

Fig. 1

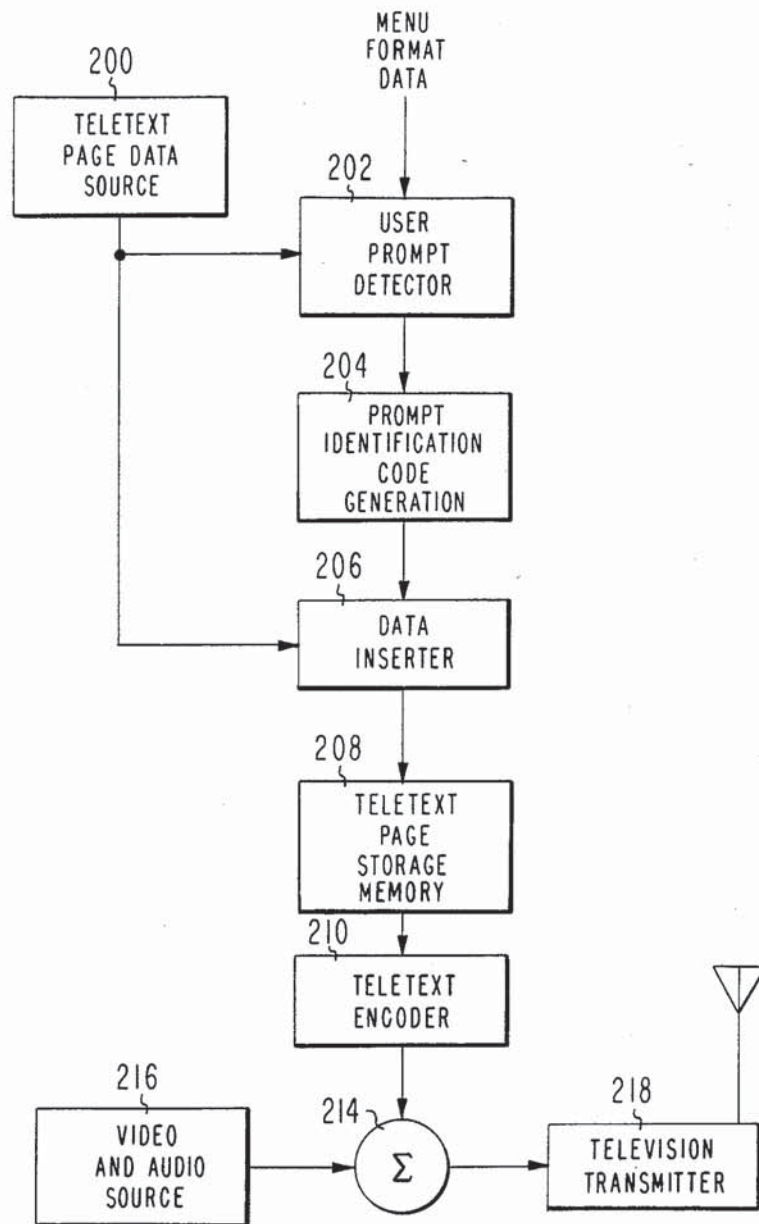


Fig. 2

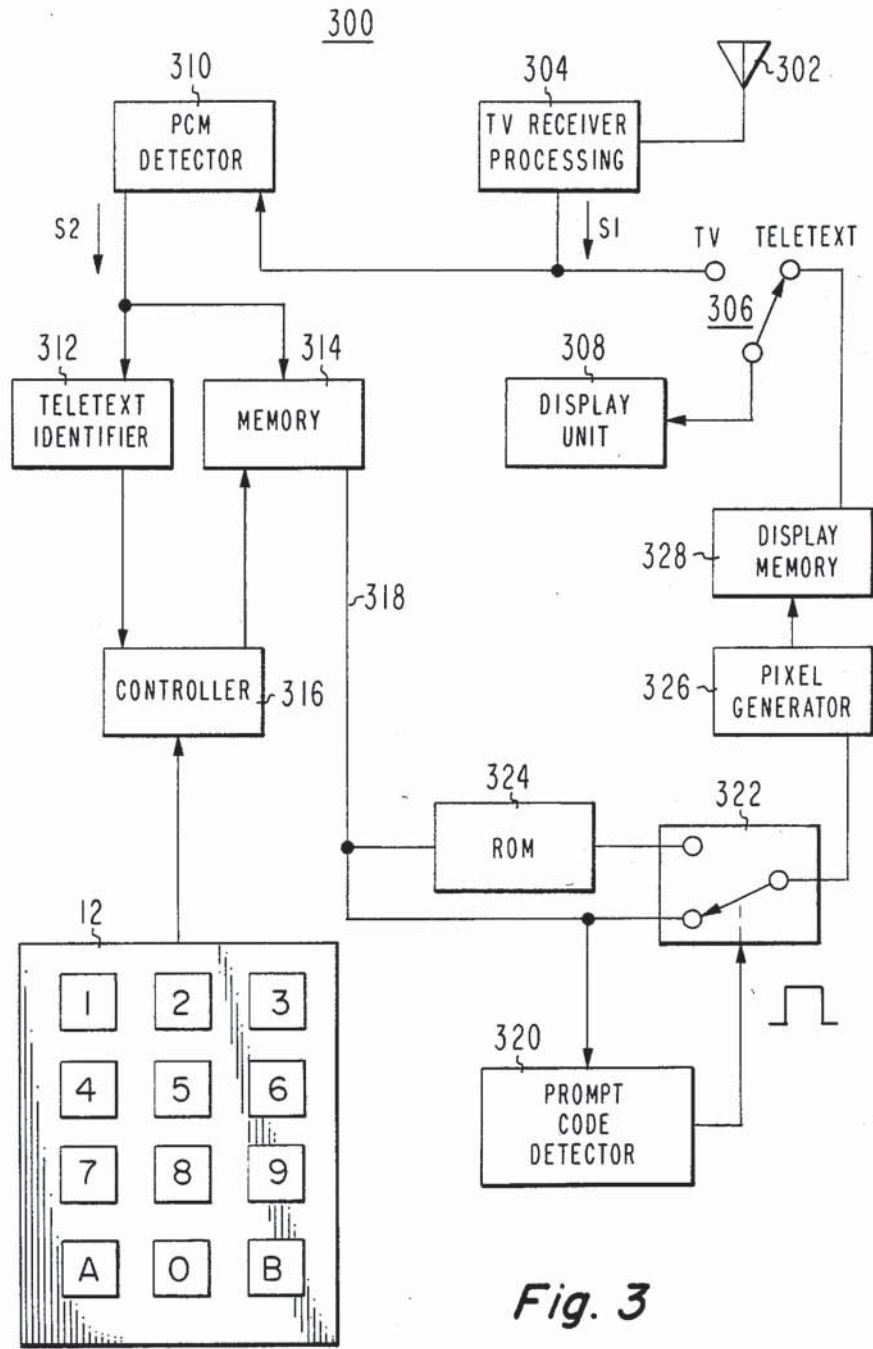


Fig. 3

## TELETEXT SYSTEM HAVING USER PROMPT COMMANDS

### FIELD OF THE INVENTION

This invention relates to teletext systems generally and particularly to teletext systems in which the transmitted teletext code may include special symbols or control characters indentifying user prompts.

### BACKGROUND OF THE INVENTION

Teletext systems are under consideration for transmitting textual materials to users having television receivers equipped with memories and decoders which capture the teletext information and display the data in character or graphical form on the screen of the associated television receiver. In selecting the data to be displayed it has been proposed to transmit so called "menus" of information available in the teletext system to the user. A menu may include a listing of available pages or topics within the teletext system which the user may access by entering numbers or symbols on his keyboard identified in the text of the menu as being the location of the material. It will be highly desirable if all keyboards contain keys identified by symbols which match the symbols which may be used in identifying the location of information in the teletext menu. The choice of the users' keyboard symbols, is a matter upon which different manufacturers may not agree. Some manufacturers may include keyboards with symbols which exactly match the symbols used to identify material in the teletext menus, whereas other manufacturers may elect to manufacture keyboards having a fewer number of keys, for example, or having different symbols than those actually used in the transmission of teletext to identify the menu items. This in turn can lead to user confusion about which symbols he might key or use to select desired information if the symbols do not exactly match what is transmitted.

