# OP \$1480,00 6856081

### PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: SECURITY AGREEMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
Communications & Power Industries LLC (fka Communications & Power Industries, Inc)	02/11/2011
CPI Malibu Division (fka Malibu Research Associates)	02/11/2011

### RECEIVING PARTY DATA

Name:	UBS AG, Stamford Branch, as Collateral Agent
Street Address:	677 Washington Boulevard
City:	Stamford
State/Country:	CONNECTICUT
Postal Code:	06901

PROPERTY NUMBERS Total: 37

Property Type	Number
Patent Number:	6856081
Patent Number:	7005789
Patent Number:	6084353
Patent Number:	5532462
Patent Number:	5315210
Patent Number:	5317233
Patent Number:	6456009
Patent Number:	6211657
Patent Number:	6552490
Patent Number:	5355093
Patent Number:	6236161
Patent Number:	6437510
Patent Number:	6740858
Patent Number:	6867401
	DATENT

Patent Number:	5572092
Patent Number:	7029296
Patent Number:	7368874
Patent Number:	7145297
Patent Number:	7384293
Patent Number:	7359206
Patent Number:	7242135
Application Number:	11376970
Patent Number:	7733195
Application Number:	12008069
Application Number:	12075870
Application Number:	12074558
Patent Number:	6870318
Patent Number:	5311200
Patent Number:	5864322
Patent Number:	6198457
Patent Number:	6882311
Patent Number:	6856301
Patent Number:	7868839
Application Number:	11933053
Patent Number:	7755564
Application Number:	11933040
Patent Number:	7804464

### **CORRESPONDENCE DATA**

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NAME OF SUBMITTER:	David Adams

Total Attachments: 8

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### **Patent Security Agreement**

**Patent Security Agreement**, dated as of February 11, 2011, by COMMUNICATIONS & POWER INDUSTRIES LLC and CPI MALIBU DIVISION (individually, a "<u>Pledgor</u>", and, collectively, the "<u>Pledgors</u>"), in favor of UBS AG, STAMFORD BRANCH, in its capacity as collateral agent pursuant to the Credit Agreement (in such capacity, the "<u>Collateral Agent</u>").

### $\underline{\mathbf{W}} \underline{\mathbf{I}} \underline{\mathbf{T}} \underline{\mathbf{N}} \underline{\mathbf{E}} \underline{\mathbf{S}} \underline{\mathbf{S}} \underline{\mathbf{E}} \underline{\mathbf{T}} \underline{\mathbf{H}}$ :

WHEREAS, the Pledgors are party to a Security Agreement of even date herewith (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement") in favor of the Collateral Agent pursuant to which the Pledgors are required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Credit Agreement, the Pledgors hereby agree with the Collateral Agent as follows:

- SECTION 1. <u>Defined Terms</u>. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.
- SECTION 2. Grant of Security Interest in Patent Collateral. As collateral security for the payment and performance in full of all the Secured Obligations, each Pledgor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Pledged Collateral of such Pledgor:
  - (a) Patents of such Pledgor listed on <u>Schedule I</u> attached hereto; and
  - (b) all Proceeds of any and all of the foregoing (other than Excluded Property).
- SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Security Agreement and Pledgors hereby acknowledge and affirm that the rights and remedies of the Collateral Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control.
- SECTION 4. <u>Termination</u>. Upon the payment in full of the Secured Obligations and termination of the Security Agreement, the Collateral Agent shall execute, acknowledge, and deliver to the Pledgors an instrument in writing in recordable form releasing the collateral pledge, grant, assignment, lien and security interest in the Patents under this Patent Security Agreement.
- SECTION 5. <u>Counterparts</u>. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

SECTION 6. <u>Governing Law.</u> This Patent Security Agreement and the transactions contemplated hereby, and all disputes between the parties under or relating to this Patent Security Agreement or the facts or circumstances leading to its execution, whether in contract, tort or otherwise, shall be construed in accordance with and governed by the laws (including statutes of limitation) of the State of New York, without regard to conflicts of law principles that would require the application of the laws of another jurisdiction.

