Claims:

1. A method ~~in a frequency converter,~~ for obtaining a symbol string ~~(3)~~ user input via a four-directional control device ~~capable of receiving~~in a frequency converter, wherein the four-directional control device is configured to receive user inputs associated with a first direction, a second direction perpendicular to the first direction, a third direction opposite to the first direction, and a fourth direction opposite to the second direction, the method comprising:

grouping potential symbols into at least two symbol lists ~~(4)~~;

~~providing each of the symbol lists (4) with a switch lists symbol (6);~~

treating one of the symbol lists ~~(4)~~ as a current symbol list;

displaying at least part of at least the current symbol list;

displaying a cursor ~~(5)~~ indicating one of the symbols in the current symbol list~~, the indicated symbol being~~ as a current symbol;

receiving commands via the four-directional control device; ~~and~~

based on the received commands, selectively changing the current symbol list to one of the other symbol lists, effecting relative movement between the cursor ~~(5)~~ and the current symbol list, and selecting the current symbol as the next symbol in the symbol string ~~(3), wherein the method comprises:~~;

providing each of the symbol lists with a switch lists symbol;

receiving via the four-directional control device a user input associated with the first direction;

in response to receiving the user input associated with the first direction, moving the current symbol list in ~~a~~the third direction ~~whereby~~such that the cursor ~~(5)~~ moves in the first direction relative to the current symbol list;

receiving via the four-directional control device a user input associated with the third direction;

in response to receiving the user input associated with the third direction, moving the current symbol list in ~~a~~the first direction ~~whereby~~such that the cursor ~~(5)~~ moves in the third direction relative to the current symbol list;

receiving via the four-directional control device a user input associated with the second direction, when the cursor ~~(5)~~ indicates a symbol other than one of the switch lists symbols ~~(6)~~;

in response to receiving the user input associated with the second direction, when the cursor ~~(5)~~ indicates a symbol other than one of the switch lists symbols ~~(6)~~, selecting the current symbol as the next symbol in the symbol string ~~(3)~~;

receiving via the four-directional control device a user input associated with one of the second direction ~~or~~and the fourth direction, when the cursor ~~(5)~~ indicates one of the switch lists symbols ~~(6)~~; and

in response to receiving the user input associated with the one of the second direction ~~or~~and the fourth direction, when the cursor ~~(5)~~ indicates one of the switch lists symbols ~~(6)~~, changing the symbol list ~~(4)~~ to one of the other symbol lists.

2. The method of claim 1, ~~wherein the method comprises~~ comprising:

displaying at least part of each symbol list ~~(4)~~ when the cursor ~~(5)~~ indicates one of the switch lists symbols ~~(6)~~.

3. The method of claim 1 ~~or 2, wherein the method comprises~~ , comprising:

hiding other than the current symbol list when the cursor ~~(5)~~ indicates a symbol other than one of the switch lists symbols ~~(6)~~.

4. The method ~~according to any one~~ of claims 1 ~~to~~3, wherein each symbol list ~~(4)~~ contains more than ~~5~~five symbols, and

wherein the method comprises simultaneously displaying only ~~1~~one to ~~5~~five symbols from any one symbol list ~~(4)~~.

5. A ~~control panel for a~~ frequency converter~~,~~ comprising:

a data structure ~~comprising~~including symbols grouped into at least two symbol lists ~~(4)~~, one of which is a current symbol list~~, wherein each of the symbol lists (4) contains a switch lists symbol (6)~~;

a display ~~(1), the display (1)~~ configured to display at least part of at least the current symbol list and a cursor ~~(5)~~ indicating one of the symbols~~, the indicated symbol being~~ as a current symbol; and

~~a four-directional control device for receiving commands, wherein the four-directional control device is adapted to receive commands associated with a first, second, third and fourth directions, and wherein the four-directional control device comprises four keys (2), each adapted for receiving an individual one of the commands associated with the first, second, third and fourth directions; and~~

a four-directional control device configured to receive commands; and

a controller configured to~~:~~, based on the received commands, selectively effect the change of the current symbol list to one of the other symbol lists, effect relative movement between the cursor ~~(5)~~ and the current symbol list, and select the current symbol as an input, wherein:

~~effect relative movement between the cursor (5) and at least the current symbol list in response to commands associated with the first and third directions,~~

