

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
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EPAS ID: PAT2821399

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	RELEASE BY SECURED PARTY
CONVEYING PARTY DATA	
Name	Execution Date
BMO HARRIS BANK, N.A.	04/18/2014
RECEIVING PARTY DATA	
Name:	ACLARA TECHNOLOGIES, LLC
Street Address:	945 HORNET DRIVE
City:	HAZELWOOD
State/Country:	MISSOURI
Postal Code:	63042
PROPERTY NUMBERS Total: 109	
Property Type	Number
PCT Number:	US2010028592
Application Number:	61164049
Application Number:	12731825
Application Number:	12809134
Patent Number:	8040251
Patent Number:	8456285
Application Number:	60837354
PCT Number:	US2007075547
Patent Number:	7831884
Application Number:	60837349
PCT Number:	US2007063393
Patent Number:	7496430
Patent Number:	7432823
Patent Number:	6940396
Application Number:	60780152
PCT Number:	US2006043084
Patent Number:	7180517
Patent Number:	4658238
Patent Number:	4918422
Patent Number:	4998102
Patent Number:	4963853

PATENT

Property Type	Number
Patent Number:	4996513
Patent Number:	5262755
Patent Number:	5198796
Patent Number:	5486805
Patent Number:	5310075
Patent Number:	5696441
Patent Number:	5933072
Patent Number:	8401093
Application Number:	12596987
PCT Number:	US2008060731
PCT Number:	US2009054482
Patent Number:	8433452
Patent Number:	4218655
Patent Number:	4400688
Application Number:	61562787
Patent Number:	5903213
Application Number:	61559794
Application Number:	13669773
PCT Number:	NZ1996000110
Patent Number:	7312693
Patent Number:	7130722
Patent Number:	7227462
Patent Number:	4795892
Patent Number:	5146067
Patent Number:	6314378
PCT Number:	US2006033471
Patent Number:	7523375
Patent Number:	5986574
Patent Number:	6239722
Patent Number:	6509841
Patent Number:	7733245
Application Number:	61182483
Patent Number:	8401039
Patent Number:	8336352
Application Number:	12026951
Application Number:	61447365
Application Number:	13407265
PCT Number:	US2011022221
Application Number:	61386720

PATENT

REEL. 032715 FRAME. 0462

Property Type	Number
Application Number:	13233173
Application Number:	61373589
Application Number:	13205355
Application Number:	61373586
Application Number:	13816386
PCT Number:	US2011051915
Application Number:	61442956
Application Number:	13988461
Application Number:	12020763
Application Number:	61437094
Application Number:	13347242
PCT Number:	US2011062510
Patent Number:	8126665
Application Number:	13407595
Application Number:	61885296
Application Number:	61837443
Patent Number:	5617084
Patent Number:	5719564
Patent Number:	6072405
Patent Number:	8441372
Patent Number:	8427337
Application Number:	61154037
Application Number:	61264625
Application Number:	13511405
PCT Number:	US2010057245
PCT Number:	US2010057054
Application Number:	13512095
Application Number:	14156765
Application Number:	60556619
Application Number:	11092287
Application Number:	61788957
Patent Number:	5903231
Patent Number:	6122010
PCT Number:	US2008086183
PCT Number:	US2007075548
PCT Number:	US1992009003
PCT Number:	US1992009001
PCT Number:	US1993004922
PCT Number:	US2009056638

PATENT

REEL. 032715 FRAME. 0483

Property Type	Number
PCT Number:	US2012065764
PCT Number:	US2012064162
PCT Number:	NZ1995000068
PCT Number:	US1987003241
PCT Number:	US1991000271
PCT Number:	NZ1997000043
PCT Number:	US1998020379
PCT Number:	US2011045740
PCT Number:	US2011047525
PCT Number:	US2010024752

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	074658-14002
NAME OF SUBMITTER:	TIMOTHY D. PECSENYE
SIGNATURE:	/Timothy D. Pecsénye/
DATE SIGNED:	04/21/2014
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 25

