

## PATENT ASSIGNMENT COVER SHEET

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<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
ALBERT H. CHEN	12/08/2014
JAMES N. MALINA	12/08/2014
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<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15342895
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<b>NAME OF SUBMITTER:</b>	DANIEL G. BARRY
<b>SIGNATURE:</b>	/Daniel Barry/
<b>DATE SIGNED:</b>	11/03/2016
<b>Total Attachments: 4</b>	
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**ASSIGNMENT**

Whereas, we, **ALBERT H. CHEN**, a citizen of **The United States of America**, residing at **REDMOND, California**; and **JAMES N. MALINA**, a citizen of **The United States of America**, residing at **IRVINE, California**, have invented certain new and useful improvements in **GARBAGE COLLECTION AND DATA RELOCATION FOR DATA STORAGE SYSTEM** (hereafter "Improvements") for which we have executed an application for a United States Patent filed **November 11, 2014**, Application No. **14/538,513** and a provisional application for a United States Patent filed **January 27, 2014**, Application No. **61/932,113** (hereafter "Applications"); and

Whereas, **Western Digital Technologies, Inc.** (hereafter "Assignee"), a Delaware Corporation, desires to acquire the entire right, title, and interest in and to the Improvements and the Applications.

Now, therefore, that for good and valuable consideration, the receipt of which is hereby acknowledged, I, the inventor, do hereby acknowledge that I have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the Assignee, its successors, legal representatives and assignees, the entire right, title, and interest throughout the world in, to and under the Improvements, and the Applications and all divisions, renewals and continuations thereof, and all applications claiming priority to the Applications, and all Letters Patent of the United States which may be granted thereof and all reissues and extensions thereof, and all rights of priority under International Conventions and applications for Letters Patent which may hereafter be filed for the Improvements in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and I hereby authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patents for the Improvements to the Assignee, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

We hereby covenant and agree that we will communicate to the Assignee, its successors, legal representatives and assigns, any facts known to us respecting the Improvements, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and aid the Assignee, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for the Improvements in all countries.

**ASSIGNMENT**

**PATENT**  
Atty. Docket No.: T7329

Title of Invention: **GARBAGE COLLECTION AND DATA RELOCATION FOR DATA STORAGE SYSTEM**

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Albert Chen  
**ALBERT H. CHEN**

12/8/14  
Date

Witnessed by:

Robert M. Crowell Jr.  
Type/Print 1<sup>st</sup> Witness Name

[Signature]  
1<sup>st</sup> Witness Signature

12/8/14  
Date

Takenori Kato  
Type/Print 2<sup>nd</sup> Witness Name

[Signature]  
2<sup>nd</sup> Witness Signature

12/8/14  
Date

ASSIGNMENT

PATENT  
Atty. Docket No.: T7329

Title of Invention: **GARBAGE COLLECTION AND DATA RELOCATION FOR DATA STORAGE SYSTEM**

*James N. Malina*  
JAMES N. MALINA

12-8-14  
Date

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

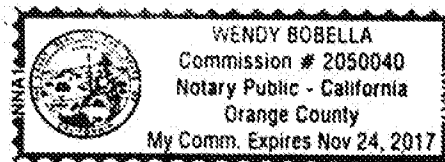
State of California )  
 ) ss.  
County of Orange )

On 12/08/2014, before me, Wendy Bobella, Notary Public, personally appeared **JAMES N. MALINA** who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: *Wendy Bobella*  
Signature of Notary Public



U.S. Serial No. 14/538,513 (Attorney Docket No. T7329)  
U.S. Serial No. 61/932,113 (Attorney Docket No. T7329.P)

**ACCEPTANCE OF ASSIGNMENT**  
(Patent Application)

Assignee Western Digital Technologies, Inc. ("Assignee") hereby acknowledges that ALBERT H. CHEN and JAMES N. MALINA have executed the above assignment concerning a utility (provisional or non-provisional) or design patent application entitled

"GARBAGE COLLECTION AND DATA RELOCATION FOR DATA STORAGE SYSTEM"

filed with the U.S. Patent & Trademark Office on November 11, 2014 and assigned Serial No. 14/538,513; and

"GARBAGE COLLECTION FOR DATA STORAGE DEVICE WITH SHINGLE MAGNETIC RECORDING MEDIA"

filed with the U.S. Patent & Trademark Office on January 27, 2014 and assigned Serial No. 61/932,113.

Assignee further acknowledges receipt of the entire right, title and interest in and to the patents and/or patent applications listed herein ("Applications"), and all divisions, renewals and continuations thereof, and all Letters Patent of the United States which may be granted thereof and all reissues and extensions thereof, and all rights of priority under International Conventions and applications for Letters Patent which may hereafter be filed for the listed Applications in any country or countries foreign to the United States and all extensions, renewals and reissues thereof.

Signature: \_\_\_\_\_



David H. Chan, Patent Counsel

Assignee Western Digital Technologies, Inc.

Date: \_\_\_\_\_

Dec 19 2014