503712420 02/26/2016

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3759061

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Execution Date
TIVO INC.	01/25/2007

RECEIVING PARTY DATA

Name:	CITIGROUP GLOBAL MARKETS REALTY CORP.
Street Address:	390 GREENWICH STREET
Internal Address:	6TH FLOOR
City:	NEW YORK
State/Country:	NEW YORK
Postal Code:	10013

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	12270852

CORRESPONDENCE DATA

Fax Number: (650)670-8813

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kwong@wongrees.com

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ATTORNEY DOCKET NUMBER:	60097-0510
NAME OF SUBMITTER:	KIRK D. WONG
SIGNATURE:	/KirkDWong#43284/
DATE SIGNED:	02/26/2016

Total Attachments: 10

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> **PATENT** REEL: 037843 FRAME: 0086 503712420

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PATENT REEL: 037843 FRAME: 0087

INTELLECTUAL PROPERTY SECURITY AGREEMENT

This INTELLECTUAL PROPERTY SECURITY AGREEMENT (as amended, amended and restated, supplemented or otherwise modified from time to time, the "IP Security Agreement") dated January 25, 2007, is made by the Persons listed on the signature pages hereof (collectively, the "Grantors") in favor of Citigroup Global Markets Realty Corp., as administrative agent (the "Administrative Agent") for the Secured Parties (as defined in the Credit Agreement referred to below).

WHEREAS, TiVo Inc., a Delaware corporation, has entered into a Credit Agreement dated as of January 25, 2007 (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Credit Agreement"), with the Administrative Agent and the Lenders party thereto. Terms defined in the Credit Agreement and not otherwise defined herein are used herein as defined in the Credit Agreement.

WHEREAS, as a condition precedent to the making of Loans under the Credit Agreement, each Grantor has executed and delivered that certain Security Agreement dated January 25, 2007 made by the Grantors to the Administrative Agent (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement").

WHEREAS, under the terms of the Security Agreement, the Grantors have granted to the Administrative Agent, for the ratable benefit of the Secured Parties, a security interest in, among other property, certain intellectual property of the Grantors, and have agreed as a condition thereof to execute this IP Security Agreement for recording with the U.S. Patent and Trademark Office and the United States Copyright Office.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each Grantor agrees as follows:

- SECTION 1. <u>Grant of Security</u>. Each Grantor hereby grants to the Administrative Agent for the ratable benefit of the Secured Parties a security interest in all of such Grantor's right, title and interest in and to the following, whether now owned or hereafter acquired by such Grantor (the "Collateral"):
 - (i) the patents and patent applications set forth in Schedule A hereto (the "Patents");
 - (ii) the trademark and service mark registrations and applications set forth in Schedule B hereto (provided that no security interest shall be granted in United States intent-to-use trademark applications to the extent that, and solely during the period in which, the grant of a security interest therein would impair the validity or enforceability of such intent-to-use trademark applications under applicable federal law), together with the goodwill associated therewith (the "Trademarks");
 - (iii) all copyrights and copyrightable materials, whether registered or unregistered, whether published or unpublished, including, without limitation, the

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copyright registrations and applications for registration and exclusive copyright licenses, set forth in Schedule C hereto (the "Copyrights");

- (iv) all reissues, divisions, continuations, continuations-in-part, extensions, renewals and reexaminations of any of the foregoing;
- (v) all written agreements relating to the license of any of the foregoing to which such Grantor now or hereafter is a party or a beneficiary and which are material, exclusive license agreements where such Grantor is the licensee, including, without limitation, the agreements set forth in Schedule D hereto ("IP Agreements");
- (vi) any and all claims for damages and injunctive relief for past, present and future infringement, dilution, misappropriation, violation, misuse or breach with respect to any of the foregoing, with the right, but not the obligation, to sue for and collect, or otherwise recover, such damages; and
- (vii) any and all proceeds of, collateral for, income, royalties and other payments now or hereafter due and payable with respect to, and supporting obligations relating to, any and all of the Collateral of or arising from any of the foregoing.
- SECTION 2. Security for Obligations. The grant of a security interest in the Collateral by each Grantor under this IP Security Agreement secures the payment of all Obligations of such Grantor now or hereafter existing under or in respect of the Loan Documents, whether direct or indirect, absolute or contingent, and whether for principal, reimbursement obligations, interest, premiums, penalties, fees, indemnifications, contract causes of action, costs, expenses or otherwise. Without limiting the generality of the foregoing, this IP Security Agreement secures, as to each Grantor, the payment of all amounts that constitute part of the Secured Obligations and that would be owed by such Grantor to any Secured Party under the Loan Documents but for the fact that such Secured Obligations are unenforceable or not allowable due to the existence of a bankruptcy, reorganization or similar proceeding involving a Loan Party.
- SECTION 3. <u>Recordation</u>. Each Grantor authorizes and requests that the Register of Copyrights and the Commissioner for Patents and the Commissioner for Trademarks record this IP Security Agreement.
- SECTION 4. Execution in Counterparts. This IP Security Agreement may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement.
- SECTION 5. <u>Grants, Rights and Remedies.</u> This IP Security Agreement has been entered into in conjunction with the provisions of the Security Agreement. Each Grantor does hereby acknowledge and confirm that the grant of the security interest hereunder to, and the rights and remedies of, the Administrative Agent with respect to the Collateral are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated herein by reference as if fully set forth herein.

