

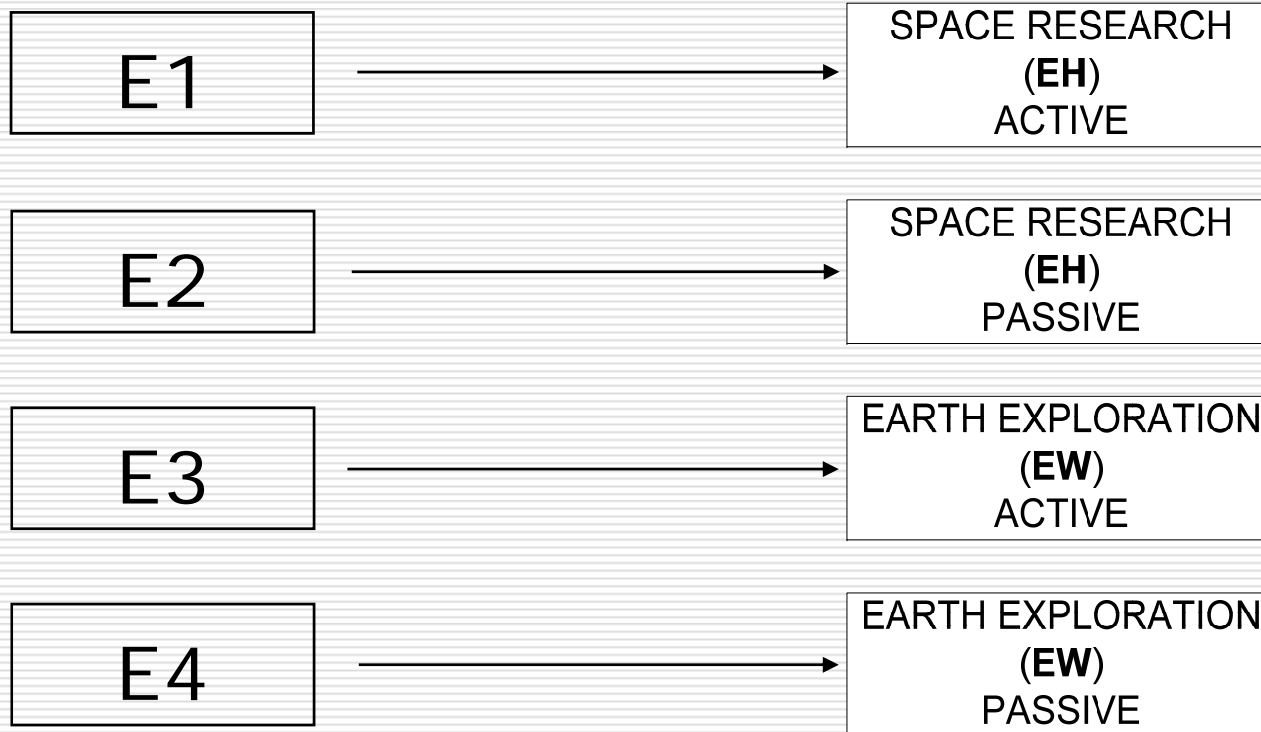
ACTIVE AND PASSIVE SENSORS

NEW MANDATORY
INFORMATION FOLLOWING
WRC-07

SOFTWARE UPDATE VERSION 6.0

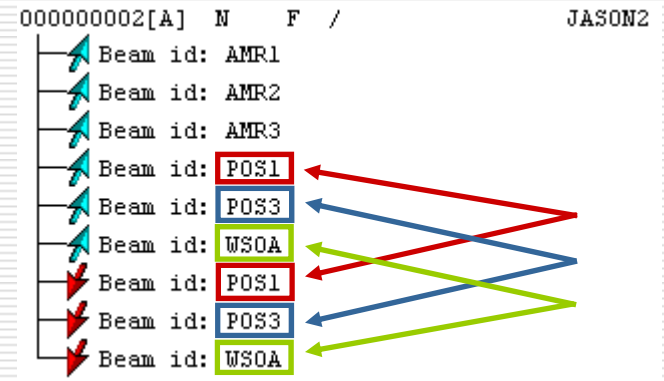
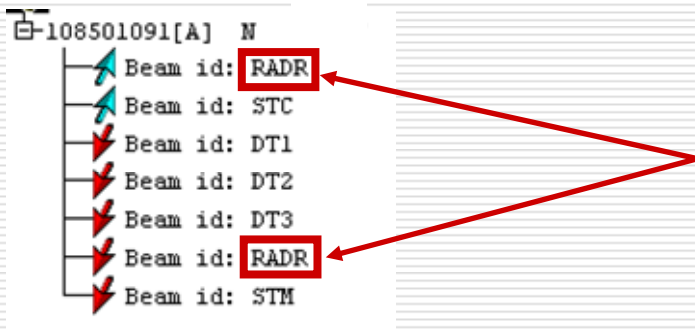
SENSOR SYSTEMS CHARACTERISTICS

