

# INTERNATIONAL TELECOMMUNICATION UNION



*Radiocommunication Bureau*

(Direct Fax N°. +41 22 730 57 85)

25 March 1998

Circular-letter  
CR/86

## To Administrations of Member States of the ITU

**Subject:** Forms of notice for use when submitting the information for advance publication of planned satellite networks to the Radiocommunication Bureau

**References:** Appendix S4 to the Radio Regulations (Geneva, 1996)  
Final Acts of the World Radiocommunication Conference, Geneva, 1997  
(WRC-97)  
IFRB Circular-letter No. 839 dated 11 October 1990

To the Director-General

Dear Sir,

1 In view of the entry into force on 22 November 1997 of part of the above-mentioned Final Acts and, in particular, of the revised Appendix S4 to the Radio Regulations, the Bureau has developed new forms of notice ApS4 which are to be used by administrations for the advance publication of information on planned satellite networks (Sections I, IA and IB of Article S9, as appropriate). The new forms of notice consist of two parts:

- ApS4/V which applies to non-GSO satellite system not subject to coordination under Section II of Article S9;
- ApS4/VI which applies either to GSO or non-GSO satellite system subject to coordination under Section II of Article S9.

2 Two blank copies of the new forms of notice ApS4/V and ApS4/VI together with detailed instructions for completing the forms are enclosed with the present circular-letter. It is suggested that each administration make copies in sufficient quantity to meet its own foreseeable requirements.

3 Administrations are requested to start using these new forms of notice as from reception of this circular letter and to disregard the form AP4 currently in use.

4 The Radiocommunication Bureau is currently developing a data-capture software (including data correction and limited validation) which will facilitate the submission of advance publication information in electronic form. Such software should be made available to administrations by June 1998.

Yours faithfully,

Robert W. Jones  
Director, Radiocommunication Bureau

GK/PK/YH  
09.03.1998

**Enclosures**

**Distribution:**

- Administrations of Member States of the ITU
- Members of the Radio Regulations Board

## ANNEX 1

(to BR Circular-letter No. CR/86)

### **Instructions for filling out the form of notice ApS4/V and ApS4/VI relating to space radiocommunication stations**

(Annexes 2A and 2B of Appendix S4 to the Radio Regulations, WRC-97)

#### **1 Introduction**

1.1 The forms of notice ApS4/V and ApS4/VI have been developed by the Radiocommunication Bureau in accordance with the decisions of WRC-97. In drawing up the forms, the Bureau has taken into consideration the use made by the Bureau of the ITU computer facilities in the treatment of the forms of notice. These forms also serve as the basis of a PC-based data capture system that the Bureau is currently developing for use by administrations and which should be made available by June 1998.

1.2 The present instructions are supplementary to those contained in Annexes 2A and 2B of Appendix S4 to the Radio Regulations, WRC-97.

1.3 Annex 2B of Appendix S4 provides, in tabular form, the items that are to be provided for the advance publication including the indication as to whether an item is mandatory or optional. For convenience, this annex is reproduced in Annex 2 to this circular-letter.

#### **2 General**

Two forms are attached to this circular-letter. These concern the advance publication of information on satellite networks or systems that are not subject to coordination procedure under Section II of Article S9 (notice form ApS4/V) and the advance publication of information on satellite networks or systems that are subject to coordination procedure under Section II of Article S9 (notice form ApS4/VI). Each of these forms consists of several parts described below and followed by some explanations.

2.1 The form of notice ApS4/V consists of the following parts which are presented on three pages identified in the lower left corner:

Forms ApS4/V/1 - *Satellite network* (general characteristics of the satellite network)

Forms ApS4/V/2 - *Satellite network characteristics for reception at the space station*

Forms ApS4/V/3 - *Satellite network characteristics for transmission from the space station*

2.2 The form of notice ApS4/VI consists of the following parts which are presented on two pages identified in the lower left corner:

Forms ApS4/VI/1 - *Satellite network* (general characteristics of the satellite network)

Forms ApS4/VI/2 - *Satellite network characteristics*

2.3 These forms have been created to cover the relevant data items listed under Sections A, B and C in Annex 2A to Appendix S4 as appropriate, taking account of the tables in Annex 2B to the Appendix.

2.4 In each part, each information item/data field includes a number in its label. This number is the same as that used for the same item in Appendix S4 (WRC-97). For example, on the page labelled "Form ApS4/V/2" (at the bottom), the field "A2a Date of bringing into use" is the item numbered 2a in Part A of Annex 2A to Appendix S4.

2.5 If there is more information than can fit in a box, use another page of the same type to provide additional data, after checking (✓) the field labelled "More ---- on next page" on the preceding page.

