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JPH08205014A ELECTRONIC STILL CAMERA

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ELECTRONIC STILL CAMERA

Abstract

PURPOSE: To allow the user to delete an image even at a visiting place while simply confirming the image and to surely prevent accidental erasure of a required image by providing an operation key to a same case as that for a display section.

CONSTITUTION: An image pickup section, a storage means storing image data picked up by the image pickup section and a display section displaying image based on the image data stored in the storage means are integrated and an operation section of a key means provided to a same case as that of the display section is used to select an image to be displayed on the display section. That is, a still camera 101 with LCD is made up of two blocks being a main body section 102 and a camera section 103 and an LCD 106 is provided in a case 104 of the main body section 102. When an image having been picked up is erased, a key means provided to the same case is operated to display selectively a reproduced image on the LCD 106 integrated to the camera 101 and to find out an image desired to be erased and the erasure is executed while confirming the displayed image.

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The wording below is an initial machine translation of the original publication. To generate a version using the latest translation technology, go to the original language text and use Patent Translate.

[0001] The present invention relates, the present invention relates to an electronic still camera to record a still image on a recording medium.

[0002] Recently, an optical still image captured by the lens is converted into an electrical signal by the CCD, this electronic still camera, which was to be recorded on a recording medium such as a semiconductor memory or a floppy disk is put to practical use there.

[0003] Thus, In such an electronic still camera, the number that can be shot and recorded there has been a significant increase in the advance of large-capacity and image compression technique of the recording medium. Therefore, leave the time being lot of pictures on the go, to erase the unnecessary image sequential are considered how to use that to further shooting.

[0004] The present invention is, however, in the conventional electronic still camera, outside even if the monitor connection must be the task of erasing from by playing the image, it was very cumbersome. Further, in order to perform troublesome operations, it requires was also a possibility that erase the image.

[0005] The present invention has been made in view of the above circumstances, by providing the operation keys in the same housing and the display unit, also easily images can be erased operation while checking the on the go, also necessary together can reliably prevent erroneous erasure of image, and an object thereof is to provide an electronic still camera having a legible screen mode.

[0006] Means for Solving the Problems] The invention according to claim 1 includes an imaging unit, a storage means for storing image data captured by the imaging unit, an image based on image data stored in the storage means and a display unit for displaying an electronic still camera having integrally, by operating the key means provided in the same housing with the display unit, selects an image to be displayed on the display unit, and the display a selection means capable of moving the page of the image before and after, by the operation of the key means provided in the same housing with the display unit, corresponds to the image that has been selected is displayed on the display unit by said selection means first erasing means, by operating the key means provided in the same housing and the display portion, an image stored in said storage means for the one page erase image data stored in the storage means and a second erase means for erasing all pages of data, by operating the key means provided in the same housing with the display unit, as a possible deletion of the image data while confirming the image to delete there.

[0007] According to a second aspect of the invention, an imaging unit, a storage means for storing image data captured by the imaging unit, a display unit for displaying an image based on image data stored in the storage means integrally an electronic still camera comprising, by operating the key means provided in the same housing with the display unit, selects an image to be displayed on the display unit, and moving the pages of the displayed image before and after stored and selection means which can, by operating the key means provided in the same housing with the display unit, in the storage means corresponding to the image being selected is displayed on the display unit by said selection means and a erase protect setting means for setting on and off of the erase protector of the image data, by operating the key means provided in the same housing with the display unit, erasing the image data while confirming an image to erase protect thereby making it possible to protect the on-off setting.

[0008] Third aspect of the present invention includes a storage means for storing photographed image data, a display unit for displaying an image based on image data stored in the storage means, for selecting an image to be displayed on the display unit a selection unit, and the erase protection setting means for setting an on-off of the image data to erase protection of the storage means corresponding to the image selected by the selection means, on and off of the erase protection set by the erase protect setting means is constituted by a display selecting means for selecting whether to display together with the image displayed on the display portion the state as an incidental information.

[0009] Fourth aspect of the present invention is provided with a supplementary information erasing means for erasing the 該付zone information by the selection and not to the display of the supplementary information by said display selection means after a predetermined time elapses.

[0010] According to a fifth aspect of the invention, storage means for storing photographed image data, a display unit for displaying an image based on image data stored in the storage means, for selecting an image to be displayed on the display unit selection means and the erase protection setting means for setting an on-off of the image data to erase protection of the storage means corresponding to the image selected by the selection means, erase protection on has been set image by the erase protect setting means and it is composed of a skip execution unit to skip the display in the display unit relative.

[0011] According to a sixth aspect of the invention, a plurality of sheets can be stored reproduce an image picked up, in the erase protection can be set electronic still camera can be and with a single unit erase the image that was stored in a single unit, during the erase mode, erase a means for sequentially reproducing the stored image while skipping the image protection is set, and a means for erasing the reproduced image.

[0012] [Action] As a result, according to the first aspect of the invention, the imaging unit, storage means for storing image data captured by the imaging unit, a display for displaying an image based on image data stored in the storage means and parts have been integrally, select an image to be displayed on the display unit by operating the key means provided in the same casing and display unit, and thereby enabling to page of the display image before and after, the by allowing image data erasing one page or whole pages of storage means corresponding to the selected image, while selectively displayed on the display unit a reproduction image, out find the image to be erased, while checking it , it can be made to run the page erase.

[0013] According to the second aspect of the invention, the imaging unit, storage means for storing image data captured by the imaging unit, and is provided integrally with a display unit for displaying an image based on image data stored in the storage means has been to select the image to be displayed on the display unit by operating the key means provided in the same casing and display unit, and thereby enabling to page of the display image back and forth, in the selected display unit can set off of the erase protection with a single unit for storing the image because it can set the on-off of the erase protector of the image data stored in said storage means corresponding to the image displayed, erroneous erasing of important image It can be prevented.

[0014] According to the third aspect of the present invention, it has a display unit that displays an image based on image data stored in the storage means, selected by the selection means an image to be displayed on the display unit, which is the selected with and can be set by the erase protection setting means the on-off of the erase protection for the image data of the corresponding storage means to the image, display together with the image to be displayed on the display unit the status of the on-off of the erase protection, which is the setting as supplementary information since either has been whether to be selected by the display selection means for, when you do not require the display of supplementary information may be easily removed from the display screen by the user's intention.

[0015] According to the invention of claim 4, wherein, when it is selected not to display the auxiliary information by the display selecting means, since so as to erase the supplementary information erasing means the supplementary information after a predetermined time, the accompanying information it can be if you do not want the display also make sure the on-off state of the erase protection in once.

