

Essential Philips patents relevant to Blu-ray Disc recorder PC

| <i>COUNTRY</i> | <i>REFERENCE</i> | <i>FILING NR</i> | <i>FILING DATE</i> | <i>PUBLICATION NR</i> | <i>GRANT DATE</i> | <i>GRANT NR</i> | <i>EXPIRY DATE</i> | <i>TITLE</i> |
|----------------|------------------|------------------|--------------------|-----------------------|-------------------|-----------------|--------------------|--------------------------------------|
| AR | N 012063 | 308926 | 10/6/1987 | | 6/30/1993 | 243038 | 6/30/2008 | "CD - WO: ATIP II" |
| AR | N 012398 | 312996 | 1/17/1989 | | 11/21/2001 | 255370 | 11/21/2016 | CD-WO: SYNCHRONISATION |
| AR | NL000685 | P010105398 | 11/19/2001 | | 6/26/2007 | AR032774B1 | 11/19/2021 | OPC-PROCEDURE USING A STRAIGHT LINE |
| AR | NL010727 | P020100956 | 3/18/2002 | | 6/29/2007 | AR033047 | 3/18/2022 | ISOLATED BIT SYNC |
| AT | N 012398 | 89200092.8 | 1/17/1989 | 0326206-A1 | 12/1/1993 | E98041 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| AT | N 014448 | 94201153.7 | 4/27/1994 | 0624000-A3 | 7/19/2000 | E194897 | 4/27/2014 | PARITY PRESERVED CODING N-BIT WRDS I |
| AT | N 015495 | 96929488.3 | 9/24/1996 | 0852796-A1 | 9/8/1999 | E184416 | 9/24/2016 | CD-E SPEED ON DISC |
| AU | N 012398 | 89-28558 | 1/18/1989 | | 1/28/1992 | 613292 | 1/18/2009 | CD-WO: SYNCHRONISATION |
| AU | NL000685 | 2002221849 | 11/12/2001 | | 3/22/2007 | 2002221849 | 11/12/2021 | OPC-PROCEDURE USING A STRAIGHT LINE |
| AU | NL020067 | 02-353342 | 12/12/2002 | 2002353342 | 11/1/2007 | 2002353342 | 12/12/2022 | USE OF SAME ECC DECODER FOR DIFFER |
| AZ | NL010730 | 200400552 | 9/23/2002 | | 4/28/2005 | 005695 | 9/23/2022 | SPLIT WORD SYNC FOR DVR |
| BE | N 012398 | 89200092.8 | 1/17/1989 | 0326206-A1 | 12/1/1993 | 0326206 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| BE | N 015495 | 96929488.3 | 9/24/1996 | 0852796-A1 | 9/8/1999 | 0852796 | 9/24/2016 | CD-E SPEED ON DISC |
| BR | N 012398 | PI8900230.0 | 1/19/1989 | | 8/10/1999 | PI8900230.0 | 1/19/2009 | CD-WO: SYNCHRONISATION |
| BY | NL010730 | 200400552 | 9/23/2002 | | 4/28/2005 | 005695 | 9/23/2022 | SPLIT WORD SYNC FOR DVR |
| CA | N 012063 | 548386 | 10/1/1987 | | 9/7/1993 | 1322052 | 9/7/2010 | "CD - WO: ATIP II" |

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|----------------|------------------|------------------|--------------------|-----------------------|-------------------|-----------------|--------------------|--------------------------------------|
| CA | N 012398 | 588616 | 1/19/1989 | | 7/6/1993 | 1319985 | 7/6/2010 | CD-WO: SYNCHRONISATION |
| CH | N 012398 | 89200092.8 | 1/17/1989 | 0326206-A1 | 12/1/1993 | 0326206 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| CN | N 012398 | 89100960.4 | 1/19/1989 | 1035575-A | 4/9/1993 | 89100960.4 | 1/19/2009 | CD-WO: SYNCHRONISATION |
| CN | N 015495 | 96191532.3 | 9/24/1996 | 1182497-A | 5/12/2004 | 96191532.3 | 9/24/2016 | CD-E SPEED ON DISC |
