Title: IMPEDANCE MATCHING/POWER SPLITTING NETWORK FOR A MULTI-ELEMENT ANTENNA ARRAY

Abstract: A device for impedance matching a signal generator to a plurality of elements of a multi-element load. The device includes an outer conductor having an inner surface and an inner conductor positioned within the outer conductor, and having an outer surface. The device further includes a first and second set of transformation sections, which provide a particular separation distance between the inner surface of the outer conductor and the outer surface of the inner conductor to yield a particular characteristic impedance for each of the first and second sets of transformation sections, thereby substantially matching the impedance of the generator to the elements of the load.
# INTERNATIONAL SEARCH REPORT

**INTERNATIONAL SEARCH REPORT**

**International application No.**

PCT/US03/13797

## A. CLASSIFICATION OF SUBJECT MATTER

<table>
<thead>
<tr>
<th>IPC(7)</th>
<th>H01P 5/12</th>
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<td>US Cl.</td>
<td>333/125, 033</td>
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</table>

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)

U.S.: 333/125, 033

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 practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

<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>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>US 4,365,214 A (SHILLADY) 21 December 1982 (21.12.2002), figure 2, spec all.</td>
<td>1, 2, 10-13, 19, 20</td>
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<tr>
<td>Y</td>
<td>US 4,912,553 A (PAL et al.) 27 March 1990 (27.03.1990), figure 1, spec all.</td>
<td>1, 2, 10-13, 19, 20</td>
</tr>
</tbody>
</table>

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*Special categories of cited documents:

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- **P** document published prior to the international filing date but later than the priority date claimed

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**Date of the actual completion of the international search**

04 June 2003 (04.06.2003)

**Date of mailing of the international search report**

12 JAN 2004

Name and mailing address of the ISA/US

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