EUROPEAN PATENT SPECIFICATION

Date of publication of patent specification: 03.02.93
Application number: 87306102.2
Date of filing: 10.07.87

Gaming and amusement machines.

Priority: 12.07.86 GB 8617044
Date of publication of application:
20.01.88 Bulletin 88/03
Publication of the grant of the patent:
03.02.93 Bulletin 93/05
Designated Contracting States:
DE ES NL

References cited:
GB-A- 1 596 363
GB-A- 2 083 936
GB-A- 2 086 115
GB-A- 2 117 155

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Description

This invention relates to gaming and amusement machines of the kind commonly known as fruit machines, in which, following the insertion of a coin or token or the release of a credit, a number of reels (usually three or four) carrying symbols on their peripheries are set spinning and allowed to come to a halt at random. If one of a number of preselected combinations of symbols on the different reels is obtained on a pre-determined line or lines (the ‘win’ line), a prize is awarded.

Such machines usually have the reels rotating on a common axis and the ‘win’ line is visible through a window in the front of the cabinet machine. Alongside and/or above the window is a display panel, usually of glass, having screen-printed on it the details of what combinations of symbols will result in wins, and what the values of those wins are.

Over the years numerous ‘features’ have been developed, that is to say, further steps which are optional or are awarded at random or as prizes, following the usual initial game. For example the player may be given chances to nudge or to hold reels and when he is awarded a win he may be given at random the chance to gamble the win, or part of it, on a “double-or-quits” basis. There may be ‘rails’ or ‘ladders’ leading to further prizes or jackpots. The details and instructions about all these are printed on the glass display panel which, as a consequence, often occupies the entire upper part of the front of the machine above the reels.

Behind the display panel are numerous lights, not only to stimulate interest by flashing on and off and to indicate options available, but also lighting up in sequence to simulate an object travelling, for example in a ‘cat-and-mouse’ feature. There may be thirty, forty or many more lamps behind the glass panel, all switching on and off in accordance with the various features. It is known to build machines which are of the same basic construction inside but of which the glass display panel is selected from one of a number of different panels with the artwork designed according to the game for which the machine is to be set up.

It is also known, indeed it was first proposed by us in an earlier Patent Specification, to replace the actual mechanical rotating reels with a simulation of such reels in the form of a two-dimensional display on a screen, in particular on the screen of a cathode ray tube. The display on the tube can depict the symbols in colour individually at selected areas, changing from one symbol to another without moving, but preferably they appear to move from top to bottom of the screen in lines, in a true depiction of a rotating reel.

Before this it was known to obtain the equivalent of reels in the form of a so-called ‘Panascope’ display, in which a number of individual small ground-glass screens are arranged in an array, e.g. three rows of three, and have images of symbols thrown onto them by optical projection from behind.

In all those machines however, regardless of whether the reels were mechanical or were simulated by a Panascope display or on a video screen, the display panel containing the information, instructions and features, if not simply in painted form (in early machines), has been in the form of a glass panel, with the artwork colour-printed on the back and with lamps behind it. Certain of the changing information, e.g. numbers, has been imparted to the player by the use of a limited number of alphanumeric or purely numeric characters on a seven-segment LED display or on a 14- or 16-segment vacuum fluorescent display.

Such a display involves certain restrictions, not least on the area which is illuminated, simply because of the thermal load of the numerous lamps. Mechanical constraints on the artwork limit what can be depicted, and the active features may only involve a small proportion of the total display area at any given time.

One proposal for fruit machines is disclosed in GB 2 083 936A in which a fruit machine has three mechanical reels and a separate video display screen. The separate display screen can display a randomly chosen one of a variety of different games, including a "collect or gamble" feature. In one example discussed in GB 2 083 936 the screen first displays playing information during the playing of a normal game on the reels, for example the winning symbol combinations available on the reels and the number of plays paid for, and then after a small win has been achieved on the reels the display switches to a collect/gamble display. In a second example of the operation of the screen it changes from displaying information to a spaceship control game upon the appearance of three spaceship symbols in the winning line of the reels.

Another proposed fruit machine is that disclosed in GB 1 596 363 which has a video display screen which simulates the appearance of reels. The video screen also presents information to the user. This has the advantage over painting a glass display screen (which is conventional) that converting the machine to play another game, and converting the artwork or other information on the display screen to be suitable for the other, different, game is simply a matter of changing a pre-programmed control unit, instead of replacing the entire glass screen. In this way a fruit machine may, for example, be changed to a simulated ball game machine by changing its pre-programmed
control unit. The specification also disclose a fruit machine having a player-operated switch to enable the player to select which game, and which display, the machine will provide.

The aim of the present invention is to provide a new, or improved, fruit machine which is likely to interest at least some players more than known fruit machines.

The present invention is specified in claim 1.

