

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Yasuhiro Omura

U.S. Patent No.: 7,348,575

Attorney Docket No.: 24984-0056IP2

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Title: PROJECTION OPTICAL SYSTEM, EXPOSURE APPARATUS,
AND EXPOSURE METHOD

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PETITION FOR *INTER PARTES* REVIEW OF CLAIMS 55-67
OF UNITED STATES PATENT NO. 7,348,575
PURSUANT TO 35 U.S.C. §§ 311-319, 37 C.F.R. § 42

TABLE OF CONTENTS

I.	MANDATORY NOTICES UNDER 37 C.F.R § 42.8.....	1
II.	EVIDENCE	2
III.	REQUIREMENTS FOR IPR UNDER 37 C.F.R. §§ 42.104.....	2
A.	Grounds for Standing Under 37 C.F.R. § 42.104(a)	3
B.	Identification of Challenge Under 37 C.F.R. § 42.104(b).....	3
IV.	SUMMARY OF THE OMURA PATENT	6
A.	Technical Background.....	6
B.	The Alleged Invention of the Omura Patent.....	10
C.	Claim Construction under 37 C.F.R. §§ 42.104(b)(3).....	13
D.	Summary of the Prosecution History of the Omura Patent and Certain Related Applications.....	15
V.	THE PRIOR ART.....	16
A.	Prior Art Status of References	16
B.	All of the Limitations of Independent Claim 55 are Disclosed in Mann	19
C.	Claim Chart for Mann Rejections.....	23
D.	All of the Limitations of Independent Claim 55 are Disclosed in Takahashi	30
E.	Claim Chart for Takahashi Rejections	34
F.	All of the Limitations of Independent Claim 55 are Disclosed in Omura ‘387	38
G.	Claim Chart for Omura ‘387 Rejections	42
H.	Claim 61 is Unpatentable as Obvious over Takahashi in view of Suwa and Ulrich	48
I.	Claim 61 is Unpatentable as Obvious over Omura ‘387 in view of Suwa and Ulrich	53
J.	Claim 64 is Unpatentable as Obvious over Mann in view of Asai	54
K.	Claim 64 is Unpatentable as Obvious over Takahashi in view of Asai	56
L.	Claim 64 is Unpatentable as Obvious over Omura ‘387 in view of Asai	57
M.	Claim 67 is Unpatentable as Obvious over Mann in view of Takahashi	57
N.	Claim 67 is Unpatentable as Obvious over Omura ‘387 in view of Takahashi	58
VI.	CONCLUSION.....	59

Carl Zeiss SMT GmbH (“Petitioner” or “Zeiss”) petitions for *Inter Partes* Review (“IPR”) under 35 U.S.C. §§ 311–319 and 37 C.F.R. § 42 of claims 55-67 of U.S. Patent No. 7,348,575 (“the Omura Patent”), and asserts that there is a reasonable likelihood that it will prevail with respect to at least one of the claims challenged in this petition (hereinafter “the Petition”).

I. MANDATORY NOTICES UNDER 37 C.F.R § 42.8

Carl Zeiss SMT GmbH is the real party-in-interest. 37 C.F.R. § 42.8(b)(1)

The following applications claim benefit under Section 120 to the application that issued as the Omura Patent: 11/513,160 (pending); 11/583,934 (issued as U.S. Patent No. 7,309,870); 11/583,916 (issued as U.S. Patent No. 7,312,463); 11/882,208 (abandoned); 12/379,415 (pending); 12/884,332 (abandoned); and 13/275,760 (pending). Among these, U.S. Patent No. 7,309,870 (“the Omura ’870 Patent”), which issued from a continuation of the application that issued as the Omura Patent, has been the subject of four interferences between Zeiss and the assignee of the Omura Patent, Nikon Corporation (“Nikon”), specifically Interference Nos. 105,678, 105,749, 105,753, and 105,834. (ZEISS 1101, cover page; ZEISS 1102, cover page.) Final judgment was entered against Nikon in each interference and the involved claims of the Omura ’870 Patent were canceled. (ZEISS 1103, p. 2; ZEISS 1104, p. 2; ZEISS 1105, p. 2; ZEISS 1106, p. 2.) In addition to the present Petition regarding the Omura Patent, Zeiss is filing a second IPR peti-

tion on the same date as the present Petition to address claims 1-3, 8-12, 16-20, 23-26, and 29-33 of the Omura Patent. Zeiss is not aware of any other proceeding involving the Omura Patent. 37 C.F.R. § 42.8(b)(2).

Petitioner provides the following designation of counsel. 37 C.F.R. § 42.8(b)(3).

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We authorize the U.S. Patent and Trademark Office (the “Office”) to charge Deposit Account No. 06-1050 for the fee set in 37 C.F.R. § 42.15(a) for the Petition, and further authorize payment for any additional fees to be charged to this Deposit Account.

II. EVIDENCE

Appendix 1 lists the exhibits relied on in the Petition.

III. REQUIREMENTS FOR IPR UNDER 37 C.F.R. §§ 42.104

A. Grounds for Standing Under 37 C.F.R. § 42.104(a)

Zeiss certifies that the Omura Patent is eligible for IPR and that Zeiss is not barred or estopped from requesting IPR.

B. Identification of Challenge Under 37 C.F.R. § 42.104(b)

Zeiss requests IPR of claims 55-67 of the Omura Patent (the “Challenged Claims”) based on the prior art and grounds set forth below, and requests that the Office finds each of these claims to be unpatentable.

	Prior Art Reference	Prior Art Date
1.	US Patent Application Publication No. US 2005/0036213 (“Mann”)	Filed Aug. 12, 2003 (ZEISS 1110)
2.	JP Patent Application Publication No. JP 2003-114387 (“Omura ‘387 JP”)	Published Apr. 18, 2003 (ZEISS 1111)
3.	PCT Patent Publication No. WO 02/035273 (“Takahashi PCT”)	Published May 2, 2002 (ZEISS 1113)
4.	Satori Asai et al., “Resolution Limit for Optical Lithography Using Polarized Light Illumination,” Jpn. J. Appl. Phys. Vol. 32, pp. 5863-5866 (1993) (“Asai”)	Published Dec. 1993 (ZEISS 1114)
5.	US Patent No. 5,825,043 (“Suwa”)	Patented Oct. 20, 1998 (ZEISS 1123)
6.	Willi Ulrich et al., “The Development of Dioptric Projection Lenses for DUV Lithography,” Proc. SPIE Vol. 4832, pp. 158-169 (2002) (“Ulrich”)	Published in 2002 (ZEISS 1118)

As explained in section V(A), *infra*, each of these references is prior art to the Omura Patent. Omura ‘387 JP is published in Japanese so a Certified English Translation (“Omura ‘387”) is provided as Exhibit No. 1112. (ZEISS 1112.)

Takahashi PCT was published in Japanese and republished in English by the Euro-

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