

Description

BACKGROUND OF THE INVENTION

The present invention relates to a paging receiver and, more particularly, to a holding structure for a paging receiver to which more advanced functions than those originally furnished with in the receiver or a vibrator function, display function and other extra functions can be added with ease.

A paging receiver of the type described is disclosed in, for example, U.S. Patent 4,641,370. The paging receiver disclosed includes a base plate or base container which closes the bottom open end of the receiver housing. The base container accommodates extra parts, such as a vibrator which alerts a person to a call by vibration and not by sound, with no regard to the application. Nevertheless, it is not easy for the receiver to attach or detach the base plate or container to or from the receiver body, because the base plate and container are furnished with a battery container which is electrically and mechanically connected to a printed circuit board within the receiver body by solder.

A miniature and thin paging receiver which is powered by a button type battery of small capacity is now under development. However, a paging receiver having various functions and, yet, a miniature and thin configuration cannot be implemented without imposing limitations on the reception sensitivity, vibrator function and others. The battery having a small capacity has to be frequently replaced with another because it is shared by the various functions as stated above. In addition, when such a paging receiver is put in a pocket or in a pocketbook, its switches cannot be manipulated with ease due to the miniature and thin construction.

SUMMARY OF THE INVENTION

It is, therefore, an object of the present invention to provide a holding structure for a paging receiver with extra functions which is easy to carry and can be used in a particular configuration depending upon the circumstances.

It is another object of the present invention to provide a holding structure for a paging receiver with extra functions which is miniature, light weight, and manipulable with ease.

It is another object of the present invention to provide a holding structure for a paging receiver with extra functions which is efficiently producible and easily controllable in production.

It is another object of the present invention to provide a holding structure for a paging receiver to which a vibrator function for annunciating the re-

ception of a call by vibration can be added as desired.

A device for holding a portable receiver and selectively adding a plurality of extra functions to the receiver to be described includes a receiver housing accommodating a body portion of the receiver, and a holder for removably holding the receiver housing and adding at least one of the extra function to the receiver.

In the description below of examples, a paging receiver to which various extra functions may be selectively added is disclosed. A receiver body of the paging receiver has a miniature and thin configuration and is provided with only a sound type alerting function. Minimum necessary degrees of receiving function, antenna function, speaker function and power supply function are furnished with in the receiver body. A holder adapted to hold the receiver body is provided with advanced functions as well as a vibrator function and other extra functions. Only when the holder is combined with the receiver body, it allows the receiver to exhibit the advanced functions or the extra functions as desired. In order that the receiver body and the holder may be fixed to each other when combined, a housing of the receiver body and the holder are individually provided with mating portions and electrical connecting terminals.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other objects, features and advantages of the present invention will become more apparent from the following detailed description taken with the accompanying drawings in which:

Figs. 1A to 1D are views showing a prior art paging receiver;

Figs. 2A to 2D are views showing a holding structure for a paging receiver with extra functions embodying the present invention;

Figs. 3A to 3C are views showing another embodiment of the holding structure in accordance with the present invention; and

Figs. 4A and 3B are views showing a further embodiment of the holding structure in accordance with the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

To better understand the present invention, a brief reference will be made to a prior art paging receiver, shown in Figs. 1A to 1D. As shown, the prior art paging receives generally 10, includes a housing 12 in which a receiver body, not shown, and a battery 14 for powering the receiver body are accommodated. The receiver body is made up of a receiver section, an antenna section, a speaker

section, etc. A butterfly type belt clip 16 is fitted on the back of the housing 1 to allow the receiver 10 to be put on the user's waist belt. The housing 12 is provided with substantial dimensions so that it may accommodate a receiver section having the highest possible sensitivity, a highly sensitive antenna section, a high performance speaker section, a large capacity power source section, and various extra functions such as a vibrator function which is implemented with a vibrator and a motor for driving the vibrator. For example, as shown in Fig. 1C, the size of the housing 12 is such that, when the vibrator function is desired, a motor 18 which serves as a drive source can be fixed by a metal fixture 22 to a printed circuit board 20 of the receiver body, which is nested in the housing 12. In Fig. 1D, the belt clip 16 is replaced with a clip 16A with a chain which allows the receiver 10 to be put in the user's pocket or a bag. The clip 16A is provided with an alligator configuration to be thereby prevented from slipping off the pocket or the bag.

