Claims

[Claim 1] An imaging device comprising:

an illumination unit including a light source for emitting illumination light, and a lens group for irradiating an imaging object with the illumination light emitted from the light source; and

an imaging unit for imaging the imaging object,

wherein the illumination unit is provided with a light shielding component for shielding against a part of the illumination light emitted from the light source,

wherein the illumination unit includes, in the lens group, a condenser lens for converging the illumination light from the light source, and an illumination system lens for irradiating the imaging object with the illumination light transmitted through the condenser lens, and the light shielding component is arranged at a position that is not in an optically conjugated relation with the imaging object on an optical path of the illumination light emitted from the light source.

~~[Claim 2] The imaging device according to claim 1, wherein the light shielding component is configured so that a recording layer including a light shielding pattern is laminated on a thin-plate-like transparent substrate.~~

~~[Claim 3] The imaging device according to claim 1 or 2, wherein the light shielding pattern includes a central light shielding portion for shielding a central portion of a cross-section perpendicular to an optical axis of the illumination light emitted from the light source against the illumination light, and an annular intermediate light shielding portion for shielding an intermediate portion between the optical axis and an outer edge of the cross-section perpendicular to the optical axis of the illumination light against the illumination light.~~

~~[Claim 4] The imaging device according to claim 1 or 2, wherein the light shielding pattern is formed by a set of a~~

~~large number of light shielding dots, and the large number of light shielding dots are arranged so as to be highest in density at a central portion of a cross-section perpendicular to an optical axis of the illumination light emitted from the light source for the illumination light, and decrease in density as a distance from the central portion in a radial direction increases for the illumination light.~~

~~[Claim 5] The imaging device according to any one of claims 1 to 4, wherein the illumination unit includes, in the lens group, a condenser lens for converging the illumination light from the light source, and an illumination system lens for irradiating the imaging object with the illumination light transmitted through the condenser lens, and the light shielding component is arranged at a position that is not in an optically conjugated relation with the imaging object on an optical path of the illumination light emitted from the light source.~~

[Claim 2~~6~~] The imaging device according to claim 1~~5~~, wherein a position which is optically conjugated with the imaging object is set in an intermediate portion between the condenser lens and the illumination system lens, and the condenser lens includes a plurality of lenses, and

wherein the light shielding component is arranged between the plurality of lenses constituting the condenser lens in no contact with the surfaces of the plurality of lenses.

[Claim 3~~7~~] The imaging device according to claim 2~~6~~, wherein the light shielding component is arranged between a first lens closest to the light source and a second lens adjacent to the first lens in the plurality of lenses constituting the condenser lens.

[Claim ~~8~~4] The imaging device according to claim 3~~7~~, wherein a spacer which forms a gap between the first lens and the second lens is provided, and the light shielding component is attached to the spacer to be incorporated in the condenser lens.

[Claim ~~9~~5] The imaging device according to claim 1~~5~~, wherein a position which is optically conjugated with the imaging object is set in an intermediate portion between the condenser lens and the illumination system lens, and

wherein the light shielding component is arranged between the light source and the condenser lens.