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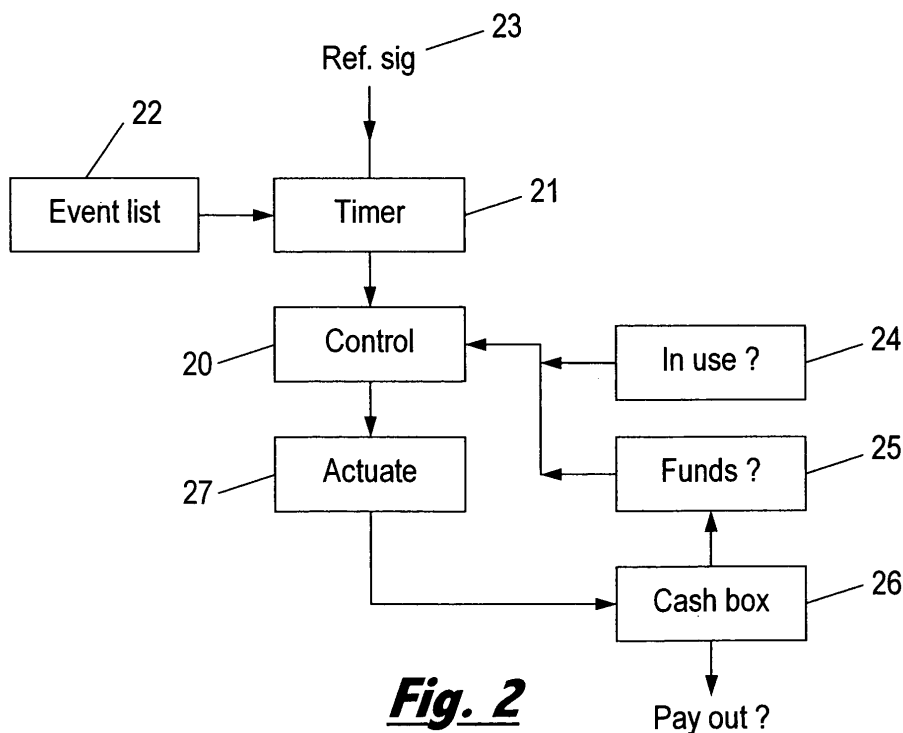
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(54) **Operation of amusement or gaming machines**

(57) A plurality, e.g. three or more machines 10-14 are associated, and also associated with a display device located as a top-box 18. Each machine 10-14, and also the top-box 18 has a fully independent controller 20 with its own timer 21. The respective timers 21 are however synchronised by use of a common time reference signal

23, so that events determined by a respective event list 22 in the control program can occur in all the machines and the top-box at the same time. A sensor 24 determines if the machine is in use, and 25 if there is sufficient funds, so that an event such as a bonus prize can be given by all machines in the group which are in use.



Description

[0001] This invention relates to improvements in methods of operation of amusement or gaming machines.

[0002] Amusement and gaming machines operate either entirely autonomously, or can be associated in groups. The latter is usually done with the object of enabling players at different consoles to compete with each other, or allow several machines to have independent access to a feature game or bonus. Amusement machines generally differ from gaming machines in that they play for low stakes and correspondingly low prizes and frequently include an element of skill or knowledge so are permitted to be located in arcades and public houses, whereas gaming machines frequently embody games solely of chance with high stakes and correspondingly high prizes, and are restricted to licensed casinos.

[0003] To combine operation of a group of gaming machines from a common control box is not permitted by law. However, as an attraction, it may be desired to operate a group of machines, say three or more, up to all the machines present in an arcade or casino to at random occasions provide an 'event', such as all the machines involved paying out a prize at the same moment, there is a problem in achieving this without involving the use of an illegal controlling linkage.

[0004] It is an object of the invention to provide a method of operating two or more amusement or gaming machines which enables this problem to be overcome.

[0005] Accordingly, the invention provides a method of operating two or more amusement or gaming machines in such a way as to give rise to simultaneous occurrence of a feature in each machine, without there being any central control, comprising the steps of establishing an event list, programming each machine so that it is operated in accordance with the event list, establishing a common reference for all machines, and running the machines concurrently so that the feature occurs simultaneously in all machines.

