

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5163943

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST	
<b>CONVEYING PARTY DATA</b>		
<b>Name</b>		<b>Execution Date</b>
QUANTUM LTO HOLDINGS, LLC		09/27/2018
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	TCW ASSET MANAGEMENT COMPANY LLC, AS AGENT	
<b>Street Address:</b>	200 CLARENDON STREET, 51ST FLOOR	
<b>City:</b>	BOSTON	
<b>State/Country:</b>	MASSACHUSETTS	
<b>Postal Code:</b>	02116	
<b>PROPERTY NUMBERS Total: 19</b>		
<b>Property Type</b>	<b>Number</b>	
Patent Number:	6452745	
Patent Number:	6462906	
Patent Number:	6563671	
Patent Number:	6728066	
Patent Number:	6667852	
Patent Number:	6717771	
Patent Number:	6760192	
Patent Number:	6648259	
Patent Number:	6669127	
Patent Number:	7085101	
Patent Number:	7224545	
Patent Number:	7714749	
Patent Number:	8009377	
Patent Number:	7038874	
Patent Number:	7522372	
Patent Number:	6003802	
Patent Number:	6499684	
Patent Number:	7269687	
Application Number:	62669735	

**CORRESPONDENCE DATA****Fax Number:** (312)863-7806

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

**Phone:** 3128637198**Email:** nancy.brougher@goldbergkohn.com**Correspondent Name:** NANCY BROUGHER, PARALEGAL**Address Line 1:** GOLDBERG KOHN LTD.**Address Line 2:** 55 EAST MONROE, SUITE 3300**Address Line 4:** CHICAGO, ILLINOIS 60603

<b>ATTORNEY DOCKET NUMBER:</b>	7129.021
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<b>NAME OF SUBMITTER:</b>	NANCY BROUGHER
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<b>SIGNATURE:</b>	/njb/
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<b>DATE SIGNED:</b>	09/28/2018
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**Total Attachments: 14**

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THE LIENS AND SECURITY INTERESTS SECURING THE OBLIGATIONS AS EVIDENCED HEREBY ARE SUBJECT TO THE PROVISIONS OF THE INTERCREDITOR AGREEMENT, DATED AS OF OCTOBER 21, 2016 (AS AMENDED OR MODIFIED FROM TIME TO TIME), BY AND AMONG AGENT, AS TERM AGENT, AND PNC BANK, NATIONAL ASSOCIATION, AS ABL AGENT. IN THE EVENT OF ANY CONFLICT BETWEEN THE TERMS OF THE INTERCREDITOR AGREEMENT AND THIS AGREEMENT, THE TERMS OF THE INTERCREDITOR AGREEMENT SHALL GOVERN AND CONTROL.

#### INTELLECTUAL PROPERTY SECURITY AGREEMENT

This INTELLECTUAL PROPERTY SECURITY AGREEMENT (this "Agreement"), dated as of September 27, 2018, is made by QUANTUM LTO HOLDINGS, LLC, a Delaware limited liability company ("Quantum" and together with each Person joined hereto as a "Grantor" from time to time, collectively, "Grantors" and each a "Grantor"), in favor of TCW ASSET MANAGEMENT COMPANY LLC, in its capacity as "Agent" under the Credit Agreement referenced below (together with its successors and permitted assigns in such capacity, including any replacement or successor "Agent" appointed under the Credit Agreement, the "Agent").

#### W I T N E S E T H:

WHEREAS, pursuant to that certain Revolving Credit and Security Agreement, dated as of October 21, 2016, by and among the Agent, the financial institutions named therein or which hereafter become a party thereto as lenders (collectively, the "Lenders"), the Grantors and each other Person hereafter joined thereto as a borrower or guarantor from time to time (as amended by the First Amendment to Term Loan Credit and Security Agreement, dated as of April 19, 2017, the Second Amendment to Term Loan Credit and Security Agreement, dated as of November 6, 2017, the Third Amendment to Term Loan Credit and Security Agreement, dated as of February 14, 2018 and the Joinder and Fourth Amendment to Term Loan Credit and Security Agreement, dated as of August 23, 2018, and as the same may be further amended, modified, supplemented, renewed, restated or replaced from time to time, the "Credit Agreement"; capitalized terms used herein but not otherwise defined herein shall have the meanings given to such terms in the Credit Agreement), Agent and Lenders have made and/or will hereinafter make certain extensions of credit to the Borrowers upon the terms and subject to the conditions set forth in the Credit Agreement;