2.6 These forms, in addition to their use to provide data pertaining to a new satellite network can also be used to modify or suppress data pertaining to an existing network. The relevant indication (A for ADD, M for MOD, S for SUP) is to be given in the corresponding box at the top right-hand corner of the first page in the area titled "Notification intended for".

2.7 Certain information has to be provided as an explanatory text or in a graphical form by means of an attachment. The presence of such an attachment should be identified by a reference to its number in the boxes provided for this purpose on the form. Instructions for presentation of graphical data are given in IFRB Circular-letter No. 769 of 23 December 1988.

### **3 Detailed instruction for filling out notice forms**

**3.1** The instructions for filling out the individual data items on notice forms ApS4/V and ApS4/VI are given below. The items appear in the order that they appear on the form ApS4/V taking account also of specific items pertaining to the form ApS4/VI, when appropriate. Each item (together with the reference to Appendix S4) appears in bold text with the detailed instructions concerning that item appearing immediately underneath.

The pages of a complete notice should be numbered consecutively in the boxes provided for this purpose in the top right hand corner of each form.

### **3.2 Instructions for notice form ApS4/V and ApS4/VI**

#### **General characteristics of the notice**

##### **Date**

A date given by the notifying administration for its own use.

##### **Administration serial number**

A serial or reference number given by the administration for its own use.

##### **A1f Notifying administration**

The country symbol designating the notifying administration and the symbol designating the international satellite system, if appropriate (see Tables B1 and B2 of the Preface to the IFL, the SRS and the WIC). If there is no symbol in Table B2 of the Preface corresponding to the international satellite system concerned, spell out its name in box REMARKS, and the Bureau will provide a symbol.

**No. S9.1 Advance publication**

Enter "X" to indicate that this is the purpose of submitting the form.

**Request for assistance of the BR for No. S9.3**

Enter "X" to indicate that this is the purpose of submitting the form.

**Action indicator ADD/MOD/SUP**

Enter **A**, **M** or **S** for the addition of a new satellite network, or the modification or suppression of an existing satellite network, as appropriate.

In the case of modification or suppression provide the BR identification number of the satellite network to be modified or suppressed.

**BR identification number of network to be modified/suppressed**

If the action indicator is "M" or "S", enter the BR identification number of the satellite network to be modified or suppressed. In these cases the administration has to provide, in addition to the BR identification number, the identity of the satellite network (Item A1a) as well as the nominal orbital longitude (Item A4a1a) if the satellite is geostationary, and the number of the special section.

**Characteristics of the network**

**A1a Identity of the satellite network**

Enter the name of the space station using not more than 20 characters (identity of the satellite network).

**A2a Date of bringing into use**

Indicate the date by which the satellite network is expected to be brought initially into use. Use two digits each to indicate the day, month and year, in that order.

**A2b Period of validity**

If the frequency range is to a space station on board a geostationary satellite, enter the period of validity of the assignment expressed in years (see Resolution 4 (Rev.Orb-88)); otherwise leave blank.

**A3b Operating agency/Administration responsible for the station**

Using symbols from Table 12A/12B of the Preface to the IFL, the SRS and the WIC, indicate the operating agency or company and the postal and telegraphic addresses of the administration to which communications should be sent on urgent matters regarding interference, quality of emissions, and questions referring to the technical operation of stations (see Article 22 of the Radio Regulations). If there is no symbol in Table 12A/12B of the Preface corresponding to the administration or agency concerned, spell out the name in box REMARKS with reference to box A3a or A3b as applicable, and the Bureau will provide the symbol.

**Special Section API/A (No. S9.1)**

Enter the number of the Special Section of the Weekly Circular in which the advance information was published under No. S9.1 of Article S9.

**A4a1 Nominal orbital longitude**

Enter the nominal orbital longitude of the space station expressed in decimal degrees E or W; the value should not exceed 180 degrees.

**A4b1 Inclination angle**

Enter the angle (expressed in decimal degrees) of the inclination of the orbital plane relative to the equatorial plane of the Earth.

**A4b2 Period**

Enter the time elapsing between two consecutive passages of the satellite through a characteristic point on its orbit expressed in days and hours, or in hours and minutes (see No. S1.186).

**A4b3a Apogee**

Enter the relevant altitude of the apogee, expressed in kilometres above a specified reference surface serving to represent the surface of the Earth or of the reference celestial body (see No. S1.187). Where the value is greater than 99 999.99 km, provide the apogee in exponential format (to the base 10).

