

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3871834

<b>SUBMISSION TYPE:</b>	CORRECTIVE ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	Corrective Assignment to correct the THE FOLLOWING PATENTS ARE NOT ENCUMBERED BY THIS LIEN: 5896098, 6075472, 6222469, 6356266 previously recorded on Reel 036051 Frame 0554. Assignor(s) hereby confirms the PATENTS OWNED BY UNIVERSAL AVIONICS SYSTEMS CORPORATION ARE NOT ENCUMBERED BY THIS LIEN.	
<b>RESUBMIT DOCUMENT ID:</b>	503798597	
<b>CONVEYING PARTY DATA</b>		
<b>Name</b>		<b>Execution Date</b>
AMERICAN PANEL CORPORATION		06/30/2015
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	FIFTH THIRD BANK	
<b>Street Address:</b>	3344 PEACHTREE ROAD NE, SUITE 800	
<b>Internal Address:</b>	MAIL DROP X46306	
<b>City:</b>	ATLANTA	
<b>State/Country:</b>	GEORGIA	
<b>Postal Code:</b>	30326	
<b>PROPERTY NUMBERS Total: 36</b>		
<b>Property Type</b>	<b>Number</b>	
Patent Number:	5467085	
Patent Number:	5440324	
Patent Number:	5467533	
Patent Number:	5872553	
Patent Number:	6236384	
Patent Number:	6137471	
Patent Number:	6181070	
Patent Number:	6809746	
Patent Number:	7295179	
Patent Number:	7495714	
Patent Number:	7292291	
Patent Number:	7324176	
Patent Number:	8400430	
Patent Number:	7573458	
Patent Number:	8009262	
Patent Number:	7750994	
<b>PATENT</b>		

Property Type	Number
Patent Number:	7746007
Patent Number:	8499437
Patent Number:	8436632
Patent Number:	8576354
Patent Number:	8702307
Patent Number:	8243109
Patent Number:	8766994
Patent Number:	8089440
Patent Number:	8125494
Patent Number:	8561976
Patent Number:	7714834
Patent Number:	7924263
Patent Number:	8480281
Patent Number:	8704751
Application Number:	13159183
Application Number:	13735856
Patent Number:	9110334
Patent Number:	9268166
Application Number:	14227578
Patent Number:	9117417

#### CORRESPONDENCE DATA

**Fax Number:** (414)978-8675

*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:** 414 277 5675

**Email:** marta.levine@quarles.com

**Correspondent Name:** MARTA S. LEVINE

**Address Line 1:** QUARLES & BRADY LLP

**Address Line 2:** 411 EAST WISCONSIN AVENUE

**Address Line 4:** MILWAUKEE, WISCONSIN 53202

<b>ATTORNEY DOCKET NUMBER:</b>	128380.00101
<b>NAME OF SUBMITTER:</b>	MARTA S. LEVINE
<b>SIGNATURE:</b>	/MartaLevine/
<b>DATE SIGNED:</b>	05/13/2016

#### Total Attachments: 13

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## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3432555

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST

## CONVEYING PARTY DATA

Name	Execution Date
AMERICAN PANEL CORPORATION	06/30/2015

## RECEIVING PARTY DATA

<b>Name:</b>	FIFTH THIRD BANK
<b>Street Address:</b>	3344 PEACHTHREE ROAD NE, SUITE 800
<b>Internal Address:</b>	MAIL DROP X46306
<b>City:</b>	ATLANTA
<b>State/Country:</b>	GEORGIA
<b>Postal Code:</b>	30326

## PROPERTY NUMBERS Total: 40

Property Type	Number
Patent Number:	6809746
Patent Number:	8400430
Patent Number:	7495714
Patent Number:	7292291
Patent Number:	7324176
Patent Number:	7750994
Patent Number:	8243109
Patent Number:	7573458
Patent Number:	7714834
Patent Number:	7924263
Patent Number:	8009262
Patent Number:	8089440
Patent Number:	8766994
Patent Number:	8125494
Patent Number:	7295179
Patent Number:	6236384
Patent Number:	8436632
Patent Number:	7746007
Patent Number:	8499437

Property Type	Number
Patent Number:	8576354
Patent Number:	8561976
Patent Number:	8702307
Patent Number:	8704751
Patent Number:	5467085
Patent Number:	5896098
Patent Number:	5440324
Patent Number:	5872553
Patent Number:	6137471
Patent Number:	6356266
Patent Number:	5467533
Patent Number:	6181070
Patent Number:	6075472
Patent Number:	6222469
Patent Number:	8480281
Application Number:	13927218
Application Number:	13159183
Application Number:	14258347
Application Number:	13937756
Application Number:	13735856
Application Number:	14227578

#### CORRESPONDENCE DATA

##### Fax Number:

*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: 404-322-6285

Email: kevin.fogle@nelsonmullins.com

Correspondent Name: BRADLEY WAHL

Address Line 1: 201 17TH STREET NW

Address Line 2: SUITE 1700

Address Line 4: ATLANTA, GEORGIA 30363

NAME OF SUBMITTER:	BRADLEY WAHL
SIGNATURE:	/Bradley Wahl/
DATE SIGNED:	07/09/2015
	This document serves as an Oath/Declaration (37 CFR 1.63).