CLASSES OF STATION REMINDER



SENSOR SYSTEMS CHARACTERISTICS

THE RECEIVING AND TRANSMITTING PART OF AN ACTIVE SENSOR BEAM ARE LOCATED INTO TWO BEAMS WHICH MUST HAVE THE **SAME NAME**



ADVANCE PUBLICATION AND NOTIFICATION "BEAM" SCREEN

VERSION 5.0

VERSION 6.0

The screenshot displays the 'BEAM' screen interface, comparing Version 5.0 (left) and Version 6.0 (right). The interface includes the following elements:

- Notice Id:** 8
- Administration:** [Field]
- Satellite Network:** [Field]
- Characteristics of the Beam:**
 - Receiving Beam
 - Transmitting Beam
- B1a. Beam Designation:** RADE
- B1b. Steerable Beam:**
- Antenna Characteristics:**
 - B3a1. Maximum Isotropic Gain:** 39.6
- B4a. Orbit Link:** [Field]
- B3c1. Antenna Radiation Pattern:**
 - Co-polar Radiation Pattern Id: [Field]
 - Diagram attached. See Attachment no.: 5
- List of Available Groups:** Group 50

Red annotations highlight changes between versions:

- A red box around the **B3a1. Maximum Isotropic Gain** field in Version 5.0 is pointed to by a red arrow from the Version 6.0 header.
- A red box around the **Beam Designation** field in Version 6.0 is pointed to by a red arrow from the Version 5.0 header.
- A red box around the **Antenna Radiation Pattern** section in Version 6.0 is pointed to by a red arrow from the Version 5.0 header.

IDENTICAL NEW INFORMATION FOR BOTH RECEPTION AND EMISSION

ADVANCE PUBLICATION AND NOTIFICATION "GROUP" SCREEN IN TRANSMITTING BEAMS

VERSION 5.0

VERSION 6.0

Notice Satellite Network: Beam Id: RADR E Group Id: 51 Split Grp Id:

3. Observed Frequencies and Related Characteristics

Add Mod Sup of the group BR Identification of the Group to be modified/suppressed Page No. BR Data

C3a. Assigned Frequency Bandwidth (kHz)

No Sensors Active Sensors Passive Sensors

| C4a. Cls Stn | C4b. Nat Srv |
|--------------|--------------|
| E1 | CR |
| E3 | CR |
| | |

C6. Polarization Type Vertical Linear Polarization If linear, provide angle

C2c. compliance with No. 4.4 of the Radio Regulations

For Active Sensors:

C8b3a. Mean Peak Pwr dBW

C8b3b. Mean Pwr density dB(W/Hz)

or

C8b1. Total Peak Pwr dBW

C8b2. Max Pwr density dB(W/Hz)

C16a. Description of Active Sensor systems

| 1. Pulse Length (μs) | 2. Pulse Rep Freq (kHz) |
|----------------------|-------------------------|
| 33. | 3.70000 |
| | |
| | |
| | |

Remarks

NEW FIELDS

NEW MANDATORY INFORMATION

Notice Satellite Network: Beam Id: Group Id: Split Grp Id:

3. Observed Frequencies and Related Characteristics

Add Mod Sup of the group BR Identification of the Group to be modified/suppressed Page No. BR Data

Characteristics Common to a Group of Frequencies General Characteristics

C3a. Assigned Frequency Bandwidth (kHz)

No Sensors Active Sensors Passive Sensors

C4a. Cls Str C4b. Nat Srv

C6 Polarization Type If linear, provide angle

C2c. compliance with No. 4.4 of the Radio Regulations

For Active Sensors:

