

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MOBILEMEDIA IDEAS LLC	03/27/2017

RECEIVING PARTY DATA

Name:	IRONWORKS PATENTS LLC
Street Address:	125 S. CLARK STREET, 17TH FLOOR
City:	CHICAGO
State/Country:	ILLINOIS
Postal Code:	60603

PROPERTY NUMBERS Total: 166

Property Type	Number
Patent Number:	5241583
Patent Number:	5241603
Patent Number:	5408060
Patent Number:	5448622
Patent Number:	5479476
Patent Number:	5490170
Patent Number:	5553125
Patent Number:	5557541
Patent Number:	5572571
Patent Number:	5583965
Patent Number:	5619568
Patent Number:	5640458
Patent Number:	5732390
Patent Number:	5737394
Patent Number:	5812954
Patent Number:	5828956
Patent Number:	5839110
Patent Number:	5841979
Patent Number:	5845219
Patent Number:	5852783

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Property Type	Number
Patent Number:	5889852
Patent Number:	5901223
Patent Number:	5912704
Patent Number:	5914941
Patent Number:	5915239
Patent Number:	5930758
Patent Number:	5977887
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Patent Number:	6341108
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Patent Number:	6490235
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Patent Number:	6867764

Property Type	Number
Patent Number:	6868280
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Patent Number:	8423626
Patent Number:	8423714
Patent Number:	8437800
Patent Number:	8498674

Property Type	Number
Patent Number:	8847734
Patent Number:	8996063
Patent Number:	9088374
Patent Number:	9223539
Patent Number:	RE39231
Patent Number:	RE39959
Patent Number:	RE44260
Application Number:	10085883
Application Number:	12875529
Application Number:	11146507
Application Number:	90012307
Application Number:	12168426
Application Number:	14495375
Application Number:	11441390
Application Number:	90009870
Application Number:	95001614
Application Number:	90007909
Application Number:	08421945
Application Number:	09124584
Application Number:	10374310
Application Number:	12272059
Application Number:	10041488
Application Number:	07857980
Application Number:	09394826
Application Number:	07778592
Application Number:	08263125
Application Number:	13073602
Application Number:	13952654
Application Number:	60191149
Application Number:	60097248
Application Number:	90012079
Application Number:	60395113

CORRESPONDENCE DATA

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NAME OF SUBMITTER: DAVID BERTEN

SIGNATURE: /S/David Berten

DATE SIGNED: 03/28/2017

Total Attachments: 29

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EXHIBIT D

CONFIRMATORY ASSIGNMENT OF PATENT RIGHTS

This CONFIRMATORY ASSIGNMENT OF PATENT RIGHTS (this "Assignment") is made this 27 day of March 2017, by MobileMedia Ideas LLC, a Delaware limited liability company ("Assignor"), in favor of Ironworks Patents LLC, an Illinois limited liability company ("Assignee").

WHEREAS, Assignor and Assignee are party to that certain Patent Sale Agreement of even date herewith (as in effect from time to time, the "Patent Sale Agreement"); capitalized terms used but not otherwise defined in this Assignment shall have the respective meaning assigned thereto in the Patent Sale Agreement; and

WHEREAS, pursuant to the Patent Sale Agreement, Assignor has agreed to sell, convey, transfer, assign and deliver to Assignee all right, title and interest, including, without limitation, Patent Rights, in and to the patents, provisional patent applications, and patent applications listed on listed on Schedule A hereto (collectively, the "Patents").

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged by Assignor, Assignor hereby sells, conveys, transfers, and assigns to Assignee, its successors, legal representatives and assigns all right, title and interest in the United States and throughout the world in and to:

the Patents and any and all letters patent that are or may be granted thereon, and any legal equivalent and counterpart thereof that may be granted in any country or countries foreign to the United States, in each case including without limitation any extensions, substitutes, continuations, continuations-in-part, divisions, reissues, reexaminations, and renewals thereof, or other equivalents thereof, and further, all rights and privileges pertaining to the Patents and any and all letters patent that are or may be granted thereon, and any legal equivalent thereof that may be granted in any country or countries foreign to the United States as well as all inventions, invention disclosures, and discoveries described in any of the foregoing and including, without limitation, the right, if any, to petition, sue or otherwise seek and recover damages, profits and any other remedy (monetary, injunctive, declaratory or other relief or remedy of any kind) in the United States and anywhere throughout the world for any past, present and future infringement thereof, conversion or misappropriation of, or other injury, offense, violation, breach of duty or wrong relating to, any of the Patents, or any license, agreement, contract or other matter relating thereto.

Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks of the United States of America and the appropriate officers of all other jurisdictions in which the Patents are or may be registered or in which applications included among the Patents are pending, to record the title of Assignee, its successors, legal representatives and assigns, as owner of all right, title and interest in and to the Patents, and to issue to Assignee, its successors, legal representatives and assigns, all letters patent and any legal equivalent thereof that may be granted in any country or countries foreign to the United States and recordings of patent rights resulting from any application included among the Patents, according to this instrument.

