

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 65973.68913-208	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US01/04729	International filing date (day/month/year) 14/02/2001	Priority date (day/month/year) 14/04/2000
International Patent Classification (IPC) or national classification and IPC H01Q21/24		
Applicant RECEPTEC L.L.C.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 9 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 05/10/2001	Date of completion of this report 13.06.2002
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Saur, E Telephone No. +49 89 2399 2741 

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EXAMINATION REPORT**

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**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, pages:**

1-12 as originally filed

**Claims, No.:**

1-20 as originally filed

**Drawings, sheets:**

1-16 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:

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the drawings, sheets:

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

the entire international application.

claims Nos. 1-15 (new).

because:

the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

the claims, or said claims Nos. 1-15 (new) are so inadequately supported by the description that no meaningful opinion could be formed.

no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

the written form has not been furnished or does not comply with the standard.

the computer readable form has not been furnished or does not comply with the standard.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N) Yes: Claims

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	No: Claims	1-3,6,8,9,14,15
Inventive step (IS)	Yes: Claims	
	No: Claims	4,5,7,10-13,13-18,20
Industrial applicability (IA)	Yes: Claims	1--20
	No: Claims	

2. Citations and explanations  
**see separate sheet**

**ITEM III**

**No examination of amended claims 1 - 15, as received on 5.10.01**

1. The new claims have been amended, mainly by including in independent claims 1, 5, 9, 12 and 14 the definition of a first output for the satellite antenna and a second output for the terrestrial antenna.

However, such outputs were **not mentioned** in any of the original claims, Rule 66.1 (e) PCT. Such separate outputs as such are considered to be trivial (and are also disclosed in the prior art documents) and accordingly, the inclusion of such a feature cannot render the subject-matter of the claims inventive.

Moreover, the inclusion of further features of these outputs, defined in independent claims 5 and 9, makes the purpose of these outputs unclear, Art. 6 PCT.

Claim 5 defines

"a first antenna for receiving and **outputting circularly polarized signals...**  
"a second antenna for receiving and **outputting linearly polarized signals,**"

and claim 9 defines

"said linear antenna **having a linear output**".

Conventionally, antennas for circularly polarised waves and antennas for linearly polarised waves equally provide at their output an electrical signal which has not any polarisation property. Only in waveguides may exist signals having a defined polarisation mode. However, the interface of the antenna outputs to waveguides is **not disclosed** in the whole application, Art. 6 PCT.

2. Disregarding the above mentioned clarity problems, the essence of the amended claims is simply the combination of an antenna for receiving circularly polarized satellite signals, as known from D5, with a symmetric antenna array for the reception of linearly polarised terrestrial signals, as known from D6. However, such a combination is considered to lack inventive step, Art. 33 (3) PCT.

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3. Since the amended claims as a whole are considered to comprise defects with regard to original disclosure and clarity, the present report was established as if such amendments have not been made, R. 70.2 (c) PCT.

Accordingly, the present communication is restricted to claims 1 - 20 as originally filed.

**ITEM V**

**Reasoned statement**

1. The following documents (D) are referred to in this report:

D1: US-A-5600341  
D2: EP-A-0957533  
D3: DE-A-19933723  
D4: US-A-5440317  
D5: JP(A) 06334436  
D6: US-A-4466003  
D7: WO-A-0059070

2. The dual-antenna defined in claims 1 - 3, 6, 8, 9, 14 and 15 is not new, contrary to the requirement of Article 33 (2) PCT.

- 2.1 D1 (Fig. 1; col. 2, l. 55 - col. 3, l. 2) discloses all features of claim 1, as follows:

A dual-antenna system comprising:

a satellite antenna (110) for receiving signals from a satellite transmitter; and

a terrestrial antenna (antenna 110 and portions of the feed 120) for receiving signals from a terrestrial transmitter,

said first and second antenna being substantially concentric.

- 2.2 The features of claims 2, 3, 6, 8, 9, 14 and 15 are equally known from D1.
- 2.3 Merely for sake of completeness, it is noted that D2 and D3 are considered to equally disclose all the features of the above mentioned claims. Additionally, D2 and D3 explicitly disclose the feature of a "mono-pole antenna inside and concentric with a helix antenna", as defined in claim 19.
3. The subject-matter of claims 4, 5, 7, 10 - 13, 16 - 18 and 20 is considered to lack inventive step, Article 33 (3) PCT.
- 3.1 The subject-matter of claims 4, 16, 20 is obvious in view of the combination of the disclosure of any of the documents D1 - D3 with the conventional monopole arrangement known from D4 (Fig. 2 - 4).
- 3.2 The subject-matter of claims 5, 7 and 11 is obvious in view of the well-known use of a cross-dipole for satellite signal reception (see for example D5) and the symmetric arrangement of monopole antennas known from D6. First, the skilled person would readily replace the helix antenna known from D1 (or D2 and D3) by a cross-dipole, in order to implement an alternative solution for receiving circular polarised waves from a satellite. Further, in order to additionally enable reception of the terrestrial waves it does not require inventive skill to surround the satellite antenna with a symmetric configuration of a plurality of monopoles, known from D6.
- 3.3 Equally, in view of D6 it does not require inventive skill to surround a helix antenna with linear or monopole antennas, as defined in claims 14 and 17.
- 3.4 The choice of four monopole antennas, as defined in claims 12 and 18, is considered to be merely a matter of ordinary skill.

### **Certain document cited**

Even though D7, cited in the International Search Report, does not represent state of the art in the sense of Rule 64.1 PCT, this documents is considered to disclose the features of independent claims 1, 6, 14 and 20.

### **Further defects in form or content**

1. The two-part form according to Rule 6.3 (b) PCT appears to be appropriate for any independent claim. The preambles should be based on document D1 or D2 or D3 as closest prior art.
2. To meet the requirements of Rule 5.1 (a) (ii) and (iii) PCT, the introductory part of the description should include a reference to the documents D1 - D6.
3. According to Rule 6.2 (b) PCT technical features mentioned in the claims should be provided with reference signs in parentheses. This applies to both the pre-  
amble and the characterising portion.
4. The remarks on p. 12, l. 9 - 12, contain only unnecessary and irrelevant statements and therefore do not fulfil the requirement of Rule 9.1 (iv) PCT. In particular, the "Doctrine of Equivalents" is considered to be no term of the PCT. Furthermore, the opening clause of the claims "...an exclusive property or privilege..." is equally considered to be unnecessary.

### **Clarity**

Although independent claims 1, 6, 11, 14, 19 and 20 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ partly from each other only in regard to **semantic analogies**. These claims therefore lack conciseness, Art. 6 PCT.



Moreover, reference is made to the Guidelines, chapter III 3.4. Accordingly, the independent claims should contain all the features essential to the **unique** invention allowed in the international application according to Rule 13 PCT. The resulting formal requirements are that the independent claims should contain the same or corresponding technical features.

Reference is made to Rule 6.1 (a) PCT and the Guidelines, chapter III, 4.1 and 5.1. Accordingly, the claims should be clear and concise in their entirety, diversity of wording should be avoided in order not to make the claims inconsistent with each other and thus undue repetition of wording should be avoided by the use of the dependent form.

Multiple claims of the **same category** are only permitted if the invention cannot readily be covered by a single generic claim, e.g. in the cases of the explanatory examples given in the Guidelines III, 3.3; namely a plug and a socket, a transmitter and a receiver, or a single phase and a poly-phase arrangement. However, the present independent claims do not relate to such complementary matter, but merely unnecessarily repeat subject-matter.