C8b3a. Mean Peak Pwr dBW

C8b3b. Mean Pwr density dB(W/Hz)

-----or-----

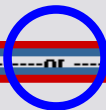
C8b1. Total Peak Pwr dBW

C8b2. Max Pwr density dB(W/Hz)

C16a. Description of Active Sensor systems

| 1. Pulse Length (μs) | 2. Pulse Rep Freq (kHz) |
|----------------------|-------------------------|
| <input type="text"/> | <input type="text"/> |
| <input type="text"/> | <input type="text"/> |
| <input type="text"/> | <input type="text"/> |
| <input type="text"/> | <input type="text"/> |
| <input type="text"/> | <input type="text"/> |

Remarks





VALUES OF **BANDWIDTH**..

PASSIVE SENSOR
RECEPTION

ACTIVE SENSOR
RECEPTION

ACTIVE SENSOR
EMISSION

C3b. Observed
Bandwidth

400000 (kHz)

- No Sensors
- Active Sensors
- Passive Sensors

C5d2. Receiver Noise
Bandwidth

320000 (kHz)

- No Sensors
- Active Sensors
- Passive Sensors

C3a. Assigned
Frequency Bandwidth

320000 (kHz)

- No Sensors
- Active Sensors
- Passive Sensors

... HAVE BECOME MANDATORY IN THE **ADVANCE PUBLICATION**
PROCEDURE

THREE DIFFERENT CASES OF BANDWIDTH

1 ASSIGNED FREQUENCY BANDWIDTH

TRANSMISSION ACTIVE = **C3a**

Notice Satellite Network: Beam Id: Group Id: Split Grp Id:

3. Observed Frequencies and Related Characteristics

Add Mod Sup of the group BR Identification of the Group to be modified/suppressed Page No.

C3a. Assigned Frequency Bandwidth (kHz)

No Sensors Active Sensors Passive Sensors

| C4a. Cls Stn | C4b. Nat Srv |
|--------------|--------------|
| E3 | OT |
| | |
| | |
| | |

C6. Polarization
Type:
If linear, provide angle:

C2c. compliance with No. 4.4 of the Radio Regulations

For Active Sensors:

C8b3a. Mean Peak Pwr dBW

C8b3b. Mean Pwr density dB(W/Hz)

-----or-----

C8b1. Total Peak Pwr dBW

C8b2. Max Pwr density dB(W/Hz)

C16a. Description of Active Sensor systems

| | 1. Pulse Length (μs) | 2. Pulse Rep Freq (kHz) |
|--|----------------------|-------------------------|
| | 105.6 | 0.29400 |
| | | |
| | | |
| | | |
| | | |

2

RECEIVER NOISE BANDWIDTH

RECEPTION ACTIVE = **C5d2**

Notice Satellite Network: Beam Id Group Id: Split Grp Id:

3. Observed Frequencies and Related Characteristics

Add Mod Sup of the group BR Identification of the Group to be modified/suppressed Page No.

Characteristics Common to a Group of Frequencies General Characteristics

C5d2. Receiver Noise Bandwidth (kHz)

No Sensors Active Sensors Passive Sensors

| C4a. Cls Strn | C4b. Nat Srv |
|---------------|--------------|
| E3 | OT |
| | |
| | |

C2c. compliance with No. 4.4 of the Radio Regulations

C6. Polarization Type If linear, provide angle °

C5d1. Noise Temperature at output of signal processor Kelvins

3

OBSERVED BANDWIDTH

RECEPTION PASSIVE = **C3b**

Notice Satellite Network: Beam Id Group Id: Split Grp Id:

3. Observed Frequencies and Related Characteristics

Add Mod Sup of the group BR Identification of the Group to be modified/suppressed Page No.

C3b. Observed Bandwidth (kHz)

No Sensors
 Active Sensors
 Passive Sensors

| C4a. Cls Stn | C4b. Nat Srv |
|--------------|--------------|
| E4 | OT |
| | |
| | |

C2c. compliance with No. 4.4 of the Radio Regulations

C6. Polarization
Type
If linear, provide angle °

C16b1. Passive Sensor Systems
Sensitivity Kelvins



MARKING THE BEAM AS SENSOR...

