504634977 11/09/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4681695

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

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------|----------------|
| KIRK D. WONG | 03/13/2013 |

RECEIVING PARTY DATA

| Name: | TIVO INC. |
|-----------------|------------------|
| Street Address: | 2160 GOLD STREET |
| City: | ALVISO |
| State/Country: | CALIFORNIA |
| Postal Code: | 95002-2160 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15371561 |

CORRESPONDENCE DATA

Fax Number: (646)219-6229

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: 646-973-2500

Email: Pamela.Harrison@HGlaw.com

Correspondent Name: HALEY GUILIANO LLP **Address Line 1:** 75 BROAD STREET

Address Line 2: SUITE 1000

Address Line 4: NEW YORK, NEW YORK 10004

| ATTORNEY DOCKET NUMBER: | 113142-0031-102 | |
|-------------------------|-------------------|--|
| NAME OF SUBMITTER: | PAMELA HARRISON | |
| SIGNATURE: | /Pamela Harrison/ | |
| DATE SIGNED: | 11/09/2017 | |

Total Attachments: 2

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PATENT 504634977 REEL: 044081 FRAME: 0163

Docket No.: 60097-0998

ASSIGNMENT

WHEREAS I, **Kirk D. Wong** of San Jose, California, have made certain new and useful invention(s) as set forth in an application entitled AUTOMATIC COMMERCIAL PLAYBACK SYSTEM, executed by us on the date of execution of this document, as shown below, and filed concurrently herewith;

AND WHEREAS, **TiVo Inc.**, a corporation of the State of Delaware and having an address of 2160 Gold Street, P.O. Box 2160, Alviso, California, 95002-2160 is desirous of acquiring the entire right, title and interest in and to said invention(s) and in and to any and all Letters Patent of the United States and foreign countries which may be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt for and sufficiency of which is hereby acknowledged, we do hereby sell, assign, transfer and set over unto TiVo Inc., its legal representatives, successors, and assigns ("Assignee"), the entire right, title and interest in and to said invention(s) as set forth in the above-mentioned application, including any continuations, continuations-in-part, divisions, reissues, re-examinations or extensions thereof, and in and to any and all patents of the United States and foreign countries which may be issued for said invention(s):

UPON SAID CONSIDERATIONS, we hereby agree with the said Assignee that we will not execute any writing or do any act whatsoever conflicting with these presents, and that we will, at any time upon request, without further or additional consideration but at the expense of said Assignee, execute such additional assignments and other writings and do such additional acts as said Assignee may deem necessary or desirable to perfect the Assignee's enjoyment of this grant, and render all necessary assistance in making application for and obtaining original, divisionals, continuations, continuations-in-part, reexamined, reissued, or extended Letters Patent of the United States or of any and all foreign countries on said invention(s), and in enforcing any rights or choses in action accruing as a result of such applications or patents, by giving testimony in any proceedings or transactions involving such applications or patents, and by executing preliminary statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of the assigns and legal representatives of assignor and Assignee;

AND we request the Commissioner of Patents and Trademarks to issue any Letters Patent of the United States which may be issued for any aforementioned invention(s) to said Assignee, its legal representatives, successors or assigns, as the sole owner of the entire right, title and interest in and to said patent and the invention(s) covered thereby.

Docket No.: 60097-0998

Title: AUTOMATIC COMMERCIAL PLAYBACK SYSTEM

3/13/19

Date KIRK D. WONG