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ELECTRONIC DEVICE

Abstract

An electronic device includes a front surface, a rear surface, an upper surface, a lower surface, a first side surface, a second side surface, a first operation button, and a second operation button. A display is arranged at the front surface. The rear surface is located opposite to the front surface. The upper surface is contiguous to the front surface and the rear surface. The lower surface is located opposite to the upper surface. The first side surface is contiguous to each of the front surface, the rear surface, the upper surface, and the lower surface. The second side surface is located opposite to the first side surface. The upper surface is provided with a projecting portion. The first operation button is arranged at the projecting portion and provided closer to the first side surface relative to a center of the upper surface.

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Background/Summary

[0001] This nonprovisional application claims priority on and is a continuation of International Patent Application PCT/JP2022/042089 filed with the Japan Patent Office on Nov. 11, 2022, the entire contents of which are hereby incorporated by reference.

FIELD

[0002] The present disclosure relates to an electronic device.

BACKGROUND AND SUMMARY

[0003] A portable game console has been known.

[0004] An exemplary embodiments provides an electronic device that includes a front surface, a rear surface, an upper surface, a lower surface, a first side surface, a second side surface, a first operation button, and a second operation button. A display is arranged at the front surface. The rear surface is located opposite to the front surface. The upper surface is contiguous to the front surface and the rear surface. The lower surface is located opposite to the upper surface. The first side surface is contiguous to each of the front surface, the rear surface, the upper surface, and the lower surface. The second side surface is located opposite to the first side surface. The upper surface is provided with a projecting portion. The first operation button is arranged at the projecting portion and provided closer to the first side surface relative to a center of the upper surface. The second operation button is arranged at the upper surface other than the projecting portion and provided closer to the first side surface relative to the first operation button.

[0005] According to the electronic device according to the above, the first operation button is arranged at the projecting portion and the second operation button is arranged at the upper surface other than the projecting portion. Therefore, even when a plurality of operation buttons are located at one side surface side of the upper surface, mix-up between the first operation button and the second operation button by the user can be less likely. Since two buttons can be operated simply by horizontally sliding a finger, the first operation button and the second operation button are more easily pushed.

[0006] Furthermore, by providing the projecting portion at the upper surface, a finger does not have to greatly be bent, and hence the first operation button and the second operation button are more easily simultaneously pushed. By providing the projecting portion in the electronic device, the projecting portion can readily be caught with a hand when the electronic device is vertically held. Therefore, drop of the electronic device is less likely.

[0007] The electronic device according to the above may further include a third operation button and a fourth operation button. The third operation button may be arranged at the projecting portion and provided closer to the second side surface relative to the center of the upper surface. The fourth operation button may be arranged at the upper surface other than the projecting portion and provided closer to the second side surface relative to the third operation button. Four operation buttons can thus be arranged at the upper surface.

[0008] According to the electronic device according to the above, the projecting portion may include a first inclined portion located at a first side surface side and a second inclined portion located at a second side surface side. The first operation button may be arranged at the first inclined portion. The third operation button is arranged at the second inclined portion. Thus, while the first operation button and the second operation button are readily distinguished from each other, the first operation button and the second operation button are more easily pushed. Similarly, while the third operation button and the fourth operation button are readily distinguished from each other, the third operation button and the fourth operation button are more easily pushed.

[0009] According to the electronic device according to the above, the projecting portion may include a central portion located between the first inclined portion and the second inclined portion. A boundary portion between the central portion and the first inclined portion may be curved. A boundary portion between the central portion and the second inclined portion may be curved.

[0010] According to the electronic device according to the above, the second operation button may be arranged at a boundary portion between the upper surface and the first side surface. The fourth operation button may be arranged at a boundary portion between the upper surface and the second side surface. Thus, while a portion between a first joint and a second joint of a forefinger pushes the second operation button, the fourth operation button, the first operation button, the third operation button is more easily simultaneously pushed with a fingertip.

[0011] According to the electronic device according to the above, a boundary portion between the upper surface and the first side surface may be curved. A boundary portion between the upper surface and the second side surface may be curved.

[0012] According to the electronic device according to the above, in a direction from the lower surface toward the upper surface, a lowermost portion of the first operation button may be located above an uppermost portion of the second operation button and a lowermost portion of the third operation button may be located above an uppermost portion of the fourth operation button. Mix-up between the first operation button and the second operation button or between the third operation button and the fourth operation button is thus less likely in pushing the second operation button or the fourth operation button.

[0013] An exemplary embodiments provides an electronic device that includes a first device and a second device that may be removably attachable to each other. The first device includes a first front surface, a first rear surface, a first upper surface, a first lower surface, a first right side surface, a first left side surface, a first operation button, and a second operation button. A first display is arranged at the first front surface. The first rear surface is located opposite to the first front surface. The first upper surface is contiguous to the first front surface and the first rear surface. The first lower surface is located opposite to the first upper surface. The first right side surface is contiguous to each of the first front surface, the first rear surface, the first upper surface, and the first lower surface. The first left side surface is located opposite to the first right side surface. The first upper surface is provided with a first projecting portion. The first operation button is arranged at the first projecting portion and provided closer to the first right side surface relative to a center of the first upper surface. The second operation button is arranged at the first upper surface other than the first projecting portion and provided closer to the first right side surface relative to the first operation button.

[0014] The second device includes a second front surface, a second rear surface, a second upper surface, a second lower surface, a second right side surface, a second left side surface, a third operation button, and a fourth operation button. A second display is arranged at the second front surface. The second rear surface is located opposite to the second front surface. The second upper surface is contiguous to the second front surface and the second rear surface. The second lower surface is located opposite to the second upper surface. The second right side surface is contiguous to each of the second front surface, the second rear surface, the second upper surface, and the second lower surface. The second left side surface is located opposite to the second right side surface. The second upper surface is provided with a second projecting portion. The third operation button is arranged at the second projecting portion and provided closer to the second right side surface relative to a center of the second upper surface. The fourth operation button is arranged at the second upper surface other than the second projecting portion and provided closer to the second right side surface relative to the third operation button. A first connection portion is provided at a first front surface side of the first projecting portion. A second connection portion connectable to the first connection portion is provided at a second rear surface side of the second projecting portion.

[0015] According to the electronic device according to the above, the first operation button is arranged at the first projecting portion and the second operation button is arranged at the first upper surface other than the first projecting portion. Therefore, even when a plurality of operation buttons are located at one side surface side of the first upper surface, mix-up between the first operation button and the second operation button by the user can be less likely. Since two buttons can be operated simply by horizontally sliding a finger, the first operation button and the second operation button are more easily pushed. Furthermore, by providing the first projecting portion at the first upper surface, a finger does not have to greatly be bent, and hence the first operation button and the second operation button are more easily simultaneously pushed. Similarly, even when a plurality of operation buttons are located at one side surface side of the second upper surface, mix-up between the third operation button and the fourth operation button by the user can be less likely. Since two buttons can be operated simply by horizontally sliding a finger, the third operation button and the fourth operation button are more easily pushed. Furthermore, by providing the second projecting portion at the second upper surface, a finger does not have to greatly be bent, and hence the third operation button and the fourth operation button are more easily simultaneously pushed. By providing the first projecting portion and the second projecting portion in the electronic device, the first projecting portion and the second projecting portion can readily be caught with a hand when the electronic device is held. Therefore, drop of the electronic device is less likely.

[0016] According to the electronic device according to the above, the second connection portion is connectable to the first connection portion in a first direction and a second direction opposite to the first direction. In a first connection state in which the second connection portion is connected to the first connection portion in the first direction, the second rear surface is arranged to cover the first display. In a second connection state in which the second connection portion is connected to the first connection portion in the second direction, the second rear surface is arranged not to cover the first display.

[0017] According to the electronic device according to the above, in the first connection state, mix-up among the first operation button, the second operation button, the third operation button, and the fourth operation button is less likely. In the second connection state, the first upper surface other than the first projecting portion and the second upper surface other than the second projecting portion are located at positions distant from each other, and hence wrong input to the second operation button and the fourth operation button is less likely.

[0018] According to the electronic device according to the above, the first device further includes a fifth operation button and a sixth operation button. The fifth operation button is arranged at the first projecting portion and provided closer to the first left side surface relative to the center of the first upper surface. The sixth operation button is arranged at the first upper surface other than the first projecting portion and provided closer to the first left side surface relative to the fifth operation button. The second device further includes a seventh operation button and an eighth operation button. The seventh operation button is arranged at the second projecting portion and provided closer to the second left side surface relative to the center of the second upper surface. The eighth operation button is arranged at the second upper surface other than the second projecting portion and provided closer to the second left side surface relative to the seventh operation button.

[0019] According to an electronic device **300** according to the above, in the first connection state, mix-up among the fifth operation button, the sixth operation button, the seventh operation button, and the eighth operation button is less likely. In the second connection state, the first upper surface other than the first projecting portion and the second upper surface other than the second projecting portion are located at positions distant from each other, and hence wrong input to the sixth operation button and the eighth operation button is less likely.

[0020] According to the electronic device according to the above, the first projecting portion includes a first right inclined portion located at a first right side surface side and a first left inclined portion located at a first left side surface side. The first right inclined portion is provided with the

first operation button and the first left inclined portion is provided with the fifth operation button. The second projecting portion includes a second right inclined portion located at a second right side surface side and a second left inclined portion located at a second left side surface side. The second right inclined portion is provided with the third operation button and the second left inclined portion is provided with the seventh operation button.

[0021] According to the electronic device according to the above, the first projecting portion may include a first central portion located between the first right inclined portion and the first left inclined portion. A boundary portion between the first central portion and the first right inclined portion may be curved. A boundary portion between the first central portion and the first left inclined portion may be curved. The second projecting portion may include a second central portion located between the second right inclined portion and the second left inclined portion. A boundary portion between the second central portion and the second right inclined portion may be curved. A boundary portion between the second central portion and the second left inclined portion may be curved.

[0022] According to the electronic device according to the above, the second operation button may be arranged at a boundary portion between the first upper surface and the first right side surface. The sixth operation button may be arranged at a boundary portion between the first upper surface and the first left side surface. The fourth operation button may be arranged at a boundary portion between the second upper surface and the second right side surface. The eighth operation button may be arranged at a boundary portion between the second upper surface and the second left side surface. Thus, while a portion between a first joint and a second joint of a forefinger pushes the second operation button, the sixth operation button, the first operation button, the fifth operation button is more easily simultaneously pushed with a fingertip. Similarly, while a portion between a first joint and a second joint of a forefinger pushes the fourth operation button, the eighth operation button, the third operation button, the seventh operation button is more easily simultaneously pushed with a fingertip.

