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Read

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[54] **WIRELESS RECEIVER**

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[51] **Int. Cl.**[6] **H04B 1/03**

[52] **U.S. Cl.** **455/90**; 455/351; 455/575

[58] **Field of Search** 455/95, 550, 347, 455/90, 575, 128, 351; 361/729, 730, 732; 379/433, 435

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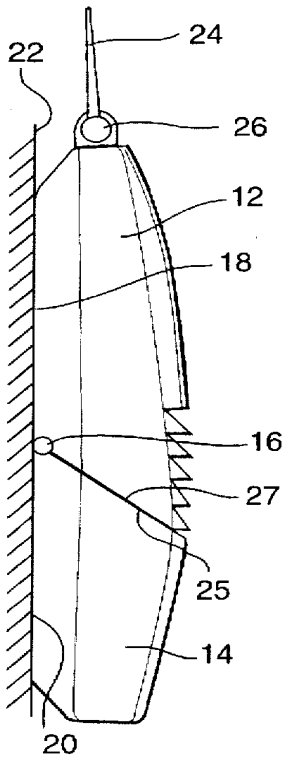
[57] **ABSTRACT**

A wireless receiver having a first and second housings one of which contains a wireless signal transmission and receiving means. The other housing preferably contains a power supply and possibly a battery back-up for use in the event of a cut in the power supply. The two housings are hinged together. They are relatively movable between one position in which the two housings depend one from another so as to be mounted upon a vertical wall and another position in which the two housings are disposed one behind the other for supporting upon a horizontal surface. Preferably, in the position for mounting upon a wall, the two housings provide rear planar surfaces which are coplanar and in the other position for mounting upon a horizontal surface the two housings provide planar support surfaces for supporting them upon the horizontal surface. It is also preferable that these two support surfaces, when the housings are in a position for hanging vertically, lie closely adjacent, are parallel and confront each other so as to give the impression that the receiver is a single housing construction. Similarly with the housings in the other relative positions other surfaces confront and lie parallel to each other also to give the single housing impression.