Except to the extent that federal law preempts state law with respect to the matters covered hereby, this Assignment shall be governed by and construed in accordance with the laws of

Docket No.	New/Con	Title	Serial No.	Filed	Patent No.	Issued
51020-003US	CON	Cellular Telephone with Plural Telephone Numbers	08/337,130	11/10/1994	5,448,622	9/5/1995
51020-004US	CON	Illuminated Pushbutton Keyboard	08/267,855	6/29/1994	5,408,060	4/18/1995
51020-005US	CEQ	A Mobile Telephone Having Groups of User Adjustable Operating Characteristics for Facilitating Adjusting of Several Operating Characteristics	08/191,951	2/4/1994	5,479,476	12/26/1995
51020-005USRX	REX	A Mobile Telephone Having Groups of User Adjustable Operating Characteristics for Facilitating Adjusting of Several Operating Characteristics	90/009,943	8/24/2011	5,479,476 C1	12/26/1995
51020-005USRX2	REX	A Mobile Telephone Having Groups of User Adjustable Operating Characteristics for Facilitating Adjustment of Several Operating Characteristics	90/012,652	9/14/2012	5,479,476	12/26/1995
51020-006US	CEQ	Portable Radio Telephone which Terminates an electronic Keypad Lock Function Upon Sensing an Incoming Call	07/686,791	4/17/1991	5,241,583	8/31/1993
51020-008US	CEQ	Telephone Apparatus With Calling Line Identification	08/270,232	7/1/1994	5,553,125	9/3/1996

51020-009US	CEQ	Data Storage Apparatus	08/056,718	5/3/1993	5,977,887	11/2/1999
51020-009USRX	REX	Data Storage Apparatus	90/012,083	1/9/2012	5,977,887 C1	11/2/1999
51020-011US	DCA	ELECTRONIC DATA SEARCHING METHOD AND APPARATUS	09/052,656	3/31/1998	6,502,090	12/31/2002
51020-012USC1	CON	DEVICE FOR PERSONAL COMMUNICATIONS, DATA COLLECTION AND DATA PROCESSING, AND A CIRCUIT CARD	08/807,322	2/27/1997	6,427,078	7/30/2002
51020-012USC1RX	REX	DEVICE FOR PERSONAL COMMUNICATIONS, DATA COLLECTION AND DATA PROCESSING, AND A CIRCUIT CARD	90/011,736	6/10/2011	6,427,078 C1	7/30/2002
51020-012USC1RX2	REX	Device for Personal Communications, Data Collection and Data Processing, and a Circuit Card	90/011,883	8/30/2011	6,427,078 C1	7/30/2002
51020-012USC1RX3	REX	Device for Personal Communications, Data Collection and Data Processing, and a Circuit Card	90/012,637	9/14/2012	6,427,078 C2	7/30/2002
51020-012USC1RX4	REX	Device for Personal Communications, Data Collection and Data Processing, and a Circuit Card	90/012,952	8/14/2013	6,427,078 C3	7/30/2002

51020-012USC2	CON	Device for Personal Communications, Data Collection and Data Processing, and a Circuit Card	10/085,883	2/27/2002		
51020-012USC2D1	DIV	Device for Personal Communications, Data Collection and Data Processing, and a Circuit Card	12/875,529	9/3/2010		
51020-012USC3	CON	Device for Personal Communications, Data Collection and Data Processing, and a Circuit Card	11/146,507	6/7/2005		
51020-013US	NEW	MOBILE TELEPHONE POWER KEY LOCK FUNCTION	08/562,762	11/27/1995	5,812,954	9/22/1998
51020-014US	NEW	Radiotelephone Enabling Adjustment of Alerting Indicator Volume/Level During Incoming Call	08/554,277	11/6/1995	6,006,114	12/21/1999
51020-016US	CEQ	Voice-Controlled Telecommunication Terminal	08/918,386	8/26/1997	5,915,239	6/22/1999
51020-016USRX	REX	Voice-Controlled Telecommunication Terminal	90/011,620	4/5/2011	5,915,239 C1	6/22/1999
51020-017US	CEQ	System for Establishing an Outgoing Connection from Terminal Equipment to a Data Transmission System	08/822,118	3/21/1997	6,138,038	10/24/2000

51020-018US	CEQ	MOBILE TELEPHONE USER INTERFACE	08/744,244	11/5/1996	6,055,439	4/25/2000
51020-018USRX	REX	MOBILE TELEPHONE USER INTERFACE	90/011,433	1/14/2011	6,055,439 C1	4/25/2000
51020-018USRX2	REX	Mobile Telephone User Interface	90/012,000	11/3/2011	6,055,439 C2	4/25/2000
51020-018USRX3	REX	Mobile Telephone User Interface	90/012,450	8/23/2012	6,055,439 C3	4/25/2000
51020-019US	NEW	Mobile Station having Priority Call Alerting Function during Silent Service Mode	08/697,981	9/4/1996	5,845,219	12/1/1998
51020-019USRX	REX	Mobile Station Having Priority Call Alerting Function During Silent Service Mode	90/011,435	1/14/2011	5,845,219 C1	12/1/1998
51020-019USRX2	REX	Mobile Station Having Priority Call Alerting Function During Silent Service Mode	90/012,126	2/3/2012	5,845,219 C1	12/1/1998
51020-020US	FCA	Photo Screen Scroll Graphic User Interface	08/798,521	2/10/1997	5,889,852	3/30/1999
51020-021US	CEQ	Language-Dependant Letter Input by Means of Number Keys	09/017,391	2/2/1998	6,043,760	3/28/2000
51020-021USRX	REX	Language-Dependant Letter Input by Means of Number Keys	90/012,233	4/2/2012	6,043,760	3/28/2000
51020-021USRX2	REX	Language-Dependant Letter Input by Means of Number Keys	90/012,367	6/21/2012	6,043,760	3/28/2000
51020-022US	FCA	Personal Digital Assistant with Real Time Search Capability	08/803,814	2/24/1997	6,049,796	4/11/2000

