Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).
SUMMARY OF THE INVENTION

The present invention concerns a connector for a wave-guide and a wave-guide as stated in the preambles of claims 1 and 6, respectively.

BACKGROUND OF THE INVENTION

When connecting different radio equipment to each other, it is sometimes crucial that a defined electrical length between two connection points is maintained. Due to mechanical tolerances, however, the physical distance between such points may vary. It is convenient then to use coaxial cables, since these are flexible and allow easy adjustment of the mutual distance between connectors applied at opposed ends of a cable.

However, coaxial cables are afflicted with rather high internal losses. An alternative to a coaxial cable is a wave-guide. A wave-guide has low internal losses, but is a non-flexible system having a fixed distance between its connectors.

It would be desirable, thus, to combine the low internal losses of a wave-guide with the flexibility of a coaxial cable as regards the distance between connectors at its ends.

Examples of prior art connectors and wave-guides are disclosed in JP 62 261 201 A (Patent Abstracts of Japan vol. 12, No. (E-605)) and SU 1019-530 A, both substantially representing the prior art as defined in the preambles of claims 1 and 6.

SUMMARY OF THE INVENTION

Based on the desirous properties of a wave-guide, the problem to be solved by the present invention is to provide a wave-guide having a fixed electrical length and a variable physical length, i.e., a variable distance between connection points thereof so as to adapt said distance to a distance between connectors of equipment to which the wave-guide is to be connected. It is also a problem to provide a connector for a wave-guide having a fixed electrical length, said connector allowing, or compensating for, a varying distance between connection points of equipment to be connected to the wave-guide.

In solving the first problem mentioned, the present invention provides a wave-guide arranged such that at least one of its connection points is moveable in relation to another of its connection points. This is accomplished by providing a wave-guide equipped with at least one connector having first and second connecting members mutually connected for signal transmission therewith having a first and a second axis, respectively. The first connecting member is connected to the wave-guide member to be rotatable about the first axis. The second axis is offset in relation to the first axis such that the second connecting member with the second axis is rotatable about the first axis, so that the second connection member may describe a circular movement, thereby varying the physical distance by relative movement of said connectors without affecting the electrical length of the wave-guide.

In solving the second problem mentioned, the present invention provides a connector having a first connecting member at one end for connection to a connection point of a wave-guide, and a second connecting member at an opposed end for connection to external equipment. The first and second connection members are laterally displaced relative to one another such that rotation of the connector about the first connecting member results in a circular movement of the second connecting member and, thereby, a varying distance of said second connection member in relation to another connection point of the wave-guide without affecting the electrical length therewith.

BRIEF DESCRIPTION OF THE DRAWINGS

Two embodiments of the present invention will be described hereinafter, reference being made to the accompanying drawings referring to an example where signals from two signal processing apparatuses are combined into one signal transferred to subsequent apparatus.

- Fig. 1 is a schematic perspective view showing two signal processors and a wave-guide for attachment thereto;
- Fig. 2 is a section taken along line II-II in Fig. 3 through a wave-guide having two connectors according to a first embodiment of the present invention;
- Fig. 3 is a front view of a portion of the wave-guide of Fig. 2;
- Fig. 4 is a perspective view of a connector according to the first embodiment;
- Fig. 5 is a first side view of the connector of Fig. 4;
- Fig. 6 is a second side view of the connector of Fig. 4;
- Fig. 7 is a top view of the connector of Fig. 4;
- Fig. 8 is a bottom view of the connector of Fig. 4;
- Fig. 9 is a cross section through the connector of Fig. 4 taken along line IX-IX of Fig. 8;
- Figs. 10 and 11 are exploded views at an enlarged scale showing a contact sleeve, a dielectric disc and a contact pin from different directions;
- Fig. 12 is a section through an end of a wave-guide having two connectors according to the present invention;
- Fig. 13 is a front view of the wave-guide and connector of Fig. 12; and
- Fig. 14 is a section corresponding to Fig. 12, but showing the connector at an enlarged scale and in another rotational position.
DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0009] In Fig. 1 are shown the cabinet 11 of a first signal processing device and the cabinet 12 of a second signal processing device having signal output terminals 13, 14, respectively, of the kind including a central core 13', 14', respectively, defining the axis of a cylindrical jacket 13", 14", respectively, surrounding the core. The cabinets 11 and 12 are positioned side-by-side in a substantially abutting relationship, for instance in a non-shown rack, such that there is a nominal, defined distance d between the cores 13', 14' adapted to a standard wave-guide 15 having two connectors 16, 17 for incoming signals and one connector 18 for an outgoing signal to be transferred to further, non-shown equipment of a signal chain. However, due to, e.g., manufacturing tolerances, the nominal distance d may vary a few millimetres - not much - but sufficiently for a standard wave-guide not to fit to the two output terminals 13, 14.