5 Claims, 2 Drawing Sheets



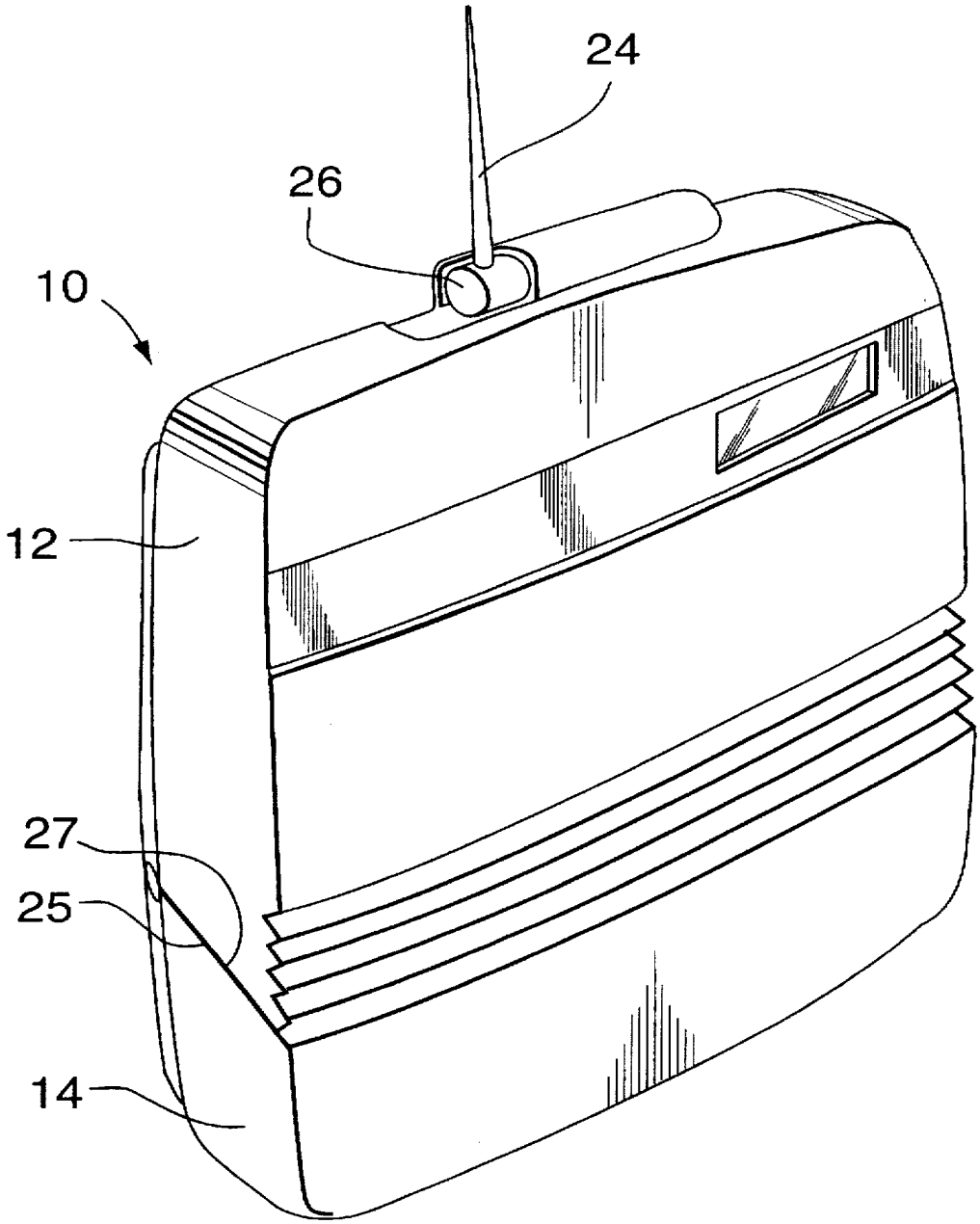


FIG. 1

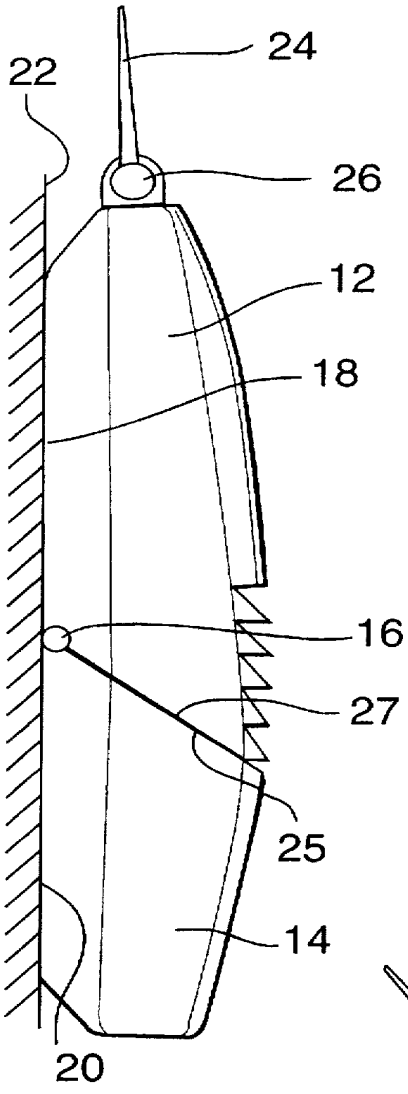


FIG. 2

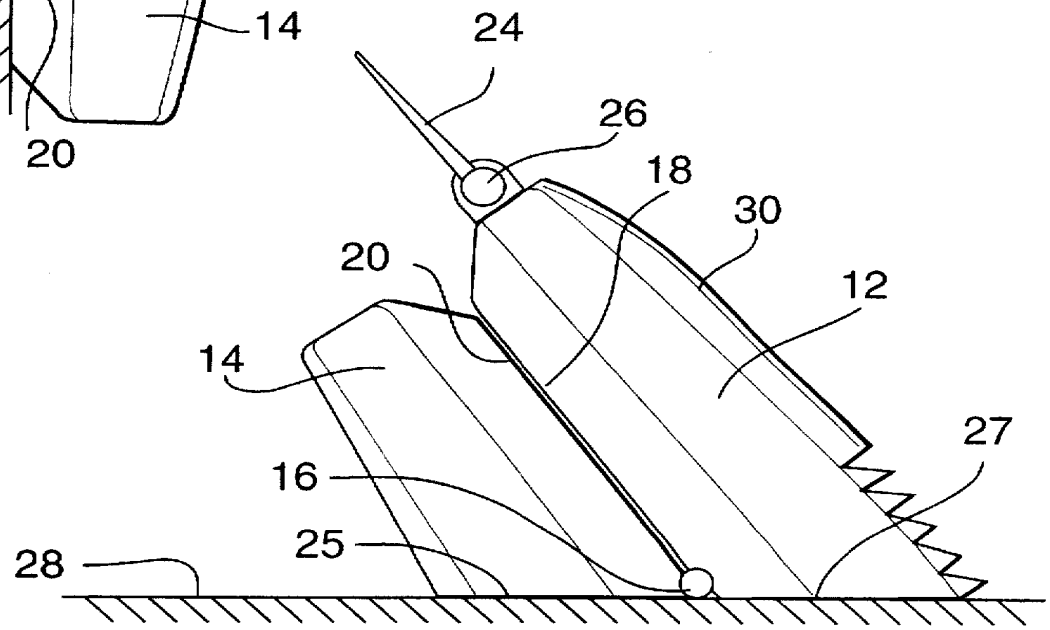


FIG. 3

WIRELESS RECEIVER

This invention relates to wireless receivers.

