PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| David Shafer | 04/16/2009 |
| Wilhelm Ulrich | 04/20/2009 |
| Aurelian Dodoc | 05/05/2009 |
| Rudolf Von Buenau | 05/08/2009 |
| Hans-Juergen Mann | 04/15/2009 |
| Alexander Epple | 04/14/2009 |
| Susanne Beder | 05/14/2009 |
| Wolfgang Singer | 04/21/2009 |

RECEIVING PARTY DATA

| Name: | Carl Zeiss SMT AG |
|-----------------|--------------------------|
| Street Address: | Rudolf-Eber-Strasse 2 |
| City: | Oberkochen |
| State/Country: | FEDERAL REPUBLIC GERMANY |
| Postal Code: | 73447 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 12561019 |

CORRESPONDENCE DATA

Fax Number: (877)769-7945

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 212-765-5070
Email: alp@fr.com
Correspondent Name: Chris C. Bowley

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Address Line 2: P.O.BOX 1022

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PATENT

REEL: 023251 FRAME: 0577

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| ATTORNEY DOCKET NUMBER: | 17979-0138003 |
|--|----------------------|
| NAME OF SUBMITTER: | Alissa Passacantilli |
| Total Attachments: 7 source=assign#page1.tif source=assign#page2.tif source=assign#page3.tif source=assign#page4.tif source=assign#page5.tif source=assign#page6.tif source=assign#page7.tif | |

Attorney's Docket No.: 1823 012002 / P45060 WO/US CON

ASSIGNMENT

For valuable consideration, we, <u>DAVID SHAFER</u> of <u>56 Drake Lane</u>, <u>Fairfield</u>, <u>CT 06420</u>, <u>WILHELM ULRICH</u> of <u>Lederackerring 44</u>, <u>73434 Aalen</u>, <u>Germany</u>, <u>AURELIAN DODOC</u> of <u>Schillerstrasse 15</u>, <u>89522 Heidenheim</u>, <u>Germany</u>, <u>RUDOLF VON BUENAU</u> of <u>Iltisweg 1</u>, <u>07749 Jena</u>, <u>Germany</u>, <u>HANS-JUERGEN MANN</u> of <u>Katzenbachstrasse 49</u>, <u>73447 Oberkochen</u>, <u>Germany</u>, <u>ALEXANDER EPPLE</u> of <u>Langertstrasse 38</u>, <u>73431 Aalen</u>, <u>Germany</u>, <u>SUSANNE BEDER</u> of <u>Brandenburger Strasse 59</u>, <u>73431 Aalen</u>, <u>Germany</u>, <u>WOLFGANG SINGER</u> of <u>Egerlandstrasse 45</u>, <u>73431 Aalen</u>, <u>Germany</u>, hereby assign to: <u>Carl Zeiss SMT AG</u>, a corporation of <u>Germany</u> having a place of business at:

Rudolf-Eber-Strasse 2 73447 Oberkochen Germany; and

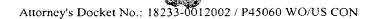
its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in the inventions and improvements which are subject of an application for United States Patent signed by us, entitled <u>CATADIOPTRIC PROJECTION</u> OBJECTIVE, filed 3/23/2009, and assigned U.S. Serial Number 12/409,394, and we authorize and request the attorneys appointed in said application to hereafter complete this assignment by inserting above the filing date and serial number of said application when known; this assignment including said application, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions or improvements, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and we authorize the Assignee to apply in all countries in our name or in its own name for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements; and we agree for ourselves and our respective heirs, legal representatives and assigns, without further compensation to perform such lawful acts and to sign such further applications, assignments, Preliminary Statements and other lawful documents as the Assignee may reasonably request to effectuate fully this assignment.

| Date: april 16, 2009 | DAVID SHAFER |
|----------------------------------|----------------------|
| Witnessed by: | |
| Name: Keny Eastman Name: Du Rest | Date: April 16, 2009 |
| Name: Du Reaf | Date: April 16, 2009 |
| | |
| Date: | WILHELM ULRICH |
| Witnessed by: | |
| Name: | Date: |
| Name: | Date: |
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| Date: | AURELIAN DODOC |
| Witnessed by: | |
| Name: | Date: |

Date:

| Attorney's Docket No.: | | |
|------------------------|---------------------|-------------|
| Attorney's Docket No.: | 18250012002 / P4506 | 0 WO/US CON |

| Date: | |
|-------------------------|----------------------|
| | DAVID SHAFER |
| Witnessed by: | |
| Name: | Date: |
| Name: | Date: |
| | |
| Date: Aml W. 1664 | Inh Irls |
| | WILHELM ULRICH |
| Witnessed by: | |
| Name: Christina Gentung | Date: April 20, 2003 |
| Name: | Date: |
| | |
| Date: Huy, 5th, 200 9 | AURELIAN DODOC |
| Witnessed by: | |
| Name: Lilly Sig | Date: Muy 5 2009 |
| Name: | Date |



| Date: Muy 8, 2009 | RUDOLF VON BUENAU |
|-------------------|-------------------|
| Witnessed by: | |
| Name: | Date: |
| Name: | Date: |
| · | |
| Date: | HANS-JUERGEN MANN |
| Witnessed by: | |
| Name: | Date: |
| Name: | Date: |
| | |
| Date: | ALEXANDER EPPLE |
| Witnessed by: | |
| Name: | Date: |
| Name: | Date: |

Attorney's Docket No.: 182 012002 / P45060 WO/US CON

| Date: | |
|----------------------|---------------------|
| | RUDOLF VON BUENAU |
| Witnessed by: | |
| Name: | Date: |
| Name: | Date: |
| · | |
| Date: April 15, 2009 | HANS-JUERGEN MANN |
| Witnessed by: | ! |
| Name: All So | Date: 4nd 11 2009 |
| Name: | Date: |
| | |
| Date: APR 14, 2007 | ALEXANDER EPPLE |
| Witnessed by: | |
| Name: Alith fig | Date: April 14 2008 |
| Name: | Data |

| Attorney's Docket No.: | 18233-0012002 | / P45060 WO/US | CON |
|------------------------|---------------|----------------|-----|
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| Date: May 14th 2009 | SUSANNE BEDER |
|---------------------|-----------------|
| Witnessed by: | |
| Name: | Date: |
| Name: | Date: |
| | |
| Date: | WOLFGANG SINGER |
| Witnessed by: | |
| Name: | Date: |
| Name: | Date: |

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| Date: | SUSANNE BEDER |
|-----------------------------------|-----------------------------|
| Witnessed by: | |
| Name: | Date: |
| Name: | Date: |
| Date: 21 APFIL 2007 Witnessed by: | WOLFGANG SINGER |
| Name: Missiva Gentury | Date: <u>April 21, 2009</u> |
| Name: | Date: |

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RECORDED: 09/18/2009

Attorney's Docket No.: 1822-012002 / P45060 WO/US CON