

However, in the document, the two video camera devices are fixedly arranged at the righthand and lefthand side of the video monitor device. The document 4 never discloses a method of movably arranging the video camera device with respect to the video monitor device.

[0014] Furthermore, Japanese Unexamined Patent Publication Tokkai No. Hei 11-39,131 or JP-A 11-39131 (prior art document 5) discloses "mobile information communication terminal equipment" which is capable of automatically determining suitability of a display image to vertically long (lengthwise) or horizontally long (oblong) display device state and of performing suitable image display without any operation of a user. In the prior art document 5, display device orientation information indicative of the direction for use of a display device corresponding to respective plural operation modes is stored in a display device orientation information storage area. Then, the operation mode during execution is determined by operation mode decision means, and image display control means controls so as to display the image to be displayed at a display device as a prescribed image suitable for using the display device in the direction for use made to correspond to the determined operation mode by the display device orientation information.

[0015] The prior art document 5 merely discloses an technical idea for automatically determining suitability of the display image either to vertically long or horizontally long display device state without operation of the user. In other words, the document 5 discloses an idea of automatically deciding the suitable direction for displaying the image. It is not an idea for rotating a "display screen" from lengthwise state to the oblong state or vice versa in the manner which is described in the above-mentioned prior art document 1.

[0016] Japanese Unexamined Patent Publication Tokkai No. Hei 10-155,013 or JP-A 10-155013 (prior art document 6) discloses "portable communication equipment" that is composed of a case separated in plural parts and a detachable connector for structurally and electrically connecting the separated parts and to which the connector of a kind and a shape adaptable to the application is selected. In the prior art document 6, a portable telephone set main body is separated into an upper case and a lower case. The upper case and the lower case are connected by a connector. The upper case has a front side which is provided with a reception part and a display part. The lower case has a front face which is provided with a key operation part and a transmission part. The upper case and the lower case have a circuit board on which a connector connection part connected to connection parts of connectors. The upper case and the lower case have slits. Inasmuch as a shape and standards of the connection parts are unified, the optional selection can be made of a rotary type connector, a straight line type connector or a bent type connector for the connection.

[0017] The prior art document 6 merely discloses a technical idea for freely changing the portable communication equipment between a unified type and a foldable type by changing the connectors. That is, the prior art document 6 never discloses an idea for freely changing a "display screen" between a lengthwise state and an oblong state.

SUMMARY OF THE INVENTION

[0018] It is therefore an object of this invention to provide a foldable portable telephone set which is capable of con-

verting an image in both a lengthwise state and a oblong state as well as capable of changing the direction of a display screen in both the lengthwise and the oblong state and carrying out various ways of image processing.

[0019] Other objects of this invention will become clear as the description proceeds.

[0020] On describing the gist of an aspect of this invention, it can be understood that a foldable portable telephone set comprises a lower unit having a console portion, an upper unit having a display portion, and a hinge portion for joining the lower unit to the upper unit so as to enable the opening and closing operation. The display portion can be shifted with respect to the lower unit between a lengthwise state and an oblong state. The foldable portable telephone further comprises a pair of front camera portions disposed on the upper unit so as to position up and down of the display portion when the display portion is put into the lengthwise state and to position right and left of the display portion when the display portion is put into the oblong state.

[0021] According to a first aspect of this invention, in the above-understood foldable portable telephone set, the upper unit comprises a display portion unit, a supporting portion unit, and a rotating mechanism for electrically and structurally connecting the display portion unit and the supporting portion unit and for rotating the display portion unit with respect to the supporting portion unit. In this event, the display portion is put into the oblong state by rotating the display portion unit by about 90 degrees using the rotating mechanism in a case where the display portion is put into the lengthwise state. In lieu of the rotating mechanism, the upper unit may comprise a rotating and sliding mechanism for electrically and structurally connecting the display portion unit and the supporting portion unit and for rotating and sliding the display portion unit with respect to the supporting portion unit. In this event, the display portion is put into the oblong state by rotating the display portion unit by about 90 degrees and by sliding the display portion using the rotating and sliding mechanism in a case where the display portion is put into the lengthwise state.

[0022] The foldable portable telephone set according to the first aspect of this invention preferably may comprise detecting means for detecting whether the display portion is put into the lengthwise state or the oblong state to produce a detected signal and display converting means for converting display contents so as to fit to a direction of a display screen according to the detected signal and for displaying converted display contents on the display portion. The detecting means may comprise a magnet disposed in the display portion unit and a plurality of magnetic sensors disposed in the supporting portion unit.

[0023] According to a second aspect of this invention, in the above-understood foldable portable telephone set, the hinge portion is a hinge-type connector for detachably connecting the upper unit. The hinge-type connector has a connector connection portion for connecting to the upper unit. The upper unit has a plurality of unit connection portions for connecting to the connector connection portion at a lower side and lateral sides thereof. By changing the unit connection portions to be connected to the connector connection portion, it is possible to switch the display portion between the lengthwise state and the oblong state.

[0024] In the above-mentioned foldable portable telephone set, the foldable portable telephone set further pref-