[0016] According to the fifth aspect of the present invention, it has a display unit that displays an image based on image data stored in the storage means, selected by the selection means an image to be displayed on the display unit, which is the selected as well as set by the erase protection setting means the on-off of the erase protection for the image data in the storage means corresponding to the image, so as to skip by skip execution means the display on the Ki display unit for the image erase protection on has been set because with that to, upon image selection at the time of page erase, for the erase protection has been set on the image, which can be automatically to skip.

[0017] Then, according to the sixth aspect of the present invention, during the erase mode, while successively reproducing the stored image skip an image erase protection is set, can be made to erase the reproduced arbitrarily image was.

[0018] EXAMPLES Hereinafter, embodiments of the present invention will be described in accordance with the accompanying drawings. (First Embodiment) The first embodiment, in which to be able to erase while checking to display the recorded images on the LCD one by one.

[0019] 1 through 5 show the appearance of an electronic still camera according to the present invention. In this case, FIG. 1 shows an LCD-mounted digital still camera as an example of an electronic still camera, Fig. 2 is a front view thereof, FIG. 3 (a) (b) is a plan view and a bottom view.

[0020] As shown in FIG, LCD mounted digital still camera 101 is composed of two blocks divided into a main body 102 and the camera unit 103. Then, in the case 104 of the main body portion 102, LCD 106 is provided, the LCD 106 is directed to the rear surface side of the case 104.

[0021] Further, the upper portion of the casing 105 of the camera unit 103, the imaging lens 107 is provided, the imaging lens 107 is directed to the front side of the case 105.

[0022] In addition, the body portion 102 is provided on the top surface of the case 104, the power switch 108, a shutter button 109, delete key 110, plus key 111, minus key 112, mode key 113, display key 114, a zoom key 115, the self-timer key 116 with, and includes external power supply terminal (not shown) in the opening and closing lid 117, a video output terminal, such as a digital terminal.

[0023] Further on the front surface of the case 104, it includes a function switch key 118, also on the lower surface of the case 104 is provided with a tripod hole 119. Case 104 above the body portion 102, right hand operation side by the photographer is turned with the grip portion 120 by the grip-shaped portion which is a bulging shape so easy grip by the hand, the lower surface openable corresponding to the grip portion 120 the battery cover 121 is provided. Further, the shutter button 109 is positioned on the upper surface of the grip portion 120.

[0024] The camera unit 103 includes a focus switching switch 122 to the side surface of the case 105. Then, the camera unit 103 is disposed on the side surface of the left hand operation side by the photographer with respect to the body 102, 90 ° forward with respect to the main body portion 102 as shown in FIGS. 4 and 5, the rear 180 ° rotatable are assembled.

[0025] 6 shows a circuit configuration of such an electronic still camera. In FIG, 1 is a CCD, the CCD1 is so as to convert the still image that is imaged through a lens (not shown) into an electrical signal.

[0026] Then, provide electrical signals from the CCD1 into buffer 2, after amplifying here to a predetermined level, supplied to the A / D converter 3. A / D conversion unit 3 is the digital data the still image signal and converts into (hereinafter, referred to as a video signal.), Supplies the video signal to the TG (Timing Generator) 4.

[0027] TG4 is for generating a timing signal for controlling the driving circuit 4 for driving the CCD 1, and supplies this timing signal to the drive circuit 5, so that capturing an image signal in accordance with the timing signal.

[0028] The TG 4, connects the DRAM (dynamic memory) 6, the compression / decompression unit 7 and a flash memory (image memory) 8. DRAM6 is a storage medium for temporarily storing an image signal taken in accordance with the timing signal TG 4. Further, the DRAM 6, is read out when the video signal under the control of the CPU9 to be described later is captured for one screen has been completed, and is also to color processing for separating a luminance signal and a color signal is subjected to .

[0029] Compression / decompression unit 7, a luminance signal and a color signal separated by the color processing, for example, while compressing the compression method such as JPEG (Joint Photographic Coding Experts Group) system, expands a compressed compression video signal processing so that the applied. Then, the flash memory 8 is for storing the compressed video signal (luminance signal and a color signal).

[0030] On the other hand, 9 by a CPU, a The CPU 9, the above TC4, DRAM 6, the compression / decompression unit 7, in addition to the flash memory 8, a key input unit 10, ROM 11, RAM 12 and SG (Signal Generator: a video signal generator) connecting the 13.

[0031] CPU9 is for controlling the operation of each unit in accordance with the state of the switch of the program and the key input unit 10 in the ROM11. The key input unit 10, an operation mode in which is composed of such as a switch for setting (video capture key or playback key) and various setting values, the state at the key input unit 10 is incorporated into CPU 9. RAM12 is used as a working area of the CPU 9. Further, SG13 superimposes the color signals into a luminance signal which has been expanded by the compression / decompression unit 7 is for creating a digital video signal by adding a sync signal.

[0032] The SG13, connects the VRAM (video RAM) 14 and a D / A converter 15 is connected to D / A converter 15 to via a buffer 16 the output terminal 17 and LCD (liquid crystal display) 18.

[0033] VRAM14 is a storage medium for storing digital video signals. Further, D / the A converter 15, the analog signal digital video signal output from SG13 together into a (hereinafter, referred to as. An analog video signal) is output from the output terminal 17 via a buffer 16, supplied to the LCD18 It is way. LCD18 is for displaying an image in accordance with the analog video signals supplied via the buffer 16.

[0034] The CPU9, connects the serial I / O20 through the I / O port 19. The I / O port 19, and functions as an interface for inputting and outputting a video signal converted into a serial signal.

[0035] Thus, in such an electronic still camera which is constructed, when the erase mode by the key input unit 10 is set, the flow chart shown in FIG. 7 is executed. In this case, from a state in which performs display of a normal reproduced image to the LCD18 as shown in FIG. 9 a, by setting the erase mode by the key input unit 10, page erase as shown in FIG. 9 b "PAGE DEL "erases all" aLL DEL ", mode release" EXIT "is displayed menu, one of the instructions of these menu is prompted.

[0036] Here, and instructs page erase, YES is determined in step 201, the process proceeds to step 202, and displays the page erase. The display in the LCD18 in this case, the display together with the fact of the page erase, as shown in FIG. 8 an enlarged view of in FIG. 9 c, each menu execution "YES", releasing "EXIT" and +/- select "SELECT" There is displayed.

[0037] Referring now, if operating the "+" key, YES is determined in step 203, the process proceeds to step 204, it displays the reproduced image of the next page, also "-" and operates the key, YES and determination at step 205 are, the process proceeds to step 206, so that the reproduction screen on the previous page is displayed.