51020-022USRX	REX	Personal Digital Assistant with Real Time Search Capability	90/012,080	1/6/2012	6,049,796	4/11/2000
51020-022USRX2	REX	PERSONAL DIGITAL ASSISTANT WITH REAL TIME SEARCH CAPABILITY	90/012,307	5/24/2012		
51020-023US	CEQ	A Carholder Cover and Ejector	09/344,876	6/25/1999	6,343,945	2/5/2002
51020-024US	CEQ	METHOD AND APPARATUS FOR SEARCHING A DATABASE	09/187,709	11/6/1998	6,697,483	2/24/2004
51020-025US	CEQ	WIRELESS COMMUNICATION DEVICE AND A CONTROL MEANS	09/455,685	12/7/1999	6,571,086	5/27/2003
51020-026US	DCA	A Radiophone Provided with an Operation Key with Multiple Functionality for Handling Access to a Menu Structure	09/506,582	2/18/2000	6,931,258	8/16/2005
51020-027US	FCA	CREDIT INFORMATION IN A MOBILE PHONE	09/506,500	2/17/2000	6,430,406	8/6/2002
51020-028US	CEQ	COMMUNICATION TERMINAL	09/383,125	8/25/1999	6,411,822	6/25/2002
51020-029US	FCA	COMMUNICATION TERMINAL WITH A PARTITION WALL	09/185,192	11/3/1998	6,459,886	10/1/2002
51020-030US	DCA	PHONE DISPLAYING ALTERNATIVE FUNCTIONALITY MENU	09/026,362	2/19/1998	6,195,569	2/27/2001
51020-031US	CEQ	HANDLING OF A LOCAL PHONE NUMBER DATABASE	09/025,641	2/18/1998	6,115,617	9/5/2000

51020-032US	FCA	METHOD AND APPARATUS FOR INCOMING CALL REJECTION	09/212,757	12/16/1998	6,253,075	6/26/2001
51020-032USRX	REX	METHOD AND APPARATUS FOR INCOMING CALL REJECTION	90/011,436	1/14/2011	6,253,075 C1	6/26/2001
51020-032USRX2	REX	METHOD AND APPARATUS FOR INCOMING CALL REJECTION	90/011,650	4/19/2011	6,253,075 C1	6/26/2001
51020-032USRX3	REX	Method and Apparatus for Incoming Call Rejection	90/012,638	9/14/2012	6,253,075 C2	6/26/2001
51020-033US	FCA	ELECTRONIC DEVICE AND A METHOD IN AN ELECTRONIC DEVICE	09/716,880	11/20/2000	7,412,258	8/12/2008
51020-033USC1	CON	Electronic Device and a Method in an Electronic Device	12/168,426	7/7/2008		
51020-035US	FCA	ELECTRONIC DEVICE HAVING TOUCH SENSITIVE SLIDE	09/451,167	11/30/1999	7,006,077	2/28/2006
51020-036US	DCA	METHOD AND ARRANGEMENT FOR RETRIEVING AN ENTRY FROM AN INDEXED MEMORY	10/107,234	3/25/2002	6,971,069	11/29/2005
51020-037US	DCA	PORTABLE DEVICE	09/717,862	11/21/2000	6,850,150	2/1/2005
51020-037USC1	CON	Method of Giving the User Information, Portable Device, and Computer Program Product	11/024,280	12/28/2004	8,847,734	9/30/2014

51020-037USC2	CON	Method of Giving the User Information and Portable Device	14/495,375	9/24/2014		
51020-038US	DCA	Metallic Keys	09/427,622	10/27/1999	6,321,441	11/27/2001
51020-038USC1	CON	Metallic Keys	09/884,107	6/20/2001	6,462,294	10/8/2002
51020-039US	DCA	Radio Telephone Buzzer	09/507,382	2/18/2000	6,697,636	2/24/2004
51020-040US	DCA	BACK COVER FOR A MOBILE PHONE	09/426,761	10/26/1999	6,563,927	5/13/2003
51020-042US	DCA	Switch Arrangement	10/478,578	6/25/2004	7,102,086	9/5/2006
51020-043US	CEQ	METHOD OF IDENTIFYING LANGUAGES TO CONTROL SPEECH SYNTHESIS UNITS AND COMMUNICATION DEVICES	09/751,161	12/28/2000	6,711,542	3/23/2004
51020-044US	CEQ	METHOD FOR SEARCHING FOR DATA IN AT LEAST TWO DATABASES, AND DATABASE SYSTEM HAVING AT LEAST TWO DATABASES	09/867,738	5/30/2001	6,745,182	6/1/2004
51020-044USC1	CON	METHOD FOR SEARCHING FOR DATA IN AT LEAST TWO DATABASES, AND DATABASE SYSTEM HAVING AT LEAST TWO DATABASES	10/796,457	3/9/2004	6,934,703	8/23/2005
51020-045US	FCA	PRINT OPTION FOR WAP BROWSERS	09/475,757	12/30/1999	6,553,240	4/22/2003

