CLAIMS

1. An information decoding method comprising:

receiving a video comprising a plurality of frames, each frame comprising an image of a keyboard comprising backlit keys;

sequentially, for each frame,

identifying corner backlit keys of the keyboard in the image;

determining spacing of each backlit key in the image based on relative distance of the corner backlit keys;

determining for each backlit key a color, so as to determine a plurality of colors; and

determining from the plurality of colors an indicator for the frame and a subset information encoded in the frame based on the plurality of colors; and

determining an encoded information based on the subset information for the plurality of frames.

2. The information decoding method of claim 1,

wherein each backlit key encodes a predetermined number of bits by a color of the backlit key.

3. The information decoding method of claim 1 or claim 2,

wherein the encoded information corresponds to at least one of a coupon, an award or registration information.

4. The information decoding method of any one of claims 1 to 3,

wherein the indicator of each frame is based on backlit keys at predetermined positions of the keyboard.

5. The information decoding method of any one of claims 1 to 4, wherein the encoded information is encoded by an information encoding method comprising:

receiving information to be encoded;

splitting the information into a plurality of subset information;

assigning each subset information to a frame, so as to determine the plurality of frames;

for each subset information assigning the subset information to respective plurality of colors; and

sequentially, for each frame of the plurality of frames, displaying the colors assigned for the respective frame and the indicator for the frame on the backlit keys.

6. A non-transitory computer-readable medium comprising instructions which, when executed by a computer, make the computer perform an information decoding method, the information decoding method comprising:

receiving a video comprising a plurality of frames, each frame comprising an image of a keyboard comprising backlit keys;

sequentially, for each frame,

identifying corner backlit keys of the keyboard in the image;

determining spacing of each backlit key in the image based on relative distance of the corner backlit keys;

determining for each backlit key a color, so as to determine a plurality of colors; and

determining from the plurality of colors an indicator for the frame and a subset information encoded in the frame based on the plurality of colors; and

determining an encoded information based on the subset information for the plurality of frames.

7. The non-transitory computer-readable medium of claim 6,

wherein each backlit key encodes a predetermined number of bits by a color of the backlit key.

8. The non-transitory computer-readable medium of claim 6 or claim 7,

wherein the encoded information corresponds to at least one of a coupon, an award or registration information.

9. The non-transitory computer-readable medium of any one of claims 6 to 8,

wherein the indicator of each frame is based on backlit keys at predetermined positions of the keyboard.

10. The non-transitory computer-readable medium of any one of claims 6 to 9, wherein the encoded information is encoded by an information encoding method comprising:

receiving information to be encoded;

splitting the information into a plurality of subset information;

assigning each subset information to a frame, so as to determine the plurality of frames;

for each subset information assigning the subset information to respective plurality of colors; and

sequentially, for each frame of the plurality of frames, displaying the colors assigned for the respective frame and an indicator for the frame on the backlit keys.

11. An information decoder comprising:

a receiving circuit configured to receive a video comprising a plurality of frames, each frame comprising an image of a keyboard comprising backlit keys;

an identification circuit configured to identify corner backlit keys of the keyboard in the image;

a spacing determination circuit configured to determine spacing of each backlit key in the image based on relative distance of the corner backlit keys;

a first determination circuit configured to determine for each backlit key a color, so as to determine a plurality of colors;

a second determination circuit configured to determine sequentially, for the plurality of frames, from the plurality of colors an indicator for the frame and a subset information encoded in the frame based on the plurality of colors; and

a third determination circuit configured to determine an encoded information based on the subset information for the plurality of frames.

12. The information decoder of claim 11,

wherein each backlit key encodes a predetermined number of bits by a color of the backlit key.

13. The information decoder of claim 11 or claim 12,

wherein the encoded information corresponds to at least one of a coupon, an award or registration information.

14. The information decoder of any one of claims 11 to 13,

wherein the indicator of each frame is based on backlit keys at predetermined positions of the keyboard.

15. The information decoder of any one of claims 11 to 14, wherein the encoded information is encoded by an information encoder comprising:

a receiver configured to receive information to be encoded;

a splitting circuit configured to split the information into a plurality of subset information;

a first assigning circuit configured to assign each subset information to a frame, so as to determine the plurality of frames;

a second assigning circuit configured to, for each subset information, assign the subset information to respective plurality of colors; and

a display circuit configured to, sequentially, for each frame of the plurality of frames, display the colors assigned for the respective frame and an indicator for the frame on the backlit keys.

16. The information decoder of claim 15, wherein each backlit key encodes a predetermined number of bits by a color of the backlit key.