Moreover it has been discovered that the aforementioned electrical transmission parameters in the connector systems of the type RJ 45 are not suitable for frequencies of over 500 MHz, and desirable magnitudes can hardly be reached. Responsible for this is the internal connection technology having usually cut/clamp connections, the wires inside the outlet or the connector of this connector system being often run bent. Moreover, it is known that in the case of the connector system RJ 45, the shielding of the individual pairs of wires is not led, or cannot be led, directly up to the connector contacts.

Furthermore, although some known solutions perform well, they are structurally rather complex and not easy for the end users to use or install.

Embodiments~~It is the aim~~ of the present invention seek to provide an improved outlet solution to be used in conductor connector systems.

## SUMMARY OF THE INVENTION

According to a first aspect of the invention, there is provided a multipolar outlet for a conductor connector system~~ is provided as recited in claim 1~~, the outlet comprising: a housing, wherein the housing is divided into at least two chambers, each chamber having two contacts accessible from a first end of the chamber; and a separator for separating conductor wires and for holding the wires in place in the separator, the separator being arranged to form an end piece for the chambers at a second end, opposite to the first end, wherein the contacts are arranged to be electrically connected to the wires when the separator is in place in the housing, and wherein each wire is arranged to be held in place in a first notch in the separator so that two wires passing through one opening are held in place at a right angle to each other.

The proposed outlet offers several advantages. The outlet according to embodiments of the present invention has only very few pieces and thus the mounting of the outlet is very easy. Furthermore, the wire pairs are very efficiently insulated from each other and thus crosstalk can be minimised. The good insulation is achieved thanks to the advantageous chamber structure and also thanks to the separator design. Moreover, the proposed solution guarantees that the distance between different wires remains more or less constant throughout the longitudinal distance of the outlet thereby leading to a constant impedance.

According to a second aspect of the invention, there is provided a ~~conductor~~ connector system comprising the ~~multipolar~~ outlet ~~is provided~~as described herein and further comprising a conductor having at least four shielded wires.

~~Other aspects of the invention are recited in the dependent claims attached hereto.~~

## Claims

1. A multipolar outlet ~~(101)~~ for a conductor connector system, the outlet ~~(101)~~ comprising:

- a housing ~~(103)~~, wherein the housing is divided into at least two chambers, each chamber having two contacts ~~(111)~~ accessible from a first end of the chamber; and

- a separator ~~(109)~~ for separating conductor wires ~~(701)~~ and for holding the wires ~~(701)~~ in place in the separator ~~(109)~~, the separator ~~(109)~~ being arranged to form an end piece for the chambers at a second end, opposite to the first end,

wherein the contacts ~~(111)~~ are arranged to be electrically connected to the wires ~~(701)~~ when the separator ~~(109)~~ is in place in the housing ~~(103)~~, and

wherein each wire ~~(701)~~ is arranged to be held in place in a first notch ~~(117)~~ in the separator ~~(109)~~ so that two wires ~~(701)~~ passing through one opening ~~(401)~~ are held in place at a right angle to each other.

2. An outlet ~~(101)~~ according to claim 1, wherein chambers are separated from each other by a partition element ~~(105)~~.

3. An outlet ~~(101)~~ according to claim 2, wherein the partition element ~~(105)~~ has a ridge ~~(113)~~ arranged to be inserted into a groove ~~(115)~~ of the separator ~~(109)~~.

4. An outlet ~~(101)~~ according to any one of the preceding claims, wherein the outlet ~~(101)~~ and the separator ~~(109)~~ have means for allowing the separator ~~(109)~~ to be inserted into the housing ~~(103)~~ in one position only.

5. An outlet ~~(101)~~ according to any one of the preceding claims, wherein the separator ~~(109)~~ has openings ~~(401)~~ for the wires ~~(701)~~ to pass through.

6. An outlet ~~(101)~~ according to claim 5, wherein each opening ~~(701)~~ allows two wires ~~(701)~~ to pass through, the number of openings ~~(401)~~ being n, while the number of wires ~~(701)~~ to be connected to the separator ~~(109)~~ being n multiplied by 2, n being a positive integer, greater than zero.

7. An outlet ~~(101)~~ according to any one of claims 5 or 6, wherein each opening ~~(401)~~ is separated from another opening by a separator partition wall.

8. An outlet ~~(101)~~ according to any one of the preceding claims, wherein the contacts ~~(111)~~ run through the inserts ~~(107)~~ parallel to the longitudinal axis of the housing ~~(103)~~.

9. An outlet ~~(101)~~ according to any one of the preceding claims, wherein the contacts ~~(111)~~ are in the form of pliers ~~(501)~~ at the second end.

10. An outlet ~~(101)~~ according to claim 9, wherein the pliers ~~(501)~~ are arranged to cut a plastic layer of the wire ~~(701)~~ and to hold the wire ~~(701)~~ in place.

11. An outlet ~~(101)~~ according to any one of claims 9 to 10, wherein the pliers ~~(501)~~ are arranged to be inserted into second notches ~~(403)~~ in the separator ~~(109)~~ when the separator ~~(109)~~ is in place in the housing ~~(103)~~.

12. An outlet ~~(101)~~ according to any one of the preceding claims, wherein each chamber contains an insert ~~(107)~~ of a non-conducting material for separating the contacts ~~(111)~~ from each other.

13. A connector system comprising the outlet ~~(101)~~ according to any one of the preceding claims and further comprising a conductor having at least four shielded wires ~~(701)~~.

14. A connector system according to claim 13 and further comprising a connector connected to the contacts ~~(111)~~.