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(54) **Antenna assembly**

(57) This invention generally relates to an antenna assembly and more particularly to a vehicular antenna assembly having a single antenna element which is adapted to receive a long/medium wave signal and a very high frequency signal and further having a pair of circuits which are each respectively adapted to process a unique one of the received signals. The antenna assembly (10) has a single antenna element (12) which

receives signals (14,16). Antenna assembly (10) includes a first processing circuit assembly (18) for processing and/or amplifying signal (16) and a second processing circuit assembly (20) for processing and/or amplifying amplitude modulated signal (14). The processed and/or amplified signals (14,16) are combined and communicated to a receiver by use of bus or coaxial cable (72).

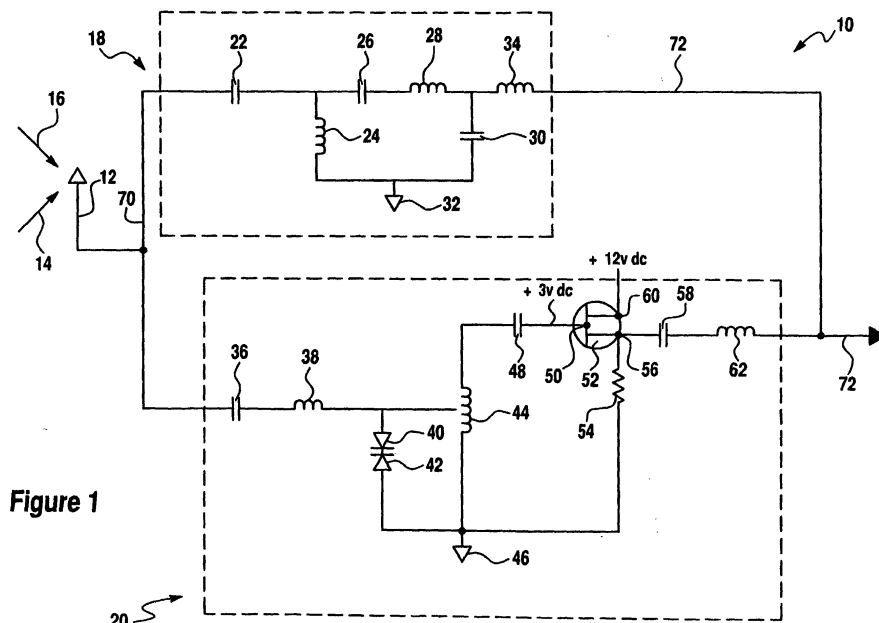


Figure 1



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EUROPEAN SEARCH REPORT

Application Number
EP 01 30 1181

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	DE 42 16 376 A (LINDENMEIER HEINZ) 25 November 1993 (1993-11-25) * abstract; figure 10 * * column 4, line 8 - line 15 * * column 5, line 25 - line 27 * * column 8, line 56 - line 58 * * column 10, line 65 - column 11, line 20 *	1-7, 12-20	H01Q23/00 H01Q1/12 H01Q1/10 H01Q5/00
X	--- US 5 231 408 A (NAKASE KAZUHIKO) 27 July 1993 (1993-07-27) * abstract; figures 1-3 * * column 2, line 25 - column 3, line 2 * * column 3, line 11 - line 19 *	1-7, 12-20	
X	--- US 5 285 048 A (NAKASE KAZUHIKO) 8 February 1994 (1994-02-08) * abstract; figures 5,6,9 * * column 1, line 48 - line 52 * * column 4, line 37 - column 5, line 2 *	1-7	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H01Q
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 15 October 2003	Examiner Jäschke, H
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-5, 19, 20



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LACK OF UNITY OF INVENTION
SHEET B

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-5, 19, 20

An antenna assembly for reception of radio broadcast signals in two different frequency bands with different signal paths for each frequency band.

1.1. Claims: 6, 7

An antenna assembly for reception of a first and a second signal with different signal paths for each signal focusing on details of the second signal path including an amplification circuit.

1.2. Claims: 12-18

An antenna assembly using a window heater grid for reception of radio broadcast signals in two different frequency bands, the different signals being separated by bandpass filters.

2. Claims: 8-11

Amplifier details including first and second bandpass filters for the second signal path circuit.

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 30 1181

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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15-10-2003

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82