[0038] In this way, the "+" key or the "-" to manipulate the key, the reproduction image as shown in FIG. 9 d are displayed in the order on LCD18, to select the image you want to erase while watching this. Then, after confirming find the image to be erased on LCD 18, and operates the execution key, YES is determined in step 207, the page is cleared at step 208, at step 209, the erase as shown in FIG. 9 e image of the next page of the page is to be displayed on the LCD18.

[0039] Here, if the image is missing to be deleted, and operates the release key, in step 210, the erase mode is determined as YES is released, in step 211, is returned to the normal mode shown in FIG. 9 a.

[0040] On the other hand, and instructs full erasure "ALL DEL" from the display screen shown in FIG. 9 b, confirmation of complete deletion is made on the LCD18 as shown in FIG. 9 f, wherein when an instruction to "YES", step 212 in, it is determined YES, and the process proceeds to step 213 erases all of the pages are executed, "NO the MEMORY" is displayed on the LCD18 as shown in FIG. 9 g, it is returned to the normal mode in step 211.

[0041] Further, when an instruction to erase mode release "EXIT" from the display screen shown in FIG. 9 b, in step 214, it is determined YES, and in step 211, is returned to the normal mode shown in FIG. 9 a.

[0042] Therefore, according to this first embodiment, when erasing recorded images, while displaying the selectively reproduced image on the LCD18 incorporated integrally out find the image to be erased, to confirm this while, it is possible to perform the erase, providing a conventional external monitor as compared to that so as to connect it, not only does not require a troublesome labor, such as an external monitor, the field even if the external monitor is not ready in use, such as, in the easy and can be achieved reliably page erase while checking the erase screen. Further, since the obtained a page erase is desired only by the key operation at the key input unit 10 in accordance with various instructions on the screen of the LCD 18, it is also possible to realize excellent operability. (Second Embodiment) The second embodiment is obtained by the so applied erasure protector for each sheet of recording images.

[0043] In this case, for the schematic structure of an electronic still camera, it is the same as that of FIG. 6 described above, it is assumed here that is incorporated to the same figure. Incidentally, the flash memory 8 in this case, as the header table as shown in FIG. 10, a header data 81 and 82 corresponding to each page image, have a ... 8n, these header data 81, ... 8n is , the corresponding image data is stored erase protect flag 8b memory address 8a stored.

[0044] Then, in the electronic still camera thus configured, first, the case of the protect ON to apply the erase protect, selects an image to be desired while viewing the image displayed on the LCD 18. Then, when the corresponding image is found, and operates the protection key from the key input unit 10, a flow chart shown in FIG. 11 (a) is executed.

[0045] In this case, in step 601, reads the header data 81 and 82 of the header table stored in the flash memory 8, a ... 8n on DRAM 6. Then, in step 602, it searches the header of the image data displayed on the current LCD 18. For example, if one image data of the first page to the LCD18 is displayed, so that the header data 81 is searched.

[0046] Then, the process proceeds to step 603, sets a erase protect flag in the header data searched, in step 604, to clear the header table of the flash memory 8, the process proceeds to step 605, write the headers table on DRAM6 the flash memory 8 back to end the process.

[0047] In this case, the image data in the protect ON state of being subjected to erase protect, for example, in the case of 8 th page image data, the display of the additional information of "8P" in the upper right corner of the screen of as shown in FIG. 12 (b) It is made.

[0048] On the other hand, in the case of protected OFF to cancel the erase protect, selects an image to be desired while viewing the image displayed on the LCD 18. Then, when the corresponding image is found, and operates the unprotect key from the key input unit 10, a flow chart shown in FIG. 11 (b) is performed.

[0049] In this case, in step 606, reads the header data 81 and 82 of the header table stored in the flash memory 8, a ... 8n on DRAM 6. Then, in step 607, it searches the header of the image data displayed on the current LCD 18. For example, if one image data of the first page to the LCD18 is displayed, so that the header data 81 is searched.

[0050] Then, the process proceeds to step 608, lower the erase protect flag in the header data searched, in step 604, to clear the header table of the flash memory 8, the process proceeds to step 605, write the headers table on DRAM6 the flash memory 8 back to end the process.

[0051] In this case, additional information of the image data in the protected OFF state is released to erase protect, for example, in the case of image data of the eighth page, Figure 12 regular "8" to the upper right corner of the screen as shown in (a) display of is made.

[0052] Therefore, according to this second embodiment, the recording image, can be set ON / OFF of the erase protection with a single unit, by setting the erase protection ON the important image data, wrong thing that would be erased can be reliably prevented. (Third embodiment) in the third embodiment, whether or not to display the supplementary information, such as a page number or erase-protected information of the image together with the reproduced image as a possible selection, erase protection further in the state of incidental information display OFF If the processing performed also one in which the user has to easily discriminated oN / OFF of the erase protection.

[0053] Again, for the schematic structure of the electronic still camera is the same as that shown in FIG. 6 described above, it is assumed that reference to FIG. Here, also the flash memory 8 in this case, the header data 81 and 82 corresponding to each page image as header table as shown in FIG. 10, it has a ... 8n, these header data 81, ... 8n are respectively image data is assumed to store the memory address 8a and the erase protect flag 8b stored.

[0054] Then, in the electronic still camera thus configured, first, the case of the protect ON to apply the erase protect, where to select the image to be desired while viewing the image displayed on the LCD 18, is found true image, the key input unit 10 by operating more protection key, it is the flow chart shown in FIG. 13 (a) is executed.

[0055] In this case, in step 801, to perform the erase protect processing of the image memory. Erase protect processing here is the same as described in FIG. 11 described above (a).

[0056] Then, in step 802, whether the instruction is prompted to turn ON the display of supplementary information. Here, if it is instructed to display ON from the key input unit 10, the process proceeds to step 803, the page number and "P" are displayed as supplementary information. 14 in a can, if appropriate image of the eighth page, display of additional information of "8P" is made in the upper right corner of the screen.

[0057] On the other hand, in step 802, if the user designates the display OFF from the key input unit 10, the process proceeds to step 804, first, the page number and "P" are displayed as supplementary information. b in Figure 14, if the appropriate image of the eighth page, display of additional information of "8P" is made in the upper right corner of the screen. Then, after waiting for one second at step 805, the process proceeds to step 806, turn off the display page number and "P" as supplementary information. Figure 14 c in shows a state where the display of the supplementary information of the upper right corner of the screen is erased.

[0058] Then, even if the protected OFF to cancel the erase protect, select an image to be desired while viewing the image displayed on the LCD 18, where is found the corresponding image, and operates the protection key from the key input unit 10, FIG. 13 (b) a flow chart shown in runs.

[0059] In this case, in step 807, to perform the erase protect processing of the image memory. Erase protect processing here is the same as described in FIG. 11 described above (b).

