

### Annex A3 to the DVD-R Recorder and DVD-RW Recorder Patent License Agreement

#### Essential Pioneer Patents relevant to DVD-RW/-R Recorder / DVD-RW Data part

<i>COUNTRY</i>	<i>REFERENCE</i>	<i>FILING NR</i>	<i>FILING DATE</i>	<i>PUBLICATION NR</i>	<i>GRANT NR</i>	<i>EXPIRY DATE</i>	<i>TITLE</i>	
BR	513047BR01	PI9701610-1	02-apr-1997		PI9701610-1	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
CA	513047CA01	2201454	01-apr-1997		2201454	01-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
CN	504102CN01	96114320.7	05-dec-1996	CN1156930A	ZL96114320.7	05-dec-2016	Digital data transmitting	
CN	504102CN02	200610093817.3	20-jun-2006		ZL200610093817.3	05-dec-2016	Digital data transmitting	
CN	504102CN03	200610093831.3	20-jun-2006		ZL200610093831.3	05-dec-2016	Digital data transmitting	
CN	504102CN04	200610093830.9	20-jun-2006		ZL200610093830.9	05-dec-2016	Digital data transmitting	
CN	513047CN01	97104993.9	02-apr-1997		ZL97104993.9	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
CN	513047CN02	200510128892.4	30-nov-2005		ZL200510128892.4	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
CN	540055CN01	00126355.2	11-sep-2000	1288232	ZL00126355.2	11-sep-2020	Format operation	
DE	503032DE01	19625662.3	26-jun-1996	19625662	19625662	26-jun-2016	Border Zone	
DE-EP	503028EP01	96110320.7	26-jun-1996	0751506	69615291	26-jun-2016	Layout of Land Pre-Pit	
DE-EP	503111EP01	97300118.3	09-jan-1997		69715265	09-jan-2017	Layout of Land Pre-Pit	
DE-EP	503141EP01	97105420.0	01-apr-1997	0800172	69718839.6	01-apr-2017	Linking scheme	
DE-EP	503141EP02	02018115.2	13-aug-2002	1280152	69739772	01-apr-2017	Linking scheme	
DE-EP	504030EP01	95305172.9	25-jul-1995	0694915	69525571.1	25-jul-2015	Multi layer disc	
DE-EP	504102EP02	03025667.1	07-nov-2003	1403869	69636916.8	05-dec-2016	Digital data transmitting	
DE-EP	504102EP04	06115016.5	06-jun-2006		69638178.8	05-dec-2016	Digital data transmitting	
DE-EP	504102EP05	06115021.5	06-jun-2006		69638200.8	05-dec-2016	Digital data transmitting	
DE-EP	513047EP01	97105470.5	02-apr-1997	0800165	69737272.3	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
DE-EP	540055EP01	00307805.2	08-sep-2000		60043564.4	08-sep-2020	Format operation	
EP	513047EP02	06125628.5	07-dec-2006				Layout of Land Pre-Pit	*grant for Pioneer's share
FR-EP	503028EP01	96110320.7	26-jun-1996	0751506	00751506	26-jun-2016	Layout of Land Pre-Pit	
FR-EP	503111EP01	97300118.3	09-jan-1997		00784313	09-jan-2017	Layout of Land Pre-Pit	
FR-EP	503141EP01	97105420.0	01-apr-1997	0800172	00800172	01-apr-2017	Linking scheme	
FR-EP	503141EP02	02018115.2	13-aug-2002	1280152	01280152	01-apr-2017	Linking scheme	
FR-EP	504030EP01	95305172.9	25-jul-1995	0694915	00694915	25-jul-2015	Multi layer disc	
FR-EP	504102EP02	03025667.1	07-nov-2003	1403869	01403869	05-dec-2016	Digital data transmitting	
FR-EP	504102EP04	06115016.5	06-jun-2006		01715485	05-dec-2016	Digital data transmitting	
FR-EP	504102EP05	06115021.5	06-jun-2006		01715486	05-dec-2016	Digital data transmitting	
FR-EP	513047EP01	97105470.5	02-apr-1997	0800165	00800165	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
FR-EP	540055EP01	00307805.2	08-sep-2000		01083748	08-sep-2020	Format operation	
GB-EP	503028EP01	96110320.7	26-jun-1996	0751506	00751506	26-jun-2016	Layout of Land Pre-Pit	
GB-EP	503111EP01	97300118.3	09-jan-1997		00784313	09-jan-2017	Layout of Land Pre-Pit	
GB-EP	503141EP01	97105420.0	01-apr-1997	0800172	00800172	01-apr-2017	Linking scheme	

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COUNTRY	REFERENCE	FILING NR	FILING DATE	PUBLICATION NR	GRANT NR	EXPIRY DATE	TITLE	
GB-EP	503141EP02	02018115.2	13-aug-2002	1280152	01280152	01-apr-2017	Linking scheme	
GB-EP	504030EP01	95305172.9	25-jul-1995	0694915	00694915	25-jul-2015	Multi layer disc	
GB-EP	504102EP02	03025667.1	07-nov-2003	1403869	01403869	05-dec-2016	Digital data transmitting	
GB-EP	504102EP04	06115016.5	06-jun-2006		01715485	05-dec-2016	Digital data transmitting	
GB-EP	504102EP05	06115021.5	06-jun-2006		01715486	05-dec-2016	Digital data transmitting	
GB-EP	513047EP01	97105470.5	02-apr-1997	0800165	00800165	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
GB-EP	540055EP01	00307805.2	08-sep-2000		01083748	08-sep-2020	Format operation	
HK	503141HK01	03102149.3	25-mrt-2003		1050072	01-apr-2017	Linking scheme	
HK	504102HK02	04106418.7	26-aug-2004		1063685	05-dec-2016	Digital data transmitting	
ID	504102ID01	P-963596	05-dec-1996		0005541	05-dec-2016	Digital data transmitting	
ID	513047ID01	P-971080	31-mrt-1997		0012134	31-mrt-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
ID	513047ID02	P-00200300522	09-okt-2003		0015319	31-mrt-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
IN	504102IN01	2183/MAS/1996	04-dec-1996		194873	04-dec-2016	Digital data transmitting	
IN	513047IN01	845/DEL/1997	01-apr-1997		216124	01-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
IN	513047IN02	2457/DEL/2004	10-dec-2004				Layout of Land Pre-Pit	*grant for Pioneer's share
IN	513047IN03	1858/DEL/2005	18-jul-2005		225392	01-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
JP	503028JP02	2000339670	07-nov-2000	2001167447	03440071	26-jun-2015	Layout of Land Pre-Pit	
JP	503031JP03	2003084394	26-mrt-2003	2003288723	03847266	26-jun-2015	Optimum Power Control	
JP	503032JP03	2000378043	12-dec-2000	2001202718	03466565	26-jun-2015	Border Zone	
JP	503111JP01	1996004421	12-jan-1996	1997198657	03917207	12-jan-2016	Layout of Land Pre-Pit	
JP	503111JP04	2003043893	21-feb-2003	2003263744	03917535	12-jan-2016	Layout of Land Pre-Pit	
JP	503141JP01	1996079252	01-apr-1996	1997270171	03824701	01-apr-2016	Linking scheme	
JP	503141JP02	2003380360	10-nov-2003	2004047116	04012873	01-apr-2016	Linking scheme	
JP	503141JP03	2006262567	27-sep-2006	2007026667	04012929	01-apr-2016	Linking scheme	
JP	504030JP01	1995148907	15-jun-1995	1996096406	03558306	15-jun-2015	Multi layer disc	
JP	504102JP01	1995316420	05-dec-1995	1997162857	03394127	05-dec-2015	Digital data transmitting	
JP	504188JP02	2001400061	28-dec-2001	2002237150	04112857	28-feb-2016	Minimum readout rate	
JP	513047JP04	2003187488	30-jun-2003	2003338045	04130785	01-jul-2016	Layout of Land Pre-Pit	*grant for Pioneer's share
JP	513047JP05	2003187489	30-jun-2003	2003338042	03836448	01-jul-2016	Layout of Land Pre-Pit	*grant for Pioneer's share
JP	513047JP06	2004182933	21-jun-2004	2004303415	04051357	01-jul-2016	Layout of Land Pre-Pit	*grant for Pioneer's share
JP	523180JP02	2005037293	15-feb-2005	2005174549	03720350	20-aug-2018	Recording clock signal	
JP	550371JP01	2000273917	08-sep-2000	2001148166	04302304	08-sep-2020	Format operation	
KR	504102KR01	62001/96	05-dec-1996	97-56160	00329456	05-dec-2016	Digital data transmitting	
KR	513047KR01	12187/97	02-apr-1997	97-71533	00478863	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
KR	540055KR01	20000053355	08-sep-2000		00632337	08-sep-2020	Format operation	

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COUNTRY	REFERENCE	FILING NR	FILING DATE	PUBLICATION NR	GRANT NR	EXPIRY DATE	TITLE	
MX	504102MX01	966099	05-dec-1996		195994	05-dec-2016	Digital data transmitting	
MX	513047MX01	972413	02-apr-1997		223525	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
MX	513047MX02	PA/a/2003/004277	15-mei-2003		247757	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
MY	504102MY01	PI9605068	03-dec-1996		MY-112856-A	03-dec-2016	Digital data transmitting	
MY	513047MY01	PI97001419	02-apr-1997		127657	29-dec-2021	Layout of Land Pre-Pit	*grant for Pioneer's share
NL-EP	504102EP02	03025667.1	07-nov-2003	1403869	01403869	05-dec-2016	Digital data transmitting	
NL-EP	504102EP04	06115016.5	06-jun-2006		01715485	05-dec-2016	Digital data transmitting	
NL-EP	504102EP05	06115021.5	06-jun-2006		01715486	05-dec-2016	Digital data transmitting	
RU	513047RU01	97105090	01-apr-1997		2219595	01-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
SG	504102SG01	9611511-8	04-dec-1996		79210	04-dec-2016	Digital data transmitting	
SG	513047SG01	9701008-6	29-mrt-1997		47218	29-mrt-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
TH	504102TH01	9601004164	02-dec-1996		9825	02-dec-2016	Digital data transmitting	
TH	513047TH01	036591	31-mrt-1997	30098	33048	31-mrt-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
TW	504102TW01	85114966	04-dec-1996		88955	03-dec-2016	Digital data transmitting	
TW	513047TW01	86103929	01-apr-1997		158436	01-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
TW	540055TW01	89118427	08-sep-2000		153832	08-sep-2020	Format operation	
US	503028US01	08/668334	25-jun-1996		06181657	25-jun-2016	Layout of Land Pre-Pit	
US	503031US02	09/846557	27-apr-2001		RE38602	24-jun-2016	Optimum Power Control	
US	503032US01	08/672035	26-jun-1996		05808992	26-jun-2016	Border Zone	
US	503111US01	08/780288	08-jan-1997		05901123	08-jan-2017	Layout of Land Pre-Pit	
US	503111US03	10/178649	24-jun-2002	2002-0154586	06731575	08-jan-2017	Layout of Land Pre-Pit	
US	503141US02	09/876509	07-jun-2001		06735155	01-apr-2017	Linking scheme	
US	503141US03	10/693306	24-okt-2003		07126898	01-apr-2017	Linking scheme	
US	503141US04	10/772512	05-feb-2004	2004-0156283	07123576	01-apr-2017	Linking scheme	
US	504030US01	08/504793	20-jul-1995		05608715	20-jul-2015	Multi layer disc	
US	504102US02	10/785864	25-feb-2004		RE40312	03-dec-2016	Digital data transmitting	
US	504188US01	08/806458	26-feb-1997		06236804	26-feb-2017	Minimum readout rate	
US	513047US01	08/825890	02-apr-1997		06075761	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
US	513047US03	10/238760	10-sep-2002		06646963	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
US	513047US06	10/238761	10-sep-2002		06606289	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share
US	523082US05	10/117184	08-apr-2002	2002-0110060	06487150	20-feb-2018	Recording clock signal	
US	540055US01	09/659580	11-sep-2000		06885623	13-dec-2021	Format operation	
VN	504102VN01	1-1996-90429	04-dec-1996		1-0001518	04-dec-2016	Digital data transmitting	
VN	513047VN01	1-1997-00249	02-apr-1997		1-0002045	02-apr-2017	Layout of Land Pre-Pit	*grant for Pioneer's share