Thus the invention allows a more productive use of the area of the display screen since the area occupied by an "active" game feature (one which is in operation at any particular time) can occupy a much greater area than it did before (when it was inactive), and other potentially available game features which are not in play at that particular time do not clutter up the display screen, distracting the player from the game which is in play and which he wants to watch.

Although the two-dimensional electronic display area could, for instance, be in the form of the screen of a cathode ray tube, i.e. a video display, this would involve very substantial bulk which could not easily be accommodated and in practice we prefer some other form of electronic display, such as a matrix containing a multitude of individually addressable points.

A further advantage is the elimination of the thermal load involved in numerous filament lamps. The lights connected with the various features may be simply part of the matrix display.

Current commercially available matrix displays are of limited size and so it may be necessary to employ two or more panels to obtain the required area, but the technology is improving all the time. If necessary, not all the 'artwork' used will be in the form of a matrix display, and there could still be some, for example the outer areas, in the form of conventional fixed painted or screen-printed glass panels.

The display technology may be in one of several forms, i.e. a cathode ray tube (although generally too bulky), electro-luminescent, vacuum fluorescent, gas-discharge, liquid crystal etc., and could be in monochrome or colour.

The present invention will now be described, by way of example only, with reference to the accompanying drawings in which:-

Figure 1 is a diagrammatic perspective view of a fruit machine embodying the invention; and

Figures 2 and 3 are front views of a flat panel graphic display area of the fruit machine of Figure 1 showing two different artwork scenes.

The fruit machine shown in Figure 1 comprises a housing 1 having three rotatable reels 2, first and second separate display areas 3 and 4 respectively alongside and above the reels 2, and a number of switch buttons 5, by means of which a player controls operation of the machine. In contrast to previously known fruit machines in which the display areas would normally be in the form of glass panels bearing fixed artwork in conjunction with numerous lamps and/or LEDs, the display areas 3 and 4 are in the form of flat panel graphic displays i.e. two-dimensional electronic display screens.

Within the machine housing 1, a central machine control unit 6, as well as controlling the reels 2 and their associated buttons 5, also controls the flat panel graphic displays 3 and 4 via a display interface unit 7 and receives its instructions from programs stored in an 'artwork scene' store 8. There may, as indicated, also be an external line 9 from the control unit 1 to an external store, allowing new programs to be loaded when desired.

The flat panel graphic display area 4 of Figure 2 displays an 'artwork scene' including three different features; a 'ladder' feature 10, a 'gamble' feature 11 and a 'nudges' feature 12. During play of the machine each of the features 10, 11 and 12 will, on occasions, be made available to the player. When one of the features, for instance the nudges feature 12, is made available the artwork scene store 8 is programmed to change the artwork scene on the flat panel graphic display area 4 in order to display that feature in greater detail as shown in Figure 3 in which the display of the 'nudges' feature 12 is expanded to occupy virtually the whole of the flat panel graphic display area 4.

Claims

1. A gaming or amusement machine (1) which has either a number of reels (2) carrying symbols on their peripheries and which reels, following insertion of a coin or token or the release of a credit, are set spinning and allowed to come to a halt at random, or which has a reel display area which simulates such spinning reels, the machine (1) having at least one separate display area (3,4) which is in the form of a two-dimensional electronic screen, the display on the separate two-dimensional electronic display area (3,4) being controlled by a machine control unit (6) in accordance with one of a number of different artwork programs stored within an artwork scene store (8), characterised in that the machine control unit (6) is arranged to control the display of artwork scenes in such a manner as to enable the display of a feature (12) in one artwork scene to be expanded to occupy a greater area of the two dimensional electronic display area (4) in a subsequent artwork scene.

2. A gaming or amusement machine according to claim 1 in which the area occupied by said
feature (12) is expanded to occupy substantially the whole of the display area (3,4).

3. A gaming or amusement machine according to claim 1 or claim 2 characterised in that the separate two-dimensional electronic display area (3,4) comprises a matrix containing a multitude of individually addressable points.

4. A gaming or amusement machine according to any preceding claim characterised by means for displaying artwork scenes on the separate display area (3,4) comprising one of the following: a cathode ray tube, an electro-luminescent display, a vacuum fluorescent display, a gas-discharge display or a liquid crystal display.

5. A gaming or amusement machine according to any one of the preceding claims, characterised in that the machine control unit (6) and the artwork scene store (8) are both housed within the machine (1).

6. A gaming or amusement machine according to any one of claims 1 to 4 characterised in that the machine control unit (6) is housed within the machine (1) and connected to an external artwork scene store.

