CNIT Ka Skyplex Satellite Network

Luca S. Ronga
CNIT

TD-02-033-S
# HotBird 6 Briefs

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>ALCATEL ESPACE</th>
</tr>
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<tbody>
<tr>
<td>Launch</td>
<td>Aug. 2002</td>
</tr>
<tr>
<td>Lifetime</td>
<td>12 Years</td>
</tr>
<tr>
<td>Position</td>
<td>13° Est</td>
</tr>
<tr>
<td>Transponders (operational)</td>
<td>32 (36 MHz)</td>
</tr>
<tr>
<td>Polarisation</td>
<td>Horiz. (X) and Vertical (Y)</td>
</tr>
</tbody>
</table>
HotBird 6 Frequency Plan
## HB6 Frequency Plan (Ka)

<table>
<thead>
<tr>
<th>Channel Center Uplink Frequency</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>DK1 V</td>
<td>DK2 H</td>
<td>DK6 H</td>
<td>DK7 V</td>
<td></td>
</tr>
<tr>
<td>29.529,18 MHz</td>
<td>29.548,36 MHz</td>
<td>29.625,08 MHz</td>
<td>29.644,26 MHz</td>
<td></td>
</tr>
<tr>
<td>1029,18</td>
<td>1048,36</td>
<td>1125,08</td>
<td>1144,26</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Channel Center Downlink Frequency</th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>DK1 H</td>
<td>DK2 V</td>
<td>DK6 V</td>
<td>DK7 H</td>
<td></td>
</tr>
<tr>
<td>19.729,18 MHz</td>
<td>19.748,36 MHz</td>
<td>19.825,08 MHz</td>
<td>19.844,26 MHz</td>
<td></td>
</tr>
<tr>
<td>1129,18</td>
<td>1148,36</td>
<td>1225,08</td>
<td>1244,26</td>
<td></td>
</tr>
</tbody>
</table>
HB6 Ka coverage
Skyplex – Transmission Chain

TD-02-033-S
Skyplex – HB6 Implementation

- 8 Skyplex units
- 18 x 2 Mbps channels (TDMA or SCPC)
- TDMA shared by up to 6 users
- TDMA user data rate (350 kbps – 2 Mbps)
HB6 & CNIT

HB6 (Ka Italian uplink spot)

55 Mbps DVB

350 kbps - 2 Mbps

Extension to all CNIT affiliates (33 Universities) planned in 1.5 years

TD-02-033-S
Ka SkyplexNet Service Center Station
Applications

- Full meshed topology single-hop satellite connection (2Mbps shared)
- Star distributive topology (up to 6Mbps)
- Any combination of them
- IP over MPEG2 transport stream
- Transmission from Italy
- Reception in Europe (in Ka)
CNIT Satellite Research Activity

- CNIT/ASI2001 – Reconfigurable satellite network
- CNR5% - Earth station design
- LABNET – Videocoference services over lossy satellite links