Notice Id: Administration: Satellite Network:

Characteristics of the Beam

B2. Receiving Beam Transmitting Beam

B1a. Beam Designation:

B1b. Steerable Beam

Add of the Beam
 Mod of the Beam
 Sup of the Beam

Beam has Sensors

Beam with Sensors
 Active Sensors
 Passive Sensors

... WILL REMOVE ALL "NON-SENSOR" INFORMATION

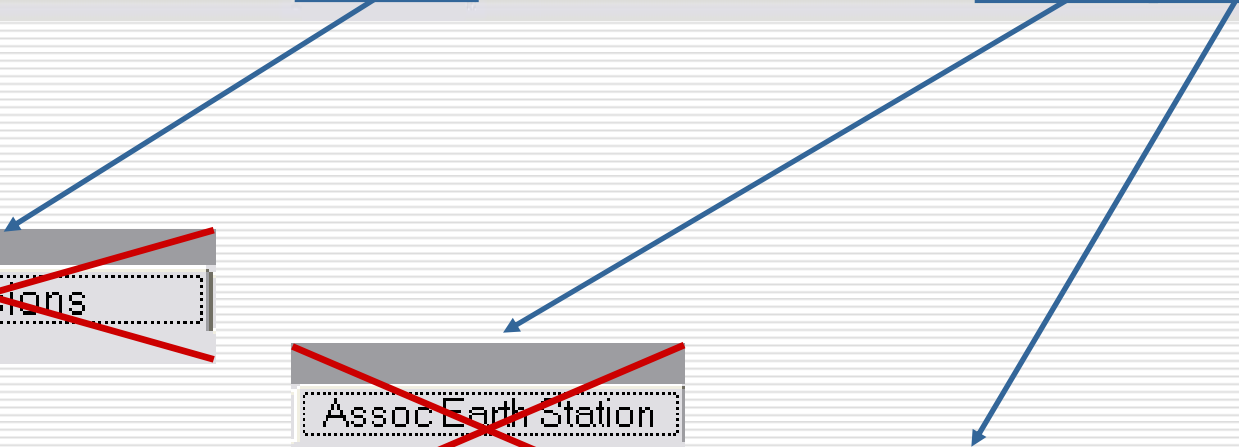
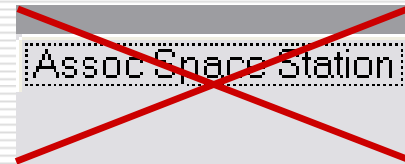
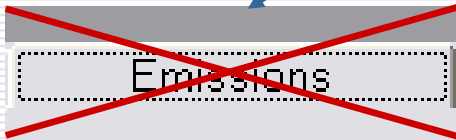
spacecap

Selecting this option will cause any information not related to sensors to be deleted from the beam and its groups. Do you wish to continue?

REMOVED INFORMATION

NonGeoStationary Notice:1

Notice | Station | Beam | Group | Emissions | Frequencies | Coordination | Social Section | Assoc Earth Station | Assoc Space Station | Attachments



REMOVED INFORMATION IN RECEIVING BEAM GROUPS

Notice Satellite Network: Beam Id: Group Id: Split Grp Id:

3. Observed Frequencies and Related Characteristics

Add Mod Sup of the group BR Identification of the Group to be modified/suppressed Page No.

C3a. Assigned Frequency Bandwidth (kHz) No Sensors Active Sensors Passive Sensors

C2c. compliance with No. 4.4 of the Radio Regulations

~~C4a. Cls Str~~ ~~C4b. Nat Str~~

| C4a. Cls Str | C4b. Nat Str |
|-------------------------|-------------------------|
| ET | CO |
| | |
| | |

~~C6. Polarization~~
Type:
If linear, provide angle: °

~~C4b5. Peak Pfd~~

~~C6a. Receiving System~~
Noise Temperature: Kelvins

~~C11a. Service Area as List of Countries or Geographic designations~~

~~Service Area Number~~

~~Service Area Diagram. See Attachment No.~~

Remarks

CLASS OF STATION PEAK PFD NOISE TEMPERATURE

SERVICE AREA NUMBER SERVICE AREA LIST OF COUNTRIES SERVICE AREA DIAG N°

... IN TRANSMITTING BEAM GROUPS...

Notice Satellite Network: Beam Id: Group Id: Split Grp Id:

3. Observed Frequencies and Related Characteristics

Add Mod Sup of the group BR Identification of the Group to be modified/suppressed Page No.