51020-046US	CEQ	TURNING MECHANISM FOR PROVIDING TURNING MOTION, AND HINGED ELECTRONIC DEVICE	09/865,118	5/24/2001	6,510,588	1/28/2003
51020-047US	FCA	ELECTRONIC DEVICE MOLDED COVER HAVING A RELEASABLE EMI SHIELD	09/801,277	3/7/2001	6,576,832	6/10/2003
51020-048US	FCA	METHOD AND APPARATUS FOR ENTERING INFORMATION IN A MOBILE DEVICE WITH SPECIAL CHARACTERS	09/798,350	3/2/2001	6,868,280	3/15/2005
51020-049US	FCA	MOBILE PHONE STRAP HOLDER APPARATUS AND METHOD	09/970,777	10/5/2001	6,662,986	12/16/2003
51020-050US	CEQ	CALENDAR SYSTEM AND A METHOD FOR PRODUCING A CALENDAR VIEW	10/449,919	5/30/2003	7,257,778	8/14/2007
51020-051US	FCA	FETCHING APPLICATION AND DRIVER FOR EXTENSION DEVICE FROM NETWORK	10/402,374	3/27/2003	7,062,260	6/13/2006
51020-051USC1	CON	FETCHING APPLICATION AND DRIVER FOR EXTENSION DEVICE FROM NETWORK	11/441,390	5/24/2006		
51020-052US	FCA	DUAL KEYPAD PHONE	10/787,684	2/26/2004	7,330,547	2/12/2008
51020-052USRE	RIS	Dual Keypad Phone	12/704,444	2/11/2010	RE44260	2/12/2008

51020-053US	FCA	KEY	10/865,239	6/10/2004	7,060,923	6/13/2006
51020-054US	CEQ	PICTURE ENCODING DEVICE AND METHOD THEREOF, PICTURE DECODING DEVICE AND METHOD THEREOF, AND RECORDING MEDIUM	08/733,928	10/18/1996	6,125,143	9/26/2000
51020-055US	CEQ	COMMUNICATIO N TERMINAL EQUIPMENT AND CALL INCOMING CONTROL METHOD	08/571,650	12/13/1995	5,995,852	11/30/1999
51020-055USRE	RIS	COMMUNICATIO N TERMINAL EQUIPMENT AND CALL INCOMING CONTROL METHOD	09/998,426	11/30/2001	RE39,231 E	11/30/1999
51020-055USRERX	REX	COMMUNICATIO N TERMINAL EQUIPMENT AND CALL INCOMING CONTROL METHOD	90/011,482	2/10/2011	RE39,231 CI	11/30/1999
51020-056US	CEQ	IMAGING APPARATUS IN WHICH REDUCED RESOLUTION IMAGE DATA IS GENERATED AND WHEN SUPPLIED OVER AN IMAGE DATA BUS THE RESOLUTION IS INCREASED AND OUTPUTTED	09/353,287	7/14/1999	6,639,627	10/28/2003

51020-056USC1	CON	IMAGING APPARATUS WITH HIGHER AND LOWER RESOLUTION CONVERTERS AND A COMPRESSION UNIT TO COMPRESS DECREASED RESOLUTION IMAGE DATA	10/650,021	8/26/2003	7,349,012	3/25/2008
51020-056USC1RX	REX	Imaging Apparatus with Higher and Lower Resolution Converters and a Compression Unit to Compress Decreased Resolution Image Data	90/009,870	1/11/2011		
51020-056USC1RX2	REX	Imaging Apparatus with Higher and Lower Resolution Converters and a Compression Unit to Compress Decreased Resolution Image Data	95/001,614	5/3/2011		
51020-057US	CEQ	IMAGE DISPLAY APPARATUS	09/391,941	9/8/1999	6,441,828	8/27/2002
51020-057USIPR	REX	Image Display Apparatus	IPR2013-00016	10/12/2012	6,441,828 K1	8/27/2002
51020-058US	FCA	AN IMPROVED METHOD FOR CREATING, MODIFYING, AND PLAYING A CUSTOM PLAYLIST SAVED AS A VIRTUAL CD, TO BE PLAYED BY A DIGITAL AUDIO/VISUAL ACTUATOR DEVICE	09/074,683	5/8/1998	6,446,080	9/3/2002

51020-058USRX	REX	Method for Creating, Modifying, and Playing a Custom Playlist, Saved as a Virtual CD, to be Played by a Digital Audio/Visual Actuator Device	90/011,640	4/12/2011	6,446,080 C1	9/3/2002
51020-059US	FCA	A METHOD FOR AUTOMATICALLY RECORDING MUSIC DATA FILES BY USING THE HARD DRIVE OF A PERSONAL COMPUTER AS AN INTERMEDIATE STORAGE MEDIUM	09/074,681	5/8/1998	6,393,430	5/21/2002
51020-060US	CEQ	AUDIO SIGNAL REPRODUCING APPARATUS	07/600,818	10/22/1990	5,640,458	6/17/1997
51020-060USD1	DIV	AUDIO SIGNAL REPRODUCING APPARATUS	08/747,910	11/12/1996	6,695,477	2/24/2004
51020-060USD1RX	REX	AUDIO SIGNAL REPRODUCING APPARATUS	90/008,042	5/22/2006	6,695,477 C1	2/24/2004
51020-060USD2	DIV	AUDIO SIGNAL REPRODUCING APPARATUS WITH SEMICONDUCTOR MEMORY STORING CODED DIGITAL AUDIO DATA AND INCLUDING A HEADPHONE UNIT	08/887,417	7/2/1997	5,930,758	7/27/1999