[0023] According to the electronic device according to the above, a boundary portion between the first upper surface and the first right side surface may be curved. A boundary portion between the first upper surface and the first left side surface may be curved. A boundary portion between the second upper surface and the second right side surface may be curved. A boundary portion between the second upper surface and the second left side surface may be curved.

[0024] According to the electronic device according to the above, in a direction from the first lower surface toward the first upper surface, a lowermost portion of the first operation button may be located above an uppermost portion of the second operation button and a lowermost portion of the fifth operation button may be located above an uppermost portion of the sixth operation button. In a direction from the second lower surface toward the second upper surface, a lowermost portion of the third operation button may be located above an uppermost portion of the fourth operation button and a lowermost portion of the seventh operation button may be located above an uppermost portion of the eighth operation button. Mix-up between the first operation button and the second operation button or between the fifth operation button and the sixth operation button is thus less likely in pushing the second operation button or the sixth operation button. Similarly, mix-up between the third operation button and the fourth operation button or between the seventh operation button and the eighth operation button is less likely in pushing the fourth operation button or the eighth operation button.

[0025] According to the electronic device according to the above, at a second front surface side of the second projecting portion, an input portion or a camera lens may be provided. In an example where the input portion is provided at the second front surface side of the second projecting portion, as compared with an example where the input portion is provided at the second upper surface, in operation of the operation button by a user, wrong input to the input portion can be suppressed. In an example where the camera lens is provided at the second front surface side of the

second projecting portion, the camera lens can be arranged at the second front surface side while a large size of the second display is maintained.

[0026] The foregoing and other objects, features, aspects and advantages of the present disclosure will become more apparent from the following detailed description of the present disclosure when taken in conjunction with the accompanying drawings.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0027] FIG. 1 shows an exemplary illustrative non-limiting drawing of a schematic front view showing a configuration of an electronic device according to a first embodiment.

[0028] FIG. 2 shows an exemplary illustrative non-limiting drawing of a schematic bottom view showing the configuration of the electronic device according to the first embodiment.

[0029] FIG. 3 shows an exemplary illustrative non-limiting drawing of a schematic cross-sectional view showing a configuration of a third operation button and a fourth operation button.

[0030] FIG. 4 shows an exemplary illustrative non-limiting drawing of a schematic front view showing a configuration of an electronic device according to a first modification of the first embodiment.

[0031] FIG. 5 shows an exemplary illustrative non-limiting drawing of a schematic front view showing a configuration of an electronic device according to a second modification of the first embodiment.

[0032] FIG. 6 shows an exemplary illustrative non-limiting drawing of a schematic perspective view showing a configuration of an electronic device according to a second embodiment.

[0033] FIG. 7 shows an exemplary illustrative non-limiting drawing of a schematic front view showing a configuration of a first device.

[0034] FIG. 8 shows an exemplary illustrative non-limiting drawing of an enlarged schematic diagram of a region VIII in FIG. 7.

[0035] FIG. 9 shows an exemplary illustrative non-limiting drawing of a schematic front view showing a configuration of a second device.

[0036] FIG. 10 shows an exemplary illustrative non-limiting drawing of a schematic cross-sectional view along the line X-X in FIG. 9.

[0037] FIG. 11 shows an exemplary illustrative non-limiting drawing of a partially enlarged view of a second rear surface of the second device.

[0038] FIG. 12 shows an exemplary illustrative non-limiting drawing of a schematic front view showing a configuration of the electronic device in a first connection state.

[0039] FIG. 13 shows an exemplary illustrative non-limiting drawing of a schematic cross-sectional view along the line XIII-XIII in FIG. 12.

[0040] FIG. 14 shows an exemplary illustrative non-limiting drawing of a schematic diagram showing relation between a first connection portion and a second connection portion in the first connection state.

[0041] FIG. 15 shows an exemplary illustrative non-limiting drawing of a schematic cross-sectional view along the line XV-XV in FIG. 12.

[0042] FIG. 16 shows an exemplary illustrative non-limiting drawing of a schematic front view showing a configuration of the electronic device in a second connection state.

[0043] FIG. 17 shows an exemplary illustrative non-limiting drawing of a schematic cross-sectional view along the line XVII-XVII in FIG. 16.

[0044] FIG. 18 shows an exemplary illustrative non-limiting drawing of a schematic cross-sectional view showing a state in which the electronic device in the second connection state is unlocked.

[0045] FIG. **19** shows an exemplary illustrative non-limiting drawing of a schematic diagram showing relation between the first connection portion and the second connection portion in the second connection state.

[0046] FIG. **20** shows an exemplary illustrative non-limiting drawing of a schematic cross-sectional view showing positional relation between a first antenna and a second antenna in the first connection state.

[0047] FIG. **21** shows an exemplary illustrative non-limiting drawing of a schematic cross-sectional view showing positional relation between the first antenna and the second antenna in the second connection state.

[0048] FIG. **22** shows an exemplary illustrative non-limiting drawing of a schematic perspective view showing a configuration of the electronic device in the second connection state.

[0049] FIG. **23** shows an exemplary illustrative non-limiting drawing of a partial schematic perspective view showing a configuration of an electronic device according to a third embodiment.

[0050] FIG. **24** shows an exemplary illustrative non-limiting drawing of a schematic cross-sectional view along the line XXIV-XXIV in FIG. **23**.

DETAILED DESCRIPTION OF NON-LIMITING EXAMPLE EMBODIMENTS

[0051] An embodiment of the present disclosure will be described in detail with reference to the drawings. The same or corresponding elements in the drawings have the same reference characters allotted and description thereof will not be repeated.

First Embodiment

[0052] A configuration of an electronic device **300** according to a first embodiment will initially be described.

[0053] FIG. **1** is a schematic front view showing the configuration of electronic device **300** according to the first embodiment. FIG. **2** is a schematic bottom view showing the configuration of electronic device **300** according to the first embodiment. As shown in FIGS. **1** and **2**, electronic device **300** according to the first embodiment includes a third front surface **301**, a third rear surface **302**, a third upper surface **303**, a third lower surface **304**, a first side surface **305**, and a second side surface **306**. Third rear surface **302** is located opposite to third front surface **301**. Third upper surface **303** is contiguous to each of third front surface **301**, third rear surface **302**, second side surface **306**, and first side surface **305**. Third lower surface **304** is located opposite to third upper surface **303**. First side surface **305** is contiguous to each of third front surface **301**, third rear surface **302**, third upper surface **303**, and third lower surface **304**. Second side surface **306** is located opposite to first side surface **305**. Second side surface **306** is contiguous to each of third front surface **301**, third rear surface **302**, third upper surface **303**, and third lower surface **304**.

[0054] As shown in FIG. **1**, electronic device **300** further includes a third housing **365** and a third display **310**. Third display **310** is arranged at third front surface **301**. Third display **310** is attached to third housing **365**.

[0055] Electronic device **300** shown in FIG. **1** is, for example, a game console, a smartphone, a tablet personal computer, a controller that can transmit an input signal to another electronic device, or the like. Electronic device **300** does not have to include third display **310**.

[0056] As shown in FIG. **1**, when third display **310** is viewed in a plan view, third housing **365** surrounds third display **310**. Third display **310** being viewed in the plan view corresponds to electronic device **300** being viewed in a direction from third front surface **301** toward third rear surface **302**. Third housing **365** includes a third projecting portion **320**. Third projecting portion **320** extends in an outward direction of third display **310**.

[0057] Third upper surface **303** includes a part of a fourth operation button **314**, a third left upper surface portion **327**, third projecting portion **320**, a third right upper surface portion **326**, and a part of a second operation button **312**. Third projecting portion **320** is configured by connection of a third right inclined portion **322**, a third left inclined portion **323**, a third central portion **321**, a third front surface portion **324** which is a part of third front surface **301**, and a third rear surface portion

which is a part of third rear surface **302**. Third projecting portion **320** is distant from each of first side surface **305**, second side surface **306**, and third lower surface **304**. Third projecting portion **320** may project only from around a portion intermediate between third front surface **301** and third rear surface **302** in third upper surface **303** and may be distant from each of third front surface **301** and third rear surface **302**.

[0058] Third projecting portion **320** includes third right inclined portion **322**, third left inclined portion **323**, third central portion **321**, and third front surface portion **324**. Third right inclined portion **322** is located at a first side surface **305** side of third projecting portion **320**. Third left inclined portion **323** is located at a second side surface **306** side of third projecting portion **320**. Third central portion **321** is located between third right inclined portion **322** and third left inclined portion **323**. Third central portion **321** is contiguous to each of third right inclined portion **322** and third left inclined portion **323**. Third front surface portion **324** is contiguous to each of third right inclined portion **322**, third left inclined portion **323**, and third central portion **321**. Third front surface portion **324** defines a part of third front surface **301**. Third right inclined portion **322** is a portion inclined from third central portion **321** toward third right upper surface portion **326**. Third left inclined portion **323** is a portion inclined from third central portion **321** toward third left upper surface portion **327**.

[0059] As shown in FIG. 1, when third display **310** is viewed in the plan view, in a direction from third upper surface **303** toward third lower surface **304**, a height of electronic device **300** and a height of third projecting portion **320** are defined as a first height **H1** and a second height **H2**, respectively. Though a lower limit of second height **H2** is not particularly limited, it may be, for example, not lower than 5% or not lower than 10% of first height **H1**. Though an upper limit of second height **H2** is not particularly limited, it may be, for example, not higher than 30% or not higher than 20% of first height **H1**.

[0060] As shown in FIG. 1, when third display **310** is viewed in the plan view, in a direction from first side surface **305** toward second side surface **306**, a length of electronic device **300** and a length of third projecting portion **320** are defined as a first length **L1** and a second length **L2**, respectively. Though a lower limit of second length **L2** is not particularly limited, it may be, for example, not lower than 50% or not lower than 60% of first length **L1**. Though an upper limit of second length **L2** is not particularly limited, it may be, for example, not higher than 80% or not higher than 70% of first length **L1**.

[0061] First length **L1** may be larger than first height **H1**. Second length **L2** may be larger than second height **H2**. Though the lower limit of second length **L2** is not particularly limited, it may be at least two times or at least three times as large as second height **H2**. Though the upper limit of second length **L2** is not particularly limited, it may be not larger than twenty times or not larger than fifteen times as large as second height **H2**.

[0062] As shown in FIG. 1, when third display **310** is viewed in the plan view, third central portion **321** is substantially in parallel to third lower surface **304**. Each of third right inclined portion **322** and third left inclined portion **323** is inclined with respect to third central portion **321**. A boundary portion between third central portion **321** and third right inclined portion **322** may be curved as convexly projecting outward. Similarly, a boundary portion between third central portion **321** and third left inclined portion **323** may be curved as convexly projecting outward.

