SNS data items published in Parts I-S, II-S, III-S and the Special Sections and databases of the BR IFIC DVD-ROM	09.2022
	Description of the format for electronic submission of graphical data related to satellite networks	08.2020
SECTION IV	Reference Tables	

Edition: October 2022  
6/363

# Contents of the Preface (Space services) (2)

## SECTION II - Description of the BR IFIC and the Space Radiocommunication Stations (SRS) on DVD-ROM

- Chapter 1 - BR IFIC (Space Services)
  - Definition of the BR IFIC
  - **PART I-S, PART II-S and PART III-S**
  - Appendix and Annex to the BR IFIC
  - **The Special Sections - currently in use**
  - The Special Sections – discontinued
- Chapter 2 - Cover pages of the PART I-S, II-S, III-S and the Special Sections currently in use
- Chapter 3 – SRS database information

SECTION II	Description of the BR IFIC and the Space Radiocommunication Stations on DVD-ROM	
Chapter 1	BR IFIC (Space Services)	10.2012
	Definition of the BR IFIC	
	Part I-S	
	Part II-S	
	Part III-S	
	Appendix to the BR IFIC	
	Annex to the BR IFIC	
	The Special Sections - currently in use	07.2021
	The Special Sections – discontinued	
	Chapter 2	Cover pages of Parts I-S, II-S, III-S and the Special Sections currently in use
Chapter 3	Space Radiocommunication Stations Database on the BR IFIC DVD-ROM	11.2012

# Contents of the Preface (Space services) (3)

## SECTION III - Space Networks System (SNS)

- **Chapter 1** - Details relating to the contents of the SNS data items published in Part I-S, II-S, III-S and the Special Sections of the BR IFIC
- **Chapter 2** - Description of the format for electronic submission of graphical data related to satellite networks

SECTION III - Chapter 1: Details relating to the contents of the SNS data items

Details relating to the contents of the SNS data items published in Part I-S, II-S, III-S and the Special Sections of the BR IFIC

Table Name	Data Item	Items in AP4	Format	4/2	4/3	Plans	Description	Comment
adm_assoc	<i>ntc_id</i>	BR	9(9)	x		x	Administration list "on behalf of" which submitted	PK, FK; see NOTE 1
	<i>adm</i>	A.1.f.2	X(3)	x		x	country symbol of the notifying administration	PK; see NOTE 1
assgn							Assigned frequency	
	<i>grp_id</i>		9(9)	x	x	x	unique identifier of the group	PK, FK; see NOTE 1
	<i>seq_no</i>		9(4)	x	x	x	sequence number	PK; see NOTE 1
	<i>freq_sym</i>	C.2.a.1.a	X	x	x	x	symbol indicating kilohertz [K], megahertz [M] or gigahertz [G]	
	<i>freq_assgn</i>	C.2.a.1.b	9(7),9(6)	x	x	x	assigned frequency	
	<i>freq_mhz</i>	BR	9(7),9(6)				frequency in MHz	derived data
	<i>f_cmp_rec</i>	BR	X				code indicating if two records compared are equal [E], have basic differences [B], have non-basic differences [N] or the second record is not found [X]	BR internal data
attch							Attachment information	see NOTE 2
	<i>ntc_id</i>	BR	9(9)	x	x	x	unique identifier of the notice	PK, FK; see NOTE 1
	<i>attch_no</i>		9(4)	x	x	x	number of the attachment	PK; see NOTE 1
	<i>attch_type</i>		X	x	x	x	code indicating if the attachment is in paper [P], GIMS [G], or electronic [E] format	
	<i>file_name</i>		X(255)	x	x	x	the name of the file in case the attachment is provided in electronic form	
	<i>text_info</i>		X(255)	x	x	x	textual information	not mandatory
c_pfd		A.17					Compliance with pfd limits	
	<i>ntc_id</i>		9(9)	x			unique identifier of the notice	PK, FK; see NOTE 1
	<i>seq_no</i>		9(4)	x			sequence number	PK; see NOTE 1
	<i>freq_min</i>		9(7),9(6)	x			lower frequency limit of the band [MHz]	
	<i>freq_max</i>		9(7),9(6)	x			upper frequency limit of the band [MHz]	
	<i>pfd</i>		S9(3),9(2)	x			pfd value in dB(W/m <sup>2</sup> )	
	<i>bdwidth</i>		9(8)	x			bandwidth (in kHz) over which pfd was calculated	
	<i>ra_stn_type</i>		X	x			type of radio astronomy station: S - single-dish, V - VLBI	
carrier_fr							carrier frequency of the emissions	
	<i>grp_id</i>		9(9)	x			unique identifier of the group	PK, FK; see NOTE 1
	<i>seq_emiss</i>		9(4)	x			sequence number of the emission	PK, FK; see NOTE 1
	<i>freq_carr</i>	C.7.b	9(6),9(6)	x			carrier frequency in MHz	PK; see NOTE 1
cmr_grp_ln k							To link 'cmr_syst' to 'grp'	
	<i>ntc_id</i>		9(9)				unique identifier of the notice	PK, FK; see NOTE 1
	<i>seq_cmr</i>		9(4)				sequence number of the commercial system pertaining to the network submitted on the notice	PK, FK; see NOTE 1
	<i>grp_id</i>		9(9)				unique identifier of the group (Res49)	PK, FK; see NOTE 1

