

INTERNATIONAL AMATEUR RADIO UNION (IARU) AMATEUR SATELLITE FREQUENCY COORDINATION REQUEST

1. Self coordination. Throughout their 100-year history, amateur radio operators have maintained a proud and effective tradition of self-regulation. Amateurs are expected to coordinate their use of frequencies. None of us has a right to use any particular frequency.

Coordination of many terrestrial stations, repeaters, for example, usually works well through IARU member national societies and local coordinating committees.

2. Coordinating satellites. Amateur radio satellites present a special problem because satellites have global effect. Only a global frequency coordination system can work. Uncoordinated satellites will cause harmful interference to stations around the world and receive interference from them -- which could result in failure of the mission.

Coordination always serves everyone's best interests!

3. Coordination procedure. Frequency coordination service for amateur radio satellites is provided by the IARU through its Satellite Advisor, a senior official appointed by the IARU Administrative Council, its top policymaking body. The IARU Satellite Advisor is assisted by an Advisory Panel of qualified amateurs from all three IARU Regions. (Similar to ITU Regions)

4. World radio regulation. Regulation of all amateur stations and amateur-satellite stations starts with a treaty called the International Telecommunication Convention. All domestic laws, rules, and regulations for amateur stations are supposed to follow the Treaties.

5. Getting Help

- a. Start by reading *Amateur Radio Satellites*, an IARU paper. You will find explanations and interpretations of Treaty provisions. IARU satellite frequency coordination follows these interpretations. Download the latest version from: <http://www.iaru.org/satellite/sat-freq-coord.html>.
- b. Discuss your project with the national amateur radio society of your country and your national AMSAT organisation, if there is one. They may be able to assist you in a variety of ways. For a list of national amateur radio societies (member societies of IARU) see <http://www.iaru.org/iaru-soc.html>. For a list of amateur satellite organizations, see: <http://www.amsat.org/amsat/other/menu.html>.

Ask locally or ask the Satellite Advisor or a Panel Member if you need help understanding the requirements or completing the coordination request.

A link budget spread sheet is at: <http://www.iaru.org/satellites/linkbudget>

Check frequencies of current operating and planned amateur satellites, see: www.iaru.org/satellites/frequencies

6. When to make the request. Make your frequency coordination request as far in advance as possible. Remember, coordination takes account of your own needs and those of others. Receiving coordination early enough makes design and construction easier and less expensive. In any event, be sure to make your request while it is still possible for you to change your operating frequencies in response to the Satellite Advisor's recommendations.

7. Who makes the request? The prospective space station licensee must make the coordination request.

8. Where to send your request. Send frequency coordination requests to the IARU Satellite Advisor at satcoord@iaru.org with a copy to hans@intekom.co.za.

9. What will happen? Based on all available information and advice from the satellite advisory panel, the IARU Satellite Advisor will make recommendations to you concerning your plans. His goal is to help you and your project to succeed.

The status of the application will be published at <http://www.iaru.org/satellites>

VERY IMPORTANT

READ THIS BEFORE SENDING THE REQUEST FORM

- 1. Delete the instructions and send only the form portion of this document**
- 2. Give the file the same name as the proposed name of the satellite followed by the submission date. Example: if the name before launch is Newsat 1 and the document is submitted in November 2006, the file name of the document should be "newsat1 Nov2006'**
- 3. Do not send pictures, sketches or drawings. Indicate in your accompanying Email where these are available i.e more details/drawings etc are available on www.xxx.xxx**

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(Make a separate request for each space station to be operated in the
amateur-satellite service.)