51020-060USD2RX	REX	AUDIO SIGNAL REPRODUCING APPARATUS WITH SEMICONDUCTOR MEMORY STORING CODED DIGITAL AUDIO DATA AND INCLUDING A HEADPHONE UNIT	90/007,908	1/31/2006	5,930,758 C1	7/27/1999
51020-060USD3	DIV	AUDIO SIGNAL REPRODUCING APPARATUS	09/489,774	1/24/2000	6,445,800	9/3/2002
51020-060USD3RX	REX	AUDIO SIGNAL REPRODUCING APPARATUS	90/008,044	6/8/2006	6,445,800 C1	9/3/2002
51020-060USD4	DIV	AUDIO SIGNAL REPRODUCING APPARATUS	09/842,542	4/26/2001	7,330,553	2/12/2008
51020-060USD5	DIV	AUDIO SIGNAL REPRODUCING APPARATUS	10/096,621	3/13/2002	6,975,732	12/13/2005
51020-060USD5C1	CON	AUDIO SIGNAL REPRODUCING APPARATUS	11/158,880	6/22/2005	7,337,027	2/26/2008
51020-060USD5RX	REX	AUDIO SIGNAL REPRODUCING APPARATUS	90/007,909	1/31/2006		
51020-060USRX	REX	AUDIO SIGNAL REPRODUCING APPARATUS	90/008,043	5/22/2006	5,640,458 C1	6/17/1997
51020-061US	NEW	APPARATUS FOR DISTRIBUTING SUBSCRIPTION AND ON-DEMAND AUDIO PROGRAMMING	08/279,244	7/21/1994	5,557,541	9/17/1996

51020-062US	CEQ	Information Processing Apparatus and Method, Information Processing System, and Transmission Medium	09/126,007	7/29/1998	7,190,971	3/13/2007
51020-062USC1	CON	Information Processing Apparatus and Method, Information Processing System, and Transmission Medium	10/941,825	9/16/2004	7,251,475	7/31/2007
51020-062USC2	CON	Information Processing Apparatus and Method, Information Processing System, and Transmission Medium	11/445,305	6/2/2006	7,774,022	8/10/2010
51020-062USC2C1	CON	Information Processing Apparatus and Method, Information Processing System, and Transmission Medium	11/672,078	2/7/2007	8,190,202	5/29/2012
51020-062USC2C1C1	CON	Information Processing Apparatus and Method, Information Processing System, and Transmission Medium	13/473,123	5/16/2012	8,437,800	5/7/2013

51020-062USC2C3	CON	Information Processing Apparatus and Method, Information Processing System, and Transmission Medium	13/886,831	5/3/2013	8,996,063	3/31/2015
51020-062USC2C4	CON	Information Processing Apparatus and Method, Information Processing System, and Transmission Medium	14/557,298	12/1/2014	9,088,374	7/21/2015
51020-062USC3	CON	Information Processing Apparatus and Method, Information Processing System, and Transmission Medium	11/526,017	9/25/2006	7,991,431	8/2/2011
51020-062USD1	DIV	Information Processing Apparatus and Method, Information Processing System, and Transmission Medium	11/408,926	4/24/2006	7,636,545	12/22/2009
51020-062USD2	DIV	Information Processing Apparatus and Method, Information Processing System, and Transmission Medium	11/409,210	4/24/2006	7,657,285	2/2/2010

51020-063US	CEQ	COMMUNICATIO N TERMINAL APPARATUS AND CONTROL METHOD THEREOF	08/421,945	4/13/1995		
51020-063USC1	CON	COMMUNICATIO N TERMINAL APPARATUS AND CONTROL METHOD THEREOF	08/950,512	10/21/1997	5,987,336	11/16/1999
51020- 063USCID1D1	DIV	COMMUNICATIO N TERMINAL APPARATUS AND CONTROL METHOD THEREOF	09/339,751	6/24/1999	6,198,948	3/6/2001
51020-063USD1	DIV	COMMUNICATIO N TERMINAL APPARATUS AND CONTROL METHOD THEREOF	08/932,942	9/17/1997	5,999,827	12/7/1999
51020- 063USD1D1	DIV	COMMUNICATIO N TERMINAL APPARATUS AND CONTROL METHOD THEREOF	09/195,084	11/18/1998	6,131,048	10/10/2000
51020- 063USD1D2	DIV	COMMUNICATIO N TERMINAL APPARATUS AND CONTROL METHOD THEREOF	09/193,393	11/18/1998	6,223,058	4/21/2001
51020- 063USD1RE	RIS	COMMUNICATIO N TERMINAL APPARATUS AND CONTROL METHOD THEREOF	10/007,104	12/3/2001	RE39959 E	12/7/1999
51020-063USD3	DIV	COMMUNICATIO N TERMINAL APPARATUS AND CONTROL METHOD THEREOF	09/195,082	11/18/1998	6,138,039	10/24/2000