Edition: October 2022  
73/364

# Contents of the Preface (Space services) (4)

## SECTION IV - Reference Tables

Reference Tables list codes and symbols

- used for data items in AP 4 for administrations to designate characteristics of notified radio stations, and
- for the Bureau to indicate specific findings on publications.

- **Table 1A - Codes Designating Notifying Administrations**
- **Table 1B - Codes Designating Countries or Geographical Areas**
- Table 2 - Intergovernmental satellite organizations
- Table 3 - Class of Station (data item *C4a*)
- Table 4 - Nature of Service (data item *C4b*)
- Table 5 - Symbols used to indicate the polarization (data item *C6a*)
- Table 6 - Radio astronomy station antenna characteristics (data item *B6*)
- **Table 7 - Antenna radiation reference pattern (data items B3c, B5c and C10d5a)**
- Table 8 - Code for the reference body (data item A4b2)
- Tables 9 – 10 - Numbers not used



\* Tables in Bold type are explained in following pages.





# Contents of the Preface (Space services) (5)

## SECTION IV - Reference Tables

- Table 11A - Symbols used for coordination and agreement (data item *A5/A6*) (coordination phase)
- Table 11B - Symbols used for coordination and agreement (data item *A5/A6*) (notification phase)
- Table 11C - Symbols used for Appendices 30, 30A and 30B
- **Table 12A/12B - Responsible administrations (data item *A3b*), operating agencies (data item *A3a*) and postal and telegraphic addresses of the administrations responsible for the stations**
- Table 13A1 - Finding reference - Conformity with the Radio Regulations - symbols used in column *13A1*
- Table 13A2 - Finding reference - Conformity with the procedures relating to coordination with other administrations or conformity with a Plan (world or regional) - symbols used in column *13A2*
- Table 13A3 - Finding reference - Technical examination - symbols used in column *13A3*
- Table 13B1 - Reference to a provision of the Radio Regulations or an Appendix thereto, or a Resolution of a World Radio Conference or a Regional Agreement - symbols used in column *13B1*
- Table 13B2 - Remarks concerning Findings - symbols used in column *13B2*
- Table 13B3 - Date relating to a review to be made - symbols used in column *13B3*
- Table 13C - Remarks - symbols used in column *13C*

# Typical Reference Table (1) - Tables 1A/1B

TABLE 1A: Codes designating Notifying Administrations

TABLE 1B: Codes designating Countries or Geographical Areas

TABLE 1A

Codes designating Notifying Administrations

*Note:* The presence of any given code designating a country with respect to a frequency assignment to a station is without prejudice to any question of territorial status which may be involved.