[0010] The present invention overcomes this drawback by providing the wave-guide 19 shown in Fig. 2 and partly in Fig. 3 and having connectors 20 (a and b) shown more in detail in Figs. 4 - 9.

[0011] The wave-guide 19 includes a longitudinal housing 21 having an internal cavity 22 extending in the longitudinal direction of the housing. The cavity is closed at opposed ends of the housing by covers 23. A metal bar 24 extends interiorly of the housing and is kept centred in the cavity by means of dielectric washers 25. A central contact sleeve 26 of a connector 27 is connected in the cavity by means of dielectric washers 25. A metal housing 21 having an internal cavity 22 extending in the longitudinal direction of the housing. The cavity is closed at opposed ends of the housing by covers 23. A metal bar 24 extends interiorly of the housing and is kept centred in the cavity by means of dielectric washers 25. A central contact sleeve 26 of a connector 27 is connected in the cavity by means of dielectric washers 25. A metal housing 21 having an internal cavity 22 extending in the longitudinal direction of the housing. The cavity is closed at opposed ends of the housing by covers 23. A metal bar 24 extends interiorly of the housing and is kept centred in the cavity by means of dielectric washers 25. A central contact sleeve 26 of a connector 27 is connected in the cavity by means of dielectric washers 25. A metal housing 21 having an internal cavity 22 extending in the longitudinal direction of the housing. The cavity is closed at opposed ends of the housing by covers 23. A metal bar 24 extends interiorly of the housing and is kept centred in the cavity by means of dielectric washers 25. A central contact sleeve 26 of a connector 27 is connected in the cavity by means of dielectric washers 25.

[0012] The contact sleeve 31 contacts a contact pin 33 when the contact sleeve is fitted on the connecting pin 28 (a - upper; b - lower in Fig. 2) having respective centre lines or axes Cn (nominal centre; defining the nominal distance d between two contact pins 33, since all three axes concerned (Cn, Cs, Cp) are aligned.

[0013] An extension 42 of the annular collar 36 beyond the flange 39 has a cylindrical shape conforming to a cylindrical bore 43 in the housing 21 co-axial to the connecting pin 28. When connected to the wave-guide, the cylindrical extension 42 is introduced into the bore 43, the flange 39 resting against an external wall of the wave-guide housing 21 as shown in Fig. 2.

[0014] In a state-of-the-art connector, the contact sleeve and the contact pin are generally integral and have a common axis, i.e., any side view thereof would have an appearance resembling the particular side view of Fig. 6. This means that the distance between two connecting pins 28 of state-of-the-art connectors is equal to the nominal distance d between two contact pins 33, since all three axes concerned (Cn, Cs, Cp) are aligned.

[0015] However, and as stated above, when connecting two juxtaposed apparatuses, the distance between their terminals 13, 14 (Fig. 1) may differ from the required nominal distance d fixed by the inherently non-flexible wave-guide.

[0016] To overcome this problem, the present invention provides for lateral displacement of the axis Cn of at least one contact pin 33 in relation to the axis Cs of the associated connecting pin 28.