#### Total Attachments: 10

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## PATENT SECURITY AGREEMENT

[AMERICAN PANEL CORPORATION]

This **PATENT SECURITY AGREEMENT** (this "**Agreement**") is made as of June 30, 2015 by **AMERICAN PANEL CORPORATION**, a Georgia corporation ("**Debtor**"), and **FIFTH THIRD BANK**, an Ohio banking corporation (the "**Bank**").

### WITNESSETH:

**WHEREAS**, the Debtor, **MANUFACTURING RESOURCES INTERNATIONAL, INC. ("MRI")**, **SHILOH METALWORKS, LLC ("Shiloh Metal")**, **APC INTELLECTUAL PROPERTY, LLC ("APC IP")**, **MRI INTELLECTUAL PROPERTY, LLC ("MRI IP")**, **APC REAL ESTATE HOLDINGS, LLC ("APC Real Estate")** and **MRI REAL ESTATE HOLDINGS, LLC ("MRI Real Estate")** (collectively, the "**Borrowers**") and the Bank have entered into that certain Loan and Security Agreement, dated as of even date herewith (as amended, modified, supplemented, restated or renewed from time to time, the "**Loan Agreement**");

**WHEREAS**, the Bank has required, as a condition to the extension of the financial accommodations to be extended to the Borrowers under the Loan Agreement, that Debtor pledge and grant to the Bank a Lien on and in its "**Patents**" (as defined herein) as security for the Obligations;

**NOW, THEREFORE**, for and in consideration of the premises set forth above and for other good and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, the Debtor and the Bank, by its acceptance hereof, hereby agrees as follows:

1. **Defined Terms.** Unless otherwise defined herein, each capitalized term used herein that is defined in the Loan Agreement shall have the meaning specified for such term in the Loan Agreement. The Loan Agreement and the terms and provisions thereof are hereby incorporated herein in their entirety by this reference thereto.

2. **Security Interest in Patents.** To secure the complete and timely payment, performance and satisfaction of all of the Obligations, Debtor hereby grants, assigns, transfers and pledges to the Bank a security interest in and lien on as and by way of a first mortgage and security interest having priority over all other security interests, with power of sale, to the extent permitted by law, conditioned upon the occurrence and during the continuation of an Event of Default, all of Debtor's right, title and interest in and to the following, whether, now existing or hereafter acquired: (a) all patents and patent applications used in Debtor's business and listed on **Schedule I** attached hereto and made a part hereof, and all renewals thereof, (b) all income, royalties, damages and payments now and hereafter due and/or payable under and with respect thereto, including, without limitation, payments under all licenses entered into in connection therewith and damages and payments for past or future infringements or dilutions thereof,

(c) the right to sue or otherwise recover for past, present and future infringements and dilutions thereof, (d) all of Debtor's rights corresponding thereto throughout the world, and (e) all other proceeds and products of the foregoing, including (without limitation) any rights pursuant to its agreements with any other party relating thereto (all of the foregoing patents and patent applications, together with the items described in clauses (a)-(e) in this Section 2 are sometimes hereinafter individually and/or collectively referred to as the "**Patents**"). Prior to any Event of Default, Bank will have no rights or interests in any of the Patents other than the security interest granted herein. Nothing in this Agreement will be construed as an assignment of the Patents to Bank until an occurrence of an Event of Default.

3. **New Patents.** Debtor represents and warrants that, from and after the date of this Agreement, (a) the Patents listed on Schedule I are a true, accurate and complete list of all of Debtor's Patents, and (b) no Liens in such Patents have been granted by Debtor to any Person, other than the Bank, and except as permitted in the Loan Agreement. If, prior to payment in full of the Obligations, Debtor shall (i) obtain rights to any new Patents or (ii) become entitled to the benefit of any Patents, the provisions of Section 2 above shall automatically apply thereto, provided that Debtor shall not be under any obligation to take any steps or incur any costs to enforce, create or perfect any lien or security interest in any Patents registered outside the United States of America, including, without limitation, any filing recordation, notice or otherwise in any other county other than the United States of America. Debtor shall give to the Bank written notice of the acquisition of new United States Patents promptly after the occurrence thereof. Debtor may, and hereby authorizes the Bank to, modify this Agreement unilaterally upon Debtor's notice to the Bank (i) by amending Schedule I to include any future United States Patents (including patent applications) and (ii) by filing, in addition to and not in substitution for this Agreement, a duplicate original of this Agreement containing on Schedule I thereto, as the case may be, such future Patents.