**A4b3b Perigee**

Enter the relevant altitude of the perigee, expressed in kilometres above a specified reference surface serving to represent the surface of the Earth or of the reference celestial body (see No. S1.187). Where the value is greater than 99 999.99 km, provide the perigee in exponential format (to the base 10).

**A4b4 Number of satellites**

Enter the total number of satellites having the same radio-frequency characteristics and the same notified orbital characteristics being used for the given service.

**Reference body**

Enter the symbol "T" if the attracting celestial body which primarily determines the motion of the satellite is the Earth; otherwise indicate the body concerned by using the symbols:

- L - Moon
- J - Jupiter
- M - Mars
- V - Venus
- S - Sun

Indicate any other celestial body by describing the body in box REMARKS.

**Number of orbital planes**

Enter the number of orbital planes.

## **Satellite antenna beam details**

NOTE - Several of the items described below apply only in the case of a satellite transmitting antenna beam or in case of a satellite transmitting beam.

### **ADD/MOD/SUP/REP of the beam**

Enter **A**, **M**, **S** or **R**, for an addition, modification, suppression or replacement of the beam, as appropriate.

### **B1 Beam designation**

Enter the satellite antenna beam designation by a symbol consisting of up to four characters. For practical reasons, there are different approaches for the designation of the beam. It may consist of:

- a) numbers such as 1, 2, 3, etc., which refer to the number of the figure representing the corresponding antenna gain contours diagram published in the relevant Special Section; or
- b) numbers such as 195, which identify a beam having a maximum gain of 19.5 dB; or
- c) a symbol of up to four letters (or a letter and a figure), which is used to represent the abbreviated beam name, such as "GBL" for global, "NWQ" for North West Quadrant, "WH" for West Hemisphere, "Z1" for zone 1 or "O" for omnidirectional.

For steerable beams, the last character shall always be the letter "R".

### **B4a Maximum isotropic gain**

Enter the appropriate sign (+ or -) followed by the isotropic gain ( $G_i$ ; see No. S1.160) of the antenna in the direction of maximum radiation, expressed in dBi.

### **B4a/B4b Antenna radiation pattern**

This information can be provided in any one of three different ways, as indicated below.

#### **1 Reference radiation pattern**

Indicate the reference radiation pattern, preferably by means of the following symbols or similar symbols not exceeding 12 characters.

<b>Symbol</b>	<b>Description of the radiation pattern</b>
REC-465	Current version of Recommendation ITU-R S.465: "Reference earth station radiation pattern for use in coordination and interference assessment in frequency range from 2 to about 30 GHz."
AP28	Point 4, Annex II of Appendix 28. NOTE - This radiation diagram is identical to that in Annex III to Appendix 29.
ND	Quasi-omnidirectional radiation pattern with the maximum isotropic gain stated in B4a.

## 2 Radiation diagram

If the attachment is provided, enter a number identifying its presence. Define the antenna radiation pattern by means of a table, a diagram or a set of equations giving the isotropic gain in dBi as a function of the angular separation in all directions from the maximum beam axis. A basic distinction in presenting this data should be made regarding the maximum isotropic antenna gain and the side-lobe radiation. For high gain antennas sufficient data (say in steps of 0.1 degree) should be provided for off-axis angles less than 1 degree, whereas for off-axis angles greater than 50 degrees the radiation pattern is rather flat, and much lower definition could suffice. On the other hand, for low gain antennas less data is necessary around 1 degree, and more data may be needed for the region of off-axis angle greater than 40 degrees. In general, the radiation pattern is assumed to be rotationally symmetrical and should be an envelope of peaks for all 360 degrees in a plane; however, some antennas are designed with nulls in predetermined directions in order to reduce interference and this should also be indicated with sufficient clarity and identification of the plane. If available, indicate the actual measured radiation pattern (relative to isotropic), rather than the reference radiation pattern.

## 3 Non-standard antenna

If the radiation pattern of the antenna can be described by a logarithmic expression as follows:

$$G = \text{COEFA} - \text{COEFB} * \text{LOG}(\phi)$$

provide the values of Coefficient A and Coefficient B (in dBi) in the relevant boxes.

### Information common to a frequency range

NOTE - Several of the items described below apply only in the case of a satellite transmitting antenna beam or in the case of a satellite receiving antenna beam.

#### C4a/C4b Class of station/Nature of service

Indicate the appropriate class of station and the nature of service using the symbols given in Tables 6A1 and 6B1 respectively of the Preface to the IFL, the SRS and the WIC. Up to four pairs of values can be provided.

#### C6 Polarization

Enter the symbol for the type of polarization in the first box (see symbols for the type of polarization in Table 9D1 of the Preface to the IFL, the SRS and the WIC). In the case of linear polarization (symbol "L"), indicate in the second box the angle (in degrees) measured counter-clockwise in a plane normal to the beam axis from the equatorial plane to the electric vector of the waves as seen from the satellite.

