PATENT ASSIGNMENT COVER SHEET

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NATURE OF CONVEYANCE:	ASSIGNMENT
SEQUENCE:	2

CONVEYING PARTY DATA

Name	Execution Date
GVBB HOLDINGS S.A.R.L.	01/22/2021

RECEIVING PARTY DATA

Name:	GRASS VALLEY CANADA
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State/Country:	CANADA
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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17449656

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NAME OF SUBMITTER:	RACHELE WITTWER
SIGNATURE:	/Rachele Wittwer/
DATE SIGNED:	09/30/2021

Total Attachments: 9
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PATENT ASSIGNMENT

WHEREAS, **GVBB HOLDINGS S.A.R.L.**, a proprietary company, having a place of business at 412 F, route d'Esch, Luxembourg, Luxembourg, L-2086, (hereinafter "**ASSIGNOR**"), owns rights, title, and interest in, under, and to patents and patent applications (hereinafter, the "Patents"), including but not necessarily limited to those listed in **Schedule A**.

AND WHEREAS, **GRASS VALLEY CANADA**, a Canadian partnership, having a place of business at 3499 Douglas B. Floreani, Monteal, Quebec, Canada, H4S 2C6 (hereinafter "**ASSIGNEE**"), desires to acquire or otherwise obtain the entire right, title, and interest in and to said Patents, including but not necessarily limited to those listed in **Schedule A**.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR does hereby acknowledge that ASSIGNOR has sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, the entire right, title, and interest throughout the world in and to the Patents, including but not necessarily limited to those listed in **Schedule A**, and all divisional applications, renewal applications, continuation applications, and continuation-in-part applications thereof, including the right to claim priority therefrom, and all patents which may be granted thereon, all reissues, renewals, reexaminations, and extensions thereof, anywhere in the world;

AND ASSIGNOR DOES HEREBY authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications or registrations, to issue all patents for the said Patents to said ASSIGNEE, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument;

AND ASSIGNOR DOES HEREBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, its legal representatives, and its assigns all claims for damages and all remedies arising out of or relating to any violation(s) of any of the rights assigned hereby that have or may have accrued prior to the date of assignment to said ASSIGNEE, or may accrue hereafter, including, but not limited to the right to sue for, seek, obtain, collect, recover, and retain damages and any ongoing or prospective royalties to which ASSIGNOR may be entitled, or that ASSIGNOR may collect for any infringement or from any settlement or agreement related to any of the Patents before or after issuance;

AND ASSIGNOR HEREBY covenants and agrees that ASSIGNOR will communicate promptly to said ASSIGNEE, its successors, its legal representatives, and its assigns, any facts known to us respecting the Patents, including but not limited to identifying any patent or patent application assigned herein that is not included in Schedule A which it later discovers, and will execute a confirmatory assignment specifically identifying such patent or patent application. ASSIGNOR further agrees to testify in any legal proceeding, sign all lawful papers, execute all applications and certificates, make all rightful declarations and/or oaths, and provide all lawful assistance to said ASSIGNEE, its successors, its legal representatives and its assigns, to obtain and enforce patent protection for the Patents in all countries;

AND ASSIGNOR HEREBY covenants that it will not execute any writing or do any act whatsoever conflicting with these presents.

This Patent Assignment may be executed by the parties in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

ASSIGNOR, GVBB HOLDINGS S.A.R.L.

Signature: _____

Name: Baptiste Molé
Title: B manager

Dated:

ASSIGNEE, GRASS VALLEY CANADA

Signature: _____

Name: Timothy Shoolbred
Title: CEO / President

Dated: 01-22-21

SCHEDULE "A"