4. **Consent to Use.** Except upon the occurrence and during the continuation of an Event of Default, Debtor may make, have made, use, and sell the inventions disclosed and claimed in the Patents for Debtor's own benefit and account and for none other. Except as otherwise permitted by the Loan Documents, Debtor agrees not to sell or assign its interest in, or grant any sublicense under, the right and license granted to it in this Section without the prior written consent of Bank.

5. **Royalties.** Debtor hereby agrees that the use by the Bank of the Patents as authorized hereunder in connection with the Bank's exercise of its rights and remedies hereunder or pursuant to any Loan Document shall be coextensive with Debtor's rights thereunder and with respect thereto and without any liability for royalties or other related charges from the Bank to Debtor.

6. **Duties of the Debtor.** Debtor shall have the duty, to the extent desirable in the normal conduct of its business, to (a) prosecute diligently any patent application that is part of the Patents pending as of the date hereof or hereafter until the termination of this Agreement, (b) make application on unpatented but patentable items material to the conduct of Debtor's business, as appropriate, giving due consideration to value, importance, cost, and opinion of counsel as to patentability, and (c) preserve, maintain, and enforce against infringement all



Patents (other than nonpayment of renewal fees on Patents which are not necessary or useful in the conduct of Debtor's business or operations). Debtor further agrees (i) not to abandon any registered Patent without the prior written consent of the Bank, unless any registered Patent is not material to the conduct of Debtor's business or if such abandonment is otherwise desirable to Debtor in the ordinary course of business, and (ii) to maintain in full force and effect the registered Patents material to the conduct of its business. Any expenses incurred in connection with the foregoing shall be borne by Debtor. The Bank shall not have any duty, other than any duty imposed by law, with respect to the Patents. Without limiting the generality of the foregoing, the Bank shall be under no obligation to take any steps necessary to preserve rights in the Patents against any other parties, but the Bank may do so at its option from and after the occurrence and during the continuance of an Event of Default, and all reasonable out-of-pocket expenses incurred in connection therewith shall be for the account of Debtor and shall be added to the Obligations secured hereby.

7. **Power of Attorney; Cumulative Remedies.** Debtor hereby irrevocably designates, constitutes and appoints the Bank (and all officers and agents of the Bank designated by the Bank in its sole and absolute discretion) as Debtor's true and lawful attorney-in-fact, and authorizes the Bank and any of the Bank's designees, in Debtor's or the Bank's name, conditioned upon the occurrence and during the continuation of an Event of Default, to take any action and execute any instrument necessary or reasonably advisable to accomplish the purposes of this Agreement, and consistent with existing license agreements, including, without limitation, to (i) endorse Debtor's name on all applications, documents, papers and instruments necessary or reasonably desirable for the Bank in the use of the Patents, (ii) assign, pledge, convey or otherwise transfer title in or dispose of the Patents to anyone, (iii) grant or issue any exclusive or nonexclusive license under the Patents to anyone, and (iv) take any other actions with respect to the Patents as the Bank reasonably deems in its best interest. Debtor hereby ratifies all that such attorney shall lawfully do or cause to be done by virtue hereof (except to the extent of any gross negligence, willful misconduct or fraud). This power of attorney is coupled with an interest and shall be irrevocable until the Obligations (other than the Obligations that expressly survive repayment of the Loans) are paid in full. Debtor acknowledges and agrees that this Agreement is not intended to limit or restrict in any way the rights and remedies of the Bank under the Loan Agreement or any other Loan Document, but rather is intended to facilitate the exercise of such rights and remedies.