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**TERMINATION AND RELEASE
OF
PATENT SECURITY AGREEMENT**

TERMINATION AND RELEASE OF PATENT SECURITY AGREEMENT, dated as of April 18, 2014, by **BMO HARRIS BANK N.A** (the "Lender"), in connection with that certain Patent Security Agreement, dated as of March 28, 2014 (as may have been amended, amended and restated, supplemented or otherwise modified from time to time, the "Patent Security Agreement"), by **ACLARA TECHNOLOGIES, LLC**, a Delaware limited liability company ("Aclara" and "Grantor").

WHEREAS, pursuant to the terms of the Patent Security Agreement, the Grantor granted to the Lender a continuing security interest in all of such Grantor's right, title and interest in, to and under the following, whether presently existing or hereafter created or acquired (collectively, the "Patent Collateral"):

(a) all of such Grantor's patents, patent applications, patentable inventions, trade secrets, equipment formulations, manufacturing procedures, quality control procedures (collectively, "Patents"), and licenses for any of the foregoing ("Licenses"), including those U.S. patents and U.S. published patent applications referred to on Schedule I hereto;

(b) all reissues, continuations, continuations-in-part, substitutes, extensions or renewals of and improvements on the foregoing;

(c) all products and proceeds of the foregoing, including any claim by such Grantor against third parties for past, present or future infringement or dilution of any Patent or any Patent licensed under any License; and

WHEREAS, the Lender has agreed to terminate and release its security interest in the Patent Collateral as herein provided.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Lender hereby terminates, releases and discharges the Lenders's security interest in the Patent Collateral, including, without limitation, the patents listed on Exhibit A attached hereto, effective as of the date set forth above.

The parties hereto hereby acknowledge that this document may be filed along with any other necessary documentation with the United States Patent and Trademark Office, to evidence the termination and release granted herein. The Lender hereby agrees to deliver any further releases or termination statements as may be reasonably necessary to effect the termination and release contemplated hereby, at the Grantor's expense.

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ACCEPTED AND AGREED
as of the date first above written:

Lender:

BMO HARRIS BANK N.A., as Lender

By: Brett Sanchez
Name: Brett Sanchez
Title: Director

EXHIBIT A

PATENTS

Aclara Technologies LLC Patents and Applications

Docket No.: EP20-00081

Title: Under Frequency/Under Voltage Detection In A Demand Response Unit

Attorney(s): Polster Liedt

Inventor(s): Fleck, Christopher

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Published	US2010/028592	25-Mar-2010			
United States of America	PRO	Pending	61/164,049	27-Mar-2009		27-Mar-2010	
United States of America	PRI	Published	12/731,825	25-Mar-2010			

Docket No.: EP20-00082

Title: Achieving Energy Demand Response Using Price Signals and Load Control Transponder

Attorney(s): Polster Liedt

Inventor(s): Haynes, David D

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Published	2008/086183	10-Dec-2008			
United States of America	ORD	Pending	12/809,134	11-Jan-2012			

Note: Response to Office Action at USPTO due March 11, 2014.

Docket No.: EP20-00083

Title: Detection of Fast Poll Responses in a TWACS Inbound

Attorney(s): Polster Lieder

Inventor(s): Spencer, Quentin

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Published	US07/0075548	09-Aug-2007			
United States of America	ORD	Granted	11/836,354	09-Aug-2007	8,040,251	18-Oct-2011	16-Jun-2030
United States of America	PCT	Granted	12/377,177	11-Feb-2009	8456285	04-Jun-2013	22-May-2029
United States of America	PRO	Completed	60/837,354	11-Aug-2006		11-Aug-2007	

Docket No.: EP20-00084

Title: Method of Correcting Message Errors Using Cyclic Redundancy Checks

Attorney(s): Polster Lieder

Inventor(s): Spencer, Quentin

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Pending	US2007/075547	09-Aug-2007			
United States of America	ORD	Granted	11/836,381	09-Aug-2007	7,831,884	09-Nov-2010	09-Aug-2027
United States of America	PRO	Completed	60/837,349	11-Aug-2006		11-Aug-2007	