A wireless receiver is an item of telecommunications equipment which receives radio messages from an outside source and is connected by cable to telecommunications terminal equipment such as a telephone terminal or a facsimile copying machine (commonly referred to as "fax" machine). A wireless receiver is not to be confused with another item of telecommunications equipment commonly referred to as a "telephone base station" or a "wireless base station". A telephone or wireless base station is one which is connected by cable to conventional telephone equipment and acts as a radio transmitter and receiver to a wireless telephone. Thus, a wireless receiver enables the use of conventional telecommunications terminal equipment, i.e. equipment served by telecommunications cable, thereby avoiding the necessity of using cellular or radio telecommunications terminal equipment.

Wireless receivers are for use particularly in regions of the world in which inadequate telecommunications cables already exist between transmitting and receiving locations in that they are capable of receiving and transmitting messages by radio thereby avoiding the problem of lack of cable. The only cable which is necessary is the short length of cable connecting the wireless receiver with the telecommunications terminal equipment within an office. Such cable is normally only of a few feet in length sufficient to convey signals between the receiver and the terminal either within a room or within the confines of a building.

The present invention seeks to provide a wireless receiver which is adaptable in use either for wall mounting or for supporting a horizontal surface such as a desk.

Accordingly, the present invention provides a wireless receiver comprising a first housing having a front surface and a rear surface and containing wireless signal transmission and receiving means, and a second housing pivotally mounted to the first housing and movable between a first position in which one the housings depends from the other housing which has means to hang the receiver upon a vertical surface, and a second position in which the second housing is located behind the first housing, the two housings together then providing lower support surface means for supporting the receiver upon a horizontal surface.

Hence, with the wireless receiver according to the invention, the first and second housings cooperate to provide the support surface means to support the receiver upon a horizontal surface or alternatively, the housings are carried one by the other with the receiver hanging from a vertical surface. This is a particularly practical arrangement depending upon the type of position in which the receiver is required to be located.

In a practical arrangement, it is advantageous for the second housing to contain a power supply and also possibly have a region for mounting a battery back-up unit for telephone usage. The battery back-up unit is particularly useful in the event that the power supply is cut-off as may occur sometimes in certain locations.

To enable the first and second housings to appear to be combined as a single unit, it is preferable for the second housing to have a surface which, with the second housing in the first position, provides a rear surface which is coplanar with the rear surface of the first housing. With this arrangement, the two rear surfaces then will hang directly down a vertical surface such as on a wall. Further, with the second housing in the second position, it is preferable for this particular surface to confront and lie substantially parallel to the rear surface of the first housing.

In addition, the support means in respect of each housing may comprise a planar support surface and with the second housing in its second position the two planar support surfaces of the housings are coplanar. This provides a particularly flat support for the wireless receiver to be disposed upon a horizontal surface. Also, with this arrangement, it is preferable for the two planar support surfaces of the support surface means to lie closely adjacent in confronting parallel relationship with the second housing in the first position.

One embodiment of the invention will now be described, by way of example, with reference to the accompanying drawings, in which:

FIG. **1** is a front isometric view of a wireless receiver according to the embodiment;

FIG. **2** is a side elevational view of the wireless receiver mounted upon a vertical surface; and

FIG. **3** is a side elevational view of the wireless receiver when carried upon a horizontal surface.

As shown by the Figures, a wireless receiver **10** comprises two housings **12** and **14** which are connected together by a hinge **16**. The hinge is located along a lower edge of a planar rear surface **18** of the housing **12** (as shown in FIG. **2**). The housing **12** contains wireless signal transmission and receiving means which may be conventional construction for receiving and transmitting wireless or radio signals to and from an outside source. The other housing **14** contains a battery supply (not shown) and a battery back-up unit which is maintained charged by the power supply to continue uninterrupted operation of the wireless receiver in the event of power supply being curtailed. As shown by FIGS. **2** and **3**, the housing **14** is pivotally connected to the housing **12** for movement of the housing **14** between a first position (FIG. **2**) in which it depends directly from the housing **12**, and a second position (FIG. **3**) in which the housing **14** lies to the rear of the housing **12**.

