

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION**

DOLBY LABORATORIES, INC.,

Plaintiff and Counter-Defendant,

v.

INTERTRUST TECHNOLOGIES
CORPORATION,

Defendant and Counterclaimant.

Case No. 3:19-cv-03371-EMC

**DOLBY'S INVALIDITY CONTENTIONS
PURSUANT TO PATENT LOCAL RULE 3-3 AND 3-4**

Dolby Laboratories, Inc. ("Dolby"), by and through its undersigned counsel, hereby serves on Intertrust Technologies Corporation ("Intertrust") these Invalidity Contentions, pursuant to Patent L.R. 3-3 and the Court's Case Management and Pretrial Order for Claims Construction (Dkt. No. 73), regarding asserted claims 5, 9, and 29 of U.S. Patent No. 6,157,721 ("721 Patent"); asserted claim 24 of U.S. Patent No. 6,640,304 ("304 Patent"); asserted claims 42 and 43 of U.S. Patent No. 6,785,815 ("815 Patent"); asserted claims 25 and 26 of U.S. Patent No. 7,340,602 ("602 Patent"); asserted claims 1 and 2 of U.S. Patent No. 7,406,603 ("603 Patent"); asserted claims 1, 7, 8, and 12 of U.S. Patent No. 7,694,342 ("342 Patent"); asserted claims 53-54, 56-60, 64-66, 69-75, 80, 81, 84, 86-90, 96, 96, and 99 of U.S. Patent No. 8,191,157 ("157 Patent"); asserted claim 4 of U.S. Patent No. 8,191,158 ("158 Patent"); asserted claim 17 of U.S. Patent No. 8,931,106 ("106 Patent"); and asserted claims 1 and 4-8 of U.S. Patent No. 9,569,627 ("627 Patent") (collectively, the "Asserted Claims" of the "Asserted Patents").

Pursuant to Patent L.R. 3-4, Dolby also serves herewith the document production accompanying these disclosures. These Invalidity Contentions set forth Dolby's initial

invalidity contentions with respect to the Asserted Claims set forth in Intertrust's Patent L.R. 3-1 disclosures. These Contentions are based on Dolby's current knowledge and understanding of the Asserted Claims and review of prior art as of the date of service, and are made without the benefit of discovery regarding the parties' claim construction contentions, any expert discovery, any third-party discovery, and any claim construction opinion or order of the Court. Moreover, because Intertrust's Patent L.R. 3-1 disclosures ("Infringement Contentions") are vague, lack factual support, and do not specifically identify the accused instrumentalities, the Infringement Contentions do not provide Dolby adequate notice of Intertrust's infringement claims. Accordingly, these Invalidity Contentions are provided without prejudice to Dolby's right to revise, amend, correct, supplement, modify, or clarify the same, including pursuant to Patent L.R. 3-6. Dolby further reserves the right to complete its investigation and discovery of the facts, to produce subsequently discovered information, and to introduce such subsequently discovered information at the time of any hearing or trial in this action.

I. INVALIDITY CONTENTIONS

A. Claim Construction

The Court has not yet construed any of the terms in any Asserted Claim of the Asserted Patents. Accordingly, the following contentions are served in view of Dolby's current understanding of the Asserted Claims, without the benefit of claim construction and with only limited discovery in the present litigation. Claim construction proceedings in this action have not yet commenced, and Dolby will provide its claim construction positions at the appropriate time pursuant to the Patent Local Rules and the Court's Case Management and Pretrial Order for Claims Construction (Dkt. No. 73). Accordingly, these Invalidity Contentions may reflect or include various potential and alternative positions that depend upon the claim construction for particular terms. Dolby's contentions may reflect or imply a certain claim scope or claim interpretation, which may be set forth in view of positions, statements, or interpretations

suggested by Intertrust's submissions to date, and in many instances Dolby's contentions may suggest different alternative claim interpretations. To the extent that Dolby's contentions state, reflect, or suggest a particular interpretation or reading of any claim element, Dolby does not adopt, advocate, or acquiesce to such an interpretation or reading. Dolby's contentions therefore should not be relied upon as a statement of Dolby's claim interpretations and should not be relied upon as any admission regarding the proper scope of the claims. Nor do these Invalidity Contentions constitute any admission by Dolby that any accused products or services, including any current or past versions of those products or services, are covered by any Asserted Claim. Dolby does not take any position herein regarding the proper scope or construction of the Asserted Claims.

These Invalidity Contentions may take into account Intertrust's apparent interpretations of the Asserted Claims as reflected in Intertrust's Infringement Contentions, which are deficient both facially and substantively. Among other things, the Infringement Contentions lack the specificity required by Patent L.R. 3-1, fail to properly identify accused instrumentalities, and fail to explain adequately Intertrust's infringement theories for numerous limitations. Intertrust has prejudiced Dolby's ability to understand, for purposes of preparing these Contentions, what Intertrust alleges to be the scope of the Asserted Claims. In the event that Intertrust amends its Infringement Contentions (either to cure these deficiencies or for any other reason) or otherwise responds to address any deficiency therein, Dolby reserve the right to amend or supplement its Invalidity Contentions.

Accordingly, any assertion herein that a particular limitation is disclosed by a prior art reference or references may be based in part on Intertrust's apparent interpretation and is not intended to be, and is not, an admission by Dolby that any such construction is supportable or correct, or that any claim terms of the Asserted Claims are not invalid under 35 U.S.C. § 112 for being indefinite, failing to satisfy the written description requirement, or failing to satisfy the enablement requirement. To the extent these Invalidity Contentions reflect constructions of claim limitations consistent with or implicit in Intertrust's Infringement Contentions, no

implication is intended, nor should any inference be drawn, that Dolby agrees with or concedes those claim constructions. Dolby expressly does not do so, and reserves its right to contest them. Moreover, Dolby specifically denies that Intertrust's apparent claim constructions are proper.

B. Ongoing Discovery and Disclosures

Dolby further reserves the right to supplement and amend these disclosures and associated document production based on further investigation, analysis, and discovery, Dolby's consultation with experts and others, and contentions or court rulings on relevant issues such as claim construction and priority dates. For example, since discovery is in the early stages, deposing the alleged inventors may reveal information that affects the disclosures and contentions herein. In addition, Dolby has not completed discovery from third parties who have information concerning the prior art cited herein and possible additional art, including additional evidence regarding prior art systems disclosed herein. Dolby also reserves the right to move to amend these Invalidity Contentions and/or to modify its selection of prior art references in the event that Intertrust serves supplemental or modified infringement contentions.

Because Dolby is continuing its search for and analysis of relevant prior art, Dolby reserves the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and/or relying upon additional prior art references, relevant disclosures, and bases for Invalidity Contentions. Additional prior art, disclosures, and invalidity grounds, whether or not cited in this disclosure and whether known or not known to Dolby, may become relevant as investigation, analysis, and discovery continue, and following claim construction proceedings in this case. Dolby is currently unaware of the extent, if any, to which Intertrust will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Dolby. To the extent that Intertrust so contends, Dolby reserves the right to identify and rely upon other references or portions of references regarding the allegedly

missing limitation(s).

Additionally, because discovery has only recently commenced, Dolby reserves the right to present additional prior art references and/or disclosures under 35 U.S.C. §§ 102(a), (b), (e), (f), and/or (g), and/or § 103, located during the course of such discovery or further investigation, and to assert invalidity under 35 U.S.C. §§ 102 or 103 to the extent that such discovery or investigation yields information forming the basis for such invalidity.

Dolby also intends to diligently seek discovery from third parties to demonstrate the alleged inventions were known or used by others under 35 U.S.C. § 102(a), in public use and/or on-sale under 35 U.S.C. § 102(b), derivation under 35 U.S.C. § 102(f), and/or earlier invention of the alleged inventions under 35 U.S.C. § 102(g). Dolby may therefore modify, amend, and/or supplement these Invalidity Contentions if and when such further information becomes available.

Depending on the Court's construction of the Asserted Claims of the Asserted Patents, and/or positions that Intertrust or its expert witness(es) may take concerning claim interpretation, infringement, invalidity issues, and/or subject matter eligibility issues, the asserted prior art references may be of greater or lesser relevance. Given this uncertainty, the charts may reflect alternative applications of the prior art against the Asserted Claims. Thus, no chart or position taken by Dolby should be construed as an admission or a waiver of any particular construction of any claim term. Dolby also reserves the right to challenge any of the claim terms under 35 U.S.C. § 112, including by arguing that they are indefinite, not supported by the written description, and/or not enabled. In addition, Dolby incorporates by reference all other bases for invalidity identified in Dolby's Answer to Intertrust's Counterclaims, its Initial Disclosures, and any bases of invalidity identified during the prosecution of the Asserted Patents, as well as all related patents and/or patent applications. These Invalidity Contentions are limited to Dolby's current positions regarding the grounds of invalidity specifically called for in Patent L.R. 3-3. Dolby does not believe that it is required to include herein any explanation or contentions regarding any other defense that Dolby may wish to assert in this

action. Dolby reserves the right to assert and pursue all other defenses that may be available, including all of the affirmative defenses pled, or any other grounds.

Dolby further incorporates by reference all admissions regarding the Asserted Patents including, but not limited to, admissions in the specification of the Asserted Patents and the prosecution of the Asserted Patents and related patents and/or patent applications. Dolby also incorporates contentions previously served or subsequently served in any related litigations, including but not limited to any invalidity contentions served by Microsoft Corporation in *Intertrust Technologies Corporation v. Microsoft Corporation*, Nos. 4:01-CV- 1640, 4:02-CV- 647 (N.D. Cal.), served by Apple, Inc. in *Intertrust Technologies Corporation v. Apple, Inc.*, No. 4:13-CV-1235 (N.D. Cal.), served in the three cases currently pending in the United States District Court for the Eastern District of Texas: *Intertrust Technologies Corporation v. AMC Entertainment Holdings, Inc.*, Case No. 2:19-cv-00265; *Intertrust Technologies Corporation v. Cinemark Holdings, Inc.*, Case No. 2:19-cv-00266 (Lead Case); *Intertrust Technologies Corporation v. Regal Entertainment Group*, Case No. 2:19-cv-00267, or served in any prior litigations involving the Asserted Patents and related patents (collectively, the “Related Actions”).

C. Priority Date of Asserted Claims of Asserted Patents

Intertrust asserted under Patent L.R. 3-1 that the Asserted Claims of the Asserted Patents are entitled to the following priority dates:

- '721 Patent: August 12, 1996
- '304 Patent: February 13, 1995
- '815 Patent: June 8, 1999
- '602 Patent: December 14, 1999
- '603 Patent: August 31, 1999
- '342 Patent: June 9, 2000
- '157 Patent: February 13, 1995

- '158 Patent: February 13, 1995
- '106 Patent: June 9, 2000
- '627 Patent: June 4, 2000

Dolby does not agree that Intertrust is entitled to the above-listed priority dates for each of the Asserted Claims, as Intertrust has failed to prove it is entitled to these priority dates. Nonetheless, Dolby has used Intertrust's claimed priority dates for purposes of these Contentions. Dolby's identification of Intertrust's asserted priority dates for purposes of these Contentions should not be interpreted as a concession that any Asserted Claim is entitled to Intertrust's asserted priority date. To the extent Intertrust in the future seeks and is granted leave to amend its disclosures in an attempt to establish an earlier effective filing date, Dolby reserves the right to amend these Contentions in response, including by disclosing additional prior art or earlier versions or evidence of the prior art disclosed herein.

D. Patent L.R. 3-3(a): Identity of Each Item of Prior Art

Pursuant to Patent L.R. 3-3(a), based on Intertrust's February 27, 2020 Disclosure of Asserted Claims and Infringement Contentions, and subject to Dolby's reservation of rights, including with respect to the inadequacy of Intertrust's Infringement Contentions, lack of any claim construction opinion or order of the Court and ongoing discovery in this case, Dolby identifies prior art below and in the attached claim charts that anticipates and/or renders obvious each Asserted Claim of the Asserted Patent. Dolby has identified in the table below each prior art patent by its number, country of origin, and date of issue. To the extent feasible, Dolby has identified each prior art publication by its title, date of publication, author, and publisher.

Upon information and belief, the filing and/or publication date of each prior art patent or publication qualifies it as prior art under 35 U.S.C. §§ 102 and/or 103. The alignment of these contentions with particular sections of 35 U.S.C. §§ 102 and/or 103 is based upon currently available information and subject to revision as further information becomes

available in discovery. For at least the reasons stated in Section I.B, Dolby reserves the right to supplement this information as appropriate.

To the extent that prior art identified herein is not expressly identified as items of prior art that anticipate and/or render obvious an Asserted Claim, Dolby reserves the right to rely on those references as prior art, as well as background and as evidence of the state of the art at the time of Intertrust's alleged invention(s).

Also, to the extent not expressly mentioned herein, Dolby incorporates by reference (1) any and all prior art identified in documents produced by Intertrust to Dolby in this case; (2) any and all materials regarding invalidity that should have been produced to Dolby but have not been produced to date, to the extent that any exist; (3) any prior art of which a named inventor of the Asserted Patents is aware and/or on which he, she, and/or Intertrust contends the alleged invention(s) of the Asserted Patents builds upon or improves; (4) any and all admissions by Intertrust and/or a named inventor regarding the Asserted Patents including, but not limited to, admissions in the specification of the Asserted Patents the prosecution of the Asserted Patents and related patents and/or patent applications; and (5) all prior art and invalidity contentions disclosed in any Related Actions.

Each disclosed item of prior art is evidence of a prior invention and making of the invention in the United States by another under 35 U.S.C. § 102(g), as evidenced by the named inventor(s), author(s), organization(s), and publisher(s) involved with each such reference, with the circumstances described and reflected in each reference including publications and system implementation references. Dolby further intends to rely on admissions of the named inventors concerning the prior art and invalidity, including statements found in the Asserted Patents, their prosecution history, related patents and/or patent applications, any deposition testimony, and the papers filed or served (including any previous invalidity contentions served by another party) and any evidence submitted by Intertrust in conjunction with this and other litigations and proceedings.

1. The '721 Patent

| Prior Art Patents / Published Applications | | | | |
|--|-------------------|--------------------|-----------------------------|---------------|
| Patent / Publication No. | Country of Origin | Inventor | Date of Issue / Publication | Abbreviation |
| 5,956,408 | US | Arnold | 9/21/1999 | Arnold '408 |
| 6,067,575 | US | McManis et al. | 5/23/2000 | McManis '575 |
| 5,200,999 | US | Matyas et al. | 4/6/1993 | Matyas |
| 5,757,918 | US | Hopkins | 5/26/1998 | Hopkins |
| 5,724,425 | US | Chang et al. | 3/3/1998 | Chang |
| 4,634,807 | US | Chorley et al. | 1/6/1987 | Chorley |
| 5,768,389 | US | Ishii | 6/16/1998 | Ishii |
| 5,557,518 | US | Rosen | 9/17/1996 | Rosen '518 |
| 4,351,982 | US | Miller et al. | 9/28/1982 | Miller |
| 5,388,211 | US | Hornbuckle | 2/7/1995 | Hornbuckle |
| 5,412,717 | US | Fischer | 5/2/1995 | Fischer '717 |
| 1995/019672 | WO (US) | Sudia | 7/20/1995 | Sudia |
| 4,817,140 | US | Chandra et al. | 3/28/1987 | Chandra |
| 5,910,987 | US | Ginter et al. | 6/8/1999 | Ginter '987 |
| 1996/39765 | WO (US) | Sudia et al. | 12/12/1996 | Sudia '765 |
| 5,933,498 | US | Schneck | 8/3/1999 | Schneck '498 |
| 4,234,921 | US | Kinoshita et al. | 11/18/1980 | Kinoshita |
| 0,706,275 | EP | Arnold | 4/10/1995 | Arnold EP |
| 5,421,006 | US | Jablon et al. | 5/30/1995 | Jablon |
| 5,825,877 | US | Dan et al. | 10/20/1998 | Dan |
| 5,276,735 | US | Boebert et al. | 1/4/1994 | Boebert |
| 5,987,123 | US | Scott et al. | 11/16/1999 | Scott |
| 6,058,383 | US | Narasimhalu et al. | 5/2/2000 | Narasimhalu |
| 5,715,403 | US | Stefik | 2/3/1998 | Stefik '403 |
| 5,933,503 | US | Schell et al. | 8/3/1999 | Schell |
| 5,625,693 | US | Rohatgi et al. | 4/29/1997 | Rohatgi |
| 5,740,441 | US | Yellin et al. | 4/14/1998 | Yellin '441 |
| 5,712,914 | US | Aucsmith et al. | 1/27/1998 | Aucsmith '914 |
| 5,757,915 | US | Aucsmith et al. | 5/26/1998 | Aucsmith '915 |
| 7,095,854 | US | Ginter et al. | 8/22/2006 | Ginter '854 |
| 5,218,605 | US | Low et al. | 6/8/1993 | Low |
| 5,689,565 | US | Spies et al. | 11/18/1997 | Spies |
| 6,075,863 | US | Krishnan et al. | 6/13/2000 | Krishnan |
| 5,475,839 | US | Watson et al. | 12/12/1995 | Watson |
| 5,812,763 | US | Teng | 9/22/1998 | Teng |

| | | | | |
|-----------|----|--------------------|------------|--------------|
| 6,151,643 | US | Cheng et al. | 11/21/2000 | Cheng |
| 5,889,943 | US | Ji et al. | 3/30/1999 | Ji |
| 5,745,678 | US | Herzberg et al. | 4/28/1998 | Herzberg |
| 5,291,598 | US | Grundy | 3/1/1994 | Grundy |
| 5,696,822 | US | Nachenberg | 12/9/1997 | Nachenberg |
| 5,452,442 | US | Kephart | 9/19/1995 | Kephart |
| 5,440,723 | US | Arnold et al | 8/8/1995 | Arnold '723 |
| 5,787,172 | US | Arnold | 7/28/1998 | Arnold '172 |
| 5,898,154 | US | Rosen | 4/27/999 | Rosen '154 |
| 5,812,666 | US | Baker et al. | 9/22/1998 | Baker |
| 5,371,692 | US | Draeger et al. | 12/6/1994 | Draeger |
| 5,768,288 | US | Jones | 6/16/1998 | Jones |
| 5,666,416 | US | Micali | 9/9/1997 | Micali '416 |
| 5,604,804 | US | Micali | 2/18/1997 | Micali '804 |
| 5,634,012 | US | Stefik et al. | 5/27/1997 | Stefik '012 |
| 5,629,980 | US | Stefik et al. | 5/13/1997 | Stefik '980 |
| 5,311,591 | US | Fischer | 5/10/1994 | Fischer '591 |
| 5,978,484 | US | Apperson et al. | 11/2/1999 | Apperson |
| 6,266,416 | US | Sigbjornsen et al. | 7/24/2001 | Sigbjornsen |
| 6,263,442 | US | Mueller et al. | 7/17/2001 | Mueller |
| 5,355,479 | US | Torii et al. | 10/11/1994 | Torii |
| 4,860,203 | US | Corrigan et al. | 8/22/1989 | Corrigan |

| Prior Art Publications | | | |
|--|-----------------------|------------------|--------------|
| Title | Author/ Publisher | Publication Date | Abbreviation |
| Security Requirements for Cryptographic Modules | NIST | Jan. 11, 1994 | FIPS 140-1 |
| A Common Approach to Extending Computer Security Concepts to the Universal Distributed Non-Trusted Environment | Richard Dan Herschaft | Dec. 17, 1994 | Herschaft |
| The Design and Implementation of Tripwire: A File System Integrity Checker; Experiences with Tripwire: Using Integrity | Kim & Spafford | Feb. 21, 1994 | Tripwire |

| | | | |
|--|---|----------------|----------------|
| Checkers for Intrusion Detection | | | |
| SmartCard 2000 | D. Chaum | 1991 | SmartCard 2000 |
| The Digital Distributed System Security Architecture | Gasser, et al, , Proceedings of the 1989 National Computer Security Conference | 1989 | Gasser |
| DOD Trusted Computer System Evaluation Criteria | Department of Defense | 1985 | Orange Book |
| Applied Cryptography | Schneier, Bruce., John Wiley & Sons, 1994 | 1994 | Schneier |
| Protocol for Public Key Cryptosystems | Merkle, R., Protocol for Public Key Cryptosystems, Proceedings of IEEE Symp. on Security and Privacy, pages 122-134 | 1980 | Merkle |
| Encryption and Secure Computer Networks | Popek et al., Computing Surveys, Vol. 11, No. 4, December 1979 | 1979 | Popek |
| Fortezza Interface Control Document for the Fortezza Crypto Card | NSA X21 | Dec. 22, 1994 | |
| Information Technology Security Evaluation Manual | Commission of the European Communities, ("ITSEM") | Sept. 10, 1993 | |
| W3C Digital Signature Initiative | Digital Signature Initiative | Aug. 1, 1996 | |
| Secure Software Distribution | Rozenblit, IEEE Network Operations and Management Symposium, Feb.14-17, 1994 | Feb. 1994 | Rozenblit |
| Trusted distribution of software over the Internet | Rubin, Proceedings of the IEEE Symposium on Network and Distributed System Security, February 16-17, 1995 | Feb. 1995 | Rubin |
| A cryptographic key generation scheme for multilevel data security | Harn, Computers & Security, Volume 9, Issue 6 | Oct. 1990 | Harn |

| | | | |
|--|--|-----------|----------|
| A Secure Environment for Untrusted Helper Applications | Goldberg, Proceedings of the Sixth USENIX UNIX Security Symposium, July 1996 | Jul. 1996 | Goldberg |
| Practical authentication for distributed computing | J. Linn, IEEE Computer Society, Symposium on Research in Security and Privacy, May 7-9, 1990 | May 1990 | Linn |
| Security for the Digital Library- Protecting Documents Rather Than Channels | Kohl, Proceedings of the Ninth International Workshop on Database and Expert System Applications | 1998 | Kohl |
| Persistent Access Control To Prevent Piracy Of Digital Information | Schneck, Proceedings of the IEEE | Jul. 1999 | Schneck |
| Body Language, Security and E- Commerce | Desmaris | Mar. 2000 | Desmaris |
| Encapsulated Key Escrow | Bellare, MIT Laboratory for Computer Science Technical Report | Nov. 1996 | Bellare |
| Internet Security Association and Key Management Protocol (ISAKMP) | Maughan, Internet Engineering Task Force, Network Working Group | Nov. 1998 | Maughan |
| Enhanced Security Services for S/MIME | Hoffman, Internet Engineering Task Force, Network Working Group | Jun. 1999 | Hoffman |
| Independent Data Unit Protection Generic Security Service Application Program Interface (IDUP-GSS-API) | Adams, Internet Engineering Task Force, Network Working Group | Dec. 1998 | Adams |
| Internet Security Glossary | Shirey, Internet Engineering Task Force, Network Working Group | May 2000 | Shirey |
| Secure Container Technology as a Basis for Cryptographically Secured Multimedia Communication | Kohl, Multimedia and Security Workshop at ACM Multimedia | Oct. 1998 | Kohl |

| | | | |
|---|---|----------------|------------------|
| Commercialization of Electronic Information | Morin, Journal of End User Computing (Hershey) Vol.12, Issue 2 | Apr.-Jun. 2000 | Morin |
| Digibox: A Self-Protecting Container for Information Commerce | Sibert et al., In Proceedings of the 1st conference on USENIX Workshop on Electronic Commerce - Volume 1. | Jul. 1995 | Digibox - Sibert |

| Prior Art Sale or Public Use/Knowledge | | |
|---|--|---|
| Item Offered for Sale or Publically Known | Identity of Person/Entity | Date of Offer or Use or Information Was Known |
| Digibox System | Electronic Publishing Resources, Inc., Olin Sibert, David Bernstein, David Van Wie | No later than 1995 |
| Abyss System | IBM, and Steve R. White, Liam Comerford, Steve H. Weingart, Vincent J. Cina Jr. | No later than 1990 |