[0063] Third upper surface **303** includes third right upper surface portion **326** and third left upper surface portion **327**. Third right upper surface portion **326** is located between third right inclined portion **322** and first side surface **305**. Third right upper surface portion **326** is contiguous to each of third right inclined portion **322** and first side surface **305**. A boundary portion between third right upper surface portion **326** and first side surface **305** may be curved as convexly projecting outward.

[0064] Similarly, third left upper surface portion **327** is located between third left inclined portion **323** and second side surface **306**. Third left upper surface portion **327** is contiguous to each of third left inclined portion **323** and second side surface **306**. A boundary portion between third left upper

surface portion **327** and second side surface **306** may be curved as convexly projecting outward. [0065] Electronic device **300** further includes a first operation button **311**, second operation button **312**, a third operation button **313**, and fourth operation button **314**. First operation button **311** is arranged at third projecting portion **320**. Specifically, first operation button **311** is provided at a portion on the first side surface **305** side of third projecting portion **320**. When third display **310** is viewed in the plan view, first operation button **311** is provided closer to first side surface **305** relative to a center of third upper surface **303**. First operation button **311** is provided at third right inclined portion **322**. First operation button **311** may be provided at a boundary portion between third central portion **321** and third right inclined portion **322**.

[0066] Second operation button **312** is provided at third upper surface **303** other than third projecting portion **320**. Specifically, second operation button **312** is provided at third right upper surface portion **326**. Second operation button **312** may be provided at a boundary portion between third right upper surface portion **326** and first side surface **305**. Second operation button **312** is provided closer to first side surface **305** relative to first operation button **311**. In a direction from third lower surface **304** toward third upper surface **303**, a lowermost portion of first operation button **311** may be located above an uppermost portion of second operation button **312**.

[0067] Third operation button **313** is arranged at third projecting portion **320**. Specifically, third operation button **313** is provided at a portion at the second side surface **306** side of third projecting portion **320**. When third display **310** is viewed in the plan view, third operation button **313** is provided closer to second side surface **306** relative to the center of third upper surface **303**. Third operation button **313** is provided at third left inclined portion **323**. Third operation button **313** may be provided at a boundary portion between third central portion **321** and third left inclined portion **323**.

[0068] Fourth operation button **314** is provided at third upper surface **303** other than third projecting portion **320**. Specifically, fourth operation button **314** is provided at third left upper surface portion **327**. Fourth operation button **314** may be provided at a boundary portion between third left upper surface portion **327** and second side surface **306**. Fourth operation button **314** is provided closer to second side surface **306** relative to third operation button **313**. In the direction from third lower surface **304** toward third upper surface **303**, a lowermost portion of third operation button **313** may be located above an uppermost portion of fourth operation button **314**.

[0069] As shown in FIG. 1, electronic device **300** may include a physical input portion **121**. Input portion **121** is arranged at a third front surface **301** other than third front surface portion **324**. Input portion **121** allows a stick operation or a button operation. When third display **310** is viewed in the plan view, input portion **121** may be located between third display **310** and first side surface **305** or between third display **310** and second side surface **306**. Electronic device **300** does not have to include physical input portion **121**. Third display **310** may be a touch panel.

[0070] As shown in FIG. 2, a thickness T of electronic device **300** in a direction from third front surface **301** toward third rear surface **302** is smaller than first length $L1$. Though a lower limit of thickness T is not particularly limited, it may be, for example, not lower than 5% or not lower than 10% of first length $L1$. Though an upper limit of thickness T is not particularly limited, it may be, for example, not higher than 50% or not higher than 30% of first length $L1$. Thickness T may be smaller than first height $H1$.

[0071] FIG. 3 is a schematic cross-sectional view showing a configuration of third operation button **313** and fourth operation button **314**. The cross-section shown in FIG. 3 is in parallel to third front surface **301**. Electronic device **300** includes a support member **40**, a shaft receiving portion **41**, an elastic body **44**, a hole **42**, and a detection portion **43**. Shaft receiving portion **41** and hole **42** are recesses provided in support member **40**. Elastic body **44** is, for example, a coil spring. Elastic body **44** is arranged in hole **42**. Detection portion **43** is fixed to support member **40**. Support member **40**, shaft receiving portion **41**, elastic body **44**, hole **42**, and detection portion **43** are arranged inside third housing **365**.

[0072] Third operation button **313** includes a pressed portion **53**, a movable shaft **51**, a stopper portion **52**, a second protruding portion **54**, and a third protruding portion **55**. Pressed portion **53** is a portion to be pushed by the user. Movable shaft **51** is arranged in shaft receiving portion **41**. Movable shaft **51** is contiguous to pressed portion **53**. Movable shaft **51** is in contact with an inner wall of third housing **365**. Stopper portion **52** is contiguous to pressed portion **53**. Stopper portion **52** is located opposite to movable shaft **51** with respect to pressed portion **53**. Stopper portion **52** is in contact with the inner wall of third housing **365**.

[0073] Second protruding portion **54** is contiguous to pressed portion **53**. Second protruding portion **54** is arranged as being in contact with detection portion **43**. Third protruding portion **55** is contiguous to pressed portion **53**. Third protruding portion **55** is attached to elastic body **44**. Third projecting portion **320** of third housing **365** is provided with a fifth opening portion **70**. Pressed portion **53** is exposed to the outside of third housing **365** through fifth opening portion **70**.

[0074] When the user pushes pressed portion **53** with his/her finger, second protruding portion **54** moves to the inside of third housing **365**. As second protruding portion **54** applies a pressure to detection portion **43**, input by the user is detected. As the user's finger moves away from pressed portion **53**, third operation button **313** returns to an original position owing to repulsive force of elastic body **44**. Each of movable shaft **51** and stopper portion **52** is in contact with the inner wall of third housing **365**.

[0075] Though the configuration of third operation button **313** is described above, other operation buttons (specifically, first operation button **311**, second operation button **312**, and fourth operation button **314**) are substantially the same in configuration to third operation button **313**. Therefore, description of the configuration of other operation buttons will not be provided.

First Modification of First Embodiment

[0076] FIG. **4** is a schematic front view showing a configuration of electronic device **300** according to a first modification of the first embodiment. As shown in FIG. **4**, third right inclined portion **322** may be substantially perpendicular to each of third central portion **321** and third right upper surface portion **326**. Similarly, third left inclined portion **323** may be substantially perpendicular to each of third central portion **321** and third left upper surface portion **327**.

[0077] First operation button **311** and third operation button **313** may be located at third central portion **321**. First operation button **311** may be distant from third right inclined portion **322**. Similarly, third operation button **313** may be distant from third left inclined portion **323**. Second operation button **312** may be located at third right upper surface portion **326**. Second operation button **312** may be distant from first side surface **305**. Similarly, fourth operation button **314** may be located at third left upper surface portion **327**. Fourth operation button **314** may be distant from second side surface **306**. First operation button **311** may be arranged at third right inclined portion **322**. Similarly, third operation button **313** may be arranged at third left inclined portion **323**.

Second Modification of First Embodiment

[0078] FIG. **5** is a schematic front view showing a configuration of electronic device **300** according to a second modification of the first embodiment. As shown in FIG. **5**, third projecting portion **320** may include a first projecting region **61** and a second projecting region **62**. First projecting region **61** is distant from second projecting region **62**. Third upper surface **303** may include a third intermediate upper surface portion **318**. Third intermediate upper surface portion **318** is located between third left upper surface portion **327** and third right upper surface portion **326**. First projecting region **61** is located between third right upper surface portion **326** and third intermediate upper surface portion **318**. Second projecting region **62** is located between third left upper surface portion **327** and third intermediate upper surface portion **318**. First operation button **311** may be provided in first projecting region **61**. Third operation button **313** may be provided in second projecting region **62**.

[0079] First projecting region **61** includes a fourth central portion **61a**, a fourth right inclined portion **61b**, and a fourth left inclined portion **61c**. Fourth central portion **61a** is contiguous to each

of fourth right inclined portion **61b** and fourth left inclined portion **61c**. Fourth right inclined portion **61b** may be substantially perpendicular to each of fourth central portion **61a** and third right upper surface portion **326**. Similarly, fourth left inclined portion **61c** may be substantially perpendicular to each of fourth central portion **61a** and third intermediate upper surface portion **318**.

[0080] Second projecting region **62** includes a fifth central portion **62a**, a fifth right inclined portion **62b**, and a fifth left inclined portion **62c**. Fifth central portion **62a** is contiguous to each of fifth right inclined portion **62b** and fifth left inclined portion **62c**. Fifth right inclined portion **62b** may be substantially perpendicular to each of fifth central portion **62a** and third intermediate upper surface portion **318**. Similarly, fifth left inclined portion **62c** may be substantially perpendicular to each of fifth central portion **62a** and third left upper surface portion **327**.

[0081] As shown in FIG. 5, first operation button **311** is provided at fourth central portion **61a** of first projecting region **61**. Third operation button **313** is provided at fifth central portion **62a** of second projecting region **62**. First operation button **311** may be arranged at fourth right inclined portion **61b**. Similarly, third operation button **313** may be arranged at fifth left inclined portion **62c**.
Second Embodiment

[0082] A configuration of electronic device **300** according to a second embodiment will now be described.

[0083] FIG. 6 is a schematic perspective view showing the configuration of electronic device **300** according to the second embodiment. As shown in FIG. 6, electronic device **300** according to the second embodiment includes a first device **100** and a second device **200**. First device **100** and second device **200** are removably attachable to each other. Second device **200** is attachable to first device **100** and removable from first device **100**.

[0084] As shown in FIG. 6, first device **100** includes a first front surface **101** and a first rear surface **102**. First rear surface **102** is located opposite to first front surface **101**. Second device **200** includes a second front surface **201**, a second rear surface **202**, and a second display **210**. Second rear surface **202** is located opposite to second front surface **201**. Second display **210** is arranged at second front surface **201**. Second display **210** may be a touch panel on which a touch input can be provided.

[0085] FIG. 7 is a schematic front view showing a configuration of first device **100**. First device **100** includes a first upper surface **103**, a first lower surface **104**, a first right side surface **105**, and a first left side surface **106**. First upper surface **103** is contiguous to each of first front surface **101**, first rear surface **102**, first left side surface **106**, and first right side surface **105**. First lower surface **104** is located opposite to first upper surface **103**. First right side surface **105** is contiguous to each of first front surface **101**, first rear surface **102**, first upper surface **103**, and first lower surface **104**. First left side surface **106** is located opposite to first right side surface **105**. First left side surface **106** is contiguous to each of first front surface **101**, first rear surface **102**, first upper surface **103**, and first lower surface **104**.