The housing **14** has a surface **20** to which the hinge **16** is also connected. The surface **20** is planar and, with the housing **14** in the position shown in FIG. **2** depending from housing **12** then the planar surface **20** is coplanar with surface **18**. Hence, the wireless receiver **10** may be mounted upon a vertical wall surface **22** as shown by FIG. **2** with both of the surfaces **18** and **20** either resting against the surface **22** or in close proximity thereto as allowed for by any rearward projection of the hinge **16**. In this position, an aerial **24** of the receiver and carried by the housing **12** possibly from a pivotal mounting **26**, extends upwardly from the receiver.

The two housings between them provide support surface means for supporting the receiver upon a horizontal surface with the housing **14** disposed rearwardly of the housing **12** as shown by FIG. **3**. This support surface means is provided by a planar support surface **25** of the housing **14** and a planar support surface **27** of the housing **12**. These two planar support surfaces in the position shown in FIG. **3** are coplanar so as to cooperate to support the receiver upon a horizontal surface **28**.

It is worthy of note that with the embodiment, in the position of the housing **14** in FIG. **1** its surface **25** lies closely adjacent to, confronts, and is substantially parallel to the surface **27** of the housing **12**. Thus, with the housing **14** in the first position of FIG. **2**, the receiver gives the appearance of being a single housing construction as is readily seen from FIGS. **1** and **2** of the drawings. In addition, the surfaces **25** and **27** lie in substantially parallel planes which are other than normal to the plane of the rear surface **18** of the housing **12** whereby, with the housing **14** in the second position of FIG. **3** and with the receiver mounted upon the horizontal

surface **28**, the front surface **30** of the housing **12** is inclined rearwardly from a lower to a top end. Thus, the front surface of the receiver faces upwardly towards a user of telephone equipment when mounted upon a desk. It is also noteworthy that with the housing **14** in its position rearwardly of the housing **12** in FIG. **3** then the surface **20** lies closely adjacent to, confronts, and is substantially parallel to the rear surface **18** of the housing **12**. Thus, this may again give the impression that the housings **12** and **14** are a single housing structure instead of two separate items of the receiver which are hinged together. In view of the fact that the housings **12** and **14** are hingedly connected together in the manner described and in view of the relative positions of the surfaces **18**, **20**, **25** and **26** then for either of the positions of the housing **14**, the receiver is of compact structure with minimal gap between the housings **12** and **14** while enabling the receiver to be mounted either in a vertical or in a horizontal position.

What is claimed is:

1. A wireless receiver comprising a first housing having a front surface and a rear surface and containing wireless signal transmission and receiving means, and a second housing pivotally mounted to the first housing and movable between a first position in which one of the housings depends from the other housing, which has means to hang the receiver upon a vertical surface, and a second position in which the second housing is located behind the first housing, the two housings together then providing lower support surface means for supporting the receiver upon a horizontal surface, and in respect of each housing, the support surface means comprises a planar support surface and with the second housing in the second position, the planar support surfaces of the first and second housings are coplanar.

2. A receiver according to claim **1** wherein the planar support surfaces of the housings lie in planes other than normal to the rear surface of the first housing which is also planar whereby, with the second housing in the second position and with the receiver supported upon a horizontal surface, the front surface of the first housing is inclined rearwardly from a lower to a top end of the housing.

3. A receiver according to claim **2** wherein the second housing has another planar surface which, with the second housing in the first position, provides a rear surface which is coplanar with a rear surface of the first housing and which, with a second housing in the second position, confronts and lies substantially parallel to the rear surface of the first housing.

4. A receiver according to claim **3** wherein, in the first position of the second housing, its planar support surface confronts, is adjacent to, and lies substantially parallel to the planar support surface of the first housing.

5. A wireless receiver comprising a first housing having a front surface and a planar rear surface and containing wireless signal transmission and receiving means, and a second housing having a planar surface, the second housing pivotally mounted to the first housing and movable between a first position in which one of the housings depends from the other housing, which has means to hang the receiver upon a vertical surface, and a second position in which the second housing is located behind the first housing, and in the first position of the second housing, the planar surface of the second housing provides a rear surface which is coplanar with the rear surface of the first housing, and in the second position of the second housing, the planar surface of the second housing confronts and lies substantially parallel to the rear surface of the first housing and the two housings together then provide lower support surface means for supporting the receiver upon a horizontal surface.

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