As previously discussed, even in those applications which do not need the vibrator and other various extra functions, extremely high sensitivity, and others, one has to carry such a bulky receiver all the time. This is undesirable for a paging receiver of the type concerned the priority condition of which is the miniature and light weight construction. While an exclusive smaller housing for such particular applications may be prepared, it cannot serve the other applications.

Referring to Figs. 2A to 2D, a holding structure for a paging receiver embodying the present invention is shown. As shown in Figs. 2A and 2B, the paging receiver 30 is generally constituted by a miniature and thin receiver body 32, and a holder 34 which serves to contain and hold the receiver body 32 while accommodating extra functions. The receiver body 32 includes a housing 33 in which at least an antenna, a receiver section connected to the antenna for the reception of a call, and a speaker for alerting a person to a call by sound are built in, although not shown in the figures. An operating section 36 is provided on the receiver body 32 to be accessible for turning on and off a power switch of the receiver section, resetting the alerting sound, and other purposes. A button type battery 38 is adapted to power the receiver section and speaker. A female socket 40 allows, for example, a device having a vibrator function to be connected to the receiver 30. The reference numeral 42 designates a notch which is formed on a side wall of a lower portion of the housing 33. As shown in Fig. 2B, the holder 34 is made up of a support member 44 having a space 46 for receiving the receiver body 32, and a belt clip 48 for putting the support member 44 on the user's waist belt or the

like. The support member 44 includes guide portions 50a and 50b for guiding the receiver body 32 while the latter is inserted in the space 46, the guide portions 50a and 50b each having a generally L-shaped cross-section. At least one of the guide portions 50a and 50b is provided with a projection 52 which mates with the notch 42 of the receiver body 32 for fixing the receiver body 32 in place within the space 46. The support member 44 further includes a plug (male) 54 which is electrically connectable to the socket 40 of the receiver body 32.

The holder 34 is shown in detail in Fig. 2C. Specifically, the support member 44 has another space 56 therein for receiving a printed circuit board 58. Fitted on the printed circuit board 58 are various optional elements, i.e., a high sensitivity antenna 60, a large capacity battery 62, a battery holder 64 with a positive and a negative terminal, and a high sensitivity receiver section, not shown. A battery cover 66 which is openable for replacing the battery 62 is mounted to the support member 44. As stated, the holder 34 itself serves as an extra function unit with the high sensitivity receiver section and antenna section and the large capacity power source section optionally added thereto which are independent of the usual receiver section, antenna section and power source of the receiver body 32.

Each of the support member 44 or the holder 34 and the housing 33 of the receiver body 32 is usually implemented with a molding of plastics and, therefore, has some degree of elasticity. Hence, when the receiver body 32 is inserted in the space 46 of the holder 34, the notch 42 mates with the projection 52 resulting that the receiver body 32 is fixed to the holder 34 by certain strength. As shown in Fig. 2D, when the receiver body 32 is mounted in the space 46 of the holder 34 guided by the guides 50a and 50b, the socket 40 is connected to the plug (male) 54 while, at the same time, the notch 42 is mated with the lug 52 to fix the receiver body 32 in place.

In this particular embodiment, when it is desired to add other extra functions such as a vibrator function and display function to the receiver 30, the second space 56 of the holder 34 may be modified in configuration with or without the number of pins of the connector of the plug 54 suitably changed.