C3a. Assigned Frequency Bandwidth (kHz)

No Sensors Active Sensors Passive Sensors

C2c. compliance with No. 4.4 of the Radio Regulations

| C4a. Cls | C4b. Nat Sw |
|----------|-------------|
| EW | CP |

C6. Polarization Type: If linear, provide angle:

C8d1. Maximum Total Peak Power: dBW

Cod3. Contiguous Bandwidth: (kHz)

C11a. Service Area as List of Countries or Geographic designations:

Service Area Number:

Service Area Diagram. See Attachment No.:

Remarks:

MAXIMUM TOTAL PEAK POWER

CONTIGUOUS BANDWIDTH

... AND IN CASE OF FREQUENCY ASSIGNMENTS SUBJECT TO COORDINATION UNDER 9.11A... (EMISSION AND RECEPTION)

Notice Satellite Network: Beam Id: Group Id: Split Grp Id:

3. Observed Frequencies and Related Characteristics

Add Mod Sup of the group BR Identification of the Group to be modified/suppressed Page No.

Characteristics Common to a Group of Frequencies General Characteristics

C3a. Assigned Frequency Bandwidth (kHz) No Sensors Active Sensors Passive Sensors

C2c. compliance with No. 4.4 of the Radio Regulations

~~C4a. Cls Strn C4b. Nat Str~~

| | |
|----|----|
| ET | CP |
|----|----|

~~C6. Polarization~~
 Type:
 If linear, provide angle:

~~C5a. Receiving System~~
 Noise Temperature: Kelvins

~~C11a. Service Area as List of Countries or Geographic designations~~

~~C9c1. Type of Modulation/Multiple Access Data Attached. See Attachment no.~~

~~C9c2. Spectrum Mask Diagram. See Attachment no.~~

~~C11b. Affected Region. See Attachment No.~~

~~Service Area Number~~

~~Service Area Diagram. See Attachment No.~~

Remarks:

TYPE OF MODULATION

SPECTRUM MASK

AFFECTED REGION

ACTIVE OR **PASSIVE** SHOULD BE INDICATED ACCORDING TO THE BEAM CHARACTERISTICS

The screenshot shows a software interface for configuring satellite beams. At the top, there are fields for 'Notice Id: 106540297', 'Administration:', and 'Satellite Network:'. Below this is the 'Characteristics of the Beam' section, which is divided into several sub-sections:

- B2. Beam Type:** Radio buttons for 'Receiving Beam' (selected) and 'Transmitting Beam'.
- B1a. Beam Designation:** A text field containing 'STC'.
- B1b. Steerable Beam:** A checkbox that is currently unchecked.
- Beam with Sensors:** A section with a checked 'Beam has Sensors' box and two radio buttons: 'Active Sensors' (selected) and 'Passive Sensors'.
- B3. Antenna Characteristics:**
 - B3a1. Maximum Isotropic Gain +/- dBi:** A text field containing '-5'.
 - B4a. Orbit Link:** A section with a satellite icon and a 'More...' button.
 - B3c1. Antenna Radiation Pattern Co-polar Radiation Pattern Id:** A text field containing '1'.
- B4a3. Satellite Beam Orientation:** Two text fields for 'a1. Angle Alpha Degrees' and 'a2. Angle Beta Degrees', both of which are empty and highlighted with red boxes.
- List of Available Groups:** A list showing 'Group 11 Page No.' and 'Group 12 Page No.' with tree icons.

Red arrows point from the text 'ACTIVE' to the 'Active Sensors' radio button and from 'BETA' to the 'a2. Angle Beta Degrees' field. A blue arrow points from the text 'PASSIVE' to the 'Passive Sensors' radio button.

