The specification disclosed a device for indicating keys, especially keys of the lower keyboard of an electronic organ, in which a strip bearing key indicia is mounted in an inclined location above the keys at the back thereof. The indicia are not normally visible to the organ player but become visible when the strip is illuminated from the rear. Illumination of the strip is accomplished by lamps and a bar-like light conducting lens behind the strip with the lamps being energized when the organ is adjusted to play chords. The indicia indicate the chords which will sound when the keys indicated by the indicia are depressed.

10 Claims, 5 Drawing Figures
KEY INDICATING DEVICE

The present invention relates to electronic organs and is particularly concerned with an arrangement for designating certain keys of the lower keyboard of such an organ.

Electronic organs are now constructed so as to permit playing thereof in other than the conventional mode wherein each key plays a note corresponding to the respective key. One modification of the organ results in keys of the lower keyboard playing chords. Only certain keys are employed for this purpose and, in order to group the desired chords within a fairly small range of the keyboard, it is not convenient for the chords which the keys cause to sound when the keys are depressed, always to correspond to the respective keys. This situation can lead to some confusion on the part of the organ player, especially if the player is not highly skilled.

With the foregoing in mind, a primary object of the present invention is the provision of an arrangement for indicating the keys of an organ which are to be depressed to obtain certain chords when the organ is adjusted to play in mode.

Another object of this invention is the provision of a simple and inexpensive arrangement of the nature referred to and which does not in any way detract from the appearance of the organ or interfere with playing of the organ in conventional mode.

Still another object of the invention is the provision of an arrangement of the nature referred to in which the indicia are not visible to the organ player when the organ is adjusted to play in conventional mode but which become visible to the player when the organ is adjusted to play in chord mode.

These and other objects and advantages of the present invention will become more apparent upon reference to the following detailed description taken in connection with the accompanying drawings in which:

FIG. 1 is a perspective view showing a portion of an electronic organ, namely, the lower keyboard of a two manual organ;

FIG. 2 is a transverse section indicated by line II—II on FIG. 1;

FIG. 3 is an elevational view looking in from the left side of FIG. 2 and showing the device according to the present invention;

FIG. 4 is a fragmentary sectional view indicated by line IV—IV on FIG. 3 and drawn at enlarged scale; and

FIG. 5 is a fragmentary perspective view showing the back of a cover strip forming a part of the structure according to the present invention.

BRIEF SUMMARY OF THE INVENTION

In the present invention, an inclined, elongated strip is disposed above the keys of the lower keyboard of an electronic organ and bears indicia over certain ones of the keys. The indicia are on the back of the strip and, normally, are invisible to the organ player. Illuminating means behind the strip is provided which, when energized make the indicia visible. The illuminating means consists of a bar of light conducting material behind the strip and a lamp at each end thereof. When the organ is adjusted to play chords, by actuating a switch, the lamps are energized and the indicia become illuminated and are plainly visible to the organ player. A light reflective surface is provided on the back of the light conducting bar in the region of the indicia and promotes the projection of light against the back of the strip along the portion thereof to be illuminated.

DETAILED DESCRIPTION OF THE INVENTION

In the drawings, with particular reference to FIGS. 1 and 2, the lower keyboard of a two manual organ is indicated generally at 10, while the upper keyboard thereof is indicated at 12. According to the present invention, there is provided above the keys of lower keyboard 10 and at the back an elongated member generally indicated at 14 and which may be secured to the undersides of the cheek blocks pertaining to the upper keyboard, one of which is indicated at 16. The cheek blocks are wood and the connection of member 14 thereto may be effected by wood screws 18.

Member 14, at the bottom, may rest on the cheek blocks 20 pertaining to the lower keyboard or may be spaced therefrom.

Member 14 comprises a first elongated element 22, which may be formed of plastic or any other suitable material. Member 22 is bar-like and has horizontal top and bottom faces and a vertical back face, while the front face, facing outwardly toward the front of the keyboard 10, is advantageously inclined outwardly toward the bottom as indicated at 24. The inclined portion 24 of elongated member 22 carries a cover strip 26 which may be a simple rectangle when viewed in cross section.

Cover strip 26 may be secured to member 22 in any suitable manner, as by screws or by cementing, but it has been found suitable to place a strip of double sided adhesive 28 between cover strip 26 and the inclined surface of member 22. This sort of interconnection of the two parts is particularly satisfactory when both parts are formed of a plastic material. The cover strip 26 is formed of a plastic material such as plexiglass and is advantageously, but not necessarily, colored as, for example, green.

As will be disclosed more fully hereinafter, the plexiglass cover strip 26 is provided with indicia 30 which are normally invisible to the organ player but which become visible under certain conditions of operation.

As will be seen in FIGS. 2, 3 and 4, member 22 is formed with a longitudinally extending groove or slot 32 which may extend completely to the ends of the member or which may terminate short of the ends thereof.

As will best be seen in FIG. 3, groove or slot 32 extends over a portion of the length only of member 22 and at the opposite ends runs into apertures 34 which extend completely through member 22 from the front to the back.