Referring to Figs. 3A to 3C, another embodiment of the holding structure in accordance with the present invention is shown in which a vibrator function is added as an extra function. As shown, the paging receiver 70 is constituted by a miniature and thin receiver body 72 having a sound type alerting function, Fig. 3A, and a holder 74 for accommodating the receiver body 72, Fig. 3B. The receiver body 72 is formed with first connecting

terminals 76 through the bottom of its housing 73, and a slit 78 through the top of the housing 73. The slit 78 is engageable with the holder 74 as will be described. The holder 74 includes a generally rectangular parallelepiped box section 86, and a support plate section 88. In the box section 86, while a space 82 for accommodating a motor 80 adapted to generate vibration, i.e. a vibrator function is defined in a lower portion, a space 84 for receiving the housing 73 of the receiver body 72 is defined in an upper portion. The support plate section 88 serves to hold the housing 73 of the receiver body 72 more firmly in the space 84. The box section 86 and the support plate section are molded integrally with each other by using plastics or the like. A butterfly type belt clip 92 is mounted on the back of the holder 74 through a coil spring 94 so that the receiver 70 may be put on, for example, the user's waist belt 90. A partition 96 of the box section 86 which isolates the spaces 82 and 84 from each other is provided with second connecting terminals 98 which are connectable to the first terminals 76 of the receiver body 72. In this configuration, signals and power for driving the motor 80 are fed from the receiver body 72 to the motor 80 via the terminals 76 and 98. The support plate section 88 terminates at a lug 99 (Fig. 3C) which is adapted to mate with the slit 78 of the receiver body 72.

To fix the receiver body 72 to the holder 74, the lower part of the housing 73 of the receiver body 72 is inserted in the space 84 of the holder 74 to interconnect the first and second terminals 76 and 98 and, then, the slit 78 is mated with the lug 99. In this condition, the receiver body 72 is firmly supported by the holder 74.

Referring to Figs. 4A and 4B, a further embodiment of the holding structure in accordance with the present invention is shown. In this embodiment, too, the vibrator function is used for an extra function. As shown, the paging receiver 100 comprises a receiver body 102 and a container 104 connected to the receiver body 102 for adding the vibrator function thereto. The receiver body 102 includes a housing 106 having a capacity which accommodates a receiver having a sounding function only and, as in the foregoing embodiments, it has a small and thin configuration. The housing 106 is provided with first connecting terminals 108 for feeding signals and power to the container 104, and a female screw 110. The housing 106 is further provided with a recess 112 at the lower end of its side wall. On the other hand, the container 104 comprises a box-like housing 118 in which a space 116 is defined for accommodating a motor 114, which implements the vibrator function. The top 120 of the housing 118 is configured substantially in the same manner as the bottom of the housing 106 of the receiver body 102. Specifically, the top

120 which is to make contact with the receiver body 102 is provided with second connecting terminals 122 connectable with the first terminals 108 of the receiver body 102, and a hole 126 through which a male screw 124 may be driven into the female screw 110. A hook-like pawl 130 extends from a side wall 128 of the housing 118 which adjoins the top 120, the pawl 130 being adapted to mate with the recess 112. To fix the receiver body 102 to the container 104, the recess 112 is mated with the pawl 130, and the female screw 110 is engaged with the male screw 124.

Fig. 4B is a fragmentary section of the structure of Fig. 4A, showing the receiver body 102 fixed to the container 104. The first connecting terminals 108 of the housing 106 are soldered or otherwise fixed to a printed circuit board 132 which is built in the housing 106. The second connecting terminals 122 of the housing 118 are connected to the motor 114 by leads 134. The female screw 110 engageable with the male screw 124 is provided in the bottom of the housing 106 by insertion molding or like technique. When it is desired to add the vibrator function to the receiver 100, all that is required is mating the pawl 130 of the container 104 in which the motor 114 is received with the recess 112 of the receiver housing 106 and, then, driving the male screw 124 into the female screw 110.

In summary, in accordance with the present invention, when it is not needed to furnish a paging receiver with an extra function or with extra sensitivity, a miniature and thin receiver body only may be carried in a pocket or the like while, when it is needed to furnish it with such a function, an integral receiver and holder assembly may be carried on a waist belt or the like. This promotes convenient use of a paging receiver for any particular application while enhancing efficient manipulation.

The combination of a receiver body and a holder which has a motor therein allows a vibrator function to be easily added as needed. Hence, the receiver remains minimum in size when its sounding function only is desired and may readily be provided with a vibrator function by use of the holder. Further, a person can easily add and remove the vibrator function, i.e., attach and detach the container with a vibrator function simply by manipulating a screw. When it comes to production, on the other hand, it is not necessary to mount motors in some receivers and not in others as demanded by customers and, therefore, the production control is easy. All that is required is producing holders with a vibrator function independently of receiver bodies and delivering them as optional units.