Docket No.: EP20-00085

Title: Intelligent Fault Detector System and Method

Attorney(s): Polster Lieder

Inventor(s): Mak, Sioc T

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Pending	US2007/063393	06-Mar-2007			

DB1/ 78472579.2

United States of America	PRO	Completed	60/780,152	08-Mar-2006	08-Mar-2007	06-Mar-2027
United States of America	PRI	Granted	11/682,747	06-Mar-2007	24-Feb-2009	

7,496,430

Docket No.: EP20-00087

Title: Tamper Detection Apparatus For Electrical Meters

Attorney(s): Polster Lieder

Inventor(s): Soni, Devendra K

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Pending	US2006/043084	02-Nov-2006			
United States of America	PRI	Granted	11/270,789	09-Nov-2005	7,432,823	07-Oct-2008	30-Nov-2026

Docket No.: EP20-00090

Title: Concurrent Phase Communication in TWACS

Attorney(s): Polster Lieder

Inventor(s): Hammond, Benjamin A; Hessling, Jr., John B; Lagerstrom, Krister

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	10/430,786	06-May-2003	6,940,396	06-Sep-2005	16-Jan-2024

Docket No.: EP20-00091
Title: Quality of Service Terrain Map for Utilities
Attorney(s): Polster Lieder
Inventor(s): Haynes, David D

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	10/645,468	21-Aug-2003	7,180,517	20-Feb-2007	05-Oct-2023

Docket No.: EP20-00092
Title: Method and Apparatus for Generating Intelligence on a Carrier
Attorney(s): Polster Lieder

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Expired	411,035	24-Aug-1982	4,658,238	14-Apr-1987	14-Apr-2004

Docket No.: EP20-00093
Title: Method and Apparatus for Extracting Inbound Information Generated Line-to-Line in a Multi-Phase Electric Distribution
Attorney(s): Polster Lieder
Inventor(s): Mak, Sioc T

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	07/185,792	25-Apr-1988	4,918,422	17-Apr-1990	25-Apr-2008

Docket No.: EP20-00095

Title: Integrated Meter Transponder

Attorney(s): Polster Lieder

Inventor(s): Aubuchon, Mark E; Wyler, Craig S

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	07/227,343	02-Aug-1988	4,998,102	05-Mar-1991	02-Aug-2008

Docket No.: EP20-00096

Title: Simultaneous Inbound Multi-Channel Communication System Using Electricity Distribution Network

Attorney(s): Polster Lieder

Inventor(s): Mak, Sioe T

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	07/421,794	16-Oct-1989	4,963,853	16-Oct-1990	16-Oct-2009

Docket No.: EP20-00097

Title: Carrier Stability Erasure Filling System for Communications Over Electricity Distribution Network

Attorney(s): Polster Lieder

Inventor(s): Maginnis, Richard L; Franzen, Kevin J; Mak, Sioe T

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	07/481,247	20-Feb-1990	4,996,513	26-Feb-1991	20-Feb-2010

Docket No.: EP20-00098

Title: Inbound Communications Using Electricity Distribution
Attorney(s): Polster Lieder
Inventor(s): Franzen, Kevin J; Mak, Sioc T

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Completed	US92/09003	27-Oct-1992			
United States of America	PRI	Granted	07/809,588	17-Dec-1991	5,262,755	16-Nov-1993	17-Dec-2011

Docket No.: EP20-00099
Title: Outbound Signal Detector System and Method
Attorney(s): Polster Lieder
Inventor(s): Hessling, Jr., John B

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Completed	US92/09001	26-Oct-1992			
United States of America	PRI	Granted	07/722,134	27-Jun-1991	5,198,796	30-Mar-1993	27-Jun-2011

