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(56) Documents Cited by ISA:
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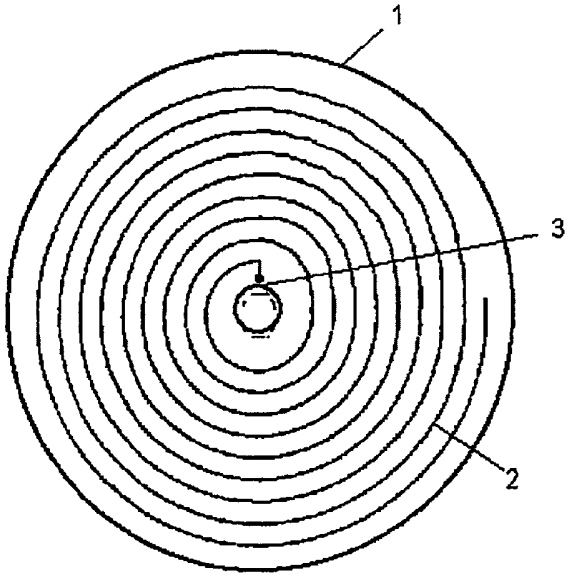
(58) Field of Search by ISA:
INT CL **H01Q**
Other: **EPO-Internal, PAJ, WPI Data, INSPEC**

(54) Abstract Title: **TMC antenna**

(57) The invention relates to an antenna (1) for a receiver of TCM data in an VHF band, wherein said antenna is embodied in the form of a flat spiral made from insulated wires (2).



GB 2 435 765 A

TMC antenna

The invention relates to an antenna for a TMC data receiver in the VHF band.

TMC data receivers are used for navigation equipment in motor vehicles in order to filter out traffic messages from the transmitted radio programs in the VHF band, and in order to further process the received messages using the navigation program. TMC data is transmitted repeatedly by the broadcast radio traffic transmitters, embedded in their program.

The navigation equipment uses either the antenna for the car radio or a further VHF antenna for reception. If navigation equipment is installed retrospectively, the connection to the existing radio is complex, since the radio must be removed for this purpose, and must be connected via an adapter. In addition, no path is provided for the additional antenna cable in the motor vehicle. The installation difficulties become greater when a further antenna has to be installed in the motor, for the TMC data receiver.

Conventional antennas for the VHF band are either in the form of rod antennas or dipoles. Antennas such as these are voluminous and cannot be accommodated directly in a TMC data receiver.

The object of the invention is to specify an antenna for a TMC data receiver, which has only small dimensions and can easily be installed together with navigation equipment, without any additional complexity.

This object is achieved by the antenna being in the form of a flat spiral composed of insulated wire.

One embodiment of the invention is described in the dependent claims.

An antenna for a TMC data receiver is intended to allow balanced omnidirectional reception, that is to say it should not have any directional characteristic. In addition, it does not require high sensitivity, since only transmitters which are received with high field strengths are intended to be evaluated by the receiver. One suitable version of an antenna such as this is an insulated wire wound to form a flat spiral. The wire is advantageously a single, varnish-insulated copper wire. There is no need for RF braiding. In order to receive the VHF band well, the unwound wire has a length of about 1.6 meters, and the wound-up spiral has a diameter of about 8.5 centimeters.

The TMC data receiver is connected to the central end of the wire in the spiral. This can be done by a soldered supply-line wire or a contact screw, which rubs off the varnish insulation on the wire.

In order to allow the antenna to be installed easily, the spiral is encapsulated as if in a plate. The encapsulation compound may in this case be plastic or silicone. It is particularly simple for the antenna to be accommodated if it is in the form of a foot, shaped like a plate, which is mounted on the dashboard of the motor vehicle and holds the navigation equipment in its intended position.

The invention will be explained by way of example in the figures.

Figure 1 shows a plan view of the spiral.
Figure 2 shows a cross section through a foot with a TMC antenna.

Figure 1 shows a schematic plan view of the antenna 1. The wire 2 is wound as a spiral from the central connection 3 to the outer end. In this case, the wire has a total length of 1.6 meters, and the diameter of the spiral is about 8.5 centimeters. The supply line to the TMC data receiver is connected to the connection 3.

Figure 2 shows an antenna foot 1, with a wire 2 wound to form a spiral in it. The holder 4, by means of which the navigation equipment is held in the motor vehicle, is mounted with the antenna foot 1.

A supply line to the plug 5 is connected to the inner connection 3 of the spiral, and is used to supply the received signal to the TMC data receiver.

The connections for the power supply and for the GPS signal for the navigation equipment are not shown here.

Claims

1. An antenna (1) for a TMC data receiver in the VHF band, characterized in that the antenna is in the form of a flat spiral composed of insulated wire (2).

2. The antenna as claimed in claim 1, characterized in that the wire (2) is a varnish-insulated copper wire.

3. The antenna as claimed in claim 1, characterized in that the wire (2) has a length of about 1.6 meters.

4. The antenna as claimed in claim 1, characterized in that the spiral has a diameter of about 8.5 cm.

5. The antenna as claimed in claim 1, characterized in that the TMC data receiver is connected to the central end (3) of the spiral.

6. The antenna as claimed in claim 1, characterized in that the spiral is encapsulated.

7. The antenna as claimed in claim 6, characterized in that the encapsulation compound is plastic or silicone.

8. The antenna as claimed in claim 1, characterized in that the encapsulated spiral forms the attachment foot (1) for the TMC data receiver.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
H01Q1/36 H01Q1/40 H01Q1/32 H01Q1/24

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)
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, PAJ, WPI Data, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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X	GB 1 358 483 A (WILKES CO LTD D A) 3 July 1974 (1974-07-03) page 1, line 72 - page 2, line 17; figures 1,2	1-4

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
13 January 2006	20/01/2006

Name and mailing address of the ISA	Authorized officer
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