#### C1 Frequency range

Enter the range's lower (FROM) and upper (TO) frequencies expressed in kHz up to 28 000 kHz inclusive, in MHz above 28 000 kHz to 10 500 MHz inclusive, and in GHz above 10 500 MHz, and enter letter k, M, G, as appropriate.

#### C5a Receiving system noise temperature

Enter the total receiving system noise temperature expressed in kelvins, referred to the output of the space station receiving antenna.

### **C11a Service area**

NOTE - Service area is required in all cases except in the case of an assignment to a space station operating as space-to-space relay, in which case the box is to be left blank.

For a notice form ApS4/V, the service area can be defined either by the country symbols or geographical area symbols (see Table B1 of the Preface to the IFL, the SRS and the WIC), or graphically by a service area diagram in an attachment. When the service area is the visible part of one or more of the three radiocommunication Regions (see No. S5.2 to No. S5.9), this can be indicated, as appropriate, by the symbols RG1, RG2, or RG3 for Region 1, Region 2 and Region 3 respectively. If the attachment is provided, enter a number identifying the presence of the attachment.

For a notice form ApS4/VI, only the list of countries or geographical designators or a narrative description of the service area (up to 20 characters) shall be supplied.

### **C7a Designation of emission**

Indicate the necessary bandwidth (No. S1.152) and class of emission (No. S1.139) in accordance with Article S2 and Appendix S1; see also IFRB Circular-letters No. 457 of 2 June 1980 and No. 511 of 8 July 1982.

### **C8a1 Maximum peak power**

Enter the appropriate sign (+ or -) and the maximum value of the peak envelope power (No. S1.157), expressed in dBW, supplied to the input of the antenna for each corresponding emission (carrier type).

### **C8b1 Maximum peak power**

Enter the appropriate sign (+ or -) and the maximum value of the total peak envelope power (No. S1.157), expressed in dBW, supplied to the input of the antenna for the corresponding emission.

NOTE - If the maximum values of peak envelope power are being provided for individual carriers, they should be of type C8a1. If the notification does not concern individual carriers (e.g. as in spread spectrum applications) provide a general designation of emission (item C7a) and total peak envelope power values of type C8b1.

### **C8a2 Maximum power density**

Enter the appropriate sign (+ or -) followed by the value of the maximum power density per Hertz (expressed in dBW/Hz) supplied to the input of the antenna for each corresponding emission (carrier type) averaged over the worst 4 kHz band for carriers below 15 GHz, or averaged over the worst 1 MHz band for carriers above 15 GHz. For narrow band carriers with a necessary bandwidth (No. S1.152) less than the reference bandwidth, the peak power should be averaged over the reference bandwidth (4 kHz or 1 MHz) to obtain this value of maximum power density.

### **C8b2 Maximum power density**

Enter the appropriate sign (+ or -) followed by the value of the maximum power density per Hertz (expressed in dBW/Hz) supplied to the input of the antenna averaged over the worst 4 kHz band for carriers below 15 GHz, or averaged over the worst 1 MHz band for carriers above 15 GHz. For narrow band carriers with a necessary bandwidth (RR 146) less than the reference bandwidth, the peak power should be averaged over the reference bandwidth (4 kHz or 1 MHz) to obtain this value of maximum power density.

NOTE - If the values of maximum power density are being provided for individual carriers, they should be of type C8a2. If the notification does not concern individual carriers (e.g. as in spread spectrum applications) provide a general designation of emission (item C7a) and maximum power density values of type C8b2.

**C8c1 Minimum peak power**

Enter the appropriate sign (+ or -) and the minimum value of the peak envelope power (No. S1.157), expressed in dBW, supplied to the input of the antenna for each corresponding emission (carrier type).

**C8c2 Minimum power density**

Enter the appropriate sign (+ or -) followed by the value of the minimum power density per Hertz (expressed in dBW/Hz) supplied to the input of the antenna for each corresponding emission (carrier type) averaged over the worst 4 kHz band for carriers below 15 GHz, or averaged over the worst 1 MHz band for carriers above 15 GHz. For narrow band carriers with a necessary bandwidth (RR 146) less than the reference bandwidth, the peak power should be averaged over the reference bandwidth (4 kHz or 1 MHz) to obtain this value of minimum power density.

**C8e C/N objective (total-clear sky)**

Enter the required carrier to noise ratio, in decibels, for the overall link for each carrier when clear sky propagation conditions apply.