Each of the elongated apertures 34 is adapted for receiving a lamp socket 36 having a support arm 38 that may be secured to the back of member 22 as by a screw 40. Each socket has connectors 42 for the supply of electrical energy thereto and is adapted for receiving a lamp 44. The axis of the lamp and socket extend in the direction of the length of member 22 and are confined completely within the confines of the respective aperture 34.

A tube 46 of, for example, fishpaper, telescopically fits over socket 36 and lamp 44. With the described ar-
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rangement, the two lamps 44 are in coaxial opposed relation and the respective apertures 34 are arranged at opposite ends of the slot or groove 32. Mounted in slot 32 is a clear plexiglass lens bar 48 which, as will be seen in FIG. 2, substantially completely fills groove 32 and has one inclined side which engages or is disposed quite close to the underside of cover strip 26.

The clear plexiglass lens bar 48 is of such a length as to extend over the portion of strip 26 which bears the aforementioned indicia 30 and somewhat beyond the said portion of strip 26 and over at least that region of the said strip the clear plexiglass lens bar is backed up by a reflective tape element 50.

As will be seen in FIG. 2, reflective tape element 50 extends up the vertical back face of the clear plexiglass lens bar 48 and across the horizontal bottom face thereof. In any case, the reflective tape 50 is in close face to face engagement with the adjacent faces of the clear plexiglass lens bar and will cause light to be deflected so as to emanate from bar 48 on that side thereof facing cover strip 26 so as to illuminate at least that portion of strip 26 which bears the aforementioned indicia 30.

When lamps 44 are energized, the indicia 30 are plainly visible, and when the lamps are extinguished, the indicia become substantially invisible.

As will be seen in FIG. 5, cover strip 26 has an opaque layer 52 on the back thereof and the indicia 30 are formed through the said opaque layer. Thus, when light emanates from the clearly plexiglass lens bar, it will only be visible through cover strip 26 where the indicia 30 interrupt the continuity of the opaque layer 52 on the back of the cover strip.

It will be noted in FIG. 1 that the indicia on strip 30 are arranged so that each indicium is over a respective key of a series thereof, for example, a series of 13 keys, although the particular number of keys is not important and could consist of a greater or a fewer number thereof.

In any case, the key indications carried by strip 26 do not necessarily conform to the normal key positions in the keyboard, and the reason for this is that the arrangement of the present invention is provided for use with an electronic organ which has a regular, or conventional, playing mode and a chord playing mode.

When the organ is in conventional mode, lamps 44 are extinguished and the indicia 30 are not visible and the keys beneath the indicia play in the normal manner. When, however, the organ is adjusted to play in chord mode, the keys of the lower manual beneath the indicia on strip 26 play those chords which are designated on the strip and, at this time, the strip is illuminated to show the player which key to depress to sound a certain chord.

The chords indicated on the strip are not all of the chords that can be played, or provided for, but represent about the minimum number of chords necessary for playing a fairly wide range of compositions, particularly popular music.

Modifications may be made within the scope of the appended claims.

What is claimed is:

1. In an electronic organ having a keyboard; a member extending along the keyboard at the back thereof and above the keys of the keyboard, said member bearing indicia above at least some of the keys of the keyboard, said some of said keys comprising a group of adjacent keys, and means for illuminating said member, all of said indicia being simultaneously and clearly visible to the player of the organ only when said member is illuminated and being substantially invisible in the absence of illumination of said member, said member comprising a strip of light conductive material and said means for illuminating said strip key located behind the strip and causing light to pass outwardly through the strip toward the front thereof.

2. An electronic organ according to claim 1 in which said strip comprises an opaque layer extending longitudinally thereof, said indicia being in the form of interruptions in said opaque layer.

3. An electronic organ according to claim 2 in which said means for illuminating said strip comprises lamp means behind said strip, and lens means interposed between said lamp means and the indicia bearing portion of said strip and operable to direct light from said lamp means against the back of at least said portion of said strip.

4. An electronic organ according to claim 3 in which said lens means is a bar-like element of light conducting material extending parallel to said strip and adjacent the back of said strip, said lamp means being disposed at least one end of said bar-like element.

5. An electronic organ according to claim 4 which includes a reflective film on said bar-like element on the side facing away from said strip along that part of the bar-like element which is coextensive with the indicia bearing portion of said strip.

6. An electronic organ according to claim 3 in which said lens means is a bar-like element of light conducting material extending parallel to said strip and adjacent the back of said strip, said lamp means comprising a lamp at each end of said bar-like element, and a reflective film on said bar-like element on the side facing away from said strip along that part of the bar-like element which is coextensive with the indicia bearing portion of said strip.

7. An electronic organ according to claim 4 which includes an elongated support member, a groove in said support member receiving said lens means, and an aperture in said support member at each end of said lens means, said lamp means comprising a pair of lamps carried by said support member and one thereof disposed in each aperture near the adjacent end of said lamp means.

8. An electronic organ according to claim 7 which includes opaque tubular shields surrounding said lamps and open toward the adjacent end of said lens means.

9. An electronic organ according to claim 8 in which said strip extends substantially the full length of said support member and is wider than said groove so as to extend beyond said lens means in all directions.

10. An electronic organ according to claim 9 which includes adhesive means connecting said strip to said support member.