WHEREAS, pursuant to the Credit Agreement, Grantors have granted to Agent, for its own benefit and for the ratable benefit of the Secured Parties, security interests in and liens upon substantially all of each Grantor's assets, including without limitation all of each Grantor's Intellectual Property Collateral (as hereinafter defined); and

WHEREAS, Grantors have agreed to execute and deliver this Agreement, and to have a copy of this Agreement filed with the United States Patent and Trademark Office and/or the United States Copyright Office (as applicable), in order to perfect and/or protect all of Agent's security interest in and liens upon the Intellectual Property Collateral;

NOW, THEREFORE, in consideration of the premises and mutual covenants and agreements provided for herein and in the Credit Agreement, and for other good and valuable considerations, the receipt and sufficiency of which are hereby acknowledged by each party hereto, and intending to be legally bound, the parties hereto agree as follows:

Section 1. Grant of Security Interest in Intellectual Property Collateral. Without limiting any other grant of any lien by any Grantor in any Collateral under the Credit Agreement or any Other Document, to secure the prompt payment and performance of all Obligations to Agent and the other Secured Parties, each Grantor hereby assigns, pledges and grants to Agent, for its benefit and for the ratable benefit of the other Secured Parties, a continuing security interest in and lien upon all of such Grantor's right, title and interest in, to and under the following Collateral of such Grantor, all whether now owned and/or existing or hereafter created, arising and/or acquired (the "Intellectual Property Collateral"):

(a) all of its registered/issued United States patents and filed United States patent applications, including, without limitation, those referred to on Schedule 1 hereto or on any Schedule to any Supplement (as defined below) delivered hereafter, together with all reissues, reexaminations, continuations, continuations-in-part, divisionals, renewals and extensions of the foregoing;

(b) all of its registered United States trademarks and filed United States trademark applications constituting Collateral, including, without limitation, those referred to on Schedule 2 hereto or on any Schedule to any Supplement delivered hereafter, together with all renewals, reversions and extensions of the foregoing;

(c) all goodwill of the business connected with the use of, and symbolized by, each such trademark and trademark application covered by clause (b) above;

(d) all of its registered United States copyrights and filed United States copyright applications, including, without limitation, those referred to on Schedule 3 hereto or on any Schedule to any Supplement delivered hereafter, together with all renewals, reversions and extensions of the foregoing;

(e) any claims for damages by way of any past, present, or future infringement of any of the foregoing and proceeds thereof (including, without limitation, any proceeds resulting under insurance policies); and

(f) all cash, income, royalties, fees, other proceeds, Receivables, accounts and general intangibles that consist of rights of payment to or on behalf of any Grantor, proceeds from the sale, licensing or other disposition of all or any part of, or rights in, the Intellectual Property Collateral by or on behalf of any Grantor, and all rights to sue and recover at law or in equity for any past, present and future infringement, misappropriation, dilution, violation or other impairment thereof;

which such continuing security interest in and lien upon the Intellectual Property Collateral, and this Agreement, shall continue in full force and effect to secure each of the Obligations unless and until all of the Obligations have been Paid in Full and the Credit Agreement has been terminated in accordance with its terms.

Notwithstanding the foregoing, the Intellectual Property Collateral shall not include any Excluded Property.

Section 2. Credit Agreement. The security interests and liens granted pursuant to this Agreement are granted in conjunction with, and in no way limit, the security interests and liens granted to the Agent pursuant to the Credit Agreement and/or any of the Other Documents, and each Grantor hereby acknowledges and agrees that the rights and remedies of the Agent with respect to the security interests in and liens upon the Intellectual Property Collateral made and granted hereby are more fully set forth in the Credit Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provisions of this Agreement are in conflict with the Credit Agreement, the provisions of the Credit Agreement shall govern.

Section 3. Registration/Filing. This Agreement is intended by the parties to be filed, and each Grantor hereby authorizes Agent to file and record a copy of this Agreement, with the United States Patent and Trademark Office and/or United States Copyright Office, as applicable.

Section 4. Grantors Remains Liable. Each Grantor hereby agrees that, anything herein to the contrary notwithstanding, such Grantor shall retain full and complete responsibility for the prosecution, defense, enforcement or any other necessary or desirable actions in connection with the Intellectual Property Collateral subject to a security interest hereunder.