[0060] Then, in step 808, whether the instruction is prompted to turn ON the display of supplementary information. Here, if it is instructed to display ON from the key input unit 10, the process proceeds to step 809, only the page number is displayed as supplementary information. 14 in d is, if the appropriate image of the eighth page, display of additional information of "8" is made in the upper right corner of the screen.

[0061] On the other hand, in step 808, if the user designates the display OFF from the key input unit 10, the process proceeds to step 809, at first, only the page number is displayed as supplementary information. 14 in e is, if the appropriate image of the eighth page, display of additional information of "8" is made in the upper right corner of the screen. Then, after waiting for one second at step 810, the process proceeds to step 811, turn off the display of the page number as incidental information. Figure 14 c in shows a state where the display of the additional information of the upper-right corner of the relevant screen is erased.

[0062] Therefore, according to the third embodiment, the recording image, it is possible to set the ON / OFF of the erase protection with a single unit, as supplementary information the ON / OFF status of the erase protection is this set, since it is possible to select whether to display together with the display image of the LCD 18, that do not require the display of supplementary information may be easily removed from LCD 18 screen by the user's intention. Moreover, if no display of supplementary information, since so as to clear this supplementary information after a predetermined time has elapsed, it is possible to may not display the supplementary information to confirm the ON / OFF status of the erase protection at once . (Fourth Embodiment) The fourth embodiment is obtained by realizing a page erase in the case where the image is under erase protection in the recorded image is present.

[0063] In this case, for the schematic structure of an electronic still camera, it is the same as that of FIG. 6 described above, it is assumed here that is incorporated to the same figure. In this case, when the erase mode is set by the key input unit 10, the flowchart shown in FIG. 15 is executed.

[0064] First, from a state in which performs display of a normal reproduced image, setting an erase mode through the key input unit 10, in step 1001, the display of the page erase. Display in LCD18 in this case, the display together with the fact of the page erase, as shown in FIG. 8 described above, run "YES", the menu of release "EXIT" and +/- select "SELECT" is displayed.

[0065] Here, if operating the "+" key, YES is determined in step 1002, the process proceeds to step 1003, it is determined whether erase protect the next page is in the ON state. In this case, if NO, the process proceeds to step 1004, reproduced image of the next page is displayed. In addition, if YES, in step 1005, to skip to the next page, go back to step 1003, further erase protection on the next page to determine whether there is in the ON state. In this case, if NO, the process proceeds to step 1004, so that the reproduction image of the next page is displayed.

[0066] On the other hand, "-" and operates the key, YES is determined in step 1006, proceeds to step 1007, it is determined whether erase protect the previous page is ON. In this case, if NO, the process proceeds to step 1008, reproduced image of the previous page is displayed. In addition, if YES, in step 1009, to skip the previous page, returns to the step 1007, further erase protection on the previous page to determine whether there is in the ON state. In this case, if NO, the process proceeds to step 1008, so that the reproduction image of the previous page is displayed.

[0067] That is, in this case, the image a in the order of FIG. 16, b, together with c is recorded, if one is taking erase protection in the second image b, if the "+" key described above is operated an image selection as shown in is performed FIG. (b) from FIG. 17 (a), the conversely, the aforementioned "-" if the key is operated, the FIGS. 17 (b) (a) so that the image selection, such as shown in is performed.

[0068] And, such "+" key or "-" by the operation of the key, and select the image you want to erase, after checking to find the image you want to erase on LCD18, and operates the execution key, YES is determined in step 1010, the page is cleared at step 1011, in step 1012, the image of the next page erase page is to be displayed on the LCD 18.

[0069] Here, if the image you want to erase can not be found, and operates the release key, in step 1013, erasing mode it is determined that YES is released, in step 1014, it is returned to the normal mode.

[0070] Therefore, according to the fourth embodiment, when an image selection at page erase, for setting image erase protection ON, not set to erase protection ON this automatically skip so that to be able to display an image on the LCD18, it is possible to realize an efficient page erase.

[0071] The present invention is not limited only to the above embodiments can be carried out appropriately modified within a scope not changing the gist. In the present invention, although using the term electronic still camera, for example, it goes without saying that also includes an image input device for a computer.

[0072] According to the present invention as described above, according to the present invention, while displaying the selectively image on the display unit, which provided integrally, out to find the image you want to erase, while confirming this, the erase since can be executed by preparing a conventional external monitor as compared to that so as to connect it, not only does not require a troublesome labor, such as an external monitor, the external monitor is used, such as outdoors even if you can not be prepared, in the easy and can be achieved reliably page erase while checking the erase screen.

[0073] In addition, since it can be set on and off of the erase protection in one unit to the storage image, by setting the erase protection ON for important image data, accidentally reliably prevent that would be erased be able to.

[0074] Moreover, if you do not require the display of supplementary information can be easily excluded from the display screen on the intention of the user. Moreover, it once to confirm the on-off status of the erase protection even without the display of supplementary information can.

[0075] In addition, when the image selection at the time of page erase, for a set image erase protection is turned on, this automatically to be able to skip, it is possible to realize an efficient page erase.

[0076] Brief description of the drawings

[0077] Perspective view of a digital still camera with LCD of the first embodiment of FIG 1 the present invention.

[0078] Figure 2 a front view of the LCD with digital still camera of the first embodiment.

[0079] Figure 3 a plan view and a bottom view of the LCD with digital still camera of the first embodiment.

[0080] Figure 4 Rear view of the main body portion from the LCD side in a state in which the camera portion of the LCD with digital still camera of the first embodiment was 90 ° rotated forward,

[0081] Figure 5 a plan view of the main body portion from the upper surface side of the camera portion of the LCD with digital still camera in a state of 90 ° rotation in front of the first embodiment.

[0082] Figure 6 shows a circuit configuration of an LCD with digital still camera of the first embodiment.

[0083] Flow chart for explaining the Fig. 7 the operation of the first embodiment.

[0084] Figure 8 shows a display example of the first embodiment.

[0085] Figure 9 shows an example of a display transition of the first embodiment.

[0086] It shows the header table of the flash memory used in the second embodiment of FIG. 10 present invention.

[0087] Flow chart for explaining the 11 operation of the second embodiment.

[0088] Figure 12 shows a display example of the second embodiment.

[0089] Flow chart for explaining the operation of the third embodiment of FIG. 13 present invention.

[0090] Figure 14 shows a display example of the third embodiment.

[0091] Flow chart for explaining the operation of the fourth embodiment of FIG. 15 present invention.

[0092] Diagram illustrating a display example of FIG. 16 a fourth embodiment.

[0093] Diagram showing a display example of FIG. 17 the fourth embodiment.

