

## DISPLAY INFORMATION CONVERSION APPARATUS

### BACKGROUND OF THE INVENTION

#### 1. Field of the Invention

The present invention relates to a display information conversion apparatus. More specifically, the present invention relates to a novel display information conversion apparatus for making a storage medium for storing a first program executed by a first information processing apparatus which is constructed so as to display an image on a dot-matrix display to be applied to a second information processing apparatus which is constructed so as to display an image on a raster-scan display, and an information processing system which utilizes such a display information conversion apparatus.

Furthermore, the present invention relates to a novel display information conversion apparatus for making a storage medium for storing a first program executed by a first information processing apparatus which is constructed so as to display an image according to a first specification to be applied to a second information processing apparatus constructed so as to display an image according to a second specification in which an image quality is higher than that of the first specification.

#### 2. Description of the Prior Art

As one example of such a kind of first information processing apparatus, a dot-matrix liquid crystal game machine which has been put into a commercial market as a name of "Game Boy (trademark)", for example, is well known. Furthermore, as one example of such a kind of second information processing apparatus, a television game machine which has been put into a commercial market as a name of "Super Nintendo Entertainment System (trademark)", for example, is well known.

In the above described "Game boy" and "Super Nintendo Entertainment System", signal processing specifications (formats) are different from each other, even if sizes etc. of memory cartridges are made equal to each other, a memory cartridge for one of the both can not be applied to the other of the both. Therefore, a user must have different kind of game machines, and manufacturers of memory cartridges must manufacture memory cartridges separately for respective game machines even if a game content is the same.

### SUMMARY OF THE INVENTION

Therefore, a principal object of the present invention is to provide a novel display information conversion apparatus for making a storage medium which stores a first program capable of being executed by a first information processing apparatus which is constructed so as to display an image on a dot-matrix display to be applied to a second information processing apparatus which is constructed so as to display an image on a raster-scan display.

Another object of the present invention is to provide an information processing system which includes the above described display information conversion apparatus.

Another object of the present invention is to provide a novel display information conversion apparatus for making a storage medium which stores a first program capable of being executed by a first information processing apparatus which is constructed so as to display an image according to a first specification or format to be applied to a second information processing apparatus which is constructed so as

to display an image according to a second specification or format in which an image quality becomes higher than that of the first specification.

A display information conversion apparatus according to the present invention is an apparatus for making a storage medium which stores a first program executed by a first information processing apparatus which is constructed so as to display an image on a dot-matrix display to be applied to a second information processing apparatus which is constructed so as to display an image on a raster-scan display, and comprises: a first connection portion to which the storage medium is detachably attached; a second connection portion for detachably attaching the display information conversion apparatus to a second information processing apparatus; information processing means for executing the first program stored in the storage medium attached to the first connection portion to generate first video image information capable of being displayed on the dot-matrix display; video image converting means for converting the first video image information into second video image information capable of displayed on the raster-scan display; and transfer means for transferring the second video image information converted by the video image converting means to the second information processing apparatus via the second connection portion.

A display information conversion apparatus according to the present invention is an apparatus for making a storage medium which stores in a non-volatile manner a first program capable of being executed by a first information processing apparatus which is constructed so as to display an image according to a first specification or format to be applied to a second information processing apparatus which is constructed so as to display an image according to a second specification or format, and comprises: a first connection portion to which the storage medium is detachably attached; a second connection portion for detachably attaching the display information conversion apparatus to a second information processing apparatus; information processing means for executing a first program stored in the storage medium attached to the first connection portion; video image information generating means for generating video image information of the first specification or format on the basis of a processed result by the information processing means; video image converting means for converting the video image information of the first specification or format into video image information of the second specification; and transfer means for transferring the video image information of the second specification or format converted by the video converting means to second information processing apparatus via the second connection portion.

In a case where the first information processing apparatus is a dot-matrix display game machine, for example, the second information processing apparatus is a raster-scan display game machine, for example, the information processing means executes the first program and outputs dot data as the first video image information. The dot data is converted into character data, for example, by the video image converting means. The character data is temporarily stored in a buffer memory, for example, and read-out by the second information processing apparatus. The character data is processed by the second information processing apparatus. More specifically, a program for only the second information processing apparatus is applied to the second information processing apparatus, and therefore, the game converts the character data into a video signal for the raster-scan display in accordance with the program. Therefore, when the character data is applied to the second