2. The '304 Patent

| Prior Art Patents / Published Applications | | | | |
|--|-------------------|--------------------|-----------------------------|--------------|
| Patent / Publication No. | Country of Origin | Inventor(s) | Date of Issue / Publication | Abbreviation |
| 0,268,139 | EP | Comerford et al. | 5/25/1988 | Comerford |
| 5,237,610 | US | Gammie et al. | 8/17/1993 | Gammie |
| 5,388,211 | US | Hornbuckle | 2/7/1995 | Hornbuckle |
| 5,010,571 | US | Katznelson | 4/23/1991 | Katznelson |
| 4,918,728 | US | Matyas et al. | 4/17/1990 | Matyas |
| 5,504,933 | US | Saito | 4/2/1996 | Saito |
| 4,866,770 | US | Seth-Smith et al. | 9/12/1989 | Seth-Smith |
| 2,095,723 | CA | Waite et al. | 6/4/2002 | Waite |
| 4,634,807 | US | Chorley et al. | 1/6/1987 | Chorley |
| 5,499,298 | US | Narasimhalu et al. | 3/12/1996 | Narasimhalu |
| 5,598,470 | US | Cooper et al. | 1/28/1997 | Cooper |
| 4,558,176 | US | Arnold et al. | 12/10/1985 | |
| 4,817,140 | US | Chandra et al. | 3/28/1989 | |
| 4,868,736 | US | Walker | 9/19/1989 | |
| 4,977,594 | US | Shear | 12/11/1990 | |
| 5,155,680 | US | Wiedemer | 10/13/1992 | |

| | | | | |
|-----------|----|-------------------|------------|--|
| 5,666,411 | US | McCarty | 9/9/1997 | |
| 5,796,824 | US | Hasebe et al. | 8/18/1998 | |
| 5,986,690 | US | Hendricks | 11/16/1999 | |
| 0,585,833 | EP | Heikkinen et al. | 3/9/1994 | |
| 4,829,569 | US | Seth-Smith et al. | 5/9/1989 | |
| 4,916,738 | US | Chandra et al. | 4/10/1990 | |
| 0,132,007 | EP | Crowther | 1/23/1985 | |
| 4,817,142 | US | Van Rassel | 3/28/1989 | |
| 4,907,273 | US | Wiedemer | 3/6/1990 | |
| 5,202,920 | US | Takahashi | 4/13/1993 | |
| 5,319,705 | US | Halter et al. | 6/7/1994 | |
| 5,416,842 | US | Aziz | 5/16/1995 | |
| 5,506,904 | US | Sheldrick et al. | 4/9/1996 | |
| 5,519,780 | US | Woo et al. | 5/21/1996 | |
| 5,715,403 | US | Stefik | 2/3/1998 | |
| 5,539,828 | US | Davis | 7/23/1996 | |
| 5,473,692 | US | Davis | 12/5/1995 | |
| 5,568,552 | US | Davis | 10/22/1996 | |

| Prior Art Publications | | | |
|--|--|------------------|----------------|
| Title | Author/ Publisher | Publication Date | Abbreviation |
| ABYSS: A Trusted Architecture for Software Protection | Steve R. White, IEEE | 1987 | ABYSS 1987 |
| How to sign digital streams | Gennaro, CRYPTO '97 Proceedings of the 17th Annual International Cryptology Conference on Advances in Cryptology | Aug. 1997 | Gennaro-Crypto |
| ABYSS: An Architecture for Software Protection | Steve R. White, IEEE | 1990 | |
| Processing and Transmission of Video, Audio and Control Signals for DBS Services | P.L. Chiu, IEEE | 1984 | |
| Using Secure Coprocessors | Bennet Yee, Carnegie Mellon University | May 1994 | |

| | | | |
|---|----------------------|---------------|---------|
| Introduction to the Citadel Architecture: Security in Physically Exposed Environments | Steve R. White, IBM | Jul. 10, 1991 | Citadel |
| Scientific Atlanta Could Have a Winner in SA B-MAC | Robert Snowden Jones | 1984 | Jones |
| It Runs in the Family | Scientific Atlanta | 1986 | HOMESAT |

| Prior Art Sale or Public Use/Knowledge | | |
|---|---|---|
| Item Offered for Sale or Publically Known | Identity of Person/Entity | Date of Offer or Use or Information Was Known |
| Abyss System | IBM, and Steve R. White, Liam Comerford, Steve H. Weingart, Vincent J. Cina Jr. | No later than 1987 |
| Scientific-Atlanta System | Scientific-Atlanta Inc., Keith Gammie, Robert K. Yoneda, Arthur Woo, Wayne Sheldrick, Cisco Systems, Inc. | No later than 1991 |

3. The '815 Patent

| Prior Art Patents / Published Applications | | | | |
|--|-------------------|------------------|-----------------------------|--------------|
| Patent / Publication No. | Country of Origin | Inventor(s) | Date of Issue / Publication | Abbreviation |
| 5,907,619 | US | Davis | 5/25/1999 | Davis |
| 6,697,948 | US | Rabin et al. | 2/24/2004 | Rabin |
| WO1999040702 | WIPO | Hanna et al. | 8/12/1999 | Hanna |
| 6,009,176 | US | Gennaro et al. | 12/28/1999 | Gennaro |
| 5,625,693 | US | Rohatgi et al. | 4/29/1997 | Rohatgi |
| 5,958,051 | US | Renaud et al. | 9/28/1999 | Renaud |
| 5,629,980 | US | Stefik et al. | 5/13/1997 | Stefik '980 |
| 5,499,294 | US | Friedman | 3/12/1996 | Friedman |
| 5,754,659 | US | Sprunk et al. | 5/19/1998 | Sprunk |
| 5,892,900 | US | Ginter et al. | 4/6/1999 | Ginter |
| 6,668,246 | US | Yeung et al. | 12/13/2003 | Yeung |
| 5,968,175 | US | Morishita et al. | 10/19/1999 | Morishita |
| 6,230,268 | US | Miwa et al. | 5/8/2001 | Miwa |
| 5,604,801 | US | Dolan et al. | 2/18/1997 | Dolan |
| 5,898,779 | US | Squilla et al. | 4/27/1999 | Squilla |

| | | | | |
|----------------|------|---------------------|------------|--------------|
| 4,881,264 | US | Merkle | 11/14/1989 | Merkle |
| 6,061,449 | US | Candelore et al. | 5/9/2000 | Candelore |
| 5,664,016 | US | Preneel et al. | 9/2/1997 | Preneel |
| 5,646,997 | US | Barton | 7/8/1997 | Barton |
| 6,311,271 | US | Gennaro et al. | 10/30/2001 | Gennaro '271 |
| WO1996025814 | WIPO | Chaum et al. | 8/22/1996 | Chaum |
| 6,587,563 | US | Crandall | 7/1/2003 | Crandall |
| 6,292,919 | US | Fries et al. | 9/18/2001 | Fries |
| 5,321,704 | US | Erickson et al. | 6/14/1994 | Erickson |
| 4,074,066 | US | Ehrsam et al. | 2/14/1978 | Ehrsam |
| 5,991,399 | US | Graunke et al. | 11/23/1999 | Graunke |
| 6,418,421 | US | Hurtado et al. | 7/9/2002 | Hurtado |
| 6,480,961 | US | Rajasekharan et al. | 11/12/2002 | Rajasekharan |
| 5,014,234 | US | Edwards | 5/7/1991 | Edwards |
| 6,272,634 | US | Tewfik et al. | 8/7/2001 | Tewfik |
| 6,952,774 | US | Kirovski et al. | 10/4/2005 | Kirovski |
| 6,668,246 | US | Yeung et al. | 12/23/2003 | Yeung '246 |
| 6,226,618 | US | Downs et al. | 5/1/2001 | Downs |
| 7,346,580 | US | Lisanke et al. | 3/18/2008 | Lisanke |
| 2002/0164026A1 | US | Huima | 11/7/2002 | Huima |
| RE37,178 E | US | Kingdon | 5/15/2001 | Kingdon |
| WO9724675 | WIPO | Eldridge et al. | 7/10/1997 | Eldridge |
| 5,666,415 | US | Kaufman | 9/9/1997 | Kaufman |
| 7,194,092 | US | England et al. | 3/29/2007 | England |
| 7,319,759 | US | Peinado et al. | 1/15/2008 | Peinado |
| 5,313,471 | US | Otaka et al. | 5/17/1994 | Otaka |
| 6,049,612 | US | Fielder et al. | 4/11/2000 | Fielder |
| 6,209,111 | US | Kadyk et al. | 3/27/2001 | Kadyk |

| Prior Art Publications | | | |
|--|---|------------------|--------------|
| Title | Author/ Publisher | Publication Date | Abbreviation |
| Applied Cryptography – Protocols, Algorithms, and Source Code in C | Bruce Schneier, John Wiley & Sons, Inc. | 1996 | Schneier |

| | | | |
|--|--|----------------|----------------|
| Federal Information Processing Standards Publication 180 "Secure Hash Standard" ("FIPS PUB 180") and Publication 186 "Digital Signature Standard (DSS)" ("FIPS PUB 186") | National Institute of Standards and Technology | 1994 | FIPS PUB |
| How to sign digital streams | Gennaro, CRYPTO '97 Proceedings of the 17th Annual International Cryptology Conference on Advances in Cryptology | Aug. 1997 | Gennaro-Crypto |
| Computer Networks (3d ed.) | Tanenbaum | 1996 | Tanenbaum |
| Keying Hash Functions for Message Authentication | Bellare, Springer-Verlang | 1996 | Bellare |
| MacDES: MAC algorithm based on DES | Knudsen | Apr. 30, 1998 | Knudsen |
| Hash Functions and the MAC Using All-or-Nothing Property | Shin | Mar. 1-3, 1999 | Shin |

| Prior Art Sale or Public Use/Knowledge | | |
|---|--|---|
| Item Offered for Sale or Publicly Known | Identity of Person/Entity | Date of Offer or Use or Information Was Known |
| DigiBox System | Electronic Publishing Resources, Inc. , Olin Silbert, David Bernstein, David Van Wie | July, 1995 |
| IBM Cryptolope | IBM | January 1998 |
| Sun Microsystems HotJava | Sun Microsystems, Benjamin J. Renaud, John C. Pampuch, Avril E. Hodges Wilsher | 1997 |

4. The '602 Patent

| Prior Art Patents / Published Applications | | | | |
|--|-------------------|---------------------|-----------------------------|--------------|
| Patent / Publication No | Country of Origin | Inventor | Date of Issue / Publication | Abbreviation |
| 4,881,264 | US | Merkle | 11/14/1989 | Merkle |
| 6,061,449 | US | Candelore et al. | 5/9/2000 | Candelore |
| 5,664,016 | US | Preneel et al. | 9/2/1997 | Preneel |
| 5,646,997 | US | Barton | 7/8/1997 | Barton |
| 6,311,271 | US | Gennaro et al. | 10/30/2001 | Gennaro '271 |
| 1996-025814 | WIPO | Chaum et al. | 8/22/1996 | Chaum |
| 6,587,563 | US | Crandall | 7/1/2003 | Crandall |
| 6,292,919 | US | Fries et al. | 9/18/2001 | Fries |
| 6,230,268 | US | Miwa et al. | 5/8/2001 | Miwa |
| 5,321,704 | US | Erickson et al. | 6/14/1994 | Erickson |
| 4,074,066 | US | Ehrsam et al. | 2/14/1978 | Ehrsam |
| 5,313,471 | US | Otaka et al. | 5/17/1994 | Otaka |
| 6,049,612 | US | Fielder et al. | 4/11/2000 | Fielder |
| 6,209,111 | US | Kadyk et al. | 3/27/2001 | Kadyk |
| RE37,178 E | US | Kingdon | 5/15/2001 | Kingdon |
| 7,194,092 | US | England et al. | 3/29/2007 | England |
| 5,666,415 | US | Kaufman | 9/9/1997 | Kaufman |
| 6,009,176 | US | Gennaro et al. | 12/28/1999 | Gennaro '176 |
| 5,754,659 | US | Sprunk et al. | 5/19/1998 | Sprunk |
| 1999-040702A1 | WIPO | Hanna et al. | 8/12/1999 | Hanna WO |
| 5,907,619 | US | Davis | 5/25/1999 | Davis |
| 6,697,948 | US | Rabin et al. | 2/24/2004 | Rabin |
| 6,009,176 | US | Gennaro et al. | 12/28/1999 | Gennaro |
| 5,625,693 | US | Rohatgi et al. | 4/29/1997 | Rohatgi |
| 5,958,051 | US | Renaud et al. | 9/28/1999 | Renaud |
| 5,629,980 | US | Stefik et al. | 5/13/1997 | Stefik '980 |
| 5,499,294 | US | Friedman | 3/12/1996 | Friedman |
| 5,892,900 | US | Ginter et al. | 4/6/1999 | Ginter |
| 6,668,246 | US | Yeung et al. | 12/13/2003 | Yeung |
| 5,991,399 | US | Graunke et al. | 11/23/1999 | Graunke |
| 6,418,421 | US | Hurtado et al. | 7/9/2002 | Hurtado |
| 6,480,961 | US | Rajasekharan et al. | 11/12/2002 | Rajasekharan |
| 5,014,234 | US | Edwards | 5/7/1991 | Edwards |
| 6,272,634 | US | Tewfik et al. | 8/7/2001 | Tewfik |
| 6,952,774 | US | Kirovski et al. | 10/4/2005 | Kivorski |

| | | | | |
|----------------|------|-----------------|------------|------------|
| 6,668,246 | US | Yeung et al. | 12/23/2003 | Yeung '246 |
| 6,226,618 | US | Downs et al. | 5/1/2001 | Downs |
| 7,346,580 | US | Lisanke et al. | 3/18/2008 | Lisanke |
| 2002/0164026A1 | US | Huima | 11/7/2002 | Huima |
| WO9724675 | WIPO | Eldridge et al. | 7/10/1997 | Eldridge |
| 7,319,759 | US | Peinado et al. | 1/15/2008 | Peinado |

| Prior Art Publications | | | |
|--|--|-------------------------|---------------------|
| Title | Author/ Publisher | Publication Date | Abbreviation |
| Computer Networks (3d ed.) | Tanenbaum | 1996 | Tanenbaum |
| Keying Hash Functions for Message Authentication | Bellare, Springer-Verlag | 1996 | Bellare |
| MacDES: MAC algorithm based on DES | Knudsen | Apr. 30, 1998 | Knudsen |
| Hash Functions and the MAC Using All-or-Nothing Property | Shin | Mar. 1-3, 1999 | Shin |
| Applied Cryptography – Protocols, Algorithms, and Source Code in C | Bruce Schneier, John Wiley & Sons, Inc. | 1996 | Schneier |
| How to sign digital streams | Gennaro, CRYPTO '97 Proceedings of the 17th Annual International Cryptology Conference on Advances in Cryptology | Aug. 1997 | Gennaro-Crypto |

| Prior Art Sale or Public Use/Knowledge | | |
|--|--|--|
| Item Offered for Sale or Publically Known | Identity of Person/Entity | Date of Offer or Use or Information Was Known |
| DigiBox System | Electronic Publishing Resources, Inc. , Olin Silbert, David Bernstein, David Van Wie | July, 1995 |

| | | |
|----------------|-----|------------------|
| IBM Cryptolope | IBM | January 22, 1998 |
|----------------|-----|------------------|