| CN | NL000685 | 01806158.3 | 11/12/2001 | 1416566-A | 1/10/2007 | 01806158.3 | 11/12/2021 | OPC-PROCEDURE USING A STRAIGHT LINE |
| CN | NL010154 | 01808427.3 | 12/7/2001 | 1426578-A | 10/11/2006 | 01808427.3 | 12/7/2021 | ALIGNMENT AND LINKING IN MULTI-LAYER |
| CN | NL010294 | 02801392.1 | 4/22/2002 | 1462431-A | 8/2/2006 | 02801392.1 | 4/22/2022 | WRITE STRATEGY FOR SLOW COOLING PH |
| CN | NL010727 | 02800697.6 | 3/14/2002 | 1459109-A | 9/20/2006 | 02800697.6 | 3/14/2022 | ISOLATED BIT SYNC |
| CZ | N 012398 | 89-PV377 | 1/19/1989 | | 3/31/1995 | 279681 | 1/19/2009 | CD-WO: SYNCHRONISATION |
| CZ | N 012398 | 89-PV377 | 1/19/1989 | | 3/31/1995 | 279681 | 1/19/2009 | CD-WO: SYNCHRONISATION |
| CZ | N 015495 | 97-PV1610 | 9/24/1996 | | 10/10/2002 | 291074 | 9/24/2016 | CD-E SPEED ON DISC |
| DE | N 012398 | 89200092.8 | 1/17/1989 | 0326206-A1 | 12/1/1993 | 68910993.8 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| DE | N 014448 | 94201153.7 | 4/27/1994 | 0624000-A3 | 7/19/2000 | 69425298.0 | 4/27/2014 | PARITY PRESERVED CODING N-BIT WRDS I |
| DE | N 015495 | 96929488.3 | 9/24/1996 | 0852796-A1 | 9/8/1999 | 69604189.8 | 9/24/2016 | CD-E SPEED ON DISC |
| DE | N 015776 | 97901214.3 | 2/7/1997 | 0821828-A1 | 7/2/2003 | 69723165.8 | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| DE | N 016849 | 98959114.4 | 12/28/1998 | | 7/26/2006 | 69835345.5 | 12/28/2018 | ERROR FROM WELL PROTECTED TO OTHE |
| DZ | NL010730 | 040125 | 9/23/2002 | | 4/9/2006 | 3680 | 9/23/2022 | SPLIT WORD SYNC FOR DVR |
| EA | NL010730 | 200400552 | 9/23/2002 | | 4/28/2005 | 005695 | 9/23/2022 | SPLIT WORD SYNC FOR DVR |
| EG | NL000685 | 2001-1212 | 11/17/2001 | | 12/28/2003 | 23007 | 11/16/2021 | OPC-PROCEDURE USING A STRAIGHT LINE |

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|----------------|------------------|------------------|--------------------|-----------------------|-------------------|-----------------|--------------------|--------------------------------------|
| EG | NL010730 | 02-1119 | 10/14/2002 | | 1/25/2005 | 23359 | 10/13/2022 | SPLIT WORD SYNC FOR DVR |
| EP | N 012063 | 87201902.1 | 10/5/1987 | 0265984-A1 | 4/15/1992 | 0265984 | 10/5/2007 | "CD - WO: ATIP II" |
| EP | N 012398 | 89200092.8 | 1/17/1989 | 0326206-A1 | 12/1/1993 | 0326206 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| EP | N 014448 | 94201153.7 | 4/27/1994 | 0624000-A3 | 7/19/2000 | 0624000 | 4/27/2014 | PARITY PRESERVED CODING N-BIT WRDS I |
| EP | N 015495 | 96929488.3 | 9/24/1996 | 0852796-A1 | 9/8/1999 | 0852796 | 9/24/2016 | CD-E SPEED ON DISC |
| EP | N 015776 | 97901214.3 | 2/7/1997 | 0821828-A1 | 7/2/2003 | 0821828 | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| EP | N 016849 | 98959114.4 | 12/28/1998 | 0965175-A1 | 7/26/2006 | 0965175 | 12/28/2018 | ERROR FROM WELL PROTECTED TO OTHE |