[0017] This is accomplished by laterally displacing the contact sleeve 31 including its axis Cs in relation to the contact pin 33 including its axis Cp, and by making the contact pin 33 rotatable about the axis Cp. Thus, rotation of the contact pin 33 about the axis Cp causes a maximum lateral movement of the contact pin 33 equal to twice the relative eccentricity e, typically 0.75 mm, of the two axes Cn and Cp, i.e., a maximum movement of typically 1.5 mm.

[0018] In practice, in a connector 20 according to the present invention, the contact sleeve 31 is formed with two cylindrical portions, one portion constituting an attachment shank 44 insertable in the bore 40 in the disc 41 and having an axis co-axial with the axis Cp, and one portion constituting the contact sleeve 31 itself having its axis Cn offset from the axis Cp. The shank 44 has an internal bore 45 threaded for engagement with corresponding external threads on an attachment shank 46 of contact pin 33 (the threads are not shown in the drawings). Evidently, other manners of connecting the contact sleeve and the contact pin will be apparent to the skilled person, including soldering and press fitting.

[0019] As an alternative to making the contact sleeve and the contact pin as two connectable parts, they could be made in one piece, and the disc 41 could be pressed onto the common shank thereof.

[0020] It is important to make sure that the contact sleeve 31 is non-rotatable relative to the extension 42 of the annular collar 38. As stated above, the disc 41 is unrotatably received within the bore 37. To make the con-
The contact sleeve 31 is let into a cylindrical recess 49 in the disc 41 such that a bottom surface 50 of the contact sleeve rests on a crescent-like surface 51 of the disc extending around a major portion of the bore 40. It is preferred to make the recess 49 in a hub portion 52 of the disc concentric to the contact sleeve 31. Since a lower portion of the exterior peripheral wall of the contact sleeve abuts the side wall of the recess in the position shown particularly in Fig. 9, and due to the eccentricity of the contact sleeve, the latter and the contact pin 33 are kept unrotatable relative to the disc 41. Since the disc is unrotationally held in the bore 37, rotation of the connector 20 will bring along the disc 41, the contact sleeve 31 and the contact pin 33 in such rotation.

However, in order to enable rotation of the connector 20 in its operative position as mounted in the wave-guide, also the cylindrical extension 42 must have an eccentricity corresponding to that of the contact sleeve 31 in relation to its shank. Thus, the cylindrical extension 42 has an axis common with the axis \( C_s \) of the contact sleeve 31 as appears best from Fig. 5. Consequently, when rotating the connector 20 having its extension 42 received within the associated bore 43 in the wave-guide housing 21, the contact pin 33 will perform a circulating movement about the common axis \( C_s \) of the bore 43 (Fig. 2), the contact pin 28 and the contact sleeve 31. During this movement, the contact pin 33 will occupy positions located at various distances from another contact pin 33 of the same wave-guide. Evidently, the movement of the contact pin is not linear in the longitudinal direction of the wave-guide housing since it is a circular movement. However, the slight raising and lowering of a contact pin relative to its two truly lateral end positions does not affect the adaption of the distance between two contact points in an adverse manner.

The eccentricity \( e \) is particularly shown in Fig. 7 as the distance between two lines \( p \) and \( s \) intersecting a line of symmetry \( A \) to define \( C_p \) and \( C_s \) respectively.

Once the rotational position of a connector 20 has been adjusted as indicated above to fit a certain distance deviating from the nominal distance \( d \), its position is fixed by clamping it against the wall 21' of the wave-guide housing 21. For this purpose, a clamp flange 53 shown with the upper connector 20a in Fig. 2 is provided having a central bore 54 dimensioned to receive the collar 36 with clearance enough to allow rotation of the connector in a non-clamped position of the clamp flange. The clamp flange could be annular, but it is preferred to make it substantially square as seen in Fig. 3 showing half the clamp flange. For its attachment and clamping, the wave-guide housing 23 is provided with four through-holes 55, and the clamp flange is provided with corresponding holes 56. The holes 56 are threaded to receive clamping screws 57 extending through the housing 23. In order to accommodate movement of the clamp flange due to rotation of the connector 20, the holes 55 in the wave-guide housing have a substantially larger diameter than the screws. For a typical screw diameter of 3 mm the holes 55 have a diameter of typically 4.5 mm.