51020-064US	CEQ	COMMUNICATIO N TERMINAL DEVICE AND METHOD FOR CONTROLLING A CONNECTING STATE OF A CALL INTO A DESIRED CONNECTION STATE UPON A PREDETERMINED OPERATION BY A USER	08/818,564	3/14/1997	6,070,068	5/30/2000
51020-064USRX	REX	COMMUNICATIO N TERMINAL DEVICE AND METHOD FOR CONTROLLING A CONNECTING STATE OF A CALL INTO A DESIRED CONNECTION STATE UPON A PREDETERMINED OPERATION BY A USER	90/011,655	4/20/2011	6,070,068 C1	5/30/2000
51020- 064USRX2	REX	Communication Terminal Device and Method for Controlling a Connecting State of a Call into a Desired Connection State upon a Predetermined Operation by a User	90/012,780	1/31/2013	6,070,068 C2	5/30/2000
51020-065US	FCA	PORTABLE INFORMATION STORAGE/PLAYB ACK APPARATUS HAVING A UNIVERSAL DATA INTERFACE	08/450,818	5/25/1995	5,914,941	6/22/1999

51020-065USCP	CIP	ENHANCED DELIVERY OF AUDIO DATA	08/643,963	5/7/1996	5,841,979	11/24/1998
51020-065USPCP	CIP	ENHANCED DELIVERY OF AUDIO DATA FOR PORTABLE PLAYBACK	09/124,584	7/29/1998		
51020-065USPCPC1	CON	ENHANCED DELIVERY OF AUDIO DATA FOR PORTABLE PLAYBACK	09/613,025	7/10/2000	6,549,942	4/15/2003
51020-065USPCPC2	CON	ENHANCED DELIVERY OF AUDIO DATA FOR PORTABLE PLAYBACK	10/374,310	2/25/2003		
51020-065USPCPC3	CON	Enhanced Delivery of Audio Data for Portable Playback	11/431,695	5/9/2006	8,423,626	4/16/2013
51020-065USPCPC4	CON	Enhanced Delivery of Audio Data for Portable Playback	12/272,059	11/17/2008		
51020-065USCPRX	REX	Enhanced Delivery of Audio Data	90/012,176	3/2/2012	5,841,979	11/24/1998
51020-066US	DCA	AUDIO REPRODUCING DEVICE	09/380,273	8/27/1999	6,341,108	1/22/2002
51020-066USC1	CON	Device for reproducing information recorded on a recording medium, method for recording information recorded on a recording medium and method for displaying the information	10/041,488	1/10/2002		
51020-067US	CEQ	STORAGE AND REPRODUCTION APPARATUS WITH ROTARY CONTROL ELEMENT FOR CONTROLLING OPERATIONS	09/128,744	8/4/1998	6,490,235	12/3/2002

51020-067USD1	DIV	Storage and Reproduction Apparatus Using a Semiconductor Memory	09/703,885	11/1/2000	6,339,814	1/15/2002
51020-067USD1D1	DIV	STORAGE AND REPRODUCTION APPARATUS UTILIZING INTERRUPTED OPERATION	10/043,506	1/10/2002	6,775,753	8/10/2004
51020-067USD1D1D1	DIV	STORAGE AND REPRODUCTION APPARATUS	10/870,195	6/17/2004	7,313,647	12/25/2007
51020-067USD1D1D1C1	CON	STORAGE AND REPRODUCTION APPARATUS	11/742,641	5/1/2007	7,725,652	5/25/2010
51020-067USD1D1D1C2	OTH	Storage and Reproduction Apparatus	12/651,028	12/31/2009	8,423,714	4/16/2013
51020-067USD1D1D1C3	CON	Storage and Reproduction Apparatus	13/863,237	4/15/2013	9,223,539	12/29/2015
51020-067USD2	DIV	STORAGE AND REPRODUCTION APPARATUS	09/704,122	11/1/2000	6,552,976	4/22/2003
51020-068US	CEQ	CODING APPARATUS FOR DIGITAL SIGNAL	07/857,980	3/26/1992		
51020-068USC1	CON	CODING APPARATUS FOR DIGITAL SIGNAL	08/159,122	11/30/1993	5,490,170	2/6/1996
51020-068USC1RX	REX	Coding Apparatus for Digital Signal	90/012,564	9/14/2012	5,490,170	2/6/1996
51020-069US	CEQ	RECORDING/PLAYBACK APPARATUS, RECORDING/PLAYBACK METHOD AND RECORDING MEDIUM	09/111,002	7/7/1998	6,385,386	5/7/2002