| EP | N 017300 A | 03101849.2 | 1/10/2000 | 1372143-A3 | 6/1/2005 | 1372143 | 1/10/2020 | WOBBLE FOR DVD ROM DISCS |
| ES | N 012398 | 89200092.8 | 1/17/1989 | 0326206-A1 | 12/1/1993 | 0326206 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| ES | N 015495 | 96929488.3 | 9/24/1996 | 0852796-A1 | 9/8/1999 | 0852796 | 9/24/2016 | CD-E SPEED ON DISC |
| ES | N 015776 | 97901214.3 | 2/7/1997 | 0821828-A1 | 7/2/2003 | 0821828 | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| FR | N 012398 | 89200092.8 | 1/17/1989 | 0326206-A1 | 12/1/1993 | 0326206 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| FR | N 014448 | 94201153.7 | 4/27/1994 | 0624000-A3 | 7/19/2000 | 0624000 | 4/27/2014 | PARITY PRESERVED CODING N-BIT WRDS I |
| FR | N 015495 | 96929488.3 | 9/24/1996 | 0852796-A1 | 9/8/1999 | 0852796 | 9/24/2016 | CD-E SPEED ON DISC |
| FR | N 015776 | 97901214.3 | 2/7/1997 | 0821828-A1 | 7/2/2003 | 0821828 | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| FR | N 016849 | 98959114.4 | 12/28/1998 | | 7/26/2006 | 0965175 | 12/28/2018 | ERROR FROM WELL PROTECTED TO OTHE |
| GB | N 012398 | 89200092.8 | 1/17/1989 | 0326206-A1 | 12/1/1993 | 0326206 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| GB | N 014448 | 94201153.7 | 4/27/1994 | 0624000-A3 | 7/19/2000 | 0624000 | 4/27/2014 | PARITY PRESERVED CODING N-BIT WRDS I |
| GB | N 015495 | 96929488.3 | 9/24/1996 | 0852796-A1 | 9/8/1999 | 0852796 | 9/24/2016 | CD-E SPEED ON DISC |

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|----------------|------------------|------------------|--------------------|-----------------------|-------------------|-----------------|--------------------|--------------------------------------|
| GB | N 015776 | 97901214.3 | 2/7/1997 | 0821828-A1 | 7/2/2003 | 0821828 | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| GB | N 016849 | 98959114.4 | 12/28/1998 | | 7/26/2006 | 0965175 | 12/28/2018 | ERROR FROM WELL PROTECTED TO OTHE |
| GR | N 015495 | 96929488.3 | 9/24/1996 | 0852796-A1 | 9/8/1999 | 0852796 | 9/24/2016 | CD-E SPEED ON DISC |
| HK | N 012398 | NOT GIVEN | 1/17/1989 | | 10/19/1995 | 0951632 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| HK | N 015495 | 98114109.2 | 9/24/1996 | 1012520-A | 5/12/2000 | HK1012520 | 9/23/2016 | CD-E SPEED ON DISC |
| HK | N 015776 | 98106942.9 | 2/7/1997 | 1008600-A | | | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| HK | NL010273 | 04104905.2 | 4/18/2002 | 1061916-A | | | 4/18/2022 | WOBBLE PERIOD FOR DVR |
| HU | N 015776 | P9901480 | 2/7/1997 | | | | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| HU | NL000685 | P0204230 | 11/12/2001 | 0204230 | | | 11/12/2021 | OPC-PROCEDURE USING A STRAIGHT LINE |
| ID | N 015495 | P-962786 | 9/30/1996 | 016343-A | 3/10/2004 | UNKNOWN | 9/30/2010 | CD-E SPEED ON DISC |
| ID | N 015776 | P-970413 | 2/13/1997 | 017848-A | 4/28/2004 | ID0013245 | 2/13/2011 | DVD - RAM RANDOM SHIFT |