The clamp flange 53 may be internally threaded (not shown) for engagement with corresponding threads of a terminal 13, 14 (Fig. 1) for the purpose of firmly connecting the wave-guide to a signal processing device and to obtain optimum signal transmitting properties. In this case, the clamp flange 53 need not press against the flange 39 of the connector, since a corresponding press force is obtained at the outward end of the collar 36.

As an alternative, the clamp flange 53 may be excluded, and the screws 57 may be screwed into a cabinet 11, 12 (Fig. 1).

To keep the dielectric disc 41 firmly against the flange 38 a retaining ring 58 (Fig. 9) is pressed into the bore 37 to abut the disc 41. Further, a spring 59 (Fig. 6) in the shape of a slotted ring may be arranged in an annular recess 60 formed in the circumference of the extension 42 of the casing 36 to partly snap into a corresponding annular recess 61 formed in the bore 43 (Fig. 2).

A second embodiment of a connector 62 is described with reference to Figs. 12, 13 and 14. It should be noted, however, that there is no difference as regards the inventive idea to make the two connection portions of a connector offset; the differences reside mainly in details concerning its attachment to the wave-guide housing and its interior structure.

As seen in Fig. 12 and best in the enlarged view of Fig. 14, the connector casing 63 has a radially outwardly extending flange 64 at its inner end, and the wave-guide housing 65 has a bore 66 with a larger diameter than the flange 64. A ring 67 having a shoulder 68 abutting the flange 64 is pressed into the bore 66 so as to rotatably hold the connector in the bore contacting the bottom surface 69 of the bore. A dielectric disc 70 is held between an inwardly directed flange 71 of the casing 63 and the surface 69.

Contrary to the previous embodiment, the shank 72 of a contact pin 73 extends through the disc 70, and the shank 74 of a contact sleeve 75 is threaded into the shank of the contact pin. The contact pin and the contact sleeve are shown in Fig. 12 in a rotational position where the eccentricity of their axes is not visible. In Fig. 13, however, it is clearly visible that the contact pin 73 as well as the connector casing 63 have their common centre \( C_o \) offset in relation to the centre line \( L \) of the wave-guide housing and its bore 66. Also in Fig. 14 the eccentricity between the axes \( C_p \) and \( C_s (= C_o) \) is visible as is the resulting difference in width of the flange 64.

As in the first embodiment, a separate flange 76 similar to flange 53 is used to prevent rotation of the connector once it is set in a proper position. The flange 76 is partly shown in Fig. 14 and is internally threaded to be threadedly engagable with threads 77 of, e.g., a terminal 14 of signal processing equipment 12. Screws 57 extending through the wave-guide housing 65 and screwed into the flange 76 pull the wave-guide housing
and the connector together at the same time as they pull the connector towards the terminal 14. Evidently, increased friction between the connector and the wave-guide housing will effectively prevent rotation of the connector relative to the wave-guide housing.

[0032] As would be apparent from the foregoing description, the fixed electrical length referred to as regards the particular wave-guide 19 shown in Fig. 2 is the sum of the electrical lengths of the metal bar 24 and of two connecting pins 28 at its ends as well as of the two contact sleeves 31 and two contact pins 33 of the two connectors 22a and 22b, whereas the variable physical distance is the prevailing distance between the axes C_p of the contact pins 33.

[0033] Although the above given description of preferred embodiments of the invention refers to a T- or Y-shape wave-guide having two connectors 20a, 20b (or 62) for incoming or outgoing signals and one connector 27 for outgoing or incoming signals, respectively, it would be evident that the invention is as well practicable on a wave-guide having but two connectors, e.g., one connector 20a and one connector 27 (Z-shape), or, two connectors 20a, 20b (C-shape).