Various modifications will become possible for those skilled in the art after receiving the teachings of the present disclosure without departing from the scope of the claims.

Claims

1. A device for holding a portable paging receiver (30,70,100) which provides at least one function, the body portion of the receiver (30,70,100) being accommodated in a receiver housing (33,73,106), wherein the device includes portable holder means (34,74,104) removably attachable to the receiver housing (33,73,106), the holder means (34,74,104) having a support member (44,88) to support the receiver housing, and a belt clip (48,92) for carrying the support member (44,88), characterised in that the holder means (34,74,104) includes elements (58,60,62,80,114) for providing a plurality of extra functions to the receiver (30,70,100).
2. A device as claimed in claim 1, wherein the receiver housing (33,73,106), includes a first electrical connecting member (40,76,108), and first locking means (41,78,112).
3. A device as claimed in claim 2, wherein the holder means includes a second electrical connecting member (54,98,122) connectable to the first connecting member when the receiver housing is held by the holder means, and second locking means (52,99,124,126) engageable with the first locking means.
4. A device as claimed in claim 3, wherein the housing (33,73,106) includes a rectangular parallelepiped box in which the elements for implementing the various extra functions of the receiver are accommodated.
5. A device as claimed in claim 4, wherein the holder means includes a support member (144) which includes a first portion (46) for receiving and holding the receiver housing, and a second portion (56) for accommodating the elements providing the extra functions.
6. A device as claimed in claim 5, wherein the support member includes guide members (50a,50b) for individually guiding opposite side walls of the housing into the first portion of the support member.
7. A device as claimed in claim 6, wherein the first locking means includes a notch (42) provided in at least one of the opposite side walls of the housing, and the second locking means includes a projection (52) provided on an inner side wall of the first portion of the support member.
8. A device as claimed in claim 7, wherein the first connecting member includes a socket (40) provided in a bottom wall of the housing, and the second connecting member includes a plug (54) provided in an inner bottom wall of the first portion of the support member.
9. A device as claimed in claim 8, wherein the holder means further includes a clip (48) fitted on the outer periphery of the support member which is opposite to the first portion of the support member.
10. A device as claimed in claim 4, wherein the holder means includes an open-top receiving portion for receiving the housing (73), and a support portion for supporting the housing which is received in the receiving portion.
11. A device as claimed in claim 10, wherein the holder means further includes a partition (96) which isolates a first space (84) for accommodating the housing and a second space (82) for accommodating the elements which provide the extra functions.
12. A device as claimed in claim 11, wherein the holding portion includes a support plate (88) which is formed integrally with the receiving portion to extend upwardly from the receiving portion.
13. A device as claimed in claim 12, wherein the first locking means includes a slit (78) formed through an upper wall of the housing member, and the second locking means includes a lug (99) extending from an upper end of the support plate.
14. A device as claimed in claim 13, wherein the first connecting member (76) includes a connecting terminal fitted in a bottom wall of the housing, and the second connecting member (98) includes a connecting terminal fitted in the partition.
15. A device as claimed in claim 14, wherein the holder means further includes a clip (92) mounted on the back of the support plate.
16. A device as claimed in claim 11, wherein the elements for providing the extra functions include a drive motor (80) for generating vibra-



Various modifications will become possible for those skilled in the art after receiving the teachings of the present disclosure without departing from the scope of the claims.