The Bank shall have, in addition to all other rights and remedies given it by the terms of this Agreement, all rights and remedies allowed by law and the rights and remedies of a secured party under the Uniform Commercial Code as enacted in any jurisdiction in which the Patents may be located or deemed located. Upon the occurrence and during the continuance of an Event of Default and following the expiration of any applicable notice and/or cure periods and the election by the Bank to exercise any of its remedies under the Uniform Commercial Code or other applicable law with respect to the Patents, Debtor agrees to assign, convey and otherwise transfer title in and to the Patents to the Bank or any transferee of the Bank and to execute and deliver to the Bank or any such transferee all such agreements, documents and instruments as may be necessary, in the Bank's sole discretion, to effect such assignment, conveyance and transfer. All of the Bank's rights and remedies with respect to the Patents,

whether established hereby, by the Loan Agreement or by any other agreements or by law, shall be cumulative and may be exercised separately or concurrently. Notwithstanding anything set forth herein to the contrary, it is hereby expressly agreed that upon the occurrence and during the continuance of an Event of Default and following the expiration of any applicable notice and/or cure periods, the Bank may exercise any of the rights and remedies provided in this Agreement, the Loan Agreement or any of the other Loan Documents. Debtor hereby acknowledges and agrees that this Agreement is not intended to limit or restrict in any way the rights and remedies of Bank under the Loan Agreement, but rather is intended to facilitate the exercise of such rights and remedies. Debtor agrees that any notification of intended disposition of any of the Patents required by law shall be deemed reasonably and properly given if given at least 10 days before such disposition.

8. **Successors and Assigns.** This Agreement shall be binding upon Debtor and its successors and assigns, and shall inure to the benefit of Bank and its successors and assigns.

9. **Governing Law.** This Agreement shall be construed and enforced and the rights and duties of the parties shall be governed by in all respects in accordance with the laws and decisions of the State of Georgia, without reference to the conflicts or choice of law principles thereof.

10. **Notices.** All notices or other communications hereunder shall be given in the manner and to the addresses set forth in the Loan Agreement.

(signature page follows)

IN WITNESS WHEREOF, the parties hereto have duly executed this Patent Security Agreement under seal as of the day and year first above written.

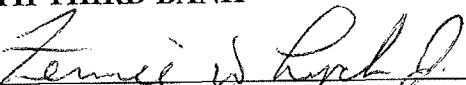
**DEBTOR:**

AMERICAN PANEL CORPORATION

By: , PRES & CEO  
William R. Dunn, President and CEO

Agreed and Accepted as of this June 30, 2015

**FIFTH THIRD BANK**

By:   
Name: Zennie W. Lynch Jr.  
Title: Vice President

**Schedule I**  
**To**  
**Patent Security Agreement**

Dated as of June 30, 2015

**Current Patents**

<u>Name</u>	<u>Record Owner</u>	<u>Registration No.</u>
VISUAL DISPLAY TESTING, OPTIMIZATION, AND HARMONIZATION METHOD AND SYSTEM	American Panel Corporation	6,809,746
DISPLAY DEVICE WITH INTEGRAL TOUCH PANEL SURFACE	American Panel Corporation	8,400,430
FLAT PANEL DISPLAY HAVING AN ISOLATED EMI LAYER AND INTEGRAL HEATER AND THERMAL	American Panel Corporation	7,495,714
FLAT PANEL DISPLAY HAVING INTEGRAL METAL HEATER OPTICALLY HIDDEN BEHIND AN EMI SHIELD	American Panel Corporation	7,265,809
FLAT PANEL DISPLAY HAVING INTEGRAL HEATER, EMI SHIELD, AND THERMAL SENSORS	American Panel Corporation	7,292,291
FLAT PANEL DISPLAY HAVING INTEGRAL HEATER, EMI SHIELD, AND THERMAL SENSORS	American Panel Corporation	7,324,176
FLAT PANEL DISPLAY HAVING INTEGRAL METAL HEATER OPTICALLY HIDDEN BEHIND AN EMI SHIELD	American Panel Corporation	7,750,994
RESOLVING IMAGE/DATA MISMATCH VIA ON-OFF PATTERN	American Panel Corporation	8,243,109
WIDE FLAT PANEL LCD WITH UNITARY VISUAL DISPLAY	American Panel Corporation	7,573,458
WIDE FLAT PANEL LCD WITH UNITARY VISUAL DISPLAY	American Panel Corporation	7,714,834
WIDE FLAT PANEL LCD WITH UNITARY VISUAL DISPLAY	American Panel Corporation	7,924,263
FLAT PANEL DISPLAY WITH EXTERNAL INTEGRAL HEATER	American Panel Corporation	8,009,262
LIQUID CRYSTAL FLAT PANEL DISPLAY WITH AN INTEGRAL HEATER OF PREDETERMINABLE CAPACITY	American Panel Corporation	8,089,440
METHOD FOR REDUCING VIDEO IMAGE LATENCY	American Panel Corporation	8,766,994
METHOD FOR MAPPING OPTICAL PROPERTIES FOR A DISPLAY DEVICE	American Panel Corporation	8,125,494