[0094] Description of the code

[0095] 101 ... LCD with a digital still camera, 102 ... the main body portion, 103 ... the camera unit, 104 ... case, 105 ... case, 106 ... LCD, 107 ... imaging lens, 108 ... power switch, 109 ... shutter button, 110 ... delete key, 111 ... plus key, 112 ... minus key, 113 ... mode key, 114 ... display key, 115 ... zoom key, 116 ... self-timer key, 117 ... opening and closing the lid, 118 ... function switch key, hole for 119 ... tripod, 120 ... grip Department, 121 ... the battery cover, 1 ... CCD, 2 ... buffer, 3 ... A / D conversion section, 4 ... TG, 5 ... drive circuit, 6 ... DRAM, 7 ... the compression / decompression unit, 8 ... flash memory, 9 ... CPU, 10 ... key input unit, 11 ... ROM, 12 ... RAM, 13 ... SG, 14 ... VRAM, 15 ... D / A converter, 16 ... buffer, 17 ... output terminal, 18 ... LCD, 19 ... I / O port, 20 ... serial I / O.

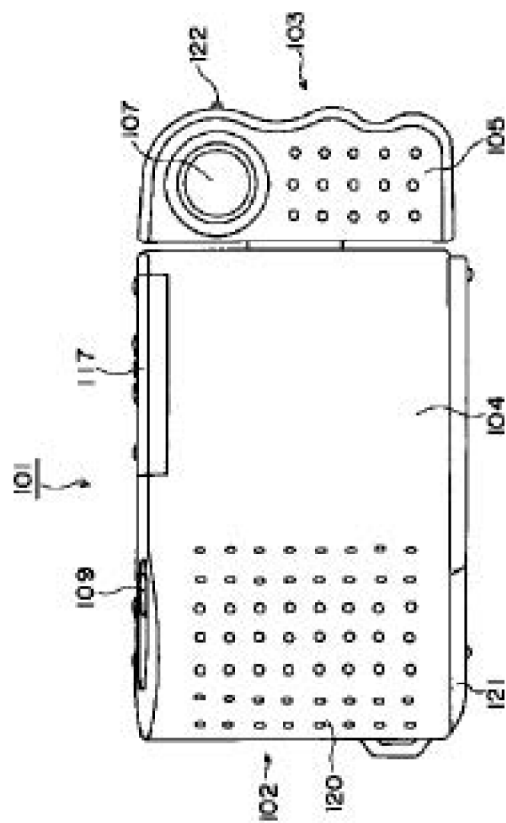
JPH08205014A ELECTRONIC STILL CAMERA

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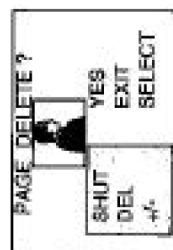
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1. An imaging unit, a storage means for storing image data captured by the imaging unit, a display unit for displaying an image based on image data stored in the storage means to an electronic still camera provided with integrally, by operating the key means provided on the display portion and the same housing, to select the image to be displayed on the display unit, and a selection means for the pages of the displayed image can be moved back and forth, the display the operation of the key means provided in the same housing and parts, first the selected erase said one image data stored in said storage means corresponding to the image displayed on the display unit a page by said selection means and 1 erase means, by operating the key means provided on the display portion and the same housing, and a second erase means for erasing all pages of the image data stored in the storage means, said display by operating the key means provided in the same housing and parts, electronic still camera which is characterized in that it possible to erase the image data while confirming the image to be erased.
2. An imaging unit, a storage means for storing image data captured by the imaging unit, a display unit for displaying an image based on image data stored in the storage means to an electronic still camera provided with integrally, by operating the key means provided on the display portion and the same housing, to select the image to be displayed on the display unit, and a selection means for the pages of the displayed image can be moved back and forth, the display the operation of the key means provided in the same housing and parts, on and off of the erase protector of the image data stored in said storage means corresponding to the image being selected is displayed on the display unit by said selection means and a erase protect setting means for setting, by operating a key means provided in the same housing with the display unit, to enable the on-off setting of the erase protection of the image data while confirming an image to erase protect electronic still camera, characterized in that.
3. Storage means for storing photographed image data, a display unit for displaying an image based on image data stored in the storage means, selection means for selecting an image to be displayed on the display unit, by the selection means and erase protect setting means for setting on and off of the erase protect the image data of said storage means corresponding to the selected image, the display portion the state of OFF of erase protection set by the erase protect setting means as additional information electronic still camera being characterized in that and a display selecting means for selecting whether to display together with the image displayed on.
4. Electronic still camera according to claim 3, characterized by including the supplementary information erasing means for erasing the 該付zone information by the selection and not to the display of the supplementary information by said display selection means after a predetermined time elapses.
5. Storage means for storing photographed image data, a display unit for displaying an image based on image data stored in the storage means, selection means for selecting an image to be displayed on the display unit, by the selection means and erase protect setting means that the image data of the storage means corresponding to the selected image to set the on-off of the erase protection, in the display unit to erase protection on has been set image by this erase protection setting means electronic still camera being characterized in that includes a skip execution unit to skip the display, the.
6. An image captured a plurality of sheets can be stored playback, skip in erasable and electronic still camera erasable protection on one unit the stored image with a single unit, during the erase mode, the image to erase protection has been set electronic still camera means for sequentially reproducing the stored image while, characterized in that and means for erasing the reproduced image.

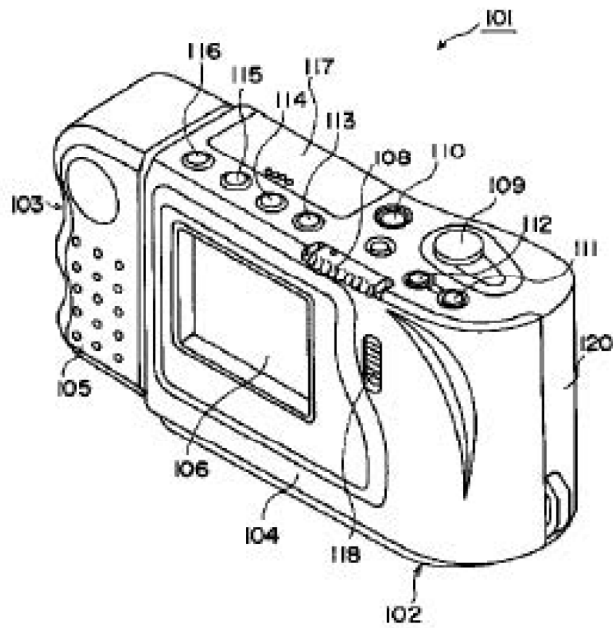
[Figure 2]