SECTION 6. <u>Governing Law</u>. This IP Security Agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

[Signatures appear on the following page]

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CHI:1851014.3

PATENT REEL: 037843 FRAME: 0090 IN WITNESS WHEREOF, each Grantor has caused this IP Security Agreement to be duly executed and delivered by its officer thereunto duly authorized as of the date first above written.

TIVO INC, as Grantor

Name: Steven J. Sordello

Title: Senior Vice President and Chief

Financial Officer

TiVo Inc. 2160 Gold Street Alviso, CA 95002 Attn: General Counsel Fax: (408) 519-3304

[IP Security Agreement]

Schedule A - Patents and Applications

Patent Title	Grant Date	Patent
		Number
Method and apparatus for screening audio-visual materials presented to a subscriber	5/26/1998	5,757,417
Method and apparatus for monitoring audio-visual materials presented to a subscriber	2/16/1999	5,872,588
Method, apparatus and system for integrating television signals with internet access	1/2/2001	6,169,541 B1
System and method for interactively accessing program information on a television	2/6/2001	6,184,877 B1
Analog video tagging and encoding system	4/10/2001	6,215,526 B1
Multimedia time warping system	5/15/2001	6,233,389 B1
Method and apparatus implementing a multimedia digital network	10/30/2001	6,310,886 B1
Method and apparatus implementing random access and time- based functions on a continuous stream of formatted digital data	12/4/2001	6,327,418 B1
Self-test electronic assembly and test system	5/7/2002	6,385,739 B1
Software installation and recovery system	12/3/2002	6,490,722 B1
Analog video tagging and encoding system	3/18/2003	6,535,253 B2
Multimedia schedule presentation system	11/4/2003	6,642,939
Self-test electronic assembly and test system	11/4/2003	6,643,798
Automated detection/resumption of interrupted television programs	1/20/2004	6,681,396 B1
Display of television program information using dynamically- adjusted scroll rate	4/13/2004	6,721,953 B1
Distributed database management system	4/27/2004	6,728,713 B1
Method and apparatus for software failure diagnosis and repair	6/29/2004	6,757,837 B1
Television viewer interface system	6/29/2004	6,757,906 B1
Method and apparatus implementing random access and time- based functions on a continuous stream of formatted digital data	9/14/2004	6,792,195 B2
Multimedia visual progress indication system	1/25/2005	6,847,778 B1
Automatic playback overshoot correction system	2/1/2005	6,850,691 B1
Multimedia program bookmarking system	3/15/2005	6,868,225 B1
Method for improving bandwidth efficiency	11/15/2005	6,965,730 B2
Method for generation, delivery, and validation of electronic coupons through personal TV service system	5/30/2006	7,055,031 B2
Method and apparatus implementing a multimedia digital network	1/2/2007	7,158,531
Remote control	5/2/2000	D424,061
Remote control housing	5/9/2000	D424,577
Remote control	10/3/2000	D431,552
Remote control	11/7/2000	D433,403
Bezel	11/21/2000	D434,043
Replay bar icon for a display	12/26/2000	D435,561
Menu for a graphical electronic display	7/31/2001	D445,801
36 button remote control	10/1/2002	D463,788
DVR bezel	3/14/2006	D517,059