**Type of maximum peak power and power density values**

If the values of maximum peak power and power density are of type C8b1 and C8b2, enter an "X" in this box.

**C8f Space station e.i.r.p.**

Enter the appropriate sign (+ or -) followed by the nominal equivalent isotropically radiated power(s) on the beam axis in dBW.

**Associated earth station**

The following information is required if the associated stations are earth stations.

**ADD/MOD/SUP/REP of the station**

Enter **A**, **M**, **S** or **R**, for an addition, modification, suppression or replacement of the associated earth station, as appropriate.

**C10b1 Earth station name**

Enter the name of the locality by which the earth station is known or in which it is located, using not more than 20 characters; see Table 4A1 of the Preface to the IFL, the SRS and the WIC for standard abbreviations. If an earth station uses more than one antenna, the station name should be supplemented by a number (e.g. 1, 2, 3, etc.) to distinguish one antenna from another. If the satellite system is planned to comprise groups of earth stations (each group having different characteristics) a typical earth station corresponding to each such group has to be the subject of a separate page and should be identified by separate designations in this box.

## **Country**

Indicate the country in which the station is located using the appropriate symbol given in Table B1 of the Preface to the IFL, the SRS and the WIC. This information is not required for the notification of a typical earth station.

## **C10 Type of station (Specific/Typical)**

Enter "S" or "T" for a specific or typical station, as appropriate.

## **C10b2 Geographical coordinates**

Indicate the geographical coordinates (in degrees and minutes) of the earth station antenna site. This information is not required for the notification of a typical earth station.

## **C10c1a/C10c1b Class of station/Nature of service**

Indicate the appropriate class of station in C10c1a and the nature of service in C10c1b, using the symbols given in Tables 6A1 and 6B1 respectively of the Preface to the IFL, the SRS and the WIC. Up to four pairs of values can be provided.

## **C10c5 Receiving system noise temperature**

Enter the lowest total receiving system noise temperature expressed in kelvins, referred to the output of the earth station antenna under clear sky conditions. This value shall be indicated for the nominal value of the angle of elevation when the associated transmitting station is aboard a geostationary satellite and, in other cases, for the minimum value of angle of elevation.

## **C10c2 Maximum isotropic gain**

Enter the appropriate sign (+ or -) followed by the isotropic gain ( $G_i$ ; see No. S1.160) of the antenna in the direction of maximum radiation, expressed in dBi.

## **C10c3 Beamwidth**

Enter the total beamwidth at the mean half-power points of the main lobe, expressed in decimal degrees. Describe in detail in attachment C10c4b, if not symmetrical.

## **C10c4a Reference radiation pattern**

Indicate the reference radiation pattern, preferably by means of the following symbols or similar symbols not exceeding 12 characters.

<b>Symbol</b>	<b>Description of the radiation pattern</b>
REC-465	Current version of Recommendation ITU-R S.465: "Reference earth station radiation pattern for use in coordination and interference assessment in the frequency range from 2 to about 30 GHz."
REC-694	Current version of Recommendation ITU-R M.694: "Reference radiation pattern for ship earth station antennas".
AP28	Point 4, Annex II of Appendix 28. Note: This radiation diagram is identical to that in Annex III to Appendix 29.
29-25LOG( $\phi$ )	Represents a reference radiation pattern similar to that in Recommendation ITU-R S.465 with side lobe radiation reduced by 3 dB.
27-25LOG( $\phi$ )	As above with side lobe radiation reduced by 5 dB.
N-25LOG( $\phi$ )	Represents a generic radiation pattern of the same type and allows for values of N other than those listed above.
ND	Quasi-omnidirectional radiation pattern with the maximum isotropic gain stated in C10c2.

#### **C10c4b Antenna radiation pattern diagram**

If a radiation pattern cannot be indicated by reference to one of the symbols in C10c4a, or the measured radiation diagram of the antenna is available, give the relevant information in the attachment. If the attachment is provided, enter the attachment number identifying its presence. This information can also be provided in electronic format; see Section 4 for further information.

Alternatively, if the radiation pattern can be described by two logarithmic expressions as follows:

$G = G_{MAX}$	$\phi < 1^\circ$
$G = COEFA - COEFB * LOG(\phi)$	$1 \leq \phi \leq \phi 1$
$G = MAX(MIN(G(\phi 1), COEFC - COEFD * LOG(\phi)), -10)$	$\phi > \phi 1$

provide the values of Coefficient A, Coefficient B, Coefficient C and Coefficient D (all in dBi) and  $\phi 1$  (in degrees) in the relevant boxes.

#### **Associated space station**

The following information is required if the associated stations are space stations.