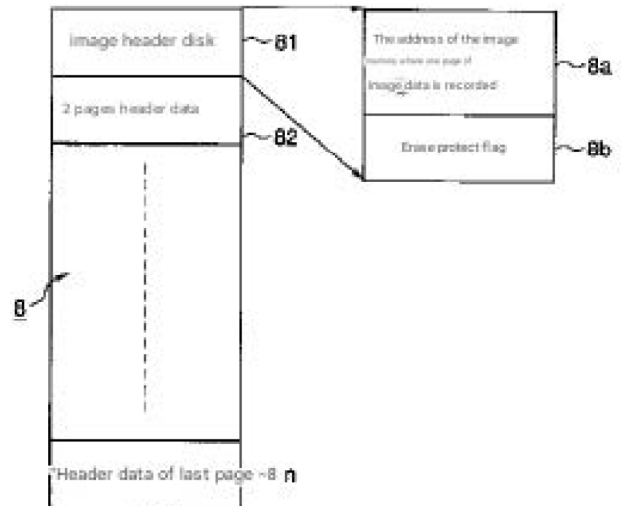
[Figure 8]



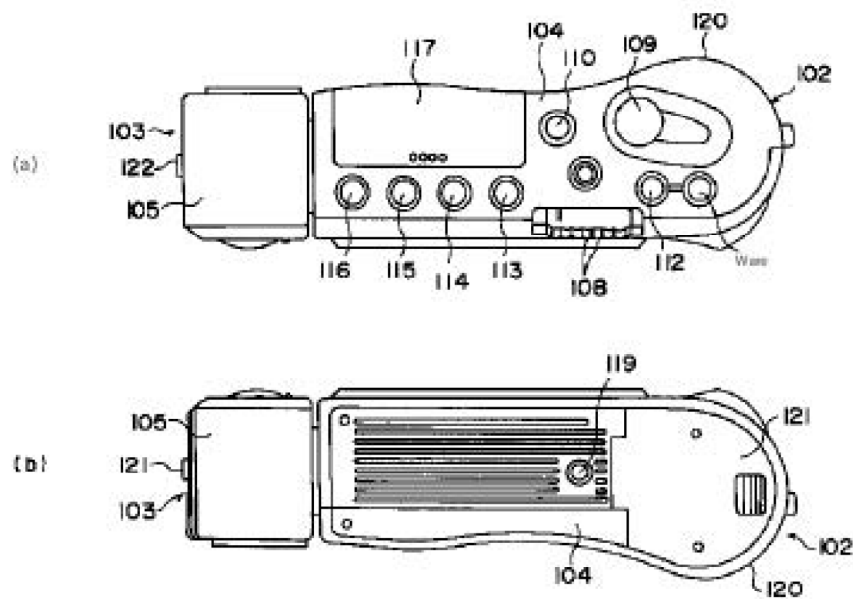
[Figure 1]



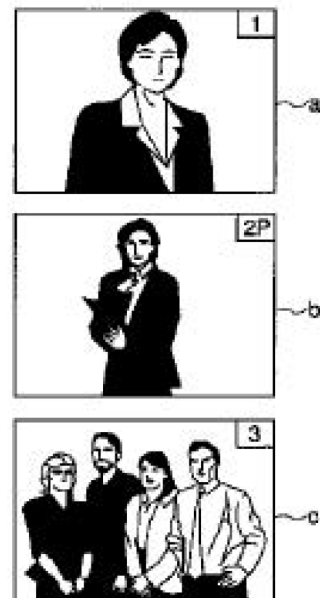
[Figure 10]



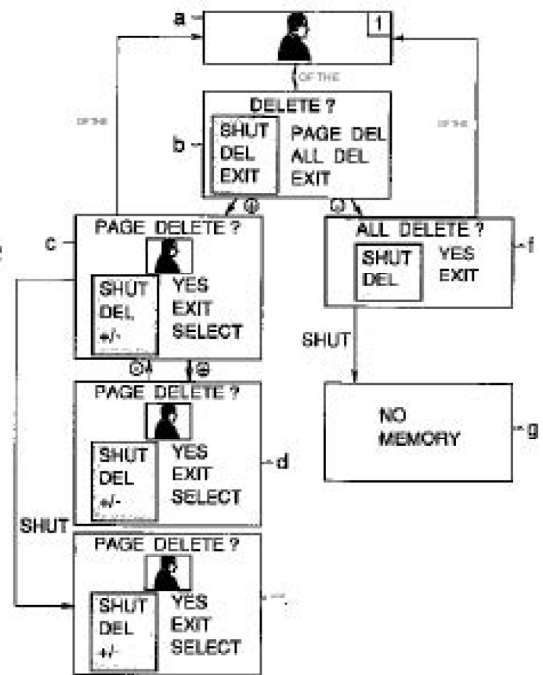
[Figure 3]



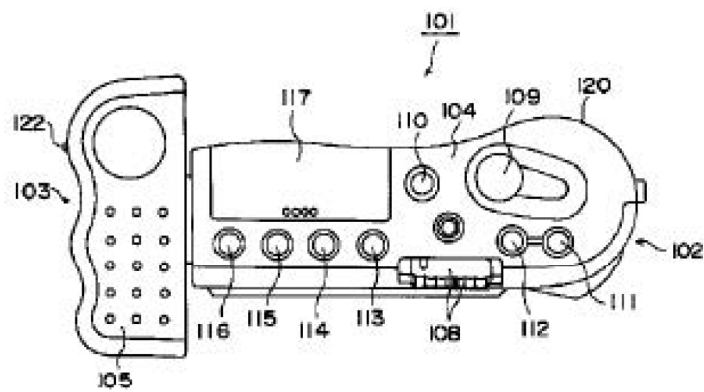
[Figure 16]



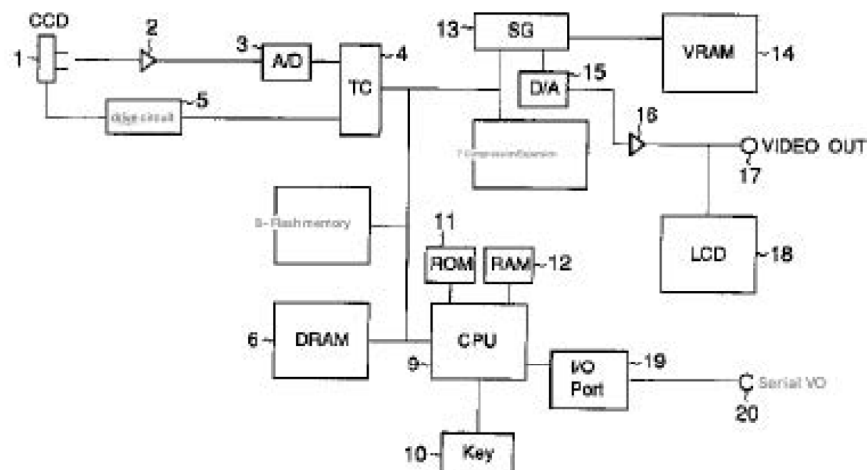
[Figure 7]