5. The '603 Patent

| Prior Art Patents / Published Applications | | | | |
|--|-------------------|---------------------|-----------------------------|---------------|
| Patent / Publication No. | Country of Origin | Inventor | Date of Issue / Publication | Abbreviation |
| 6,505,300 | US | Chan et al. | 1/7/2003 | Chan |
| 5,870,467 | US | Imai et al. | 2/9/1999 | Imai |
| 6,314,409 | US | Schneck et al. | 11/6/2001 | Schneck |
| 5,673,315 | US | Wolf | 9/30/1997 | Wolf |
| 5,737,416 | US | Cooper et al. | 4/7/1998 | Cooper |
| 2007/0211891 | US | Shamoon et al. | 9/13/2007 | Shamoon |
| 4,558,176 | US | Arnold et al. | 12/10/1985 | Arnold |
| 8,370,956 | US | Stefik et al. | 2/5/2013 | Stefik |
| 5,940,504 | US | Griswold | 8/17/1999 | Griswold |
| 5,388,211 | US | Hornbuckle | 2/7/1995 | Hornbuckle |
| 6,510,516 | US | Benson et al. | 1/21/2003 | Benson |
| 7,319,759 | US | Peinado et al. | 1/15/2008 | Peinado |
| 6,820,063 | US | England et al. | 11/16/2004 | England |
| 7,346,580 | US | Lisanke et al. | 3/18/2008 | Lisanke |
| 5,311,591 | US | Fischer | 5/10/1994 | Fisher |
| 5,765,152 | US | Erickson | 6/9/1998 | Erickson '152 |
| 5,991,399 | US | Graunke et al. | 11/23/1999 | Graunke |
| 6,418,421 | US | Hurtado et al. | 7/9/2002 | Hurtado |
| 6,480,961 | US | Rajasekharan et al. | 11/12/2002 | Rajasekharan |
| 5,014,234 | US | Edwards | 5/7/1991 | Edwards |
| 5,815,571 | US | Finley | 9/29/1998 | Finley |
| 5,421,006 | US | Jablon et al. | 5/30/1995 | Jablon |
| 6,775,779 | US | England et al. | 8/10/2004 | England '779 |
| 5,745,678 | US | Herzberg et al. | 4/28/1998 | Herzberg |
| 7,103,574 | US | Peinado et al. | 9/5/2006 | Peinado |
| 6,253,374 | US | Dresevic et al. | 6/26/2001 | Dresevic |
| 6,073,239 | US | Dotan | 6/6/2000 | Dotan |
| 6,226,618 | US | Downs et al. | 5/1/2001 | Downs |
| 6,920,567 | US | Doherty et al. | 7/19/2005 | Doherty |
| 6,772,340 | US | Peinado et al. | 8/3/2004 | Peinado |
| 6,996,720 | US | DeMello et al. | 2/7/2006 | DeMello |
| 5,629,980 | US | Stefik et al. | 5/13/1997 | Stefik '980 |

| | | | | |
|--------------|----|-------------------|------------|---------------|
| 6,233,684 | US | Stefik et al. | 5/15/2001 | Stefik '684 |
| 7,047,241 | US | Erickson | 5/16/2006 | Erickson '241 |
| 6,944,776 | US | Lockhart et al. | 9/13/2005 | Lockhart |
| 2002/0012432 | US | England et al. | 1/31/2002 | England '432 |
| 6,792,113 | US | Ansell et al. | 9/14/2004 | Ansell |
| 5,010,571 | US | Katznelson | 4/23/1991 | Katznelson |
| 5,892,900 | US | Ginter et al. | 4/6/1999 | Ginter '900 |
| 6,157,721 | US | Shear et al. | 12/5/2000 | Shear |
| 5,634,012 | US | Stefik et al. | 5/27/1997 | Stefik '012 |
| 6,236,971 | US | Stefik et al. | 5/22/2001 | Stefik '971 |
| 5,757,907 | US | Cooper et al. | 5/26/1998 | |
| 5,638,443 | US | Stefik et al. | 6/10/1997 | |
| 5,715,403 | US | Stefik | 2/3/1998 | |
| 5,657,390 | US | Elgamal et al. | 8/12/1997 | Elgamal '390 |
| 5,671,279 | US | Elgamal | 9/23/1997 | Elgamal '279 |
| 5,825,877 | US | Dan et al. | 10/20/1998 | |
| 5,910,987 | US | Ginter et al. | 6/8/1999 | |
| 5,925,127 | US | Ahmad | 7/20/1999 | |
| 5,991,399 | US | Graunke et al. | 11/23/1999 | |
| 6,073,124 | US | Krishnan et al. | 6/6/2000 | |
| 6,094,485 | US | Weinstein et al. | 7/25/2000 | Weinstein |
| 6,135,646 | US | Kahn et al. | 10/24/2000 | |
| 6,138,107 | US | Elgamal | 10/24/2000 | Elgamal '107 |
| 6,170,060 | US | Mott et al. | 1/2/2001 | |
| 6,189,097 | US | Tycksen et al. | 2/13/2001 | |
| 6,223,291 | US | Puhl et al. | 4/24/2001 | |
| 6,233,684 | US | Stefik et al. | 5/15/2001 | Stefik '684 |
| 6,260,043 | US | Puri et al. | 7/10/2001 | |
| 6,301,660 | US | Benson | 10/9/2001 | |
| 6,367,019 | US | Ansell et al. | 4/2/2002 | |
| 6,389,538 | US | Gruse et al. | 5/14/2002 | Gruse '538 |
| 6,398,245 | US | Gruse et al. | 6/4/2002 | Gruse '245 |
| 6,412,070 | US | Van Dyke et al. | 6/25/2002 | |
| 6,438,235 | US | Sims | 8/20/2002 | |
| 6,463,534 | US | Geiger et al. | 10/8/2002 | |
| 6,513,121 | US | Serkowski | 1/28/2003 | |
| 6,519,700 | US | Ram et al. | 2/11/2003 | |
| 6,532,542 | US | Thomlinson et al. | 3/11/2003 | |
| 6,574,609 | US | Downs et al. | 6/3/2003 | Downs '609 |

| | | | | |
|--------------|----|-------------------|------------|--------------|
| 6,582,310 | US | Walker et al. | 6/24/2003 | |
| 6,587,837 | US | Spagna et al. | 7/1/2003 | Spagna |
| 6,697,944 | US | Jones et al. | 2/24/2004 | |
| 6,775,655 | US | Peinado et al. | 8/10/2004 | |
| 6,873,975 | US | Hatakeyama et al. | 3/29/2005 | |
| 6,885,748 | US | Wang | 4/26/2005 | |
| 6,904,523 | US | Bialick et al. | 6/7/2005 | |
| 6,944,669 | US | Saccocio | 9/13/2005 | Saccocio |
| 6,959,288 | US | Medina et al. | 10/25/2005 | Medina |
| 7,013,390 | US | Elgamal et al. | 3/14/2006 | Elgamal '390 |
| 7,020,704 | US | Lipscomb et al. | 3/28/2006 | |
| 7,068,787 | US | Ta et al. | 6/27/2006 | |
| 7,155,415 | US | Russell et al. | 12/26/2006 | |
| 7,206,748 | US | Gruse et al. | 4/17/2007 | Gruse '748 |
| 7,209,892 | US | Galuten et al. | 4/24/2007 | |
| 7,225,165 | US | Kyojima et al. | 5/29/2007 | |
| 7,353,209 | US | Peinado et al. | 4/1/2008 | |
| 7,424,543 | US | Rice | 9/9/2008 | |
| 7,523,072 | US | Stefik et al. | 4/21/2009 | Stefik '072 |
| 7,861,312 | US | Lee et al. | 12/28/2010 | |
| 8,091,025 | US | Ramos et al. | 1/3/2012 | |
| 8,175,977 | US | Story et al. | 5/8/2012 | |
| 2002/0003886 | US | Hillegass et al. | 1/10/2002 | |
| 2002/0059364 | US | Coulthard et al. | 5/16/2002 | |
| 2004/0125957 | US | Rauber et al. | 7/1/2004 | |
| 1998/010381 | WO | Shear et al. | 3/12/1998 | |
| 1999/045491 | WO | Eberhard et al. | 9/10/1999 | |
| 6,088,801 | US | Grecsek | 7/11/2000 | |

| Prior Art Publications | | | |
|--|----------------------|------------------|--------------|
| Title | Author/ Publisher | Publication Date | Abbreviation |
| IBM announces electronic copyright solutions | Lunin | May 1995 | Lunin |
| Detecting digital copyright violations on the internet | Narayanan Shivakumar | Aug. 1999 | Shivakumar |
| MCF: A Malicious Code Filter | Raymond W. Lo | 1995 | Lo |

| Prior Art Sale or Public Use/Knowledge | | |
|--|--|--|
| Item Offered for Sale or Publically Known | Identity of Person/Entity | Date of Offer or Use or Information Was Known |
| DigiBox System | Electronic Publishing Resources, Inc. , Olin Silbert, David Bernstein, David Van Wie | July, 1995 |
| IBM Cryptolope | IBM | January 22, 1998 |

6. The '342 Patent

| Prior Art Patents / Published Applications | | | | |
|---|--------------------------|-----------------|------------------------------------|---------------------|
| Patent / Publication No. | Country of Origin | Inventor | Date of Issue / Publication | Abbreviation |
| 6,226,618 | US | Downs et al. | 5/1/2001 | Downs |
| 6,920,567 | US | Doherty et al. | 7/19/2005 | Doherty |
| 6,772,340 | US | Peinado et al. | 8/3/2004 | Peinado |
| 6,996,720 | US | DeMello et al. | 2/7/2006 | DeMello |
| 5,629,980 | US | Stefik et al. | 5/13/1997 | Stefik '980 |
| 6,233,684 | US | Stefik et al. | 5/15/2001 | Stefik '684 |
| 7,047,241 | US | Erickson | 5/16/2006 | Erickson |
| 6,944,776 | US | Lockhart et al. | 9/13/2005 | Lockhart |
| 2002/0012432 | US | England et al. | 1/31/2002 | England '432 |
| 6,820,063 | US | England et al. | 11/16/2004 | England '063 |
| 6,792,113 | US | Ansell et al. | 9/14/2004 | Ansell |
| 5,892,900 | US | Ginter et al. | 4/6/1999 | Ginter |
| 6,157,721 | US | Shear et al. | 12/5/2000 | Shear |
| 5,634,012 | US | Stefik et al. | 5/27/1997 | Stefik '012 |
| 6,236,971 | US | Stefik et al. | 5/22/2001 | Stefik '971 |
| 5,991,399 | US | Graunke et al. | 11/23/1999 | Graunke |
| 6,611,812 | US | Hurtado et al. | 8/26/2003 | Hurtado |
| 5,757,907 | US | Cooper et al. | 5/26/1998 | |
| 5,638,443 | US | Stefik et al. | 6/10/1997 | |
| 5,715,403 | US | Stefik | 2/3/1998 | |
| 5,657,390 | US | Elgamal et al. | 8/12/1997 | Elgamal '390 |
| 5,671,279 | US | Elgamal | 9/23/1997 | Elgamal '279 |

| | | | | |
|-----------|----|-------------------|------------|--------------|
| 5,825,877 | US | Dan et al. | 10/20/1998 | |
| 5,910,987 | US | Ginter et al. | 6/8/1999 | |
| 5,925,127 | US | Ahmad | 7/20/1999 | |
| 6,073,124 | US | Krishnan et al. | 6/6/2000 | |
| 6,094,485 | US | Weinstein et al. | 7/25/2000 | Weinstein |
| 6,135,646 | US | Kahn et al. | 10/24/2000 | |
| 6,138,107 | US | Elgamal | 10/24/2000 | Elgamal '107 |
| 6,170,060 | US | Mott et al. | 1/2/2001 | |
| 6,189,097 | US | Tycksen et al. | 2/13/2001 | |
| 6,223,291 | US | Puhl et al. | 4/24/2001 | |
| 6,233,684 | US | Stefik et al. | 5/15/2001 | Stefik '684 |
| 6,260,043 | US | Puri et al. | 7/10/2001 | |
| 6,301,660 | US | Benson | 10/9/2001 | |
| 6,367,019 | US | Ansell et al. | 4/2/2002 | |
| 6,389,538 | US | Gruse et al. | 5/14/2002 | Gruse '538 |
| 6,398,245 | US | Gruse et al. | 6/4/2002 | Gruse '245 |
| 6,412,070 | US | Van Dyke et al. | 6/25/2002 | |
| 6,418,421 | US | Hurtado et al. | 7/9/2002 | |
| 6,438,235 | US | Sims | 8/20/2002 | |
| 6,463,534 | US | Geiger et al. | 10/8/2002 | |
| 6,513,121 | US | Serkowski | 1/28/2003 | |
| 6,519,700 | US | Ram et al. | 2/11/2003 | |
| 6,532,542 | US | Thomlinson et al. | 3/11/2003 | |
| 6,574,609 | US | Downs et al. | 6/3/2003 | Downs '609 |
| 6,582,310 | US | Walker et al. | 6/24/2003 | |
| 6,587,837 | US | Spagna et al. | 7/1/2003 | Spagna |
| 6,697,944 | US | Jones et al. | 2/24/2004 | |
| 6,775,655 | US | Peinado et al. | 8/10/2004 | |
| 6,873,975 | US | Hatakeyama et al. | 3/29/2005 | |
| 6,885,748 | US | Wang | 4/26/2005 | |
| 6,904,523 | US | Bialick et al. | 6/7/2005 | |
| 6,944,669 | US | Saccocio | 9/13/2005 | Saccocio |
| 6,959,288 | US | Medina et al. | 10/25/2005 | Medina |
| 7,013,390 | US | Elgamal et al. | 3/14/2006 | Elgamal '390 |
| 7,020,704 | US | Lipscomb et al. | 3/28/2006 | |
| 7,068,787 | US | Ta et al. | 6/27/2006 | |
| 7,155,415 | US | Russell et al. | 12/26/2006 | |
| 7,206,748 | US | Gruse et al. | 4/17/2007 | Gruse '748 |
| 7,209,892 | US | Galuten et al. | 4/24/2007 | |

| | | | | |
|--------------|----|------------------|------------|-------------|
| 7,225,165 | US | Kyojima et al. | 5/29/2007 | |
| 7,353,209 | US | Peinado et al. | 4/1/2008 | |
| 7,424,543 | US | Rice | 9/9/2008 | |
| 7,523,072 | US | Stefik et al. | 4/21/2009 | Stefik '072 |
| 8,370,956 | US | Stefik et al. | 2/5/2013 | Stefik '956 |
| 7,861,312 | US | Lee et al. | 12/28/2010 | |
| 8,091,025 | US | Ramos et al. | 1/3/2012 | |
| 8,175,977 | US | Story et al. | 5/8/2012 | |
| 2002/0003886 | US | Hillegass et al. | 1/10/2002 | |
| 2002/0059364 | US | Coulthard et al. | 5/16/2002 | |
| 2004/0125957 | US | Rauber et al. | 7/1/2004 | |
| 1998/010381 | WO | Shear et al. | 3/12/1998 | |
| 1999/045491 | WO | Eberhard et al. | 9/10/1999 | |

| Prior Art Publications | | | |
|---|-----------------------|------------------|--------------|
| Title | Author/ Publisher | Publication Date | Abbreviation |
| SDMI Portable Device Specification | PDWG | Jul. 9 1999 | SDMI |
| EUROMED-JAVA: Trusted Third Party Services for Securing Medical Java Applets | Varvitsiotis | 1999 | Varvitsiotis |
| Trusted Third Party Services for Deploying Secure Telemedical Applications Over the WWW | Spinellis | 1999 | Spinellis |
| RFC 2459 – Internet X.509 Public Key Infrastructure Certificate and CRL Profile | Network Working Group | Jan. 1999 | X.509 |
| Authorization and Attribute Certificates for Widely Distributed Access Control | Johnston | June 1998 | |
| Certificates and Trust in Electronic Commerce | Wilson | 1997 | |

| | | | |
|--|------------|---------------|--|
| ABYSS A Basic Yorktown Security System PC Software Asset Protection Concepts | Cina | 1986 | |
| Enabling Access in Digital Libraries | Arms | Feb. 1999 | |
| Safe Deals Between Strangers | Gladney | 1999 | |
| Safeguarding Digital Library Contents and Users | Gladney | May 1998 | |
| Physical Security for the ABYSS System | Weingart | 1987 | |
| ABYSS: A Trusted Architecture for Software Protection | White | 1987 | |
| ABYSS: An Architecture for Software Protection | White | Jun. 1990 | |
| A Common Approach to Extending Computer Security Concepts to the Universal Distributed Non-Trusted Environment | Herschaft | Dec. 17, 1994 | |
| Agent-based commercial dissemination of electronic information | Konstantas | May 30, 2000 | |
| Hierarchical Organization of Certification Authorities for Secure Environments | Lopez | Feb. 10, 1997 | |
| Persistent access control to prevent piracy of digital information | Schneck | Jul. 1999 | |
| A perspective: the role of identifiers in managing and protecting intellectual property in the digital age | Hill | Jul. 1999 | |

| | | | |
|--|-------------------------------|---------------|----------------|
| Flexible control of downloaded executable content | Prakash | May 1999 | |
| Enabling Access In Digital Libraries : A Report On A Workshop On Access Management | Klavans | Feb. 1999 | |
| Netscape Certificate Management System Installation and Deployment Guide | Netscape Communications Corp. | 1999 | NCMS Install |
| Netscape Certificate Management System Administrator's Guide | Netscape Communications Corp. | 1999 | NCMS Admin |
| Netscape Certificate Management System Agent's Guide | Netscape Communications Corp. | 1999 | NCMS Agent |
| Netscape Certificate Management System Help | Netscape Communications Corp. | 1999 | NCMS Help |
| DOD, Netscape Ready PKI Rollout | Verton | Jul. 18, 1999 | |
| CMS 401 Simplifies Certificates | Barck | Sep. 13, 1999 | |
| Windows Media Rights Manager Overview Webpage | Microsoft Corp. | May 19, 2000 | WMDRM Overview |
| Windows Media Rights Manager Technical Features and Benefits Webpage | Microsoft Corp. | Mar. 8, 1999 | WMDRM Features |
| Windows Media Rights Manager FAQ Webpage | Microsoft Corp. | May 19, 2000 | WMDRM FAQ |
| Windows Media Rights Manager 7 Webpage | Microsoft Corp. | Jun. 5, 2000 | WMDRM 7 |
| Windows Media Encoder 7 Webpage | Microsoft Corp. | May 9, 2000 | WM Encoder |
| Windows Media Format 7 Webpage | Microsoft Corp. | May 9, 2000 | WM Format |
| Windows Media Tools Webpage | Microsoft Corp. | Jun. 1, 2000 | WM Tools |
| Windows Media Player 7 Beta Webpage | Microsoft Corp. | May 31, 2000 | WM Player |

| | | | |
|--|-----------------|---------------|--|
| Get Windows Media Player 7 Beta NOW! Webpage | Microsoft Corp. | Apr. 13, 2000 | |
| Windows Media Technologies 4.1 Features Webpage | Microsoft Corp. | Apr. 3, 2000 | |
| Windows Media Technologies Home Webpage | Microsoft Corp. | Nov. 17, 1999 | |
| Windows Media on PressPass Webpage | Microsoft Corp. | Jun. 22, 1995 | |
| Windows Media Technologies 4 Delivers Cutting-Edge CD-Quality Audio on the Internet | Microsoft Corp. | Sep. 17, 1999 | |
| Microsoft and S3's Diamond Multimedia Showcase Rio Player in First Live Demonstration of Windows Media on SDMI-Capable Portable Device | Microsoft Corp. | Nov. 15, 1999 | |
| Supertracks and Microsoft Announce Windows Media Digital Rights Technology Integration for New Music Download and Promotion System | Microsoft Corp. | Dec. 7, 1999 | |
| Microsoft and Texas Instruments Announce Native Windows Media Support on TI Programmable DSPs | Microsoft Corp. | Dec. 7, 1999 | |
| Microsoft and Preview Systems Announce First Windows Media-Based Digital Audio and Video Distribution Solution for Retail Commerce | Microsoft Corp. | Dec. 7, 1999 | |
| [MS-DRM]: Digital Rights Management License Protocol | Microsoft Corp. | Jun. 1, 2017 | |

| | | | |
|--|-----------------|---------------|------------|
| [MS-DRMND]: Windows Digital Rights Management (WMDRM): Network Devices Protocol | Microsoft Corp. | Jun. 1, 2017 | MS-DRM |
| 5799 – EMMS Content Mastering | IBM | May 3, 2000 | EMMS 5799 |
| EMMS Software Suite | IBM | Jun. 23, 1905 | EMMS Suite |
| EMMS Frequently Asked Questions | IBM | Unknown | EMMS FAQ |
| IBM Electronic Media Management System, V2.1 – A Digital Rights Management Platform | IBM | Jan. 29, 2002 | |
| BMG Entertainment Plans Adoption of IBM Technology For Commercial Roll-out of Electronic Music Distribution to Consumers | IBM | Apr. 6, 2000 | |
| BMG Unveils Comprehensive Online Digital Downloading Plans for the Year 2000 and Beyond | IBM | Apr. 6, 2000 | |
| Five Major Music Companies and IBM Successfully Complete Electronic Music Distribution Trial | IBM | Feb. 2, 2000 | |
| IBM and Liquid Audio Team Up on Digital Music Technologies and Services | IBM | Apr. 6, 2000 | |
| IBM and Reciprocal Establish Strategic Relationship to Expand Digital Music Distribution | IBM | Apr. 6, 2000 | |
| IBM and Sony Show First Results of Collaboration with Electronic Music Distribution | IBM/Sony | Nov. 15, 1999 | |

| | | | |
|---|---------|---------------|-----------------|
| Leading Music Mastering Studio to Use IBM's Digital Rights Management Technology | IBM | Jul. 24, 2000 | |
| Toshiba and IBM to Jointly Accelerate Digital Music Distribution Marketplace | IBM | Mar. 13, 2000 | |
| Windows Media Technologies 4 Delivers Cutting-Edge CD-Quality Audio on the Internet | IBM | Sep. 17, 1999 | |
| The Media Business; Sony and IBM Create Alliance on Delivering Music Over Net | Richtel | Apr. 16, 1999 | |
| Cryptolope Live! Home Webpage | IBM | Jan. 22, 1998 | Cryptolope Home |
| IBM Introduces Cryptolope Live! Webpage | IBM | Sep. 9, 1997 | |
| Cryptolope Container Technology Webpage | IBM | Jan. 22, 1998 | Cryptolope News |
| IBM infoMarket Saga | Various | Various | |
| IBM Make Cryptolope Deal | CNet | Dec. 11, 1996 | |
| IBM Expands Its Digital Rights Management Technology | IBM | Apr. 8, 2002 | |
| DigiBox: A Self-Protecting Container for Information Commerce | Sibert | Jul. 1, 1995 | Sibert |

| Prior Art Sale or Public Use/Knowledge | | |
|---|---|---|
| Item Offered for Sale or Publically Known | Identity of Person/Entity | Date of Offer or Use or Information Was Known |
| Netscape System | Netscape Communications, American Online, and Taher Elgamal, Jeff Weinstein | No later than 1999 |

| | | |
|-----------------|--|--------------------|
| WMDRM System | Microsoft Corporation, Peter Biddle, Bryan Willman, Paul England, Marcus Peinado | No later than 1999 |
| IBM DRM Systems | IBM, Jeff Crigler, Tim Byars | No later than 1999 |
| Digibox System | Electronic Publishing Resources, Inc. ("EPR"), Olin Sibert, David Bernstein, David Van Wie | No later than 1995 |