Docket No.: EP20-00100
Title: Method of Receiving Unsolicited Messages on an Electrical Distribution Network Communications System
Attorney(s): Polster Lieder
Inventor(s): Mak, Sioc T

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	08/086,085	06-Jul-1993	5,486,805	23-Jan-1996	06-Jul-2013

Docket No.: EP20-00101
Title: Waterproof, Gasketless Enclosure
Attorney(s): Polster Lieder

Inventor(s): Wyler, Craig S

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Completed	US93/04922	25-May-1993			
United States of America	PRI	Granted	07/982,633	27-Nov-1992	5,310,075	10-May-1994	27-Nov-2012

Docket No.: EP20-00102

Title: Linear Alternating Current Interface for Electronic Meters

Attorney(s): Polster Lieder

Inventor(s): Mak, Sioc T; Ramey, Brian C

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	08/242,597	13-May-1994	5,696,441	09-Dec-1997	09-Dec-2014

Docket No.: EP20-00103

Title: Current Level Control for TWACS Inbound Communications

Attorney(s): Polster Lieder

Inventor(s): Kelly, Dennis L

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	08/966,447	07-Nov-1997	5,933,072	03-Aug-1999	07-Nov-2017

Docket No.: EP20-00113

Title: Detection of Outbound Message Signals in a Power Line Two-Way Communications System

Attorney(s): Polster Lieder
Inventor(s): Spencer, Quentin; Hessling, Jr., John B; Hammond, Benjamin A; Kelley, Dennis; Rieken, David; Davis, William J; Walker II, Michael R

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Published	US2008/060731	18-Apr-2008			
United States of America	ORD	Published	12/596,987	22-Oct-2009			

Docket No.: EP20-00114

Title: A General Method for Low-Frequency Data Transmission on a Power Line

Attorney(s): Polster Lieder

Inventor(s): Spencer, Quentin

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Pending	US2009/054482	20-Aug-2009			
United States of America	ORD	Granted	12/549,472	28-Aug-2009	8,401,093	19-Mar-2013	18-Jan-2032

Docket No.: EP20-00115

Title: Method for Load Control Using Temporal Measurements of Energy for Individual Pieces of Equipment

Attorney(s): Polster Lieder

Inventor(s): Fleck, Christopher; Virkus, Mark; Kobeszka, Edward

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Pending	2009/056638	11-Sep-2009			
United States of America	ORD	Granted	12/558,122	11-Sep-2009	8,433,452	30-Apr-2013	15-Sep-2031

Docket No.: EP20-00117

Title: Cycloconverter Apparatus and Method for Working into an Active Load

Attorney(s): Polster Lieder

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Expired	676,468	13-Apr-1976	4,105,897	08-Aug-1978	13-Apr-1996

Attorney(s): Polster Lieder
Inventor(s): Drumeller, Joshua K

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Published	2012/064162	08-Nov-2012			
United States of America	PRO	Pending	61/559,794	15-Nov-2011		15-Nov-2012	
United States of America	ORD	Published	13/669,773	06-Nov-2012			

Docket No.: EP20-00134
Title: Device for Energy Load Control
Attorney(s):
Inventor(s): Hodge, James Graham; Holliday, Philip A

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Completed	95NZ68	27-Jul-1995			
United States of America	CON	Granted	08/743,162	04-Nov-1996	5,903,213	11-May-1999	27-Jul-2015

Note: From CIC acquisition.

Docket No.: EP20-00135
Title: Device for the Operation of Appliances, Utilities and Services Within a Building
Attorney(s):
Inventor(s): Hodge, James Graham; Holliday, Philip A; Bridgman, Gary C

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
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Patent Cooperation Treaty ORD Completed NZ1996/000110 04-Oct-1996

Note: From CIC acquisition.