Claims

1. A connector for a wave-guide having a fixed electrical length between connection points (16, 17) thereof and for adapting a physical distance (d) between the connection points to a varying distance between connection means (13, 14) of equipment (11, 12) to be connected to the wave-guide while maintaining the electrical length, the connector (20) having a first end having a first connecting member (31) for connection to one of the connection points (28a) of the wave-guide and a second end having a second connecting member (33) for connection to the connection means (13, 14), the first and second connecting members (31, 33) being mutually connected for signal transmission therebetween and having a first (C_s) and a second (C_p) axis, respectively, characterized in that the first axis (C_s) and the second axis (C_p) are mutually parallel and laterally displaced relative to one another, whereby a rotation about the second axis (C_p) causes a displacement of the first axis (C_s).

2. The connector according to claim 1, characterized in that the first connecting member comprises a cylindrical engagement portion (31) having the first axis (C_s) and being shaped for engagement with said one connection point (28a), and a shank portion (44) offset from the engagement portion and having the second axis (C_p) common with the second connecting member (33) connected thereto.

3. The connector according to claim 2, characterized in that the second connecting member (33) includes a shank portion (46) joined to the shank portion (44) of the first connecting member (31), the joined shank portions extending through a circular disc (41) of a dielectric material co-axial to the second axis (C_p) and received within a cylindrical bore (37) of a casing of the connector co-axial to the second connecting member (33).

4. The connector according to claim 3, characterized in that the first and second connecting members (31, 33) are integral.

5. The connector according to claim 3 or 4, characterized in that the casing includes a cylindrical attachment portion (42) having an axis common with the first axis (C_s) and being dimensioned to be rotationally receivable in a cylindrical bore (43) in a wall of a housing (21) of the wave-guide.

6. A wave-guide having a fixed electrical length between connection points thereof and for adapting a physical distance (d) between the connection points to a varying distance between connection means (13, 14) of equipment (11, 12) to be connected to the wave-guide while maintaining the fixed electrical length, the fixed electrical length being constituted by at least a portion of a wave-guide member (24) received in a wave-guide housing (21) and two connectors (20) connected to the wave-guide member (24) at discrete points therealong, at least one of the connectors (20b) being a connector according to any one of claims 1 - 5.

7. The wave-guide according to claim 6, characterized in that the first connecting member (31, 44) is at least partially co-axially encircled by a first annular portion (42) of a connector casing fitting into a bore (43) in the wave-guide housing and being rotatable therein, and that the second connecting member (33) is co-axially encircled by a second annular portion (36) of the casing and rotatable about the first axis (C_p/C_s).

8. The wave-guide according to claim 7, characterized by a clamping flange (53) having a hole (54) therein receiving the second annular portion (36), the clamping flange bearing against a flange portion (39) of the casing, the clamping flange being clampable to the wave-guide housing by means of clamping means (57) extending through bores (55) in the wave-guide housing (21), and the bores having a cross section enabling limited lateral movement of the clamping means.
Patentansprüche

1. Steckverbindung für einen Wellenleiter mit einer festen elektrischen Länge zwischen seinen Anschlussstellen (16, 17) und zum Angleichen eines physischen Abstands (d) zwischen den Anschlussstellen an einen variablen Abstand zwischen Anschlussmitten (13, 14) von mit dem Wellenleiter unter Beibehaltung der elektrischen Länge zu verbindenden Einrichtungen (11, 12), wobei die Steckverbindung (20) ein erstes Ende mit einer ersten Verbindungseinheit (31) zur Verbindung mit einer der Anschlussstellen (28a) des Wellenleiters und ein zweites Ende mit einer zweiten Verbindungseinheit (33) zur Verbindung mit den Anschlussmitten (13, 14) aufweist und wobei die erste und die zweite Verbindungseinheit (31, 33) zur Signalübertragung miteinander verbunden sind und eine erste (C_s) zweite Achse (C_p) beziehungsweise eine zweite (C_p) Achse aufweisen, dadurch gekennzeichnet, dass die erste Achse (C_s) und die zweite Achse (C_p) zueinander parallel und seitlich zueinander versetzt angeordnet sind, wobei eine Drehung um die zweite Achse (C_p) eine Verschiebung der ersten Achse (C_s) bewirkt.