7. The '157 Patent

| Prior Art Patents / Published Applications | | | | |
|--|-------------------|--------------------|-----------------------------|--------------|
| Patent / Publication No. | Country of Origin | Inventor | Date of Issue / Publication | Abbreviation |
| 0,268,139 | EP | Comerford et al. | 5/25/1988 | Comerford |
| 5,237,610 | US | Gammie et al. | 8/17/1993 | Gammie |
| 5,388,211 | US | Hornbuckle | 2/7/1995 | Hornbuckle |
| 5,010,571 | US | Katznelson | 4/23/1991 | Katznelson |
| 4,918,728 | US | Matyas et al. | 4/17/1990 | Matyas |
| 5,504,933 | US | Saito | 4/2/1996 | Saito |
| 4,866,770 | US | Seth-Smith et al. | 9/12/1989 | Seth-Smith |
| 2,095,723 | CA | Waite et al. | 6/4/2002 | Waite |
| 4,634,807 | US | Chorley et al. | 1/6/1987 | Chorley |
| 5,499,298 | US | Narasimhalu et al. | 3/12/1996 | Narasimhalu |
| 5,598,470 | US | Cooper et al. | 1/28/1997 | Cooper |
| 5,313,521 | US | Torii et al. | 5/17/1994 | Torii |
| 5,058,162 | US | Santon et al. | 10/15/1991 | Santon |
| 5,109,413 | US | Comerford, et al. | 4/28/1992 | |
| WO90/13865 | WIPO | Hornbuckle | 11/15/1990 | |
| 5,757,907 | US | Cooper et al. | 5/26/1998 | |
| 4,558,176 | US | Arnold et al. | 12/10/1985 | |
| 4,817,140 | US | Chandra et al. | 3/28/1989 | |
| 4,868,736 | US | Walker | 9/19/1989 | |
| 4,977,594 | US | Shear | 12/11/1990 | |
| 5,155,680 | US | Wiedemer | 10/13/1992 | |
| 5,666,411 | US | McCarty | 9/9/1997 | |
| 5,796,824 | US | Hasebe et al. | 8/18/1998 | |
| 5,986,690 | US | Hendricks | 11/16/1999 | |
| 0,585,833 | EP | Heikkinen et al. | 3/9/1994 | |
| 4,829,569 | US | Seth-Smith et al. | 5/9/1989 | |

| | | | | |
|-----------|----|------------------|------------|--|
| 4,916,738 | US | Chandra et al. | 4/10/1990 | |
| 0,132,007 | EP | Crowther | 1/23/1985 | |
| 4,817,142 | US | Van Rassel | 3/28/1989 | |
| 4,907,273 | US | Wiedemer | 3/6/1990 | |
| 5,202,920 | US | Takahashi | 4/13/1993 | |
| 5,319,705 | US | Halter et al. | 6/7/1994 | |
| 5,416,842 | US | Aziz | 5/16/1995 | |
| 5,506,904 | US | Sheldrick et al. | 4/9/1996 | |
| 5,519,780 | US | Woo et al. | 5/21/1996 | |
| 5,715,403 | US | Stefik | 2/3/1998 | |
| 5,539,828 | US | Davis | 7/23/1996 | |
| 5,473,692 | US | Davis | 12/5/1995 | |
| 5,568,552 | US | Davis | 10/22/1996 | |

| Prior Art Publications | | | |
|--|--|------------------|--------------|
| Title | Author/ Publisher | Publication Date | Abbreviation |
| ABYSS: A Trusted Architecture for Software Protection | Steve R. White, IEEE | 1987 | ABYSS 1987 |
| Superdistribution: The Concept and the Architecture | Ryoichi Mori and Masaji Kawahara | 1990 | Mori |
| ABYSS: A Basic Yorktown Security System PC Software Asset Protection Concepts” by Vincent Cina, Jr., Steve White, and Liam Comerford (“ABYSS Article”) | Vincent Cina, Jr., Steve White, and Liam Comerford | 1986 | ABYSS 1986 |
| A Common Approach to Extending Computer Security Concepts to the Universal Distributed Non-Trusted Environment | Richard Dan Herschaft | 1994 | |
| Public Protection of Software | Amir Herzberg and Shlomit Pinter | 1987 | |

| | | | |
|---|--|---------------|---------|
| Processing and Transmission of Video, Audio and Control Signals for DBS Services | P.L. Chiu, IEEE | 1984 | |
| Using Secure Coprocessors | Bennet Yee, Carnegie Mellon University | May 1994 | |
| Introduction to the Citadel Architecture: Security in Physically Exposed Environments | Steve R. White, IBM | Jul. 10, 1991 | Citadel |
| Scientific Atlanta Could Have a Winner in SA B-MAC | Robert Snowden Jones | 1984 | Jones |
| It Runs in the Family | Scientific Atlanta | 1986 | HOMESAT |

| Prior Art Sale or Public Use/Knowledge | | |
|---|---|---|
| Item Offered for Sale or Publically Known | Identity of Person/Entity | Date of Offer or Use or Information Was Known |
| Abyss System | IBM, and Steve R. White, Liam Comerford, Steve H. Weingart, Vincent J. Cina Jr. | No later than 1987 |
| Scientific-Atlanta System | Scientific-Atlanta Inc., Keith Gammie, Robert K. Yoneda, Arthur Woo, Wayne Sheldrick, Cisco Systems, Inc. | No later than 1991 |

8. The '158 Patent

| Prior Art Patents / Published Applications | | | | |
|--|-------------------|-------------------|-----------------------------|--------------|
| Patent / Publication No. | Country of Origin | Inventor | Date of Issue / Publication | Abbreviation |
| 0,268,139 | EP | Comerford et al. | 5/25/1988 | Comerford |
| 5,237,610 | US | Gammie et al. | 8/17/1993 | Gammie |
| 5,388,211 | US | Hornbuckle | 2/7/1995 | Hornbuckle |
| 5,010,571 | US | Katznelson | 4/23/1991 | Katznelson |
| 4,918,728 | US | Matyas et al. | 4/17/1990 | Matyas |
| 5,504,933 | US | Saito | 4/2/1996 | Saito |
| 4,866,770 | US | Seth-Smith et al. | 9/12/1989 | Seth-Smith |
| 2,095,723 | CA | Waite et al. | 6/4/2002 | Waite |

| | | | | |
|------------|------|--------------------|------------|-------------|
| 4,634,807 | US | Chorley et al. | 1/6/1987 | Chorley |
| 5,499,298 | US | Narasimhalu et al. | 3/12/1996 | Narasimhalu |
| 4,355,393 | US | Kubo et al. | 10/19/1982 | Kubo |
| 5,058,162 | US | Santon et al. | 11/15/1991 | Santon |
| 5,629,980 | US | Stefik et al. | 5/13/1997 | Stefik '980 |
| 5,598,470 | US | Cooper et al. | 1/28/1997 | Cooper |
| 5,109,413 | US | Comerford, et al. | 4/28/1992 | |
| WO90/13865 | WIPO | Hornbuckle | 11/15/1990 | |
| 4,558,176 | US | Arnold et al. | 12/10/1985 | |
| 4,817,140 | US | Chandra et al. | 3/28/1989 | |
| 4,868,736 | US | Walker | 9/19/1989 | |
| 4,977,594 | US | Shear | 12/11/1990 | |
| 5,155,680 | US | Wiedemer | 10/13/1992 | |
| 5,666,411 | US | McCarty | 9/9/1997 | |
| 5,796,824 | US | Hasebe et al. | 8/18/1998 | |
| 5,986,690 | US | Hendricks | 11/16/1999 | |
| 0,585,833 | EP | Heikkinen et al. | 3/9/1994 | |
| 4,829,569 | US | Seth-Smith et al. | 5/9/1989 | |
| 4,916,738 | US | Chandra et al. | 4/10/1990 | |
| 0,132,007 | EP | Crowther | 1/23/1985 | |
| 4,817,142 | US | Van Rassel | 3/28/1989 | |
| 4,907,273 | US | Wiedemer | 3/6/1990 | |
| 5,202,920 | US | Takahashi | 4/13/1993 | |
| 5,319,705 | US | Halter et al. | 6/7/1994 | |
| 5,416,842 | US | Aziz | 5/16/1995 | |
| 5,506,904 | US | Sheldrick et al. | 4/9/1996 | |
| 5,519,780 | US | Woo et al. | 5/21/1996 | |
| 5,715,403 | US | Stefik | 2/3/1998 | |
| 5,539,828 | US | Davis | 7/23/1996 | |
| 5,473,692 | US | Davis | 12/5/1995 | |
| 5,568,552 | US | Davis | 10/22/1996 | |

| Prior Art Publications | | | |
|---|----------------------|------------------|--------------|
| Title | Author/ Publisher | Publication Date | Abbreviation |
| ABYSS: A Trusted Architecture for Software Protection | Steve R. White, IEEE | 1987 | ABYSS 1987 |

| | | | |
|--|--|---------------|------------|
| ABYSS: A Basic Yorktown Security System PC Software Asset Protection Concepts” by Vincent Cina, Jr., Steve White, and Liam Comerford (“ABYSS Article”) | Vincent Cina, Jr., Steve White, and Liam Comerford | 1986 | ABYSS 1986 |
| Superdistribution: The Concept and the Architecture | Ryoichi Mori and Masaji Kawahara | 1990 | Mori |
| A Common Approach to Extending Computer Security Concepts to the Universal Distributed Non-Trusted Environment | Richard Dan Herschaft | 1994 | |
| Public Protection of Software | Amir Herzberg and Shlomit Pinter | 1987 | |
| Processing and Transmission of Video, Audio and Control Signals for DBS Services | P.L. Chiu, IEEE | 1984 | |
| Using Secure Coprocessors | Bennet Yee, Carnegie Mellon University | May 1994 | |
| Introduction to the Citadel Architecture: Security in Physically Exposed Environments | Steve R. White, IBM | Jul. 10, 1991 | Citadel |
| Scientific Atlanta Could Have a Winner in SA B-MAC | Robert Snowden Jones | 1984 | Jones |
| It Runs in the Family | Scientific Atlanta | 1986 | HOMESAT |

Prior Art Sale or Public Use/Knowledge

| Item Offered for Sale or Publically Known | Identity of Person/Entity | Date of Offer or Use or Information Was Known |
|--|---|--|
| Abyss System | IBM, and Steve R. White, Liam Comerford, Steve H. Weingart, Vincent J. Cina Jr. | No later than 1987 |
| Scientific-Atlanta System | Scientific-Atlanta Inc., Keith Gammie, Robert K. Yoneda, Arthur Woo, Wayne Sheldrick, Cisco Systems, Inc. | No later than 1991 |

9. The '106 Patent

| Prior Art Patents / Published Applications | | | | |
|---|--------------------------|-----------------|------------------------------------|---------------------|
| Patent / Publication No. | Country of Origin | Inventor | Date of Issue / Publication | Abbreviation |
| 6,226,618 | US | Downs et al. | 5/1/2001 | Downs |
| 6,920,567 | US | Doherty et al. | 7/19/2005 | Doherty |
| 6,772,340 | US | Peinado et al. | 8/3/2004 | Peinado |
| 6,996,720 | US | DeMello et al. | 2/7/2006 | DeMello |
| 5,629,980 | US | Stefik et al. | 5/13/1997 | Stefik '980 |
| 6,233,684 | US | Stefik et al. | 5/15/2001 | Stefik '684 |
| 7,047,241 | US | Erickson | 5/16/2006 | Erickson |
| 6,944,776 | US | Lockhart et al. | 9/13/2005 | Lockhart |
| 2002/0012432 | US | England et al. | 1/31/2002 | England '432 |
| 6,820,063 | US | England et al. | 11/16/2004 | England '063 |
| 6,792,113 | US | Ansell et al. | 9/14/2004 | Ansell |
| 5,010,571 | US | Katznelson | 4/23/1991 | Katznelson |
| 5,388,211 | US | Hornbuckle | 2/7/1995 | Hornbuckle |
| 5,892,900 | US | Ginter et al. | 4/6/1999 | Ginter |
| 6,157,721 | US | Shear et al. | 12/5/2000 | Shear |
| 5,634,012 | US | Stefik et al. | 5/27/1997 | Stefik '012 |
| 6,236,971 | US | Stefik et al. | 5/22/2001 | Stefik '971 |
| 5,991,399 | US | Graunke et al. | 11/23/1999 | Graunke |
| 6,611,812 | US | Hurtado et al. | 8/26/2003 | Hurtado |
| 5,757,907 | US | Cooper et al. | 5/26/1998 | |
| 5,638,443 | US | Stefik et al. | 6/10/1997 | |
| 5,715,403 | US | Stefik | 2/3/1998 | |
| 5,657,390 | US | Elgamal et al. | 8/12/1997 | Elgamal '390 |
| 5,671,279 | US | Elgamal | 9/23/1997 | Elgamal '279 |
| 5,825,877 | US | Dan et al. | 10/20/1998 | |

| | | | | |
|-----------|----|-------------------|------------|--------------|
| 5,910,987 | US | Ginter et al. | 6/8/1999 | |
| 5,925,127 | US | Ahmad | 7/20/1999 | |
| 6,073,124 | US | Krishnan et al. | 6/6/2000 | |
| 6,094,485 | US | Weinstein et al. | 7/25/2000 | Weinstein |
| 6,135,646 | US | Kahn et al. | 10/24/2000 | |
| 6,138,107 | US | Elgamal | 10/24/2000 | Elgamal '107 |
| 6,170,060 | US | Mott et al. | 1/2/2001 | |
| 6,189,097 | US | Tycksen et al. | 2/13/2001 | |
| 6,223,291 | US | Puhl et al. | 4/24/2001 | |
| 6,233,684 | US | Stefik et al. | 5/15/2001 | Stefik '684 |
| 6,260,043 | US | Puri et al. | 7/10/2001 | |
| 6,301,660 | US | Benson | 10/9/2001 | |
| 6,367,019 | US | Ansell et al. | 4/2/2002 | |
| 6,389,538 | US | Gruse et al. | 5/14/2002 | Gruse '538 |
| 6,398,245 | US | Gruse et al. | 6/4/2002 | Gruse '245 |
| 6,412,070 | US | Van Dyke et al. | 6/25/2002 | |
| 6,418,421 | US | Hurtado et al. | 7/9/2002 | |
| 6,438,235 | US | Sims | 8/20/2002 | |
| 6,463,534 | US | Geiger et al. | 10/8/2002 | |
| 6,513,121 | US | Serkowski | 1/28/2003 | |
| 6,519,700 | US | Ram et al. | 2/11/2003 | |
| 6,532,542 | US | Thomlinson et al. | 3/11/2003 | |
| 6,574,609 | US | Downs et al. | 6/3/2003 | Downs '609 |
| 6,582,310 | US | Walker et al. | 6/24/2003 | |
| 6,587,837 | US | Spagna et al. | 7/1/2003 | Spagna |
| 6,697,944 | US | Jones et al. | 2/24/2004 | |
| 6,775,655 | US | Peinado et al. | 8/10/2004 | |
| 6,873,975 | US | Hatakeyama et al. | 3/29/2005 | |
| 6,885,748 | US | Wang | 4/26/2005 | |
| 6,904,523 | US | Bialick et al. | 6/7/2005 | |
| 6,944,669 | US | Saccocio | 9/13/2005 | Saccocio |
| 6,959,288 | US | Medina et al. | 10/25/2005 | Medina |
| 7,013,390 | US | Elgamal et al. | 3/14/2006 | Elgamal '390 |
| 7,020,704 | US | Lipscomb et al. | 3/28/2006 | |
| 7,068,787 | US | Ta et al. | 6/27/2006 | |
| 7,155,415 | US | Russell et al. | 12/26/2006 | |
| 7,206,748 | US | Gruse et al. | 4/17/2007 | Gruse '748 |
| 7,209,892 | US | Galuten et al. | 4/24/2007 | |
| 7,225,165 | US | Kyojima et al. | 5/29/2007 | |

| | | | | |
|--------------|----|------------------|------------|-------------|
| 7,353,209 | US | Peinado et al. | 4/1/2008 | |
| 7,424,543 | US | Rice | 9/9/2008 | |
| 7,523,072 | US | Stefik et al. | 4/21/2009 | Stefik '072 |
| 8,370,956 | US | Stefik et al. | 2/5/2013 | Stefik '956 |
| 7,861,312 | US | Lee et al. | 12/28/2010 | |
| 8,091,025 | US | Ramos et al. | 1/3/2012 | |
| 8,175,977 | US | Story et al. | 5/8/2012 | |
| 2002/0003886 | US | Hillegass et al. | 1/10/2002 | |
| 2002/0059364 | US | Coulthard et al. | 5/16/2002 | |
| 2004/0125957 | US | Rauber et al. | 7/1/2004 | |
| 1998/010381 | WO | Shear et al. | 3/12/1998 | |
| 1999/045491 | WO | Eberhard et al. | 9/10/1999 | |

| Prior Art Publications | | | |
|---|-----------------------|------------------|--------------|
| Title | Author/ Publisher | Publication Date | Abbreviation |
| SDMI Portable Device Specification | PDWG | Jul. 9, 1999 | SDMI |
| Trusted Third Party Services for Deploying Secure Telemedical Applications Over the WWW | Spinellis | 1999 | Spinellis |
| EUROMED-JAVA: Trusted Third Party Services for Securing Medical Java Applets | Varvitsiotis | 1999 | Varvitsiotis |
| RFC 2459 – Internet X.509 Public Key Infrastructure Certificate and CRL Profile | Network Working Group | Jan. 1999 | X.509 |
| Authorization and Attribute Certificates for Widely Distributed Access Control | Johnston | Jun. 1998 | |
| Certificates and Trust in Electronic Commerce | Wilson | 1997 | |
| ABYSS A Basic Yorktown Security System PC Software Asset Protection Concepts | Cina | 1986 | |

| | | | |
|--|-------------------------------|---------------|--------------|
| Enabling Access in Digital Libraries | Arms | Feb. 1999 | |
| Safe Deals Between Strangers | Gladney | 1999 | |
| Safeguarding Digital Library Contents and Users | Gladney | May 1998 | |
| Physical Security for the ABYSS System | Weingart | 1987 | |
| ABYSS: A Trusted Architecture for Software Protection | White | 1987 | |
| ABYSS: An Architecture for Software Protection | White | Jun 1990 | |
| A Common Approach to Extending Computer Security Concepts to the Universal Distributed Non-Trusted Environment | Herschaft | Dec. 17, 1994 | |
| Agent-based commercial dissemination of electronic information | Konstantas | May 30, 2000 | |
| Hierarchical Organization of Certification Authorities for Secure Environments | Lopez | Feb. 10, 1997 | |
| Persistent access control to prevent piracy of digital information | Schneck | Jul. 1999 | |
| A perspective: the role of identifiers in managing and protecting intellectual property in the digital age | Hill | Jul. 1999 | |
| Flexible control of downloaded executable content | Prakash | May 1999 | |
| Enabling Access In Digital Libraries : A Report On A Workshop On Access Management | Klavans | Feb. 1999 | |
| Netscape Certificate Management System Installation and Deployment Guide | Netscape Communications Corp. | 1999 | NCMS Install |
| Netscape Certificate Management System Administrator's Guide | Netscape Communications Corp. | 1999 | NCMS Admin |

| | | | |
|--|-------------------------------|---------------|----------------|
| Netscape Certificate Management System Agent's Guide | Netscape Communications Corp. | 1999 | NCMS Agent |
| Netscape Certificate Management System Help | Netscape Communications Corp. | 1999 | NCMS Help |
| DOD, Netscape Ready PKI Rollout | Verton | Jul. 18, 1999 | |
| CMS 401 Simplifies Certificates | Barck | Sep. 13, 1999 | |
| Windows Media Rights Manager Overview Webpage | Microsoft Corp. | May 19, 2000 | WMDRM Overview |
| Windows Media Rights Manager Technical Features and Benefits Webpage | Microsoft Corp. | Mar. 8, 1999 | WMDRM Features |
| Windows Media Rights Manager FAQ Webpage | Microsoft Corp. | May 19, 2000 | WMDRM FAQ |
| Windows Media Rights Manager 7 Webpage | Microsoft Corp. | Jun. 5, 2000 | WMDRM 7 |
| Windows Media Encoder 7 Webpage | Microsoft Corp. | May 9, 2000 | WM Encoder |
| Windows Media Format 7 Webpage | Microsoft Corp. | May 9, 2000 | WM Format |
| Windows Media Tools Webpage | Microsoft Corp. | Jun. 1, 2000 | WM Tools |
| Windows Media Player 7 Beta Webpage | Microsoft Corp. | May 31, 2000 | WM Player |
| Get Windows Media Player 7 Beta NOW! Webpage | Microsoft Corp. | Apr. 13, 2000 | |
| Windows Media Technologies 4.1 Features Webpage | Microsoft Corp. | Apr. 3, 2000 | |
| Windows Media Technologies Home Webpage | Microsoft Corp. | Nov. 17, 1999 | |
| Windows Media on PressPass Webpage | Microsoft Corp. | Jun. 22, 1995 | |
| Windows Media Technologies 4 Delivers Cutting-Edge CD-Quality Audio on the Internet | Microsoft Corp. | Sep. 17, 1999 | |
| Microsoft and S3's Diamond Multimedia Showcase Rio Player in First Live Demonstration of Windows | Microsoft Corp. | Nov. 15, 1999 | |