[0006] The event list may define a series of points in time, for example in terms of calendar date and time, defined preferably to the minute. The common reference may be a standard time signal such as, in the UK, the Greenwich Time signal, and all the machines are preferably synchronised to this standard signal.

[0007] The intervals between events or points of time in the event list may be determined by the addition of a randomly or pseudo-randomly determined number of minutes to each successive most recent time. This will tend to produce arbitrary sequences of closely spaced events, and longer intervals with no events, in an unpredictable manner.

[0008] The machines may be grouped and associated with a common top-box which may be operated in accordance with the same event list, and may for example operate a visual or audio-visual display, including flashing lights and alpha-numeric displays featuring prize or other information. The top box does not however control

or interact with the machines.

[0009] The feature in a preferred embodiment may comprise simultaneous payment of a prize from all the machines of a group which are in use at the moment of the event. The machines of the groups are preferably in a common location, but not necessarily within sight of each other.

[0010] The features could alternatively comprise access to a feature game or higher level game, to be won or lost separately by each individual player. Different features could be offered at different event times, such as a cash payout on some occasions and access to a higher-level or different game on other occasions.

[0011] The invention also provides a group of amusement or gaming machines, each having control means having input from a timer set by a reference signal to an identical time to the timers in the other machines in the group, means operative in response to the condition of selected parts of the machine, and means responsive to the control means to initiate or carry out an operation which gives effect to a feature, the machines of the group thereby performing the operation, in so far as the condition of the selected parts of each respective machine permit, substantially simultaneously.

[0012] The conditions of the selected parts may be monitored, and may include whether the individual machine is in play or not, and whether or not a reservoir for coins or tokens contains sufficient coins or tokens to pay the prize prescribed.

[0013] The operation which is initiated by the means responsive to the control means may comprise the payment of a prescribed sum of cash or tokens from the prize fund reservoir.

[0014] The group of amusement or gaming machines may further comprise a top-box or display device which is operated by a control means which is also responsive to a timer which is set by the same reference signal to an identical time to the timers of the machines of the group.

[0015] This top-box or display device may initiate an audio-visual display such as a combination of flashing lights and slogans, and audible signals such as bells, buzzers or hooters or a tune, or any combination thereof.

[0016] An embodiment of apparatus according to the invention, and a method of operation thereof will now be described by way of example, with reference to the accompanying drawings, wherein:-

Figure 1 is an elevational view of a group of amusement or gaming machines, including a top-box display; and

Figure 2 is a block diagram of the operation of one of the machines.

[0017] As shown in Figure 1, a group of amusement or gaming machines comprises four such machines 10, 11, 12, 13 disposed side-by-side in an arcade or casino. Each machine has a display window 14, for display of an

electronically generated image or series of images in accordance with the course of play of the respective games, which may for example be a classic fruit machine game played by electronic simulation.

[0018] The front of the respective cabinet of each machine also is provided with control knobs or buttons 15, a cash paying in slot 16 and a payment slot 17 for paying out of prize money.

[0019] The group of machines also features a top box display apparatus 18.

[0020] The machines 10 to 13 and top box 18 are, in accordance with the invention, adapted to operate so that all the machines will pay out a prize, and the top box 18 provide an audio-visual display at the same moment without being linked to each other, other than by being located adjacent each other, and without being under any central control either from the top box 18, or from anywhere else.

[0021] Figure 2 indicates schematically how this is achieved. Each of the machines 10 to 13 and also the top-box 18, includes a control unit 20 which receives a steady input from a timer 21, and an event list 22, which may be embodied in software running in conjunction with the control unit 20.

[0022] The timer is set by a reference signal input 23 which may receive standard time signals from a service such as, in the UK, the Greenwich Time signal.

[0023] The timer 21 thus "tells" the control unit 20 what the time is, and when a time indicated on the event list 22 is reached, the control unit is enabled to trigger an event, subject to other conditions being met.

[0024] To determine whether these are met or not, the control unit also receives inputs from a sensor 24, which indicates whether the respective machine is in use or not, and from a further sensor 25 associated with a cash box 26 which determines whether box 26 contains sufficient coins or tokens to enable a prize payment to be made in accordance with the event list.

