H4/P

Docket No. 1316.1021CC

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Jang-Hoon YOO et al.

Serial No. 09/930,964 Group Art Unit: 2651

Confirmation No. 2291

Filed: August 17, 2001 Examiner: Mohammad N. Edun

For: OPTICAL PICKUP COMPATIBLE WITH A DIGITAL VERSATILE DISK AND A RECORDABLE COMPACT DISK USING A HOLOGRAPHIC RING LENS

PRELIMINARY AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Before examination of the above-identified application, please amend the application as follows.

In accordance with the procedures outlined in *Amendments in a Revised Format Now Permitted* signed January 31, 2003, the remarks and amendments to the claims and specification are enclosed on separate sheets.

2651

S&H Form: (01/03)

REPLY/AMENDMENT FEE TRANSMITTAL

Attorney Docket No.	1316.1021CC
Application Number	09/930,964
Filing Date	August 17, 2001
First Named Inventor	Jang-Hoon YOO et al.
Group Art Unit	2651
Examiner Name	Mohammad N. Edun

AMOUNT ENCLOSED	642.00

FEE CALCULATION (fees effective 01/01/03)

CLAIMS AS AMENDED	Claims Remaining After Amendment	Highest Number Previously Paid For	Number Extra	Rate	Calculations
TOTAL CLAIMS	37	- 20 =	17	X $ 18.00 =	$ 306.00
INDEPENDENT CLAIMS	7	- 3 =	4	X $ 84.00 =	336.00

Since an Official Action set an original due date of N/A, petition is hereby made for an extension to cover the date this reply is filed for which the requisite fee is enclosed (1 month ($110); 2 months ($410); 3 months ($930); 4 months ($1,450); 5 months ($1,970)):	
If Notice of Appeal is enclosed, add ($320.00)	
If Statutory Disclaimer under Rule 20(d) is enclosed, add fee ($110.00)	
Information Disclosure Statement (Rule 1.17(p)) ($180.00)	
Total of above Calculations =	$ 642.00
Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28)	
TOTAL FEES DUE =	$ 642.00

(1) If entry (1) is less than entry (2), entry (3) is "0".
(2) If entry (2) is less than 20, change entry (2) to "20".
(4) If entry (4) is less than entry (5), entry (6) is "0".
(5) If entry (5) is less than 3, change entry (5) to "3".

METHOD OF PAYMENT

☒ Check enclosed as payment.

☐ Charge "TOTAL FEES DUE" to the Deposit Account No. below.

☐ No payment is enclosed and no charges to the Deposit Account are authorized at this time (unless specifically required to obtain a filing date).

GENERAL AUTHORIZATION

☒ If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to:

Deposit Account No. 19-3935
Deposit Account Name STAAS & HALSEY LLP

☒ The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 USC § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.

SUBMITTED BY: STAAS & HALSEY LLP

Typed Name	James G. McEwen	Reg. No.	41,983
Signature		Date	June 16, 2003

IN THE CLAIMS:

Please **AMEND** claim 1, and **ADD** claims 7-37, as follows:

A1 CONT'D

1. (CURRENTLY AMENDED) An objective lens to form beam spots ~~of different sizes~~ using ~~corresponding first and second~~ light beams of respectively different wavelengths, the objective lens comprising:

an inner region including an optical center of the objective lens;

a holographic region surrounding said inner region and comprising a plurality of ~~concentric ring-shaped~~ steps disposed on a lens surface of the objective lens; and

an outer region surrounding said holographic region,

wherein

said inner region transmits the ~~first and second~~ light beams,

said holographic region diffracts a ~~the~~ second one of the light beams, and

~~and~~ the outer region transmits a ~~the~~ first one of the light beams.

2. (ORIGINAL) The objective lens according to claim 1, wherein a first focal plane on which a first portion of the second light beam incident on said holographic region is focused coincides with a second focal plane on which a second portion of the second light beam incident on said inner region is focused.

3. (ORIGINAL) The objective lens according to claim 1, wherein said holographic region further comprises grooves to diffract the second light beam.

4. (NOT AMENDED) An objective lens for an optical pickup, the objective lens comprising:

a holographic region having a plurality of concentric ring-shaped steps formed on a lens surface of the objective lens,

wherein the objective lens has a wavelength dependence such that two light beams having corresponding different wavelengths and an identical diffractive order form appropriate different wavefronts corresponding to reproducing and/or recording information from and/or to corresponding two kinds of optical recording media having respectively different thickness.

A1 CONTD

5. (ORIGINAL) The objective lens according to claim 4, further comprising an inner region surrounded by said holographic region, wherein a first focal plane on which a first portion of the second light beam incident on said holographic region is focused coincides with a second focal plane on which a second portion of the second light beam incident on said inner region is focused.

6. (ORIGINAL) The objective lens according to claim 4, wherein said holographic region includes grooves to diffract the light beam.

7. (NEW) An objective lens to form beam spots of different sizes using corresponding first and second light beams of respectively different wavelengths, the objective lens comprising:

an inner region including an optical center of the objective lens which has an optical property optimized to focus the first light beam onto a first optical recording medium of a first thicknesses and to focus the second light beam onto a second optical recording medium of a second thickness other than the first thickness; and

a diffractive region surrounding said inner region and comprising an optical property optimized so as to selectively diffract the first and second light beams as a function of wavelength so as to change a numerical aperture of the objective lens.

8. (NEW) The objective lens of claim 7, wherein, to adjust the numerical aperture as the function of the wavelength, the diffractive region:

selectively diffracts the first light beam having a first wavelength so as to not be focused on the first optical recording medium, and

selectively allows the second light beam of a second wavelength to be focused on the second recording medium.

9. (NEW) The objective lens of claim 8, wherein the diffractive region selectively diffracts the first light beam as first order light.

10. (NEW) The objective lens of claim 9, wherein the diffractive region comprises a blazed type hologram.

11. (NEW) The objective lens of claim 9, wherein the diffractive region comprises grooves formed in stepwise depths.

A1 CONT'D

12. (NEW) The objective lens of claim 7, wherein the diffractive region is optimized to selectively diffract the first and second light beams so as to reduce spherical aberration of the first and second light beams when focused on the first and second optical recording media as the function of the wavelength.

13. (NEW) The objective lens of claim 7, wherein the diffractive region is optimized to selectively diffract the first and second light beams such that the numerical aperture of the objective lens is greater for the second optical recording medium than for the first optical recording medium.

14. (NEW) The objective lens of claim 13, wherein the diffractive region diffracts the first light beam of a first wavelength so as to not be focused on the first optical recording medium.

15. (NEW) The objective lens of claim 14, wherein the diffractive region allows the second light beam of a second wavelength to be focused on the second optical recording medium.

16. (NEW) The objective lens of claim 15, wherein the diffractive region is disposed on an optical surface having the inner region.

17. (NEW) The objective lens of claim 16, wherein the optical surface is optimized with respect to the first and second light beams to be received prior to being reflected from the first and second optical recording media.

18. (NEW) The objective lens according to claim 7, wherein a first focal plane to which a first portion of the second light beam incident on the diffractive region is directed coincides with a second focal plane to which a second portion of the second light beam incident on the inner region is directed.

19. (NEW) The objective lens according to claim 7, wherein the diffractive region further comprises grooves optimized with respect to the second light beam so to maximize first order light and to minimize zeroth order light.

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