| | | | |
|---|-----------------|---------------|------------|
| Media on SDMI-Capable Portable Device | | | |
| Supertracks and Microsoft Announce Windows Media Digital Rights Technology Integration for New Music Download and Promotion System | Microsoft Corp. | Dec. 7, 1999 | |
| Microsoft and Texas Instruments Announce Native Windows Media Support on TI Programmable DSPs | Microsoft Corp. | Dec. 7, 1999 | |
| Microsoft and Preview Systems Announce First Windows Media- Based Digital Audio and Video Distribution Solution for Retail Commerce | Microsoft Corp. | Dec. 7, 1999 | |
| [MS-DRM]: Digital Rights Management License Protocol | Microsoft Corp. | Jun. 1, 2017 | |
| [MS-DRMND]: Windows Digital Rights Management (WMDRM): Network Devices Protocol | Microsoft Corp. | Jun. 1, 2017 | MS-DRM |
| 5799 – EMMS Content Mastering | IBM | May 3, 2000 | EMMS 5799 |
| EMMS Software Suite | IBM | Jun. 23, 1905 | EMMS Suite |
| EMMS Frequently Asked Questions | IBM | Unknown | EMMS FAQ |
| IBM Electronic Media Management System, V2.1 – A Digital Rights Management Platform | IBM | Jan. 29, 2002 | |
| BMG Entertainment Plans Adoption of IBM Technology For Commercial Roll-out of Electronic Music Distribution to Consumers | IBM | Apr. 6, 2000 | |
| BMG Unveils Comprehensive Online Digital Downloading Plans for the Year 2000 and Beyond | IBM | Apr. 6, 2000 | |
| Five Major Music Companies and IBM Successfully | IBM | Feb. 2, 2000 | |

| | | | |
|--|----------|---------------|-----------------|
| Complete Electronic Music Distribution Trial | | | |
| IBM and Liquid Audio Team Up on Digital Music Technologies and Services | IBM | Apr. 6, 2000 | |
| IBM and Reciprocal Establish Strategic Relationship to Expand Digital Music Distribution | IBM | Apr. 6, 2000 | |
| IBM and Sony Show First Results of Collaboration with Electronic Music Distribution | IBM/Sony | Nov. 15, 1999 | |
| Leading Music Mastering Studio to Use IBM's Digital Rights Management Technology | IBM | Jul. 24, 2000 | |
| Toshiba and IBM to Jointly Accelerate Digital Music Distribution Marketplace | IBM | Mar. 13, 2000 | |
| Windows Media Technologies 4 Delivers Cutting-Edge CD-Quality Audio on the Internet | IBM | Sep. 17, 1999 | |
| The Media Business; Sony and IBM Create Alliance on Delivering Music Over Net | Richtel | Apr. 16, 1999 | |
| Cryptolope Live! Home Webpage | IBM | Jan. 22, 1998 | Cryptolope Home |
| IBM Introduces Cryptolope Live! Webpage | IBM | Sep. 9, 1997 | |
| Cryptolope Container Technology Webpage | IBM | Jan. 22, 1998 | Cryptolope News |
| IBM infoMarket Saga | Various | Various | |
| IBM Make Cryptolope Deal | CNet | Dec. 11, 1996 | |
| IBM Expands Its Digital Rights Management Technology | IBM | Apr. 8, 2002 | |
| DigiBox: A Self- Protecting Container for Information Commerce | Sibert | Jul. 1, 1995 | Sibert |

| Prior Art Sale or Public Use/Knowledge | | |
|---|---------------------------|---|
| Item Offered for Sale or Publically Known | Identity of Person/Entity | Date of Offer or Use or Information Was Known |

| | | |
|-----------------|--|--------------------|
| Netscape System | Netscape Communications, American Online, and Taher Elgamal, Jeff Weinstein | No later than 1999 |
| WMDRM System | Microsoft Corporation, Peter Biddle, Bryan Willman, Paul England, Marcus Peinado | No later than 1999 |
| IBM DRM Systems | IBM, Jeff Crigler, Tim Byars | No later than 1999 |
| Digibox System | Electronic Publishing Resources, Inc. ("EPR"), Olin Sibert, David Bernstein, David Van Wie | No later than 1995 |

10. The '627 Patent

| Prior Art Patents / Published Applications | | | | |
|--|-------------------|--------------------|-----------------------------|---------------|
| Patent / Publication No. | Country of Origin | Inventor | Date of Issue / Publication | Abbreviation |
| 7,110,542 | US | Tripathy | 9/19/2006 | Tripathy |
| 6,985,589 | US | Morley et al. | 1/10/2006 | Morley '589 |
| 1999059335 | WO | Morley et al. | 11/18/1999 | Morley '335 |
| 5,818,936 | US | Mashayekhi | 10/6/1998 | Mashayekhi |
| 20070192252 | US | Shear et al. | 8/16/2007 | Shear |
| 5,237,610 | US | Gammie et al. | 8/17/1993 | Gammie |
| 7,111,172 | US | Duane et al. | 9/19/2006 | Duane |
| 98/042101 | WO | Smith et al. | 9/24/1998 | Smith |
| 5,910,987 | US | Ginter et al. | 6/8/1999 | Ginter '987 |
| 0 887 723 | EP | Ciacelli et al. | 12/30/1998 | Ciacelli |
| 6,697,489 | US | Candelore | 2/24/2004 | Candelore |
| 6,236,971 | US | Stefik et al. | 5/22/2001 | Stefik '971 |
| 99/48296 | WO | Shamoon et al. | 9/23/1999 | Shamoon '296 |
| 6,289,450 | US | Pensak et al. | 9/11/2001 | Pensak |
| 5,892,900 | US | Ginter et al. | 4/6/1999 | Ginter '900 |
| 6,973,444 | US | Blinn et al. | 12/6/2005 | Blinn |
| 6,170,058 | US | Kausik | 1/2/2001 | Kausik |
| 5,473,687 | US | Lipscomb et al. | 12/5/1995 | Lipscomb |
| 6,141,754 | US | Choy | 10/31/2000 | Choy |
| 6,055,314 | US | Spies et al. | 4/25/2000 | Spies |
| 5,649,187 | US | Hornbuckle | 7/15/1997 | Hornbuckle |
| 6,064,993 | US | Ryan | 5/16/2000 | Ryan |
| 6,230,272 | US | R. Lockhart et al. | 5/8/2001 | Lockhart '272 |

| | | | | |
|--------------|----|--------------------|------------|---------------|
| 6,944,776 | US | M. Lockhart et al. | 9/13/2005 | Lockhart '776 |
| 6,741,853 | US | Jiang et al. | 5/25/2004 | Jiang |
| 2002/0078253 | US | Szondy et al. | 6/20/2002 | Szondy |
| 2002/0042831 | US | Capone et al. | 4/11/2002 | Capone |
| 1047240 | EP | Huang et al. | 11/3/2004 | Huang |
| 2002/0071559 | US | Christensen et al. | 6/13/2002 | Christensen |
| 2002/0071561 | US | Kurn et al. | 6/13/2002 | Kurn |
| 7,398,556 | US | Erickson | 7/8/2008 | Erickson |
| 6,792,113 | US | Ansell et al. | 9/14/2004 | Ansell |
| 5,999,629 | US | Heer et al. | 12/7/1999 | Heer |
| 6,398,245 | US | Gruse et al. | 6/4/2002 | Gruse |
| 6,457,125 | US | Matthews et al. | 9/24/2002 | Matthews |
| 6,687,683 | US | Harada et al. | 2/3/2004 | Harada |
| 6,550,011 | US | Sims | 4/15/2003 | Sims |
| 6,160,891 | US | Al-Salqan | 12/12/2000 | Al-Salqan |
| 6,367,011 | US | Lee et al. | 4/2/2002 | Lee |
| 5,619,574 | US | Johnson et al. | 4/8/1997 | Johnson |
| 5,048,085 | US | Abraham et al. | 9/10/1991 | Abraham |
| 6,976,165 | US | Carpentier et al. | 12/13/2005 | Carpentier |
| 6,449,720 | US | Sprague et al. | 9/10/2002 | Sprague |
| 6,052,468 | US | Hillhouse | 4/18/2000 | Hillhouse |
| 6,898,706 | US | Venkatesan et al. | 5/24/2005 | Venkatesan |
| 6,668,246 | US | Yeung et al. | 12/23/2003 | Yeung |
| 6,801,999 | US | Venkatesan et al. | 10/5/2004 | Venkatesan |
| 6,061,451 | US | Muratani et al. | 5/9/2000 | Muratani |
| 6,850,252 | US | Hoffberg | 2/1/2005 | Hoffberg |
| 2002/0059144 | US | Meffert et al. | 5/16/2002 | Meffert |
| 7,685,423 | US | Walmsley et al. | 3/23/2010 | Walmsley |
| 5,852,665 | US | Gressel et al. | 12/22/1998 | Gressel '665 |
| 5,664,017 | US | Gressel et al. | 9/2/1997 | Gressel '017 |
| 6,351,813 | US | Mooney et al. | 2/26/2002 | Mooney |
| 6,011,874 | US | Glückstad | 1/4/2000 | Glückstad |
| 7,055,027 | US | Gunter et al. | 5/30/2006 | Gunter |
| 6,820,203 | US | Okaue et al. | 11/16/2004 | Okaue |
| 2000/045539 | WO | Medvinsky et al. | 8/3/2000 | Medvinsky |
| 5,818,939 | US | Davis | 10/6/1998 | Davis |
| 6,560,581 | US | Fox et al. | 5/6/2003 | Fox |
| 5,812,666 | US | Baker et al. | 9/22/1998 | Baker |
| 6,959,288 | US | Medina et al. | 10/25/2005 | Medina |

| | | | | |
|-----------|----|-------------------|------------|--------------|
| 6,996,720 | US | DeMello et al. | 2/7/2006 | Demello '720 |
| 6,970,849 | US | DeMello et al. | 11/29/2005 | Demello '849 |
| 6,044,155 | US | Thomlinson et al. | 3/28/2000 | Thomlinson |

| Prior Art Publications | | | |
|---|--------------------------|-------------------------|---------------------|
| Title | Author/ Publisher | Publication Date | Abbreviation |
| Piracy: the Dark Side of Electronic Commerce | Sahuguet | May 1998 | Sahuguet |
| Secure Container Technology as a Basis for Cryptographically Secured Multimedia Communication | Dittmann | Sept. 1998 | Dittmann |
| ICL Technical Journal | Mailer | Nov. 1997 | Mailer |
| Cryptographic Containers and the Digital Library | Lotspiech | 1997 | Lotspiech |

| Prior Art Sale or Public Use/Knowledge | | |
|--|--|--|
| Item Offered for Sale or Publically Known | Identity of Person/Entity | Date of Offer or Use or Information Was Known |
| Netscape System | Netscape Communications, American Online, and Taher Elgamal, Jeff Weinstein | No later than 1999 |
| WMDRM System | Microsoft Corporation, Peter Biddle, Bryan Willman, Paul England, Marcus Peinado | No later than 1999 |
| IBM DRM Systems | IBM, Jeff Crigler, Tim Byars | No later than 1999 |
| Digibox System | Electronic Publishing Resources, Inc. ("EPR"), Olin Sibert, David Bernstein, David Van Wie | No later than 1995 |

E. Patent L.R. 3-3(b)-(c): Whether Prior Art Anticipates or Renders Obvious

Subject to Dolby's reservation of rights, Dolby identifies in the attached Invalidity

Charts (Exhibits A-01 – J-21), incorporated herein by reference, prior art references that anticipate the Asserted Claims, and/or render obvious the Asserted Claims, either alone or in combination with other references and/or the knowledge of a person of ordinary skill in the art. The Invalidity Charts provide a limitation-by-limitation analysis of where specifically, in each prior art item, each limitation of the Asserted Claims is found. Any reference to a figure in cited text incorporates by reference the figure itself, and any citation to a figure incorporates by reference any description of that figure in a reference. Similarly, any reference to a cited part or portion of a document encompasses all figures and text within the cited page or portion. Additionally, many of the prior art references are related to, or counterparts of, patent applications and issued patents that contain substantially the same subject matter (e.g., published U.S. patent applications, issued U.S. patents, and foreign applications or issued patents). Any citation to or quotation from any of these patent applications or patents, therefore, should be understood as encompassing any parallel citation to the same subject matter in other related or corresponding applications or patents. Supporting citations in the Invalidity Charts are representative and do not necessarily represent every location where a particular claim element may be found in the prior art reference. Dolby reserves the right to rely on additional, or different, portions of the prior art other than those specifically cited, and to supplement and/or amend these Invalidity Charts.

As noted above, these Invalidity Charts are based on Dolby's understanding of the claim constructions applied by Intertrust, even though Dolby does not necessarily agree with those constructions, and reserves the right to dispute them. To the extent any limitation is deemed not to be met exactly by an item of prior art, Dolby contends that the difference would have been obvious to a person of ordinary skill in the art and within the knowledge of one skilled in the art at the time of the alleged invention, so that the claimed invention would have been obvious both in light of the single reference alone and/or in light of combined references. Dolby does not admit or concede that the element is not expressly or inherently disclosed by the reference at issue.

Much of the art identified in Section I.D and the attached Invalidity Charts reflects common knowledge and the state of the art at the time of the earliest filing date of the Asserted Patents. Dolby may rely on additional citations, references, expert testimony, fact testimony and other corroborating evidence, and other material to provide context and background illustrating the knowledge of a person of ordinary skill in the art at the time of the claimed inventions and/or to aid in understanding the cited portions of the references and/or cited features of the systems. Dolby may also rely on fact or expert testimony explaining relevant portions of references, as well as additional documents, hardware or software products or systems, and other discovery regarding these subject matters, to provide context or to aid in understanding the cited portions of the prior art references and interpreting the teachings of the prior art and to establish bases for combinations of certain cited references that render the Asserted Claims obvious. Dolby further reserves the right to rely on any prior art system referenced, embodied, or described in any of the prior art references identified herein, or which embodies any of the prior art references identified herein.

Additionally, Dolby may rely on other portions of any prior art reference, whether or not identified in the Invalidity Charts, particularly those produced in Dolby's accompanying production, for purposes of explaining the background, general technical subject area, and the knowledge of a person of ordinary skill in the art. Dolby also may establish what was known to a person having ordinary skill in the art through treatises, published industry standards other publications, products, and/or testimony. In addition, Dolby relies on all portions of the prior art references that are identified in charts included in invalidity contentions served in Related Actions involving the Asserted Patents and identified in any post-grant proceedings for the Asserted Patents, as well as any obviousness combinations identified in those documents.

1. Anticipation

As set forth in Exhibits A-01 – J-21 and below, each of the following references, and any products, devices, or processes used in the prior art that embody the subject matter

disclosed in the references, anticipates one or more Asserted Claims of the Asserted Patents by expressly or inherently disclosing each and every limitation of those claims. To the extent that Intertrust contends that any of the following anticipatory references do not anticipate any Asserted Claim, Dolby further contends that each of the anticipatory references renders the claims obvious either in view of the reference alone or in combination with other references and/or the knowledge of a person of ordinary skill in the art. A corresponding claim chart for each reference is attached hereto in Exhibits A-01 – J-21 as indicated in the “Ex. No.” column.

While Dolby has identified at least one citation per element or limitation for each reference identified in Exhibits A-01 – J-21, each and every disclosure of the same element or limitation in the same reference is not necessarily identified. In an effort to focus the issues, Dolby cites exemplary relevant portions of identified references, even where a reference may contain additional disclosure for a particular claim element or limitation, and reserves all rights to rely on other portions of the identified references to support its claims and/or defenses.

The prior art references listed herein and in the accompanying invalidity claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently. The prior art references are also relevant for their showing of the state of the art and reasons and motivations for making improvements, additions, and combinations. The suggested obviousness combinations below are provided in the alternative to Dolby’s anticipation contentions and are not to be construed to suggest that any reference is not itself anticipatory.

a. The ’721 Patent

| Exhibit No. | Prior Art Abbreviation |
|--------------------|-------------------------------|
| A-01 | Arnold ’408 |
| A-02 | McManis ’575 |
| A-03 | Matyas |
| A-04 | Hopkins |
| A-05 | Chang |
| A-06 | Chorley |
| A-07 | Ishii |
| A-08 | Rosen ’518 |

| | |
|------|----------------|
| A-09 | Miller |
| A-10 | Hornbuckle |
| A-11 | Fischer '717 |
| A-12 | Sudia |
| A-13 | Chandra |
| A-14 | Ginter '987 |
| A-15 | Sudia '765 |
| A-16 | Schneck '498 |
| A-17 | Kinoshita |
| A-18 | Arnold EP |
| A-19 | Jablon |
| A-20 | Dan |
| A-21 | Boebert |
| A-22 | FIPS 140-1 |
| A-23 | Herschaft |
| A-24 | Tripwire |
| A-25 | SmartCard 2000 |
| A-26 | Gasser |
| A-27 | Orange Book |
| A-28 | Schneier |
| A-29 | Merkle |
| A-30 | Popek |
| A-31 | DigiBox System |
| A-32 | Abyss System |

b. The '304 Patent

| Exhibit No. | Prior Art Abbreviation |
|--------------------|-------------------------------|
| B-01 | Comerford |
| B-02 | Gammie |
| B-03 | Hornbuckle |
| B-04 | Katznelson |
| B-05 | Matyas |
| B-06 | Saito |
| B-07 | Seth-Smith |
| B-08 | Waite |
| B-09 | Chorley |
| B-10 | Narasimhalu |
| B-11 | Cooper |
| B-12 | ABYSS 1987 |

| | |
|------|---------------------------|
| B-13 | Abyss System |
| B-14 | Scientific-Atlanta System |

c. The '815 Patent

| Exhibit No. | Prior Art Abbreviation |
|--------------------|-------------------------------|
| C-01 | Davis |
| C-02 | Rabin |
| C-03 | Hanna |
| C-04 | Gennaro |
| C-05 | Rohatgi |
| C-06 | Renaud |
| C-07 | Stefik '980 |
| C-08 | Friedman |
| C-09 | Sprunk |
| C-10 | Ginter |
| C-11 | Yeung |
| C-12 | Morishita |
| C-13 | Miwa |
| C-14 | Squilla |
| C-15 | Schneier |
| C-16 | FIPS PUB |
| C-17 | Gennaro-Crypto |
| C-18 | DigiBox System |
| C-19 | Cryptolope System |
| C-20 | HotJava System |

d. The '602 Patent

| Exhibit No. | Prior Art Abbreviation |
|--------------------|-------------------------------|
| D-01 | Merkle |
| D-02 | Candelore |
| D-03 | Preneel |
| D-04 | Barton |
| D-05 | Gennaro '271 |
| D-06 | Chaum |
| D-07 | Crandall |
| D-08 | Fries |
| D-09 | Miwa |
| D-10 | Erickson |

| | |
|------|-------------------|
| D-11 | Ehrsam |
| D-12 | Otake |
| D-13 | Fielder |
| D-14 | Kadyk |
| D-15 | Kingdon |
| D-16 | England |
| D-17 | Kaufman |
| D-18 | Gennaro '176 |
| D-19 | Sprunk |
| D-20 | Hanna |
| D-21 | Tanenbaum |
| D-22 | Bellare |
| D-23 | Knudsen |
| D-24 | Shin |
| D-25 | Schneier |
| D-26 | Gennaro-Crypto |
| D-27 | DigiBox System |
| D-28 | Cryptolope System |

e. The '603 Patent

| Exhibit No. | Prior Art Abbreviation |
|--------------------|-------------------------------|
| E-01 | Chan |
| E-02 | Imai |
| E-03 | Schneck |
| E-04 | Wolf |
| E-05 | Cooper |
| E-06 | Shamoon |
| E-07 | Arnold |
| E-08 | Stefik |
| E-09 | Griswold |
| E-10 | Hornbuckle |
| E-11 | Benson |
| E-12 | Peinado |
| E-13 | England |
| E-14 | Lisanke |
| E-15 | Fisher |
| E-16 | Erickson '152 |
| E-17 | DigiBox System |
| E-18 | Cryptolope System |

f. The '342 Patent

| Exhibit No. | Prior Art Abbreviation |
|--------------------|-------------------------------|
| F-01 | Downs |
| F-02 | Doherty |
| F-03 | Peinado |
| F-04 | DeMello |
| F-05 | Stefik '980 |
| F-06 | Stefik '684 |
| F-07 | Erickson |
| F-08 | Lockhart |
| F-09 | England '432 |
| F-10 | England '063 |
| F-11 | Ansell |
| F-12 | SDMI |
| F-13 | Spinellis |
| F-14 | Netscape System |
| F-15 | WMDRM System |
| F-16 | IBM DRM Systems |
| F-17 | Digibox System |
| F-18 | Ginter |
| F-19 | Shear |
| F-20 | Stefik '012 |
| F-21 | Stefik '971 |
| F-22 | Graunke |
| F-23 | Hurtado |