Section 5. Agreement to Deliver Supplements. Each Grantor hereby covenants and agrees that upon the acquisition by such Grantor of any new Intellectual Property Collateral, Grantors shall, concurrently with the delivery of a Compliance Certificate under Section 9.7, 9.8 or 9.9 of the Credit Agreement with respect to the period in which such acquisition of such new Intellectual Property Collateral occurred, deliver to Agent a duly executed Supplement to this Agreement in the form of Exhibit A hereto (a "Supplement"), listing all such newly acquired Intellectual Property Collateral on Schedule I thereto, pursuant to which Grantors shall reconfirm the grant of a security interest in such newly acquired Intellectual Property Collateral to Agent, for its benefit and for the ratable benefit of the other Secured Parties, to secure the Obligations. Each Supplement is intended by the parties to be filed, and Grantors hereby authorize Agent to file and record a copy of each Supplement, with the United States Patent and Trademark Office and/or United States Copyright Office, as applicable. Regardless of whether any Supplement is delivered by Grantors, and without limiting the generality of the provisions of Section 1 hereof above, Grantors hereby confirm and agree that any and all such after-acquired Intellectual Property Collateral (in each case, other than Excluded Property) shall immediately and automatically upon any Grantor's acquisition of any right, title and interest therein become part of the Intellectual Property Collateral hereunder. Without limiting Grantors' obligations under this Section, each Grantor hereby authorizes Agent, its successors and assigns, and any officer, employee, attorney or agent thereof, as such Grantor's true and lawful attorney-in-fact, with the power, subject in each case to the provisions of the Intercreditor Agreement, to execute and endorse in the name of such Grantor any supplement or other documentation in order to unilaterally modify this Intellectual Property Security Agreement by amending any of the Schedules hereto to include any newly acquired Intellectual Property Collateral of any Grantor and to file the same with the United States Patent and Trademark Office and/or United States Copyright Office, as applicable, in the name of and on behalf of such Grantor. Notwithstanding the foregoing, no failure to so modify this Intellectual Property Security

Agreement or amend any Schedule hereto shall in any way affect, invalidate or detract from Agent's continuing security interest in all Intellectual Property Collateral, whether or not listed on any Schedule hereto.

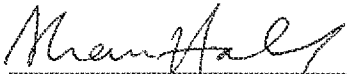
Section 6. Termination. Upon Payment in Full of all of the Obligations and the termination of the Credit Agreement in accordance with its terms, upon the written request of any Grantor, and at the sole expense of such Grantor, Agent shall execute and deliver to such Grantor an instrument, in form and substance reasonably satisfactory to Agent, in writing in recordable form releasing the lien and security interest of Agent in the Intellectual Property Collateral granted under this Agreement and each Supplement.

Section 7. Miscellaneous. This Agreement, and all matters relating hereto or arising herefrom (whether arising under contract law, tort law or otherwise) shall, in accordance with Section 5-1401 of the General Obligations Law of the State of New York, be governed by and construed in accordance with the laws of the State of New York. Without limiting the generality of the general incorporation of the Credit Agreement herein provided for above, the provisions of Section 16.1 of the Credit Agreement {agreements regarding, consents to and waivers regarding jurisdiction and venue}, Section 16.5 of the Credit Agreement {indemnities by Grantors}, Section 16.6 of the Credit Agreement {notices}, Section 16.9 of the Credit Agreement {expenses} and Article XII of the Credit Agreement {certain waivers including waivers of the rights of jury trial} are hereby specifically incorporated by reference. If any part of this Agreement is contrary to, prohibited by, or deemed invalid under Applicable Laws or regulations, such provision shall be inapplicable and deemed omitted to the extent so contrary, prohibited or invalid, but the remainder hereof shall not be invalidated thereby and shall be given effect so far as possible. This Agreement shall be binding upon and inure to the benefit of Grantors and Agent, and their respective successors and permitted assigns, except that no Grantor may assign or transfer any of its rights or obligations under this Agreement except in accordance with the provisions of the Credit Agreement. This Agreement may be executed in counterparts, each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Any signature delivered by a party by facsimile or other electronic means of transmission (including email transmission of a PDF copy) shall be deemed to be an original signature hereto.

