Claims

1. A pad assembly for an input device, the pad assembly comprising:

a pad body with a base face and a tracking face opposite the base face, wherein the pad body comprises

a light-transmission panel between the base face and the tracking face, wherein the light-transmission panel comprises

a light-output surface for a light that enters the light-transmission panel to exit therefrom, wherein the light-output surface is facing a same direction as the tracking face,

a light-diffusion surface opposite the light-output surface, wherein the light-diffusion surface comprises a textured surface, and

a light-input surface for the light to enter the light-transmission panel; and

at least one light source disposed relative to the light-input surface so as to be capable of emitting the light into the light-transmission panel through the light-input surface.

2. The pad assembly of claim 1,

wherein the light-input surface of the light-transmission panel is extending between the light-output surface and the light-diffusion surface with a first edge of the light-input surface adjoined to the light-output surface and a second edge of the light-input surface, opposite the first edge, adjoined to the light-diffusion surface.

3. The pad assembly of claim 1 or claim 2,

wherein the light-transmission panel comprises at least one hole;

wherein the light-input surface of the light-transmission panel comprises at least one inner surface of the light-transmission panel which defines the at least one hole.

4. The pad assembly of claim 3,

wherein the at least one hole comprises a blind hole or a through hole.

5. The pad assembly of any one of claims 1 to 4,

wherein the light-transmission panel further comprises at least one peripheral light-output surface for the light to exit the light-transmission panel, the at least one peripheral light-output surface extending between the light-input surface and the light-diffusion surface with a first edge of the at least one peripheral light-output surface adjoined to the light-output surface and with a second edge of the at least one peripheral light-output surface, opposite the first edge, adjoined to the light-diffusion surface.

6. The pad assembly of any one of claims 1 to 5,

wherein the light-diffusion surface of the light-transmission panel comprises an arrangement of texture formations forming the textured surface, wherein the texture formations are recessed into the light-transmission panel.

7. The pad assembly of claim 6,

wherein the texture formations comprise a plurality of uniformly-sized concaved dimples.

8. The pad assembly of claim 6 or claim 7,

wherein the texture formations are arranged in an array pattern; or

wherein the texture formations are arranged in an irregular pattern.

9. The pad assembly of any one of claims 1 to 8,

wherein the pad body further comprises

a tracking layer over the light-transmission panel, wherein the tracking layer comprises a tracking surface which serves as the tracking face of the pad body;

wherein the tracking layer is translucent;

wherein, preferably, at least one portion of the tracking layer, extending between the tracking surface and an opposite surface of the tracking layer, has a different optical transmittance from at least one other portion of the tracking layer;

wherein, preferably, the pad assembly further comprises a light-permeable adhesive layer between the tracking layer and the light-transmission panel;

wherein, preferably, the light-permeable adhesive layer comprises at least one void which forms an air-gap, between the tracking layer and the light-transmission panel.

10. The pad assembly of any one of claims 1 to 9, further comprising:

a light-reflecting layer comprising a reflective surface that is directed towards and covering the light-diffusion surface of the light-transmission panel.

11. The pad assembly of any one of claims 1 to 10, further comprising:

a controller connected to the at least one light source for controlling the at least one light source; and/or

an anti-slip layer comprising a base surface which serves as the base face of the pad body.

12. A method of making a pad assembly for an input device, the method comprising:

forming a pad body with a base face and a tracking face opposite the base face;

wherein forming the pad body comprises providing a light-transmission panel between the base face and the tracking face of the pad body, wherein the light-transmission panel comprises

a light-output surface for a light that enters the light-transmission panel to exit therefrom, wherein the light-output surface is facing a same direction as the tracking face,

a light-diffusion surface opposite the light-output surface, wherein the light-diffusion surface comprises a textured surface, and

a light-input surface for the light to enter the light-transmission panel;

disposing at least one light source relative to the light-input surface of the light-transmission panel of the pad body in a manner so as to be capable of emitting the light into the light-transmission panel through the light-input surface.

13. The method of claim 12, further comprising:

etching the light-diffusion surface of the light-transmission panel to form an arrangement of texture formations forming the textured surface, wherein the texture formations are recessed into the light-transmission panel.

14. The method of claim 12 or claim 13, further comprising:

providing a tracking layer over the light-transmission panel, wherein the tracking layer comprises a tracking surface which serves as the tracking face of the pad body;

wherein the tracking layer is translucent;

wherein, preferably, at least one portion of the tracking layer, extending between the tracking surface and an opposite surface of the tracking layer, has a different optical transmittance from at least one other portion of the tracking layer;

wherein, preferably, the method further comprises providing a light-permeable adhesive layer between the tracking layer and the light-transmission panel;

wherein, preferably, the light-permeable adhesive layer comprises at least one void which forms an air-gap, between the tracking layer and the light-transmission panel.

15. The method of any one of claims 12 to 14, further comprising:

providing a light-reflecting layer comprising a reflective surface that is covering and directed towards the light-diffusion surface of the light-transmission panel; and/or

connecting a controller to the at least one light source for controlling the at least one light source; and/or

providing an anti-slip layer comprising a base surface which serves as the base face of the pad body.