| ID | NL010727 | W-0202624 | 3/14/2002 | 035621-A | 8/24/2006 | ID0017977 | 3/14/2022 | ISOLATED BIT SYNC |
| IR | NL010730 | 38107094 | 10/13/2002 | | 7/15/2003 | 28736 | 10/13/2022 | SPLIT WORD SYNC FOR DVR |
| IT | N 012398 | 89200092.8 | 1/17/1989 | 0326206-A1 | 12/1/1993 | 0326206 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| IT | N 015495 | 96929488.3 | 9/24/1996 | 0852796-A1 | 9/8/1999 | 0852796 | 9/24/2016 | CD-E SPEED ON DISC |
| IT | N 015776 | 97901214.3 | 2/7/1997 | 0821828-A1 | 7/2/2003 | 0821828 | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| JP | N 012398 | 89-7555 | 1/13/1989 | 89-220126 | 5/23/1997 | 2652443 | 1/13/2009 | CD-WO: SYNCHRONISATION |
| JP | N 014448 | 94-93412 | 5/2/1994 | 95-50588 | 4/5/2002 | 3294936 | 5/2/2014 | PARITY PRESERVED CODING N-BIT WRDS I |
| KR | N 012063 | 87-11135 | 10/6/1987 | | 5/8/1996 | 99196 | 1/4/2011 | "CD - WO: ATIP II" |

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|----------------|------------------|------------------|--------------------|-----------------------|-------------------|-----------------|--------------------|-------------------------------------|
| KR | N 012398 | 89-562 | 1/20/1989 | | 6/26/1998 | 152430 | 6/26/2013 | CD-WO: SYNCHRONISATION |
| KR | N 012399 | 89-563 | 1/20/1989 | | 12/12/1997 | 132674 | 12/12/2012 | ATIP III |
| KR | N 015495 | 97-703582 | 9/24/1996 | 10-1998-0700646 | 1/26/2005 | 0470007 | 9/24/2016 | CD-E SPEED ON DISC |
| KR | N 015776 | 97-707294 | 2/7/1997 | | 4/27/2005 | 0487680 | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| KR | N 016849 | 10-1999-7007933 | 12/28/1998 | 00-75855 | 7/4/2006 | 10-0599225 | 12/28/2018 | ERROR FROM WELL PROTECTED TO OTHE |
| KR | N 017534 | 10-2001-7003156 | 7/5/2000 | 10-2001-0079792 | 3/22/2007 | 10-0701257 | 7/5/2020 | ONE ECC FOR DIFFERENT DATA |
| MA | NL010730 | 27632 | 9/23/2002 | | 7/1/2004 | 26226 | 9/23/2022 | SPLIT WORD SYNC FOR DVR |
| MX | N 015495 | 973953 | 9/24/1996 | | 3/11/2003 | 213185 | 9/24/2016 | CD-E SPEED ON DISC |
| MX | NL010727 | 02-011273 | 3/14/2002 | | 7/2/2007 | 246907 | 3/14/2022 | ISOLATED BIT SYNC |
| MY | N 015495 | PI9604010 | 9/27/1996 | | 12/30/2005 | 120906 | 12/30/2020 | CD-E SPEED ON DISC |
| MY | N 015776 | PI9700546 | 2/14/1997 | | 8/30/2004 | MY-117846-A | 8/30/2019 | DVD - RAM RANDOM SHIFT |
| MY | NL000685 | PI20015234 | 11/15/2001 | | 7/31/2007 | MY-131219-A | 7/31/2022 | OPC-PROCEDURE USING A STRAIGHT LINE |
| MY | NL010727 | PI20020933 | 3/14/2002 | | 2/28/2007 | 128703 | 2/28/2022 | ISOLATED BIT SYNC |
| NL | N 012398 | 89200092.8 | 1/17/1989 | 0326206-A1 | 12/1/1993 | 0326206 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| NL | N 015495 | 96929488.3 | 9/24/1996 | 0852796-A1 | 9/8/1999 | 0852796 | 9/24/2016 | CD-E SPEED ON DISC |
| PK | NL010730 | 2002-884 | 10/12/2002 | | 7/12/2004 | 138332 | 10/12/2022 | SPLIT WORD SYNC FOR DVR |