[signature page follows]

IN WITNESS WHEREOF, each Pledgor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

Very truly yours,

COMMUNICATIONS & POWER INDUSTRIES

LLC

By:

Name: Joel A. Littman

Title: Chief Financial Officer, Treasurer and

Secretary

CPI MALIBU DIVISION

By

Mame: Joel A. Littman

Title: Secretary and Chief Financial Officer

REEL: 025830 FRAME: 0042

Accepted and Agreed:

UBS AG, STAMFORD BRANCH, as Collateral Agent

By:

Name: Title: Mary E. Evans Associate Director Banking Products Services, US

By:

Name: Title:

Irja R. Otsa Associate Director Banking Products Sarvicas, US

## SCHEDULE I

### to

# PATENT SECURITY AGREEMENT PATENT REGISTRATIONS AND PATENT APPLICATIONS

Method And Apparatus For Magnetic Focusing Of Off-Axis Electron Beam  Method And Apparatus For Magnetic Focusing Of Off-Axis Electron Beam  Method And Apparatus For Magnetic Focusing Of Off-Axis Electron Beam (Division)  Coaxial Inductive Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Method And Apparatus For Magnetic Focusing Of Off-Axis Electron Beam (Division)  Osalia Inductive Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Method And U.S. 10/996180 11/22/04 7,005,789 02/28/06 Communications & Power Industries, Inc.  Os8/868,194 06/03/97 6,084,353 07/04/00 Communications & Power Industries, Inc.	Title	Country	Application	Filing Date	Patent No.	Issue Date	Registered	Status
Apparatus For Magnetic Focusing Of Off-Axis Electron Beam  Method And Apparatus For Magnetic Focusing Of Off-Axis Electron Beam  Method And Apparatus For Magnetic Focusing Of Off-Axis Electron Beam (Division)  Coaxial Inductive Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in  Apparatus For Magnetic Focusing Of Off-Axis Electron Beam (Division)  O8/868,194  O6/03/97  O6/03/97  O6/03/97  O6/03/97  O6/084,353  O7/04/00  Communications & Power Industries, Inc.  O7/02/96  Communications & Power Industries, Inc.  Service Power Industries, Inc.  Service Power Industries, Inc.  O5/12/92  S,315,210  O5/24/1994  Varian Associates, Issue Inc.			No.				Holder	_
Magnetic Focusing Of Off-Axis Electron Beam  Method And Apparatus For Magnetic Focusing Of Off-Axis Electron Beam  Method And Apparatus For Magnetic Focusing Of Off-Axis Electron Beam (Division)  Coaxial Inductive Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in  Industries, Inc.  D02/28/06 B2  Communications & Power Industries, Inc.  O6/03/97  6,084,353  07/04/00  Communications & Power Industries, Inc.  O7/02/96  Communications & Power Industries, Inc.  Issue Service  Se		U.S.	10/192772	07/09/02	6,856,081	02/15/05		Issued
Of Off-Axis Electron Beam  Method And Apparatus For Magnetic Focusing Of Off-Axis Electron Beam (Division)  Coaxial Inductive Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in								
Electron Beam  Method And Apparatus For Magnetic Focusing Of Off-Axis Electron Beam (Division)  Coaxial Inductive Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in							Industries, Inc.	
Method And Apparatus For Magnetic Focusing Of Off-Axis Electron Beam (Division)  Coaxial Inductive Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in   Industries Inc.   Industries, Inc.   Industries, Inc.								
Apparatus For Magnetic Focusing Of Off-Axis Electron Beam (Division)  Coaxial Inductive Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in   B2  & Power Industries, Inc.  82  & Power Industries, Inc.  84  85  84  85  84  84  85  84  84  85  84  84								
Magnetic Focusing Of Off-Axis Electron Beam (Division)  Coaxial Inductive Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in  Magnetic Focusing Of Off-Axis Electron Beam (Division)  08/868,194 06/03/97 6,084,353 07/04/00 Communications & Power Industries, Inc.  07/02/96 Communications & Power Industries, Inc.  Varian Associates, Issue Inc.		U.S.	10/996180	11/22/04		02/28/06		Issued
Of Off-Axis Electron Beam (Division)  Coaxial Inductive Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in  Coaxial Inductive U.S.  08/868,194 06/03/97 6,084,353 07/04/00 Communications & Power Industries, Inc.  07/02/96 Communications & Power Industries, Inc.  07/02/96 Varian Associates, Issue Inc.					B2			
Electron Beam (Division)  Coaxial Inductive Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in  Coaxial Inductive U.S.  08/868,194 06/03/97 6,084,353 07/04/00 Communications & Power Industries, Inc.  07/02/96 Communications & Power Industries, Inc.  07/02/96 Varian Associates, Issue Inc.							Industries, Inc.	
Coaxial Inductive								
Coaxial Inductive Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in  O8/868,194  O6/03/97  6,084,353  O7/04/00  Communications & Power Industries, Inc.  O7/02/96  Communications & Power Industries, Inc.  O5/12/92  5,315,210  O5/24/1994  Varian Associates, Issue Inc.								
Output Tube Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in  Output Tube Barbara Spower Industries, Inc.  8 Power Industries, Inc.  07/02/96 Communications & Power Industries, Inc.  1 Industries, Inc.  05/12/92 5,315,210 05/24/1994 Varian Associates, Issue Inc.	(Division)							
Having an Annular Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in  Industries, Inc.  04/29/94 5,532,462 07/02/96 Communications & Power Industries, Inc.  5,532,462 07/02/96 Communications & Power Industries, Inc.  8 Power Industries, Inc.  15806  16807  17882,141 05/12/92 5,315,210 05/24/1994 Varian Associates, Issue Inc.	Coaxial Inductive	U.S.	08/868,194	06/03/97	6,084,353	07/04/00	Communications	Issued
Output Cavity  Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in  Output Cavity  08/236759  04/29/94  5,532,462  07/02/96  Communications & Power Industries, Inc.  1ssue 100/12/92  5,315,210  05/24/1994  Varian Associates, Issue Inc.							& Power	
Method of and apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in Communications apparatus for heating a reaction vessel with microwave energy U.S. O7/882,141 O5/12/92 5,315,210 O5/24/1994 Varian Associates, Issue Inc.	Having an Annular						Industries, Inc.	
apparatus for heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in Cavit	Output Cavity							
heating a reaction vessel with microwave energy  Klystron Resonant Cavity Operating in Control of the control o	Method of and	U.S.	08/236759	04/29/94	5,532,462	07/02/96	Communications	Issued
vessel with microwave energy  Klystron Resonant Cavity Operating in Cavity Operating i	apparatus for						& Power	
microwave energy Klystron Resonant Cavity Operating in    Mathematical Distriction	heating a reaction						Industries, Inc.	
Klystron Resonant Cavity Operating in U.S. 07/882,141 05/12/92 5,315,210 05/24/1994 Varian Associates, Issue Inc.	vessel with							
Klystron Resonant Cavity Operating in U.S. 07/882,141 05/12/92 5,315,210 05/24/1994 Varian Associates, Issue Inc.	microwave energy							
Cavity Operating in Inc.		U.S.	07/882,141	05/12/92	5,315,210	05/24/1994	Varian Associates,	Issued
							Inc.	
Mode, Where X Is								
Greater than Zero	Greater than Zero							
Vac. Tube U.S. 07/508,442 04/13/90 5,317,233 05/31/94 Communications Issue	Vac. Tube	U.S.	07/508,442	04/13/90	5,317,233	05/31/94	Communications	Issued
Including Grid- & Power	Including Grid-				, ,			
Cathode Ass'y w/ Industries, Inc.								
Resonant Slow-							,	
Wave Structure	Wave Structure							
		U.S.	Pending	08/01/85	Secrecy		Communications	Likely
		0.5.		00,01,02				Expired
Gun Industries, Inc								
		U.S.	09/629.315	07/31/00	6,456,009	09/24/02		Issued
Voltage Algorithm & Power		3.5.	37.027,510		,	37.2 .7 02		
and Control System Industries, Inc.	0 0							
for Setting and								
Maintenance of the								
Heater Voltage of a								
Vacuum Electron								
Device								

