ating processor 13 also calculates the luminance of the image in accordance with the distance from a light source, which is virtually set.

[0034] The interface circuit 14 serves as an interface for peripheral devices, such as mice and pointing devices, for example, trackballs. The ROM 16 stores program data, which serves as the operating system of the game system 1. In terms of a personal computer, the program data corresponds to the Basic Input Output System (BIOS).

[0035] The data-expansion circuit 17 expands compressed images which are compressed by an intra-coding method in compliance with the Motion Picture Experts Group (MPEG) for moving pictures or the Joint Photographic Experts Group (JPEG) for still images. Expansion processing includes decoding processing (decoding data encoded by the variable length code (VLC)), dequantizing processing, inverse discrete cosine transform (IDCT) processing, and reproduction processing of intra-coded images.

[0036] The rendering processor 20 draws images onto the buffer 21 based on a rendering command issued by the CPU 11.

[0037] The buffer 21 is formed of a display area and a nondisplay area. The display area is an expansion area for data to be displayed on the monitor 28. In this embodiment, the non-display area is a storage area not only for data for defining skeletons, model data for defining polygons, animation data for moving models, and pattern data for indicating the content of each animation, but also for texture data and color palette data.

[0038] The texture data is two-dimensional image data. The color palette data is data for specifying the color of the texture data. The texture data and the color palette data are read out from the recording medium 40 at one time or a plurality of times in accordance with the progress of a game. The texture data and the color palette data have been recorded on the non-display area of the buffer 21 by the CPU 11.

[0039] The rendering commands are issued for rendering a three-dimensional image by using polygons and for rendering regular two-dimensional images. The polygons are two-dimensional polygonal virtual graphics, and in this embodiment, they are triangles or quadrilaterals.

[0040] The rendering command for rendering three-dimensional images by using polygons includes polygon-vertex address data of a polygon vertex on the display area of the buffer 21, texture address data indicating the storage location in the buffer 21 of texture data to be clipped on polygons, color-palette address data representing the storage location in the buffer 21 of color palette data indicating the color of the texture data, and luminance data representing the luminance of the texture.

[0041] Among the above-described items of data, the polygon-vertex address data on the display area can be obtained in the following manner. The graphics-data generating processor 13 performs coordinate transform, based on the amounts by which polygons are translated and rotated on the screen (viewpoint), on polygon-vertex coordinate data in a three-dimensional space calculated by the CPU 11, thereby transforming it into polygon-vertex coordinate data in a two-dimensional space. The luminance data is determined by the graphics-data generating processor 13 based on the distance between the polygon-vertex coordinate data obtained by performing coordinate transform as described above and a virtually located light source.

[0042] The polygon-vertex address data represents the address of the polygon vertex on the display area of the buffer 21. The rendering processor 20 writes texture data corresponding to the zone of the display area of the buffer 21 represented by the three- or four-sided polygon address data.

[0043] A single object is formed of a plurality of polygons. The CPU 11 stores three-dimensional coordinate data of each polygon in the buffer 21 in correspondence with the vector data of the associated skeleton. When game characters are moved on the screen by operating the controller 33, in other words, when the character's movements are expressed or when the position from which the characters are viewed (the viewpoint position) is changed, the following processing is executed.

[0044] The CPU 11 provides the graphics-data generating processor 13 with the three-dimensional coordinate data of vertices of each polygon stored in the non-display area of the buffer 21 and with the translation data and the rotation data of each polygon determined by the skeleton coordinates and the rotational data of the skeleton.

[0045] The graphics-data generating processor 13 then sequentially determines three-dimensional coordinate data of the individual polygons after being translated and rotated, based on the three-dimensional polygon-vertex coordinate data and the amounts by which the polygons have been translated and rotated.

[0046] Among the three-dimensional polygon coordinate data obtained as described above, horizontal and vertical coordinate data is supplied to the rendering processor 20 as the address data on the display area of the buffer 21, i.e., as polygon-vertex address data.

[0047] The rendering processor 20 then writes texture data represented by preallocated texture address data into a triangle or quadrilateral display area of the buffer 21 represented by the three- or four-sided polygon vertex address data. This makes it possible to display objects obtained by clipping the texture data on a plurality of polygons on the screen of the monitor 28.

[0048] The rendering command for rendering a regular two-dimensional image is formed of vertex address data, texture address data, color palette address data, which represents the storage location in the buffer 21, of color palette data indicating the color of the texture data, and luminance data indicating the luminance of the tex-