g. The '157 Patent

| Exhibit No. | Prior Art Abbreviation |
|--------------------|-------------------------------|
| G-01 | Comerford |
| G-02 | Gammie |
| G-03 | Hornbuckle |
| G-04 | Katznelson |
| G-05 | Matyas |
| G-06 | Saito |
| G-07 | Seth-Smith |
| G-08 | Waite |
| G-09 | Chorley |
| G-10 | Narasimhalu |

| | |
|------|---------------------------|
| G-11 | Cooper |
| G-12 | Torii |
| G-13 | Santon |
| G-14 | ABYSS 1987 |
| G-15 | Mori |
| G-16 | Abyss Ststem |
| G-17 | Scientific-Atlanta System |

h. The '158 Patent

| Exhibit No. | Prior Art Abbreviation |
|--------------------|-------------------------------|
| H-01 | Comerford |
| H-02 | Gammie |
| H-03 | Hornbuckle |
| H-04 | Katznelson |
| H-05 | Matyas |
| H-06 | Saito |
| H-07 | Seth-Smith |
| H-08 | Waite |
| H-09 | Chorley |
| H-10 | Narasimhalu |
| H-11 | Kubo |
| H-12 | Santon |
| H-13 | Stefik '980 |
| H-14 | ABYSS 1987 |
| H-15 | ABYSS 1986 |
| H-16 | Mori |
| H-17 | Abyss System |
| H-18 | Scientific-Atlanta System |

i. The '106 Patent

| Exhibit No. | Prior Art Abbreviation |
|--------------------|-------------------------------|
| I-01 | Downs |
| I-02 | Doherty |
| I-03 | Peinado |
| I-04 | DeMello |
| I-05 | Stefik '980 |
| I-06 | Stefik '684 |
| I-07 | Erickson |

| | |
|------|-----------------|
| I-08 | Lockhart |
| I-09 | England '432 |
| I-10 | England '063 |
| I-11 | Ansell |
| I-12 | Katznelson |
| I-13 | Hornbuckle |
| I-14 | Ginter |
| I-15 | SDMI |
| I-16 | Spinellis |
| I-17 | Netscape System |
| I-18 | WMDRM System |
| I-19 | IBM DRM Systems |
| I-20 | Digibox System |
| I-21 | Shear |
| I-22 | Stefik '012 |
| I-23 | Stefik '971 |
| I-24 | Graunke |
| I-25 | Hurtado |

j. The '627 Patent

| Exhibit No. | Prior Art Abbreviation |
|--------------------|-------------------------------|
| J-01 | Tripathy |
| J-02 | Morley '589 |
| J-03 | Morley '335 |
| J-04 | Mashayekhi |
| J-05 | Shear |
| J-06 | Gammie |
| J-07 | Duane |
| J-08 | Smith |
| J-09 | Ginter '987 |
| J-10 | Ciacelli |
| J-11 | Candelore |
| J-12 | Stefik '971 |
| J-13 | Shamoon '296 |
| J-14 | Pensak |
| J-15 | Ginter '900 |
| J-16 | Blinn |
| J-17 | Sahuguet |
| J-18 | Netscape System |

| | |
|------|-----------------|
| J-19 | WMDRM System |
| J-20 | IBM DRM Systems |
| J-21 | Digibox System |

2. Obviousness

Each of the following combinations of prior art references renders the Asserted Claims of the Asserted Patents invalid under 35 U.S.C. § 103 for obviousness. Each prior art reference may be combined with one or more other prior art references to render obvious the Asserted Claims, as explained in more detail below. The disclosures of these references also may be combined with information known to persons skilled in the art at the time of the alleged invention, and understood and supplemented in view of the common sense of persons skilled in the art at the time of the alleged invention, including any statements in the intrinsic record of the Asserted Patents and related applications.

Dolby expressly intends to combine one or more prior art items identified in the attached Exhibits with each other to address any further contentions from Intertrust that a particular prior art item supposedly lacks one or more elements of an Asserted Claim. In other words, Dolby contends that each charted prior art item can be combined with each other charted prior art item (individually or in combination) to the extent the prior art item lacks or does not explicitly disclose an element or feature of an Asserted Claim. The obviousness combinations described below are not to be construed to suggest that any reference included in the combinations is not anticipatory. Further, to the extent that Intertrust contends that any of the anticipatory prior art fails to disclose one or more limitations of the Asserted Claims, Dolby reserves the right to identify other prior art references that, when combined with the anticipatory prior art, would render the claims obvious despite an allegedly missing limitation.

The U.S. Supreme Court decision in *KSR International Co. v. Teleflex Inc., et al.*, 127 S.Ct. 1727 at 1739 (2007) (“KSR”) held that a claimed invention can be obvious even if there is no teaching, suggestion, or motivation for combining the prior art to produce that invention. The *KSR* decision holds that patents that are based on new combinations of elements or

components already known in a technical field may be found to be obvious. *See generally, KSR*, 127 S.Ct 1727. Specifically, the Court in *KSR* rejected a rigid application of the “teaching, suggestion, or motivation [to combine]” standard. *Id.* at 1741. “In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim.” *Id.* at 1741-1742. “Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 1742. Accordingly, Dolby contends that no showing of a specific motivation to combine the identified prior art references identified below and in the attached charts is necessary, as each combination of art would have no unexpected results and at most would simply represent a known alternative to one of ordinary skill in the art.

To the extent not explicitly disclosed by the prior art, the Asserted Claims of the Asserted Patents are nothing more than a combination of standard, conventional elements already existing and well-known at the time of the purported invention, combined according to known methods to achieve predictable results. The Asserted Claims are part of an unnecessary multiplicity of claims fashioned by mixing-and-matching words and passages from the specification in an improper attempt to stretch the breadth of the claims.

Furthermore, in view of the Supreme Court’s *KSR* decision, the PTO issued a set of new Examination Guidelines. *See Examination Guidelines for Determining Obviousness Under 35 U.S.C. §103 in view of the Supreme Court Decision in KSR International Co. v. Teleflex, Inc.*, 72 Fed. Reg. 57526 (October 10, 2007). Those Guidelines summarized the *KSR* decision, and identified various rationales for finding a claim obvious, including those based on other precedents. *Id.* at 57529. All of the those rationales support a finding of obviousness here:

- 1) Combining prior art elements according to known methods to yield predictable results;

- 2) Simple substitution of one known element for another to obtain predictable results;
- 3) Use of known techniques to improve similar devices (methods, or products) in the same way;
- 4) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- 5) “Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- 6) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; and
- 7) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Dolby further contends that the prior art identified in these Invalidity Contentions is evidence of simultaneous or near-simultaneous independent invention by others of the alleged invention as recited in one or more of the Asserted Claims. Dolby reserves its right to rely on the simultaneous or near-simultaneous independent invention by others as further evidence of the obviousness of the Asserted Claims.

Each limitation of the Asserted Claims was well known to those of ordinary skill in the art before the filing dates of the application to which the Asserted Patents claim priority, as detailed below and in the attached charts.

The elements recited in the Asserted Claims are mere combinations and modifications of these well-known elements. A person of ordinary skill in the art would be able, and motivated, to improve the existing technology in the same or similar manner by combining or modifying the individual elements that were already known in the art to yield predictable results.

Dolby contends that all claims that are anticipated by a particular reference are also rendered obvious by that same reference alone, or in combination with other references, including the references identified below. The following is a list of prior art references that, either alone, or in combination with the knowledge of a person of ordinary skill in the art, additional prior art references discussed below, and/or the prior art identified in Section I.D would have rendered obvious one or more asserted claims of the Asserted Patents, including as indicated in the associated claim charts. A person of ordinary skill in the art would have been motivated and had a reasonable expectation of success to make these combinations because, for example, there was a teaching, suggestion or motivation to make these combinations and/or each combination would have been merely (a) a combination of prior art elements according to known methods to yield predictable results; (b) a simple substitution of one known element for another to obtain predictable results; (c) a use of a known technique to improve similar devices in the same way; (d) application of a known technique to a known device ready for improvement to yield predictable results; (e) obvious to try; and/or (f) known work in one field of endeavor prompting variations of it for use in either the same field or a different one based on design incentives or other market forces since the variations are predictable to one of ordinary skill in the art.

Further, the combinations of prior art references contained herein demonstrating the obviousness of the Asserted Patents under 35 U.S.C. § 103 are merely exemplary and are not intended to be exhaustive. Additional obviousness combinations of the identified prior art references are possible, and Dolby expressly reserves the right to use any such combination(s) in this case, particularly in light of the inadequacy of Intertrust's Infringement Contentions, any subsequently issued claim construction opinion or order of the Court, and ongoing discovery in this case.

Moreover, nothing in these Contentions should be treated as an admission that Intertrust's Infringement Contentions provide the specificity required under Patent L.R. 3, or that any of Dolby's accused instrumentalities meet any limitation of the Asserted Claims. To

the extent that any prior art references identified by Dolby contains a claim element that is the same as or similar to an element in an accused instrumentality, based on a claim construction inferred from Intertrust's Infringement Contentions, inclusion of that reference in these Invalidity Contentions is not a waiver by Dolby of any claim construction or non-infringement position, nor is it an admission or suggestion by Dolby that any accused instrumentality satisfies the limitations of the Asserted Claims under a proper construction of those claims.

a. The '721 Patent

| Exhibit No. | Prior Art Abbreviation | In Combination With |
|--------------------|-------------------------------|--|
| A-01 | Arnold '408 | Sudia, Herschaft, McManis '575, Dan, Fischer '717, Sudia '765, Arnold EP |
| A-02 | McManis '575 | Sudia, Herschaft, Sudia '765, Schneck '498, Arnold '408, Arnold EP |
| A-05 | Chang | Ishii, Arnold '408, Sudia, Stefik '403, McManis '575, Ginter '987, Arnold EP |
| A-07 | Ishii | Chang, Arnold '408, Sudia, Stefik '403, McManis '575, Sudia '765, Arnold EP |
| A-11 | Fischer '717 | Sudia, Herschaft, McManis '575, Dan |
| A-12 | Sudia | Arnold '408, Herschaft, Arnold EP |
| A-14 | Ginter '987 | Ishii, Arnold '408, Sudia, Stefik '403, McManis '575, Ginter '987, Sudia '765, Arnold EP |
| A-16 | Schneck '498 | Arnold '408, Sudia, Stefik '403, McManis '575, Arnold EP |
| A-20 | Dan | Sudia, Herschaft, McManis '575 |
| A-23 | Herschaft | Sudia, Arnold '408, Arnold EP |

b. The '304 Patent

| Exhibit No. | Primary Reference | In Combination With |
|--------------------|--------------------------|--|
| B-01 | Comerford | Gammie, Hornbuckle, Katznelson, Chorley, Cooper |
| B-02 | Gammie | Chorley, Cooper, Comerford |
| B-03 | Hornbuckle | Chorley, ABYSS 1987, Matyas, Comerford, Cooper, Abyss System |
| B-04 | Katznelson | Hornbuckle, Narasimhalu, Chorley, ABYSS 1987, Waite, Matyas, Comerford, Abyss System |
| B-05 | Matyas | Chorley, Cooper, Comerford |
| B-08 | Waite | Katznelson, Hornbuckle |
| B-09 | Chorley | Katznelson, Hornbuckle |
| B-11 | Cooper | ABYSS 1987, Abyss System |

| | | |
|------|--------------|---|
| B-12 | ABYSS 1987 | Hornbuckle, Katznelson, Comerford, Matyas |
| B-13 | Abyss System | Hornbuckle, Katznelson, Comerford, Matyas |

c. The '815 Patent

| Exhibit No. | Primary Reference | In Combination With |
|--------------------|--------------------------|---|
| C-01 | Davis | Rabin, Squilla, Dolan |
| C-02 | Rabin | Gennaro, Renaud, Squilla, Dolan |
| C-03 | Hanna | Stefik '980, Rabin, Gennaro |
| C-04 | Gennaro | Gennaro-Crypto, Stefik '980, Rabin, Hanna |
| C-05 | Rohatgi | Gennaro, Hanna, Stefik '980, Rabin |
| C-06 | Renaud | Gennaro, Hanna, Stefik '980, Davis, Rabin, Dolan |
| C-07 | Stefik '980 | Squilla, Renaud, Rohatgi, Hanna |
| C-08 | Friedman | Squilla |
| C-14 | Squilla | Stefik '980, Rabin, Friedman, Renaud, Hanna, Gennaro, Davis |
| C-17 | Gennaro-Crypto | Gennaro-Crypto, Stefik '980, Rabin, Hanna |

d. The '602 Patent

| Exhibit No. | Prior Art Abbreviation | In Combination With |
|--------------------|-------------------------------|--|
| D-03 | Preneel | Erickson, Chaum, Kaufman, Schneier |
| D-05 | Gennaro '271 | Erickson, Schneier, Fielder, Otaka |
| D-10 | Erickson | Gennaro '271, Schneier, Gennaro-Crypto, Hanna, Kaufman |
| D-12 | Otake | Gennaro '271, Fielder, Gennaro-Crypto, Hanna |
| D-13 | Fielder | Gennaro '271, Schneier, Gennaro-Crypto, Hanna |
| D-14 | Kadyk | Gennaro-Crypto, Fielder, Otaka, Hanna |
| D-17 | Kaufman | Erickson, Chaum, Preneel |
| D-20 | Hanna | Erickson, Schneier, Fielder, Otaka, Kadyk |
| D-25 | Schneier | Erickson, Gennaro '271, Fielder |
| D-26 | Gennaro-Crypto | Erickson, Schneier, Fielder, Otaka, Kadyk |

e. The '603 Patent

| Exhibit No. | Prior Art Abbreviation | In Combination With |
|--------------------|-------------------------------|--|
| E-06 | Shamoon | Griswold, Peinado, Imai, DigiBox System, Cryptolope System |
| E-09 | Griswold | Peinado, Imai, Shamoon, England, DigiBox System, Cryptolope System |
| E-12 | Peinado | Imai, Shamoon, England, DigiBox System, Cryptolope System |

| | | |
|------|-------------------|---|
| E-13 | England | Griswold, Peinado, Imai, Shamoon, DigiBox System, Cryptolope System |
| E-17 | DigiBox System | Shamoon, Imai, Peinado, England, Griswold |
| E-18 | Cryptolope System | Griswold, Peinado, Imai, England |

f. The '342 Patent

| Exhibit No. | Prior Art Abbreviation | In Combination With |
|--------------------|-------------------------------|--|
| F-01 | Downs | IBM DRM Systems, Hurtado, Graunke |
| F-03 | Peinado | Graunke, Lockhart, WMDRM System, England '063, Hurtado |
| F-08 | Lockhart | Peinado, Graunke, WMDRM System |
| F-10 | England '063 | Peinado, Graunke, WMDRM System, Hurtado |
| F-15 | WMDRM System | Graunke, Lockhart, Peinado, England '063 |
| F-16 | IBM DRM Systems | Hurtado, Downs, Graunke |
| F-22 | Graunke | Peinado, Lockhart, WMDRM System, England '063, Hurtado |
| F-23 | Hurtado | Peinado, Graunke, IBM DRM Systems, Downs, England '063 |

g. The '157 Patent

| Exhibit No. | Prior Art Abbreviation | In Combination With |
|--------------------|-------------------------------|--|
| G-01 | Comerford | Narasimhalu, Torii, Hornbuckle, ABYSS 1987, Katznelson, Gammie, Waite, |
| G-02 | Gammie | Narasimhalu, Torii, Hornbuckle, ABYSS 1987, Katznelson, Gammie, Waite, |
| G-03 | Hornbuckle | Narasimhalu, Torii, ABYSS 1987, Matyas, Katznelson, Gammie, Comerford, Waite |
| G-04 | Katznelson | Narasimhalu, Torii, Hornbuckle, ABYSS 1987, Matyas, Gammie, Comerford, Waite |
| G-05 | Matyas | Narasimhalu, Torii, Hornbuckle, ABYSS 1987, Katznelson, Gammie, Comerford, Waite |
| G-09 | Chorley | Narasimhalu, Torii, Hornbuckle, ABYSS 1987, Matyas, Katznelson, Comerford, Waite |
| G-10 | Narasimhalu | Chorley, Torii, Hornbuckle, ABYSS 1987, Matyas, Katznelson, Comerford, Waite |
| G-12 | Torii | Narasimhalu, Hornbuckle, ABYSS 1987, Katznelson, Gammie, Waite, Comerford, |
| G-14 | ABYSS 1987 | Narasimhalu, Torii, Hornbuckle, ABYSS 1987, Katznelson, Comerford, Waite, |

h. The '158 Patent

| Exhibit No. | Prior Art Abbreviation | In Combination With |
|--------------------|-------------------------------|--|
| H-03 | Hornbuckle | Chorley, ABYSS 1987, Katznelson, Matyas, Narasimhalu, Cooper |
| H-04 | Katznelson | Chorley, ABYSS 1987, Hornbuckle, Matyas, Narasimhalu |
| H-05 | Matyas | Chorley, ABYSS 1987, Katznelson, Hornbuckle, Narasimhalu |
| H-09 | Chorley | Narasimhalu, ABYSS 1987, Hornbuckle, Matyas, Katznelson |
| H-10 | Narasimhalu | Chorley, ABYSS 1987, Hornbuckle, Matyas, Katznelson, Cooper |
| H-14 | ABYSS 1987 | Narasimhalu, Cooper, Hornbuckle, Matyas, Katznelson |

i. The '106 Patent

| Exhibit No. | Prior Art Abbreviation | In Combination With |
|--------------------|-------------------------------|--|
| I-01 | Downs | IBM DRM Systems, Hurtado, Graunke |
| I-03 | Peinado | Graunke, Lockhart, WMDRM System, England '063, Hurtado |
| I-08 | Lockhart | Peinado, Graunke, WMDRM System |
| I-10 | England '063 | Peinado, Graunke, WMDRM System, Hurtado |
| I-18 | WMDRM System | Graunke, Lockhart, Peinado, England '063 |
| I-19 | IBM DRM Systems | Hurtado, Downs, Graunke |
| I-24 | Graunke | Peinado, Lockhart, WMDRM System, England '063, Hurtado |
| I-25 | Hurtado | Peinado, Graunke, IBM DRM Systems, Downs, England '063 |

j. The '627 Patent

| Exhibit No. | Prior Art Abbreviation | In Combination With |
|--------------------|-------------------------------|--|
| J-01 | Tripathy | Mashayekhi, Shamoan '296, Gammie, Digibox System |
| J-02 | Morley '589 | Mashayekhi, Digibox System, Ginter '900 |
| J-03 | Morley '335 | Mashayekhi, Blinn, Ginter '900 |
| J-04 | Mashayekhi | Tripathy, Morley '589, Morley '589, Digibox System |
| J-06 | Gammie | Shamoan '296, Blinn, Ginter '900 |
| J-09 | Ginter '987 | Pensak, Gammie, Blinn |
| J-13 | Shamoan '296 | Gammie, Tripathy, Digibox System, Pensak |

| | | |
|------|----------------|--|
| J-14 | Pensak | Shamoon '296, Gammie, Blinn, Ginter '900 |
| J-15 | Ginter '900 | Blinn, Gammie, Shamoon '296 |
| J-16 | Blinn | Gammie, Shamoon '296 |
| J-21 | Digibox System | Shamoon '296, Tripathy, Gammie |

For each of the Asserted Patents, it would have been obvious to one of ordinary skill in the art to combine one or more of the prior art references listed above with each of the other listed references, together with his or her own knowledge, education, experience and/or common sense and information in the identified prior art to arrive at the alleged invention. In *KSR*, the Supreme Court emphasized that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 1739. A key inquiry is whether the “improvement is more than the predictable use of prior art elements according to their established functions.” *Id.* at 1740. The identified prior art references use such familiar elements for their primary or well-known purposes in a manner well within the ordinary level of skill in the art.

In addition, the identified prior art addresses the same or similar technical issues relating to methods of controlling access to content, including authentication and other well-known access control features. The rationale to combine or modify prior art references is significantly stronger when the references seek to solve the same problem, come from the same field, and correspond well. *See, e.g., In re Inland Steel Co.*, 265 F.3d 1354, 1364 (Fed. Cir. 2001) (“[The prior art] focus[es] on the same problem that the ... patent addresses: enhancing [the flexibility of stents]. Moreover, both [prior art references] come from the same field Finally, the solutions to the identified problems found in the two references correspond well.”

Finally, the motivation to combine the teachings of the prior art references disclosed herein is also found in the references themselves and, as discussed above, in: (1) the nature of the problem being solved, (2) the express, implied, and inherent teachings of the prior art, including the admitted prior art of the Asserted Patents, (3) the knowledge of persons of ordinary skill in the art, (4) the fact that the prior art is generally directed towards the same subject matter as the Asserted Patents, and/or (5) the predictable results obtained in combining

the different elements of the prior art. In addition, Dolby incorporates by reference any and all motivations to combine set forth in the prosecution history for the Asserted Patents and/or patents and applications related thereto.