Claims

1. A device for holding a portable paging receiver (30,70,100) which provides at least one function, the body portion of the receiver (30,70,100) being accommodated in a receiver housing (33,73,106), wherein the device includes portable holder means (34,74,104) removably attachable to the receiver housing (33,73,106), the holder means (34,74,104) having a support member (44,88) to support the receiver housing, and a belt clip (48,92) for carrying the support member (44,88), characterised in that the holder means (34,74,104) includes elements (58,60,62,80,114) for providing a plurality of extra functions to the receiver (30,70,100).
2. A device as claimed in claim 1, wherein the receiver housing (33,73,106), includes a first electrical connecting member (40,76,108), and first locking means (41,78,112).
3. A device as claimed in claim 2, wherein the holder means includes a second electrical connecting member (54,98,122) connectable to the first connecting member when the receiver housing is held by the holder means, and second locking means (52,99,124,126) engageable with the first locking means.
4. A device as claimed in claim 3, wherein the housing (33,73,106) includes a rectangular parallelepiped box in which the elements for implementing the various extra functions of the receiver are accommodated.
5. A device as claimed in claim 4, wherein the holder means includes a support member (144) which includes a first portion (46) for receiving and holding the receiver housing, and a second portion (56) for accommodating the elements providing the extra functions.
6. A device as claimed in claim 5, wherein the support member includes guide members (50a,50b) for individually guiding opposite side walls of the housing into the first portion of the support member.
7. A device as claimed in claim 6, wherein the first locking means includes a notch (42) provided in at least one of the opposite side walls of the housing, and the second locking means includes a projection (52) provided on an inner side wall of the first portion of the support member.
8. A device as claimed in claim 7, wherein the first connecting member includes a socket (40) provided in a bottom wall of the housing, and the second connecting member includes a plug (54) provided in an inner bottom wall of the first portion of the support member.
9. A device as claimed in claim 8, wherein the holder means further includes a clip (48) fitted on the outer periphery of the support member which is opposite to the first portion of the support member.
10. A device as claimed in claim 4, wherein the holder means includes an open-top receiving portion for receiving the housing (73), and a support portion for supporting the housing which is received in the receiving portion.
11. A device as claimed in claim 10, wherein the holder means further includes a partition (96) which isolates a first space (84) for accommodating the housing and a second space (82) for accommodating the elements which provide the extra functions.
12. A device as claimed in claim 11, wherein the holding portion includes a support plate (88) which is formed integrally with the receiving portion to extend upwardly from the receiving portion.
13. A device as claimed in claim 12, wherein the first locking means includes a slit (78) formed through an upper wall of the housing member, and the second locking means includes a lug (99) extending from an upper end of the support plate.
14. A device as claimed in claim 13, wherein the first connecting member (76) includes a connecting terminal fitted in a bottom wall of the housing, and the second connecting member (98) includes a connecting terminal fitted in the partition.
15. A device as claimed in claim 14, wherein the holder means further includes a clip (92) mounted on the back of the support plate.
16. A device as claimed in claim 11, wherein the elements for providing the extra functions include a drive motor (80) for generating vibra-



tions.

17. A device as claimed in claim 4, wherein the holder means includes a box-like holding member (104) having a space (116) defined therein and connectable to a bottom wall of the housing (106).

18. A device as claimed in claim 17, wherein the holding member (104) includes an upper wall which is engageable with the bottom wall of the housing (106).

19. A device as claimed in claim 18, wherein the first locking means includes a recess (112) provided in at least one of opposite side walls of the housing and a female screw (110) provided in a bottom wall of the housing, and the second locking member includes a hook-like pawl (130) extending from a side wall of the holding member which adjoins the upper wall and a male screw (124) which is passed through a hole of the upper wall of the holding member into threaded engagement with the female screw.

20. A device as claimed in claim 19, wherein the first connecting member includes a connecting terminal (108) fitted in a bottom wall of the housing, and the second connecting member includes a connecting terminal (122) fitted in the upper wall of the holding member.

21. A device as claimed in claim 20, wherein the space (116) of the holding member (104) accommodates elements for providing the extra functions.

22. A device as claimed in claim 21, wherein the elements for providing the extra functions include a drive motor (114) for generating vibrations.

Patentansprüche

1. Vorrichtung zum Halten eines tragbaren Personenrufempfängers (30, 70, 100), der mindestens eine Funktion vorsieht, wobei der Körperabschnitt des Empfängers (30, 70, 100) in einem Empfängergehäuse (33, 73, 106) untergebracht ist und die Vorrichtung aufweist: eine tragbare Haltereinrichtung (34, 74, 104), die abnehmbar an dem Empfängergehäuse (33, 73, 106) befestigbar ist, wobei die Haltereinrichtung (34, 74, 104) ein Stützteil (44, 88) zum Stützen des Empfängergehäuses hat, und eine Gürtelklammer (48, 92) zum Tragen des Stützteils (44, 88), dadurch gekennzeichnet, daß die

Haltereinrichtung (34, 74, 104) Elemente (58, 60, 62, 80, 114) zum Versehen des Empfängers (30, 70, 100) mit mehreren zusätzlichen Funktionen aufweist.