51020-070US	FCA	PORTABLE TELEPHONE APPARATUS HAVING A PLURALITY OF SELECTABLE FUNCTIONS ACTIVATED BY THE OF DEDICATED AND/OR SOFT KEYS	08/597,292	2/6/1996	5,737,394	4/7/1998
51020-070USRX	REX	PORTABLE TELEPHONE APPARATUS HAVING A PLURALITY OF SELECTABLE FUNCTIONS ACTIVATED BY THE USE OF DEDICATED AND/OR SOFT KEYS	90/009,942	8/17/2011	5,737,394 C1	4/7/1998
51020-071US	CEQ	TEXT INPUT DEVICE AND METHOD	08/976,436	11/21/1997	6,002,390	12/14/1999
51020-071US2	CEQ	TEXT INPUT DEVICE AND METHOD	09/394,826	11/21/1997		
51020-072US	CEQ	PORTABLE RADIO INFORMATION TERMINAL APPARATUS, DISPLAY SCREEN OPERATING METHOD, RECORDING MEDIUM, AND MICROCOMPUTER APPARATUS	09/219,418	12/23/1998	6,389,301	5/14/2002

51020-072USRX	REX	PORTABLE RADIO INFORMATION TERMINAL APPARATUS, DISPLAY SCREEN OPERATING METHOD, RECORDING MEDIUM, AND MICROCOMPUTER APPARATUS	90/011,630	4/6/2011	6,389,301 C1	5/14/2002
51020-073US	CEQ	METHOD AND APPARATUS FOR INFORMATION PROCESSING, AND MEDIUM FOR INFORMATION PROCESSING	09/673,112	12/22/2000	6,725,155	4/20/2004
51020-075US	CEQ	VIDEO CAMERA HAVING AN ELECTRONIC VIEWFINDER	07/778,592	10/17/1991		
51020-075USC1	CON	VTR WITH DIGITALLY-INTERFACED CAMERA UNIT AND VIEWFINDER	08/037,683	3/25/1993	5,912,704	6/15/1999
51020-076US	CEQ	PORTABLE TELEPHONE UNIT AND INDICATION ADAPTER	08/634,392	4/18/1996	5,995,592	11/30/1999
51020-077US	FCA	METHOD OF ENTERING CHARACTERS WITH A KEYPAD AND USING PREVIOUS CHARACTERS TO DETERMINE THE ORDER OF CHARACTER CHOICE	09/861,247	5/18/2001	6,803,864	10/12/2004

51020-078US	FCA	INFORMATION TOOLS WITH MULTI-FUNCTIONAL INFORMATION KEY	08/582,541	1/3/1996	5,852,783	12/22/1998
51020-079US	FCA	METHOD AND APPARATUS FOR ENTERING HANGUL (KOREAN) CHARACTERS	09/192,802	11/16/1998	6,300,934	10/9/2001
51020-079US2	OTH	METHOD AND APPARATUS FOR ENTERING DATA STRINGS INCLUDING HANGUL (KOREAN) AND ASCII CHARACTERS	09/234,429	1/20/1999	6,430,314	8/6/2002
51020-079US2C1	CON	METHOD AND APPARATUS FOR ENTERING DATA STRINGS INCLUDING HANGUL (KOREAN) AND ASCII CHARACTERS	09/908,376	7/18/2001	6,760,477	7/6/2004
51020-080US	FCA	WIRELESS TELEPHONE WITH VIRTUAL DIALER	08/827,107	3/17/1997	6,519,480	2/11/2003
51020-081US	FCA	WIRELESS TELEPHONE WITH SLIDING KEYBOARD	08/826,733	4/4/1997	6,128,475	10/3/2000
51020-082US	FCA	CORDLESS PHONE WITH TIME-OUT CONTROLLED RINGER	08/505,967	7/24/1995	5,619,568	4/8/1997

51020-083US	CEQ	SPEECH SIGNAL TRANSMITTING AND RECEIVING APPARATUS WITH NOISE SENSITIVE VOLUME CONTROL	08/263,125	6/21/1994		
51020-083USC1	CON	SPEECH SIGNAL TRANSMITTING AND RECEIVING APPARATUS WITH NOISE SENSITIVE VOLUME CONTROL	08/695,522	8/12/1996	5,732,390	3/24/1998
51020-083USC1RX	REX	SPEECH SIGNAL TRANSMITTING AND RECEIVING APPARATUS WITH NOISE SENSITIVE VOLUME CONTROL	90/009,921	6/30/2011	5,732,390 C1	3/24/1998
51020-083USC1RX2	REX	Speech Signal Transmitting and Receiving Apparatus With Noise Sensitive Volume Control	90/012,442	8/21/2012	5,732,390	3/24/1998
51020-084US	FCA	WIRELESS TELEPHONE WITH EXTENSION HAVING PERIPHERAL DEVICES PROVIDED THEREON	08/825,865	4/2/1997	5,901,223	5/4/1999
51020-085US	CEQ	TASK DISPLAY SWITCHING METHOD, PORTABLE APPARATUS AND PORTABLE COMMUNICATIONS APPARATUS	10/301,598	11/22/2002	7,123,945	10/17/2006

