TRANSPORTABLE SELF-CONTAINED COMMUNICATIONS UNIT COMPRISING TRANSMISSION EQUIPMENT AND ANTENNAS FOR RECONNECTING A DISCONNECTED CELL SITE TO A COMMUNICATIONS NETWORK

Abstract: This invention provides wireless communications using a remote, self-contained communications antenna unit (116) that transceives signals from a disconnected cell site (119), i.e., a cell site which is "off-the-air," and communicates these signals with a communications network using transmission equipment (203) such as a microwave. In an exemplary embodiment, the remote, self-contained communications antenna unit (116) unit includes a transportation vehicle that carries a generator for power (201), backup batteries (202), transmitter and receiver equipment (203), a digital signal processor (DSX, 204), a network interface unit (NIU, 117), an air conditioner (205), and an extendible mast (114) that supports microwave antennas (112) and radio frequency antennas (115).
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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12 September 2002
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04Q7/30 H01Q1/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04Q H01Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
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Further documents are listed in the continuation of box C.

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Date of the actual completion of the international search 24 April 2002

Date of mailing of the international search report 07/05/2002

Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Facs (+31-70) 340-3016 Authorized officer MÖLL, H-P
<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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</thead>
</table>
| E        | EP 1 148 579 A (DORNIER GMBH)  
24 October 2001 (2001-10-24)  
abstract  
column 1, line 47 -column 3, line 29  
column 4, line 30 -column 5, line 33;  
figures 1,2 | 1-36 |
| A        | WO 98 15027 A (BAGNATO MARIO)  
9 April 1998 (1998-04-09)  
abstract  
page 2, line 2-12  
figure 1 | 1-36 |
<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
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<tbody>
<tr>
<td></td>
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<td>AU 4637197 A</td>
<td>24-04-1998</td>
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<td>WO 9815027 A1</td>
<td>09-04-1998</td>
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