#### **ADD/MOD/SUP/RES of the station**

Enter **A**, **M**, **S** or **R**, for an addition, modification, suppression or replacement of the associated space station, as appropriate.

#### **C10a Space station name**

Define the associated space station with which communication is to be established by providing its name if it is on board a geostationary satellite or by providing the name of the system to which it belongs if it is on board a non-geostationary satellite.

**Transmitting/Receiving beam designation**

Enter the transmitting or receiving beam designation of the associated space station, as appropriate, by means of a four character code.

**C10 Type of station (Geo/Non-Geo)**

Enter "G" or "N" for geostationary or non-geostationary associated space station, as appropriate.

**A4a1 Nominal orbital longitude**

For a geostationary associated space station, enter the nominal orbital longitude of the space station expressed in decimal degrees E or W.

**Remarks**

This box should be used to supply any other information or remark which the notifying administration considers useful and which is not contained on the form itself or in an attachment thereto.

ANNEX 2

(to BR Circular Letter No. CR/86)

APPENDIX S4

**Consolidated List and Tables of Characteristics for Use in the Application of the Procedures of Chapter SIII**

ANNEX 2B (TO APPENDIX S4)

**Table of characteristics to be submitted for space and radio astronomy services**

**A. General characteristics of the satellite network or the earth station**

Items in Appendix	Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary satellite network subject to coordination under Section II of Article S9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article S9	Notification or coordination of a GSO network (including Appendix S30B)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station	Notice for space stations in the BSS under Appendix S30 *	Notice for feeder-link stations under Appendix S30A *	Notice for stations in the FSS under Appendix S30B	Items in Appendix	Radio-astronomy
A.1.a	X	X	X	X	X		X	X	X	A.1.a	
A.1.b							X				
A.1.c								X		A.1.c	
A.1.d									X	A.1.d	
A.1.e.1						X					
A.1.e.2						X					
A.1.e.3						X					
A.1.e.4										A.1.e.4	X
A.1.f	X	X	X	X	X	X	X	X	X	A.1.f	X
A.2.a	X	X	X	X	X	X	X	X	X	A.2.a	
A.2.b	X			X							
A.2.c										A.2.c	X
A.3			X	X	X	X	X	X		A.3	X
A.4.a.1	X			X			X	X	X	A.4.a.1	
A.4.a.2				X			X	X		A.4.a.2	

Items in Appendix	Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary satellite network subject to coordination under Section II of Article S9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article S9	Notification or coordination of a GSO network (including Appendix S30B)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station	Notice for space stations in the BSS under Appendix S30 *	Notice for feeder-link stations under Appendix S30A *	Notice for stations in the FSS under Appendix S30B	Items in Appendix	Radio-astronomy
A.4.a.3				X						A.4.a.3	
A.4.a.4				X						A.4.a.4	
A.4.a.5				X						A.4.a.5	
A.4.b.1		X	X		X					A.4.b.1	
A.4.b.2		X	X		X					A.4.b.2	
A.4.b.3		X	X		X					A.4.b.3	
A.4.b.4		X	X		X					A.4.b.4	
A.4.b.5					X					A.4.b.5	
A.4.c						X				A.4.c	
A.5				X	X	X	X	X	X	A.5	
A.6				X	X	X	X	X	X	A.6	
A.7.a						X		X		A.7.a	
A.7.b						X		X		A.7.b	
A.7.c						X				A.7.c	
A.7.d						X		X		A.7.d	
A.8							X			A.8	
A.9							X			A.9	
A.10						X				A.10	
A.11							X	X		A.11	
A.12								X		A.12	
A.13				X	X					A.13	

X Mandatory information O Optional information C This information need only be furnished when it has been used as a basis to effect coordination with another administration

\* The application of this column is suspended pending the decision of WRC-99.

**B. Characteristics to be provided for each satellite antenna beam and for each earth station antenna**

Items in Appendix	Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary satellite network subject to coordination under Section II of Article S9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article S9	Notification or coordination of a GSO network (including Appendix S30B)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station	Notice for space stations in the BSS under Appendix S30 *	Notice for feeder-link stations under Appendix S30A *	Notice for stations in the FSS under Appendix S30B	Items in Appendix	Radio-astronomy
B.1			X	X	X	X	X	X	X	B.1	
B.2			X	X	X	X			X	B.2	
B.3.a				X						B.3.a	
B.3.b.1				X						B.3.b.1	
B.3.b.2				X						B.3.b.2	
B.3.c				C						B.3.c	
B.3.d				X			X	X	X	B.3.d	
B.3.e				X						B.3.e	
B.3.f				X				X		B.3.f	
B.3.g.1							X	X	X	B.3.g.1	
B.3.g.2							X	X	X	B.3.g.2	
B.3.g.3							X	X	X <sup>9)</sup>	B.3.g.3	
B.3.g.4							X	X	X <sup>9)</sup>	B.3.g.4	
B.3.g.5							X	X	X <sup>9)</sup>	B.3.g.5	
B.3.g.6								X		B.3.g.6	
B.3.g.7							X			B.3.g.7	
B.4.a			X		X					B.4.a	
B.4.b			X		X					B.4.b	
B.5.a						X				B.5.a	
B.5.b						X				B.5.b	
B.5.c						X				B.5.c	
B.6										B.6	X