Docket No.: EP20-00136
Title: Method for Increasing Burst Capacity and/or Inbound Signal Strength by Innovative Approach for Electrical Energy Meters Used for Automated Meter Reading
Attorney(s): Polster Lieder
Inventor(s): Soni, Devendra K

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	11/186,312	21-Jul-2005	7,312,693	25-Dec-2007	21-Jul-2025

Docket No.: EP20-00138
Title: Smart Disconnect Switch Interbase (SmartDSI) for Automated Meter Reading (AMR) Network or AMR System
Attorney(s):
Inventor(s): Soni, Devendra K

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	11/063,200	22-Feb-2005	7,130,722	31-Oct-2006	22-Feb-2025

Docket No.: EP20-00139
Title: A Super-Fast Polling Scheme for Determining the Presence of Individual Meters on the Power Line
Attorney(s):

Inventor(s): Spencer, Quentin							
Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	11/075,506	09-Mar-2005	7,227,462	05-Jun-2007	24-Sep-2025
Docket No.: EP20-00141							
Title: Prepayment Metering System Using Encoded Purchase Cards							
Attorney(s):							
Inventor(s): Sloan, Joseph W							
Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Completed	87US3241	07-Dec-1987			
Note: From CIC acquisition.							

Docket No.: EP20-00142							
Title: Pre-paid Commodity System							
Attorney(s):							
Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Expired	130,548	09-Dec-1987	4,795,892	03-Jan-1989	09-Dec-2007
Docket No.: EP20-00143							
Title: Prepayment Metering System Using Encoded Purchase Cards From Multiple Locations							
Attorney(s):							
Inventor(s): Sloan, Joseph W; Snyder, Harry P; Foster, Joseph W; Day, Mark C; Berg, Timothy G; Jarreau, Michael; Miller, Mark P; Bush, A. Michael							

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty United States of America	ORD	Completed	WO91US271	11-Jan-1991	5,146,067	08-Sep-1992	12-Jan-2010
	PRI	Granted	464,328	12-Jan-1990			

Note: From CIC acquisition.

Docket No.: EP20-00145							
Title: Distributed Frequency Relay							
Attorney(s):							
Inventor(s): Hodge, James Graham; Sutton, Roger Anthony							
Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty United States of America	ORD	Completed	97/00043	01-Apr-1997	6,314,378	06-Nov-2001	01-Apr-2016
	CON	Granted	09/164,804	01-Oct-1998			

Note: From CIC acquisition.

Docket No.: EP20-00146							
Title: A Set of Irregular LDPC Codes with Random Structure and Low Encoding Complexity							
Attorney(s): JJM							
Inventor(s): Spencer, Quentin							
Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty United States of America	ORD	Pending	US2006/033471	29-Aug-2006	7,523,375	21-Apr-2009	24-Mar-2026
	PRI	Granted	11/232,072	21-Sep-2005			

Docket No.: EP20-00148
Title: System and Method for Communication Between Remote
Attorney(s):
Inventor(s): Colton, Laurence J

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Completed	98US20379	29-Sep-1998			
United States of America	PRI	Granted	08/949,440	16-Oct-1997	5,986,574	16-Nov-1999	16-Oct-2017
United States of America	CON	Granted	09/303,173	30-Apr-1999	6,239,722	29-May-2001	16-Oct-2017
United States of America	CON	Granted	09/703,298	01-Nov-2000	6,509,841	21-Jan-2003	20-Jan-2018

Note: From CIC acquisition.

Docket No.: EP20-00149
Title: Compression Scheme for Interval Data
Attorney(s): Polster Lieder
Inventor(s): Spencer, Quentin

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	12/146,154	25-Jun-2008	7,733,245 B	08-Jun-2010	04-Jul-2028

Docket No.: EP20-00151
Title: Point-To-Point Communications Systems Particularly For Use In Power Distribution System
Attorney(s): Polster Lieder
Inventor(s): Rieken, David

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRO	Completed	61/182,483	29-May-2009		29-May-2010	

United States of America ORD Granted 12/613,217 05-Nov-2009 8,401,039 19-Mar-2013 23-May-2031