[0086] As shown in FIG. 7, first device **100** may further include a first housing **165**, a first display **110**, a first connection portion **120**, input portion **121**, an unlocking button **191**, and a Hall element **130**. First display **110** is arranged at first front surface **101**. First display **110** is attached to first housing **165**.

[0087] As shown in FIG. 7, when first display **110** is viewed in the plan view, first housing **165** surrounds first display **110**. First display **110** being viewed in the plan view corresponds to first device **100** being viewed in a direction from first front surface **101** toward first rear surface **102**. First housing **165** includes a first projecting portion **10**. First projecting portion **10** extends in an outward direction of first display **110**. First connection portion **120** is provided at a front side of first projecting portion **10**.

[0088] First projecting portion **10** is provided at first upper surface **103**. First projecting portion **10** may define a part of first front surface **101**. Similarly, first projecting portion **10** may define a part

of first rear surface **102**. First projecting portion **10** is distant from each of first right side surface **105**, first left side surface **106**, and first lower surface **104**.

[0089] First projecting portion **10** includes a first right inclined portion **12**, a first left inclined portion **13**, a first central portion **11**, and a first front surface portion **14**. First right inclined portion **12** is located at a first right side surface **105** side of first projecting portion **10**. First left inclined portion **13** is located at a first left side surface **106** side of first projecting portion **10**. First central portion **11** is located between first right inclined portion **12** and first left inclined portion **13**. First central portion **11** is contiguous to each of first right inclined portion **12** and first left inclined portion **13**. First front surface portion **14** is contiguous to each of first right inclined portion **12**, first left inclined portion **13**, and first central portion **11**. First front surface portion **14** defines a part of first front surface **101**.

[0090] As shown in FIG. 7, when first display **110** is viewed in the plan view, first central portion **11** is substantially in parallel to first lower surface **104**. Each of first right inclined portion **12** and first left inclined portion **13** is inclined with respect to first central portion **11**. A boundary portion between first central portion **11** and first right inclined portion **12** may be curved as convexly projecting outward. Similarly, a boundary portion between first central portion **11** and first left inclined portion **13** may be curved as convexly projecting outward.

[0091] First upper surface **103** includes first right upper surface portion **16** and first left upper surface portion **17**. First right upper surface portion **16** is located between first right inclined portion **12** and first right side surface **105**. First right upper surface portion **16** is contiguous to each of first right inclined portion **12** and first right side surface **105**. A boundary portion between first right upper surface portion **16** and first right side surface **105** may be curved as convexly projecting outward.

[0092] Similarly, first left upper surface portion **17** is located between first left inclined portion **13** and first left side surface **106**. First left upper surface portion **17** is contiguous to each of first left inclined portion **13** and first left side surface **106**. A boundary portion between first left upper surface portion **17** and first left side surface **106** may be curved as convexly projecting outward.

[0093] First device **100** further includes a first operation button **1**, a second operation button **2**, a fifth operation button **5**, and a sixth operation button **6**. First operation button **1** is arranged at first projecting portion **10**. Specifically, first operation button **1** is provided at a portion of first projecting portion **10** at the first right side surface **105** side. When first display **110** is viewed in the plan view, first operation button **1** is provided closer to first right side surface **105** relative to a center of first upper surface **103**. First operation button **1** is provided at first right inclined portion **12**. First operation button **1** may be provided at a boundary portion between first central portion **11** and first right inclined portion **12**.

[0094] Second operation button **2** is provided at first upper surface **103** other than first projecting portion **10**. Specifically, second operation button **2** is provided at first right upper surface portion **16**. Second operation button **2** may be provided at a boundary portion between first right upper surface portion **16** and first right side surface **105**. Second operation button **2** is provided closer to first right side surface **105** relative to first operation button **1**. In a direction from first lower surface **104** toward first upper surface **103**, a lowermost portion of first operation button **1** may be located above an uppermost portion of second operation button **2**.

[0095] Fifth operation button **5** is arranged at first projecting portion **10**. Specifically, fifth operation button **5** is provided at a portion of first projecting portion **10** at the first left side surface **106** side. When first display **110** is viewed in the plan view, fifth operation button **5** is provided closer to first left side surface **106** relative to the center of first upper surface **103**. Fifth operation button **5** is provided at first left inclined portion **13**. Fifth operation button **5** may be provided at a boundary portion between first central portion **11** and first left inclined portion **13**.

[0096] Sixth operation button **6** is provided at first upper surface **103** other than first projecting portion **10**. Specifically, sixth operation button **6** is provided at first left upper surface portion **17**.

Sixth operation button **6** may be provided at a boundary portion between first left upper surface portion **17** and first left side surface **106**. Sixth operation button **6** is provided closer to first left side surface **106** relative to fifth operation button **5**. In the direction from first lower surface **104** toward first upper surface **103**, a lowermost portion of fifth operation button **5** may be located above an uppermost portion of sixth operation button **6**.

[0097] As shown in FIG. 7, when first display **110** is viewed in the plan view, first operation button **1** may be located closer to first right side surface **105** relative to first connection portion **120**.

Similarly, when first display **110** is viewed in the plan view, fifth operation button **5** may be located closer to first left side surface **106** relative to first connection portion **120**.

[0098] First connection portion **120** is arranged at first front surface **101**. At least a part of first connection portion **120** is located at first projecting portion **10**. First connection portion **120** is attached to first housing **165**. First connection portion **120** may project from a surface of first housing **165**. When first display **110** is viewed in the plan view, first connection portion **120** is arranged between first upper surface **103** and first display **110**.

[0099] As shown in FIG. 7, input portion **121** is arranged, for example, at first front surface **101**. Input portion **121** can be operated as a stick or a button. Unlocking button **191** is arranged, for example, at first upper surface **103**. Hall element **130** is arranged inside first housing **165**. First device **100** does not have to include input portion **121**.

[0100] FIG. 8 is an enlarged schematic diagram of a region VIII in FIG. 7. As shown in FIG. 8, first connection portion **120** includes, for example, a first mechanical connection portion **180**, a first electrical connection portion **160**, and a first magnetic connection portion **111**. First mechanical connection portion **180** includes a first main body portion **183** and a pair of first protruding portions **184**. First main body portion **183** is attached to first housing **165**. The pair of first protruding portions **184** is provided at first main body portion **183**. First main body portion **183** is provided with a first opening portion **185**.

[0101] First electrical connection portion **160** is exposed through first opening portion **185**. First electrical connection portion **160** includes a first contact **162** and a first holding portion **161**. First contact **162** is conductive. First holding portion **161** is insulating. First contact **162** is held by first holding portion **161**. Though the number of first contacts **162** is not particularly limited, for example, nine first contacts are provided. When first display **110** is viewed in the plan view, first contacts **162** are arranged along a line. One of first contacts **162** is, for example, a terminal for electric power supply.

[0102] First magnetic connection portion **111** is configured, for example, with a pair of magnets. First magnetic connection portion **111** is located between first main body portion **183** and first rear surface **102**. First magnetic connection portion **111** is arranged inside first device **100**. As shown in FIG. 8, when first front surface **101** is viewed in the plan view, first electrical connection portion **160** is located as lying between the pair of magnets. In the present embodiment, when first front surface **101** is viewed in the plan view, first electrical connection portion **160** is located as lying between the pair of magnets in a longitudinal direction of first display **110** of first device **100**.

[0103] First device **100** includes a first substrate **131** and a first antenna **132**. Each of first substrate **131** and first antenna **132** is arranged inside first device **100**. More particularly, each of first substrate **131** and first antenna **132** is arranged inside first housing **165**. First antenna **132** is provided at first substrate **131**.

[0104] The number of first antennas **132** is not particularly limited. The number of first antennas **132** is set, for example, to one or at least two. In electronic device **300** according to the present embodiment, a single first antenna **132** is provided. First antenna **132** is, for example, a first antenna portion **132**. When first front surface **101** is viewed in the plan view, first antenna portion **132** may be arranged at a position adjacent to first connection portion **120**. First antenna portion **132** is arranged, for example, between first connection portion **120** and first right side surface **105**.

[0105] As shown in FIG. 8, when first front surface **101** is viewed in the plan view, first antenna

132 may be located on an outer side of first connection portion **120**. From another point of view, when first front surface **101** is viewed in the plan view, first antenna **132** may be arranged at a position not superimposed on first main body portion **183**. For example, resin is employed as a material for first housing **165**. Though the material for first main body portion **183** is not particularly limited, for example, metal may be adopted. First antenna **132** may be arranged such that first main body portion **183** does not cut off electromagnetic field.

[0106] FIG. **9** is a schematic front view showing a configuration of second device **200**. As shown in FIG. **9**, second device **200** further includes a second upper surface **203**, a second lower surface **204**, a second right side surface **205**, and a second left side surface **206**. Second upper surface **203** is contiguous to second front surface **201** and second rear surface **202**. Second lower surface **204** is located opposite to second upper surface **203**. Second right side surface **205** is contiguous to each of second front surface **201**, second rear surface **202**, second upper surface **203**, and second lower surface **204**. Second left side surface **206** is located opposite to second right side surface **205**. Second left side surface **206** is contiguous to each of second front surface **201**, second rear surface **202**, second upper surface **203**, and second lower surface **204**.

[0107] As shown in FIG. **9**, second device **200** includes a second housing **265** and a magnet portion **230**. Second display **210** is attached to second housing **265**. Magnet portion **230** is arranged inside second housing **265**. As shown in FIG. **9**, when second display **210** is viewed in the plan view, magnet portion **230** may be located, for example, between second display **210** and second right side surface **205**. Second display **210** being viewed in the plan view corresponds to second device **200** being viewed in a direction from second front surface **201** toward second rear surface **202**.

[0108] As shown in FIG. **9**, when second display **210** is viewed in the plan view, second housing **265** surrounds second display **210**. Second housing **265** includes a second projecting portion **20**. Second projecting portion **20** extends in the outward direction of second display **210**. Second connection portion **220** is provided at a rear side of second projecting portion **20**.

[0109] Second projecting portion **20** is provided at second upper surface **203**. Second projecting portion **20** may define a part of second front surface **201**. Similarly, second projecting portion **20** may define a part of second rear surface **202**. Second projecting portion **20** is distant from each of second right side surface **205**, second left side surface **206**, and second lower surface **204**.

[0110] Second projecting portion **20** includes a second right inclined portion **22**, a second left inclined portion **23**, a second central portion **21**, and a second front surface portion **24**. Second right inclined portion **22** is located at a second right side surface **205** side of second projecting portion **20**. Second left inclined portion **23** is located at a second left side surface **206** side of second projecting portion **20**. Second central portion **21** is located between second right inclined portion **22** and second left inclined portion **23**. Second central portion **21** is contiguous to each of second right inclined portion **22** and second left inclined portion **23**. Second front surface portion **24** is contiguous to each of second right inclined portion **22**, second left inclined portion **23**, and second central portion **21**. Second front surface portion **24** defines a part of second front surface **201**.