In witness whereof, each Grantor has caused this Intellectual Property Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTOR:

QUANTUM LTO HOLDINGS, LLC

By: 

Name: Shawn Hall

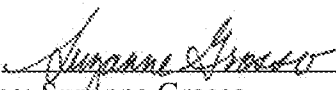
Title: General Counsel

[Signature Page to Intellectual Property Security Agreement]

**PATENT**  
**REEL: 047003 FRAME: 0825**

ACCEPTED AND AGREED  
as of the date first above written:

TCW ASSET MANAGEMENT COMPANY  
LLC, as Agent

By:   
Name: Suzanne Grosso  
Title: Managing Director



**Schedule 1**  
**to**  
**Intellectual Property Security Agreement**

**Patents and Patent Applications**

TITLE	INVENTORS	COUNTRY	APPLICATION NUMBER	PATENT NUMBER
MAGNETIC TAPE CARTRIDGE		US	9212484	6452745
MAGNETIC TAPE CARTRIDGE		US	9852635	6462906
MAGNETIC TAPE CARTRIDGE HAVING BRAKE WITH SKIRT PORTION THEREOF CONTACTING REEL HUB CONTINUOUS WALL PORTION		US	10086245	6563671
MAGNETIC TAPE CARTRIDGE WITH CONICALLY INCLINED SELF-CENTERING BRAKE SURFACE		US	10369585	6728066
MAGNETIC TAPE CARTRIDGE WITH BRAKE RELEASE MEMBER PUSH ROD CONTACTING REEL GEAR HOLE VIA PROTRUSIONS		US	10369597	6667852
MAGNETIC TAPE CARTRIDGE HAVING PROJECTIONS		US	9700469	6717771
MAGNETIC TAPE CARTRIDGE FOR HOUSING A REEL		US	10173273	6760192
MAGNETIC TAPE CARTRIDGE		US	9762563	6648259
MAGNETIC TAPE CARTRIDGE		US	10279857	6669127
MAGNETIC TAPE CARTRIDGE WITH ROTATABLY-MOUNTED MULTI-PROJECTION BRAKE RELEASE MEMBER		US	9220336	7085101
METHODS AND SYSTEMS FOR OVERWRITE PROTECTED STORAGE MEDIA	George SALIBA, Christopher P King	US	10826639	7224545

METHOD FOR CONSTRUCTING RLL CODES OF ARBITRARY RATE	Marc Feller	US	12198687	7714749
A TAPE ARCHITECTURE AND A HEAD ARCHITECTURE FOR A LINEAR TAPE DRIVE HAVING A REDUCED ACTUATOR STROKE	Lawrence G Neumann	US	12395479	8009377
TAMPER RESISTANT WRITE ONCE RECORDING OF A DATA STORAGE CARTRIDGE HAVING REWITABLE MEDIA	Glen Alan Jaquette, Paul Bartlett, Gregory A Unruh	US	10440694	7038874
SERVO TRACK HAVING PERIODIC FRAMES OF TONE FIELD AND EMBEDDED SYNCHRONIZATION MARKS	John A Koski, Timothy C Hughes	US	11602872	7522372
TAPE LEADER PIN ASSEMBLY AND METHOD FOR MAKING THE SAME	James Eaton, Thomas Robert Albrecht, Robert Ralph Heinze, John Anthony Hamming, Jeffrey S McAllister, Thomas W von Alten, Carl R Hoerger, Geoffrey W Mansbridge	US	9055016	6003802
TAPE LEADER PIN ASSEMBLY AND METHOD FOR MAKING THE SAME	James Eaton, Thomas Robert Albrecht, Robert Ralph Heinze, John Anthony Hamming, Jeffrey S McAllister, Thomas W von Alten, Carl R Hoerger, Geoffrey W Mansbridge	US	9320238	6499684
BOUNDING DEFECTIVE REGIONS OF A TAPE STORAGE MEDIUM	Dwayne Edling, Charles K Klomp	US	10923443	7269687
DATA BAND IDENTIFICATION FOR TAPE SERVO SYSTEM USING MULTIPLE SERVO BANDS	Turguy Goker	US	62669735	(Not yet issued)

**Schedule 2**  
**to**  
**Intellectual Property Security Agreement**  
**Trademarks and Trademark Applications**

TRADEMARK	COUNTRY	APPL. DATE	APPL. NO.	REG. DATE	REG. NO.
LINEAR TAPE-OPEN	USA	4/3/1998	75983433	4/27/2004	2836782
LTO	USA	4/3/1998	75/462012	9/11/2001	2487985
LTO LINEAR TAPE-OPEN Logo	USA	3/12/1999	75/659481	2/17/2004	2815237
ULTRIUM	USA	4/3/1998	75/462005	9/11/2001	2487984
ULTRIUM LTO & Device	USA	1/22/2013	85829575	10/21/2014	4623199

**Schedule 3  
to  
Intellectual Property Security Agreement  
Copyrights and Copyright Applications**

None.