[0025] If the machine is in use and the cash box 26 does contain sufficient coins etc, then the control unit 21 is enabled to trigger an actuator 27, such as a solenoid controlled slide, to release the required payment from the cash box 26 to the payout slot 17. This may be effected by a series connected set of switches, which may be electromechanical devices, or bistable circuits, all of which must be in the conductive state to trigger the actuator 27.

[0026] The top box display device 18 is similarly equipped, except that the actuator operates an audio-visual display, and the sensors 24 and 25 are not required as no actual payment is made from the top box 18.

[0027] The groups of machines may comprise from three or more, which may be located together in a discrete area, or may be dispersed, and may indeed comprise all the machines in an arcade or casino, or all machines offering a particular game.

[0028] The feature may instead of a prize payment comprise access to a bonus game, or higher level game, which is won or lost separately by each player.

[0029] The games concerned may be pure games of chance or may involve an element of skill or knowledge through interaction with the player. The top box display may be visual only, or involve bells, hooters or claxons, or playing of a melody or jingle.

Claims

1. A method of operating two or more amusement or gaming machines in such a way as to give rise to simultaneous occurrence of a feature in each machine, without there being any central control, comprising the steps of establishing an event list, programming each machine so that it is operated in accordance with the event list, establishing a common time reference for all machines, synchronising the machines to said common time reference, and running the machines concurrently so that the feature occurs simultaneously in all said machines.
2. A method according to claim 1, wherein the event list defines a series of points in time, in terms of calendar date and time; and the common reference is a standard time signal applied to a separate control means for each machine.
3. A method according to claim 2, wherein the intervals between points of time in the event list are determined by the addition of a randomly or pseudo-randomly determined number of minutes to each successive most recent time.
4. A method according to any preceding claim, wherein said two or more machines are grouped and associated with a common top-box, which is operated in accordance with the same event list, and synchronised to the same common time reference, to operate a visual or audio-visual display when said feature occurs.
5. A group of amusement or gaming machines, each having separate independent control means, each control means having a respective input from a timer set by a reference signal to an identical time to the respective timers in the other machines comprising said group; means in each machine responsive to the respective control means to initiate or carry out an operation which gives effect to a feature, respective means in each machine operative in response to the condition of selected parts of the machine, whereby the machines in the group can perform the operation in so far as the selected parts of each respective machine permit, substantially simultaneously.
6. A group of machines according to claim 5, comprising means for monitoring the conditions of selected

parts to determine whether each individual machine is in play or not and whether or not each machine has sufficient coins or tokens to pay a prescribed prize value.

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7. A group of machines according to claim 5 or 6, comprising a display device which is responsive to a timer which is set by the same reference signal to be synchronous with the times of the machines of the group.

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8. A group of machines according to claim 7, wherein the display device comprises audio-visual display means which is operable in response to said timer, to coincide with the event.

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9. A group of machines according to claim 8, wherein the control means of each individual machine is operable in response to said timer to be enabled by the monitoring means of the selected parts of the machine are determined to be in a suitable condition, to operate in accordance with its own pre-programming to carry out a prescribed operation.

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10. A group of machines according to claim 8, wherein each machine comprises means responsive to the respective control means to carry out an operation selected from dispensing a predetermined prize from a coin or token reservoir, or offering the player a bonus game.

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11. A group of machines according to claim 5, including a display device in the form of a top-box, all of which operate synchronously due to operating of their respective timers to create an 'event'.