[0111] As shown in FIG. **9**, when second display **210** is viewed in the plan view, second central portion **21** is substantially in parallel to second lower surface **204**. Each of second right inclined portion **22** and second left inclined portion **23** is inclined with respect to second central portion **21**. A boundary portion between second central portion **21** and second right inclined portion **22** may be curved as convexly projecting outward. Similarly, a boundary portion between second central portion **21** and second left inclined portion **23** may be curved as convexly projecting outward.

[0112] Second upper surface **203** includes a second right upper surface portion **26** and a second left upper surface portion **27**. Second right upper surface portion **26** is located between second right inclined portion **22** and second right side surface **205**. Second right upper surface portion **26** is contiguous to each of second right inclined portion **22** and second right side surface **205**. A boundary portion between second right upper surface portion **26** and second right side surface **205** may be curved as convexly projecting outward.

[0113] Similarly, second left upper surface portion **27** is located between second left inclined portion **23** and second left side surface **206**. Second left upper surface portion **27** is contiguous to each of second left inclined portion **23** and second left side surface **206**. A boundary portion between second left upper surface portion **27** and second left side surface **206** may be curved as convexly projecting outward.

[0114] Second device **200** further includes a third operation button **3**, a fourth operation button **4**, a seventh operation button **7**, and an eighth operation button **8**. Third operation button **3** is arranged at second projecting portion **20**. Specifically, third operation button **3** is provided at a portion of second projecting portion **20** at a second right side surface **205** side. When second display **210** is viewed in the plan view, third operation button **3** is provided closer to second right side surface **205** relative to a center of second upper surface **203**. Third operation button **3** is provided at second right inclined portion **22**. Third operation button **3** may be provided at a boundary portion between second central portion **21** and second right inclined portion **22**.

[0115] Fourth operation button **4** is provided at second upper surface **203** other than second projecting portion **20**. Specifically, fourth operation button **4** is provided at second right upper surface portion **26**. Fourth operation button **4** may be provided at a boundary portion between second right upper surface portion **26** and second right side surface **205**. Fourth operation button **4** is provided closer to second right side surface **205** relative to third operation button **3**. In a direction from second lower surface **204** toward second upper surface **203**, a lowermost portion of third operation button **3** may be located above an uppermost portion of fourth operation button **4**.

[0116] Seventh operation button **7** is arranged at second projecting portion **20**. Specifically, seventh operation button **7** is provided at a portion of second projecting portion **20** at the second left side surface **206** side. When second display **210** is viewed in the plan view, seventh operation button **7** is provided closer to second left side surface **206** relative to the center of second upper surface **203**. Seventh operation button **7** is provided at second left inclined portion **23**. Seventh operation button **7** may be provided at a boundary portion between second central portion **21** and second left inclined portion **23**.

[0117] Eighth operation button **8** is provided at second upper surface **203** other than second projecting portion **20**. Specifically, eighth operation button **8** is provided at second left upper surface portion **27**. Eighth operation button **8** may be provided at a boundary portion between second left upper surface portion **27** and second left side surface **206**. Eighth operation button **8** is provided closer to second left side surface **206** relative to seventh operation button **7**. In the direction from second lower surface **204** toward second upper surface **203**, a lowermost portion of seventh operation button **7** may be located above an uppermost portion of eighth operation button **8**.

[0118] Each of first operation button **1**, second operation button **2**, third operation button **3**, fourth operation button **4**, fifth operation button **5**, sixth operation button **6**, seventh operation button **7**, and eighth operation button **8** is substantially the same in configuration to third operation button **313** described with reference to FIG. **3**. Therefore, description of the configuration of these operation buttons will not be provided.

[0119] As shown in FIG. **9**, a front surface (second front surface portion **24**) of second projecting portion **20** may be provided with a functional component **29**. Functional component **29** may be, for example, a camera lens or an input portion. Second front surface **201** other than second projecting portion **20** may be provided with an operation portion (not shown). For example, second front surface **201** other than second projecting portion **20** may be provided with a physical stick. According to such a configuration, a space at the front surface (second front surface portion **24**) of second projecting portion **20** can effectively be made use of.

[0120] FIG. **10** is a schematic cross-sectional view along the line X-X in FIG. **9**. As shown in FIG. **10**, second display **210** includes a touch panel **32** and a touch panel cover **31**. Touch panel **32** is a panel on which a touch operation can be performed. Touch panel **32** performs a function to detect

touch. Touch panel cover **31** covers touch panel **32**. Touch panel cover **31** can receive an input operation to touch panel **32**. Touch panel cover **31** itself does not perform a function to detect touch. When the user touches touch panel cover **31**, the input operation to touch panel **32** therethrough can be performed.

[0121] Second display **210** includes a first tactile feel presentation portion **81** and a second tactile feel presentation portion **82**. First tactile feel presentation portion **81** is implemented, for example, by touch panel cover **31**. Touch panel cover **31** is provided with an opening **30**. Second tactile feel presentation portion **82** is, for example, a portion where touch panel **32** is exposed through opening **30**. Second tactile feel presentation portion **82** is a part of touch panel **32**. Second tactile feel presentation portion **82** may be used as a virtual button or a virtual stick.

[0122] Second tactile feel presentation portion **82** may be a part of touch panel cover **31**. In this case, second tactile feel presentation portion **82** may be different from first tactile feel presentation portion **81** in sense of touch. Second tactile feel presentation portion **82** may be a portion of a surface of touch panel cover **31** that is roughened. In this case, first tactile feel presentation portion **81** is a portion of the surface of touch panel cover **31** that is not roughened. Second tactile feel presentation portion **82** may be a portion where vibration is generated as the user touches the same. In this case, first tactile feel presentation portion **81** is a portion where vibration is not generated even when the user touches the same.

[0123] FIG. **11** is a partially enlarged view of second rear surface **202** of second device **200**. As shown in FIG. **11**, second device **200** includes a second connection portion **220**. Second connection portion **220** is arranged at second rear surface **202**. Second connection portion **220** includes, for example, a second mechanical connection portion **280**, a second electrical connection portion **260**, and a second magnetic connection portion **211**. Second mechanical connection portion **280** includes a second main body portion **283**, a fixed hook **281**, and a movable hook **270**. Second main body portion **283** is attached to second housing **265**. Fixed hook **281** is fixed to second main body portion **283**. Movable hook **270** is attached to second main body portion **283** as being movable.

[0124] Second main body portion **283** is provided with a second opening portion **285** and a third opening portion **284**. Movable hook **270** is exposed through third opening portion **284**. Movable hook **270** is located opposite to fixed hook **281**. When second rear surface **202** is viewed in the plan view, second electrical connection portion **260** is located between movable hook **270** and fixed hook **281**. Second electrical connection portion **260** is exposed through second opening portion **285**. When second rear surface **202** is viewed in the plan view, fixed hook **281** is located between second central portion **21** and movable hook **270**.

[0125] Second electrical connection portion **260** includes a second contact **262** and a second holding portion **261**. Second contact **262** is conductive. Second holding portion **261** is insulating. Second contact **262** is held by second holding portion **261**. Though the number of second contacts **262** is not particularly limited, for example, nine second contacts are provided. When second rear surface **202** is viewed in the plan view, second contacts **262** are arranged along a line. One of second contacts **262** is, for example, a terminal for electric power supply.

[0126] Second magnetic connection portion **211** is configured, for example, with a pair of magnets. Second magnetic connection portion **211** is located between second main body portion **283** and second front surface **201**. Second magnetic connection portion **211** is arranged inside second device **200**. When second rear surface **202** is viewed in the plan view, second electrical connection portion **260** is located as lying between the pair of magnets. Second magnetic connection portion **211** is magnetically attractable to first magnetic connection portion **111** while it is distant from first magnetic connection portion **111**.

[0127] As shown in FIG. **11**, second device **200** includes a second substrate **231** and a second antenna **232**. Each of second substrate **231** and second antenna **232** is arranged inside second device **200**. More particularly, each of second substrate **231** and second antenna **232** is arranged inside second housing **265**. Second antenna **232** is provided at second substrate **231**.

[0128] The number of second antennas **232** is not particularly limited. The number of second antennas **232** is set, for example, to one or at least two. In electronic device **300** according to the present embodiment, two second antennas **232** are provided. Second antenna **232** may include a second antenna portion **234** and a third antenna portion **236**. Second substrate **231** may include a first substrate portion **233** and a second substrate portion **235**. Second antenna portion **234** is provided at first substrate portion **233**. Third antenna portion **236** is provided at second substrate portion **235**. When second rear surface **202** is viewed in the plan view, second connection portion **220** may be arranged as lying between second antenna portion **234** and third antenna portion **236**.

[0129] As shown in FIG. **11**, when second rear surface **202** is viewed in the plan view, second antenna **232** may be located on an outer side of second connection portion **220** in each of directions toward left and right side surfaces. From another point of view, when second rear surface **202** is viewed in the plan view, second antenna **232** may be arranged at a position not superimposed on second main body portion **283**. For example, resin is employed as a material for second housing **265**. Though the material for second main body portion **283** is not particularly limited, for example, metal may be adopted. Second antenna **232** may be arranged such that second main body portion **283** does not cut off electromagnetic field.

[0130] FIG. **12** is a schematic front view showing a configuration of electronic device **300** in a first connection state. In the first connection state, second rear surface **202** is arranged to cover first display **110**. Second rear surface **202** may be arranged to cover the entire surface or at least a part of first display **110**. Second rear surface **202** is arranged as being superimposed on first front surface **101**. Second front surface **201** faces outward. A user can visually recognize second display **210** arranged at second front surface **201**. In the first connection state, Hall element **130** is arranged as being superimposed on magnet portion **230**. With Hall element **130**, the current connection state may be determined as the first connection state.

[0131] A direction from first left side surface **106** toward first right side surface **105** of first device **100** corresponds to a reference direction B. In the first connection state, when first display **110** is viewed in the plan view, a direction from second left side surface **206** toward second right side surface **205** of second device **200** is a first direction A1. In the first connection state, first device **100** and second device **200** are connected such that the direction from second left side surface **206** toward second right side surface **205** of second device **200** is the same as reference direction B when first display **110** is viewed in the plan view.