2. Vorrichtung nach Anspruch 1, wobei das Empfängergehäuse (33, 73, 106) ein erstes elektrisches Anschlußteil (40, 76, 108) und eine erste Verriegelungseinrichtung (41, 78, 112) aufweist.

3. Vorrichtung nach Anspruch 2, wobei die Haltereinrichtung aufweist: ein zweites elektrisches Anschlußteil (54, 98, 122), das an das erste elektrische Anschlußteil anschließbar ist, wenn das Empfängergehäuse durch die Haltereinrichtung gehalten wird, und eine zweite Verriegelungseinrichtung (52, 99, 124, 126), die mit der ersten Verriegelungseinrichtung in Eingriff bringbar ist.

4. Vorrichtung nach Anspruch 3, wobei das Gehäuse (33, 73, 106) einen Kasten mit rechteckiger Parallelepipedform aufweist, in dem die Elemente zum Verwirklichen der verschiedenen zusätzlichen Funktionen des Empfängers untergebracht sind.

5. Vorrichtung nach Anspruch 4, wobei die Haltereinrichtung ein Stützteil (44) aufweist, das einen ersten Abschnitt (46) zum Aufnehmen und Halten des Empfängergehäuses und einen Zweiten Abschnitt (56) zum Unterbringen der Elemente für die zusätzlichen Funktionen aufweist.

6. Vorrichtung nach Anspruch 5, wobei das Stützteil Führungsteile (50a, 50b) aufweist, um jeweils gegenüberliegende Seitenwände des Gehäuses in den ersten Abschnitt des Stützteils einzuführen.

7. Vorrichtung nach Anspruch 6, wobei die erste Verriegelungseinrichtung eine Kerbe (42) in mindestens einer der gegenüberliegenden Seitenwände des Gehäuses aufweist, und die zweite Verriegelungseinrichtung einen Vorsprung (52) an einer Innenseitenwand des ersten Abschnitts des Stützteils aufweist.

8. Vorrichtung nach Anspruch 7, wobei das erste Anschlußteil eine Buchse (40) in einer Bodenwand des Gehäuses aufweist, und das zweite Anschlußteil einen Stecker (54) in einer Innenbodenwand des ersten Abschnitts des Stützteils aufweist.



9. Vorrichtung nach Anspruch 8, wobei die Haltereinrichtung ferner eine Klammer (48) aufweist, die an der Außenfläche des Stützteils befestigt ist, die dem ersten Abschnitt des Stützteils gegenüberliegt.

10. Vorrichtung nach Anspruch 4, wobei die Haltereinrichtung einen oben offenen Aufnahmeabschnitt zum Aufnehmen des Gehäuses (73) und einen Stützabschnitt zum Stützen des in dem Aufnahmeabschnitt aufgenommenen Gehäuses aufweist.

11. Vorrichtung nach Anspruch 10, wobei die Haltereinrichtung ferner eine Trennwand (96) aufweist, die einen ersten Raum (84) zum Unterbringen des Gehäuses und einen zweiten Raum (82) zum Unterbringen der Elemente für die zusätzlichen Funktionen trennt.

12. Vorrichtung nach Anspruch 11, wobei die Haltereinrichtung eine Stützplatte (88) aufweist, die in einem Stück mit dem Aufnahmeabschnitt ausgebildet ist und von dem Aufnahmeabschnitt nach oben verläuft.

13. Vorrichtung nach Anspruch 12, wobei die erste Verriegelungseinrichtung einen Schlitz (78) aufweist, der durch eine obere Wand des Gehäuses ausgebildet ist, und die zweite Verriegelungseinrichtung eine Nase (99) aufweist, die sich von einem oberen Ende der Stützplatte erstreckt.