F. Local P.R. 3-3(d): Invalidity Under 35 U.S.C. § 101 and/or § 112

1. Ineligible Subject Matter under 35 U.S.C. § 101

a. The '721 Patent

The Asserted Claims of the '721 Patent are directed to the abstract idea of authenticating and controlling access to content. “[A]s long as content has existed, people have sought to secure who may access it and how it may be used.” *Digital Media Techs., Inc. v. Hulu, LLC*, No. 4:16-cv-245-MW/CAS, 2017 WL 4750705, at *7 (N.D. Fla. July 3, 2017); *aff’d sub nom, Digital Media Techs., Inc. v. Netflix, Inc.*, 742 F.App’x 510 (Fed. Cir. 2018).

The Asserted Claims of the '721 Patent fail to recite any technological innovations in the computer security industry that confer an inventive concept. Instead, the claims merely recite authenticating and controlling access to content using a key, not limited to any specific method, and performed using nothing more than well-understood, routine, conventional parts and methods. These steps, *e.g.*,—receiving a load module; determining whether the load module has an associated digital signature; if the load module has an associated digital signature, authenticating the digital signature using at least one public key secured behind a tamper resistant barrier and therefore hidden from the user; and conditionally executing the load module based at least in part on the results of an authenticating step—do not recite anything more than the abstract idea itself, and certainly do not add *significantly* more to the idea, as the law requires. *See Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 217–18 (2014). Accordingly, the recited claim limitations do not provide any inventive concept to take the claims out of the realm of abstract, patent-ineligible subject matter. *See Two-Way Media v. Comcast Cable Comm’ns*, 874 F.3d 1329, 1337 (Fed. Cir. 2017).

b. The '304 Patent

The Asserted Claims of the '304 Patent are directed to the abstract idea of controlling the use of content. “[A]s long as content has existed, people have sought to secure who may access it and how it may be used.” *Digital Media Techs.*, 2017 WL 4750705 at *7. At the time of the alleged invention of the '304 Patent, electronic information had existed for decades, necessitating its governance and control. Indeed, the '304 Patent notes a need “for electronic content providers...to control the use of proprietary information.” '304 Patent at 2:44-46. The '304 Patent purports to do nothing more than apply the abstract idea of controlling the use of content in an electronic domain—“electronic security” (1:17-18), “electronic appliance-based technologies (1:20-21), “electronic commerce” (1:28-29), “electronic or electronically-facilitated transactions” (1:29-30), “electronically stored and/or disseminated information” (1:36-37), “electronic information” (2:8-9), “electronic information users” (2:15), “electronic information providers and users” (2:20-21).

Controlling the use of content by using general purpose “electronics” amounts to merely using a computer to improve the performance of the abstract idea, and is insufficient to render the invention not abstract. *Versata Dev't Group, Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) (“Examination of the claims—as a whole and in terms of each claim’s limitations—reveals that the claims are not directed to improving computer performance and do not recite any such benefit. The claims are directed to price determination and merely use a computer to improve the performance of that determination—not the performance of a computer.”).

At the time of the alleged invention of the '304 Patent, the need to protect electronic information was well-known throughout digital content distributions systems, including the industries of broadcast television (*see, e.g.,* Saito; Gammie) and software distribution (*see, e.g.,* Comerford; Waite; Hornbuckle). Indeed, the need to protect data was generally appreciated and achieved through various techniques that helped control access to the data (*see, e.g.,* Matyas; Katznelson).

The claims fail to recite any technological innovations in content protection that confer an inventive concept. The claims merely recite controlling the use of content, not limited to any specific method, and performed using nothing more than well-understood, routine, conventional parts and methods. These steps—receiving digital content, separately receiving control information, governing use of the content with the control information, reporting information about use of the file, and providing tamper-resistance—do not recite anything more than the abstract idea of controlling the use of content itself, and certainly do not add *significantly* more to the idea, as the law requires. *See Alice Corp.*, 573 U.S. at 217–18.

Accordingly, the recited claim limitations do not provide any inventive concept to take the claims out of the realm of abstract, patent-ineligible subject matter. *See Two-Way Media*, 874 F.3d at 1337 (Fed. Cir. 2017); *Affinity Labs of Tex., LLC v. DirecTV, LLC et al.*, 838 F.3d 1253, 1265 (Fed. Cir. 2016) (the only limitations not directed to the abstract idea itself “describe purely conventional features of cellular telephones and the applications that enable them to perform particular functions. They therefore do not meaningfully limit the scope of the claims.”); *Pres. Wellness Techs. LLC v. Allscripts Healthcare Solutions*, No. 2:15-cv-1559, 2016 WL 2742379, at *9, *13 (E.D. Tex. May 10, 2016) (Bryson, J.) (holding that the term “two-way firewall program” did not add an inventive concept because the purported definition simply recites the functions set forth in the claims, without suggesting a novel way of performing the functions).

c. The '815 Patent

The Asserted Claims of the '815 Patent are directed to the abstract idea of managing the use of files using digital signatures. “[A]s long as content has existed, people have sought to secure who may access it and how it may be used.” *Digital Media Techs.*, 2017 WL 4750705, at *7. The '815 Patent concedes that it was well-known that techniques involving cryptographic keys, watermarks, digital signatures, and hashes were routinely used for authenticating files and managing the use of files. *See, e.g.*, '815 Patent at 10:13-11:45; 12:1-

20; 19:20-52; 23:54-60; 22:41-23:37; Figs. 2A, 2B; 3; 12A, 13. For example, the '815 Patent incorporates by reference U.S. Patent No. 5,892,900, which states at 2:33-36 that “[a] fundamental problem for electronic content providers is extending their ability to control the use of proprietary information. Content providers often need to limit use to authorized activities and amounts.”

However, the claims of the '815 Patent fail to recite any technological innovations in the digital rights management (“DRM”) field that confer an inventive concept. Instead, the claims merely recite managing the use of files using digital signatures, not limited to any specific method, and performed using nothing more than well-understood, routine, and conventional steps. These steps—receiving a request to use a file, retrieving a digital signature and check value associated with the file, verifying the authenticity of the check value using the digital signature, verifying the authenticity of the file using the check value, and granting the request to use the file—do not recite anything more than the abstract idea of managing the use of files using digital signatures itself, and certainly do not add *significantly* more to the idea, as the law requires. *See Alice Corp.* 573 U.S. at 217–18. The recited claim limitations do not provide any inventive concept to take the claims out of the realm of abstract, patent-ineligible subject matter. *See Two-Way Media*, 874 F.3d at 1337; *Affinity Labs*, 838 F.3d at 1265; *Digital Media Techs.* at *7 (“For instance, it is nothing new for servers and clients to send requests to each other. Similarly, it is not inventive to require authentications to access content.”) (internal citations omitted).

d. The '602 Patent

The Asserted Claims of the '602 Patent are directed to the abstract idea of encoding data to facilitate authentication. “This method reflects standard encoding and decoding, an abstract concept long utilized to transmit information.” *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1326 (Fed. Cir. 2017). The “field of the invention” portion of the '602 Patent states that “[t]he present invention relates generally to the communication and storage of

electronic data. More specifically, the present invention relates to systems and methods for authenticating and protecting the integrity of electronic information using cryptographic techniques.” ’602 Patent at 1:38-42. The ’602 Patent concedes that “[a] variety of authentication and validation schemes have been proposed” (’602 Patent at 1:63-64) and discusses well-known cryptographic signature schemes that are used for authentication. *See, e.g.*, ’602 Patent at 1:65-2:36; *see also id.* at 2:56-3:10, 8:34-9:2 (citing and incorporating by reference B. Schneier, *Applied Cryptography*, which discusses well-known secure hashing techniques), Figs. 1A, 1B. U.S. Patent No. 6,785,815 (“the ’815 Patent”), which is incorporated by reference, also discusses well-known techniques involving cryptographic keys, watermarks, digital signatures, and hashes that were routinely used for authenticating files. *See, e.g.*, ’815 Patent at 10:13-11:45; 12:1-20; 19:20-52; 23:54-60; 22:41-23:37; Figs. 2A, 2B; 3; 12A, 13.

However, the claims of the ’602 Patent fail to recite any technological innovations in the DRM field that confer an inventive concept. Instead, the claims merely recite encoding data to facilitate authentication, not limited to any specific method, and performed authentication using nothing more than well-understood, routine, and conventional steps. These steps do not recite anything more than the abstract idea of encoding data to facilitate authentication itself, and certainly do not add *significantly* more to the idea, as the law requires. *See Alice Corp.*, 573 U.S. at 217–18. Accordingly, the recited claim limitations do not provide any inventive concept to take the claims out of the realm of abstract, patent-ineligible subject matter. *See Two-Way Media*, 874 F.3d at 1337; *Affinity Labs*, 838 F.3d at 1265; *Digital Media Techs.*, at *7 (“For instance, it is nothing new for servers and clients to send requests to each other. Similarly, it is not inventive to require authentications to access content.”)

e. The ’603 Patent

The Asserted Claims of the ’603 Patent are directed to the abstract idea of controlling the use of content with a rule. “[A]s long as content has existed, people have sought to secure

who may access it and how it may be used.” *Digital Media Techs.*, 2017 WL 4750705, at *7. The “field of the invention” portion of the ’603 Patent states that “[t]he present invention relates generally to systems and methods for processing electronic content. More specifically, the present invention relates to systems and methods for inspecting, classifying, controlling, and/or modifying the processing of protected electronic content to provide enhanced resistance to attempts to circumvent content protection.” ’603 Patent at 1:23-29. The ’603 Patent acknowledges “a number of terms, concepts, and techniques that are well-known in the fields of computer architecture, computer programming, and cryptography” and incorporates by reference numerous references. *See, e.g.*, ’603 Patent at 4:61-5:44.

However, the claims of the ’603 Patent fail to recite any technological innovations in the DRM field that confer an inventive concept. Instead, as described below, the claims merely recite controlling the use of content with a rule, not limited to any specific method, and performed using nothing more than well-understood, routine, and conventional steps. These steps do not recite anything more than the abstract idea of controlling the use of content with a rule itself, and certainly do not add *significantly* more to the idea, as the law requires. *See Alice Corp.*, 573 U.S. at 217–18. Accordingly, the recited claim limitations do not provide any inventive concept to take the claims out of the realm of abstract, patent-ineligible subject matter. *See Two-Way Media*, 874 F.3d at 1337; *Affinity Labs*, 838 F.3d at 1265; *Digital Media Techs.*, at *7 (“For instance, it is nothing new for servers and clients to send requests to each other. Similarly, it is not inventive to require authentications to access content.”)

f. The ’342 Patent

The Asserted Claims of the ’342 Patent are directed to the abstract idea of limiting access to content to authorized users. “[A]s long as content has existed, people have sought to secure who may access it and how it may be used.” *Digital Media Techs.*, 2017 WL 4750705, at *7. The ’342 Patent on its face claims priority no earlier than June 9, 2000. At that time, electronic information had existed for decades, necessitating its governance and control. The

'342 Patent pertains to the content protection industry, which governs and controls digital information needed by a content-rendering application to obtain access to protected content.

However, the '342 Patent's claims fail to recite any technological innovations in the content protection industry that confer an inventive concept. Instead, the claims merely recite the use of certificates and rules to access protected content, not limited to any specific method, and performed using nothing more than well-understood, routine, conventional parts and methods. These steps—stated generally as executing a rendering application associated with a first certificate, requesting the rendering application render content associated with a second certificate and a rule, verifying the first certificate, verifying the second certificate, determining the rule is satisfied, and rendering the content that includes an authorizing document—do not recite anything more than the abstract idea itself of limiting access to content to authorized users, and certainly do not add *significantly* more to the idea, as the law requires. *See Alice Corp.*, 573 U.S. at 217–18. Accordingly, the recited claim limitations do not provide any inventive concept to take the claims out of the realm of abstract, patent-ineligible subject matter. *See Two-Way Media*, 874 F.3d at 1337; *Affinity Labs*, 838 F.3d at 1265; *Digital Media Techs.*, at *7.

g. The '157 Patent

The Asserted Claims of the '157 Patent are directed to the abstract idea of controlling the use of content. “[A]s long as content has existed, people have sought to secure who may access it and how it may be used.” *Digital Media Techs.*, 2017 WL 4750705, at *7. At the time of the purported invention of the '157 Patent, electronic information had existed for decades, necessitating its governance and control. Indeed, the '157 Patent notes a need “for electronic content providers...to control the use of proprietary information.” '157 Patent at 2:44-46. The '157 Patent purports to do nothing more than apply the abstract idea of controlling the use of content in an electronic domain—“electronic security” (1:17-18), “electronic appliance-based technologies (1:20-21), “electronic commerce” (1:28-29),

“electronic or electronically-facilitated transactions” (1:29-30), “electronically stored and/or disseminated information” (1:36-37), “electronic information” (2:8-9), “electronic information users” (2:15), “electronic information providers and users” (2:20-21). Controlling the use of content by using general purpose “electronics” amounts to merely using a computer to improve the performance of the abstract idea, and is insufficient to render the invention not abstract. *Versata Dev’t Group, Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015).

The need to protect electronic information was well-known throughout digital content distributions systems, including the industries of broadcast television (*see, e.g.*, Saito; Gammie) and software distribution (*see, e.g.*, Comerford; Waite; Hornbuckle). Indeed, the need to protect data was generally appreciated and achieved through various techniques that helped control access to the data. *See, e.g.*, Matyas; Katznelson.

The claims fail to recite any technological innovations in content protection that confer an inventive concept. Instead, the claims merely recite controlling the use of content, and recite such control performed using nothing more than well-understood, routine, conventional parts and methods. These parts and methods—processing units, including one comprising a microprocessor, internal memory, and internal memory interface logic; computer-readable media; electronic content; electronic objects; and software—do not recite anything more than the abstract idea of controlling the use of content itself, and certainly do not add *significantly* more to the idea, as the law requires. *See Alice Corp.*, 573 U.S. at 217–18. Accordingly, the recited claim limitations do not provide any inventive concept to take the claims out of the realm of abstract, patent-ineligible subject matter. *See Two-Way Media*, 874 F.3d at 1337; *Affinity Labs*, 838 F.3d at 1265; *Digital Media Techs.*, at *7.

h. The ’158 Patent

The Asserted Claim of the ’158 Patent is directed to the abstract idea of controlling the use of content. “[A]s long as content has existed, people have sought to secure who may access it and how it may be used.” *Digital Media Techs.*, 2017 WL 4750705, at *7. Indeed, the ’158

Patent notes a need “for electronic content providers...to control the use of proprietary information.” ’158 Patent at 2:44-46. The ’158 Patent purports to do nothing more than apply the abstract idea of controlling the use of content in an electronic domain—“electronic security” (1:17-18), “electronic appliance-based technologies (1:20-21), “electronic commerce” (1:28-29), “electronic or electronically-facilitated transactions” (1:29-30), “electronically stored and/or disseminated information” (1:36-37), “electronic information” (2:8-9), “electronic information users” (2:15), “electronic information providers and users” (2:20-21). Controlling the use of content by using general purpose “electronics” amounts to merely using a computer to improve the performance of the abstract idea, and is insufficient to render the invention not abstract. *Versata*, 793 F.3d at 1335.

The need to protect electronic information was well-known throughout digital content distributions systems, including the industries of broadcast television (*see, e.g.,* Saito; Gammie) and software distribution (*see, e.g.,* Comerford; Waite; Hornbuckle). Indeed, the need to protect data was generally appreciated and achieved through various techniques that helped control access to the data. *See, e.g.,* Matyas; Katznelson.

The claim fails to recite any technological innovations in content protection that confer an inventive concept. Instead, as described below, the claims merely recite controlling the use of content, not limited to any specific method, and performed using nothing more than well-understood, routine, conventional parts and methods. These steps—receiving electronic content, storing the content, separately receiving a rule, receiving a request to use the content, determining the use complies with the rule, and using a key to decrypt the content—do not recite anything more than the abstract idea of controlling the use of content itself, and certainly do not add *significantly* more to the idea, as the law requires. *See Alice Corp.*, 573 U.S. at 217–18. Accordingly, the recited claim limitations do not provide any inventive concept to take the claims out of the realm of abstract, patent-ineligible subject matter. *See Two-Way Media*, 874 F.3d at 1337; *Affinity Labs*, 838 F.3d at 1265; *Digital Media Techs.*, at *7.

i. The '106 Patent

The Asserted Claim of the '106 Patent is directed to the abstract idea of limiting access to content to authorized users. “[A]s long as content has existed, people have sought to secure who may access it and how it may be used.” *Digital Media Techs.*, 2017 WL 4750705, at *7. At the time of the purported invention of the '106 Patent, electronic information had existed for decades, necessitating its governance and control. The '106 Patent pertains to the content protection industry, which governs and controls digital information needed by a content-rendering application to obtain access to protected content.

However, the claim fails to recite any technological innovations in the content protection industry that confer an inventive concept. Instead, the claim merely recites the use of certificates and rules to access protected content, not limited to any specific method, and performed using nothing more than well-understood, routine, conventional parts and methods. These steps—stated generally as executing a rendering application associated with a first certificate, requesting the rendering application render content associated with a second certificate and a rule, verifying the first certificate, verifying the second certificate, determining the rule is satisfied, and rendering the content that includes an authorizing document—do not recite anything more than the abstract idea itself of limiting access to content to authorized users, and certainly do not add *significantly* more to the idea, as the law requires. *See Alice Corp.*, 573 U.S. at 217–18. Accordingly, the recited claim limitations do not provide any inventive concept to take the claims out of the realm of abstract, patent-ineligible subject matter. *See Two-Way Media*, 874 F.3d at 1337; *Affinity Labs*, 838 F.3d at 1265; *Digital Media Techs.*, at *7; *Front Row Techs., LLC v. NBA Media Ventures, LLC*, 204 F. Supp. 3d 1190, 1272 (D.N.M. 2016) (“It is difficult to imagine any form of DRM not preempted under this vague description of a limiting method for digital content.”)

j. The '627 Patent

The Asserted Claims of the '627 Patent are directed to the abstract idea of using decryption to access protected content. “[A]s long as content has existed, people have sought

to secure who may access it and how it may be used.” *Digital Media Techs.*, 2017 WL 4750705, at *7. At the time of the purported invention of the ’627 Patent, electronic information had existed for decades, necessitating its governance and control. The ’627 patent pertains to the content protection industry, which governs and controls digital information needed by a content-rendering application to obtain access to protected content.

The asserted claims fail to recite any technological innovations in the computer security industry that confer an inventive concept. Instead, as described below, the claims merely recite the use of decryption to access protected content, not limited to any specific method, and performed using nothing more than well-understood, routine, conventional parts and methods. These steps—stated generally as receiving a request to access protected content, extracting, through decryption, information that in turn is to be used by a governed application to decrypt the protected content, and sending the unencrypted information to the governed application—do not recite anything more than the abstract idea itself of using decryption to access protected content, and certainly do not add *significantly* more to the idea, as the law requires. *See Alice Corp.*, 573 U.S. at 217–18. Accordingly, the recited claim limitations do not provide any inventive concept to take the claims out of the realm of abstract, patent-ineligible subject matter. *See Two-Way Media*, 874 F.3d at 1337; *Affinity Labs*, 838 F.3d at 1265; *Digital Media Techs.*, at *7; *Front Row Techs., LLC v. NBA Media Ventures, LLC*, 204 F. Supp. 3d 1190, 1272 (D.N.M. 2016) (“It is difficult to imagine any form of DRM not preempted under this vague description of a limiting method for digital content.”)

2. Enablement and Written Description under 35 U.S.C. § 112

Subject to Dolby’s reservation of rights, Dolby identifies below the grounds upon which Dolby currently contends the Asserted Claims are invalid under 35 U.S.C. § 112. The discussion below does not attempt to identify all recitations of a given term or phrase in each claim. To the extent that Dolby has identified any instance of a term or limitation in a particular claim as rendering the claim invalid under 35 U.S.C. § 112, Dolby contends that every instance

of the challenged term or limitation in each Asserted Claim of the Asserted Patent renders the claim invalid for the same reasons. Dolby reserves the right to amend, supplement, or otherwise modify its patent-ineligibility and invalidity arguments under 35 U.S.C. § 112 to the extent Intertrust proffers new, additional, or different constructions for terms used in the Asserted Claims or to the extent that the Claim Construction Order in this case so necessitates.

The Asserted Claims are invalid for failure to comply with the written description and/or enablement requirements because they do not contain sufficient written description of the claimed inventions and/or do not provide a sufficiently enabling disclosure. *See* 35 U.S.C. § 112 (“The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same . . .”). To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention at the time of filing the patent application. *See generally Ariad Pharm., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336 (Fed. Cir. 2010) (en banc). “To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation.” *MagSil Corp. v. Hitachi Global Storage Techs.*, 687 F.3d 1377, 1380-81 (Fed. Cir. 2012) (citation omitted). The specification of the Asserted Patents does not adequately describe and/or enable the claimed inventions recited in the Asserted Claims.