[0132] FIG. **13** is a schematic cross-sectional view along the line XIII-XIII in FIG. **12**. First connection portion **120** is connected to second connection portion **220**. Specifically, first mechanical connection portion **180** is mechanically connected to second mechanical connection portion **280**. First mechanical connection portion **180** includes a first receiving groove **181** and a second receiving groove **182**. Specifically, each of first receiving groove **181** and second receiving groove **182** is provided at a rear side of first main body portion **183**. Second receiving groove **182** is located opposite to first receiving groove **181**. First electrical connection portion **160** is located between first receiving groove **181** and second receiving groove **182**.

[0133] First connection portion **120** is provided with a fourth opening portion **186**. Unlocking button **191** is exposed through fourth opening portion **186**. First device **100** includes a first rotation shaft **192**. Unlocking button **191** is pivotable around first rotation shaft **192**. Fixed hook **281** is arranged in second receiving groove **182** provided at the rear side of first main body portion **183**. Unlocking button **191** may be in contact with fixed hook **281**.

[0134] Second device **200** includes a second rotation shaft **273** and a biasing member **274**. Movable hook **270** is pivotable around second rotation shaft **273**. Movable hook **270** includes a first tab portion **271** and a first support portion **272**. First tab portion **271** is contiguous to first support portion **272**. First support portion **272** is pivotably attached to second rotation shaft **273**. Biasing member **274** biases movable hook **270**. Biasing member **274** is, for example, a spring. Each of second rotation shaft **273** and biasing member **274** is arranged inside second device **200**. A

part of movable hook **270** passes through third opening portion **284**.

[0135] As shown in FIGS. **8** and **11**, a width (a second width **W2**) of movable hook **270** is larger than a width (a first width **W1**) of a pair of first protruding portions **184**. Therefore, in the first connection state, movable hook **270** rides on the pair of first protruding portions **184**. In other words, movable hook **270** is not arranged in first receiving groove **181**. As shown in FIG. **13**, in the first connection state, as fixed hook **281** enters second receiving groove **182**, first device **100** and second device **200** are connected. Second device **200** is thus attached to first device **100**. In removal of second device **200** from first device **100**, second device **200** is turned in a first rotation direction **R1**. In this case, unlocking button **191** does not have to be pushed.

[0136] As shown in FIG. **13**, electronic device **300** includes a fourth protruding portion **9**. Fourth protruding portion **9** may be attached to first front surface **101** of first device **100** or second rear surface **202** of second device **200**. In the first connection state, fourth protruding portion **9** is located between first front surface **101** and second rear surface **202**. In the first connection state, first front surface **101** and second rear surface **202** are substantially in parallel to each other. In the first connection state, while second display **210** is in parallel to first display **110**, first device **100** and second device **200** may be connected. With fourth protruding portion **9**, a gap is provided between first front surface **101** and second rear surface **202**. Input portion **121** is distant from second rear surface **202**. Fourth protruding portion **9** can prevent first device **100** and second device **200** from wobbling in the first connection state.

[0137] As shown in FIG. **13**, first electrical connection portion **160** is electrically connected to second electrical connection portion **260**. FIG. **14** is a schematic diagram showing relation between the first connection portion and the second connection portion in the first connection state. The first connection state refers to a state in which second connection portion **220** is connected to first connection portion **120** in first direction **A1**. In the first connection state, first contact **162** is electrically connected to second contact **262**.

[0138] As shown in FIG. **14**, first contact **162** includes a first terminal **162a**, a second terminal **162b**, and a third terminal **162c**. First electrical connection portion **160** may have terminals disposed in the longitudinal direction of first display **110**. First terminal **162a** is located closest to the first left side surface. Third terminal **162c** is located closest to the first right side surface. Second terminal **162b** is located intermediate between first terminal **162a** and third terminal **162c**. A direction from first terminal **162a** toward third terminal **162c** corresponds to reference direction **B**.

[0139] Second contact **262** includes a fourth terminal **262a**, a fifth terminal **262b**, and a sixth terminal **262c**. Second electrical connection portion **260** may have terminals disposed in the longitudinal direction of second display **210**. Fourth terminal **262a** is located closest to the second left side surface. Sixth terminal **262c** is located closest to the second right side surface. Fifth terminal **262b** is located intermediate between fourth terminal **262a** and sixth terminal **262c**. In the first connection state, first terminal **162a**, second terminal **162b**, and third terminal **162c** are electrically connected to fourth terminal **262a**, fifth terminal **262b**, and sixth terminal **262c**, respectively. In the first connection state, second connection portion **220** is arranged with respect to first connection portion **120** such that a direction from fourth terminal **262a** toward sixth terminal **262c** is the same as first direction **A1**. Without being limited to such arrangement of the terminals, first contact **162** and second contact **262** should only be in arrangement relation in which they are connected to each other in the first connection state and the second connection state. For example, a plurality of terminals may be arranged such that, with respect to a terminal arranged at the center, other terminals are in line symmetry.

[0140] FIG. **15** is a schematic cross-sectional view along the line XV-XV in FIG. **12**. As shown in FIG. **15**, first magnetic connection portion **111** is arranged inside first main body portion **183**. First main body portion **183** includes a first inclined surface **187**. First inclined surface **187** is inclined with respect to first front surface **101** of first housing **165**. An angle of inclination of first inclined

surface **187** with respect to first front surface **101** is, for example, 10° . First magnetic connection portion **111** is arranged along first inclined surface **187**. A surface of first magnetic connection portion **111** may substantially be in parallel to first inclined surface **187**.

[0141] Similarly, second magnetic connection portion **211** is arranged inside second main body portion **283**. Second main body portion **283** includes a second inclined surface **287**. Second inclined surface **287** is inclined with respect to second rear surface **202** of second housing **265**. An angle of inclination of second inclined surface **287** with respect to second rear surface **202** is, for example, 10° . Second magnetic connection portion **211** is arranged along second inclined surface **287**. A surface of second magnetic connection portion **211** may substantially be in parallel to second inclined surface **287**. The surface of second magnetic connection portion **211** may substantially be in parallel to the surface of first magnetic connection portion **111**.

[0142] FIG. **16** is a schematic front view showing a configuration of electronic device **300** in the second connection state. In the second connection state, second rear surface **202** is arranged not to cover first display **110**. Therefore, the user can visually recognize each of first display **110** and second display **210**. In the second connection state, a part of first front surface **101** of first device **100** is arranged as being superimposed on a part of second rear surface **202** of second device **200**. In the second connection state, Hall element **130** is arranged as not being superimposed on magnet portion **230**. With Hall element **130**, the current connection state may be determined as the second connection state.

[0143] In the second connection state, when first display **110** is viewed in the plan view, the direction from second left side surface **206** toward second right side surface **205** of second device **200** is a second direction **A2**. In the second connection state, first device **100** and second device **200** are connected such that the direction from second left side surface **206** toward second right side surface **205** of second device **200** is opposite to reference direction **B** when first display **110** is viewed in the plan view.

[0144] FIG. **17** is a schematic cross-sectional view along the line XVII-XVII in FIG. **16**. As shown in FIG. **17**, in the second connection state, movable hook **270** is arranged in second receiving groove **182** and fixed hook **281** is arranged in first receiving groove **181**. Movable hook **270** has entered second receiving groove **182**. Fixed hook **281** has entered first receiving groove **181**. First mechanical connection portion **180** is thus mechanically fixed to second mechanical connection portion **280**.

[0145] As shown in FIG. **17**, first electrical connection portion **160** is electrically connected to second electrical connection portion **260**. Specifically, in the second connection state, first contact **162** and second contact **262** are connected. Second rear surface **202** is inclined with respect to first front surface **101**. In the second connection state, first device **100** and second device **200** may be connected while second display **210** is inclined with respect to first display **110**. An angle of inclination of second rear surface **202** with respect to first front surface **101** is, for example, 20° .

[0146] FIG. **18** is a schematic cross-sectional view showing a state in which electronic device **300** in the second connection state is unlocked. As shown in FIG. **18**, unlocking button **191** is pushed into first device **100** along a third direction **A3**. As unlocking button **191** pushes movable hook **270**, movable hook **270** is pushed out of second receiving groove **182**. Consequently, mechanical locking is released. When second device **200** is turned in second rotation direction **R2** in this state, second device **200** is separated from first device **100**.

[0147] FIG. **19** is a schematic diagram showing relation between the first connection portion and the second connection portion in the second connection state. The second connection state refers to a state in which second connection portion **220** is connected to first connection portion **120** in second direction **A2**. Second direction **A2** is opposite to first direction **A1**. In the second connection state, first terminal **162a**, second terminal **162b**, and third terminal **162c** are electrically connected to sixth terminal **262c**, fifth terminal **262b**, and fourth terminal **262a**, respectively. In the second connection state, second connection portion **220** is arranged with respect to first connection portion

120 such that the direction from fourth terminal **262a** toward sixth terminal **262c** is the same as second direction **A2**.

[0148] Each of second terminal **162b** and fifth terminal **262b** is, for example, a terminal for electric power supply. In each of the first connection state and the second connection state, second terminal **162b** is electrically connected to fifth terminal **262b**. Usage of first terminal **162a** may be the same as usage of third terminal **162c**. Similarly, usage of fourth terminal **262a** may be the same as usage of sixth terminal **262c**. In this case, the same function can be performed in the first connection state and the second connection state. In the first connection state and the second connection state, first contact **162** and second contact **262** may define a plurality of corresponding electrical communication paths. Though usage of first terminal **162a**, third terminal **162c**, fourth terminal **262a**, and sixth terminal **262c** is not particularly limited, those terminals may be, for example, terminals for grounding, terminals for determination as to whether or not first device **100** and second device **200** are connected, or terminals for resetting the display.

[0149] FIG. **20** is a schematic cross-sectional view showing positional relation between first antenna **132** and second antenna **232** in the first connection state. As shown in FIG. **20**, in the first connection state, first antenna **132** is arranged as being superimposed on second antenna portion **234** of second antenna **232**. In other words, in the first connection state, when first display **110** is viewed in the plan view, first antenna **132** and second antenna **232** are arranged at positions superimposed on each other. Each of first antenna **132** and second antenna **232** is a module in a form of a plate.

[0150] As shown in FIG. **20**, in a cross-section perpendicular to first front surface **101**, first antenna **132** is substantially in parallel to first front surface **101**. First antenna **132** is inclined with respect to first inclined surface **187**. In a cross-section perpendicular to second rear surface **202**, second antenna portion **234** of second antenna **232** is substantially in parallel to second rear surface **202**. Second antenna portion **234** of second antenna **232** is inclined with respect to second inclined surface **287**. In the first connection state, second antenna portion **234** of second antenna **232** is substantially in parallel to first antenna **132**.