14. Vorrichtung nach Anspruch 13, wobei das erste Anschlußteil (76) eine Anschlußklemme aufweist, die in eine Bodenwand des Gehäuses eingepaßt ist, und das zweite Anschlußteil (98) eine Anschlußklemme aufweist, die in die Trennwand eingepaßt ist.

15. Vorrichtung nach Anspruch 14, wobei die Haltereinrichtung ferner eine an der Rückseite der Stützplatte angebrachte Klammer (92) aufweist.

16. Vorrichtung nach Anspruch 11, wobei die Elemente für die zusätzlichen Funktionen einen Antriebsmotor (80) zum Erzeugen von Schwingungen aufweisen.

17. Vorrichtung nach Anspruch 4, wobei die Haltereinrichtung ein kastenförmiges Halteteil (104) mit einem darin befindlichen Raum (116) aufweist, das an eine Bodenwand des Gehäuses (106) anschließbar ist.

18. Vorrichtung nach Anspruch 17, wobei das Halteteil (104) eine obere Wand aufweist, die mit

der Bodenwand des Gehäuses (106) in Eingriff bringbar ist.

19. Vorrichtung nach Anspruch 18, wobei die erste Verriegelungseinrichtung eine Aussparung (112) in mindestens einer der gegenüberliegenden Seitenwände des Gehäuses und ein Innengewinde (110) in einer Bodenwand des Gehäuses aufweist, und die zweite Verriegelungseinrichtung eine hakenförmige Klinke (130), die von einer an die obere Wand angrenzenden Seitenwand des Halteteils verläuft, und eine Schraube (124) aufweist, die durch ein Loch in der oberen Wand des Halteteils geführt und in das Innengewinde eingeschraubt ist.

20. Vorrichtung nach Anspruch 19, wobei das erste Anschlußteil eine Anschlußklemme (108) aufweist, die in eine Bodenwand des Gehäuses eingepaßt ist, und das zweite Anschlußteil eine Anschlußklemme (122) aufweist, die in die obere Wand des Halteteils eingepaßt ist.

21. Vorrichtung nach Anspruch 20, wobei in dem Raum (116) des Halteteils (104) Elemente für die zusätzlichen Funktionen untergebracht sind.

22. Vorrichtung nach Anspruch 21, wobei die Elemente für die zusätzlichen Funktionen einen Antriebsmotor (114) zum Erzeugen von Schwingungen aufweisen.

Revendications

1. Dispositif pour fixer un récepteur d'appel portable (30, 70, 100) qui dispose d'au moins une fonction, la partie de corps du récepteur (30, 70, 100) étant reçue dans un cadre du récepteur (33, 73, 106), dans lequel le dispositif comprend un moyen de fixation portable (34, 74, 104) fixé de manière amovible au cadre du récepteur (33, 73, 106), le moyen de fixation (34, 74, 104) comportant un élément support (44, 88) afin de supporter le cadre du récepteur et une pince de courroie (48, 92) pour porter l'élément support (44, 88), caractérisé en ce que le moyen de fixation (34, 74, 104) comprend des éléments (58, 60, 62, 80, 114) pour procurer une multitude de fonctions supplémentaires pour le récepteur (30, 70, 100).

2. Dispositif selon la revendication 1, dans lequel le cadre du récepteur (33, 73, 106), comprend un premier élément de connexion électrique (40, 76, 108) et un premier moyen de blocage (41, 78, 112).