~~select the current symbol as an input in response to a command associated with the second direction,~~

~~when the cursor (5) indicates one of the switch lists symbols (6), effect the change of the current symbol list to one of the other symbol lists in response to commands associated with the second and fourth directions.~~

the four-directional control device is configured to receive user inputs associated with a first direction, a second direction perpendicular to the first direction, a third direction opposite to the first direction, and a fourth direction opposite to the second direction;

each of the symbol lists is provided with a switch lists symbol;

the four-directional control device is configured to receive a user input associated with the first direction;

the controller is configured to, in response to the four-directional control device receiving the user input associated with the first direction, effect movement of the current symbol list in the third direction such that the cursor moves in the first direction relative to the current symbol list;

the four-directional control device is configured to receive a user input associated with the third direction;

the controller is configured to, in response to the four-directional control device receiving the user input associated with the third direction, effect movement of the current symbol list in the first direction such that the cursor moves in the third direction relative to the current symbol list;

the four-directional control device is configured to receive a user input associated with the second direction, when the cursor indicates a symbol other than one of the switch lists symbols;

the controller is configured to, in response to the four-directional control device receiving the user input associated with the second direction, when the cursor indicates a symbol other than one of the switch lists symbols, effect selection of the current symbol as the next symbol in the symbol string;

the four-directional control device is configured to receive a user input associated with one of the second direction and the fourth direction, when the cursor indicates one of the switch lists symbols; and

the controller is configured to, in response to the four-directional control device receiving the user input associated with the one of the second direction and the fourth direction, when the cursor indicates one of the switch lists symbols, effect changing of the symbol list to one of the other symbol lists.

6. The frequency converter of claim 5, wherein the symbol lists ~~(4)~~ are long relative to ~~the~~a size of the display ~~(1),~~ and only a part of each symbol list ~~(4)~~ is displayed at a time.

7. The frequency converter of claim 0~~5 or~~ **Error! Reference source not found.**~~6~~, wherein each of the symbol lists ~~(4)~~ contains a switch lists symbol ~~(6)~~, and the display is configured to display at least parts of the symbol lists ~~all of the symbol lists (4), or parts thereof, are displayed~~ when the cursor ~~(5)~~ is indicating the switch lists symbol ~~(6)~~.

8. The frequency converter of claim 7, wherein all of the symbol lists are displayed ~~only the current symbol list, which contains the current symbol, is displayed~~ when the cursor is indicating~~(5) indicates a symbol other than~~ the switch lists symbol ~~(6)~~.

~~9. The frequency converter according to any one of claims 5 to 8, configured to perform the method according to any one of claims 1 to 4.~~

9. The frequency converter of claim 7, wherein the display is configured to display only the current symbol list, which contains the current symbol, when the cursor indicates a symbol other than the switch lists symbol.

10. The frequency converter of claim 5, wherein the four-directional control device is configured to receive commands associated with a first, second, third and fourth directions.

11. The frequency converter of claim 10, wherein the controller is configured to effect relative movement between the cursor and at least the current symbol list in response to commands associated with the first and third directions.

12. The frequency converter of claim 11, wherein the controller is configured to select the current symbol as an input in response to a command associated with the second direction.

13. The frequency converter of claim 10, wherein the controller is configured to select the current symbol as an input in response to a command associated with the second direction.

14. The frequency converter of claim 10, wherein each of the symbol lists contains a switch lists symbol, and

wherein the controller is configured to, when the cursor indicates one of the switch lists symbols, effect the change of the current symbol list to one of the other symbol lists in response to commands associated with the second and fourth directions.

15. The frequency converter of claim 10, wherein the four-directional control device comprises four keys, each configured to receive an individual one of the commands associated with the first, second, third and fourth directions, respectively.