51020-085USD1	DIV	TASK DISPLAY SWITCHING METHOD, PORTABLE APPARATUS AND PORTABLE COMMUNICATIONS APPARATUS	11/514,245	9/1/2006	7,917,179	3/29/2011
51020-085USD1C1	CON	Task Display Switching Method Portable Apparatus and Portable Communications Apparatus	13/073,602	3/28/2011		
51020-085USD1C1D1	DIV	Task Display Switching Method Portable Apparatus and Portable Communications Apparatus	13/555,951	7/23/2012	8,498,674	7/30/2013
51020-085USD1C1D1C1	CON	Task Display Switching Method Portable Apparatus and Portable Communications Apparatus	13/952,654	7/28/2013		
51020-086US	FCA	DATA ENTRY USER INTERFACE	09/816,273	3/22/2001	6,867,764	3/15/2005
51020-086USC1	CON	DATA ENTRY USER INTERFACE	10/870,300	6/17/2004	7,268,773	9/11/2007
51020-086USPR	NEW	Tap-slide-tap data input mechanism	60/191,149	3/22/2000		
51020-087US	FCA	SYSTEM AND METHOD FOR MOBILE LOCATION DETECTION IN SYNCHRONOUS WIRELESS SYSTEMS	09/372,153	8/20/1999	6,539,229	3/25/2003
51020-087USPR	NEW	MOBILE LOCATION DETECTION METHOD IN SYNCHRONOUS WIRELESS SYSTEM	60/097,248	8/20/1998		

51020-088US	DCA	TRANSMITTING AND RECEIVING APPARATUS	08/624,645	6/13/1996	5,839,110	11/17/1998
51020-089US	CEQ	TELEPHONE APPARATUS	08/541,729	10/10/1995	6,125,264	9/26/2000
51020-090US	NEW	CELLULAR TELEPHONE ALARM	08/861,222	5/21/1997	6,011,967	1/4/2000
51020-091US	CEQ	MOBIL COMMUNICATION APPARATUS AND INFORMATION PROVIDING SYSTEM USING THE MOBILE COMMUNICATION APPARATUS	09/300,671	4/27/1999	6,871,048	3/22/2005
51020-091USIPR	REX	Mobil Communication Apparatus and Information Providing System using the Mobile Communication Apparatus	IPR2013-00036	10/30/2012		
51020-091USRX	REX	MOBIL COMMUNICATION APPARATUS AND INFORMATION PROVIDING SYSTEM USING THE MOBILE COMMUNICATION APPARATUS	90/012,079	1/5/2012		
51020-092US	FCA	PROGRAMMABLE CELLULAR TELEPHONE AND SYSTEM	08/366,502	12/30/1994	5,572,571	11/5/1996
51020-092USCP	CIP	PROGRAMMABLE CELLULAR TELEPHONE AND SYSTEM	08/474,164	6/7/1995	5,828,956	10/27/1998
51020-092USCP2	CIP	PROGRAMMABLE CELLULAR TELEPHONE AND SYSTEM	08/682,999	7/18/1996	6,018,656	1/25/2000

51020-094US	CEQ	PORTABLE TERMINAL APPARATUS AND DISPLAY CONTROL PROGRAM THEREOF	10/265,682	10/8/2002	7,043,276	5/9/2006
51020-094USCI	CON	PORTABLE TERMINAL APPARATUS AND DISPLAY CONTROL PROGRAM THEREOF	11/223,978	9/13/2005	7,233,813	6/19/2007
51020-095US	CEQ	INFORMATION PROCESSING APPARATUS AND METHOD, AND PROGRAM STORAGE MEDIUM	09/892,952	6/26/2001	7,111,069	9/19/2006
51020-096US	CEQ	A PORTABLE WIRELESS DEVICE THAT CAN AUTOMATICALL Y TRANSMIT SELECTED PHONE NUMBERS CHOSEN FROM A DIRECTORY USING VOICE SYNTHESIS TO CONVERT THE PHONE NUMBER.	09/181,546	10/29/1998	6,236,867	5/22/2001
51020-097US	CEQ	TELEPHONE APPARATUS USED FOR COMPUTER NETWORK TELEPHONE SYSTEM	08/761,612	12/6/1996	6,108,329	8/22/2000

51020-098US	FCA	APPARATUS AND METHOD FOR OPERATING A CELLULAR OR PORTABLE TELEPHONE	09/057,391	4/8/1998	6,125,273	9/26/2000
51020-099US	NEW	METHODS AND APPARATUS FOR TRAINING AND OPERATING VOICE RECOGNITION SYSTEMS	08/302,460	9/12/1994	5,583,965	12/10/1996
51020-100US	FCA	REMOTE NOTIFICATION CONTROL IN WIRELESS COMMUNICATION DEVICE	09/075,575	5/11/1998	6,161,021	12/12/2000
51020-101US	FCA	SYSTEM AND METHOD FOR MANDARIN CHINESE SPEECH RECOGNITION USING AN OPTIMIZED PHONE SET	10/403,642	3/31/2003	7,353,173	4/1/2008
51020-101USPR	NEW	Efficient phone-based recognition engines for chinese and english isolated command applications	60/395,113	7/11/2002		
51020-102US	NEW	SYSTEM AND METHOD FOR EFFECTIVELY IMPLEMENTING A MANDARIN CHINESE SPEECH RECOGNITION DICTIONARY	10/403,747	3/31/2003	7,353,174	4/1/2008
51020-103US	FCA	TELEPHONE WITH SLIDING KEYPAD	08/975,951	11/21/1997	6,064,734	5/16/2000

51020-104US	OTH	SYSTEM AND METHOD FOR CANTONESE SPEECH RECOGNITION USING AN OPTIMIZED PHONE SET	10/395,352	3/24/2003	7,353,172	4/1/2008
51020-105US	CEQ	DIGITAL SIGNAL ENCODING APPARATUS	07/703,830	5/21/1991	5,241,603	8/31/1993