Patentansprüche

1. Spiel- oder Unterhaltungsmaschine (1), die entweder eine Anzahl von auf ihren Umfangsseiten Symbole tragenden Walzen (2) aufweist, welche im Anschluß an den Einwurf einer Münze oder eines Bons oder an die Freigabe eines Kredits in Umlauf gesetzt werden und auf Zufallsbasis zum Anhalten gebracht werden können, oder die eine Walzenanzeigefläche aufweist, welche solche umlaufenden Walzen simuliert, wobei die Maschine (1) mindestens eine separate Anzeigefläche (3,4) aufweist, die in Form eines zweidimensionalen elektronischen Schirms ausgebildet ist, die Anzeige auf der separaten, zweidimensionalen elektronischen Anzeigefläche (3,4) von einer Maschinensteuereinheit (6) nach Maßgabe eines aus einer Anzahl unterschiedlicher Grafikprogramme gesteuert wird, die in einem Grafikzusammen- speicher (8) gespeichert sind, dadurch gekennzeichnet, daß die Maschinensteuereinheit (6) derart ausgebildet ist, daß sie die Anzeige der Grafikzusammen (6) darstellt, daß die Anzeige eines Merkmals (12) in einer Grafikzusammen so ausgeweitet wird, daß sie in einer anschließenden Grafikzusammen eine größere Fläche der zweidimensionalen elektronischen Anzeigefläche (4) belegt.

2. Spiel- oder Unterhaltungsmaschine nach Anspruch 1, bei der die von dem Merkmal (12) belegte Fläche aufgeweitet wird, so daß sie im wesentlichen die gesamte Anzeigefläche (3,4) belegt.

3. Spiel- oder Unterhaltungsmaschine nach Anspruch 1 oder Anspruch 2, dadurch gekennzeichnet, daß die separate, zweidimensionale elektronische Anzeigefläche (3,4) eine Matrix aufweist, welche eine Vielzahl individuell adressierbarer Punkte enthält.


5. Spiel- oder Unterhaltungsmaschine nach irgendeinem vorhergehenden Ansprüche, dadurch gekennzeichnet, daß die Maschin- steuerungseinheit (6) und der Grafikzusammen- speicher (8) beide innerhalb der Maschine (1) untergebracht sind.

6. Spiel- oder Unterhaltungsmaschine nach irgendeinem der Ansprüche 1 bis 4, dadurch gekennzeichnet, daß die Maschinensteuerungseinheit (6) innerhalb der Maschine (1) untergebracht und an einen externen Grafikzusammen- speicher angeschlossen ist.

Revendications

1. Machine de jeu ou d’amusement (1), qui comporte un certain nombre de rouleaux (2) portant des symboles sur leurs périphéries, et qui, à la suite de l’insertion d’une pièce de monnaie ou d’un jeton ou de la libération d’un crédit, sont amenés à tourner et à s’arrêter de façon aléatoire, ou bien qui possèdent une zone d’affichage de rouleaux, qui simule de tels rouleaux rotatifs, la machine (1) possédant au moins une zone d’affichage séparée (3,4), qui se présente sous la forme d’un écran élec- tronique bidimensionnel, l’affichage dans la zone d’affichage électronique bidimensionnelle séparée (3,4) étant commandé par une unité (6) de commande de la machine en fonction d’un programme faisant partie d’un certain nombre de programmes de dessins différents, mémorisés dans une mémoire (8) de représenta- tions de dessins, caractérisée en ce que
l'unité (6) de commande de la machine est agencée de manière à commander l'affichage de représentations de dessins de manière que l'affichage d'une caractéristique (12) dans une représentation de dessin soit agrandi ou occupe une surface plus étendue de la zone d'affichage électronique bidimensionnelle (4) dans une représentation de dessin ultérieure.

2. Machine de jeu ou d'amusement selon la revendication 1, dans laquelle la surface occupée par ladite caractéristique (12) est agrandie de manière à occuper sensiblement l'ensemble de la zone d'affichage (3,4).

3. Machine de jeu ou d'amusement selon la revendication 1 ou 2, caractérisée en ce que la zone d'affichage électronique bidimensionnelle séparée (3,4) comprend une matrice contenant une multitude de points adressables individuellement.

4. Machine de jeu ou d'amusement selon l'une quelconque des revendications précédentes, caractérisée par des moyens pour afficher des représentations de dessins dans la zone d'affichage séparée (3,4), comprenant l'un des éléments suivants : un tube cathodique, un dispositif d'affichage électroluminescent, un dispositif d'affichage fluorescent à vide, un dispositif d'affichage à décharge dans un gaz ou un dispositif d'affichage à cristal liquide.

5. Machine de jeu ou d'amusement selon l'une quelconque des revendications précédentes, caractérisée en ce que l'unité (6) de commande de la machine et la mémoire (8) de représentations de dessins sont toutes deux logées à l'intérieur de la machine (1).

6. Machine de jeu ou d'amusement selon l'une quelconque des revendications 1 à 4, caractérisée en ce que l'unité (6) de commande de la machine est logée à l'intérieur de la machine (1) et est raccordée à une mémoire externe de représentations de dessins.