[0151] In the first connection state, second inclined surface **287** is in contact with first inclined surface **187**. An angle between first front surface **101** and first inclined surface **187** in the cross-section perpendicular to first front surface **101** is defined as a third angle $\theta 3$. Third angle $\theta 3$ is, for example, 10° . An angle between second rear surface **202** and second inclined surface **287** in the cross-section perpendicular to second rear surface **202** is defined as a fourth angle $\theta 4$. Fourth angle $\theta 4$ is, for example, 10° .

[0152] FIG. **21** is a schematic cross-sectional view showing positional relation between first antenna **132** and second antenna **232** in the second connection state. As shown in FIG. **21**, in the second connection state, first antenna portion **132** of first antenna **132** is arranged as being superimposed on third antenna portion **236** of second antenna **232**. In other words, in the second connection state, when first display **110** is viewed in the plan view, first antenna **132** and second antenna **232** are arranged at positions superimposed on each other. As set forth above, in each of the first connection state and the second connection state, at least a part of first antenna **132** is arranged at a position superimposed on second antenna **232**.

[0153] As shown in FIG. **21**, in the second connection state, third antenna portion **236** of second antenna **232** is inclined with respect to first antenna **132**. In the cross-section perpendicular to each of first front surface **101** and second rear surface **202**, an angle of inclination (a second angle $\theta 2$) of third antenna portion **236** of second antenna **232** with respect to first antenna **132** is, for example, 20° . In the second connection state, second inclined surface **287** is in contact with first inclined surface **187**.

[0154] Though an example in which first inclined surface **187** and second inclined surface **287** are provided is described with reference to FIGS. **20** and **21**, first inclined surface **187** does not have to be provided in first mechanical connection portion **180** or second inclined surface **287** does not

have to be provided in second mechanical connection portion **280**. Specifically, first mechanical connection portion **180** and second mechanical connection portion **280** may be configured to be connected in parallel to each other. In that case, first device **100** and second device **200** may be in parallel to each other, or one of first device **100** or second device **200** may be inclined with respect to the other of first device **100** or second device **200**.

[0155] Though the configuration in which first antenna **132** includes a single antenna portion and second antenna **232** includes two antenna portions is described above, the present disclosure is not limited to the configuration. In electronic device **300** according to another manner, first antenna **132** may include two antenna portions and second antenna **232** may include a single antenna portion. Specifically, second antenna **232** may include the first antenna portion. First antenna **132** may include the second antenna portion and the third antenna portion. In the first connection state, the first antenna portion may be arranged as being superimposed on the second antenna portion. In the second connection state, the first antenna portion may be arranged as being superimposed on the third antenna portion. In electronic device **300** according to yet another manner, first antenna **132** may include two antenna portions and second antenna **232** may include two antenna portions.

[0156] In each of the first connection state and the second connection state, first device **100** and second device **200** can perform first wireless communication through electromagnetic field coupling between first antenna **132** and second antenna **232**. When first antenna **132** and second antenna **232** are coupled through electromagnetic field, first device **100** and second device **200** may bidirectionally transmit and receive a signal. Second device **200** may unidirectionally receive a signal transmitted from first device **100**. First device **100** may unidirectionally receive a signal transmitted from second device **200**. Though each of first antenna **132** and second antenna **232** is not particularly limited, it is, for example, a 60-GHz millimeter wave module.

[0157] As shown in FIG. **6**, in the first connection state, second rear surface **202** is arranged to cover first display **110**. First projecting portion **10** is arranged as being superimposed on second projecting portion **20**. Specifically, the front surface of first projecting portion **10** is superimposed on the rear surface of second projecting portion **20**. First connection portion **120** provided at the front surface of first projecting portion **10** is connected, in first direction **A1**, to second connection portion **220** provided at the rear surface of second projecting portion **20**.

[0158] In the first connection state, in the direction perpendicular to first front surface **101**, first operation button **1** and third operation button **3** are arranged as being aligned and second operation button **2** and fourth operation button **4** are arranged as being aligned. From another point of view, along the direction from first front surface **101** toward second rear surface **202**, first operation button **1** and third operation button **3** are arranged as being aligned and second operation button **2** and fourth operation button **4** are arranged as being aligned.

[0159] In the first connection state, in the direction perpendicular to first front surface **101**, fifth operation button **5** and seventh operation button **7** are arranged as being aligned and sixth operation button **6** and eighth operation button **8** are arranged as being aligned. From another point of view, along the direction from first front surface **101** toward second rear surface **202**, fifth operation button **5** and seventh operation button **7** are arranged as being aligned and sixth operation button **6** and eighth operation button **8** are arranged as being aligned.

[0160] FIG. **22** is a schematic perspective view showing a configuration of electronic device **300** in the second connection state. In the second connection state, second rear surface **202** is arranged not to cover first display **110**. First projecting portion **10** is arranged as being superimposed on second projecting portion **20**. Specifically, the front surface of first projecting portion **10** is superimposed on the rear surface of second projecting portion **20**. First connection portion **120** provided at the front surface of first projecting portion **10** is connected, in second direction **A2**, to second connection portion **220** provided at the rear surface of second projecting portion **20**.

[0161] In the second connection state, first device **100** and second device **200** are connected such that first projecting portion **10** is superimposed on second projecting portion **20**, and hence first

operation button **1**, second operation button **2**, fifth operation button **5**, and sixth operation button **6** are structured to be distant from second device **200**. Therefore, when each of first operation button **1**, second operation button **2**, fifth operation button **5**, and sixth operation button **6** is operated, the user's finger is less likely to interfere with third operation button **3**, fourth operation button **4**, seventh operation button **7**, and eighth operation button **8** or second projecting portion **20** of second device **200**. Operability of electronic device **300** is thus improved.

[0162] First device **100** and second device **200** of electronic device **300** according to the second embodiment are not limited to the configuration above. For example, the configuration of electronic device **300** according to the first embodiment may be applied to first device **100** and second device **200** of electronic device **300** according to the second embodiment. Third operation button **313** of electronic device **300** according to the first embodiment may substantially be the same in configuration to each of first operation button **1**, second operation button **2**, third operation button **3**, fourth operation button **4**, fifth operation button **5**, sixth operation button **6**, seventh operation button **7**, and eighth operation button **8** of electronic device **300** according to the second embodiment.

[0163] Though the configuration in which second rear surface **202** covers first display **110** in the first connection state and second rear surface **202** does not cover first display **110** in the second connection state is disclosed, in the first connection state in which second connection portion **220** is connected to first connection portion **120** in first direction **A1**, second rear surface **202** may be arranged to cover input portion **121**, and in the second connection state in which second connection portion **220** is connected to first connection portion **120** in second direction **A2**, second rear surface **202** may be arranged not to cover input portion **121**.

[0164] First operation button **1** may be configured to extend to first right upper surface portion **16**. Third operation button **3** may be configured to extend to second right upper surface portion **26**. Fifth operation button **5** may be configured to extend to first left upper surface portion **17**. Seventh operation button **7** may be configured to extend to second left upper surface portion **27**.

[0165] First operation button **1** and second operation button **2** may integrally be formed. A function as a button may be provided to a portion of each of first operation button **1** and second operation button **2**. Third operation button **3** and fourth operation button **4** may integrally be formed. A function as a button may be provided to a portion of each of third operation button **3** and fourth operation button **4**. Fifth operation button **5** and sixth operation button **6** may integrally be formed. A function as a button may be provided to a portion of each of fifth operation button **5** and sixth operation button **6**. Seventh operation button **7** and eighth operation button **8** may integrally be formed. A function as a button may be provided to a portion of each of seventh operation button **7** and eighth operation button **8**.

(Method of Using Electronic Device)

[0166] A method of using electronic device **300** will now be described. Electronic device **300** is, for example, a game console, a smartphone, a tablet personal computer, or the like. First device **100** and second device **200** are usable in both of a case where they are connected to each other and a case where they are separate from each other. As shown in FIGS. **12** and **13**, in the first connection state, first device **100** and second device **200** are connectable. As shown in FIG. **14**, in the first connection state, second connection portion **220** is oriented in first direction **A1** with respect to first connection portion **120**. As shown in FIGS. **16** and **17**, in the second connection state, first device **100** and second device **200** are connectable. As shown in FIG. **19**, in the second connection state, second connection portion **220** is oriented in second direction **A2** with respect to first connection portion **120**. In the first connection state and the second connection state, first wireless communication is performed through electromagnetic field coupling between first antenna **132** and second antenna **232**.

[0167] In the first connection state and the second connection state, first device **100** may transmit an image signal to second device **200** through first antenna **132** and second antenna **232**. The image

signal is, for example, a scalable low voltage signaling (SLVS) signal. For example, in first device **100**, a mobile industry processor interface (MIPI)-display serial interface (DSI) signal is converted to the SLVS signal. The converted SLVS signal is sent from first device **100** to second device **200**. In second device **200**, the SLVS signal is converted to the MIPI-DSI signal. In another manner, the MIPI-DSI signal may directly be transmitted from first device **100** to second device **200** without being converted to the SLVS signal.

[0168] While first device **100** and second device **200** are separate, first device **100** and second device **200** may be able to perform second wireless communication. Second wireless communication while first device **100** and second device **200** are separate may be performed through electromagnetic field coupling between antennas different from each of first antenna **132** and second antenna **232**. Specifically, second wireless communication may be, for example, Wifi® communication. A frequency band of a signal to be used in first wireless communication may be higher than a frequency band of a signal to be used in second wireless communication.

[0169] Second wireless communication is not limited to Wifi® communication. Second wireless communication may be, for example, communication based on Bluetooth® or infrared communication. Second device **200** may receive a signal from first device **100** and show an image, or second device **200** itself may generate an image without receiving a signal from first device **100**.

[0170] In the first connection state, the user can play a game in a single-screen mode through first wireless communication. In the second connection state, the user can play a game in a dual-screen mode through first wireless communication. While first device **100** and second device **200** are separate, a first user uses first device **100** and a second user uses second device **200**. The first user and the second user can simultaneously play the same game through second wireless communication. In another method of use, one user can operate first device **100** while viewing a screen of second device **200**, with the second device being at rest.

[0171] At least one of first device **100** and second device **200** that configure electronic device **300** may further include a storage (not shown) and/or a processor (not shown). The storage is, for example, a dynamic random access memory (DRAM) or a non-volatile memory. An application program such as a game may be stored in the storage. The processor may be able to perform information processing by reading the application program. First display **110** and second display **210** may show an image, for example, generated as a result of information processing performed by the processor. Electronic device **300** may be an information processing apparatus other than the game console.

Third Embodiment

[0172] A configuration of electronic device **300** according to a third embodiment will now be described. Electronic device **300** according to the third embodiment is different from electronic device **300** according to the second embodiment mainly in configuration of first mechanical connection portion **180** and second mechanical connection portion **280**, and it is otherwise substantially the same as electronic device **300** according to the first second embodiment. A configuration different from that of electronic device **300** according to the second embodiment will mainly be described below.