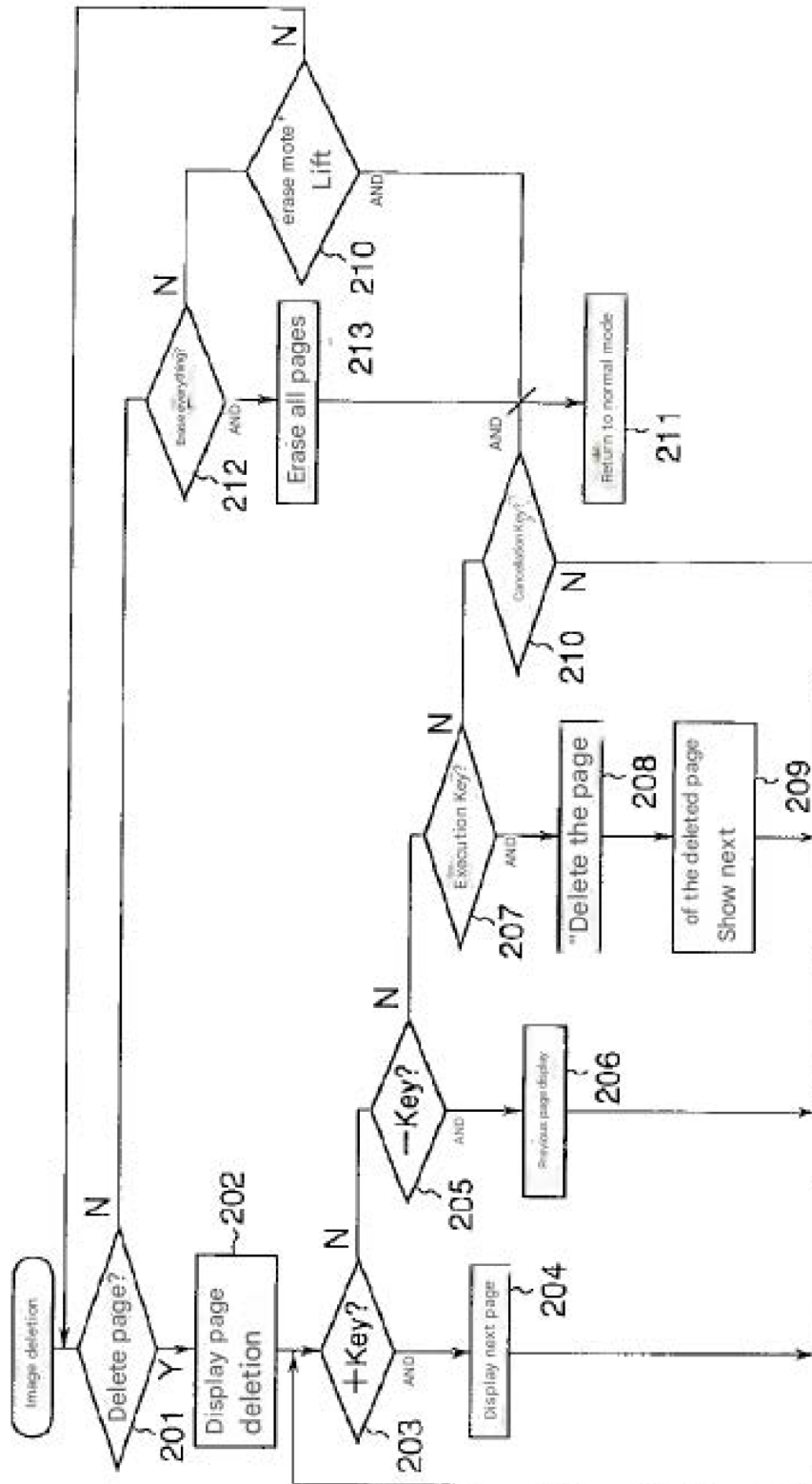
[Figure 5]



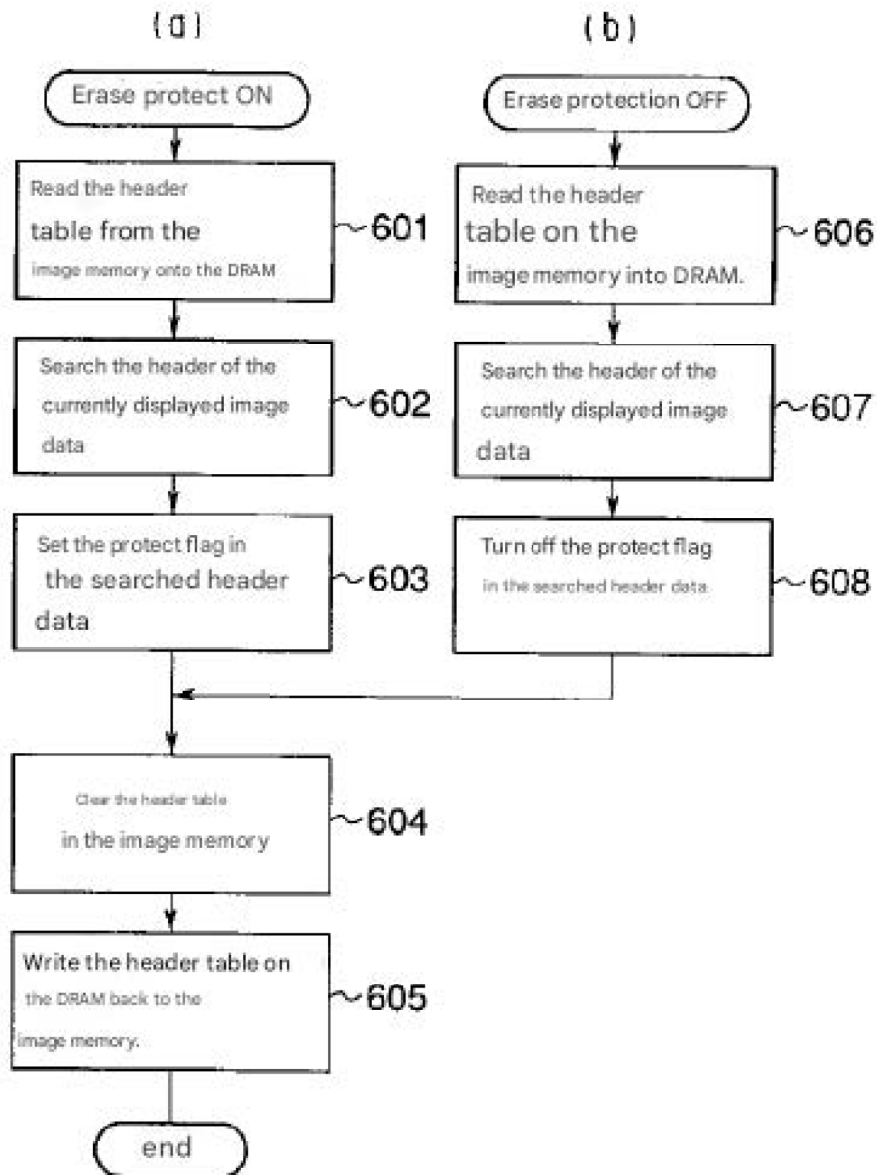
[Figure 6]