Country	Application No	Publication No	Patent No.	Title	Status
United States	15/483259	US-2017-0214874-A1	10687006 B2	PHOTODIODE LIMITER	Granted
United States	15/637166	US-2017-0309032-A1	10489917 B2	TECHNIQUE FOR AUTOMATICALLY TRACKING AN OBJECT IN A DEFINED TRACKING WINDOW BY A CAMERA BASED ON IDENTIFICATION...	Granted
United States	15/695827	US-2018-0069908-A1	10791158B2	SYSTEM AND METHOD FOR PERFORMING LOSSLESS SWITCHING IN A REDUNDANT MULTICAST NETWORK	Granted
United States	15/698273	US-2018-0070126-A1	10419808 B2	SYSTEM AND METHOD FOR SCALABLE PHYSICAL LAYER FLOW OF PACKETIZED MEDIA STREAMS	Granted
United States	15/690034	US-2018-0070035-A1	10284801 B2	DIFFERENTIAL DIGITAL DOUBLE SAMPLING METHOD AND CMOS IMAGE SENSOR FOR PERFORMING SAME	Granted
United States	15/697187	US-2018-0068427-A1	10242435 B2	HIGH DYNAMIC RANGE PROCESSING	Granted
United States	15/693034	US-2018-0070032-A1	10419697 B2	SYSTEM AND METHOD FOR HIGH DYNAMIC RANGE DIGITAL DOUBLE SAMPLING	Granted
United States	15/693295	US-2018-0070020-A1	10547795 B2	BRIGHTNESS CORRECTION OF A PIXEL ARRAY IN AN IMAGE SENSOR	Granted
United States	15/697349	US-2018-0070029-A1	10270987 B2	SYSTEM AND METHODS FOR DYNAMIC PIXEL MANAGEMENT OF A CROSS PIXEL INTERCONNECTED CMOS IMAGE SENSOR	Granted
United States	15/785866	US-2018-0047426-A1	10573347 B2	SYSTEM FOR AUTOMATED TELEVISION PRODUCTION	Granted
United States	15/783539	US-2018-0041703-A1	10462367 B2	IMAGE CAPTURE HAVING TEMPORAL RESOLUTION AND PERCEIVED IMAGE SHARPNESS	Granted
United States	15/796461	US-2018-0054549-A1	10455126 B2	PRECISION TIMING FOR BROADCAST NETWORK	Granted
United States	15/811995	US-2018-0137632-A1	10636152	SYSTEM AND METHOD OF HYBRID TRACKING FOR MATCH MOVING	Granted
United States	15/835286	US-2018-0114544-A1	10311914 B2	EDITING APPARATUS AND EDITING METHOD	Granted
United States	15/880988	US-2018-0220166-A1	10440403 B2	SYSTEM AND METHOD FOR CONTROLLING MEDIA CONTENT CAPTURE FOR LIVE VIDEO BROADCAST PRODUCTION	Granted
United States	15/882356	US-2018-0165874-A1	10311632 B2	METHOD AND SYSTEM FOR ACCESSIBILITY AND CONTROL OF PARAMETERS IN SCENEGRAPHS	Granted

SCHEDULE "A"

United States	15/687211	US-2018-0176150-A1	10397135 B2	ROUTER FABRIC	Granted
United States	15/919536	US-2018-0270427-A1		SYSTEM AND METHOD FOR CREATING METADATA MODEL TO IMPROVE MULTI-CAMERA PRODUCTION	Allowed
United States	15/919728	US-2018-0270441-A1	10499001 B2	SYSTEM AND METHOD FOR AUGMENTED VIDEO PRODUCTION WORKFLOW	Granted
United States	15/938602	US-2018-0295052-A1	10560373 B2	SYSTEM AND METHOD FOR TIMELY AND UNIFORM DISTRIBUTION FOR REAL-TIME PACKET TRANSMISSION	Granted
United States	15/984726	US-2018-0278833-A1	10721389 B2	PEAKING HEADROOM FOR FLAT PANEL DISPLAYS	Granted
United States	16/105358	US-2018-0358051-A1	10360944 B2	SYSTEMS, METHODS, AND COMPUTER PROGRAM PRODUCTS FOR MULTIPLE ASPECT RATIO AUTOMATED SIMULCAST PRODUCTION	Granted
Canada	3015579			PRE-PITCHED METHOD AND SYSTEM FOR VIDEO ON DEMAND	Pending
European Patent Application	17707813.6	3420730		PRE-PITCHED METHOD AND SYSTEM FOR VIDEO ON DEMAND	Published
United States	16/127867	US-2019-0014390-A1		ANALYTIC SYSTEM FOR AUTOMATICALLY COMBINING ADVERTISING AND CONTENT IN MEDIA BROADCASTS	Published
European Patent Application	16826737.5	3456038		PEAKING HEADROOM FOR FLAT PANEL DISPLAYS	Published
Canada	3,023,774			PEAKING HEADROOM FOR FLAT PANEL DISPLAYS	Pending
United States	16/241292	US-2019-0141401-A1		PRE-PITCHED METHOD AND SYSTEM FOR VIDEO ON DEMAND	Published
United States	16/266869	US-2019-0174184-A1		METHOD AND APPARATUS FOR CONTENT REPLACEMENT IN LIVE PRODUCTION	Published
United States	16/518543	US-2019-0348077-A1	10546612 B2	SYSTEMS, METHODS, AND COMPUTER PROGRAM PRODUCTS FOR AUTOMATED REAL-TIME EXECUTION OF LIVE INSERTS OF REPURPOSED STORED..	Granted
United States	16/366530	US-2019-0222507-A1		SYSTEM AND METHOD FOR ISOCHRONOUS SWITCHING OF PACKETIZED MEDIA STREAMS	Published
United States	16/276300	US-2019-0253637-A1		SYSTEM AND METHOD FOR CONTROLLING LUMINANCE DURING VIDEO PRODUCTION AND BROADCAST	Published
United States	16/361094	US-2019-0220961-A1	10430931 B2	HIGH DYNAMIC RANGE PROCESSING	Granted

SCHEDULE "A"

Canada	3,035,922			SYSTEM AND METHOD FOR PERFORMING LOSSLESS SWITCHING IN A REDUNDANT MULTICAST NETWORK	Pending
European Patent Application	17764557.9	3510727		SYSTEM AND METHOD FOR PERFORMING LOSSLESS SWITCHING IN A REDUNDANT MULTICAST NETWORK	Published
Canada	3,035,926			SYSTEM AND METHOD FOR SCALABLE PHYSICAL LAYER FLOW OF PACKETIZED MEDIA STREAMS	Pending
European Patent Application	17768067.5	3510742		SYSTEM AND METHOD FOR SCALABLE PHYSICAL LAYER FLOW OF PACKETIZED MEDIA STREAMS	Published
Canada	3,035,924			DIFFERENTIAL DIGITAL DOUBLE SAMPLING METHOD AND CMOS IMAGE SENSOR FOR PERFORMING SAME	Pending
European Patent Application	17761867.5	3510762		DIFFERENTIAL DIGITAL DOUBLE SAMPLING METHOD AND CMOS IMAGE SENSOR FOR PERFORMING SAME	Published
Japan	2019-513046			DIFFERENTIAL DIGITAL DOUBLE SAMPLING METHOD AND CMOS IMAGE SENSOR FOR PERFORMING SAME	Pending
Canada	3,035,942			HIGH DYNAMIC RANGE PROCESSING	Pending
European Patent Application	17768058.4	3510760		HIGH DYNAMIC RANGE PROCESSING	Published
Japan	2019-513076			HIGH DYNAMIC RANGE PROCESSING	Pending
Canada	3035920			SYSTEM AND METHOD FOR HIGH DYNAMIC RANGE DIGITAL DOUBLE SAMPLING	Pending
European Patent Application	17761872.5	3510764		SYSTEM AND METHOD FOR HIGH DYNAMIC RANGE DIGITAL DOUBLE SAMPLING	Published
Japan	2019-513009			SYSTEM AND METHOD FOR HIGH DYNAMIC RANGE DIGITAL DOUBLE SAMPLING	Pending
Canada	3,035,938			BRIGHTNESS CORRECTION OF A PIXEL ARRAY IN AN IMAGE SENSOR	Pending
European Patent Application	17767776.2	3510765		BRIGHTNESS CORRECTION OF A PIXEL ARRAY IN AN IMAGE SENSOR	Published
Japan	2019-513080			BRIGHTNESS CORRECTION OF A PIXEL ARRAY IN AN IMAGE SENSOR	Pending

SCHEDULE "A"

Canada	3,035,946			SYSTEM AND METHOD FOR DYNAMIC PIXEL MANAGEMENT OF A CROSS PIXEL INTERCONNECTED CMOS IMAGE SENSOR	Pending
European Patent Application	17771693.3	3510763		SYSTEM AND METHOD FOR DYNAMIC PIXEL MANAGEMENT OF A CROSS PIXEL INTERCONNECTED CMOS IMAGE SENSOR	Published
Japan	2019-513039			SYSTEM AND METHOD FOR DYNAMIC PIXEL MANAGEMENT OF A CROSS PIXEL INTERCONNECTED CMOS IMAGE SENSOR	Pending
European Patent Application	17794238.0	3526938	3526938	SYSTEM AND METHOD FOR ISOCHRONOUS SWITCHING OF PACKETIZED MEDIA STREAMS	Granted
Canada	3,040,340			SYSTEM AND METHOD FOR ISOCHRONOUS SWITCHING OF PACKETIZED MEDIA STREAMS	Pending
China	201780076744.3			SYSTEM AND METHOD FOR ISOCHRONOUS SWITCHING OF PACKETIZED MEDIA STREAMS	Pending
United States	16/389772	US-2019-0246049-A1		SYSTEM AND METHODS FOR DYNAMIC PIXEL MANAGEMENT OF A CROSS PIXEL INTERCONNECTED CMOS IMAGE SENSOR	Published
United States	16/425430	US-2019-0279683-A1	10636450	EDITING APPARATUS AND EDITING METHOD	Granted
United States	16/403844	US-2019-0260953-A1	10750109 B2	DIFFERENTIAL DIGITAL DOUBLE SAMPLING METHOD AND CMOS IMAGE SENSOR FOR PERFORMING SAME	Granted
United States	16/430268	US-2019-0287295-A1		METHOD AND SYSTEM FOR ACCESSIBILITY AND CONTROL OF PARAMETERS IN SCENEGRAPHS	Published
Canada	3,043,962			SYSTEM AND METHOD OF HYBRID TRACKER FOR MATCH MOVING	Pending
European Patent Application	17798206.3	3542304		SYSTEM AND METHOD OF HYBRID TRACKER FOR MATCH MOVING	Published
Japan	2019-547186			SYSTEM AND METHOD OF HYBRID TRACKER FOR MATCH MOVING	Pending
Australia	2018211492			SYSTEM AND METHOD FOR CONTROLLING MEDIA CONTENT CAPTURE FOR LIVE VIDEO BROADCAST PRODUCTION	Pending

SCHEDULE "A"

Brazil	BR 11 2019 015465 5			SYSTEM AND METHOD FOR CONTROLLING MEDIA CONTENT CAPTURE FOR LIVE VIDEO BROADCAST PRODUCTION	Pending
Canada	3,051,631			SYSTEM AND METHOD FOR CONTROLLING MEDIA CONTENT CAPTURE FOR LIVE VIDEO BROADCAST PRODUCTION	Pending
China		CN 110402581 A		SYSTEM AND METHOD FOR CONTROLLING MEDIA CONTENT CAPTURE FOR LIVE VIDEO BROADCAST PRODUCTION	Published
European Patent Application	18702247.0	3574654		SYSTEM AND METHOD FOR CONTROLLING MEDIA CONTENT CAPTURE FOR LIVE VIDEO BROADCAST PRODUCTION	Published
India	201917034245			SYSTEM AND METHOD FOR CONTROLLING MEDIA CONTENT CAPTURE FOR LIVE VIDEO BROADCAST PRODUCTION	Pending
Japan	2019-540522			SYSTEM AND METHOD FOR CONTROLLING MEDIA CONTENT CAPTURE FOR LIVE VIDEO BROADCAST PRODUCTION	Pending
United States	16/571660	US-2020-0014866-A1	10764519 B2	SYSTEM AND METHOD FOR HIGH DYNAMIC RANGE DIGITAL DOUBLE SAMPLING	Granted
United States	16/562229	US-2019-0394518-A1		SYSTEM AND METHOD FOR SCALABLE PHYSICAL LAYER FLOW OF PACKETIZED MEDIA STREAMS	Published
United States	16/584854	US-2020-0034955-A1		HIGH DYNAMIC RANGE PROCESSING	Published
United States	16/657374	US-2020-0162640-A1		PRECISION TIMING FOR BROADCAST NETWORK	Published
United States	16/594942	US-2020-0145700-A1	10728586 B2	SYSTEM AND METHOD FOR CONTROLLING MEDIA CONTENT CAPTURE FOR LIVE VIDEO BROADCAST PRODUCTION	Granted
European Patent Application	18712144.7	3596928		SYSTEM AND METHOD FOR CREATING METADATA MODEL TO IMPROVE MULTI-CAMERA PRODUCTION	Published
Canada	3,056,484			SYSTEM AND METHOD FOR CREATING METADATA MODEL TO IMPROVE MULTI-CAMERA PRODUCTION	Pending
European Patent Application	18712145.4	3596527		DISPLAY OF THE FIELD OF VIEW OF A VIDEO CAMERA IN THE FIELD OF VIEW OF A HEAD-WEARBLE DISPLAY DEVICE	Published

SCHEDULE "A"

Canada	3,056,723			DISPLAY OF THE FIELD OF VIEW OF A VIDEO CAMERA IN THE FIELD OF VIEW OF A HEADWEARBLE DISPLAY DEVICE	Pending
United States	15/920095	US-2018-0267699-A1	10761707 B2	USER INTERFACE FOR MANAGEMENT OF A DYNAMIC VIDEO SIGNAL PROCESSING PLATFORM	Granted
Canada	3,059,084			SYSTEM AND METHOD FOR TIMELY AND UNIFORM DISTRIBUTION FOR REAL-TIME PACKET TRANSMISSION	Pending
European Patent Application	18716978.4	3607445		SYSTEM AND METHOD FOR TIMELY AND UNIFORM DISTRIBUTION FOR REAL-TIME PACKET TRANSMISSION	Published
United States	16/693774	US-2020-0160536-A1		TECHNIQUE FOR AUTOMATICALLY TRACKING AN OBJECT BY A CAMERA BASED ON IDENTIFICATION OF AN OBJECT	Published
United States	16/700086	US-2020-0186742-A1		SYSTEM AND METHOD FOR AUGMENTED VIDEO PRODUCTION WORKFLOW	Published
United States	16/752124	US-2020-0162678-A1		BRIGHTNESS CORRECTION OF A PIXEL ARRAY IN AN IMAGE SENSOR	Published
United States	16/751020	US-2020-0162684-A1		HYBRID OUTPUT MULTIPLEXER FOR A HIGH FRAMERATE CMOS IMAGER	Allowed
United States	16/737682	US-2020-0145329-A1		SYSTEM AND METHOD FOR TIMELY AND UNIFORM DISTRIBUTION FOR REAL-TIME PACKET TRANSMISSION	Published
United States	16/750602	US-2020-0162683-A1		IMAGER WITH VERTICAL ROW ADDRESSING	Published
Canada	3069947			HYBRID OUTPUT MULTIPLEXER FOR A HIGH FRAMERATE CMOS IMAGER	Pending
Canada	3069858			IMAGER WITH VERTICAL ROW ADDRESSING	Pending
United States	16/834227	US-2020-0314327-A1		CONTROL SYSTEM AND METHOD FOR SINGLE-HANDED SEAMLESS CAMERA CONTROL	Published
PCT Application	PCT/EP2020/059164	WO2020/201304		SYSTEM AND METHOD OF PARTIAL MATCHING OF CONTROL SETTINGS OF MULTIPLE CAMERAS (as amended)	Published
PCT Application	PCT/EP2020/059175	WO2020/201310		CONTROL SYSTEM AND METHOD FOR SINGLE-HANDED SEAMLESS CAMERA CONTROL	Published

SCHEDULE "A"

United States	16/938382	US-2020-0359057-A1		SYSTEM AND METHOD FOR CONTROLLING MEDIA CONTENT CAPTURE FOR LIVE VIDEO BROADCAST PRODUCTION	Published
United States	16/992492			SYSTEM AND METHOD FOR HIGH DYNAMIC RANGE DIGITAL DOUBLE SAMPLING	Pending
United States	17/007148			USER INTERFACE FOR MANAGEMENT OF A DYNAMIC VIDEO SIGNAL PROCESSING PLATFORM	Pending
Canada	3091312			SYSTEM AND METHOD FOR CONTROLLING LUMINANCE DURING VIDEO PRODUCTION AND BROADCAST	Pending
European Patent Application	19705521.3			SYSTEM AND METHOD FOR CONTROLLING LUMINANCE DURING VIDEO PRODUCTION AND BROADCAST	Pending
United States	17/032448			SYSTEM AND METHOD FOR PERFORMING LOSSLESS SWITCHING IN A REDUNDANT MULTICAST NETWORK	Pending
Germany	17794238.0	3526938	3526938	SYSTEM AND METHOD FOR ISOCHRONOUS SWITCHING OF PACKETIZED MEDIA STREAMS	Granted
United Kingdom	17794238.0	3526938	3526938	SYSTEM AND METHOD FOR ISOCHRONOUS SWITCHING OF PACKETIZED MEDIA STREAMS	Granted