Code	Name of the administration (ITU Member State)
AFG	Afghanistan
AFS	South Africa (Republic of)
AGL	Angola (Republic of)
ALB	Albania (Republic of)
ALG	Algeria (People's Democratic Republic of)
AND	Andorra (Principality of)
ARG	Argentine Republic
ARM	Armenia (Republic of)
ARS	Saudi Arabia (Kingdom of)
ATG	Antigua and Barbuda
AUS	Australia
AUT	Austria
AZE	Azerbaijan (Republic of)
B	Brazil (Federative Republic of)
BAH	Bahamas (Commonwealth of the)
BDI	Burundi (Republic of)
BEL	Belgium
BEN	Benin (Republic of)
BFA	Burkina Faso
BGD	Bangladesh (People's Republic of)
BHR	Bahrain (Kingdom of)
BIH	Bosnia and Herzegovina
BLR	Belarus (Republic of)

TABLE 1B

Codes designating Countries or Geographical Areas

*Note:* The codes have a geographical significance only. The presence of any given code designating a country or a geographical area with respect to a frequency assignment to a station is without prejudice to any question of territorial status which may be involved.

If the territory of an Administration consists of several geographical areas, which may be distributed in different Regions, the entire territory of that Administration is represented by several geographical codes.

Explanation of a code of the type XXX/YYYY (where XXX or YYY is a code designating an administration, country or a geographical area):

XXX indicates the code designating the notifying administration and YYY indicates the code designating the country or the geographical area, in which the station is located.

See: RES-1 (Rev. WRC-97), *resolves*

that, unless specifically stipulated otherwise by special arrangements communicated to the Union by administrations, any notification of a frequency assignment to a station shall be made by the administration of the country on whose territory the station is located.

Code	Region	Notifying Administration	Name of the geographical area
ABW	XR2	HOL	Aruba
AFG	XR3	AFG	Afghanistan
AFS	XR1	AFS	South Africa
AGL	XR1	AGL	Angola
AIA	XR2	G	Anguilla
ALB	XR1	ALB	Albania
ALG	XR1	ALG	Algeria
ALS	XR2	USA	Alaska (State of)

Ex. The entire territory of the Administration of **AUS** is represented by multiple codes: **AUS, CHR, HMD, ICO, NFK**

# Typical Reference Table(2) – Table 3

Table 3: Class of Station (data item C4a)

Class of Station

Space Station

Symbol	Space Station Class of Station
E1	Space research (active sensor) space station
E2	Space research (passive sensor) space station
E3	Space station in the Earth exploration-satellite service (active sensor)
E4	Space station in the Earth exploration-satellite (passive sensor)
E5	Space station in the aeronautical mobile-satellite (R) service
E6	Space station in the aeronautical mobile-satellite (OR) service
EA	Space station in the amateur-satellite service
EB	Space station in the broadcasting-satellite service (sound broadcasting)
EC	Space station in the fixed-satellite service
ED	Space telecommand space station
EE	Space station in the standard frequency-satellite service
EF	Space station in the radiodetermination-satellite service
EG	Space station in the maritime mobile-satellite service
EH	Space research space station
EI	Space station in the mobile-satellite service
EJ	Space station in the aeronautical mobile-satellite service
EK	Space tracking space station
EM	Space station in the meteorological-satellite service
EN	Space station in the radionavigation-satellite service
EO	Space station in the aeronautical radionavigation-satellite service
EQ	Space station in the maritime radionavigation-satellite service
ER	Space telemetering space station
ES	Station in the inter-satellite service
ET	Space station in the space operation service
EU	Space station in the land mobile-satellite service
EV	Space station in the broadcasting-satellite service (television)
EW	Space station in the earth exploration-satellite service
EY	Space station in the time signal-satellite service

