PATENT ASSIGNMENT

Electronic Version v1.1
Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
AVAGO Technologies Sensor IP PTE. LTD.	11/22/2006

RECEIVING PARTY DATA

Name:	AVAGO Technologies Imaging Holding Corporation
Street Address:	Unit Level 13(E) Main Officer Tower
Internal Address:	Financial Park Labuan Jalan, Merdeka
City:	Labuan
State/Country:	MALAYSIA
Postal Code:	87000

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	10423523

OP $40.00 10423523

CORRESPONDENCE DATA

Fax Number: (610)407-0701
Correspondence will be sent via US Mail when the fax attempt is unsuccessful.
Phone: 610-407-0700
Email: sseiler@ratnerprestia.com
Correspondent Name: Kenneth N. Nigon
Address Line 1: 1235 Westlakes Drive, Suite 301
Address Line 2: RatnerPrestia
Address Line 4: Berwyn, PENNSYLVANIA 19312

ATTORNEY DOCKET NUMBER:	MICR-165US
NAME OF SUBMITTER:	Kenneth N. Nigon

Total Attachments: 61
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Avago Technologies Sensor IP Pte Ltd
(In Member's Voluntary Liquidation)

(Company Registration No. 200602838N)
c/o Blk 150A, Mei Chin Road
#02-00, Singapore 140150
Telephone: (65) 6222 3800
Facsimile: (65) 6222 1855

22 November 2006

TCC/LW/KL

Avago Technologies Imaging Holding (Labuan) Corporation
Unit Level 13(E) Main officer Tower
Financial Park Labuan Jalan
Merdeka 87000 FT Labuan
Malaysia

Dear Sirs

AVAGO TECHNOLOGIES SENSOR IP PTE LTD
(IN MEMBERS' VOLUNTARY LIQUIDATION) ("the Company")
FIRST INTERIM RETURN OF SURPLUS ASSETS IN SPECIE TO CONTRIBUTORY

Please find enclosed the Notice of Return to Contributories in relation to the First Interim Return of Surplus Assets in specie to contributory in this liquidation.

In order to distribute the return, We require the original share certificate that evidence your shareholding. Please send them by hand or courier as appropriate. If you are unable to locate them, please advise me and We will forward the necessary documentation for your completion.

Upon receipt of the dividend, We require the return of the completed "Receipt" section of the Notice of Return to Contributories, acknowledging receipt of the dividend.

Should you have any queries please contact Leslie Wong or Kim Lim of this office.

Yours faithfully
For and on behalf of
Avago Technologies Sensor IP Pte Ltd
(In Members' Voluntary Liquidation)

Lau Chin Huat
Liquidator

Encl.
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NOTICE OF RETURN TO CONTRIBUTORIES

Cheques are cancelled at the expiration of 6 months from the date of issue, and money orders at the expiration of 12 months from the date of issue.

(Please bring this Notice with you.)

AVAGO TECHNOLOGIES SENSOR IP PTE LTD
(IN MEMBERS' VOLUNTARY LIQUIDATION)
(COMPANY REGISTRATION NO. 200602838N)

Return of USD 4,085,004 per share (In Specie).

Asset Details	Value (USD)
Intangibles – Core Technology 1 Megapixel (Refer to Schedule 1 – 7 for details of Intangible Assets)	4,085,004

Avago Technologies Imaging Holding (Labuan) Corporation
Unit Level 13(E) Main officer Tower
Financial Park Labuan Jalan
Merdeka 87000 FT Labuan
Malaysia

22 November 2006

Notice is hereby given that a first interim return in specie of USD 4,085,004 per share has been declared in this matter, and that the same may be received at our office as above on the 23rd day of November, 2006 or on any subsequent Monday to Friday between the hours of 9.00 a.m. to 5.30 p.m.

Upon applying for payment this notice must be produced in its entirety, together with the share certificate. If you do not attend personally you must forward the share certificate and fill up and sign the subjoined form of receipt and authority, when a cheque or money order payable to your order will be delivered in accordance with the authority.

For and on behalf of
Avago Technologies Sensor IP Pte Ltd
(In Members' Voluntary Liquidation)

Lau Chin Huat
Liquidator

Note : The receipt should be signed by the contributory personally, or in the case of joint contributories by each.

SCHEDULE 1

IP ESTATE

Case No	SubCase	Country	App. Title	App. No.	File Date	Pat. No.	Issue Date
10004068	01	US	System & Method For Correcting Erroneous Image Signals From Defective Photosensitive Pixels During Analog-To-Digital Conversion	09/827942	06-Apr-01		
10004068	02	JP	System & Method For Correctng Erroneous Image Signals From Defective Photosensitive Pixels During Analog-to-Digital Conversion	P2002-103188	05-Apr-02		
10004068	03	EP	System & Method For Correctng Erroneous Image Signals From Defective Photosensitive Pixels During Analog-to-Digital Conversion	02003051.6	12-Feb-02		
10004380	01	US	Method For Reducing Coherent Row-Wise And Column-Wise Fixed Pattern Noise In CMOS Image Sensors	09/956722	20-Sep-01	7084912	01-Aug-06
10004380	02	JP	Method For Reducing Coherent Row-Wise And Column-Wise Fixed Pattern Noise In CMOS Image Sensors	P2002-269618	17-Sep-02		
10004380	03	DE	Method For Reducing Coherent Row-	10239889.5	29-Aug-02		

Case No	SubCase	Country	App Title	App. No	File Date	Pat. No	Issue Date
			Wise And Column-Wise Fixed Pattern Noise In CMOS Image Sensors				
10004380	04	TW	Method For Reducing Coherent Row-Wise And Column-Wise Fixed Pattern Noise In CMOS Image Sensors	91111544	30-May-02	191360	21-Nov-03
10010187	01	US	Avalanche Photo Diode Array Biasing Device And Avalanche Photodiode Structure	09/885906	20-Jun-01	6858829	22-Feb-05
10010215	01	US	Sequential Read-Out Method And System That Employs A Single Amplifier For Multiple Columns	09/981957	16-Oct-01		
10010215	02	JP	Sequential Read-Out Method And System That Employs A Single Amplifier For Multiple Columns	P2002-297742	10-Oct-02		
10010215	03	KR	Sequential Read-Out Method And System That Employs A Single Amplifier For Multiple Columns	2002-0063092	16-Oct-02		
10010215	04	EP	Sequential Read-Out Method And System That Employs A Single Amplifier For Multiple Columns	02013937.4	24-Jun-02		
10010697	01	US	Ground Referenced	10/051739	16-Jan-02		

Case No.	SubCase	Country	App. Title	App. No.	Fnc. Date	Pat. No.	Issue Date
			Pixel Reset				
10010719	01	US	Systems And Methods For Reducing Artifacts Caused By Illuminant Flicker	10/629083	28-Jul-03		
10010720	01	US	System And Method For Reducing Trapped Charge Effects In A CMOS Photodetector	10/374279	26-Feb-03	6914230	05-Jul-05
10010800	01	US	Digital Image System And Method For Combining Sensing And Image Processing On Sensor With Two-Color Photo-Detector	10/043464	10-Jan-02		
10011203	01	US	Systems And Methods Of Sampling A Photodetector And Photocell Circuits Incorporating The Same	09/994036	19-Nov-01	6649899	18-Nov-03
10011203	02	JP	Systems And Methods Of Sampling A Photodetector And Photocell Circuits Incorporating The Same	P2002-330162	14-Nov-02		
10011203	03	EP	Systems And Methods Of Sampling A Photodetector And Photocell Circuits Incorporating The Same	02025083.3	14-Nov-02	1313061	15-Mar-06
10011203	04	DE	Systems And Methods Of Sampling A Photodetector And Photocell Circuits			60209846.7-08	15-Mar-06

Case No.	SubCase	Country	App. Title	App. No.	File Date	Pat. No.	Issue Date
			Incorporating The Same				
10011203	05	FR	Systems And Methods Of Sampling A Photodetector And Photocell Circuits Incorporating The Same				
10011203	06	GB	Systems And Methods Of Sampling A Photodetector And Photocell Circuits Incorporating The Same				
10011231	01	US	CMOS Image Sensor Using Gradient Index Chip Scale Lenses	60/403411	13-Aug-02		
10011231	02	US	CMOS Image Sensor Using Gradient Index Chip Scale Lenses	10/260186	27-Sep-02		
10011231	03	JP	CMOS Image Sensor Using Gradient Index Chip Scale Lenses	P2003-293248	13-Aug-03		
10011231	04	EP	CMOS Image Sensor Using Gradient Index Chip Scale Lenses	03007806.7	04-Apr-03		
10020750	01	US	Wafer-Scale Manufacturing Method	10/402721	28-Mar-03	6921676	26-Jul-05
10021001	01	US	Compact Pixel Reset Circuits Using Reversed Current Readout	10/406698	02-Apr-03		
10021001	02	JP	Compact Pixel Reset Circuits Using Reversed Current Readout	P2004-094176	29-Mar-04		
10021001	03	DE	Compact Pixel Reset Circuits Using Reversed Current Readout	10360990.3	23-Dec-03		

Case No.	SubCase	Country	App. Title	App. No.	File Date	Pat. No.	Issue Date
10021001	04	GB	Compact Pixel Reset Circuits Using Reversed Current Readout	0403726.3	19-Feb-04	2400173	02-Aug-06
10030324	01	US	Method Of Utilizing A Top Conductive Layer In Isolating Pixels Of An Image Sensor Array	10/609878	30-Jun-03	6841411	11-Jan-05
10030326	01	US	Active Pixel Sensor Array Sampling System And Method	10/798994	11-Mar-04		
10030327	01	US	Sample And Hold Circuit And Active Pixel Sensor Array Sampling System Utilizing	10/798979	11-Mar-04		
10030328	01	US	Circuit For An Active Pixel Sensor	10/630647	29-Jul-03		
10030328	02	JP	Circuit For An Active Pixel Sensor	P2004-221094	29-Jul-04		
10030328	03	CN	Circuit For An Active Pixel Sensor	200410070347.X	29-Jul-04		
10030328	04	DE	Circuit For An Active Pixel Sensor	1004009627.9	27-Feb-04		
10030328	05	GB	Circuit For An Active Pixel Sensor	0416505.6	23-Jul-04	2404440	19-Apr-06
10030388	01	US	Low Noise Amplifier And Imaging Element Using Same	10/104917	22-Mar-02	6614312	02-Sep-03
10030451	01	US	Low Noise Active Reset Readout For Image Sensors	09/400789	21-Sep-99	6424375	23-Jul-02
10030451	02	EP	Low Noise Active Reset Readout For Image Sensors	00966776.7	20-Sep-00		
10030451	03	JP	Low Noise Active Reset Readout For Image Sensors	P2001-525963	19-Mar-02		

Case No.	SubCase	Country	App. Title	App. No.	File Date	Pat. No.	Issue Date
10030451	04	WO	Low Noise Active Reset Readout For Image Sensors	US00/25848	20-Sep-00		
10030452	01	US	Image Sensor Utilizing A Low FPN High Gain Capacitive Transimpedance Amplifier	09/729751	04-Dec-00	6459078	01-Oct-02
10030452	02	WO	Image Sensor Utilizing A Low FPN High Gain Capacitive Transimpedance Amplifier	US01/43384	21-Nov-01		
10030452	03	EP	Image Sensor Utilizing A Low FPN High Gain Capacitive Transimpedance Amplifier	01999826.9	17-Oct-03		
10030510	01	US	Image Sensor With Active Reset And Randomly Addressable Pixels	10/639227	11-Aug-03		
10030510	02	JP	Image Sensor With Active Reset And Randomly Addressable Pixels	P2004-229640	05-Aug-04		
10030510	03	CN	Image Sensor With Active Reset And Randomly Addressable Pixels	200410049842.2	24-Jun-04		
10030510	04	TW	Image Sensor With Active Reset And Randomly Addressable Pixels	93106174	09-Mar-04		
10030510	05	EP	Image Sensor With Active Reset And Randomly Addressable Pixels	04005865.3	11-Mar-04		
10030510	06	DE	Image Sensor With Active			602004000375.1	08-Feb-06

Case No.	SubCase	Country	App. Title	App. No.	File Date	Pat. No.	Issue Date
			Reset And Randomly Addressable Pixels				
10030510	07	FR	Image Sensor With Active Reset And Randomly Addressable Pixels				
10030510	08	GB	Image Sensor With Active Reset And Randomly Addressable Pixels				
10030510	09	IT	Image Sensor With Active Reset And Randomly Addressable Pixels				
10030510	10	NL	Image Sensor With Active Reset And Randomly Addressable Pixels				
10031548	01	US	Bubble Macro Mode Lens	10/853997	26-May-04	7088917	08-Aug-06
10040500	01	US	Cam Locking Positioning Mechanism	10/870215	17-Jun-04		
10040500	02	TW	Cam-Locking Positioning Mechanism	93136854	30-Nov-04		
10040500	03	WO	CAM-Locking Positioning Mechanism	US05/020786	13-Jun-05		
10040797	01	US	Optical Enhancement Of Integrated Circuit Photodetectors	10/984670	09-Nov-04		
10040797	02	JP	Optical Enhancement Of Integrated Circuit Photodetectors	2005-323267	08-Nov-05		
10040797	03	GB	Optical Enhancement Of Integrated Circuit Photodetectors	0522758.2	08-Nov-05		

Case No	SubCase	Country	App Title	App No	File Date	Pat No	Issue Date
10040797	04	CN	Optical Enhancement Of Integrated Circuit Photodetectors	200510093168.2	19-Aug-05		
10040797	05	TW	Optical Enhancement Of Integrated Circuit Photodetectors	094125286	26-Jul-05		
10041132	01	US	Multi-Lens Imaging Systems And Method	11/016376	15-Dec-04		
10041132	02	TW	Multi-Lens Imaging Systems And Method	94128033	17-Aug-05		
10041132	03	WO	Multi-Lens Imaging Systems And Methods	05/39249	31-Oct-05		
10041176	01	US	Wire-Bondable Sensor Having Intergal Contaminant Shadowing Reducing Structure	11/022116	23-Dec-04		
10041319	01	US	System And Method Of Electronic Image Shifting For Image Stabilization	11/084464	17-Mar-05		
10041372	01	US	Method And Apparatus For Detecting Failed Reset In Pixels Of An Imager	11/048479	31-Jan-05		
10050088	01	US	Electronic Amplifier With Signal Gain Dependent Bias	11/105752	14-Apr-05		
10050181	01	US	System And Method For Reducing Read-Out Noise In A Pixel Array	11/142166	31-May-05		
10050181	02	CN	System And Method For Reducing Read-Out Noise In A Pixel Array	200610099878.0	31-May-06		

Case No	Subcase	Country	App. Title	App. No.	File Date	Pat. No.	Issue Date
10050181	03	GB	System And Method For Reducing Read-Out Noise In A Pixel Array	0610771.8	31-May-06		
10050181	04	JP	System And Method For Reducing Read-Out Noise In A Pixel Array	2006-149390	30-May-06		
10050181	05	KR	System And Method For Reducing Read-Out Noise In A Pixel Array	10-2006-0048902	30-May-06		
10050181	06	TW	System And Method For Reducing Read-Out Noise In A Pixel Array	95117622	18-May-06		
10050182	01	US	** On-Chip Array Test System For Image Sensors				
10051075							
10051623							
10060013	01	US	Pixel With Asymmetric Transfer Gate Channel Doping	11/323693	30-Dec-05		
10060135							
10060136							
10060137							
10060153							
10060155							
10950248	01	US	Low Differential Light Level Photoreceptors	08/591848	25-Jan-96	5769384	23-Jun-98
10950248	02	JP	Low Differential Light Level Photoreceptors	PH08-343742	24-Dec-96		
10950248	03	EP	Low Differential Light Level Photoreceptors	97300190.2	14-Jan-97	0786897	02-Apr-03
10950248	04	EP	Low Light Level Photoreceptors	01128724.0	14-Jan-97		
10950248	05	DE	Low Differential Light Level Photoreceptors	97300190.2	14-Jan-97	0786897	02-Apr-03
10950248	06	GB	Low Differential Light Level Photoreceptors	97300190.2	14-Jan-97	0786897	02-Apr-03
10950248	07	FR	Low Differential Light Level	97300190.2	14-Jan-97	0786897	02-Apr-03

Case No.	Subcase	Country	App. Title	App. No.	File Date	Pat. No.	Issue Date
			Photoreceptors				
10950248	08	JP	Low Differential Light Level Photoreceiver Array	P2003-421086	18-Dec-03		
10970525	01	US	Salient Integration Mode Active Pixel Sensor	08/984457	03-Dec-97	5952686	14-Sep-99
10970525	02	JP	Salient Integration Mode Active Pixel Sensor	PH10-358471	02-Dec-98		
10970525	03	DE	Salient Integration Mode Active Pixel Sensor	19832791.9	21-Jul-98	19832791	29-Sep-05
10970525	04	GB	Salient Integration Mode Active Pixel Sensor	9825855.1	25-Nov-98	2332049	25-Nov-98
10970999	01	US	An Elevated Pin Diode Active Pixel Sensor Which Includes A Patterned Doped Semiconductor Electrode	09/174717	19-Oct-98	6114739	05-Sep-00
10971017	01	US	Apparatus And Method For Testing Integrated Circuit Devices	09/033947	02-Mar-98	6285200	04-Sep-01
10971017	02	JP	Apparatus And Method For Testing Integrated Circuit Devices	PH11-028217	05-Feb-99		
10971017	03	DE	Apparatus And Method For Testing Integrated Circuit Devices	19854697.1	26-Nov-98		
10971017	04	US	Method For Testing Integrated Circuit Devices	09/814497	21-Mar-01	6392423	21-May-02
10971029	02	JP	A Method For Correcting Dark Current in CMOS Imaging Sensors	PH10-226834	11-Aug-1998	P3272675	25-Jan-02

Case No.	SubCase	Country	App. Title	App. No.	File Date	Pat. No.	Issue Date
10971029	03	GB	A Method For Correcting Dark Current in CMOS Imaging Sensors	9816666.3	30-Jul-1998	2328338	30-Jul-98
10971741	01	US	Electronic Shutter For A Low-Differential Light Level Photo-Receiver Cell	09/024092	17-Feb-98	6104020	15-Aug-00
10971741	02	JP	Electronic Shutter For A Low Differential Light Level Photo Receiver Cell	PH11-035430	15-Feb-99		
10971741	03	DE	Electronic Shutter For A Low Differential Light Level Photo Receiver Cell	19842010.2	14-Sep-98	19842010	08-Feb-01
10980159	01	US	Pixel Sensor Column Amplifier Architecture	09/076014	11-May-98	6476864	05-Nov-02
10980159	02	JP	Pixel Sensor Column Amplifier Architecture	PH11-125466	06-May-99		
10980159	03	EP	Pixel Sensor Column Amplifier Architecture	99303595.5	07-May-99	0957630	28-Jul-04
10980159	04	CN	Pixel Sensor Column Amplifier Architecture	99102176.2	10-Feb-99	ZL99102176.	29-Oct-03
10980159	05	SG	Pixel Sensor Column Amplifier Architecture	9900078.8	13-Jan-99	74113	29-Jul-05
10980159	06	TW	Pixel Sensor Column Amplifier Architecture	88100703	18-Jan-99	121925	06-Mar-01
10980159	07	DE	Pixel Sensor Column Amplifier Architecture	99303595.5	07-May-99	69918899.7	28-Jul-04
10980159	08	FR	Pixel Sensor Column Amplifier	99303595.5	07-May-99	0957630	28-Jul-04

Case No	SubCase	Country	App. Title	App. No.	File Date	Pat. No.	Issue Date
			Architecture				
10980159	09	GB	Pixel Sensor Column Amplifier Architecture	99303595.5	07-May-99	0957630	28-Jul-04
10980159	10	IT	Pixel Sensor Column Amplifier Architecture	99303595.5	07-May-99	0957630	28-Jul-04
10980159	11	NL	Pixel Sensor Column Amplifier Architecture	99303595.5	07-May-99	0957630	28-Jul-04
10980210	01	US	Amorphous Silicon Active Pixel Sensor With Rectangular Readout Layer In A Hexagonal Grid Layout	09/243186	02-Feb-99	6252218	26-Jun-01
10980210	02	JP	Amorphous Silicon Active Pixel Sensor With Rectangular Readout Layer In A Hexagonal Grid Layout	P2000-021718	31-Jan-00		
10980210	03	EP	Amorphous Silicon Active Pixel Sensor With Rectangular Readout Layer In A Hexagonal Grid Layout	00300516.2	25-Jan-00		
10981067	01	US	An Elevated Pin Diode Active Pixel Sensor Including A Unique Interconnection Structure	09/174718	19-Oct-98		
10981067	02	JP	An Elevated Pin Diode Active Pixel Sensor Including A Unique Interconnection Structure	PH11-276173	29-Sep-99		
10981067	03	EP	An Elevated Pin Diode Active Pixel Sensor	99307737.9	30-Sep-99		

Case No	Subcase	Country	App. Title	App. No	File Date	Pat. No	Issue Date
			Including A Unique Interconnection Structure				
10981067	04	US	An Elevated Pin Diode Active Pixel Sensor Including A Unique Interconnection Structure	09/174718	19-Oct-98	6018187	25-Jan-00
10981278	01	US	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	09/203789	01-Dec-98	6147846	14-Nov-00
10981278	02	JP	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	PH11-342434	01-Dec-99	P3295661	05-Apr-02
10981278	03	EP	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	99309608.0	30-Nov-99	1006718	06-May-04
10981278	05	KR	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	99.0054177	01-Dec-99	622773	04-Sep-06
10981278	06	MY	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	9902365	10-Jun-99	114854A	31-Jan-03
10981278	07	SG	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	9902919.1	15-Jun-99	73652	31-Aug-04

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10981278	08	TW	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	88110236	17-Jun-99	127135	05-Jun-01
10981278	09	US	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	09/558309	25-Apr-00	6380976	30-Apr-02
10981278	10	DE	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	99309608.0	30-Nov-99	69916980.1	06-May-04
10981278	11	ES	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	99309608.0	30-Nov-99	1006718	06-May-04
10981278	12	FR	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	99309608.0	30-Nov-99	1006718	06-May-04
10981278	13	GB	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	99309608.0	30-Nov-99	1006718	06-May-04
10981278	14	IT	Drive Circuit With Over-Voltage Protection For Use With Pixel Cells And Other Circuits	99309608.0	30-Nov-99	1006718	06-May-04
10981278	15	NL	Drive Circuit With Over-Voltage Protection For Use With Pixel	99309608.0	30-Nov-99	1006718	06-May-04

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			Cells And Other Circuits				
10981378	01	US	A Photo Diode Pixel Sensor Array Having A Guard Ring	09/184426	02-Nov-98	6545711	08-Apr-03
10981378	02	JP	A Photo Diode Pixel Sensor Array Having A Guard Ring	PH11-293029	14-Oct-99		
10981378	03	EP	A Photo Diode Pixel Sensor Array Having A Guard Ring	99308662.8	01-Nov-99		
10981744	01	US	An Elevated Image Sensor Array Which Includes Isolation Between The Image Sensors And A Unique Interconnection	09/195535	18-Nov-98	5936261	10-Aug-99
10981744	02	JP	An Elevated Image Sensor Array Which Includes Isolation Between The Image Sensors And A Unique Interconnection	PH11-327057	17-Nov-99		
10981929	01	US	A Conductive Mesh Bias Connection For An Array Of Elevated Active Pixel Sensors	09/496941	03-Feb-00	6396118	28-May-02
10981929	02	JP	A Conductive Mesh Bias Connection For An Array Of Elevated Active Pixel Sensors	P2001-027942	05-Feb-01		
10981929	03	EP	A Conductive Mesh Bias Connection For An Array Of Elevated Active Pixel Sensors	00122087.0	11-Oct-00		
10981942	01	US	Isolation Of Alpha Silicon Diode Sensors Through Ion	09/290443	13-Apr-99	6586812	01-Jul-03

Case No.	Subcase	Country	App. Title	App. No.	File Date	Pat. No.	Issue Date
			Implantation				
10981942	02	JP	Isolation Of Alpha Silicon Diode Sensors Through Ion Implantation	P2000-106873	07-Apr-00		
10981942	03	EP	Isolation Of Alpha Silicon Diode Sensors Through Ion Implantation	00302987.3	07-Apr-00		
10981942	04	US	Isolation Of Alpha Silicon Diode Sensors Through Ion Implantation	10/349447	22-Jan-03	6759724	06-Jul-04
10981943	01	US	Method And Apparatus For A Dual-Inlaid Damascene Contact To Sensor	09/300812	27-Apr-99	6016011	18-Jan-00
10981943	02	JP	Method And Apparatus For A Dual-Inlaid Damascene Contact To Sensor	P2000-123847	25-Apr-00		
10981943	03	EP	Method And Apparatus For A Dual-Inlaid Damascene Contact To Sensor	00303069.9	12-Apr-00		
10981944	01	US	An Elevated Image Sensor Array Which Includes Isolation Between Uniquely Shaped Image Sensors	09/361342	26-Jul-99	6215164	10-Apr-01
10982402	01	US	Amorphous Semiconductor Open Base Phototransistor Array	09/795608	28-Feb-01	7038242	02-May-06
10982402	02	JP	Amorphous Semiconductor Open Base Phototransistor Array	P2002-039731	18-Feb-02		

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10982402	03	EP	Amorphous Semiconductor Open Base Phototransistor Array	01127030.3	14-Nov-01		
10990159	01	US	A Stacked Multiple Photosensor Structure Including Independent Electrical Connections To Each Photosensor	09/304433	03-May-99	6373117	16-Apr-02
10990159	02	JP	A Stacked Multiple Photosensor Structure Including Independent Electrical Connections To Each Photosensor	P2000-132296	01-May-00		
10990159	03	EP	A Stacked Multiple Photosensor Structure Including Independent Electrical Connections To Each Photosensor	00303670.4	02-May-00		
10990181	01	US	Method For Reducing Leakage Currents Of Active Area Diodes And Source/Drain Diffusions	09/517635	03-Mar-00	6350663	26-Feb-02
10990181	02	JP	Method And Structure For Reducing Leakage Currents Of Active Area Diodes And Source/Drain Diffusions	P2001-056673	01-Mar-01		

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10990181	03	EP	Method And Structure For Reducing Leakage Currents Of Active Area Diodes And Source/Drain Diffusions	01300708.3	26-Jan-01		
10990181	04	US	Method Of Manufacturing A Structure For Reducing Leakage Currents By Providing Isolation Between Adjacent Regions Of An Integrated Circuit	09/863851	22-May-01	6417074	09-Jul-02
10990181	05	US	An Integrated Circuit Device Providing Isolation Between Adjacent Regions	09/863854	22-May-01	6437379	20-Aug-02
10990466	01	US	Digital Imaging Circuit And Method	09/371745	10-Aug-99	6734897	11-May-04
10990466	02	JP	Improved Digital Imaging Circuit And Method	P2000-243361	10-Aug-00	P3481193	10-Oct-03
10990466	03	EP	Improved Digital Imaging Circuit And Method	00306302.1	20-Jul-00		
10990466	04	TW	Improved Digital Imaging Circuit And Method	89109265	15-May-00	148325	01-May-02
10990466	05	KR	Improved Digital Imaging Circuit And Method	2000-0046027	09-Aug-00		
10990466	06	CN	Improved Digital Imaging Circuit And Method	00122651.7	10-Aug-00	ZL00122651.7	06-Sep-06
10990466	07	MY	Improved Digital Imaging Circuit And Method	PI20002512	05-Jun-00	MY-125346-A	31-Jul-06
10990466	08	SG	Improved Digital Imaging Circuit And Method	200004114-5	21-Jul-00	114467	28-Jan-06

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10990684	02	JP	Apparatus And Method For Protecting Integrated Circuit Charge Storage Elements From Photo-Induced Currents	P2001-089146	27-Mar-01		
10990684	03	EP	Apparatus And Method For Protecting Integrated CIrcuit Charge Storage Elements From Photo-induced Currents	01101073.3	18-Jan-01		
10990684	04	US	Apparatus And Method For Protecting Integrated Circuit Charge Storage Elements From Photo-Induced Currents	09/539490	30-Mar-00	6586283	01-Jul-03
10990726	02	US	Image Sensor Packaging With Package Cavity Sealed By The Imaging Optics	09/717185	20-Nov-00	6683298	27-Jan-04
10990736	01	US	A Self-Aligned Metal Electrode Structure For Elevated Sensors	09/326340	07-Jun-99	6384460	07-May-02
10990736	02	US	Fabrication Of Self Aligned Metal Electrode Structure For Elevated Sensors	09/634026	08-Aug-00	6376275	23-Apr-02
10990737	01	US	An Improved Interlayer Dielectric For Passivation Of An Elevated Integrated Circuit Sensor Structure	09/306238	06-May-99	6051867	18-Apr-00
10990737	02	JP	An Improved Interlayer Dielectric For	P2000-127497	27-Apr-00		

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			Passivation Of An Elevated Integrated Circuit Sensor Structure				
10990737	03	EP	An Improved Interlayer Dielectric For Passivation Of An Elevated Integrated Circuit Sensor Structure	00303822.1	08-May-00		
10990995	01	US	Optical Barrier	09/356560	19-Jul-99	6326601	04-Dec-01
10990995	02	JP	Optical Barrier	P2000-207353	07-Jul-00		
10990995	04	DE	Optical Barrier	10033144.0	07-Jul-00		
10990995	06	KR	Optical Barrier	2000.0040915	18-Jul-00		
10991378	01	US	Conductive Guard Rings For Elevated Active Pixel Sensors	09/443960	19-Nov-99	6229191	08-May-01
10991378	02	JP	Conductive Guard Rings For Elevated Active Pixel Sensors	P2000-352745	20-Nov-00		
10991378	03	EP	Conductive Guard Rings For Elevated Active Pixel Sensors	00120762.0	22-Sep-00	EP1102321B1	09-Aug-06
10991779	01	US	Active Pixel Sensor With Enhanced Reset	09/450819	29-Nov-99	6784930	31-Aug-04
10991779	02	JP	Active Pixel Sensor With Enhanced Reset	P2000-362044	29-Nov-00	P3711016	19-Aug-05
10991779	03	EP	Active Pixel Sensor With Enhanced Reset	00120327.2	15-Sep-00		
10991779	04	CN	Active Pixel Sensor With Enhanced Reset	00134496.X	29-Nov-00	00134496.X	16-Mar-05
10991779	05	SG	Active Pixel Sensor With Enhanced Reset	200006406-3	29-Nov-00	93281	31-Aug-04
10991779	06	TW	Active Pixel Sensor With Enhanced Reset	89119241	12-Oct-00	158729	29-Oct-02
10991779	07	KR	Active Pixel Sensor With Enhanced Reset	2000-0070794	27-Nov-00		

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40021132	01	JP	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	P2002-318732	31-Oct-02		
40021132	02	WO	Image Pickup Module Having Zoom For Mobile Device	JP03/13914	29-Oct-03		
40021132	03	CN	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	200380102657.9	30-Apr-05		
40021132	04	KR	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	2005-7007392	28-Apr-05		
40021132	05	JP	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	P2004-548082	04-Apr-05		
70011377	02	US	Semiconductor Packaging Structure	10/649006	26-Aug-03		
70011377	03	JP	Semiconductor Packaging Structure	P2003-384708	14-Nov-03		
70011377	04	GB	Semiconductor Packaging Structure	0326399.3	12-Nov-03	2396963	26-Jul-06

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IP ESTATE

Case No	SubCase	Country	App. Title	App. No.	File Date	Pat. No.	Issue Date
10050144	01	US	Image Sensor With Embedded Optical Element	11/048180	01-Feb-05		
10050144	02	JP	Image Sensor With Embedded Optical Element	2006-21934	31-Jan-06		
10050144	03	CN	Image Sensor With Embedded Optical Element	200610003230.9	27-Jan-06		
10050144	04	GB	Image Sensor With Embedded Optical Element	0601941.8	31-Jan-06		
10050144	05	TW	Image Sensor With Embedded Optical Element	94131819	15-Sep-05		
10971735	01	US	Method And Apparatus For Testing Photo-Receiver Arrays And Associated Read Channels	09/152091	11-Sep-98	6188057	13-Feb-01
10971735	02	DE	Method And Apparatus For Testing Photo-Receiver Arrays And Associated Read Channels	19926129.6	08-Jun-99	19926129	13-Oct-05

SCHEDULE 3

IP ESATE

Case No.	SubCase	Country	Invention Title	File Date	App. No.	Pub. Date	Pub. No.	Issue Date	Pat. No.
10002596	01	US	Tungsten Top Interconnect And Light Shielding Layer For Amorphous Silicon PIN Photodiodes	25-Apr-00	09/558461			24-Sep-02	6455836
10002596	02	JP	Tungsten Top Interconnect And Light Shielding Layer For Amorphous Silicon PIN Photodiodes	23-Apr-01	P2001-124296	31-Jan-02	2002-03347	01-Jul-05	P3694655
10002596	03	JP	Tungsten Top Interconnect And Light Shielding Layer For Amorphous Silicon PIN Photodiodes	26-May-05	P2005-153680				
10003645	01	US	A F2.8 Wide Field Of View, Telecentric Single Lens Design For Digital Imaging Application With Designed Pixel (spot) Size Smaller Than 5 Um Across 110 Degree Full Diagonal Field Of View For CIF Digital Imaging Application.	01-Mar-02	10/087278	04-Sep-03	0165023		
10003645	02	JP	A F2.8 Wide Field Of View, Telecentric Single Lens Design For Digital Imaging Application With Designed Pixel (spot) Size Smaller Than 5 Um Across 110 Degree Full Diagonal Field Of View For CIF Digital Imaging Application.	26-Feb-03	P2003-049158	19-Sep-03	2003262791		

Case No.	SubCase	Country	Invention Title	File Date	Appl. No.	Pub. Date	Pub. No.	Issue Date	Pat. No.
10003645	03	EP	A F2.8 Wide Field Of View, Telecentric Single Lens Design For Digital Imaging Application With Designed Pixel (spot) Size Smaller Than 5 Um Across 110 Degree Full Diagonal Field Of View For CIF Digital Imaging Application.	21-Oct-02	02023492.8	21-Jan-04	1353207		
10003767	01	US	Sensor Array For Correcting A Camera Lens' Curvilinear Distortion	31-Jan-02	10/062695	31-Jul-03	0141433		
10003767	02	JP	Sensor Array For Correcting A Camera Lens' Curvilinear Distortion	16-Dec-02	P2002-363626	15-Aug-03	2003229563		
10003767	03	TW	Sensor Array For Correcting A Camera Lens' Curvilinear Distortion	10-Sep-02	91120601	21-Jun-04	595216	19-Oct-04	205329
10003767	04	EP	Sensor Array For Correcting A Camera Lens' Curvilinear Distortion	25-Sep-02	02021760.0				
10003772	01	US	Method For Fabrication Of CMOS Based Image Sensors Exhibiting Low Noise Performance	27-Oct-00	09/698459			11-Nov-03	6646346
10003772	02	JP	Method For Fabrication Of CMOS Based Image Sensors Exhibiting Low Noise Performance	24-Oct-01	P2001-326119				
10003772	03	DE	Method For Fabrication Of CMOS Based Image Sensors Exhibiting Low Noise Performance	26-Oct-01	10152913.9	29-May-02	10152913		
10003772	04	SG	Method For Fabrication Of CMOS Based Image Sensors Exhibiting Low Noise Performance	19-Oct-01	200106489-8	28-Oct-05	115421	30-Nov-05	115421

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10003772	05	US	Method For Fabrication Of CMOS Based Image Sensors Exhibiting Low Noise Performance	26-Aug-03	10/648735	26-Feb-04	0038453	07-Jun-05	6903017
10003807	01	US	Minimal Hardware To Correct Defective Pixels In An Image Sensor	11-Apr-01	09/834061	17-Oct-02	0149683		
10003807	02	JP	Minimal Hardware To Correct Defective Pixels In An Image Sensor	05-Apr-02	P2002-103422	10-Jan-03	2003-00900		
10003807	03	EP	Minimal Hardware To Correct Defective Pixels In An Image Sensor	24-Jan-02	02001705.9	05-Mar-03	1250000		
10003868	01	US	Simplified Upper Electrode Contact Structure	16-Mar-01	09/810852	19-Sep-02	0130380	18-Nov-03	6649993
10003868	02	US	Simplified Upper Electrode Contact Structure	26-Nov-02	10/306050	08-May-03	0085410	07-Jun-05	6902946
10003971	01	US	3D Amorphous Silicon Pixel Image Lag Correction By Circuit Techniques -I	03-Oct-00	09/678951				
10003971	02	JP	3D Amorphous Silicon Pixel Image Lag Correction By Circuit Techniques -I	03-Oct-01	P2001-307448	24-May-02	2002152596		
10003971	03	EP	3D Amorphous Silicon Pixel Image Lag Correction By Circuit Techniques -I	04-Sep-01	01121187.7	15-May-02	1195987	31-Mar-04	1195987
10003971	04	KR	3D Amorphous Silicon Pixel Image Lag Correction By Circuit Techniques -I	04-Oct-01	2001-0061132				
10003971	05	TW	3D Amorphous Silicon Pixel Image Lag Correction By Circuit Techniques -I	23-Aug-01	90120731	11-Sep-03	552799	30-Jan-04	186863
10003971	06	DE	3D Amorphous Silicon Pixel Image Lag Correction By Circuit Techniques -I	04-Sep-01	01121187.7	15-May-02	1195987	31-Mar-04	60102540.7

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10003971	07	FR	3D Amorphous Silicon Pixel Image Lag Correction By Circuit Techniques -I	04-Sep-01	01121187.7	15-May-02	1195987	31-Mar-04	1195987
10003971	08	GB	3D Amorphous Silicon Pixel Image Lag Correction By Circuit Techniques -I	04-Sep-01	01121187.7	15-May-02	1195987	31-Mar-04	1195987
10003979	01	US	Syntheticallly Extended Dynamic Range For Image Capture	02-May-01	09/847968	07-Nov-02	0163583	02-Aug-05	6924841
10003979	02	JP	Syntheticallly Extended Dynamic Range For Image Capture	25-Apr-02	P2002-123538	24-Jan-03	2003-02244		
10003979	03	EP	Syntheticallly Extended Dynamic Range For Image Capture	06-Mar-02	02005049.8	26-May-04	1255410		
10004181	01	US	Method And Apparatus For Cancelling The Effects Of Noise In An Electronic Signal	02-Nov-99	09/431481			25-Nov-03	6654054
10004182	01	US	Approach For Addressing A Digital Image	14-Feb-00	09/504825			30-Mar-04	6715003
10004183	01	US	Interpolation Of Edge Portions Of A Digital Image	14-Jul-00	09/615963			16-Mar-04	6707937
10004183	02	US	Interpolation Of Edge Portions Of A Digital Image	23-Jan-04	10/763608				
10004192	01	US	Comparative Enhancement Of Captured Images	03-Oct-01	09/970611	03-Apr-03	0063213		
10004193	01	US	Hysteresis In Image Processing Algorithms	22-Mar-01	09/815019			13-Sep-05	6943832
10004193	02	JP	Hysteresis In Image Processing Algorithms	20-Mar-02	P2002-077689	13-Dec-02	2002-35975		
10004193	03	EP	Hysteresis In Image Processing Algorithms	24-Jan-02	02001704.2	25-Sep-02	1244293		
10004405	01	US	Use Of BARC (Bottom Anti-reflecting Coating) In Conjunction With Conventional Color Filter Processing For The Fabrication Of CMOS	23-Aug-01	09/938394	27-Feb-03	0038293	20-Jul-04	6765276

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			Image Sensors						
10004405	02	JP	Use Of BARC (Bottom Anti-reflecting Coating) In Conjunction With Conventional Color Filter Processing For The Fabrication Of CMOS Image Sensors	23-Aug-02	P2002-243001	27-Jun-03	03-179219		
10004405	03	DE	Use Of BARC (Bottom Anti-reflecting Coating) In Conjunction With Conventional Color Filter Processing For The Fabrication Of CMOS Image Sensors	04-Jul-02	10230134.4	27-Mar-03	10230134		
10004405	04	GB	Use Of BARC (Bottom Anti-reflecting Coating) In Conjunction With Conventional Color Filter Processing For The Fabrication Of CMOS Image Sensors	16-Jul-02	0216551.2	21-May-03	2382221	27-Jul-05	2382221
10004405	05	US	Use Of BARC (Bottom Anti-reflecting Coating) In Conjunction With Conventional Color Filter Processing For The Fabrication Of CMOS Image Sensors	26-Apr-02	10/133047	27-Feb-03	0038326		
10004405	06	US	Use Of BARC (Bottom Anti-reflecting Coating) In Conjunction With Conventional Color Filter Processing For The Fabrication Of CMOS	27-Jun-03	10/608644	01-Jan-04	0002178	22-Nov-05	6967073

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			Image Sensors						
10004419	01	US	A Motherboard Socket For A Flex Circuit Based Camera Module	27-Jul-01	09/919562			20-Aug-02	6435882
10004419	02	JP	A Motherboard Socket For A Flex Circuit Based Camera Module	29-Jul-02	P2002-219387	09-May-03	2003133021		
10004419	03	TW	A Motherboard Socket For A Flex Circuit Based Camera Module	26-Feb-02	91103451	01-May-03	530437	04-Sep-03	177672
10004419	04	EP	A Motherboard Socket For A Flex Circuit Based Camera Module	12-Jun-02	02013011.8	29-Jan-03	1280240		
10010157	01	US	Two Color Pixel And Related Mosaicing Patterns For Image Sensor	10-Jan-02	10/043810			20-May-03	6566723
10010203	01	US	A Method Of Preprocessing Images For Wavelet-Based Image Compression That Reduces Color Aliasing Artifacts Arising From Demosaicing	19-Jun-01	09/885389	19-Dec-02	0191854	16-Nov-04	6819801
10010203	02	EP	A Method Of Preprocessing Images For Wavelet-Based Image Compression That Reduces Color Aliasing Artifacts Arising From Demosaicing	15-Feb-02	02003566.3	21-Apr-04	1271928	27-Apr-05	60203850.2
10010203	03	JP	A Method Of Preprocessing Images For Wavelet-Based Image Compression That Reduces Color Aliasing Artifacts Arising From Demosaicing	12-Jun-02	P2002-171114	14-Feb-03	2003-04678		

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10010203	04	DE	A Method Of Preprocessing Images For Wavelet-Based Image Compression That Reduces Color Aliasing Artifacts Arising From Demosaicing	15-Feb-02	02003566.3	21-Apr-04	1271928	27-Apr-05	1271928
10010203	05	FR	A Method Of Preprocessing Images For Wavelet-Based Image Compression That Reduces Color Aliasing Artifacts Arising From Demosaicing	15-Feb-02	02003566.3	21-Apr-04	1271928	27-Apr-05	1271928
10010203	06	GB	A Method Of Preprocessing Images For Wavelet-Based Image Compression That Reduces Color Aliasing Artifacts Arising From Demosaicing	15-Feb-02	02003566.3	21-Apr-04	1271928	27-Apr-05	1271928
10010290	01	US	Bad-Pixel Amelioration (BPA) With Feature Buffer	28-Jun-01	09/895627	02-Jan-03	0001078	18-May-04	6737625
10010290	02	EP	Bad-Pixel Amelioration (BPA) With Feature Buffer	04-Mar-02	02004892.2	28-May-03	1271933		
10010290	03	JP	Bad-Pixel Amelioration (BPA) With Feature Buffer	24-Jun-02	P2002-182265	28-Mar-03	2003-09270		
10010314	01	US	Demosaic Methods For Two-Color Pixel Array	27-Feb-02	10/086125	28-Aug-03	0160157	06-Sep-05	6940061
10010314	02	JP	Demosaic Methods For Two-Color Pixel Array	24-Jan-03	P2003-016619	17-Oct-03	2003298039		
10010314	03	EP	Demosaic Methods For Two-Color Pixel Array	10-Oct-02	02022706.2		1341234		
10010480	01	US	Use Of Optical Navigation Sensor To Control A Camera System For Generating Multi-Image Scenes.	06-Dec-01	10/011155				
10010667	01	US	Digital Image System And Method For Implementing And Adaptive Demosaicing	27-Aug-01	09/940825	20-Mar-03	0052981		

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			Method						
10010667	02	JP	Digital Image System And Method For Implementing And Adaptive Demosaicing Method	27-Aug-02	P2002-247617	06-Jun-03	2003163939		
10010667	03	EP	Digital Image System And Method For Implementing And Adaptive Demosaicing Method	03-May-02	02009959.4	05-Mar-03	1289310		
10010675	01	US	A Method For Placing All Pixels In Array In Parallel For Obtaining Average Scene.....	06-Dec-01	10/008968	12-Jun-03	0107665		
10010747	01	US	A Method For Improving Image Quality In Digital Video And Still Cameras By Adjusting Color Saturation According To The Signal-to-Noise Ratio Of The Raw Sensor Output	10-Aug-01	09/928187	13-Feb-03	0030648	23-Nov-04	6822657
10010747	02	JP	A Method For Improving Image Quality In Digital Video And Still Cameras By Adjusting Color Saturation According To The Signal-to-Noise Ratio Of The Raw Sensor Output	23-Jul-02	P2002-213318	18-Apr-03	2003-11614		
10010747	03	EP	A Method For Improving Image Quality In Digital Video And Still Cameras By Adjusting Color Saturation According To The Signal-to-Noise Ratio Of The Raw Sensor Output	29-Apr-02	02009688.9	02-Mar-05	1286553		
10010788	01	US	Use Of Spatial Subsampling To Generate High Resolution Images With Inexpensive Sensors.	19-Jul-02	10/199376	22-Jan-04	0013319	03-Jan-06	6983080

Case No.	SubCase	Country	Invention Title	File Date	App. No.	Pub. Date	Pub. No.	Issue Date	Pat. No.
10010788	02	JP	Use Of Spatial Subsampling To Generate High Resolution Images With Inexpensive Sensors.	19-Jun-03	P2003-174583	19-Feb-04	2004056789		
10010788	03	GB	Use Of Spatial Subsampling To Generate High Resolution Images With Inexpensive Sensors.	16-Jul-03	0316667.5	28-Jan-04	2391130		
10010802	01	US	A Method For Removing Flicker From Images Collected With CMOS Image Sensors Utilizing Rolling Shutters	10-Aug-01	09/927201	13-Feb-03	0030744		
10010802	02	JP	A Method For Removing Flicker From Images Collected With CMOS Image Sensors Utilizing Rolling Shutters	22-Jul-02	P2002-212267	11-Apr-03	2003-11088		
10010802	03	EP	A Method For Removing Flicker From Images Collected With CMOS Image Sensors Utilizing Rolling Shutters	12-Jun-02	02012997.9	28-Jan-04	1289285		
10011137	01	US	Correlation-based Color Mosaic Interpolation Using A Connectionist Approach	18-Feb-03	10/369356				
10011179	01	US	Combination Digital Camera/FingerPrint Scanner	07-Mar-02	10/094567	11-Sep-03	0169905		
10011280	01	US	Glass Attach To Image Sensor Wafers With Microlenses And Incorporating An Air Gap Using Photo Resist.	26-Jun-02	10/184154	01-Jan-04	0002179	01-Jun-04	6744109
10011280	02	JP	Glass Attach To Image Sensor Wafers With Microlenses And Incorporating An Air Gap Using Photo Resist.	23-May-03	P2003-146149	29-Jan-04	2004031939		

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10011280	03	GB	Glass Attach To Image Sensor Wafers With Microlenses And Incorporating An Air Gap Using Photo Resist.	05-Jun-03	0312936.8	11-Feb-04	2391707		
10011280	04	US	Glass Attach To Image Sensor Wafers With Microlenses And Incorporating An Air Gap Using Photo Resist.	04-Aug-03	10/634594	26-Feb-04	0036069	21-Sep-04	6794218
10020054	01	US	Reference Detector Based Flicker Correction For CMOS Area Image Sensors	14-Mar-03	10/388813				
10020062	01	US	Light Pipe For Cell Phone Camera Module	07-Oct-02	10/266538	08-Apr-04	0066463		
10020139	01	US	A CMOS Image Sensor With Variable Conversion Gain	29-Oct-02	10/283970	29-Apr-04	0079977		
10020144	01	US	Method Of Combining Demosaicing And Bad Pixel Correction In One Step	16-Aug-02	10/222150	19-Feb-04	0032516	21-Mar-06	7015961
10020144	02	JP	Method Of Combining Demosaicing And Bad Pixel Correction In One Step	17-Jul-03	P2003-198261	11-Mar-04	2004080761		
10020144	03	EP	Method Of Combining Demosaicing And Bad Pixel Correction In One Step	30-Apr-03	03009920.4	04-May-05	1389771		
10020200	01	US	Photonic Bandgap Wavelength Converter	23-Jan-03	10/349797	29-Jul-04	0146243	14-Jun-05	6906853
10020201	01	US	Dispersion Curve Shift Optical Switch	06-Dec-02	10/313358	10-Jun-04	0109632	23-Aug-05	6934437
10020223	01	US	Post-Fabrication Electrode Parameter Tuning	27-May-03	10/446037	02-Dec-04	0240789		
10020232	01	US	Sychronous Modulation Of Laser And External Electorabsorptive Modulator	17-Jun-02	10/173056	18-Dec-03	0231677		
10020232	02	EP	Sychronous Modulation Of Laser And External Electorabsorptive Modulator	12-Mar-03	03005630.3	10-Nov-04	1376788	04-Jan-06	1376788

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10020298	01	US	Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor	18-Sep-02	10/246124	18-Mar-04	0051798		
10020298	02	JP	Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor	17-Sep-03	P2003-324172	08-Apr-04	2004112802		
10020298	03	EP	Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor	15-May-03	03010908.6	24-Mar-04	1401196		
10020814	01	US	A Security Camera System With Mult-level Event Detection	15-Dec-04	11/011073				
10020814	02	JP	A Security Camera System With Mult-level Event Detection	14-Dec-05	2005360643				
10020814	03	DE	A Security Camera System With Mult-level Event Detection	21-Sep-05	102005045077.6				
10020814	04	GB	A Security Camera System With Mult-level Event Detection	03-Nov-05	0522504.0				
10020834	01	US	Master And Slave Mode CMOS Imagers For The Synchronous Capture Of Stereo Pairs	09-Oct-03	10/682708	14-Apr-05	0077450		
10020853	01	US	A Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor Using Color Ratio's	09-Dec-04	11/007979				
10020853	02	JP	A Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor Using Color Ratio's	02-Dec-05					
10020853	03	CN	A Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor Using Color Ratio's	20-Sep-05	200510103268.9				

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10020853	04	GB	A Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor Using Color Ratio's	14-Nov-05	0523167.5				
10020853	05	KR	A Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor Using Color Ratio's	08-Dec-05	2005-0119772				
10020853	06	TW	A Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor Using Color Ratio's	25-Jul-05	94125108				
10020884	01	US	Image Sensor Focus Detect For Assembly Of Fixed Focus Cameras	16-Nov-04	10/989615				
10020884	02	JP	Image Sensor Focus Detect For Assembly Of Fixed Focus Cameras	09-Nov-06	2005-325097				
10020884	03	GB	Image Sensor Focus Detect For Assembly Of Fixed Focus Cameras	16-Nov-05	0523368.9				
10020990	01	US	Active Reset KT/C Noise Suppression Using A 4T Pixel For CMOS Active Pixel Sensors	14-Apr-03	10/413892				
10020990	02	JP	Active Reset KT/C Noise Suppression Using A 4T Pixel For CMOS Active Pixel Sensors	09-Apr-04	P2004-115460	11-Nov-04	2004320760		
10020990	03	DE	Active Reset KT/C Noise Suppression Using A 4T Pixel For CMOS Active Pixel Sensors	18-Nov-03	10355589.7	11-Nov-04	10355589		
10020990	04	GB	Active Reset KT/C Noise Suppression Using A 4T Pixel For CMOS Active Pixel Sensors	15-Mar-04	0405759.2	20-Oct-04	2400767		

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10021000	01	US	Pixel Noise And Dark Current Reduction Technique For Low Light Scenes	30-Apr-03	10/427318				
10021000	02	JP	Pixel Noise And Dark Current Reduction Technique For Low Light Scenes	26-Apr-04	P2004-129330	25-Nov-04	2004336747		
10021000	03	GB	Pixel Noise And Dark Current Reduction Technique For Low Light Scenes	19-Mar-04	0406232.9	03-Nov-04	2401274		
10021000	04	DE	Pixel Noise And Dark Current Reduction Technique For Low Light Scenes	08-Dec-03	10357241.4	02-Dec-04	10357241		
10021030	01	US	Fibre Focus With Pres-Set And Heat Or Laser Adjustor Optical Module Assembly	08-Jul-03	10/615622	13-Jan-05	0007485		
10021083	01	US	Efficient Event Detection Method For Nighttime Security Camera Operation	24-Nov-03	10/720411	26-May-05	0111696		
10021136	01	US	Alternating Biasing Method For Image Lag Reduction	08-Jul-03	10/615522	13-Jan-05	0007473		
10021207	01	US	Digital Correlated Double Sampling -1 Analog Channel For Exposure Frame And 1 For Sampling Frame.....	29-Aug-03	10/651597	03-Mar-05	0046715		
10030003	01	US	Single Module Houses Dual Camera System Where Two Single Camera Module are Optimal Or Desireable	29-Aug-03	10/651599	03-Mar-05	0046740		
10030076	01	US	Fast Auto Exposure/ Auto White Balance Convergence In A CMOS Camera System	07-Feb-03	10/360188	12-Aug-04	0155977		
10030133	01	US	Method For Assembly And Focus Of The Lens Enclosure To The Image Sensor housing For CMOS Mobile Image Modules	12-Aug-03	10/639799	17-Feb-05	0036778		
10030202	01	US	Solder-able Camera Module Packaging For Digital Image	14-Oct-03	10/684619	14-Apr-05	0077458		

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			Applications						
10030330	01	US	Shape Reconstruction From Noisy Gradients Using A Multi-Resolution Bayes Method	20-Mar-03	10/392948	23-Sep-04	0184648		
10030330	02	EP	Shape Reconstruction From Noisy Gradients Using A Multi-Resolution Bayes Method	03-Nov-03	03025303.3		1462992		
10030447	01	US	Low Power Camera With Visible Motion Sensing	25-Apr-03	10/423523				
10030447	02	JP	Low Power Camera With Visible Motion Sensing	21-Apr-04	P2004-125704	18-Nov-04	2004328736		
10030447	03	DE	Low Power Camera With Visible Motion Sensing	15-Jan-04	102004002237.2	25-Nov-04	102004002237		
10030447	04	GB	Low Power Camera With Visible Motion Sensing	17-Mar-04	0406035.6	27-Oct-04	2400999		
10030453	01	US	Anti-Blooming Circuit For CMOS Image Sensors	17-Aug-01	09/931983	20-Feb-03	003433	14-Oct-03	6633028
10030453	02	WO	Anti-Blooming Circuit For CMOS Image Sensors	30-Jul-02	US02/24516				
10030508	01	US	Image Sensing Array With Pixel Darkfill Current Compensation	19-Dec-03	10/742070	23-Jun-05	0134715		
10030850	01	US	Ambient Light Detection Feature In Camera Modules	30-Mar-04	10/814072	06-Oct-05	0218303		
10031102	01	US	Photo Array Layout For Monitoring Image Statistics	09-Jan-04	10/754434	14-Jul-05	0151864		
10031102	02	JP	Photo Array Layout For Monitoring Image Statistics	06-Jan-05	P2005-001363	21-Jul-05	2005197747		
10031102	03	GB	Photo Array Layout For Monitoring Image Statistics	21-Dec-04	0427953.5	13-Jul-05	2409944		
10031102	04	TW	Photo Array Layout For Monitoring Image Statistics	10-Sep-04	93127427	16-Jul-05	200524149		
10031131	01	US	Hybrid Filter Approach To Background Removal For Wavelength-coded Imaging	18-Dec-03	10/739831	23-Jun-05	0133693		

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10031131	02	TW	Hybrid Filter Approach To Background Removal For Wavelength-coded Imaging	06-Jul-04	93120224	01-Jul-05	200521480		
10031131	03	WO	Hybrid Filter Approach To Background Removal For Wavelength-coded Imaging	14-Dec-04	US04/042279				
10031183	01	US	Use Of The Vibrator Motor In A Cell Phone To Provide Automatic Re-Focus Of The Lens For Macro Mode	05-Aug-04	10/912952	09-Feb-06	0029379		
10031280	01	US	Dust Trap Structure Of Camera Module Housing	04-May-04	10/838281	10-Nov-05	0248684		
10031281	01	US	Micro Machined Piezoelectric Motor For Lens Focus Mechanism	29-Jun-04	10/879610	29-Dec-05	0285479		
10031312	01	US	Cell Phone Image Magnifier Using Built In Camera And Display	05-Apr-04	10/818405				
10031312	02	TW	Cell Phone Image Magnifier Using Built In Camera And Display	18-Nov-04	93135419	16-Oct-05	200534681		
10031312	03	WO	Cell Phone Image Magnifier Using Built In Camera And Display	30-Mar-05	US05/010683	27-Oct-05	WO2005/101815		
10031549	01	US	Multiple Image Autofocus	28-May-04	10/857050				
10031567	01	US	Multiple Lens Digital Camera	18-Dec-03	10/741774	23-Jun-05	0134698		
10031567	02	WO	Multiple Lens Digital Camera	14-Dec-04	US04/041834				
10031572	01	US	Parallel Imaging Optical System For A Cell Phone Camera Sensor	18-Dec-03	10/740935	23-Jun-05	0134712		
10031572	02	WO	Parallel Imaging Optical System For A Cell Phone Camera Sensor	14-Dec-04	US04/41841	07-Jul-05	WO 2005/060637		
10040005	01	US	Integrated Imaging Sensor Package With Polymerized	21-May-04	10/851012	24-Nov-05	0258351		

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			Infrared Filter Incorporated						
10040005	02	JP	Integrated Imaging Sensor Package With Polymerized Infrared Filter Incorporated	18-May-05	P2005-145135				
10040005	03	CN	Integrated Imaging Sensor Package With Polymerized Infrared Filter Incorporated	04-Feb-05	200510007215.7	23-Nov-05	1700476A		
10040005	04	DE	Integrated Imaging Sensor Package With Polymerized Infrared Filter Incorporated	07-Feb-05	102005005590.7	15-Dec-05	102005005590.7		
10040005	05	IL	Integrated Imaging Sensor Package With Polymerized Infrared Filter Incorporated	30-Dec-04	166071				
10040005	06	TW	Integrated Imaging Sensor Package With Polymerized Infrared Filter Incorporated	31-Dec-04	093141826	01-Jan-06	200600843		
10040022	01	US	Embedded Digital Watermark Image Sensor	07-May-04	10/841854	10-Nov-05	0248668		
10040048	01	US	Color And White Balancing Using A Plausible Illuminant Constraint	08-Feb-05	11/054095				
10040048	02	JP	Color And White Balancing Using A Plausible Illuminant Constraint	08-Feb-06					
10040048	03	GB	Color And White Balancing Using A Plausible Illuminant Constraint	11-Jan-06	0600521.9				
10040064	01	US	Simplified Method For Calculating Exposure And White Balance In A Camera Using Flash	05-Mar-04	10/794961	08-Sep-05	0195319		
10040102	01	US	Cell Phone Camera With Electronic Zoom Capability	25-Aug-04	10/927328				
10040102	02	TW	Cell Phone Camera With Electronic Zoom Capability	04-Feb-05	94103693				
10040102	03	WO	Cell Phone Camera With Electronic Zoom Capability	10-Aug-05	US05/028405				

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10040183	01	US	Integrated Imaging Sensor Package With Polymerized Infrared Filter Incorporated Into The Microlens	24-Aug-04	10/926152				
10040183	02	JP	Integrated Imaging Sensor Package With Polymerized Infrared Filter Incorporated Into The Microlens	23-Aug-05	P2005-240926				
10040183	03	DE	Integrated Imaging Sensor Package With Polymerized Infrared Filter Incorporated Into The Microlens	11-Apr-05	102005016564.8				
10040183	04	TW	Integrated Imaging Sensor Package With Polymerized Infrared Filter Incorporated Into The Microlens	21-Feb-05	94105016				
10040212	01	US	Pixel Having Photoconductive Layers	01-Dec-05	11/291257				
10040422	01	US	A Method For Reducing 1/f Noise In CMOS Image Sensors	10-May-04	10/842303	10-Nov-05	0248673		
10040422	02	JP	A Method For Reducing 1/f Noise In CMOS Image Sensors	19-Apr-05	P2005-121341				
10040422	03	CN	A Method For Reducing 1/f Noise In CMOS Image Sensors	21-Jan-05	200510002432.7	16-Nov-05	1697492A		
10040422	04	DE	A Method For Reducing 1/f Noise In CMOS Image Sensors	17-Feb-05	102005007330.1	08-Dec-05	102005007330		
10040422	05	GB	A Method For Reducing 1/f Noise In CMOS Image Sensors	26-Apr-05	0508457.9	16-Nov-05	2414132		
10040422	06	TW	A Method For Reducing 1/f Noise In CMOS Image Sensors	30-Dec-04	093141403				
10040564	01	US	Wireless Digital Camera Which Saves Pictures On A	28-Feb-05	11/068152				

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			Host System Through Existing Cellular Phone Services						
10040579	01	US	FIFO Image Storage	23-Sep-04	10/948505				
10040634	01	US	Circuit To Provide Increased Reset Voltage To CMOS Image Sensor Pixel Array With No Row To Row Offset, Reduced Parasitic Capacitance And Small Area Using Hierarchical Switching	03-Nov-04	10/981011				
10040659	01	US	Improve Color Filter Pattern For High Resolution Imaging Arrays	09-Dec-04	11/008451				
10040660	01	US	A Camera With Scalable Resolution And Bit Depth Utilizing An Internal Buffer Memory	09-Aug-04	10/915591	09-Feb-06	0028564		
10040660	02	JP	A Camera With Scalable Resolution And Bit Depth Utilizing An Internal Buffer Memory	09-Aug-05	P2005-231404				
10040660	03	GB	A Camera With Scalable Resolution And Bit Depth Utilizing An Internal Buffer Memory	14-Jul-05	0514485.2				
10040772	01	US	MPG4 Type Compression In Meter Reading	07-Jan-05	11/031747				
10040798	01	US	Advanced Interconnect Scheme For Low Leakage Performance (mean And Variability) In Intergrated Circuits	09-Nov-04	10/984701				
10040798	02	JP	Advanced Interconnect Scheme For Low Leakage Performance (mean And Variability) In Intergrated Circuits	08-Nov-05	2005-323272				

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10040798	03	GB	Advanced Interconnect Scheme For Low Leakage Performance (mean And Variability) In Intergrated Circuits	08-Nov-05	0522760.8				
10040798	04	CN	Advanced Interconnect Scheme For Low Leakage Performance (mean And Variability) In Intergrated Circuits	19-Aug-05	200510093165.9				
10040798	05	TW	Advanced Interconnect Scheme For Low Leakage Performance (mean And Variability) In Intergrated Circuits	25-Jul-05	094125149				
10040810	01	US	Multi-Color Fly's Eye Camera	27-Oct-04	10/974077				
10040813	01	US	Method Of Bonding A Fixed-Focus Camera Lens	09-Sep-04	10/936900				
10040840	01	US	Reduced LUT By Using Row Activity	10-Sep-04	10/938098				
10040841	01	US	Imaging Algorithim Performance Acceleration Through Efficient Use Of Processor Cache	20-Sep-04	10/945735				
10040842	01	US	Imaging Algorithm Through Use Of Custom CPU Pixel Windows Spanning Multiple Rows	16-Sep-04	10/941859				
10040887	01	US	Difference Image Correlation For Navigation Vector Extraction	16-Dec-04	11/014482				
10040887	02	TW	Difference Image Correlation For Navigation Vector Extraction	17-Aug-05	94128034				
10040887	03	WO	Difference Image Correlation For Navigation Vector Extraction	31-Oct-05	05/39493				

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10040908	01	US	Auto Focus Mechanism Using Bubble Technology	03-Nov-04	10/981272				
10040910	01	US	Image Mapping Technique To Reduce Artifacts In Wavelength-Encoded Imaging	30-Jun-04	10/882038	05-Jan-06	0002625		
10040910	02	TW	Image Mapping Technique To Reduce Artifacts In Wavelength-Encoded Imaging	30-Nov-04	93136860				
10040910	03	WO	Image Mapping Technique To Reduce Artifacts In Wavelength-Encoded Imaging	29-Jun-05	US05/23386	12-Jan-06	WO 2006/004960		
10040974	01	US	A Method For Controlling The Size Of JPEG Encoding On The Fly	12-Nov-04	10/987260				
10040974	02	JP	A Method For Controlling The Size Of JPEG Encoding On The Fly	09-Nov-05	2005-324565				
10040974	03	GB	A Method For Controlling The Size Of JPEG Encoding On The Fly	24-Oct-05	0521658.5				
10040974	04	CN	A Method For Controlling The Size Of JPEG Encoding On The Fly	19-Aug-05	200510093163.X				
10040974	05	TW	A Method For Controlling The Size Of JPEG Encoding On The Fly	25-Jul-05	094125148				
10041010	01	US	Distributed MTF Camera Lens	19-Nov-04	10/994077				
10041144	01	US	Centralized Collection And Electronic Distribution Of Image Sensor Characterization Data	25-May-05	11/136941				
10041308	01	US	Automaticm Passive Detection Fever In People Or Livestock	25-Feb-05	11/067451				
10041308	02	JP	Automaticm Passive Detection Fever In People Or Livestock	27-Feb-06					
10041308	03	CN	Automaticm Passive Detection Fever In People Or Livestock	21-Dec-05	200510132366.5				

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10041308	05	TW	Automaticm Passive Detection Fever In People Or Livestock	30-Dec-05	94147502				
10041373	01	US	Very Low Power Motion Detection Linked With Camera And Cell Phone Capability	14-Mar-05	11/079401				
10041536	01	US	System And Method Of Lens Placement	15-Nov-05	11/273990				
10050008	01	US	Black Level Correction Using An Anti-Vignetting Style Algorithim	27-May-05	11/140650				
10050033	01	US	Method Of Crosstalk Reduction In CMOS Image Sensors	04-Aug-05	11/197004				
10050054	01	US	Latching Mechanism Of Lens System	02-Jun-05	11/143989				
10050236	01	US	Correcting Photographs Obtained By A Hanheld Device	10-Nov-05	11/272400				
10050296	01	US	Pixel With Spatially Varying Metal Route Position	06-May-05	11/123782				
10050430	01	US	Scaling An Image With RET Hardware/firmware	20-Oct-05	11/254430				
10050551	01	US	Method And Apparatus For A Self-Calibrating And/or Self-Testing Digital Imaging Device	30-Sep-05	11/239851				
10050828	01	US	Image Capturing Device With Focus Signal Feedback	14-Feb-06	11/353365				
10050941	01	US	Asymmetric Channel Doping Of Transfer Gate In A 4-Transistor, Buried, Gated CMOS Image Sensor	03-Jun-05	11/144304				
10050993	01	US	CMOS Pixel Array As One Functional Block Inside The Programmable Gate Array Like RAM, ROM, PLL, Various Standard IO Interfaces	15-Oct-05	11/250323				

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10051010	01	US	A Novel Approach For A Low Cost Multi Camera System	29-Sep-05	11/238461				
10051022	01	US	Algorithim Shifting Of CMOS Sensing Elements To Optimize Performance	24-Oct-05	11/256743				
10051108	01	US	Vertical Tri-Color Sensor	28-Feb-06					
10051177	01	US	Image Blur Reduction Or Image Stabilization Using A Single Camera Array	21-Sep-05	11/232319				
1093110	01	US	Video DAC Risetime Control And Supply Noise Suppression	21-Mar-94	08/210981			19-Sep-95	5452014
1093110	02	JP	Video DAC Risetime Control And Supply Noise Suppression	17-Mar-95	PH07-086199			19-Dec-03	P3504374
1094374	01	US	Binary Image Scaling By Piecewise Pilynomial Interpolation	05-Aug-94	08/286561			06-May-97	5627953
1094374	02	JP	Binary Image Scaling By Piecewise Pilynomial Interpolation	05-Jul-95	PH07-169393				
1094374	03	EP	Binary Image Scaling By Piecewise Pilynomial Interpolation	20-Jun-95	95304268.6	07-Feb-96	0696017	16-Aug-01	0696017
1094374	04	DE	Binary Image Scaling By Piecewise Pilynomial Interpolation	20-Jun-95	95304268.6	07-Feb-96	0696017	16-Aug-01	0696017
1094374	05	FR	Binary Image Scaling By Piecewise Pilynomial Interpolation	20-Jun-95	95304268.6	07-Feb-96	0696017	16-Aug-01	0696017
1094374	06	GB	Binary Image Scaling By Piecewise Pilynomial Interpolation	20-Jun-95	95304268.6	07-Feb-96	0696017	16-Aug-01	0696017
1094374	07	IT	Binary Image Scaling By Piecewise Pilynomial Interpolation	20-Jun-95	95304268.6	07-Feb-96	0696017	16-Aug-01	0696017
10950448	01	US	Parallel Analog Signal Processing For Removal Of Low Spatial Frequency Image	25-Jan-96	08/591076			30-Dec-97	5703353

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			Components						
10950448	02	JP	Parallel Analog Signal Processing For Removal Of Low Spatial Frequency Image Components	07-Jan-97	PH09-000828	22-May-98	10-136149		
10950448	03	EP	Parallel Analog Signal Processing For Removal Of Low Spatial Frequency Image Components	13-Jan-97	97300163.9	14-Oct-98	0786899	25-Aug-04	0786899
10950448	04	US	Parallel Analog Signal Processing For Removal Of Low Spatial Frequency Image Components	05-Sep-97	08/924161			04-May-99	5900625
10950448	05	EP	Parallel Analog Signal Processing For Removal Of Low Spatial Frequency Image Components	13-Jan-97	01117841.5	23-Jan-02	1175090		
10950448	06	JP	Parallel Analog Signal Processing For Removal Of Low Spatial Frequency Image Components	26-Dec-03	P2003-434480	15-Apr-04	2004120801		
10950448	07	DE	Parallel Analog Signal Processing For Removal Of Low Spatial Frequency Image Components	13-Jan-97	97300163.9	14-Oct-98	0786899	25-Aug-04	69730367.5
10950448	08	FR	Parallel Analog Signal Processing For Removal Of Low Spatial Frequency Image Components	13-Jan-97	97300163.9	14-Oct-98	0786899	25-Aug-04	0786899
10950448	09	GB	Parallel Analog Signal Processing For Removal Of Low Spatial Frequency Image Components	13-Jan-97	97300163.9	14-Oct-98	0786899	25-Aug-04	0786899
10970463	01	US	High Quality Low Cost Frame Accurate Video Capture System	14-May-98	09/079137			11-Sep-01	6289163

Case No	Sub Case	Country	Invention Title	File Date	App. No.	Pub. Date	Pub. No.	Issue Date	Pat. No.
10970699	01	US	A Current-Mode Gain Assisted Differential To Single-Ended Converting Analog Signal Buffer Design	02-Feb-98	09/018022			13-Mar-01	6201572
10970699	02	JP	A Current-Mode Gain Assisted Differential To Single-Ended Converting Analog Signal Buffer Design	26-Jan-99	PH11-016418				
10970699	03	EP	A Current-Mode Gain Assisted Differential To Single-Ended Converting Analog Signal Buffer Design	19-Jan-99	99300352.4	29-Nov-00	0933928	23-Mar-05	0933928
10970699	04	DE	A Current-Mode Gain Assisted Differential To Single-Ended Converting Analog Signal Buffer Design	19-Jan-99	99300352.4	29-Nov-00	0933928	23-Mar-05	69924312.2
10970699	05	FR	A Current-Mode Gain Assisted Differential To Single-Ended Converting Analog Signal Buffer Design	19-Jan-99	99300352.4	29-Nov-00	0933928	23-Mar-05	0933928
10970699	06	GB	A Current-Mode Gain Assisted Differential To Single-Ended Converting Analog Signal Buffer Design	19-Jan-99	99300352.4	29-Nov-00	0933928	23-Mar-05	0933928
10970902	01	US	Integrated Circuit Packaging For Optoelectronic Devices Like Displays, Cameras, Scanners, Etc.	25-Aug-98	09/139692			14-Mar-00	6037641
10970967	01	US	Register Pixel For Liquid Crystal Displays	25-Feb-98	09/030245			05-Sep-00	6115019
10970969	01	US	Electronically Gain-Adjustable Active Pixel Design For Extended High Dynamic Range And Contrast Control	03-Nov-97	08/962628			12-Jun-01	6246436
10970969	02	JP	Electronically Gain-Adjustable Active Pixel Design For Extended High Dynamic Range And Contrast Control	02-Nov-98	PH10-311750				

Case No.	SubCase	Country	Invention Title	File Date	App. No.	Pub. Date	Pub. No.	Issue Date	Pat. No.
10970969	03	DE	Electronically Gain-Adjustable Active Pixel Design For Extended High Dynamic Range And Contrast Control	11-Aug-98	19836356.7	12-May-99	19836356	22-Feb-01	1836356
10970969	04	GB	Electronically Gain-Adjustable Active Pixel Design For Extended High Dynamic Range And Contrast Control	28-Oct-98	9823626.8	05-May-99	2330905	28-Oct-98	2330905
10970982	01	US	Integrated Memory-ADC-Image Sensor	08-Apr-98	09/057429			22-Apr-03	6552745
10970982	02	JP	Integrated Memory-ADC-Image Sensor	07-Apr-99	PH11-100357				
10970982	03	DE	Integrated Memory-ADC-Image Sensor	15-Dec-98	19857838.5				
10970982	04	GB	Integrated Memory-ADC-Image Sensor	06-Apr-99	9907847.9	20-Oct-99	2336497	13-Nov-02	2336497
10971120	01	US	Integrated Micro Display System	18-Jun-98	09/099918			12-Jun-01	6246386
10971120	02	JP	Integrated Micro Display System	09-Jun-99	PH11-162062				
10971120	03	EP	Integrated Micro Display System	17-May-99	99303834.8	22-Dec-99	0965976		
10971863	01	US	Real Time Light Activated Electronic Shutter For 'On-The-Fly' Calibration Of InkJet Print Heads	19-May-98	09/080996			19-Oct-99	5969399
10971863	02	JP	Real Time Light Activated Electronic Shutter For 'On-The-Fly' Calibration Of InkJet Print Heads	13-May-99	PH11-132736				
10971863	03	EP	Real Time Light Activated Electronic Shutter For 'On-The-Fly' Calibration Of InkJet Print Heads	27-Apr-99	99303245.7	08-Aug-01	0959502		
10980209	01	US	CMOS APS, In-Pixel Local Exposure Control	18-Nov-98	09/195588			17-Jun-03	6580454
10980209	02	JP	CMOS APS, In-Pixel Local Exposure Control	18-Nov-99	PH11-327857				

Case No.	SubCase	Country	Invention Title	File Date	App No.	Pub. Date	Pub. No.	Issue Date	Pat. No.
10980209	03	EP	CMOS APS, In-Pixel Local Exposure Control	17-Nov-99	99309147.9	24-May-00	1003330		
10980555	01	US	A Photo Sensor With 3-Color Detection	01-Dec-98	09/203445			29-Aug-00	6111300
10980555	02	JP	A Photo Sensor With 3-Color Detection	01-Dec-99	PH11-341686				
10980555	03	EP	A Photo Sensor With 3-Color Detection	22-Nov-99	99309267.5	07-Jun-00	1006585	04-May-05	1006585
10980555	04	DE	A Photo Sensor With 3-Color Detection	22-Nov-99	99309267.5	07-Jun-00	1006585	04-May-05	69925091.9
10980555	05	FR	A Photo Sensor With 3-Color Detection	22-Nov-99	99309267.5	07-Jun-00	1006585	04-May-05	1006585
10980555	06	GB	A Photo Sensor With 3-Color Detection	22-Nov-99	99309267.5	07-Jun-00	1006585	04-May-05	1006585
10981935	01	US	CMOS Imaging Device With Embedded Non-Volatile Ferroelectric RAM	18-Nov-99	09/442650	06-Jun-02	0067417	04-Mar-03	6529240
10982203	01	US	A Test Efficient Method Of Classifying Image Quality Of An Optical Sensor Using Three Categories Of Pixels	30-Oct-98	09/183143			15-Jul-03	6593961
10982203	02	JP	A Test Efficient Method Of Classifying Image Quality Of An Optical Sensor Using Three Categories Of Pixels	26-Oct-99	PH11-304241				
10982203	03	EP	A Test Efficient Method Of Classifying Image Quality Of An Optical Sensor Using Three Categories Of Pixels	05-Aug-99	99115492.3	25-Jun-03	0997845	05-Jan-05	0997845
10982203	04	DE	A Test Efficient Method Of Classifying Image Quality Of An Optical Sensor Using Three Categories Of Pixels	05-Aug-99	99115492.3	25-Jun-03	0997845	05-Jan-05	69923048.9
10982203	05	FR	A Test Efficient Method Of Classifying Image Quality Of An Optical Sensor Using Three Categories Of Pixels	05-Aug-99	99115492.3	25-Jun-03	0997845	05-Jan-05	0997845

Case No	SubCase	Country	Invention Title	File Date	App. No	Pub. Date	Pub. No	Issue Date	Pat. No
10982203	06	GB	A Test Efficient Method Of Classifying Image Quality Of An Optical Sensor Using Three Categories Of Pixels	05-Aug-99	99115492.3	25-Jun-03	0997845	05-Jan-05	0997845
10982389	01	US	Extended Dynamic Range Scheme For CMOS Image Sensor Pixel	16-Feb-01	09/788044	22-Aug-02	0113887		
10982389	02	EP	Extended Dynamic Range Scheme For CMOS Image Sensor Pixel	21-Nov-01	01127760.5	21-Aug-02	1233612		
10982389	03	JP	Extended Dynamic Range Scheme For CMOS Image Sensor Pixel	15-Feb-02	P2002-037631	20-Sep-02	2002-27170		
10991033	01	US	Fabrication Of Improved Projection Screen	04-Aug-99	09/368485			15-Jul-03	6594079
10991033	02	JP	Fabrication Of Improved Projection Screen	21-Jul-00	P2000-220081				
10991033	03	EP	Fabrication Of Improved Projection Screen	30-Jun-00	00113903.9	07-Feb-01	1074882		
10991476	01	US	Gamma Correction For FLC Displays	31-Oct-00	09/703418			02-Mar-04	6700561
10991727	01	US	Optical Package And Functional Integration	25-Feb-00	09/513797			28-May-02	6396116
40040695	01	JP	Auto Focus Assistance Module For Mobile And Digital Camera Application	20-Oct-04	P2004-305977				
50050810	01	IN	Method For Faster Access To Color Table Data Used In Colorspace Conversation	29-Nov-05	3202/DEL/2005				
70010903	01	US	Leadless Leadframe Based Insert Molded Package	24-Feb-03	10/372908	26-Aug-04	0165356		
70010903	02	JP	Leadless Leadframe Based Insert Molded Package	06-Feb-04	P2004-030647	16-Sep-04	2004260155		
70010903	03	DE	Leadless Leadframe Based Insert Molded Package	18-Jul-03	10346292.9	09-Sep-04	10346292		
70011380	01	US	CMOS Camera With Defocus Correction Matrix	05-Dec-02	10/313598	10-Jun-04	0109080		
70011380	02	JP	CMOS Camera With Defocus	05-Dec-	P2003-407649	02-Jul-04	2004187307		

Case No.	SubCase	Country	Invention Title	File Date	App. No.	Pub. Date	Pub. No.	Issue Date	Pat. No.
			Correction Matrix	03					
70020998	01	US	Using Spur Gear Concept To Focus Camera Modules (geard Lens Barrel And Driver Wheel)	03-Jan-03	10/336358	08-Jul-04	0130656		
70020998	02	JP	Using Spur Gear Concept To Focus Camera Modules (geard Lens Barrel And Driver Wheel)	18-Dec-03	P2003-421034	29-Jul-04	2004212982		
70020998	03	DE	Using Spur Gear Concept To Focus Camera Modules (geard Lens Barrel And Driver Wheel)	02-Jan-04	1004001029.3	05-Aug-04	1004001029		
70020998	04	GB	Using Spur Gear Concept To Focus Camera Modules (geard Lens Barrel And Driver Wheel)	22-Dec-03	0329633.2	21-Jul-04	2397394		
70030430	01	US	Flexible Lens Barrel For Barrel With/without Cover Glass/plastic & With/without Flange	04-Jun-03	10/455283	09-Dec-04	0246370		
70031333	01	US	Pre-Flash The Optical Sensor Pixel Array For Smoother And Consistent Cursor Performance	09-Jan-04	10/754950	14-Jul-05	0151721		
70040622	01	US	Mechanism For Variable Focus Camera	10-Sep-04	10/939259				
70040622	02	CN	Mechanism For Variable Focus Camera	21-Jul-05	200510085156.5				
70040622	03	JP	Mechanism For Variable Focus Camera	02-Sep-05	P2005-254588				
70040640	01	US	Method For Elimination The Light Penetration For Image Capture Devices	03-Sep-04	10/934709				
70040640	02	CN	Method For Elimination The Light Penetration For Image Capture Devices	18-Aug-05	200510090658.7				
70040640	03	JP	Method For Elimination The Light Penetration For Image	17-Aug-05	P2005-236637				

Case No.	SubCase	Country	Invention Title	File Date	Appl. No.	Pub. Date	Pub. No.	Issue Date	Pat. No.
			Capture Devices						
70041439	01	US	Glass Attach For Image Sensor Packaging	27-May-05	11/140157				

SCHEDULE 4.

IP ESTATE PATENT DISCLOSURE DOCUMENTS

Case No.	Invention Title	Disclosure Date
10002596	Tungsten Top Interconnect And Light Shielding Layer For Amorphous Silicon PIN Photodiodes	02-Mar-00
10003645	A F2.8 Wide Field Of View, Telecentric Single Lens Design For Digital Imaging Application With Designed Pixel (spot) Size Smaller Than 5 Um Across 110 Degree Full Diagonal Field Of View For CIF Digital Imaging Application.	26-Apr-00
10003767	Sensor Array For Correcting A Camera Lens' Curvilinear Distortion	08-May-00
10003772	Method For Fabrication Of CMOS Based Image Sensors Exhibiting Low Noise Performance	09-May-00
10003807	Minimal Hardware To Correct Defective Pixels In An Image Sensor	30-May-00
10003868	Simplified Upper Electrode Contact Structure	14-Jun-00
10003971	3D Amorphous Silicon Pixel Image Lag Correction By Circuit Techniques -I	05-Jul-00
10003979	Syntheticallly Extended Dynamic Range For Image Capture	08-Jul-00
10004181	Method And Apparatus For Cancelling The Effects Of Noise In An Electronic Signal	17-Aug-00
10004182	Approach For Addressing A Digital Image	17-Aug-00
10004183	Interpolation Of Edge Portions Of A Digital Image	17-Aug-00
10004192	Comparative Enhancement Of Captured Images	07-Sep-00
10004193	Hysteresis In Image Processing Algorithms	07-Sep-00
10004405	Use Of BARC (Bottom Anti-reflecting Coating) In Conjunction With Conventional Color Filter Processing For The Fabrication Of CMOS Image Sensors	19-Mar-02
10004419	A Motherboard Socket For A Flex Circuit Based Camera Module	24-Oct-00
10010157	Two Color Pixel And Related Mosaicing Patterns For Image Sensor	08-Dec-00
10010203	A Method Of Preprocessing Images For Wavelet-Based Image Compression That Reduces Color Aliasing Artifacts Arising From Demosaicing	18-Dec-00
10010290	Bad-Pixel Amelioration (BPA) With Feature Buffer	10-Jan-01
10010314	Demosaic Methods For Two-Color Pixel Array	22-Jan-01
10010480	Use Of Optical Navigation Sensor To Control A Camera System For Generating Multi-Image Scenes.	24-Feb-01
10010667	Digital Image System And Method For Implementing And Adaptive Demosaicing Method	02-Apr-01
10010675	A Method For Placing All Pixels In Array In Parallel For Obtaining Average Scene.....	03-Apr-01
10010747	A Method For Improving Image Quality In Digital Video And Still Cameras By Adjusting Color Saturation According To The Signal-to-Noise Ratio Of The Raw Sensor Output	30-Apr-01
10010788	Use Of Spatial Subsampling To Generate High Resolution Images With Inexpensive Sensors.	07-May-01

Case No.	Invention Title	Disclosure Date
10010802	A Method For Removing Flicker From Images Collected With CMOS Image Sensors Utilizing Rolling Shutters	14-May-01
10011137	Correlation-based Color Mosaic Interpolation Using A Connectionist Approach	27-Jul-01
10011179	Combination Digital Camera/FingerPrint Scanner	07-Aug-01
10011280	Glass Attach To Image Sensor Wafers With Microlenses And Incorporating An Air Gap Using Photo Resist.	06-Sep-01
10020054	Reference Detector Based Flicker Correction For CMOS Area Image Sensors	15-Nov-01
10020062	Light Pipe For Cell Phone Camera Module	19-Nov-01
10020139	A CMOS Image Sensor With Variable Conversion Gain	03-Dec-01
10020144	Method Of Combining Demosaicing And Bad Pixel Correction In One Step	04-Dec-01
10020200	Photonic Bandgap Wavelength Converter	20-Dec-01
10020201	Dispersion Curve Shift Optical Switch	20-Dec-01
10020223	Post-Fabrication Electrode Parameter Tuning	08-Jan-02
10020232	Sychronous Modulation Of Laser And External Electorabsorptive Modulator	10-Jan-02
10020298	Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor	30-Jan-02
10020814	A Security Camera System With Mult-level Event Detection	09-Jul-02
10020834	Master And Slave Mode CMOS Imagers For The Synchronous Capture Of Stereo Pairs	16-Jul-02
10020853	A Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor Using Color Ratio's	23-Jul-02
10020884	Image Sensor Focus Detect For Assembly Of Fixed Focus Cameras	01-Aug-02
10020990	Active Reset KT/C Noise Suppression Using A 4T Pixel For CMOS Active Pixel Sensors	29-Aug-02
10021000	Pixel Noise And Dark Current Reduction Technique For Low Light Scenes	03-Sep-02
10021030	Fibre Focus With Pres-Set And Heat Or Laser Adjustor Optical Module Assembly	10-Sep-02
10021083	Efficient Event Detection Method For Nighttime Security Camera Operation	17-Sep-02
10021136	Alternating Biasing Method For Image Lag Reduction	01-Oct-02
10021207	Digital Correlated Double Sampling -1 Analog Channel For Exposure Frame And 1 For Sampling Frame.....	09-Oct-02
10030003	Single Module Houses Dual Camera System Where Two Single Camera Module are Optimal Or Desireable	01-Nov-02
10030076	Fast Auto Exposure/ Auto White Balance Convergence In A CMOS Camera System	21-Nov-02
10030133	Method For Assembly And Focus Of The Lens Enclosure To The Image Sensor housing For CMOS Mobile Image Modules	06-Dec-02
10030202	Solder-able Camera Module Packaging For Digital Image Applications	12-Dec-02
10030330	Shape Reconstruction From Noisy Gradients Using A Multi-Resolution Bayes Method	22-Jan-03
10030447	Low Power Camera With Visible Motion Sensing	20-Feb-03
10030453	Anti-Blooming Circuit For CMOS Image Sensors	06-Feb-03
10030508	Image Sensing Array With Pixel Darkfill Current Compensation	06-Feb-03

Case No.	Invention Title	Disclosure Date
10030850	Ambient Light Detection Feature In Camera Modules	13-May-03
10031102	Photo Array Layout For Monitoring Image Statistics	19-Jul-03
10031131	Hybrid Filter Approach To Background Removal For Wavelength-coded Imaging	23-Jul-03
10031183	Use Of The Vibrator Motor In A Cell Phone To Provide Automatic Re-Focus Of The Lens For Macro Mode	04-Aug-03
10031280	Dust Trap Structure Of Camera Module Housing	09-Sep-03
10031281	Micro Machined Piezoelectric Motor For Lens Focus Mechanism	09-Sep-03
10031312	Cell Phone Image Magnifier Using Built In Camera And Display	19-Sep-03
10031549	Multiple Image Autofocus	22-Oct-03
10031567	Multiple Lens Digital Camera	28-Oct-03
10031572	Parallel Imaging Optical System For A Cell Phone Camera Sensor	30-Oct-03
10040005	Integrated Imaging Sensor Package With Polymerized Infrared Filter Incorporated	04-Nov-03
10040022	Embedded Digital Watermark Image Sensor	10-Nov-03
10040048	Color And White Balancing Using A Plausible Illuminant Constraint	15-Nov-03
10040064	Simplified Method For Calculating Exposure And White Balance In A Camera Using Flash	20-Nov-03
10040102	Cell Phone Camera With Electronic Zoom Capability	02-Dec-03
10040183	Integrated Imaging Sensor Package With Polymerized Infrared Filter Incorporated Into The Microlens	09-Jan-04
10040212	Pixel Having Photoconductive Layers	21-Jan-04
10040422	A Method For Reducing 1/f Noise In CMOS Image Sensors	19-Feb-04
10040564	Wireless Digital Camera Which Saves Pictures On A Host System Through Existing Cellular Phone Services	19-Mar-04
10040579	FIFO Image Storage	25-Mar-04
10040634	Circuit To Provide Increased Reset Voltage To CMOS Image Sensor Pixel Array With No Row To Row Offset, Reduced Parasitic Capacitance And Small Area Using Hierarchical Switching	01-Apr-04
10040659	Improve Color Filter Pattern For High Resolution Imaging Arrays	07-Apr-04
10040660	A Camera With Scalable Resolution And Bit Depth Utilizing An Internal Buffer Memory	07-Apr-04
10040772	MPG4 Type Compression In Meter Reading	30-Apr-04
10040798	Advanced Interconnect Scheme For Low Leakage Performance (mean And Variability) In Intergrated Circuits	06-May-04
10040810	Multi-Color Fly's Eye Camera	11-May-04
10040813	Method Of Bonding A Fixed-Focus Camera Lens	13-May-04
10040840	Reduced LUT By Using Row Activity	14-May-04
10040841	Imaging Algorithim Performance Acceleration Through Efficient Use Of Processor Cache	14-May-04
10040842	Imaging Algorithm Through Use Of Custom CPU Pixel Windows Spanning Multiple Rows	18-May-04
10040887	Difference Image Correlation For Navigation Vector Extraction	28-May-04
10040908	Auto Focus Mechanism Using Bubble Technology	04-Jun-04
10040910	Image Mapping Technique To Reduce Artifacts In Wavelength-Encoded Imaging	07-Jun-04
10040974	A Method For Controlling The Size Of JPEG Encoding On The Fly	17-Jun-04
10041010	Distributed MTF Camera Lens	25-Jun-04
10041136	Stereoscopic Range Finder	16-Jul-04

Case No.	Invention Title	Disclosure Dat
10041144	Centralized Collection And Electronic Distribution Of Image Sensor Characterization Data	28-Jul-04
10041308	Automaticm Passive Detection Fever In People Or Livestock	23-Aug-04
10041373	Very Low Power Motion Detection Linked With Camera And Cell Phone Capability	08-Sep-04
10041536	System And Method Of Lens Placement	11-Oct-04
10050008	Black Level Correction Using An Anti-Vignetting Style Algorithim	01-Nov-04
10050033	Method Of Crosstalk Reduction In CMOS Image Sensors	03-Nov-04
10050054	Latching Mechanism Of Lens System	05-Nov-04
10050236	Correcting Photographs Obtained By A Hanheld Device	22-Dec-04
10050237	A Method For Analog Vertical Sub-Sampling In A CMOS Image Sensor	20-Dec-04
10050296	Pixel With Spatially Varying Metal Route Position	17-Dec-04
10050413	A Novel Solution For Dim Row Suppression In 3T CMOS APS	07-Jan-05
10050430	Scaling An Image With RET Hardware/firmware	13-Jan-05
10050551	Method And Apparatus For A Self-Calibrating And/or Self-Testing Digital Imaging Device	09-Feb-05
10050828	Image Capturing Device With Focus Signal Feedback	22-Mar-05
10050941	Asymmetric Channel Doping Of Transfer Gate In A 4-Transistor, Buried, Gated CMOS Image Sensor	03-Mar-05
10050993	CMOS Pixel Array As One Functional Block Inside The Programmable Gate Array Like RAM, ROM, PLI, Various Standard IO Interfaces	25-Apr-05
10051010	A Novel Approach For A Low Cost Multi Camera System	27-Apr-05
10051022	Algorithim Shifting Of CMOS Sensing Elements To Optimize Performance	29-Apr-05
10051108	Vertical Tri-Color Sensor	20-May-05
10051177	Image Blur Reduction Or Image Stabilization Using A Single Camera Array	02-Jun-05
10051190	Image Blur Reduction Using Dual Cameras	07-Jun-05
10051237	Shallow CMOS Sensor With Molecular/metal Film Layer That Reduced Cross Talk	13-Jun-05
1093110	Video DAC Risetime Control And Supply Noise Suppression	03-Feb-93
1094374	Binary Image Scaling By Piecewise Pilynomial Interpolation	15-Mar-94
10950448	Parallel Analog Signal Processing For Removal Of Low Spatial Frequency Image Components	15-Mar-95
10970463	High Quality Low Cost Frame Accurate Video Capture System	27-Feb-97
10970699	A Current-Mode Gain Assisted Differential To Single-Ended Converting Analog Signal Buffer Design	02-May-97
10970902	Integrated Circuit Packaging For Optoelectronic Devices Like Displays, Cameras, Scanners, Etc.	03-Jun-97
10970967	Register Pixel For Liquid Crystal Displays	17-Jun-97
10970969	Electronically Gain-Adjustable Active Pixel Design For Extended High Dynamic Range And Contrast Control	18-Jun-97
10970982	Integrated Memory-ADC-Image Sensor	20-Jun-97
10971120	Integrated Micro Display System	23-Jul-97
10971863	Real Time Light Activated Electronic Shutter For 'On-The-Fly' Calibration Of InkJet Print Heads	01-Oct-97
10980209	CMOS APS, In-Pixel Local Exposure Control	08-Dec-97
10980555	A Photo Sensor With 3-Color Detection	04-Feb-98
10981935	CMOS Imaging Device With Embedded Non-Volatile Ferroelectric RAM	08-Sep-98

Case No.	Invention Title	Disclosure Date
10982203	A Test Efficient Method Of Classifying Image Quality Of An Optical Sensor Using Three Categories Of Pixels	02-Oct-98
10982389	Extended Dynamic Range Scheme For CMOS Image Sensor Pixel	26-Oct-98
10991033	Fabrication Of Improved Projection Screen	12-Mar-99
10991476	Gamma Correction For FLC Displays	29-Apr-99
10991727	Optical Package And Functional Integration	03-Jun-99
40040695	Auto Focus Assistance Module For Mobile And Digital Camera Application	15-Apr-04
50050810	Method For Faster Access To Color Table Data Used In Colorspace Conversation	22-Mar-05
70010903	Leadless Leadframe Based Insert Molded Package	12-Jun-01
70011380	CMOS Camera With Defocus Correction Matrix	27-Sep-01
70020998	Using Spur Gear Concept To Focus Camera Modules (geard Lens Barrel And Driver Wheel)	02-Sep-02
70030430	Flexible Lens Barrel For Barrel With/without Cover Glass/plastic & With/without Flange	17-Feb-03
70031333	Pre-Flash The Optical Sensor Pixel Array For Smoother And Consistent Cursor Performance	28-Sep-03
70040622	Mechanism For Variable Focus Camera	01-Apr-04
70040640	Method For Elimination The Light Penetration For Image Capture Devices	05-Apr-04
70041439	Glass Attach For Image Sensor Packaging	17-Sep-04

SCHEDULE 5.

TRADEMARKS

NONE

SCHEDULE 6.

MASK WORKS

Reg Number	Title	Effective Date
MW 15-351	1RW3(MOTHERLODE)	5-Jun-00
MW 15-894	2AG7 (BEDROCK)	5-Jul-01
MW 15-902	2AG8 (EYEQUEUE)	5-Jul-01
MW 16-869	2BC7 (ZEUSB)	3-Jun-03
MW 16-883	2AV1 (JUPITERB)	3-Jun-03

SCHEDULE 7.

INTERNET PROPERTY

Internet Property
www.pixeldevices.com