[0173] FIG. **23** is a partial schematic perspective view showing the configuration of electronic device **300** according to the third embodiment. FIG. **24** is a schematic cross-sectional view along the line XXIV-XXIV in FIG. **23**. As shown in FIGS. **23** and **24**, first mechanical connection portion **180** includes a movable member **140**, a fixed member **150**, and a pair of third biasing portions **154**. Movable member **140** includes a first plate member **141** and a pair of second plate members **142**. When first front surface **101** is viewed in the plan view, first plate member **141** is in a trapezoidal shape. The pair of second plate members **142** is arranged at opposing sides of first plate member **141**. The pair of third biasing portions **154** biases the pair of second plate members **142** in a direction toward first plate member **141**, respectively.

[0174] Fixed member **150** includes an upper surface plate **151** and a partition plate **152**. Upper

surface plate **151** is arranged above first magnetic connection portion **111**. Partition plate **152** is attached to upper surface plate **151**. Partition plate **152** extends from upper surface plate **151** toward first rear surface **102**. First magnetic connection portion **111** is arranged between the pair of partition plates **152**.

[0175] Second mechanical connection portion **280** includes a pair of movable hook portions **250**, a pair of rotation shaft portions **253**, a pair of fourth biasing portions **254**, and a lower surface plate **255**. The pair of movable hook portions **250** can pivot around the pair of rotation shaft portions **253**, respectively. Each of the pair of movable hook portions **250** includes a second tab portion **251** and a second support portion **252**. Second tab portion **251** is contiguous to second support portion **252**. Second support portion **252** is pivotably attached to rotation shaft portion **253**. The pair of fourth biasing portions **254** biases the pair of movable hook portions **250**, respectively. Lower surface plate **255** is arranged below second magnetic connection portion **211**.

[0176] As shown in FIG. **24**, when unlocking button **191** is pushed into first device **100** along third direction **A3**, first plate member **141** pushes the pair of second plate members **142** toward opposing sides. Each of the pair of second plate members **142** moves in a fourth direction **A4** perpendicular to third direction **A3**. The pair of second plate members **142** thus pushes second tab portions **251** of the pair of movable hook portions **250** outward. Consequently, the pair of movable hook portions **250** is unlocked. The pair of unlocked movable hook portions **250** is shown with a dashed line.

[0177] As the user releases unlocking button **191**, each of the pair of second plate members **142** moves to its original position owing to third biasing portion **154**. Each of the pair of movable hook portions **250** moves to its original position owing to fourth biasing portion **254**. Second tab portion **251** of each of the pair of movable hook portions **250** moves to a lower side of upper surface plate **151**. Consequently, second mechanical connection portion **280** is fixed to first mechanical connection portion **180**. The pair of locked movable hook portions **250** is shown with a solid line.

[0178] First electrical connection portion **160** may be provided above or below first display **110**. First mechanical connection portion **180** is provided to sandwich first electrical connection portion **160** from the longitudinal direction of first display **110**. From another point of view, first mechanical connection portion **180** is provided at opposing sides of first electrical connection portion **160**.

[0179] Second electrical connection portion **260** may be provided above or below second display **210**. Second mechanical connection portion **280** is provided to sandwich second electrical connection portion **260** from the longitudinal direction of second display **210**. From another point of view, second mechanical connection portion **280** is provided at opposing sides of second electrical connection portion **260**. First electrical connection portion **160** is electrically connected to second electrical connection portion **260**. First mechanical connection portion **180** is mechanically connected to second mechanical connection portion **280**.

[0180] In the above, unlocking button **191** is pushed in third direction **A3** so that each of the pair of second plate members **142** slides in fourth direction **A4** and each of the pair of movable hook portions **250** is unlocked. A locking mechanism is common to the first connection state and the second connection state. Though the configuration in which a slide mechanism releases locking is described above, an unlocking mechanism in the present disclosure is not limited to the slide mechanism. A link mechanism or a gear mechanism may be employed instead of the slide mechanism.

[0181] Although the present disclosure has been described and illustrated in detail, it is clearly understood that the same is by way of illustration and example only and is not to be taken by way of limitation, the scope of the present disclosure being interpreted by the terms of the appended claims.

Claims

1. An electronic device comprising: a front surface where a display is arranged; a rear surface located opposite to the front surface; an upper surface contiguous to the front surface and the rear surface; a lower surface located opposite to the upper surface; a first side surface contiguous to each of the front surface, the rear surface, the upper surface, and the lower surface; a second side surface located opposite to the first side surface, the upper surface being provided with a projecting portion; a first operation button arranged at the projecting portion and provided closer to the first side surface relative to a center of the upper surface; and a second operation button arranged at the upper surface other than the projecting portion and provided closer to the first side surface relative to the first operation button.
2. The electronic device according to claim 1, further comprising: a third operation button arranged at the projecting portion and provided closer to the second side surface relative to the center of the upper surface; and a fourth operation button arranged at the upper surface other than the projecting portion and provided closer to the second side surface relative to the third operation button.
3. The electronic device according to claim 2, wherein the projecting portion comprises a first inclined portion located at a first side surface side, and a second inclined portion located at a second side surface side, the first operation button is arranged at the first inclined portion, and the third operation button is arranged at the second inclined portion.
4. The electronic device according to claim 3, wherein the projecting portion comprises a central portion located between the first inclined portion and the second inclined portion, a boundary portion between the central portion and the first inclined portion is curved, and a boundary portion between the central portion and the second inclined portion is curved.
5. The electronic device according to claim 2, wherein the second operation button is arranged at a boundary portion between the upper surface and the first side surface, and the fourth operation button is arranged at a boundary portion between the upper surface and the second side surface.
6. The electronic device according to claim 5, wherein a boundary portion between the upper surface and the first side surface is curved, and a boundary portion between the upper surface and the second side surface is curved.
7. The electronic device according to claim 2, wherein in a direction from the lower surface toward the upper surface, a lowermost portion of the first operation button is located above an uppermost portion of the second operation button and a lowermost portion of the third operation button is located above an uppermost portion of the fourth operation button.
8. An electronic device in which a first device and a second device are removably attachable to each other, wherein the first device comprises a first front surface where a first display is arranged, a first rear surface located opposite to the first front surface, a first upper surface contiguous to the first front surface and the first rear surface, a first lower surface located opposite to the first upper surface, a first right side surface contiguous to each of the first front surface, the first rear surface, the first upper surface, and the first lower surface, a first left side surface located opposite to the first right side surface, the first upper surface being provided with a first projecting portion, a first operation button arranged at the first projecting portion and provided closer to the first right side surface relative to a center of the first upper surface, and a second operation button arranged at the first upper surface other than the first projecting portion and provided closer to the first right side surface relative to the first operation button, the second device comprises a second front surface where a second display is arranged, a second rear surface located opposite to the second front surface, a second upper surface contiguous to the second front surface and the second rear surface, a second lower surface located opposite to the second upper surface, a second right side surface contiguous to each of the second front surface, the second rear surface, the second upper surface, and the second lower surface, a second left side surface located opposite to the second right side surface, the second upper surface being provided with a second projecting portion, a third operation button arranged at the second projecting portion and provided closer to the second right side

surface relative to a center of the second upper surface, and a fourth operation button arranged at the second upper surface other than the second projecting portion and provided closer to the second right side surface relative to the third operation button, a first connection portion is provided at a first front surface side of the first projecting portion, and a second connection portion connectable to the first connection portion is provided at a second rear surface side of the second projecting portion.

9. The electronic device according to claim 8, wherein the second connection portion is connectable to the first connection portion in a first direction and a second direction opposite to the first direction, in a first connection state in which the second connection portion is connected to the first connection portion in the first direction, the second rear surface is arranged to cover the first display, and in a second connection state in which the second connection portion is connected to the first connection portion in the second direction, the second rear surface is arranged not to cover the first display.

10. The electronic device according to claim 8, wherein the first device further comprises a fifth operation button arranged at the first projecting portion and provided closer to the first left side surface relative to the center of the first upper surface, and a sixth operation button arranged at the first upper surface other than the first projecting portion and provided closer to the first left side surface relative to the fifth operation button, and the second device further comprises a seventh operation button arranged at the second projecting portion and provided closer to the second left side surface relative to the center of the second upper surface, and an eighth operation button arranged at the second upper surface other than the second projecting portion and provided closer to the second left side surface relative to the seventh operation button.

11. The electronic device according to claim 10, wherein the first projecting portion comprises a first right inclined portion located at a first right side surface side, and a first left inclined portion located at a first left side surface side, the first right inclined portion is provided with the first operation button and the first left inclined portion is provided with the fifth operation button, the second projecting portion comprises a second right inclined portion located at a second right side surface side, and a second left inclined portion located at a second left side surface side, and the second right inclined portion is provided with the third operation button and the second left inclined portion is provided with the seventh operation button.

12. The electronic device according to claim 11, wherein the first projecting portion comprises a first central portion located between the first right inclined portion and the first left inclined portion, a boundary portion between the first central portion and the first right inclined portion is curved, a boundary portion between the first central portion and the first left inclined portion is curved, the second projecting portion comprises a second central portion located between the second right inclined portion and the second left inclined portion, a boundary portion between the second central portion and the second right inclined portion is curved, and a boundary portion between the second central portion and the second left inclined portion is curved.

13. The electronic device according to claim 10, wherein the second operation button is arranged at a boundary portion between the first upper surface and the first right side surface, the sixth operation button is arranged at a boundary portion between the first upper surface and the first left side surface, the fourth operation button is arranged at a boundary portion between the second upper surface and the second right side surface, and the eighth operation button is arranged at a boundary portion between the second upper surface and the second left side surface.

14. The electronic device according to claim 13, wherein a boundary portion between the first upper surface and the first right side surface is curved, a boundary portion between the first upper surface and the first left side surface is curved, a boundary portion between the second upper surface and the second right side surface is curved, and a boundary portion between the second upper surface and the second left side surface is curved.

15. The electronic device according to claim 10, wherein in a direction from the first lower surface

toward the first upper surface, a lowermost portion of the first operation button is located above an uppermost portion of the second operation button and a lowermost portion of the fifth operation button is located above an uppermost portion of the sixth operation button, and in a direction from the second lower surface toward the second upper surface, a lowermost portion of the third operation button is located above an uppermost portion of the fourth operation button and a lowermost portion of the seventh operation button is located above an uppermost portion of the eighth operation button.

16. The electronic device according to claim 8, wherein at a second front surface side of the second projecting portion, an input portion or a camera lens is provided.