X Mandatory information    O Optional information    C This information need only be furnished when it has been used as a basis to effect coordination with another administration

<sup>9)</sup> Only information on co-polar antenna characteristics is required.

\* The application of this column is suspended pending the decision of WRC-99.

### C. Characteristics to be provided for each group of frequency assignments for a satellite antenna beam or an earth station antenna

Items in Appendix	Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary satellite network subject to coordination under Section II of Article S9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article S9	Notification or coordination of a GSO network (including Appendix S30B)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station	Notice for space stations in the BSS under Appendix S30 *	Notice for feeder-link stations under Appendix S30A *	Notice for stations in the FSS under Appendix S30B	Items in Appendix	Radio-astronomy
C.1	X	X	X						X	C.1	
C.2.a				X	X	X	X	X		C.2.a	
C.2.b										C.2.b	X
C.3.a				X	X	X		X		C.3.a	
C.3.b										C.3.b	X
C.4	X	X	X	X	X	X	X	X		C.4	X
C.5.a			X	X	X			X	X	C.5.a	
C.5.b						X				C.5.b	
C.5.c										C.5.c	X
C.6			X	X	X	X	X	X		C.6	
C.7.a			O	X	X	X	X	X		C.7.a	
C.7.b			O	C	C	C				C.7.b	
C.7.c			O	C	C	C				C.7.c	
C.7.d			O	C	C	C				C.7.d	
C.8.a			X <sup>1),7)</sup>	X <sup>7)</sup>	X <sup>7)</sup>	C <sup>8)</sup>				C.8.a	
C.8.b			X <sup>1),7)</sup>	X <sup>7)</sup>	X <sup>7)</sup>	X				C.8.b	
C.8.c			O	X <sup>6)</sup>	X <sup>6)</sup>	X <sup>6)</sup>				C.8.c	
C.8.d				X <sup>2)</sup>	X <sup>2)</sup>					C.8.d	
C.8.e			O	X <sup>6)</sup>	X <sup>6)</sup>	X <sup>6)</sup>				C.8.e	
C.8.f			X <sup>3)</sup>							C.8.f	
C.8.g				C <sup>4)</sup>	C <sup>4)</sup>	C <sup>4),5)</sup>				C.8.g	
C.8.h							X			C.8.h	
C.8.i								X		C.8.i	
C.8.j									X	C.8.j	

X Mandatory information O Optional information C This information need only be furnished when it has been used as a basis to effect coordination with another administration

- <sup>1)</sup> Only the value of maximum power density is mandatory.
  - <sup>2)</sup> For transmission from the space station only.
  - <sup>3)</sup> For space-to-space relay only.
  - <sup>4)</sup> For transmission from the earth station only.
  - <sup>5)</sup> Not required for coordination under No. S9.15, S9.17 or S9.17A.
  - <sup>6)</sup> Required, if applicable, for the type of transmission. If not applicable, a reason why it is not applicable is required.
  - <sup>7)</sup> One or the other of C.8.a or C.8.b is mandatory, but not both.
  - <sup>8)</sup> Only the value of total peak envelope power is required for coordination under No. S9.15, S9.17 or S9.17A.
- \* The application of this column is suspended pending the decision of WRC-99.

**C. Characteristics to be provided for each group of frequency assignments for a satellite antenna beam or an earth station antenna (end)**

Items in Appendix	Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary satellite network subject to coordination under Section II of Article S9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article S9	Notification or coordination of a GSO network (including Appendix S30B)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station	Notice for space stations in the BSS under Appendix S30 *	Notice for feeder-link stations under Appendix S30A *	Notice for stations in the FSS under Appendix S30B	Items in Appendix	Radio-astronomy
C.9.a			O	C	C					C.9.a	
C.9.b							X	X		C.9.b	
C.9.c			X		X					C.9.c	
C.10.a			X	X	X					C.10.a	
C.10.b			X	X	X			X		C.10.b	
C.10.c.1			X	X	X			X	X	C.10.c.1	
C.10.c.2			X	X	X			X	X	C.10.c.2	
C.10.c.3			O	X	X			X	X	C.10.c.3	
C.10.c.4			X	X	X			X	X	C.10.c.4	
C.10.c.5			X	X	X			X	X	C.10.c.5	
C.10.c.6								X		C.10.c.6	
C.11.a	X <sup>10)</sup>	X <sup>10)</sup>	X	X	X					C.11.a	
C.11.b								X		C.11.b	
C.11.c							X		X	C.11.c	
C.11.d					X					C.11.d	
C.12									X	C.12	
C.13										C.13	X
C.14							X			C.14	