Intellectual Property Security Agreement Schedules - Page 1

PATENT

Application No.	Filing Date	Patent Application Title
09/422,121	10/20/1999	Data storage management and scheduling system
09/558,410	4/24/2000	Method and apparatus for controlling at least one set-top box
09/642,617	8/17/2000	Drive/host locking system
09/665,921	9/20/2000	Closed caption tagging system
09/740,618	12/18/2000	Method for enhancing digital video recorder television
		advertising viewership
09/827,029	4/5/2001	Multimedia time warping system
09/935,426	8/22/2001	Multimedia signal processing system
10/081,776	2/20/2002	Multimedia time warping system
10/168,070	12/14/2000	Intelligent system and methods of recommending media content items based on user preferences
10/168,782	12/21/2000	Intelligent peer-to-peer system and method for
, ,		collaborative suggestions and propagation of media
10/168,808	12/14/2000	Intelligent system and methods of recommending media
,	1	content items based on user preferences
10/168,839	12/20/2000	Distributed, interactive television program guide; system and method
10/168,976	12/20/2000	Broadcast program recording overrun and underrun
10/100,070	1202000	scheduling system
10/189,079	7/2/2002	Cryptographically signed filesystem
10/189,989	7/5/2002	Audience measurement system
10/190,256	7/5/2002	Smart card digital video recorder system
10/220,356	3/2/2001	Conditional access system and method for prevention of
Market Company and the second second		replay attacks
10/220,558	2/27/2001	System and method for internet access to a personal television service
10/339,684	1/8/2003	Analog television signal data delivery system
10/339,698	1/8/2003	Electronic content distribution and exchange system
10/339,699	1/8/2003	Client-side multimedia content targeting system
10/339,700	1/8/2003	System for remotely controlling client recording and storage behavior
10/418,646	4/18/2003	Digital video recorder system with an integrated DVD recording device
10/420,371	4/21/2003	Method and apparatus for creating an expanded
· · · · · · · · · · · · · · · · · · ·		functionality digital video disc
10/425,308	4/28/2003	Smart broadcast program recording padding and scheduling system
10/425,331	4/28/2003	Method and apparatus for creating an enhanced photo digital video disc
10/741,596	12/18/2003	Secure multimedia transfer system
10/742,581	12/18/2003	Method of sharing personal media using digital recorder
10/816,982	4/2/2004	Data storage management and scheduling system
10/828,921	4/20/2004	Distributed database management system
10/843,550	5/10/2004	Television viewer interface system
10/846,431	5/13/2004	Automatic playback overshoot correction system
10/875,756	6/23/2004	Television viewer interface system
10/915,990	8/10/2004	Multimedia visual progress indication system
10/923,445	8/20/2004	Television viewer interface system
10/923,443	10/4/2004	Secure control of features of a digital device
10/958,674	10/4/2004	Remote control programming system
INITIONITY	101-112007	Total Control by a digital little a should

Application No.	Filing Date	Patent Application Title
10/958,678	10/4/2004	Approach for storing digital content onto digital versatile
		discs (DVD's)
10/958,897	10/4/2004	Modifying commercials for multi-speed playback
11/051,347	2/4/2005	Multimedia time warping system
11/105,011	4/12/2005	Multimedia mobile personalization system
11/105,032	4/12/2005	Multicasting multimedia content distribution system
11/182,135	7/14/2005	Closed caption tagging system
11/182,554	7/15/2005	Method for enhancing digital video recorder television advertising viewership
11/182,876	7/14/2005	Closed caption tagging system
11/284,457	11/21/2005	Method and apparatus for displaying branded video tags
11/285,402	11/21/2005	Digital video recorder video editing system
11/285,411	11/21/2005	Method and apparatus for secure transfer of previously broadcasted content
11/285,416	11/21/2005	Method and apparatus for secure transfer and playback of multimedia content
11/285,490	11/21/2005	Electronic commerce and brokering system
11/473,543	6/22/2006	In-Band Data Recognition and Synchronization System
11/473,990	6/22/2006	Method and apparatus for creating and viewing customized multimedia segments
11/474,039	6/23/2006	Method and apparatus for advertisement placement in a user dialog on a set-top box
11/474,141	6/22/2006	Client-side multimedia content targeting system
11/492,281	7/24/2006	Method and apparatus for advertisement placement in a user dialog on a set-top box
11/519,717	9/11/2006	Personal content distribution network
11/586,774	10/25/2006	Cryptographically signed filesystem
29/240,896	10/19/2005	Wireless network adapter with antenna
29/240,914	10/19/2005	Wireless network adapter
60/778,596	3/1/2006	Customizing DVR functionality
90/007,750	10/17/2005	Ex Parte Reexam of 6,233,389
60/855,890	10/31/2006	Trick play for advanced codecs
1 TARREST AS THE ON PARAMETERS AND AS ASSESSMENT TO THE	1/3/2007	Recommended Recording and Downloading Guides
	1/3/2007	Authorable Content Rating System

Non-Exclusively Owned Unites States Registered Patents

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Patent Title Grant Date Patent Number	
Apparatus and method capable of restricting access to a data 11/26/2003 6,487,646	
storage device	

Schedule B - Trademarks and Applications

None.

Intellectual Property Security Agreement Schedules - Page 4

PATENT

Schedule C - Registered Copyrights, Applications Therefor, and Exclusive Copyright Licenses None.

Schedule D - Material In-Bound Licenses and Related IP

Goldwasser – Company has acquired the exclusive right to license and enforce U.S. patent number 5,241,428 entitled "Variable-Delay Video Recorder" known in the industry as the Goldwasser Patent. Filed in March 1991, the Goldwasser Patent is one of the earliest patents regarding digital video recorders of which we are aware. This patent covers devices that permit the simultaneous recording and playback of video material with a variable time delay between recording and playback of a given video program segment. The expiration date of the Goldwasser Patent is March 12, 2011.

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PATENT

RECORDED: 02/26/2016 REEL: 037843 FRAME: 0097