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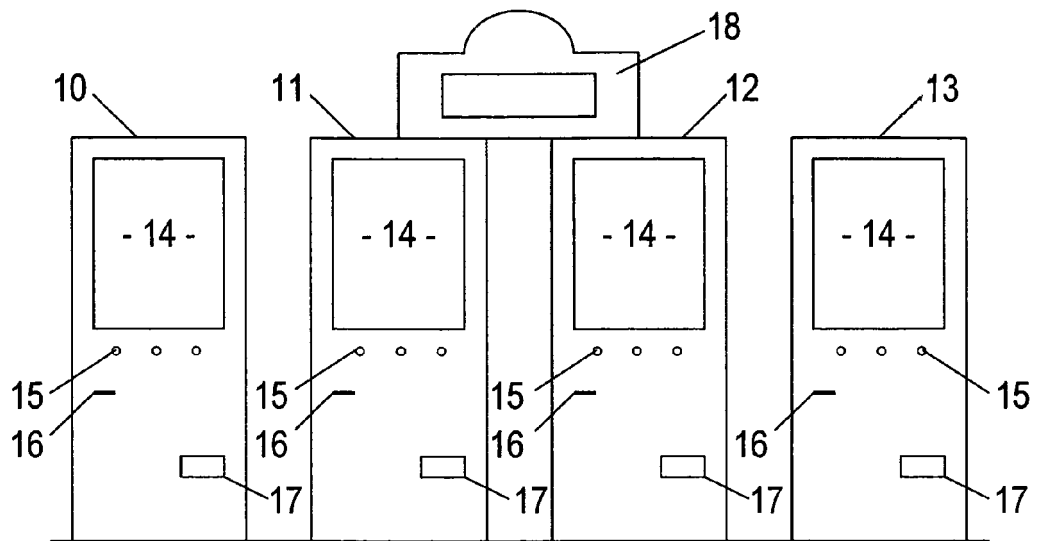


Fig. 1

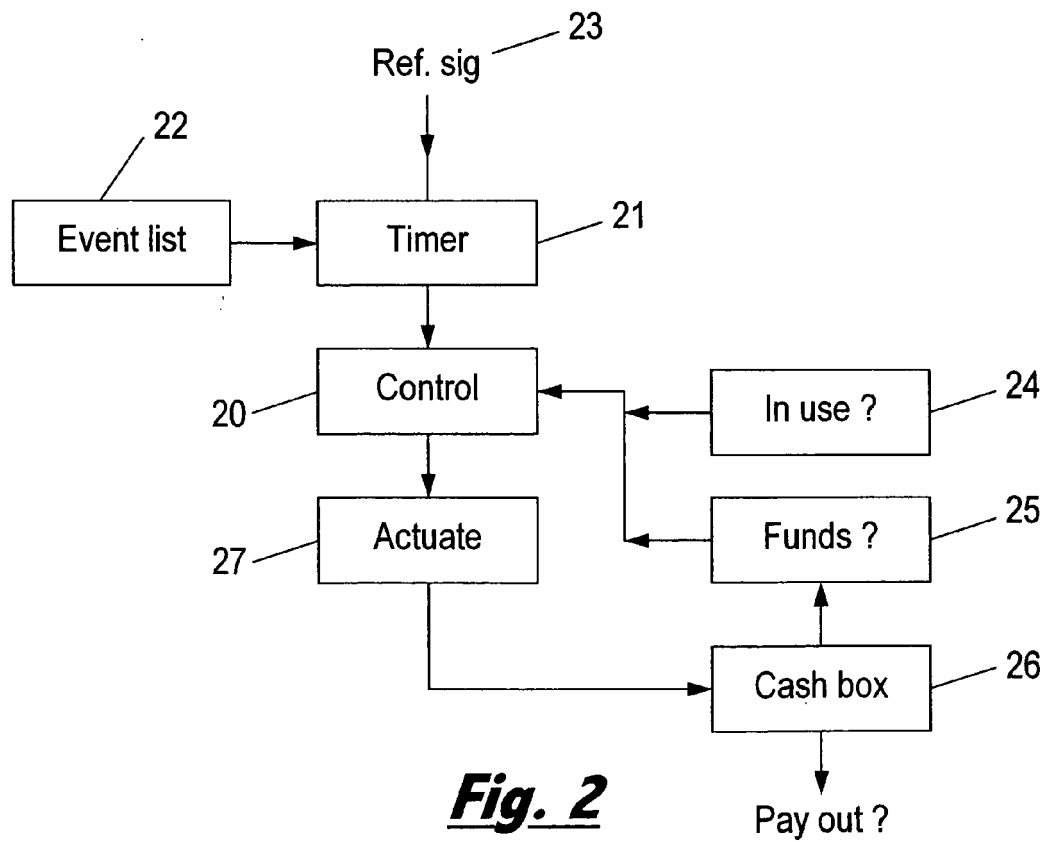


Fig. 2