EXHIBIT A

SUPPLEMENT TO INTELLECTUAL PROPERTY SECURITY AGREEMENT

THIS SUPPLEMENT TO INTELLECTUAL PROPERTY SECURITY AGREEMENT (the "Supplement") made as of this \_\_\_ day of \_\_\_\_\_, 201\_\_\_, QUANTUM LTO HOLDINGS, LLC a Delaware limited liability company ("Quantum", and any other Person that may hereafter become a party to this Agreement as a grantor of liens under the Intellectual Property Security Agreement described below, collectively, "Grantors" and each a "Grantor"), in favor of TCW ASSET MANAGEMENT COMPANY LLC, in its capacity as "Agent" under the Credit Agreement referenced below (in such capacity, together with its successors and permitted assigns, the "Agent");

W I T N E S S E T H

WHEREAS, Grantors and Agent are parties to a certain Intellectual Property Security Agreement, dated as of September \_\_\_, 2018 (as amended, modified, supplemented, renewed, restated or replaced from time to time, the "IP Security Agreement"). Capitalized terms used herein but not otherwise defined herein shall have the meanings given to such terms in the IP Security Agreement;

WHEREAS, pursuant to the IP Security Agreement, to secure the prompt payment and performance of all Obligations to Agent and each other Secured Party, Grantors have assigned, pledged and granted to Agent, for its benefit and for the ratable benefit of the other Secured Parties, a continuing security interest in and to and lien upon all of such Grantor's right, title and interest in, to and under the Intellectual Property Collateral of each Grantor, all whether now owned or hereafter created, arising and/or acquired; and

WHEREAS, pursuant to the IP Security Agreement, Grantors have agreed that upon the acquisition by any Grantor of any new Intellectual Property Collateral, Grantors shall deliver to Agent a Supplement to the IP Security Agreement in the form of Exhibit A thereto pursuant to which Grantors shall reconfirm the grant by them of a security interest in and lien upon all such newly acquired Intellectual Property Collateral, which such Supplement is intended by the parties to be filed with the United States Patent and Trademark Office and/or United States Copyright Office, as applicable,

NOW, THEREFORE, in consideration of the premises set forth herein and for other good and valuable consideration, receipt and sufficiency of which are hereby acknowledged by each party hereto, and intending to be legally bound, and with the foregoing background and recitals incorporated by reference, Grantors agree as follows:

1. Grant and Reaffirmation of Grant of Security Interests. Without limiting any other grant of any security interest or lien by any Grantor in and upon any Collateral under the Credit Agreement or any of the Other Documents, to secure the prompt payment and performance of all Obligations to Agent and the other Secured Parties, each Grantor hereby assigns, pledges and grants to Agent, for its benefit and for the ratable benefit of the other Secured Parties, a continuing

security interest in and to and lien upon all of such Grantor's right, title and interest in, to and under the following Collateral of such Grantor, all whether now owned or hereafter created, arising and/or acquired: the newly acquired Intellectual Property Collateral listed on Schedule 1 to this Supplement (together with all reissues, reexaminations, continuations, continuations-in-part, divisionals, renewals and extensions of the foregoing). Grantors agree that all such newly acquired Intellectual Property Collateral described above shall be included in and be part of the Intellectual Property Collateral under and subject to all of the terms and provisions of the IP Security Agreement. Grantors hereby authorize Agent to file and record a copy of this Supplement with the United States Patent and Trademark Office and/or United States Copyright Office, as applicable.

2. Incorporation of the IP Security Agreement. The terms and provisions of the IP Security Agreement are hereby incorporated by reference and this Supplement shall be considered an amendment and supplement to and part of the IP Security Agreement; all of the provisions of which IP Security Agreement are and remain in full force and effect as supplemented by this Supplement.

[Remainder of Page Left Intentionally Blank]

IN WITNESS WHEREOF, Grantors have duly executed this Supplement to the IP Security Agreement as of the date first written above.

GRANTORS:

QUANTUM LTO HOLDINGS, LLC

By: \_\_\_\_\_  
Name:  
Title:

ACCEPTED AND AGREED  
as of the date first above written:

TCW ASSET MANAGEMENT COMPANY  
LLC,  
as Agent

By: \_\_\_\_\_  
Name:  
Title:

SCHEDULE I

TO SUPPLEMENT TO INTELLECTUAL PROPERTY SECURITY AGREEMENT

DATED\_\_\_\_\_