Docket No.: EP20-00152
Title: Simultaneous Detection of Communications Signals on all Phases of a Multi-Phase Power Distribution Network
Attorney(s): Polster Lieder
Inventor(s): Spencer, Quentin

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Published	12/026951	28-Feb-2012			
United States of America	PRO	Pending	61/447,365	28-Feb-2011		28-Feb-2012	
United States of America	ORD	Published	13/407,265	28-Feb-2012			

Docket No.: EP20-00153
Title: Transient Detector and Fault Classifier for a Power Distribution System
Attorney(s): Polster Lieder
Inventor(s): Abiprojo, Priotomo; Gregg, Gordon; Rieken, David

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	PRI	Published	US2011/022221	24-Jan-2011			
United States of America	PRI	Granted	12/692,919	25-Jan-2010	8,336,352	25-Dec-2012	25-Jan-2030

Docket No.: EP20-00154
Title: Load Control Apparatus With Peak Reduction In Aggregate
Attorney(s): Senniger Powers
Inventor(s): Fleck, Christopher

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
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Patent Cooperation Treaty	ORD	Published	US2011/051915	16-Sep-2011		
United States of America	PRO	Pending	61/386,720	27-Sep-2010	27-Sep-2011	
United States of America	ORD	Published	13/233,173	15-Sep-2011		

Docket No.: EP20-00155
Title: Digital Two Way Automatic Communication System (TWACS) Outbound Receiver and Method
Attorney(s): Senniger Powers
Inventor(s): Ricken, David

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Published	2011/045740	28-Jul-2011			
United States of America	PRO	Pending	61/373,589	13-Aug-2010			
United States of America	ORD	Published	13/205,355	08-Aug-2011			

Docket No.: EP20-00156
Title: Agile Switched-Load Resonating Transmitter For Passband Power Line Communication
Attorney(s): Polster Lieder
Inventor(s): Ricken, David; Langenberg, Daniel

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Pending	US11/47525	12-Aug-2011			
United States of America	PRO	Pending	61/373,586	13-Aug-2010		13-Aug-2011	
United States of America	ORD	Published	13/816,386	11-Feb-2013			

Docket No.: EP20-00157
Title: Mains-Synchronous Power-Line Communications System and Method
Attorney(s): Senniger Powers
Inventor(s): Rieken, David

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Published	US2011/062510	30-Nov-2011			
United States of America	PRO	Pending	61/442,956	15-Feb-2011		15-Feb-2012	
United States of America	PCT	Published	13/988,461	02-Jul-2013			

Docket No.: EP20-00158
Title: Utility Electric Meter Web Server
Attorney(s): Polster Lieder
Inventor(s): Langenberg, Daniel; Fleck, Christopher; Steidtmann, David

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Published	12/020763	10-Jan-2012			
United States of America	PRO	Pending	61/437,094	28-Jan-2011		28-Jan-2012	
United States of America	ORD	Published	13/347,242	10-Jan-2012			

Docket No.: EP20-00159
Title: Device, and Associated Method, for Monitoring a Meter
Attorney(s): Scheef & Stone
Inventor(s): Verdell Whitson, Ovie

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	CIP	Granted	12/105,258	17-Apr-2008	8,126,665	28-Feb-2012	28-Mar-2025
United States of America	CON	Pending	13/407,595	28-Feb-2012			

Docket No.: EP20-00161
Title: TWACS Transmitter and Receiver
Attorney(s): Senniger Powers
Inventor(s): Rieken, David; Hessling, Jr., John B

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRO	Pending	61/885,296	01-Oct-2013		01-Oct-2014	

Docket No.: EP20-00167
Title: Demand Response System With Field Area Network Gateway
Attorney(s): Senniger Powers
Inventor(s): Haynes, David D

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRO	Pending	61/837,443	20-Jun-2013		20-Jun-2014	

Docket No.: EP23-00002
Title: Apparatus for Communicating Utility Usage-Related Information from a Utility Usage Location to a Utility Usage
Attorney(s):
Inventor(s): Sears, Lawrence M.