SECTION IV - Table 3: Class of Station

Earth Station

Symbol	Earth Station Class of Station
RA	Radio astronomy station
T5	Aircraft earth station in the aeronautical mobile-satellite (R) service
T6	Aircraft earth station in the aeronautical mobile-satellite (OR) service
TA	Earth station in the amateur-satellite service
TB	Aeronautical earth station
TC	Earth station in the fixed-satellite service
TD	Space telecommand earth station
TE	Satellite EPIRB in the mobile-satellite service
TF	Fixed earth station in the radiodetermination-satellite service
TG	Ship earth station
TH	Earth station in the space research service
TI	Coast earth station
TJ	Aircraft earth station
TK	Space tracking earth station
TL	Mobile earth station in the radiodetermination-satellite service
TM	Earth station in the meteorological-satellite service
TN	Fixed earth station in the radionavigation-satellite service
TO	Mobile earth station in the aeronautical radionavigation-satellite service
TQ	Mobile earth station in the maritime radionavigation-satellite service
TR	Space telemetering earth station
TT	Earth station in the space operation service
TU	Land mobile earth station
TW	Earth station in the earth exploration-satellite service
TX	Fixed earth station in the maritime radionavigation-satellite service
TY	Base earth station
UZ	Fixed earth station in the aeronautical radionavigation-satellite service
UA	Mobile earth station
UB	Earth station in the broadcasting-satellite service (sound broadcasting)
UD	Space telecommand mobile earth station
UE	Earth station in the standard frequency-satellite service
UF	Earth station in motion communicating with a geostationary satellite orbit station in the fixed-satellite service in the frequency bands referred to under No. 5.527A [5.5X]
UG	Earth station on board unmanned aircraft communicating with a space station of a geostationary-satellite network in the fixed-satellite service for UAS CNPC links in accordance with resolves 1 of RES-155
UH	Mobile earth station in the space research service
UK	Space tracking mobile earth station
UM	Mobile earth station in the meteorological-satellite service
UN	Mobile earth station in the radionavigation-satellite service
UR	Space telemetering mobile earth station
UT	Mobile earth station in the space operation service
UV	Earth station in the broadcasting-satellite service (television)
UW	Mobile earth station in the earth exploration-satellite service
UY	Earth station in the time signal-satellite service
VA	Land earth station

Earth Station Class of Station	Corresponding Space Station Class of Station
RA	-
T5	E5
T6	E6
TA	EA
TB	EJ
TC	EC
TD	ED
TE	(EI)
TF	EF
TG	EG
TH	EH
TI	EG
TJ	EJ
TK	EK
TL	EF
TM	EM
TN	EN
TO	EO
TQ	EQ
TR	ER
TT	ET
TU	EU
TW	EW

Earth Station Class of Station	Corresponding Space Station Class of Station
TX	EQ
TY	EU
TZ	EO
UA	EI
UB	EB
UD	ED
UE	EE
UF	EC
UG	EC
UH	EH
UK	EK
UM	EM
UN	EN
UO	EC
UR	ER
US	EC
UT	ET
UU	EC
UV	EV
UW	EW
UY	EY
VA	EI



# Typical Reference Table (3) - Table 7

Table 7: Antenna radiation reference pattern (data items B3c, B5c and C10d5a)

Antenna Patterns

YOU ARE HERE ITU > HOME > ITU-R > SOFTWARE > ANTENNA PATTERNS

- Earth station antenna patterns
- Space station antenna patterns
- Submission of the antenna radiation patterns

### Earth Station Antenna Patterns

Standard patterns:

Standard	Pattern Name	Description	Receiving/Transmitting	Pattern ID
AP8	APERR_001V01	Appendix 8 Earth station antenna pattern for GSO networks. Only for maximum antenna gain greater than 9.3 dB.	Receiving	33
			Transmitting	76
AP30B A = 29	APERR_002V01	Appendix 30B reference Earth station pattern with the improved side-lobe for coefficient A = 29.	Receiving	30, 31
			Transmitting	73, 74
Rec ITU-R M.694-0	APEREC005V01	Recommendation ITU-R M.694-0 reference Earth station antenna pattern for ship earth station antennas having	Receiving	49

Antenna radiation reference pattern can be consulted from the Antenna Pattern Library at:

<https://www.itu.int/en/ITU-R/software/Pages/ant-pattern.aspx>

# Typical Reference Table (4) – Table 12A/12B

Table 12A/12B: Operating Agencies (data item A3a) and Responsible Administrations (data item A3b)

1. The information on Table 12A/12B can be used for
  - Capturing data items A3a and A3b in AP4 when administrations submit a notice to ITU,
  - Urgent communication on interference
  - Commenting to a notifying administration
2. The list of operating agencies (data item A3a) is also used to create user accounts for e-Submission.
3. **All administrations are requested to keep the latest information on Table 12A/12B to communicate with other administrations smoothly.**

SECTION IV - Table 12A/12B: Operating Agencies (data item A3a) and Responsible Administrations (data item A3b)

TABLE 12A/12B  
Operating Agencies (data item A3a) and Responsible Administrations (data item A3b)

<b>ABW</b>	Aruba
A	MINISTRY OF ECONOMIC AFFAIRS, AGRICULTURE AND INNOVATION, RADIO COMMUNICATIONS AGENCY P.O. BOX 450, 9700 AL GRONINGEN EMAIL: info@agentschaptelecom.nl TELEFAX: +31 50 58 77 400 PHONE: +31 50 58 77 555
B	DIRECTIE TELECOMMUNICATIE ZAKEN RUMBASTRAAT 19 ORANJESTAD TELEFAX: +297 582 5307 PHONE: +297 582 6069 EMAIL: dirtelza@setarnet.aw
<b>AFG</b>	Afghanistan
A	MINISTRY OF COMMUNICATIONS LIAISON AND DOCUMENTS DEPARTMENT INTERNATIONAL ORGANIZATIONS LIAISON SECTION KABUL ISLAMIC STATE OF AFGHANISTAN TELEFAX: +4940 2295 347
001	MINISTRY OF COMMUNICATIONS
003	AFGHAN AIR AUTHORITY
005	AFGHAN MINISTRY OF AGRICULTURE
007	MINISTRY OF INTERIOR POLICE
009	RED CROSS ORGANIZATION
002	MINISTRY OF CIVIL AVIATION
004	EMBASSY OF THE REPUBLIC OF TURKEY
006	AFGHAN CIVIL AVIATION
008	EMBASSY OF SAUDI ARABIA
<b>AFS</b>	South Africa

# Typical Reference Table (5) – Table 12A/12B

Table 12A/12B: Operating Agencies (data item A3a) and Responsible Administrations (data item A3b)

- 4. Request the Bureau to update Table 12A/12B when a name of an entity, postal address, email address and telefax number of a responsible administration in your administration are updated.**
  - Please inform the Bureau of the updated information in your administration via e-Communications or email ([brmail@itu.int](mailto:brmail@itu.int))
- 5. Request the Bureau to add a new operating agency to Table 12A/12B when a new code for data item A3a is necessary in submitting a notice to the Bureau.**
  - Please inform the Bureau of the name of a new operating agency to be added to Table 12A/12B via e-Communications or email ([brmail@itu.int](mailto:brmail@itu.int)), or
  - A new operating agency can be added to Table 12A/12B when the information of a new operating agency is informed by the attachment attached to the notice submitted to the Bureau.

# Thank you!

ITU – Radiocommunication Bureau

Questions to [brmail@itu.int](mailto:brmail@itu.int) or [Koichi.sumiyoshi@itu.int](mailto:Koichi.sumiyoshi@itu.int)