### SUMMARY OF THE INVENTION

It is an object of the present invention to minimize the possibility of user confusion with regard to selection of particular menu items in a teletext transmission in cases where, for example, the symbols used to represent the menu item do not match the symbols on the users' keyboard.

The present invention resides in part in recognition of the need for transmission of a special control character along with the symbols of the teletext transmission which represent user prompts which direct the user of the teletext receiver to make particular keyboard entries on his system.

The invention resides in a further part in utilizing the special prompt character identifying control codes of the teletext transmission to facilitate a prompt character symbol conversion within the users' receiver to assure that all transmission of the prompt characters displayed on the users' receiver correspond to characters that are actually available on the users' keyboard.

A method of encoding a teletext signal in accordance with the invention comprises identifying those characters of a teletext signal which correspond to user prompts of the displayed teletext material and inserting adjacent to each symbol or set of symbols representative of user prompts a control character prefix or suffix

identifying that symbol as being a user prompting symbol.

A teletext receiver for receiving teletext signals encoded as described and embodying the invention includes a teletext receiving means for receiving the coded teletext signals and a first memory means coupled to the teletext signal receiving means for storing in encoded form signals representative of prompting and nonprompting signals to be displayed and signals representative of associated control functions not intended for display. A signal separating means coupled to the first memory means separates the signals representative of symbols to be displayed from the signals representative of control functions. A detector means coupled to the signal separating means generates a control signal representative of a prompting signal to be displayed. A controllable code conversion means coupled to the signal separating means and to the detector means converts the coded signals representative of prompting signals to be displayed into coded signals representative of other symbols under the control of the control signal and passes unchanged those coded signals representative of nonprompting signals. The other symbols to which conversion is made are symbols identifying the function keys of the remote control with which the receiver is associated. A coded symbol-to-pixel conversion means coupled to the controllable code conversion means receives the coded signals to be displayed and generates pixel intensity information therefrom. A second memory means coupled to the coded symbol to pixel conversion means stores the pixel intensity information and a display means coupled to the second memory means displays the nonprompting symbols and the converted prompting symbols corresponding with symbols identifying the function keys of the remote control.

### DETAILED DESCRIPTION

The foregoing and further features of the invention are described hereinafter and shown in the accompanying drawing wherein

FIG. 1 is a block diagram of a teletext equipped illustrating a teletext equipped receiver;

FIG. 2 is a block diagram of a teletext encoding system embodying the method of the invention; and

FIG. 3 is a block diagram of a teletext receiver apparatus embodying the invention.

FIG. 1 illustrates the nature of the problem solved by the present invention. The teletext system comprises a television receiver 10 having a teletext decoder therein (not shown) and a remote key pad 12 coupled to an input 14 of the teletext decoder in receiver 10 by means of a cable 16. The key pad has provision for 10 keys labeled 0 through 9 as shown. The receiver is assumed to be in its teletext receiving mode and is displaying an image on the video screen 18 of a news "menu". The menu comprises four items labeled 1 through 4. Behind each item on the menu is the prompting symbol signified by a lb. sign (#). For a user to access menu item 1 "world news" the user would be prompted by the 1# symbol to enter the number 1 followed by the # on his keyboard unit 12. Unit 12, however, does not have a lb. symbol as a key identifier, only the number 1. It does however have two keys labeled a and b.

In making his selection the user might be inclined to press the symbols 1a or 1b on his remote control 12 in response to the prompt character 1# symbol. One possible solution to avoid the confusion as to what symbols to enter on the user keyboard would be for the manufac-

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