| PL | N 015776 | P322824 | 2/7/1997 | P322824 | 6/3/2002 | 184577 | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| RU | N 012398 | 4613311 | 1/19/1989 | | 8/20/1997 | 2087950 | 1/19/2009 | CD-WO: SYNCHRONISATION |
| RU | NL010273 | 2003133983 | 4/18/2002 | 2003133983-A | 7/27/2006 | 2280907 | 4/18/2022 | WOBBLE PERIOD FOR DVR |

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|----------------|------------------|------------------|--------------------|-----------------------|-------------------|-----------------|--------------------|--------------------------------------|
| RU | NL010727 | 03130465 | 3/14/2002 | 2003130465-A | 9/10/2006 | 2283516 | 3/14/2022 | ISOLATED BIT SYNC |
| RU | NL010730 | 200400552 | 9/23/2002 | | 4/28/2005 | 005695 | 9/23/2022 | SPLIT WORD SYNC FOR DVR |
| SE | N 012398 | 89200092.8 | 1/17/1989 | 0326206-A1 | 12/1/1993 | 0326206 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| SG | N 012398 | 9591725.8 | 1/17/1989 | | 1/29/1996 | 23938 | 1/17/2009 | CD-WO: SYNCHRONISATION |
| SG | N 015495 | 9803014.1 | 9/24/1996 | | 12/30/2004 | 53769 | 9/24/2016 | CD-E SPEED ON DISC |
| SG | N 015776 | 9705144.5 | 2/7/1997 | | 11/16/1999 | 46833 | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| SG | NL000685 | 200204342.0 | 11/12/2001 | | 11/30/2005 | 90548 | 11/12/2021 | OPC-PROCEDURE USING A STRAIGHT LINE |
| SG | NL010273 | 200207828.5 | 4/18/2002 | | 1/27/2006 | 94047 | 4/18/2022 | WOBBLE PERIOD FOR DVR |
| SG | NL010727 | 200206813.8 | 3/14/2002 | | 11/30/2005 | 92998 | 3/14/2022 | ISOLATED BIT SYNC |
| SG | NL010730 | 200303448.5 | 9/23/2002 | | 4/28/2006 | 97521 | 9/23/2022 | SPLIT WORD SYNC FOR DVR |
| SK | N 012398 | 89-PV0377 | 1/19/1989 | | 2/28/1997 | 278453 | 1/19/2009 | CD-WO: SYNCHRONISATION |
| TH | NL010730 | 077242 | 10/11/2002 | | | | 10/11/2022 | SPLIT WORD SYNC FOR DVR |
| TW | N 012398 | 77103927 | 6/11/1988 | | 7/26/1989 | 31633 | 6/11/2008 | CD-WO: SYNCHRONISATION |
| TW | N 015495 | 85115279 | 12/10/1996 | | 11/14/2000 | 117476 | 12/10/2016 | CD-E SPEED ON DISC |
| TW | N 015776 | 85106262 | 5/27/1996 | | 10/29/1997 | 87771 | 5/27/2016 | DVD - RAM RANDOM SHIFT |
| TW | N 016849 | 88100894 | 1/21/1999 | | 5/3/2001 | 124993 | 1/21/2019 | ERROR FROM WELL PROTECTED TO OTHE |
| TW | NL000685 | 091106018 | 3/27/2002 | | 2/21/2006 | I-249736 | 3/27/2022 | OPC-PROCEDURE USING A STRAIGHT LINE |
| TW | NL010154 | 090129060 | 11/23/2001 | | 9/8/2004 | NI-201714 | 11/22/2021 | ALIGNMENT AND LINKING IN MULTI-LAYER |
| TW | NL010191 | 091104689 | 3/13/2002 | | 3/21/2005 | I229854 | 3/13/2022 | WOBBLE FOR DVR |

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|----------------|------------------|------------------|--------------------|-----------------------|-------------------|-----------------|--------------------|--------------------------------------|
| TW | NL010273 | 091112508 | 6/10/2002 | | 1/11/2006 | I247284 | 6/10/2022 | WOBBLE PERIOD FOR DVR |