Country	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	CON	547,408	24-Oct-1995	5,617,084	01-Apr-1997	10-Sep-2013

Docket No.: EP23-00003
Title: Utility Meter Reading System
Attorney(s):
Inventor(s): Sears, Lawrence M.

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	644,501	10-May-1996	5,719,564	17-Feb-1998	10-May-2016

Docket No.: EP23-00004
Title: Meter Transmission Unit for use with a Pit Set Utility Meter
Attorney(s):
Inventor(s): Sears, Lawrence M.

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	PRI	Granted	09/059,323	13-Apr-1998	6,072,405	06-Jun-2000	13-Apr-2018

Docket No.: EP23-00005
Title: Wireless Broadband Communications Network for a Utility
Attorney(s): Polster Lieder
Inventor(s): Smith, Ronald; Thompson, Mark

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Pending	19-Feb-2010				
United States of America	PRI	Pending	61/154,037	20-Feb-2009			
United States of America	ORD	Granted	12/709,913	22-Feb-2010	8,441,372	14-May-2013	16-Aug-2031

Docket No.: EP23-00007
Title: Planar Dipole Antenna
Attorney(s): Brinks Gilson
Inventor(s): Wilbur, Mark; Pollock, James; Hennigan, Justin

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
United States of America	ORD	Granted	12/832,332	08-Jul-2010	8,427,337	23-Apr-2013	08-Jul-2030

Docket No.: EP23-00008
Title: Random Number Generator
Attorney(s): Brinks Gilson
Inventor(s): Emelko, Glenn A; Gillooly, Gregory B.

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Published	US2010/057245	18-Nov-2010			
United States of America	PRO	Pending	61/264,625	25-Nov-2009		25-Nov-2010	
United States of America	ORD	Published	13/511,405	26-Sep-2012			

Docket No.: EP23-00009
Title: Cryptographically Secure Authentication Device, System and Method
Attorney(s): Senniger Powers
Inventor(s): Emelko, Glenn A

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration Date
Patent Cooperation Treaty	ORD	Published	US2010/057054	17-Nov-2010			
United States of America	PCT	Published	13/512,095	25-May-2012			
United States of America	CON	Pending	14/156,765	16-Jan-2014			

Patents and applications from Metrum asset acquisition

Country	Application No.	Patent No.	Filing Date	Inventor	Title	Status
US		8,126,665	4/17/2008	Whitson	Device, and Associated Method, for Monitoring a Meter	Granted
US	60/556,619		3/26/2004	Whitson	Device, and Associated Method, for Monitoring a Meter	Abandoned

US	11/092,287	3/28/2005	Whitson	Device, and Associated Method, for Monitoring a Meter	Abandoned
US	13/407,595	2/28/2012	Whitson	Device, and Associated Method, for Monitoring a Meter	Pending
US	61/788,957	3/15/2013	Whitson	Device, and Associated Method, for Communication	Pending

Note: These items are jointly owned with Metrum Technologies, LLC pursuant to a certain Patent Co-ownership and License Agreement dated December 31, 2012. Provisional application 61/788,957 will be automatically abandoned on March 16, 2014. A non-provisional application claiming priority to the provisional may be filed before then.

Emelko patents (pre-Aclara employment):**Docket No.:** EP14-00002**Title:** System For Encoding Base N Data Using a Multi-Level Coding Scheme**Attorney(s):****Inventor(s):** Emelko, Glenn A

Country	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date	Expiration
United States of America	PRI	Granted	08/767,371	16-Dec-1996	5,903,231	11-May-1999	16-Dec-2016
United States of America	CIP	Granted	08/898,314	22-Jul-1997	6,122,010	19-Sep-2000	16-Dec-2016

Note: Glenn Emelko has a right to repurchase these patents under certain circumstances per the Agreement for Sale of Patents of January 25, 2008.