2. Steckverbindung nach Anspruch 1, dadurch gekennzeichnet, dass die erste Verbindungseinheit ein zylindrisches Verbindungselement (31) mit der ersten Achse (C_s) aufweist, das zur Verbindung mit der einen Anschlussstelle (28a) ausgerichtet ist, und ferner ein Schaftelement (44) aufweist, das gegenüber dem Verbindungselement versetzt ist und die zweite Achse (C_p) mit der zweiten, mit ihm verbundenen Verbindungseinheit (33) teilt.

3. Steckverbindung nach Anspruch 2, dadurch gekennzeichnet, dass die zweite Verbindungseinheit (33) ein Schaftelement (46) umfasst, das mit dem Schaftelement (44) der ersten Verbindungseinheit (31) verbunden ist, wobei sich die verbundenen Schaftelemente durch eine Kreisscheibe (41) aus einem dielektrischen Material erstrecken, die koaxial zu der zweiten Achse (C_p) angeordnet und innerhalb einer zylindrischen Bohrung (37) eines Gehäuses der Steckverbindung koaxial zu der zweiten Verbindungseinheit (33) aufgenommen ist.

4. Steckverbindung gemäß Anspruch 3, dadurch gekennzeichnet, dass die erste und die zweite Verbindungseinheit (31, 33) integriert sind.

5. Steckverbindung gemäß Anspruch 3 oder Anspruch 4, dadurch gekennzeichnet, dass das Gehäuse ein zylindrisches Halterungselement (42) umfasst, dessen Achse mit der ersten Achse (C_s) übereinstimmt und das bemessen ist, um drehbar in einer zylindrischen Bohrung (43) in einer Wand eines Gehäuses (21) des Wellenleiters aufgenommen zu werden.

6. Wellenleiter mit einer festen elektrischen Länge zwischen zugehörigen Anschlussstellen und zum Angleichen eines physischen Abstands (d) zwischen den Anschlussstellen an einen variablen Abstand zwischen Anschlussmitten (13, 14) von mit dem Wellenleiter unter Beibehaltung der festen elektrischen Länge zu verbindenden Einrichtungen (11, 12), wobei die feste elektrische Länge von wenigstens einem Abschnitt eines Wellenleitelementes (24), das von einem Gehäuse (21) des Wellenleiters aufgenommen wird, und zwei Steckverbindungen (20), die mit dem Wellenleitelement (24) an von einander getrennten Punkten verbunden sind, gebildet wird, wobei wenigstens eine der Steckverbindungen (20b) eine Steckverbindung gemäß einem der Ansprüche 1 bis 5 ist.

7. Wellenleiter gemäß Anspruch 6, dadurch gekennzeichnet, dass die erste Verbindungseinheit (31, 33) mit dem Gehäuse (21) des Wellenleiters parallel und seitlich zueinander versetzt angeordnet sind, wobei eine Drehung um die zweite Achse (C_p) eine Verschiebung der ersten Achse (C_s) bewirkt.

8. Wellenleiter gemäß Anspruch 7, dadurch gekennzeichnet durch einen Einspannflansch (53) mit einem Loch (54) zur Aufnahme des zweiten ringförmigen Elements (36), wobei der Einspannflansch an einem Flanschelement (39) des Gehäuses anliegt und der Einspannflansch mittels Einspannmitteln (57), die sich durch Bohrungen (55) im Gehäuse (21) des Wellenleiters erstrecken, am Gehäuse des Wellenleiters eingespannt werden kann, wobei die Bohrungen einen Querschnitt aufweisen, der eine begrenzte seitliche Bewegung der Einspannmittel gestattet.