Dolby contends that the specification does not provide sufficient written description and/or enablement for each of the claim limitations identified below, which identify grounds of invalidity for lack of enablement and/or written description with respect to the Asserted Claims and the limitations of the Asserted Claims, pursuant to Patent Rule 3-3(d). Where Dolby has identified a phrase as lacking written description and/or enablement, Dolby also contends that the subparts of the phrase lack written description and/or enablement within the context recited in the claim.

Each of the asserted independent claims, along with their respective dependent claims, lack written description and/or are not enabled, and are therefore invalid under 35 U.S.C. § 112, at least in light of Intertrust's apparent construction of those claims and/or application of them to Dolby's products. Dolby provides further discussion of the lack of Section 112 written description and enablement support for the limitations of the Asserted Claims as follows. The following discussion includes the identification and discussion of claim terms and limitations lacking Section 112 written description and/or enablement support. A more detailed basis for Dolby's written description and/or enablement defenses may be set forth in any expert report(s) on invalidity to be served by Dolby in accordance with the Court's Scheduling Order.

a. The '721 Patent

As a non-limiting example, claims 9 and 29 of the '721 Patent claim (among other things) "at least one public key secured behind a tamper resistant barrier and therefore hidden from the user." The '721 Patent does not adequately describe and/or enable these functionalities as claimed because it fails to provide any information on how to perform and or implement the full breadth of the claimed functionality.

The following list identifies the Asserted Claims of the '721 Patent that are invalid under 35 U.S.C. § 112 for inadequate written description and/or lack of enablement.

Claims 9 and 29

- "at least one public key secured behind a tamper resistant barrier and therefore hidden from the user"

b. The '304 Patent

As a non-limiting example, claim 24 of the '304 Patent claims (among other things) "using the first entity's control information to govern," and "designed to impede the ability of a user of a computing system." The '304 Patent does not adequately describe and/or enable these functionalities as claimed because it fails to provide any information on how to perform the functionalities of "using the first entity's control information to govern," and "designed to impede the ability of a user of a computing system."

The following list identifies the Asserted Claims of the '304 Patent that are invalid under 35 U.S.C. § 112 for inadequate written description and/or lack of enablement.

Claim 24

- “separately”
- “using the first entity’s control information to govern”
- “designed to impede the ability of a user of a computing system”
- “reporting information”

c. The '342 Patent

As a non-limiting example, claims 1, 7, and 8 of the '342 Patent claims (among other things) “wherein the piece of electronic content comprises an authorizing document, and the second entity associates the second digital certificate with the authorizing document if the authorizing document originated from a certified entity,” “wherein the certified entity is identified by a third digital certificate issued by a third entity different from the first and second entities,” and “wherein the second entity determines that an authorizing document originated from the certified entity by checking for the presence of the third digital certificate issued by the third entity.” The '342 Patent does not adequately describe and/or enable these functionalities as claimed because it fails to provide any information on how to perform the functionalities of “wherein the piece of electronic content comprises an authorizing document, and the second entity associates the second digital certificate with the authorizing document if the authorizing document originated from a certified entity,” “wherein the certified entity is identified by a third digital certificate issued by a third entity different from the first and second entities,” and “wherein the second entity determines that an authorizing document originated from the certified entity by checking for the presence of the third digital certificate issued by the third entity.”

The following list identifies the Asserted Claims of the '342 Patent that are invalid under 35 U.S.C. § 112 for inadequate written description and/or lack of enablement.

Claim 1

- “the predetermined criteria”
- “authorizing document”
- “wherein the piece of electronic content comprises an authorizing document, and the second entity associates the second digital certificate with the authorizing document if the authorizing document originated from a certified entity”

Claim 7

- “wherein the certified entity is identified by a third digital certificate issued by a third entity different from the first and second entities”

Claim 8

- “wherein the second entity determines that an authorizing document originated from the certified entity by checking for the presence of the third digital certificate issued by the third entity.”

d. The '157 Patent

As a non-limiting example, claims 53, 59, 69, 84, 86, and 99 of the '157 Patent claim (among other things) “(b) one or more electronic objects received by the electronic appliance separately from the piece of electronic content and via separate delivery, the one or more electronic objects specifying one or more permitted or prohibited uses of the piece of electronic content” and “wherein the electronic appliance comprises hardware and/or software operable to impede the user from tampering with performance of said selectively granting step.” The '157 Patent does not adequately describe and/or enable these functionalities as claimed because it fails to provide any information on how to perform the functionality of “(b) one or more electronic objects received by the electronic appliance separately from the piece of electronic content and via separate delivery, the one or more electronic objects specifying one or more permitted or prohibited uses of the piece of electronic content” and “wherein the electronic appliance comprises hardware and/or software operable to impede the user from tampering with performance of said selectively granting step.”

The following list identifies the Asserted Claims of the '157 Patent that are invalid under 35 U.S.C. § 112 for inadequate written description and/or lack of enablement.

Claim 53

- “(b) one or more electronic objects received by the electronic appliance separately from the piece of electronic content and via separate delivery, the one or more electronic objects specifying one or more permitted or prohibited uses of the piece of electronic content”
- “impeding unauthorized access”

Claim 59

- “cryptographically seal”

Claim 86

- “wherein the electronic appliance comprises hardware and/or software operable to impede the user from tampering with performance of said selectively granting step”

Claims 53, 69, 84, 86 and 99

- “separately”

Claim 69, 87, and 89

- “secure processing unit”

e. The '158 Patent

As a non-limiting example, claim 4 of the '158 Patent claims (among other things) “receiving, at the electronic appliance, independently from the electronic content item via separate delivery and protected separately from the electronic content item, a rule specifying one or more permitted uses of the electronic content item” and “determining that the requested use of the electronic content item corresponds to a permitted use of the electronic content item specified in the rule.” The '158 Patent does not adequately describe and/or enable these functionalities as claimed because it fails to provide any information on how to perform “receiving, at the electronic appliance, independently from the electronic content item via separate delivery and protected separately from the electronic content item, a rule specifying one or more permitted uses of the electronic content item” and “determining that the requested use of the electronic content item corresponds to a permitted use of the electronic content item specified in the rule.”

The following list identifies the Asserted Claims of the '158 Patent that are invalid under 35 U.S.C. § 112 for inadequate written description and/or lack of enablement.

Claim 4

- “receiving, at the electronic appliance, independently from the electronic content item via separate delivery and protected separately from the electronic content item, a rule specifying one or more permitted uses of the electronic content item”
- “determining that the requested use of the electronic content item corresponds to a permitted use of the electronic content item specified in the rule”
- “secure processing unit”

f. The '106 Patent

As a non-limiting example, claim 1 of the '106 Patent claims (among other things) “wherein the second entity associates the second digital certificate with the authorizing document if the authorizing document originated from a certified entity.” The '106 Patent does not adequately describe and/or enable these functionalities as claimed because it fails to provide any information on how to perform the functionalities of “wherein the second entity associates the second digital certificate with the authorizing document if the authorizing document originated from a certified entity.”

The following list identifies the Asserted Claims of the '342 Patent that are invalid under 35 U.S.C. § 112 for inadequate written description and/or lack of enablement.

Claim 1

- “authorizing document”
- “wherein the second entity associates the second digital certificate with the authorizing document if the authorizing document originated from a certified entity”

g. The '627 Patent

As a non-limiting example, claim 1 of the '627 Patent claims (among other things) “a secure control application executing on the system in a protected processing environment” and “a governed application executing on the system in a processing environment separate from the protected processing environment.” The '627 Patent does not adequately describe and/or enable these functionalities as claimed because it fails to provide any information on how to

perform and/or implement the functionality of “a secure control application executing on the system in a protected processing environment” and “a governed application executing on the system in a processing environment separate from the protected processing environment.”

The following list identifies the Asserted Claims of the '627 Patent that are invalid under 35 U.S.C. § 112 for inadequate written description and/or lack of enablement.

Claim 1

- “a secure control application executing on the system in a protected processing environment”
- “a governed application executing on the system in a processing environment separate from the protected processing environment”

3. Indefiniteness under 35 U.S.C. § 112(2)

Subject to Dolby's reservation of rights, Dolby identifies the one or more terms of the Asserted Claims of the Asserted Patents that may suffer from defects that render them indefinite. For instance, one or more terms of the Asserted Claims of the Asserted Patents may fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention. Based on further information and analysis, Dolby may further specify its grounds for indefiniteness, including through reliance on expert testimony, at an appropriate later stage of this lawsuit, such as claim construction. To the extent that Dolby has identified any instance of a term or limitation in a particular claim as rendering the claim invalid under Section 112, Dolby contends that every instance of the challenged term or limitation in each Asserted Claim renders the claim invalid for the same reason.

a. The '721 Patent

Claim 5

- “testing a load module having at least one specification associated therewith”

Claims 9 and 29

- “at least one public key secured behind a tamper resistant barrier and therefore hidden from the user”
- “the user”

b. The '304 Patent

Claim 24

- “first entity’s control information”
- “separately”
- “using the first entity’s control information to govern”
- “reporting information”
- “designed to impede the ability of a user of the computing system to tamper”

c. The '815 Patent

Claim 42

- “the authenticity”
- “verifying the authenticity of the at least one check value using the digital signature”
- “verifying the authenticity of at least a portion of the file using the at least one check value”

d. The '602 Patent

Claim 25

- “each error-check value being inserted in proximity to a portion of the block of data to which it corresponds”
- “generating a progression of check values, each check value in the progression being derived from a portion of the block of data and from at least one other check value in the progression”
- “inserting error-check values into the block of data, ... and each errorcheck value being operable to facilitate authentication of a portion of the block of data and of a check value in the progression of check values”
- “transmitting the encoded block of data and the check values to a user’s system, whereby the user’s system is able to receive and authenticate portions of the encoded block of data before the entire encoded block of data is received”

e. The '603 Patent

Claim 1

- “identifying one or more software modules responsible for processing the piece of electronic media content and enabling use of the piece of electronic media content by the user”
- “evaluating whether the at least one of the one or more software modules process the portion of the electronic media content in an authorized manner”

- “evaluating whether the at least one of the one or more software modules make calls to certain system interfaces”
- “evaluating whether the at least one of the one or more software modules direct data to certain channels”
- “analyzing dynamic timing characteristics of the at least one of the one or more software modules for anomalous timing characteristics indicative of invalid or malicious activity”

f. The '342 Patent

Claim 1

- “the predetermined criteria”
- “authorizing document”

g. The '157 Patent

Claim 53

- “(b) one or more electronic objects received by the electronic appliance separately from the piece of electronic content and via separate delivery, the one or more electronic objects specifying one or more permitted or prohibited uses of the piece of electronic content; and”
- “impeding unauthorized access”

Claim 59

- “cryptographically seal”

Claims 69 and 86

- “via separate delivery”

Claims 53, 69, 84, 86, and 99

- “separately”

Claims 69, 74, 80, 84, 86, and 99

- “a first electronic object”

Claims 69, 87 and 89

- “secure processing unit”

Claim 73 and 88

- “non-executable audio, video, and/or textual content”

h. The '158 Patent

Claim 4

- “receiving, at the electronic appliance, independently from the electronic content item via separate delivery and protected separately from the electronic content item, a rule specifying one or more permitted uses of the electronic content item”
- “secure processing unit”

i. The '106 Patent

Claim 1

- “authorizing document”

j. The '627 Patent

Claim 1

- “a secure control application executing on the system in a protected processing environment”
- “a governed application executing on the system in a processing environment separate from the protected processing environment”

G. Obviousness-Type Double Patenting

35 U.S.C. § 101 states, “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter ... may obtain a patent therefor.” “While often described as a court-created doctrine, obviousness-type double patenting is grounded in the text of the Patent Act.” *AbbVie Inc. v. Mathilda & Terrence Kennedy Inst. of Rheumatology Trust*, 764 F.3d 1366, 1372 (Fed. Cir. 2014). “Thus, § 101 forbids an individual from obtaining more than one patent on the same invention, *i.e.*, double patenting.” *AbbVie*, 764 F.3d at 1372. Double-patenting, including nonstatutory obviousness-type double patenting, may exist between an issued patent and an application filed by the same inventive entity, a different inventive entity having a common inventor, a common applicant, and/or a common owner/assignee. *See In re Hubbell*, 709 F.3d 1140, 1146-47 (Fed. Cir. 2013). The doctrine prohibits a party from extending the duration of the right to exclude by a later expiring patent’s claims that are not “patentably distinct” from claims in an earlier expiring patent. *See, e.g., G.D. Searle LLC v. Lupin Pharms., Inc.*, 790 F.3d at 1349, 1351 (Fed. Cir. 2015); *Eli Lilly &*

Co. v. Barr Labs., Inc., 251 F.3d 955, 967 (Fed. Cir. 2001); *see also Gilead Scis, Inc. v. Natco Pharma Ltd*, 753 F.3d 1208, 1216 (Fed. Cir. 2014), *cert. denied*, 135 S. Ct. 1530 (2015) (“Looking instead to the earliest expiration date of all the patents an inventor has on his invention and its obvious variants best fits and serves the purpose of the doctrine of double patenting.”).

Further, because the question of whether the claims at issue are “patentably distinct implicates the question of obviousness under § 103,” it is also proper to consider what has been disclosed by the prior art. *Otsuka Pharm. Co. v. Sandoz, Inc.*, 678 F.3d 1280, 1297 (Fed. Cir. 2012) (citations omitted). For example, in *In re Ward*, 236 F.2d 428, 431 (CCPA 1956), the court found claims unpatentable due to obviousness-type double patenting in view of the combination of the claimed subject matter of a patent having common ownership and a prior art patent. *See also Hartness Int’l Inc. v. Simplimatic Eng’g Co.*, 819 F.2d 1100, 1108-09 (Fed. Cir. 1987) (affirming lower court’s ruling holding that a patent was invalid for obviousness-type double patenting in view of the same applicants’ earlier filed and granted claims and of the prior art); *In re Ockert*, 245 F.2d 467, 469 (CCPA 1957) (“It is also well settled that, in determining whether the claims of an application are patentably distinct from those of a patent it is proper to consider what is disclosed by the prior art.”); *In re Simmons*, 312 F.2d 821, 825 (CCPA 1963).

1. The ’342 Patent

The Asserted Claims of the ’342 Patent are invalid for obviousness-type double patenting over at least claim 1 of the ’106 Patent. Because the Asserted Claims of the ’342 Patent are not patentably distinct from at least earlier expiring claim 1 of the ’106 Patent, and the ’342 patent is set to expire after the ’106 patent, Intertrust has impermissibly extended the duration of the right to exclude by the ’342 Patent’s Asserted Claims, in violation of the doctrine of obviousness-type double patenting.

To the extent additional disclosure is required to support a finding that any difference between each of the Asserted Claims of the '342 Patent and the claims of the '106 Patent is an obvious variation to a person of ordinary skill in the art, the prior art disclosed herein provides additional support for the lack of patentable distinction.

H. Invalidity Under 35 U.S.C. § 102(f) / (g)

Under Pre-AIA 35 U.S.C. § 102(f), one is not entitled to a patent if “he did not himself invent the subject matter sought to be patented.” Accordingly, “[a] patent is invalid if more or less than the true inventors are named.” *Trovan, Ltd. v. Sokymat SA, Irori*, 299 F.3d 1292, 1301 (Fed. Cir. 2002). Upon information and belief, one or more Asserted Claims of the Asserted Patents are invalid for failing to list the true inventor(s) who contributed to the conception of the alleged invention recited in the Asserted Claims of the Asserted Patents. Additionally, under Pre-AIA 35 U.S.C. § 102(g), a person shall be entitled to a patent unless “(2) before such person’s invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it.” Upon information and belief, one or more Asserted Claims of the Asserted Patents are invalid because the claimed invention was made in this country by another who had not abandoned, suppressed, or concealed the alleged invention.

For example, with respect to the '721, '602, '603 , '342, '106, '627 and '815 Patents, the Digibox System is prior art under 35 U.S.C. § 102(f) as the invention was derived by the alleged inventors during their work at Electronic Publishing Resources, Inc. (“EPR”), and one or more individuals who assisted in developing and implementing the Digibox System. The Digibox System is also prior art under 35 U.S.C. § 102(g) because it was invented by EPR, and Olin Sibert, David Bernstein, David Van Wie, and other individuals who assisted in developing and implementing the Digibox System, did not abandon, suppress, or conceal, before the alleged invention of the '721, '602, '603, '342, '106, '627 and '815 Patents. The

Digibox System is disclosed in the following document, along with other documents referencing the Digibox System produced with these disclosures or in Related Actions:

| Title | Author/ Publisher | Publication Date | Abbreviation |
|---|---|-------------------------|---------------------|
| Digibox: A Self-Protecting Container for Information Commerce | Sibert et al., In Proceedings of the 1st conference on USENIX Workshop on Electronic Commerce - Volume 1. | Jul. 1995 | Digibox – Sibert |

Dolby reserves the right to seek further information regarding the Digibox System during discovery.

In addition, the Abyss System is prior art under 35 U.S.C. § 102(f) with respect to the '721, '304, '157, '158 Patents as the invention was derived by the alleged inventors during their work at IBM, and one or more individuals who assisted in developing and implementing the Abyss System. The Abyss System is prior art under 35 U.S.C. § 102(g) because it was invented by IBM, and Steve R. White, Liam Comerford, Steve H. Weingart, Vincent J. Cina Jr., and other individuals who assisted in developing and implementing the Abyss System, did not abandon, suppress, or conceal, before the alleged invention of the '721, '304, '157, '158 Patents.

| Title | Author/ Publisher | Publication Date | Abbreviation |
|--|--|-------------------------|---------------------|
| ABYSS: A Basic Yorktown Security System PC Software Asset Protection Concepts” by Vincent Cina, Jr., Steve White, and Liam Comerford (“ABYSS Article”) | Vincent Cina, Jr., Steve White, and Liam Comerford | 1986 | ABYSS 1986 |
| ABYSS: A Trusted Architecture for Software Protection | Steve R. White, IEEE | 1987 | ABYSS 1987 |
| ABYSS: An Architecture for Software Protection | Steve R. White, IEEE | 1990 | |

Dolby reserves the right to seek further information regarding the ABYSS System during discovery.

For at least the reasons stated in Sections I.B, C and D, Dolby reserves the right to supplement and/or amend its contentions of invalidity based on improper inventorship and/or prior invention as appropriate.

I. Other Prior Art

In addition to the prior art references that Dolby has specifically discussed in these Invalidity Contentions, Dolby identifies each reference produced and cited in the accompanying document production of the same date. All of these references are relevant prior art, and Dolby reserves the right to rely on them based on their continuing research and analysis of the Asserted Claims, accused instrumentalities, and the prior art.

Further, Dolby reserves the right to rely on documents produced by Intertrust in this case or Related Actions concerning actions of its officers, employees or consultants, including offers for sale, public use, derivation, prior invention and/or disclosures to others not under any duty of confidentiality, which may constitute prior art to one or more Asserted Claims.

II. DOCUMENT PRODUCTION ACCOMPANYING DISCLOSURES

Pursuant to Patent L.R. 3-4, Dolby is serving concurrently with these Contentions: its Patent L.R. 3-4(b) prior art documentation at the following production number range: DOLBY-PA000000001 - DOLBY-PA000037580; and its Patent L.R. 3-4(a), (c)-(e) productions at the following production number range: DOLBY0000000001 – DOLBY0000078987. Each document in the production range DOLBY0000000001 – DOLBY0000078987 is identified by its corresponding Patent L.R. categor(ies): 3-4(a); 3-4(c)/(e); or (3-4(d).

Dolby reserves the right to supplement these productions with additional documentation.

Respectfully submitted,

Dated: April 13, 2020

/s/Mark D. Rowland

Mark D. Rowland
Stepan Starchenko
ROPES & GRAY LLP
1900 University Avenue, 6th Floor
East Palo Alto, CA 94303-2284
Telephone: (650) 617-4000
Facsimile: (650) 617-4090
mark.rowland@ropesgray.com
stepan.starchenko@ropesgray.com

Josef B. Schenker (*pro hac vice*)
Lance W. Shapiro (*pro hac vice*)
ROPES & GRAY LLP
1211 Avenue of the Americas
New York, New York 10036-8704
Tel: (212) 593-9000
Fax: (212) 596-9090
josef.schenker@ropesgray.com

Scott A. McKeown (*pro hac vice*)
ROPES & GRAY LLP
2099 Pennsylvania Avenue, NW
Washington, DC 20006-6807
Tel: (202) 508-4600
Fax: (202) 508-4650
scott.mckeown@ropesgray.com

Leslie M. Spencer (*pro hac vice*)
DESMARAIS LLP
230 Park Avenue
New York, NY 10169
Phone: (212) 351-3400
Fax: (212) 351-3401
lspencer@desmaraisllp.com

*Attorneys for Plaintiff/Counterclaim
Defendant DOLBY*

CERTIFICATE OF SERVICE

I hereby certify that on April 13, 2020, I caused a copy of the above document to be served on counsel of record via e-mail.

/s/ Drago Gregov
Drago Gregov