-4-

Title	Country	Application No.	Filing Date	Patent No.	Issue Date	Registered Holder	Status
Two State Power Converter with Interleaved Buck Regulators	U.S.	09/574,712	05/18/00	6,211,657	04/03/01	Communications & Power Industries, Inc.	Issued
A Multiple Stage Depressed Collector (MSDC) Klystron- Based Amplifier for Ground-Based Satellite and Terrestrial Communications	U.S.	09/668,008	09/21/00	6,552,490	04/22/03	Communications & Power Industries, Inc	Issued
Compact Microwave and Millimeter Wave Amplifier	U.S.	07/996963	12/23/92	5,355,093	10/11/94	Communications & Power Industries, Inc. and one inventor	Issued Assignment by the second inventor is not publicly verifiable.
Crossed Field Device	U.S.	09/259,643	02/26/99	6,236,161	05/22/01	Communications & Power Industries, Inc.	Issued
Crossed Field Amplifier with Multipactor Suppression	U.S.	09/455,886	12/06/99	6,437,510	08/20/02	Communications & Power Industries, Inc.	Issued
Microwave Applicator for Heating a Moving Fluid	U.S.	10/160,666	05/30/02	6,740,858	05/25/04	Communications & Power Industries, Inc.	Issued
Waveguide Foreign Object Damage Prevention Window	U.S.	10/222,255	08/16/02	6,867,401	03/15/05	Communications & Powers Industries, Inc.	Issued
High Frequency Vacuum Tube with Closely Spaced Cathode and Non- Emissive Grid	U.S.	08/069705	06/01/93	5,572,092	11/05/96	Communications & Power Industries, Inc.	Issued
Cover Assembly for Vacuum Electronic Device	U.S.	09/778,387	02/06/01	7,029,296	04/18/06	Communications & Powers Industries, Inc.	Issued
Dynamic Depressed Collector	U.S.	11/347,357	02/03/06	7,368,874	05/06/08	Communications & Powers Industries, Inc.	Issued
L-Band Inductive Output Tube	U.S.	10/982,192	11/04/04	7,145,297	12/05/06	Communications & Power Industries, Inc.	Issued

