synthesizing process using the selected hardware in step Sa34 (Figure 11) is substituted for the process shown in Figure 18. The substituted process will be described hereunder, while omitting the explanation of the other processes for avoiding duplicated description.

[0055] In this second embodiment, upon advancing forward to step Sa34, the program runs to execute the synthesizing process using the selected hardware as shown in Figure 18. In step Sg1, the event detection is carried out as in step Se1. In step Sg2, system check for voice allocation is executed. Mote particularly, a device to handle the synthesis is determined for each voice (timbre) out of the CPU and the LSI sound source. The criteria for this allocation will be described hereunder. Generally, the sound source has unique disposition of available timbres, so that an individual timbre can be specified by a unique timbre code. Thus, it is possible to implement a table containing the list of the timbre codes of the percussive tones in advance, in order to discriminate between the tones to be handled by the CPU 10 in case that the timbre code detected for the relevant event is found in the table, and the other tones to be handled by the LSI sound source 22. However in the present embodiment, the allocation criteria may not be limited to the timbre code. It is possible to setup timbre handling means under the manual mode, in such a manner that a certain timbre is to be handled by the CPU, and another timbre is to be handled by the sound source. Each tone can also be allocated depending upon the number of the channels which can be used for simultaneous synthesizing. Further, under a compulsory mode, each tone can be allocated forcibly by other running programs.

[0056] For the tones allocated to the LSI sound source, vacant channels are created by the voice allocation process in step Sg3 as in step Se4 (Figure 15). In step Sg4, the waveform relevant to the key-on event is synthesized through the vacant channels. The synthesizing method for this operation is not limited to the FM mode, the harmonics synthesizing mode or the physical modeling mode, but it is possible to use, for example, PCM mode to read out the wave data from the waveform memory 25, depending upon the characteristics of the installed sound source 22. On the other hand, for the timbres allocated to the CPU, the CPU synthesizing allocation procedure is done in order to generate an allocation command to generate wave data relevant to the detected event in step Sg5 as in step Se7 (Figure 15). If the allocation command is available, the detection in step Sg6 results in "Yes", and the synthesizing calculation in step Sg7 is executed to generate a waveform relevant to the allocation command. The synthesis of the waveform is effected by the waveform memory readout mode in order to reduce the load for the CPU as described before. On the other hand, when the allocation command is not available, the detection in step Sg6 results in "No", and the procedure returns.

[0057] In this second embodiment, musical sounds can be allocated selectively to the CPU and the sound source according to their timbres so that the optimum distribution of the processing load for the CPU and the sound source is possible, and the various timbres can be generated while retaining the quality of the reproduced sounds. For summary, the input device provides performance information which contains timbre information effective to specify a timbre of the musical sound and timing information effective to specify a timing of generation of the musical sound. One of the first waveform generator and the second waveform generator is designated in correspondence with the timbre information so that the output device generates the musical sound having the specified timbre at the specified timing.

[0058] In the first and second embodiments, the synthesizing process for one tone is executed in the channels provided on the CPU or in the other channels provided in the sound source. However, the synthesizing process for a tone can be executed by both of the CPU and the sound source. In this arrangement, it is possible to use the harmonics synthesizing mode in the CPU side, and to use a mode other than the harmonics synthesizing, e.g., the FM mode in the sound source side, so that variational tones can be generated because the same tone is synthesized by the different calculation modes. The purpose of a third embodiment is directed to the very point. In the third embodiment, the LSI sound source is assumed to be installed in the system as shown in Figures 1 and 24. With respect to the waveform synthesizing program, the synthesizing process using the selected hardware device (Figures 15 and 16) is replaced with the process shown in Figure 19. More particularly, the synthesizing process using the selected hardware in step Sa34 (Figure 11) is substituted for the process shown in Figure 19. The substituted process will be described hereunder, while omitting the explanation of the other processes for avoiding duplicated description.

[0059] In this embodiment, upon advancing forward to step Sa34, the synthesizing program runs to execute the synthesizing process using the selected hardware as shown in Figure 19. In step Sh1, the event detection is carried out as in steps Se1 and Sg1. In step Sh2, system check for voice allocation is executed. More particularly, a device to handle the synthesis is determined for each voice (tone) out of the CPU and the LSI sound source. The criteria for this allocation may be the timbre code, number of channels available for simultaneous synthesizing, or the setup configured by the manual or compulsory mode, as in the second embodiment. For the tones allocated to the LSI sound source, vacant channels are prepared by the voice allocation process in step Sh3 as in step Se4 (Figure 15). In step Sh4, the waveform relevant to the note-on event is synthesized through the vacant channels. The synthesizing method for this operation is not limited to the FM mode or the harmonics synthesizing method, but it is possible to use, for example, the physical modeling mode and the