X Mandatory information    O Optional information    C This information need only be furnished when it has been used as a basis to effect coordination with another administration

<sup>10)</sup> Only the list of country or geographic designators or a narrative description of the service area shall be supplied.

**D. Overall Link Characteristics**

Items in Appendix	Advance publication of a geostationary-satellite network	Advance publication of a non-geostationary satellite network subject to coordination under Section II of Article S9	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article S9	Notification or coordination of a GSO network (including Appendix S30B)	Notification or coordination of a non-geostationary-satellite network	Notification or coordination of an earth station	Notice for space stations in the BSS under Appendix S30 *	Notice for feeder-link stations under Appendix S30A *	Notice for stations in the FSS under Appendix S30B	Items in Appendix	Radio-astronomy
D.1				X						D.1	
D.2.a				X						D.2.a	
D.2.b				X						D.2.b	

X Mandatory information    O Optional information    C This information need only be furnished when it has been used as a basis to effect coordination with another administration

\* The application of this column is suspended pending the decision of WRC-99.

DATE (Day/Month/Year)	<b>FORM OF NOTICE</b> <b>SATELLITE NETWORK</b> (APPENDIX S4 - ANNEX 2A)	PAGE 1 OF	<b>ApS4/V</b>
Administration Serial Number			
A1f. NOTIFYING ADMINISTRATION	No. S9.1 ADVANCE PUBLICATION	REQUEST FOR ASSISTANCE OF THE BR FOR No. S9.3	NOTIFICATION INTENDED FOR ADDITION MODIFICATION SUPPRESSION
		BR IDENTIFICATION NO. OF NETWORK TO BE MODIFIED / SUPPRESSED	

### 1. CHARACTERISTICS OF THE NETWORK

A1a. IDENTITY OF THE SATELLITE NETWORK			
A3a. OPERATING AGENCY OR COMPANY (Refer to Table 12A/12B of Preface to the IFL & SRS)		A3b. ADMINISTRATION RESPONSIBLE FOR THE STATION (Refer to Table 12A/12B of Preface to the IFL & SRS)	
REFERENCE TO PREVIOUS SPECIAL SECTION NUMBER (if network modified)	A P I / A /	NUMBER	
<b>A4. ORBITAL INFORMATION</b>			
b. FOR NON-GEOSTATIONARY SATELLITES ONLY			
1. INCLINATION ANGLE	2. PERIOD	3a. APOGEE (km)	3b. PERIGEE (km)
Degrees	Days Hours Min.	provide exponent to base 10 if value > 99999	provide exponent to base 10 if value > 99999
4. NUMBER OF SATELLITES			REFERENCE BODY
NUMBER OF ORBITAL PLANES			

**GENERAL NOTES :**

The form of notice ApS4 to be used for the advance publication of information consist of two parts:

- 1) ApS4/V which applies to non-GSO satellite system not subject to coordination under section II Article S9.
- 2) ApS4/VI which applies either to GSO or non-GSO satellite system subject to coordination under section II Article S9.

**NOTES FOR ApS4/V:**

- i. This form of notice consists of three parts - 1, 2 and 3 - as indicated below:
  - 1 - Characteristics of the network
  - 2 - Satellite network characteristics for reception at the space station
  - 3 - Satellite network characteristics for transmission from the space station

In each part, each information item/data field includes a number in its label. This number is the same as that used for the same item in Appendix S4 (Rev.WRC-97). For example, on the page labelled "Form ApS4/V/2" (at the bottom), the field "A2a. Date of bringing into use" is the item numbered 2a in Part A of Annex 2A to Appendix S4.
- ii. If there is more information than can fit in a box, use another page of the same type to provide additional data, after checking (✓) the field labelled "More ..... on next page" on the preceding page.
- iii. This form can be used to add, modify or suppress an existing station, by entering **A, M or S** in the box at the top right-hand corner of this page in the area titled "Notification intended for".
- iv. Certain fields in this notice form have a superscript as part of their labels. This has the following meaning:
  - "1" this information is to be provided only if available.
  - "2" this information is to be provided for space-to-space relay only.