Title	Country	Application	Filing Date	Patent No.	Issue Date	Registered	Status
		No.				Holder	
Breach Lock	U.S.	11/370,708	03/07/06	7,384,293	6/10/08	Communications	Issued
Mechanism Seating						& Power	
Vacuum Electron						Industries, Inc.	
Device							
Radio Frequency	U.S.	11/370,429	03/07/06	7,359,206	4/15/08	Communications	Issued
Isolation System						& Power	
and Cover						Industries, Inc.	
Assembly for							
Vacuum Electron							
Device	TT 0	11/250 250	02107107	7.242.127	05/10/05		- 1
High Connection	U.S.	11/370,279	03/07/06	7,242,135	07/10/07	Communications	Issued
Vacuum electronic						& Power	
device	TIG	11/07/ 070	02/15/06			Industries, Inc.	D 12
Liquid Cooling	U.S.	11/376,970	03/15/06			Communications	Pending
System for Linear						& Power	
Beam	TIC	12/047 220	02/15/07	7.722.105	6/00/10	Industries, Inc.	т 1
Waveguide	U.S.	12/047,339	03/15/07	7,733,195	6/08/10	Communications	Issued
Attenuator Having Coaxial Probes						& Power	
	TIC	12/009 060	01/07/08			Industries, Inc.	Don din o
Grid for Vacuum Electronic Device	U.S.	12/008,069	01/0//08			Communications & Power	Pending
and Method for						Industries, Inc.	
manufacture of						industries, inc.	
same							
Dynamic Depressed	TIC	12/075,870	03/14/08			Communications	Pending
Collector	0.3.	12/0/3,870	03/14/06			& Power	Issue
Concetor						Industries, Inc.	notification
						· ·	mailed
Terahertz Sheet	U.S.	12/074,558	03/03/08			Communications	Pending
Beam Klystron						& Power	
						Industries, Inc.	
Multiple stage de-	U.S.	10/387,929	3/12/03	6,870,318	3/22/05	Communications	Issued
pressed collector						& Power	
(MSDC) klystron						Industries, Inc.	
based amplifier							
for ground based							
satellite and ter-							
restrial communi-							
cations							
Millimeter Wave	U.S.	08/088,410	07/07/93	5,311,200	05/10/94	Communications	Issued
Variable Width	0.5.	00/000,410	01101173	3,311,200	03/10/24	& Power	Issued
Waveguide Scanner						Industries, Inc.	
Dynamic Plasma	U.S.	08/788,818	01/23/97	5,864,322	01/26/99	Communications	Issued
Driven Antenna	0.5.	30,700,010	01123171	5,001,322	01120177	& Power	100000
DIIVOII AIIICIIIIA						Industries, Inc.	
Low-Windload	U.S.	09/169,454	10/09/98	6,198,457	03/06/01	Communications	Issued
Satellite Antenna	0.5.			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	32.30.01	& Power	-55300
Jacinic Antenna						Industries, Inc.	
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Title	Country	Application	Filing Date	Patent No.	Issue Date	Registered	Status
Digital Beam- forming Radar	U.S.	No. 10/121,964	04/12/02	6,882,311	04/19/05	Holder Communications & Power Industries, Inc.	Issued
System Plasma Phased Array Electronic Scan Antenna	U.S.	10/427,705	04/30/03	6,856,301	02/15/05	Communications & Power Industries, Inc.	Issued
Planar Scanner Antenna for High Frequency Scan- ning and Radar Environments	U.S.	11/933,103	10/31/07	7,868,839	02/18/2010	Communications & Power Industries, Inc.	Issued
Reflective Antenna Assembly	U.S.	11/933,053	10/31/07			Communications & Power Industries, Inc.	Pending
A Deployable Phasing System for Emulating Re- flective Surfaces	U.S.	11/932,785	10/31/07	7,755,564	07/13/10	Communications & Power Industries, Inc.	Issued
System and Method for Pro- viding a Deploy- able Phasing Structure	U.S.	11/933,040	10/31/07			CPI Malibu Division (Still in former name Malibu Research Associates)	Pending
Adjustable Paneling System for a Phasing Structure	U.S.	11/933,063	10/31/07	7,804,464	09/28/10	Communications & Power Industries, Inc.	Issued

**RECORDED: 02/22/2011**