Revindications

1. Connecteur destiné à un guide d’ondes ayant une longueur électrique fixée entre des points de connexion (16, 17) de celui-ci et pour adapter une distance physique (d) entre les points de connexion jusqu’à une distance de variation entre des moyens de connexion (13, 14) d’un équipement (11, 12) à connecter au guide d’ondes tout en maintenant la longueur électrique, le connecteur (20) ayant une première extrémité ayant un premier élément de connexion (31) pour une connexion à l’un des points de connexion (28a) du guide d’ondes et une deuxième extrémité ayant un deuxième élément de connexion (33) pour une connexion aux moyens de connexion...
(13, 14), le premier et le deuxième éléments de connexion (31, 33) étant mutuellement connectés pour une transmission de signal entre ceux-ci et ayant respectivement un premier axe (Cs) et un deuxième axe (Cp), caractérisé en ce que le premier axe (Cs) et le deuxième axe (Cp) sont mutuellement parallèles et déplacés latéralement l'un par rapport à l'autre, moyennant quoi une rotation autour du deuxième axe (Cp) entraîne un déplacement du premier axe (Cs).

2. Connecteur selon la revendication 1, caractérisé en ce que le premier élément de connexion comprend une partie cylindrique d'entrée en contact (31) ayant le premier axe (Cs) et étant formée pour une entrée en contact avec ledit un point de connexion (28a), et une partie de tige (44) décalée de la partie d'entrée en contact et ayant le deuxième axe (Cp) en commun avec le deuxième élément de connexion (33) connecté à celui-ci.

3. Connecteur selon la revendication 2, caractérisé en ce que le deuxième élément de connexion (33) comporte une partie de tige (46) reliée à la partie de tige (44) du premier élément de connexion (31), les parties de tige reliées s'étendant à travers un disque circulaire (41) d'un matériau diélectrique coaxial au deuxième axe (Cp) et reçu à l'intérieur d'un alésage cylindrique (37) d'une enveloppe du connecteur coaxiale au deuxième élément de connexion (33).

4. Connecteur selon la revendication 3, caractérisé en ce que le premier et le deuxième éléments de connexion (31, 33) font partie intégrante l'un de l'autre.

5. Connecteur selon la revendication 3 ou 4, caractérisé en ce que l'enveloppe comporte une partie de liaison cylindrique (42) ayant un axe en commun avec le premier axe (Cs) et étant formée pour pouvoir être reçue de façon rotative dans un alésage cylindrique (43) dans une paroi d'un logement (21) du guide d'ondes.

6. Guide d'ondes ayant une première longueur électrique entre des points de connexion de celle-ci et pour adapter une distance physique (d) entre les points de connexion jusqu'à une distance de variation entre des moyens de connexion (13, 14) d'un équipement (11, 12) à connecter au guide d'ondes tout en maintenant la longueur électrique fixée, la longueur électrique fixée étant constituée au moins d'une partie d'un élément de guide d'ondes (24) reçue dans un logement de guide d'ondes (21) et deux connecteurs (20) connectés à l'élément de guide d'ondes (24) au niveau de points discrets le long de ceux-ci, au moins un des connecteurs (20b) correspondant à un connecteur selon l'une quelconque des revendications 1 à 5.

7. Guide d'ondes selon la revendication 6, caractérisé en ce que le premier élément de connexion (31, 44) est au moins partiellement encerclé de façon coaxiale par une première partie annulaire (42) d'une enveloppe de connecteur s'adaptant à un alésage (43) dans le logement de guide d'ondes et pouvant être pivoté dans celui-ci, et en ce que le deuxième élément de connexion (33) est encerclé de façon coaxiale par une deuxième partie annulaire (36) du logement et pouvant être pivoté autour du premier axe (Cs/Cn).

8. Guide d'ondes selon la revendication 7, caractérisé par une bride de serrage (53) ayant un trou (54) dans celle-ci recevant la deuxième partie annulaire (36), la bride de serrage reposant contre une partie de bride (39) de l'enveloppe, la bride de serrage pouvant être serrée contre le logement de guide d'ondes par un moyen de serrage (57) s'étendant à travers des alésages (55) dans le logement de guide d'ondes (21), et les alésages ayant une coupe transversale permettant un mouvement latéral limité du moyen de serrage.
REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader’s convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

• JP 62261201 A [0004]
• SU 1019530 A [0004]

Non-patent literature cited in the description

• *PATENT ABSTRACTS OF JAPAN, vol. 12, E-605 [0004]*