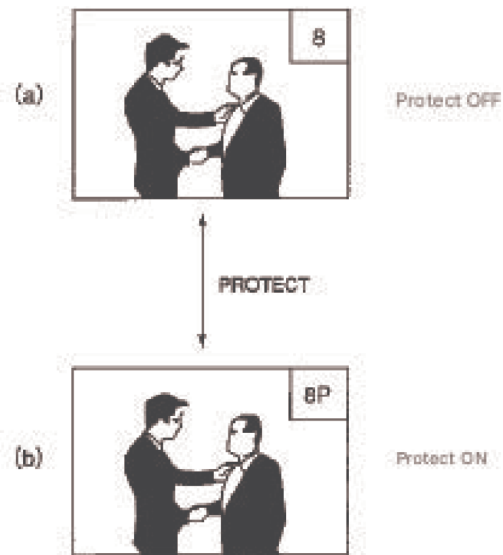
[Figure 7]



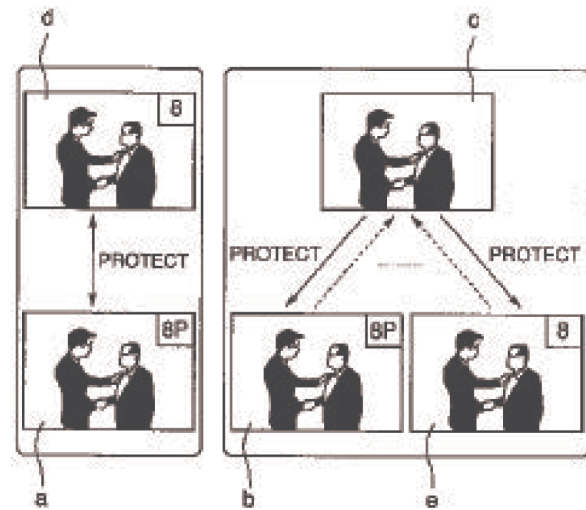
[Figure 11]



【図 12】



[Figure 14]



[Figure 17]



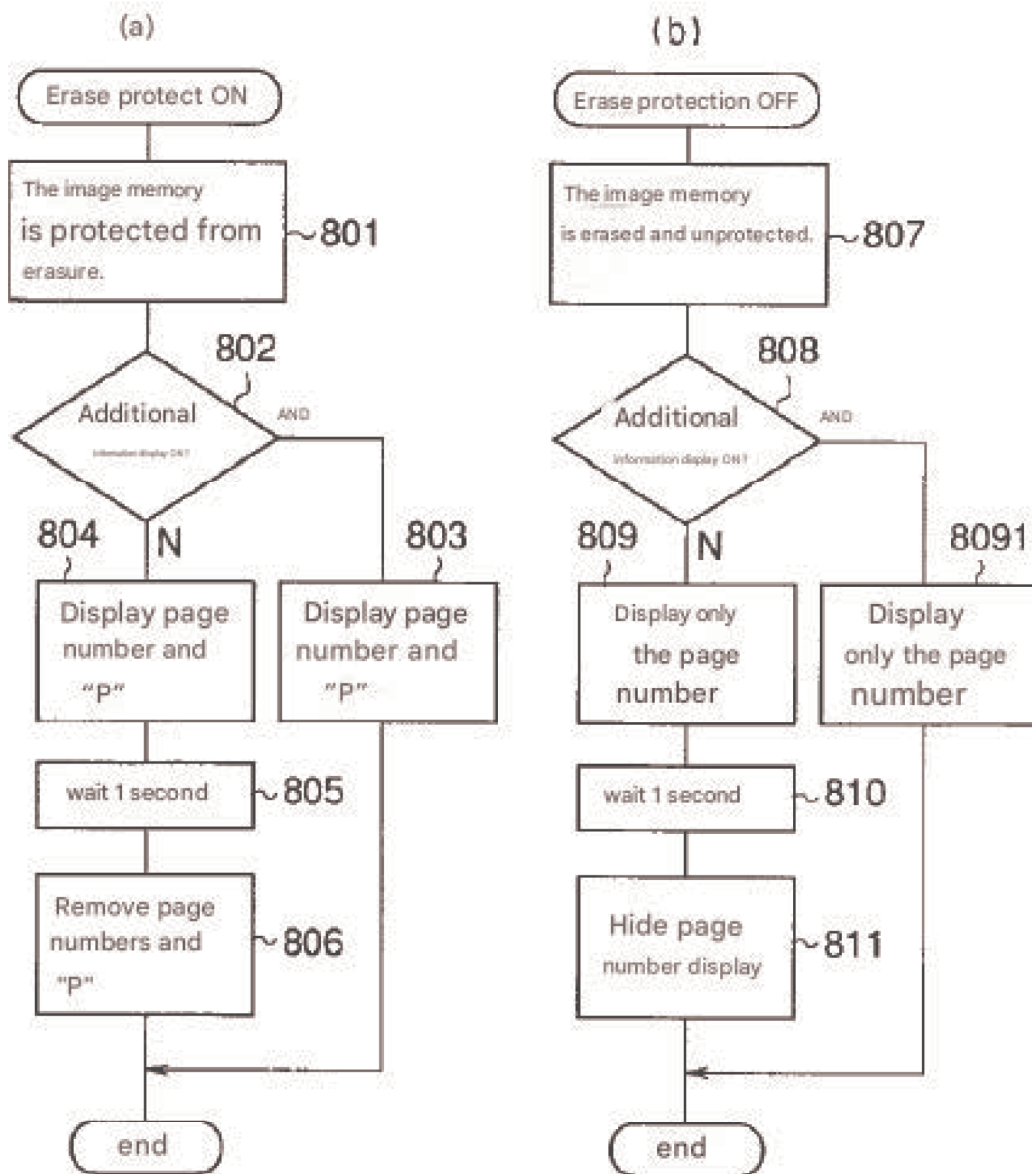
(a)

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(b)

[Figure 13]



[Figure 15]