16. A frequency converter comprising:

a data structure including symbols grouped into at least two symbol lists, one of which is a current symbol list, each of the symbol lists containing a switch lists symbol;

a display configured to display at least part of at least the current symbol list and a cursor indicating one of the symbols as a current symbol;

a four-directional control device configured to receive commands, the four-directional control device being configured to receive commands associated with a first, second, third and fourth directions; and

a controller configured to, based on the received commands, selectively effect the change of the current symbol list to one of the other symbol lists, effect relative movement between the cursor and the current symbol list, and select the current symbol as an input, wherein:

the controller is configured to effect the change of the current symbol list to one of the other symbol lists in response to commands received when the cursor indicates one of the switch lists symbols and associated with at least one of the directions;

the second direction is perpendicular to the first direction, the third direction is opposite to the first direction, and the fourth direction is opposite to the second direction;

the controller is responsive to a user input associated with the first direction to move the current symbol list in the third direction such that the cursor moves in the first direction relative to the current symbol list;

the controller is responsive to a user input associated with the third direction to move the current symbol list in the first direction such that the cursor moves in the third direction relative to the current symbol list;

when the cursor indicates a symbol other than one of the switch lists symbols, the controller is responsive to a user input associated with the second direction to select the current symbol as the next symbol in the symbol string; and

when the cursor indicates one of the switch lists symbols, the controller is responsive to a user input associated with the second direction or the fourth direction to change the symbol list to one of the other symbol lists.

17. The frequency converter of claim 16, wherein the controller is configured to effect relative movement between the cursor and at least the current symbol list in response to commands associated with the first and third directions.

18. The frequency converter of claim 16, wherein the controller is configured to select the current symbol as an input in response to a command associated with the second direction.

19. The frequency converter of claim 16, wherein the controller is configured to, when the cursor indicates one of the switch lists symbols, effect the change of the current symbol list to one of the other symbol lists in response to commands associated with the second and fourth directions.

20. The frequency converter of claim 16, wherein the four-directional control device includes four keys, each configured to receive an individual one of the commands associated with the first, second, third and fourth directions, respectively.

21. A non-transitory computer-readable recording medium having a program recorded thereon that causes a processor of a frequency converter, which is configured to receive user inputs associated with a first direction, a second direction perpendicular to the first direction, a third direction opposite to the first direction, and a fourth direction opposite to the second direction, to execute operations comprising:

grouping potential symbols into at least two symbol lists;

treating one of the symbol lists as a current symbol list;

displaying at least part of at least the current symbol list;

displaying a cursor indicating one of the symbols in the current symbol list as a current symbol;

receiving commands via the four-directional control device;

based on the received commands, selectively changing the current symbol list to one of the other symbol lists, effecting relative movement between the cursor and the current symbol list, and selecting the current symbol as the next symbol in the symbol string;

providing each of the symbol lists with a switch lists symbol;

receiving via the four-directional control device a user input associated with the first direction;

in response to receiving the user input associated with the first direction, moving the current symbol list in the third direction such that the cursor moves in the first direction relative to the current symbol list;

receiving via the four-directional control device a user input associated with the third direction;

in response to receiving the user input associated with the third direction, moving the current symbol list in the first direction such that the cursor moves in the third direction relative to the current symbol list;

receiving via the four-directional control device a user input associated with the second direction, when the cursor indicates a symbol other than one of the switch lists symbols;

in response to receiving the user input associated with the second direction, when the cursor indicates a symbol other than one of the switch lists symbols, selecting the current symbol as the next symbol in the symbol string;

receiving via the four-directional control device a user input associated with one of the second direction and the fourth direction, when the cursor indicates one of the switch lists symbols; and

in response to receiving the user input associated with the one of the second direction and the fourth direction, when the cursor indicates one of the switch lists symbols, changing the symbol list to one of the other symbol lists.

Claims:

1. A method for obtaining a symbol string user input via a four-directional control device in a frequency converter, wherein the four-directional control device is configured to receive user inputs associated with a first direction, a second direction perpendicular to the first direction, a third direction opposite to the first direction, and a fourth direction opposite to the second direction, the method comprising:

grouping potential symbols into at least two symbol lists;

treating one of the symbol lists as a current symbol list;

displaying at least part of at least the current symbol list;

displaying a cursor indicating one of the symbols in the current symbol list as a current symbol;

receiving commands via the four-directional control device;

based on the received commands, selectively changing the current symbol list to one of the other symbol lists, effecting relative movement between the cursor and the current symbol list, and selecting the current symbol as the next symbol in the symbol string;

providing each of the symbol lists with a switch lists symbol;

receiving via the four-directional control device a user input associated with the first direction;

in response to receiving the user input associated with the first direction, moving the current symbol list in the third direction such that the cursor moves in the first direction relative to the current symbol list;

receiving via the four-directional control device a user input associated with the third direction;

in response to receiving the user input associated with the third direction, moving the current symbol list in the first direction such that the cursor moves in the third direction relative to the current symbol list;

receiving via the four-directional control device a user input associated with the second direction, when the cursor indicates a symbol other than one of the switch lists symbols;

in response to receiving the user input associated with the second direction, when the cursor indicates a symbol other than one of the switch lists symbols, selecting the current symbol as the next symbol in the symbol string;

receiving via the four-directional control device a user input associated with one of the second direction and the fourth direction, when the cursor indicates one of the switch lists symbols; and

in response to receiving the user input associated with the one of the second direction and the fourth direction, when the cursor indicates one of the switch lists symbols, changing the symbol list to one of the other symbol lists.

2. The method of claim 1, comprising:

displaying at least part of each symbol list when the cursor indicates one of the switch lists symbols.

3. The method of claim 1, comprising:

hiding other than the current symbol list when the cursor indicates a symbol other than one of the switch lists symbols.

4. The method of claim 1, wherein each symbol list contains more than five symbols, and

wherein the method comprises simultaneously displaying only one to five symbols from any one symbol list.

5. A frequency converter comprising:

a data structure including symbols grouped into at least two symbol lists, one of which is a current symbol list;

a display configured to display at least part of at least the current symbol list and a cursor indicating one of the symbols as a current symbol; and

a four-directional control device configured to receive commands; and

a controller configured to, based on the received commands, selectively effect the change of the current symbol list to one of the other symbol lists, effect relative movement between the cursor and the current symbol list, and select the current symbol as an input, wherein:

the four-directional control device is configured to receive user inputs associated with a first direction, a second direction perpendicular to the first direction, a third direction opposite to the first direction, and a fourth direction opposite to the second direction;

each of the symbol lists is provided with a switch lists symbol;

the four-directional control device is configured to receive a user input associated with the first direction;

the controller is configured to, in response to the four-directional control device receiving the user input associated with the first direction, effect movement of the current symbol list in the third direction such that the cursor moves in the first direction relative to the current symbol list;

the four-directional control device is configured to receive a user input associated with the third direction;

the controller is configured to, in response to the four-directional control device receiving the user input associated with the third direction, effect movement of the current symbol list in the first direction such that the cursor moves in the third direction relative to the current symbol list;

the four-directional control device is configured to receive a user input associated with the second direction, when the cursor indicates a symbol other than one of the switch lists symbols;

the controller is configured to, in response to the four-directional control device receiving the user input associated with the second direction, when the cursor indicates a symbol other than one of the switch lists symbols, effect selection of the current symbol as the next symbol in the symbol string;

the four-directional control device is configured to receive a user input associated with one of the second direction and the fourth direction, when the cursor indicates one of the switch lists symbols; and

the controller is configured to, in response to the four-directional control device receiving the user input associated with the one of the second direction and the fourth direction, when the cursor indicates one of the switch lists symbols, effect changing of the symbol list to one of the other symbol lists.

6. The frequency converter of claim 5, wherein the symbol lists are long relative to a size of the display, and only a part of each symbol list is displayed at a time.

7. The frequency converter of claim 5, wherein each of the symbol lists contains a switch lists symbol, and the display is configured to display at least parts of the symbol lists when the cursor is indicating the switch lists symbol.

8. The frequency converter of claim 7, wherein all of the symbol lists are displayed when the cursor is indicating the switch lists symbol.

9. The frequency converter of claim 7, wherein the display is configured to display only the current symbol list, which contains the current symbol, when the cursor indicates a symbol other than the switch lists symbol.

10. The frequency converter of claim 5, wherein the four-directional control device is configured to receive commands associated with a first, second, third and fourth directions.

11. The frequency converter of claim 10, wherein the controller is configured to effect relative movement between the cursor and at least the current symbol list in response to commands associated with the first and third directions.

12. The frequency converter of claim 11, wherein the controller is configured to select the current symbol as an input in response to a command associated with the second direction.

13. The frequency converter of claim 10, wherein the controller is configured to select the current symbol as an input in response to a command associated with the second direction.

14. The frequency converter of claim 10, wherein each of the symbol lists contains a switch lists symbol, and

wherein the controller is configured to, when the cursor indicates one of the switch lists symbols, effect the change of the current symbol list to one of the other symbol lists in response to commands associated with the second and fourth directions.

15. The frequency converter of claim 10, wherein the four-directional control device comprises four keys, each configured to receive an individual one of the commands associated with the first, second, third and fourth directions, respectively.

16. A frequency converter comprising:

a data structure including symbols grouped into at least two symbol lists, one of which is a current symbol list, each of the symbol lists containing a switch lists symbol;

a display configured to display at least part of at least the current symbol list and a cursor indicating one of the symbols as a current symbol;

a four-directional control device configured to receive commands, the four-directional control device being configured to receive commands associated with a first, second, third and fourth directions; and

a controller configured to, based on the received commands, selectively effect the change of the current symbol list to one of the other symbol lists, effect relative movement between the cursor and the current symbol list, and select the current symbol as an input, wherein:

the controller is configured to effect the change of the current symbol list to one of the other symbol lists in response to commands received when the cursor indicates one of the switch lists symbols and associated with at least one of the directions;

the second direction is perpendicular to the first direction, the third direction is opposite to the first direction, and the fourth direction is opposite to the second direction;

the controller is responsive to a user input associated with the first direction to move the current symbol list in the third direction such that the cursor moves in the first direction relative to the current symbol list;

the controller is responsive to a user input associated with the third direction to move the current symbol list in the first direction such that the cursor moves in the third direction relative to the current symbol list;

when the cursor indicates a symbol other than one of the switch lists symbols, the controller is responsive to a user input associated with the second direction to select the current symbol as the next symbol in the symbol string; and

when the cursor indicates one of the switch lists symbols, the controller is responsive to a user input associated with the second direction or the fourth direction to change the symbol list to one of the other symbol lists.

17. The frequency converter of claim 16, wherein the controller is configured to effect relative movement between the cursor and at least the current symbol list in response to commands associated with the first and third directions.

18. The frequency converter of claim 16, wherein the controller is configured to select the current symbol as an input in response to a command associated with the second direction.

19. The frequency converter of claim 16, wherein the controller is configured to, when the cursor indicates one of the switch lists symbols, effect the change of the current symbol list to one of the other symbol lists in response to commands associated with the second and fourth directions.

20. The frequency converter of claim 16, wherein the four-directional control device includes four keys, each configured to receive an individual one of the commands associated with the first, second, third and fourth directions, respectively.

21. A non-transitory computer-readable recording medium having a program recorded thereon that causes a processor of a frequency converter, which is configured to receive user inputs associated with a first direction, a second direction perpendicular

to the first direction, a third direction opposite to the first direction, and a fourth direction opposite to the second direction, to execute operations comprising:

grouping potential symbols into at least two symbol lists;

treating one of the symbol lists as a current symbol list;

displaying at least part of at least the current symbol list;

displaying a cursor indicating one of the symbols in the current symbol list as a current symbol;

receiving commands via the four-directional control device;

based on the received commands, selectively changing the current symbol list to one of the other symbol lists, effecting relative movement between the cursor and the current symbol list, and selecting the current symbol as the next symbol in the symbol string;

providing each of the symbol lists with a switch lists symbol;

receiving via the four-directional control device a user input associated with the first direction;

in response to receiving the user input associated with the first direction, moving the current symbol list in the third direction such that the cursor moves in the first direction relative to the current symbol list;

receiving via the four-directional control device a user input associated with the third direction;

in response to receiving the user input associated with the third direction, moving the current symbol list in the first direction such that the cursor moves in the third direction relative to the current symbol list;

receiving via the four-directional control device a user input associated with the second direction, when the cursor indicates a symbol other than one of the switch lists symbols;

in response to receiving the user input associated with the second direction, when the cursor indicates a symbol other than one of the switch lists symbols, selecting the current symbol as the next symbol in the symbol string;

receiving via the four-directional control device a user input associated with one of the second direction and the fourth direction, when the cursor indicates one of the switch lists symbols; and

in response to receiving the user input associated with the one of the second direction and the fourth direction, when the cursor indicates one of the switch lists symbols, changing the symbol list to one of the other symbol lists.