Administrative information:

| | |
|---|--|
| [1] SPACECRAFT (published) | |
| [1a] name before launch | |
| [1b] proposed name after launch | |
| [1c] country of license | |
| [2] LICENSEE OF THE SPACE STATION (published) | |
| [2a] First name | |
| [2b] Last name | |
| [2c] Call sign | |
| [2d] Postal address | |
| [2e] Telephone number | |
| [2f] Fax number | |
| [2g] Email address | |
| [2h] Position in organisation | |
| [3] ORGANISATIONS (published) -- Complete this section for EACH organisation | |
| [3a] Name of Organisation | |
| [3b] Physical Address | |
| [3c] Postal address | |
| [3d] Telephone Number | |
| [3e] Fax Number | |
| [3f] Email | |
| [3g] Website | |
| [3h] Role of organisation in the project | |
| (3i) National Amateur Radio Society and | |

| | |
|--|--|
| address details | |
| (3J) National AMSAT Organisation and contact details | |

Space station information:

| | |
|--|--|
| [4] SPACE STATION (published) | |
| [4a] Mission(s) <i>Supply as much detail as possible about what the space station is expected to do. Use as much space as you need.</i> | |
| [4b] Expected duration of each part of the mission. | |
| [4c] Proposed transmit frequency plan. <i>List each transmitting frequency with output power, bandwidth, emission type(s), and associated antenna pattern.</i> | |
| 4[d] Proposed receive frequency plan. <i>List each receiving frequency, showing associated bandwidth, noise temperature, emission type(s), and antenna pattern.</i> | |
| [4e] Physical Structure <i>General description including dimensions, mass, antennas and antenna placement, etc. Give URL's for drawings.</i> | |
| [4f] Functional description <i>Describe each section's function within the satellite.</i> | |
| [4g] Power budget <i>Describe each power source, power</i> | |

consuming section,
power storage, and
overall power budget.

[5] TELECOMMAND (Will NOT published)

[5a] Telecommand
Frequency plan.
*Provide telecommand
frequencies, emission
type(s), link budgets,
and a general
description of any
cipher system, etc.*

[5b] Positive
transmitter control.
Explain how
telecommand stations
can exercise control
over the space station
transmitter so it can
be turned off, even in
the presence of user
traffic or main
computer system
failure.

[5c] Earth command
stations.
*Explain how sufficient
Earth command
stations will be
established before
launch to ensure that
any harmful
interference caused
by emissions from this
station operating in
the amateur-satellite
service can be
terminated
immediately. (See:
RR 22.1 and 25.11.)*

List command stations
and their contact
details.

[6] Telemetry (published)

[7a] Telemetry
Frequencies.
List all telemetry

| | |
|--|--|
| <i>frequencies, emission bandwidth(s) type(s) and the link budget.</i> | |
| [7b] Telemetry formats and equations. <i>Describe telemetry format including telemetry equations. (Final equations must be published as soon as available.)</i> | |
| [7c] Is the format commonly used by radio amateurs? If not, please describe how and where will it be made available to them | |
| [7] Launch plans (published) | |
| [6a] Planned launch date. | |
| [6b] Launch agency | |
| [6c] Launch location | |
| [6d] Planned orbit <i>Include planned orbit apogee, perigee, inclination, and period.</i> | |

Earth station information:

| | |
|---|--|
| [8] Typical uplink station (published) | |
| [8a] Describe a typical Earth station to transmit signals to the planned satellite. | |
| [8b] Link budget. <i>Show complete link</i> | |

| | |
|--|--|
| <i>budgets for all satellite functions.</i> | |
| [9] Typical downlink station (published) | |
| [9a] Describe a typical Earth station to receive signals from the planned satellite. | |
| [9b] Link budget. <i>Show complete link budgets for all satellite functions.</i> | |

Additional information:

Do not attach large files but indicate URL where the information can be downloaded from

| | |
|---|--|
| [10] Please supply any additional information that may assist the Satellite Advisor in coordinating your request(s) <i>See above note re large files</i> | |
|---|--|

[*] The licensee of the prospective space station has reviewed all relevant laws, rules, and regulations, and certifies that this request complies with all requirements to the best of his/her knowledge.

[*] I disagree with IARU interpretations of Treaty requirements and ask the IARU Satellite Advisor to consider the following interpretation. Explanation follows.

* Please tick appropriate box

Signature:

Date submitted: