remote control codes to perform a learning procedure; a basic button set arranged on the body; and a processing unit arranged in the body. The processing unit has a microprocessor and a memory unit. The microprocessor is connected to the touch-type screen, infrared transmitter, infrared receiver and basic button set. The memory unit is provided to store default remote control codes and control commands. The touch-type screen can be activated by operating the basic button set to display a main menu page having a macro button, a previous page button, a next page button, and multiple items, each further corresponding to at least one menu page, for corresponding to various appliances to be controlled, each button being selected simply by touching. The touch-type screen can also be activated by operating the basic button set to display a setting menu screen for setting the universal remote control.

[0013] Other objects, advantages, and novel features of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] **FIG. 1** is a plain view showing a preferred embodiment of the intelligent touch-type universal remote control in accordance with the present invention;

[0015] **FIG. 2** schematically illustrates a main menu of the intelligent touch-type universal remote control in accordance with the present invention;

[0016] **FIG. 3** schematically illustrates a menu for a TV item present on a touch-type screen in accordance with the present invention;

[0017] **FIG. 4** schematically illustrates a menu for a macro button present on the touch-type screen in accordance with the present invention;

[0018] **FIG. 5** schematically illustrates a setting menu present on the touch-type screen in accordance with the present invention;

[0019] **FIG. 6** is a functional block diagram of the processing unit in the intelligent touch-type universal remote control in accordance with the present invention;

[0020] FIGS. **7A-7I** show a circuit diagram of a processing unit in the intelligent touch-type universal remote control in accordance with the present invention;

[0021] **FIGS. 8A and 8B** schematically illustrate screens for a program item under the setting menu;

[0022] **FIG. 9** schematically illustrates learning of remote control codes;

[0023] **FIG. 10** schematically illustrates that a message is displayed on the touch-type screen after completing a learning procedure;

[0024] **FIGS. 11A and 11B** show a flow chart of an automatic learning procedure in accordance with the present invention;

[0025] **FIG. 12** is a flow chart of an automatic searching procedure in accordance with the present invention;

[0026] **FIG. 13** is a flow chart to set the duration of a delay between transmitting two remote control codes by using a macro key in accordance with the present invention;

[0027] **FIG. 14** is a flow chart of a duplicate process for copying settings from a remote control to another one;

[0028] FIGS. **15A-15E** schematically illustrate the process to change the size and position of an item in accordance with the present invention;

[0029] **FIG. 16** is a flow chart to change the size and position of an item in accordance with the present invention:

[0030] **FIG. 17** is a flow chart to change the title of an item in accordance with the present invention;

[0031] **FIG. 18** schematically illustrates the screen for changing the title of an item in accordance with the present invention;

[0032] **FIG. 19A** is a flow chart for a channel classification function in accordance with the present invention; and

[0033] **FIG. 19B** is a flow chart for using the channel classification function in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0034] With reference to the figures and in particular **FIG. 1**, there is shown an intelligent touch-type universal remote control in accordance with a preferred embodiment of the present invention, which includes a body **10**, a touch-type screen **11** on the body **10**, an infrared transmitter **12** arranged on a predefined position of the body **10** for transmitting remote control codes, an infrared receiver **13** arranged at a predefined position of the body **10** for receiving remote control codes to perform a learning procedure, a basic button set **20** on the body **10**, and a processing unit (not shown) in the body **10**.

[0035] The touch-type screen **11** can be activated to display a main menu page by operating the basic button set **20**, as shown in **FIG. 2**. The main menu page provides a macro button (M), an information button (i), a previous page button **111**, a next page button **112**, and multiple items for corresponding to various appliances to be controlled. Each of the buttons can be selected simply by touching thereon.

[0036] The appliances to be controlled can be any kinds of electrical appliances. In this preferred embodiment, the appliances to be controlled shown on the main menu are a TV, an LD/VCD player, a DVD player, a VCR, an amplifier (AMP), a CD player, and other electrical appliances that can be remotely controlled.

[0037] When each touch-type item is pressed, the menu corresponding to the pressed item is entered. For example, when the TV item is pressed, the touch-type screen **11** is switched to display the menu for controlling the TV. **FIG. 3** shows the first page of the menu for controlling the IV which is a screen arranged with a set of keys. By touching the keys, the desired TV channels can be selected. It is noted that the previous page button **111** and the next page button **112** at the lower portion of the screen are provided for the user to change the displayed page, and thus they remain unchanged when the screen is changed. Taking the selection of a TV channel as an example, the first page is provided for channel select, and the subsequent pages may be provided for other purposes, such as CATV/TV select, TV/VIDEO select, timer setting, volume control, color adjustment and hot keys programming.