| TW | NL010727 | 091104690 | 3/13/2002 | | 7/1/2005 | I235363 | 3/13/2022 | ISOLATED BIT SYNC |
| TW | NL010730 | 091122330 | 9/27/2002 | | 10/11/2005 | I241566 | 9/27/2022 | SPLIT WORD SYNC FOR DVR |
| TW | NL020067 | 091132388 | 11/1/2002 | 200303526 | 6/21/2006 | I257085 | 11/1/2022 | USE OF SAME ECC DECODER FOR DIFFER |
| UA | N 012398 | 93002137 | 1/19/1989 | | 8/15/2000 | 27217 | 1/19/2009 | CD-WO: SYNCHRONISATION |
| UA | NL010273 | 03109559 | 4/18/2002 | | 5/15/2006 | 75642 | 4/18/2022 | WOBBLE PERIOD FOR DVR |
| US | N 009666 | C 07/375620 | 7/25/1989 | | 10/28/1997 | 5682365 | 10/28/2014 | PREGROOVED CLOCK IN D.O.R DISC |
| US | N 012063 | X 08/099770 | 7/29/1993 | | 8/16/1994 | 5339301 | 8/16/2011 | "CD - WO: ATIP II" |
| US | N 012398 | 07/265638 | 11/1/1988 | | 2/13/1990 | 4901300 | 11/1/2008 | CD-WO: SYNCHRONISATION |
| US | N 012925 | W 08/041141 | 3/31/1993 | | 5/23/1995 | 5418764 | 5/23/2012 | ADDITIONAL INFORMATION IN ATIP |
| US | N 012925 | X 08/390451 | 2/17/1995 | | 8/5/1997 | 5654947 | 8/5/2014 | ADDITIONAL INFORMATION IN ATIP |
| US | N 014448 | 08/223875 | 4/6/1994 | | 12/19/1995 | 5477222 | 4/6/2014 | PARITY PRESERVED CODING N-BIT WRDS I |
| US | N 015495 | 08/722651 | 9/30/1996 | | 11/10/1998 | 5835462 | 9/30/2016 | CD-E SPEED ON DISC |
| US | N 015776 | 08/800633 | 2/14/1997 | | 9/5/2000 | 6115340 | 2/14/2017 | DVD - RAM RANDOM SHIFT |
| US | N 016849 | 09/218560 | 12/22/1998 | | 4/23/2002 | 6378100 | 12/22/2018 | ERROR FROM WELL PROTECTED TO OTHE |
| US | NL000685 | 09/996000 | 11/16/2001 | 2002-0114235-A1 | 9/19/2006 | 7110336 | 5/15/2023 | OPC-PROCEDURE USING A STRAIGHT LINE |
| US | NL010154 | 09/994272 | 11/26/2001 | 2002-0080705-A1 | 5/8/2007 | 7215634 | 12/18/2022 | ALIGNMENT AND LINKING IN MULTI-LAYER |
| US | NL010191 | 10/257691 | 3/14/2002 | | 8/1/2006 | 7085209 | 5/7/2023 | WOBBLE FOR DVR |
| US | NL010273 | 10/131776 | 4/24/2002 | 2003-0007440-A1 | 9/26/2006 | 7113467 | 10/11/2023 | WOBBLE PERIOD FOR DVR |

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|----------------|------------------|------------------|--------------------|-----------------------|-------------------|-----------------|--------------------|-------------------------------------|
| US | NL010727 | 10/276197 | 3/14/2002 | 2003-0174603-A1 | 5/16/2006 | 7046596 | 12/20/2023 | ISOLATED BIT SYNC |
| US | NL010730 | 10/268445 | 10/10/2002 | 2003-0090825-A1 | 10/4/2005 | 6952381 | 6/12/2023 | SPLIT WORD SYNC FOR DVR |
| US | NL020067 | 10/501824 | 12/12/2002 | 2005-0034047-A1 | 4/3/2007 | 7200795 | 3/26/2023 | USE OF SAME ECC DECODER FOR DIFFER |
| VN | N 015495 | S19970443 | 9/24/1996 | | 1/16/2002 | 2540 | 9/24/2016 | CD-E SPEED ON DISC |
| VN | N 015776 | S19970933 | 2/7/1997 | | 8/15/2001 | 2271 | 2/7/2017 | DVD - RAM RANDOM SHIFT |
| ZA | NL000685 | 02-5675 | 11/12/2001 | | 1/28/2004 | 2002/5675 | 11/12/2021 | OPC-PROCEDURE USING A STRAIGHT LINE |