FLAT PANEL DISPLAY HAVING MULTIPLE DISPLAY AREAS ON ONE GLASS SUBSTRATE	American Panel Corporation	7,295,179
METHOD TO CHANGE THE VIEWING ANGLE IN A FIXED LIQUID CRYSTAL DISPLAY BY CHANGING THE PRE-TILT ANGLE IN THE LIQUID CRYSTAL LAYER WITH A BIAS VOLTAGE	American Panel Corporation	6,236,384
SYSTEM AND METHOD FOR OPTIMIZING LCD DISPLAYS	American Panel Corporation	8,436,632
LED BACKLIGHT CIRCUIT SYSTEM	American Panel Corporation	7,746,007
DEVICE AND A METHOD FOR ALIGNING A PANEL HAVING CIRCUIT ELEMENTS WITH A DRIVER	American Panel Corporation	8,499,437
CHANNELIZED PLATE	American Panel Corporation	8,576,354
TRANSPORTABLE CARRIER COMPATIBLE WITH A RETRACTABLE PIN TOOL	American Panel Corporation	8,561,976
METHOD FOR DETERMINING INTERNAL LCD TEMPERATURE	American Panel Corporation	8,702,307
REDUNDANT POWER/CONTROL SYSTEM FOR LIQUID CRYSTAL DISPLAYS	American Panel Corporation	8,704,751
SOFT START OF LAMP FILAMENT	American Panel Corporation/ Universal Avionics Systems Corporation	5,451,841
DISPLAY FOR ELECTRONIC INDICATOR	American Panel Corporation/ Universal Avionics Systems Corporation	5,467,085
SELF-CONTAINED MULTIFUNCTIONAL LCD FLIGHT INDICATOR	American Panel Corporation/ Universal Avionics Systems Corporation	5,736,922
SELF-CONTAINED MULTIFUNCTIONAL LCD FLIGHT INDICATOR	American Panel Corporation/ Universal Avionics Systems Corporation	5,896,098
BACKLIGHTING FOR LIQUID CRYSTAL DISPLAY	American Panel Corporation/ Universal Avionics Systems Corporation	5,440,324
HIGH SPEED GRAPHICS FILL OF LIQUID CRYSTAL DISPLAY	American Panel Corporation/ Universal Avionics Systems Corporation	5,872,553

HIGH SPEED GRAPHICS FILL OF LIQUID CRYSTAL DISPLAY	American Panel Corporation/ Universal Avionics Systems Corporation	6,137,471
HIGH SPEED GRAPHICS FILL OF LIQUID CRYSTAL DISPLAY	American Panel Corporation/ Universal Avionics Systems Corporation	6,356,266
NIGHT VISION INCLINOMETER	American Panel Corporation/ Universal Avionics Systems Corporation	5,467,533
METHOD FOR COOLING A LAMP BACKLIGHTING MODULE OF A LIQUID CRYSTAL DISPLAY	American Panel Corporation/ Universal Avionics Systems Corporation	6,181,070
METHOD AND APPARATUS FOR CONVERTING ANALOG SYNCHRO SIGNALS TO A SIGNAL REPRESENTATIVE OF THE STATUS OF A MECHANICAL OUTPUT COMPONENT	American Panel Corporation/ Universal Avionics Systems Corporation	6,075,472
SYNCHRO-TO-DIGITAL CONVERSION WITH WINDOWED PEAK DETERMINATION	American Panel Corporation/ Universal Avionics Systems Corporation	6,222,469
NVIS COMPATIBLE BACKLIGHT DEVICE AND LCD USING THE SAME	American Panel Corporation	8,480,281

### Current Patent Applications

<u>Name</u>	<u>Record Owner</u>	<u>Application No.</u>
CHANNELIZED PLATE	American Panel Corporation	13/927,218
REDUNDANT BACKLIGHTS FOR LIQUID CRYSTAL DISPLAYS	American Panel Corporation	13/159,183
REDUNDANT POWER/CONTROL SYSTEM FOR LIQUID CRYSTAL DISPLAYS	American Panel Corporation	14/258,347
NVIS COMPATIBLE BACKLIGHT DEVICE AND LCD USING THE SAME	American Panel Corporation	13/937,756
REDUNDANT CONTROL SYSTEM FOR LCD	American Panel Corporation	13/735,856
LCD SOURCE DRIVER FEEDBACK SYSTEM AND METHOD	American Panel Corporation	14/227,578

### Current Foreign Patent Applications

<u>Name</u>	<u>Record Owner</u>	<u>Application No.</u>
LCD SOURCE DRIVER FEEDBACK SYSTEM AND METHOD	American Panel Corporation	PCT/US14/ 32011