

VERIFICATION



The undersigned, of the below address, hereby certifies that he/she well knows both the English and Japanese languages, and that the attached is an accurate English translation of the Japanese Patent application filed on October 24, 2003 under No. P2003-364596.

The undersigned declares further that all statements made herein of his/her own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed this 20th day of February, 2008.

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This is to certify that the annexed is a true copy of the following application as filed with this Office.

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Applicant(s): NIKON CORPORATION

Commissioner,

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(Lists of the Article to be presented)

(Name of Article) Claims 1

(Name of Article) Specification 1

(Name of Article) Drawing 1

(Name of Article) Abstract 1

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[Document Name] Claims

[Claim 1] A catadioptric projection optical system for forming an image of a first surface on a second surface, the projection optical system comprising:

5 a first imaging optical system comprising at least six mirrors, for forming a first intermediate image and a second intermediate image of the first surface; and

 a second imaging optical system for relaying the second intermediate image onto the second surface.

10 [Claim 2] The catadioptric projection optical system according to Claim 1,

 wherein the first intermediate image is formed between a mirror that light emerging from the first surface enters second and a mirror that the light emerging from the first surface enters fourth, out of said at least
15 six mirrors in the first imaging optical system.

[Claim 3] The catadioptric projection optical system according to Claim 1 or 2,

 wherein the first imaging optical system comprises a field lens unit comprised of a transmitting optical element and having a positive
20 refracting power, and

 wherein said at least six mirrors are arranged so as to continuously reflect light transmitted by the field lens unit.

[Claim 4] The projection optical system according to Claim 1 or 2,

 wherein the first imaging optical system comprises a field lens
25 unit comprised of a transmitting optical element and having a positive refracting power, and

wherein the first imaging optical system comprises at least one negative lens between a mirror that light emerging from the first surface enters first and a mirror that the light emerging from the first surface enters sixth, out of said at least six mirrors.

5 [Claim 5] The catadioptric projection optical system according to any one of Claims 1 to 4,

wherein every optical element constituting the second imaging optical system is a transmitting optical element to form a reduced image of the first surface on the second surface.

10 [Claim 6] 39. The catadioptric projection optical system according to any one of Claims 1 to 5,

wherein the second imaging optical system comprises the following components in order of passage of light emerging from the first imaging optical system: a first lens unit having a positive refracting power; a second lens unit having a negative refracting power; a third lens unit having a positive refracting power; an aperture stop; and a fourth lens unit having a positive refracting power.

15 [Claim 7] The catadioptric projection optical system according to Claim 6,

20 wherein a mirror disposed at a position where light emerging from the first surface is most distant from the optical axis of the catadioptric projection optical system, out of the at least six mirrors is a mirror of a concave shape, and

25 wherein the aperture stop is disposed between the mirror of the concave shape and the second surface,

the catadioptric projection optical system according to Claim 6

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