AS WELL AS VALUES OF ANGLES **ALPHA** AND **BETA**

**CLASSES OF STATION E1, E2, E3 OR E4
AND NATURE OF SERVICE**

Notice 8 Satellite Network: Beam Id: RADR E Group Id: 51 Split Grp Id:

3. Observed Frequencies and Related Characteristics
 Add Mod Sup of the group BR Identification of the Group to be modified/suppressed Page No. BR Data

Characteristics Common to a Group of Frequencies | General Characteristics

C3a. Assigned Frequency Bandwidth 6000 (kHz)
 No Sensors
 Active Sensors
 Passive Sensors

| C4a. Cls Strn | C4b. Nat Srv |
|---------------|--------------|
| E1 | CR |
| E3 | CR |
| | |
| | |

C6. Polarization
Type Vertical Linear Polarization
If linear, provide angle °

C2c. compliance with No. 4.4 of the Radio Regulations

For Active Sensors:

C8b3a. Mean Peak Pwr 24.7 dBW
C8b3b. Mean Pwr density -53.1 dB(W/Hz)
-----or-----
C8b1. Total Peak Pwr dBW
C8b2. Max Pwr density dB(W/Hz)

C16a. Description of Active Sensor systems

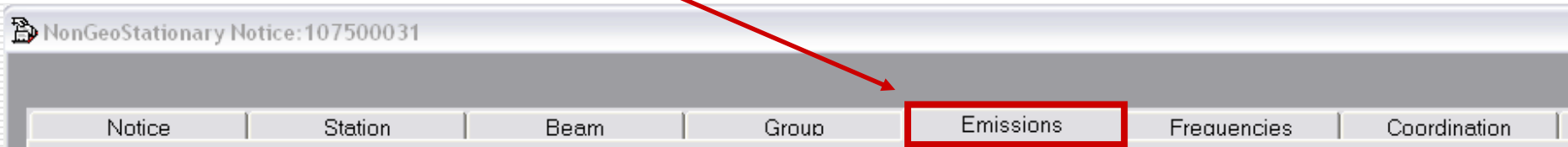
| | 1. Pulse Length (μs) | 2. Pulse Rep Freq (kHz) |
|--|----------------------|-------------------------|
| | 33 | 3.70000 |
| | | |
| | | |
| | | |
| | | |

Remarks

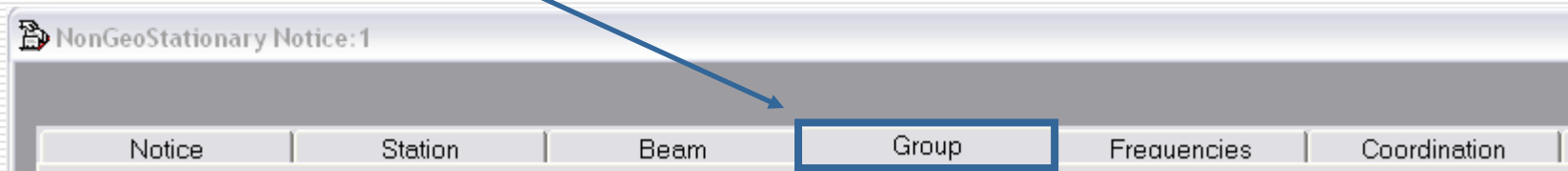
... SHOULD BE INDICATED ACCORDING TO THE BEAM CHARACTERISTICS

EMISSIONS' CHARACTERISTICS

NON-SENSOR BEAMS



SENSOR BEAMS



NON-SENSOR BEAMS

| | | | |
|--------------------|-----------------------|--------------------|-----------------------|
| C8a1/C8b1 | C8a2/C8b2 | C8c1 | C8c3 |
| Maximum Peak Power | Maximum Power Density | Minimum Peak Power | Minimum Power Density |

Emissions of the Associated Transmitting Stations

| C7a. Designation of Emission | C8a1/C8b1. Maximum Peak Power (dBW) | C8a2/C8b2. Maximum Power Density | Emission of Type C8b | C8c1. Minimum Peak Power (dBW) | C8c2. Atch No. Pep | C8c3. Minimum Power Density | C8c4. Atch No. Mpd | C8e1. C/N objective (total - clear sky) (dB) | C8e2. Atch No. C/N | C9 Modulation Char |
|------------------------------|-------------------------------------|----------------------------------|--------------------------|--------------------------------|--------------------|-----------------------------|--------------------|--|--------------------|--------------------|
| | | | <input type="checkbox"/> | | | | | | | |
| | | | <input type="checkbox"/> | | | | | | | |
| | | | <input type="checkbox"/> | | | | | | | |
| | | | <input type="checkbox"/> | | | | | | | |

Radiocommunication Bureau

Space Services Department

Space Publication and Registration Division