3. Dispositif selon la revendication 2, dans lequel le moyen de fixation comprend un second élément de connexion électrique (54, 98, 122) connecté au premier élément de connexion lorsque le cadre du récepteur est retenu par le moyen de fixation et le second moyen de blocage (52, 99, 124, 126) est engagé avec le premier moyen de blocage. 5
4. Dispositif selon la revendication 3, dans lequel le cadre (33, 73, 106) comprend une boîte parallélépipédique rectangulaire dans laquelle les éléments pour l'implantation des fonctions supplémentaires variées du récepteur sont reçus. 10 15
5. Dispositif selon la revendication 4, dans lequel le moyen de fixation comprend un élément support (44) qui comprend une première partie (46) afin de recevoir et fixer le cadre du récepteur et une seconde partie (56) pour recevoir les éléments procurant les fonctions supplémentaires. 20
6. Dispositif selon la revendication 5, dans lequel l'élément de support comprend des éléments de guidage (50a, 50b) afin de guider individuellement les parois latérales opposées du cadre dans la première partie de l'élément de support. 25 30
7. Dispositif selon la revendication 6, dans lequel le premier moyen de blocage comprend une encoche (42) disposée dans au moins une des parois latérales opposées du cadre et le second moyen de blocage comprend un épaulement (52) disposé sur une paroi latérale intérieure de la première partie de l'élément de support. 35 40
8. Dispositif selon la revendication 7, dans lequel le premier élément de connexion comprend un socle (40) disposé dans la paroi inférieure du cadre et le second élément de connexion comprend une fiche (54) disposée dans la paroi inférieure interne de la première partie de l'élément de support. 45
9. Dispositif selon la revendication 8, dans lequel le moyen de fixation comprend de plus une pince (48) adaptée sur la périphérie externe de l'élément de support qui est en opposition à la première partie de l'élément de support. 50
10. Dispositif selon la revendication 4, dans lequel le moyen de fixation comprend une partie de réception ouverte au sommet pour recevoir le cadre (73) et une partie de support pour supporter le cadre qui est reçu dans la partie de réception. 55
11. Dispositif selon la revendication 10, dans lequel le moyen de fixation comprend de plus une cloison (96) qui isole un premier espace (84) pour recevoir le cadre et un second espace (82) pour recevoir les éléments qui procurent les fonctions supplémentaires. 60
12. Dispositif selon la revendication 11, dans lequel la partie de fixation comprend une plaque support (88) qui est formée intégralement avec la partie de réception afin de s'étendre vers le haut à partir de la partie de réception. 65
13. Dispositif selon la revendication 12, dans lequel le premier moyen de blocage comprend une fente (78) formée à travers une paroi supérieure de l'élément de cadre et un second moyen de blocage comprend un talon (99) s'étendant à partir d'une extrémité supérieure de la plaque support. 70
14. Dispositif selon la revendication 13, dans lequel le premier élément de connexion (76) comprend une borne de connexion adaptée dans la paroi inférieure du cadre et le second élément de connexion (98) comprend une borne de connexion adaptée dans la cloison. 75
15. Dispositif selon la revendication 14, dans lequel le moyen de fixation comprend de plus une pince (92) montée au dos de la plaque support. 80
16. Dispositif selon la revendication 11, dans lequel les éléments procurant les fonctions supplémentaires comprennent un moteur de commande (80) afin de produire des vibrations. 85
17. Dispositif selon la revendication 4, dans lequel le moyen de fixation comprend un élément de fixation en forme de boîte (104) comportant un espace (116) défini dans celui-ci et pouvant être connecté à une paroi inférieure du cadre (106). 90
18. Dispositif selon la revendication 17, dans lequel l'élément de fixation (104) comprend une paroi supérieure qui peut être engagée avec la paroi inférieure du cadre (106). 95
19. Dispositif selon la revendication 18, dans lequel le premier moyen de blocage comprend un évidement (112) disposé dans au moins l'une des parois latérales opposées du cadre et un taraudage (110) disposé dans la surface 100



inférieure du cadre et un second élément de blocage incluant un crochet en forme de doigt d'encliquetage (130) s'étendant à partir d'une paroi latérale d'un élément de fixation adjoint à la paroi supérieure et une vis (124) qui est passée à travers un trou de la paroi supérieure de l'élément de fixation en liaison filetée avec le taraudage.

5

20. Dispositif selon la revendication 19, dans lequel le premier élément de connexion comprend une borne de connexion (108) adaptée dans la paroi inférieure du cadre et un second élément de connexion comprend une borne de connexion (122) adaptée dans la paroi supérieure de l'élément de fixation.

10

15

21. Dispositif selon la revendication 20, dans lequel l'espace (116) de l'élément de fixation (104) reçoit des éléments procurant les fonctions supplémentaires.

20

22. Dispositif selon la revendication 21, dans lequel les éléments procurant les fonctions supplémentaires comprennent un moteur de commande (114) pour la production de vibrations.

25

30

35

40

45

50

55