

United States Court of Appeals for the Federal Circuit

231 F.3d 859
99-1324

INTERACTIVE GIFT EXPRESS, INC.
(now known as E-Data, Corp.),

Plaintiff-Appellant,
v.

COMPUSERVE INCORPORATED, and BRODERBUND SOFTWARE, INC. and
INTUIT, INC., and INTERNET SOFTWARE INC. (now known as Internet
Shopping Network, Inc.), and SOFTLOCK SERVICES, INC., and TELEBASE
SYSTEMS, INC., and THE LIBRARY CORPORATION, and WALDENBOOKS, and ZIFF-
DAVIS PUBLISHING COMPANY,

Defendants-Appellees,

And

APOGEE SOFTWARE LIMITED, and SOFT & NET DISTRIBUTION, S.A.,

Defendants.

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argued for plaintiff-appellant. With him on the brief were Daniel A.
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With him on the brief were David C. McIntyre, and Susan M. Reid. Of
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Appealed from: United States District Court for the Southern District of New York Judge Barbara S. Jones

DECIDED: November 3, 2000

Before PLAGER, SCHALL, and LINN, Circuit Judges.
LINN, Circuit Judge.

Interactive Gift Express, Inc. ("IGE"), now known as E-Data, Corp., seeks review of a judgment of non-infringement of U.S. Patent No. 4,528,643 ("Freeny patent") entered by the U. S. District Court for the Southern District of New York on March 12, 1999. Because the district court erred as a matter of law in the construction of each of the five claim terms giving rise to IGE's non-infringement stipulation, we vacate and remand.

BACKGROUND

A. The Freeny Patent

The Freeny patent is directed to a system for reproducing information in material objects at point of sale locations. Prior to the invention disclosed in the Freeny patent, information disseminated to consumers in material objects, such as tape recordings, books, and records, was recorded onto the material objects at a central manufacturing facility, and the material objects were then shipped to remote retail locations for sale. These systems required centralized manufacturing facilities for reproducing the information in the material objects and extended distribution networks for distributing the material objects, once made, to various point of sale locations for sale to consumers. The manufacturing facilities and distribution networks represented substantial costs ultimately borne by consumers.

In such prior art systems, manufacturers had to estimate consumer demand for each new information-specific product and had to manufacture and ship quantities of material objects sufficient to meet the estimated demand at each retail location. Retailers had to make similar estimates to determine how many material objects for each information-specific product to order and keep in inventory. A low estimate of consumer demand resulted in unsatisfied customers and lost sales. On the other hand, high estimates left some material objects unsold, resulting in unrecouped costs.

To overcome these and other related problems, the Freeny patent provides a system for the distributed manufacture and sale of material objects at multiple locations directly serving consumers. The system includes a central control station, referred to in the Freeny patent as an "information control machine" or "ICM," and a plurality of remotely

located manufacturing stations referred to as "information manufacturing machines" or "IMMs." At each IMM, a consumer selects the desired information and initiates a communication from the IMM to the ICM to gain authorization for copying of the selected information onto a desired type of material object. The consumer then waits for the IMM to receive the authorization, after which the selected information is copied by the IMM onto a blank material object. The invention can be used with a wide variety of information and material objects, such as music on cassettes and text on paper. Irrespective of the type of information and material object, the invention requires the purchase of the material object by the consumer, and the material object must contain information that was copied onto it at the point of sale location.

According to the Freeny patent, the information can be copied onto a selected type of material object whenever a consumer requests it. Consumer demand thus can be met without having to rely on manufacturing estimates and without having to bear the costs associated with overproduction, inventory control, shipping, and warehousing. The Freeny system also provides "for reproducing or manufacturing material objects at point of sale locations only with the permission of the owner of the information, thereby assuring that the owner of the information will be compensated in connection with such reproduction." Freeny patent, col. 4, ll. 8-13. The Freeny patent, in the description of the background of the invention, states that the invention overcomes the problem of "how to manufacture and distribute material objects embodying . . . information in an economical and efficient manner and in a manner which virtually assures that the owners of [the] information will be compensated in connection with the sale of such material objects." Freeny patent, col. 3, ll. 28-33.

Claim 1 of the Freeny patent is representative of the method claims at issue and defines the invention as follows:

A method for reproducing information in material objects utilizing information manufacturing machines located at point of sale locations, comprising the steps of:

providing from a source remotely located with respect to the information manufacturing machine the information to be reproduced to the information manufacturing machine, each information being uniquely identified by a catalog code;

providing a request reproduction code including a catalog code uniquely identifying the information to be reproduced to the information manufacturing machine requesting to reproduce certain information identified by the catalog code in a material object;

providing an authorization code at the information manufacturing machine authorizing the reproduction of the information identified by the catalog code included in the request reproduction code; and receiving the request reproduction code and the authorization code at the information manufacturing machine and reproducing in a material object the information identified by the catalog code included in the request reproduction code in response to the authorization code authorizing such reproduction.

Freeny patent, col. 28, ll. 22-47.

Exemplary of the apparatus claims is claim 37, which reads as follows:

An apparatus for reproducing information in material objects at point of sale locations, comprising:

an information manufacturing machine located at a point of sale location for reproducing information in material objects, each information to be reproduced being uniquely identified by a catalog code and each information being received from a source remotely located with respect to the information manufacturing machine and each information being stored in the information manufacturing machine, the information manufacturing machine receiving a request reproduction code including a catalog code uniquely identifying the information to be reproduced and being adapted to provide an authorization code including the catalog code included in the request reproduction code, and the information manufacturing machine being adapted to reproduce the information identified by the catalog code in a material object in response to receiving the authorization code.

Freeny patent, col. 36, ll. 45-64.

B. The Accused Activities

The defendants are computer software and publishing companies and one retail bookstore. Plaintiff contends that the computer software and publishing companies infringe the Freeny patent by selling software or documents "online," that is, over the Internet and the World Wide Web. Plaintiff maintains that the retail bookstore infringes the Freeny patent by selling books that include a CD-ROM containing encrypted computer applications, access to which is not possible until the consumer retrieves a password. Plaintiff, through the construction it proffered in its Revised Claim Construction Report of November 12, 1996, has effectively conceded that none of the defendants are direct infringers.

With the one exception of the retail bookstore defendant, all of the accused systems distribute information directly to consumers' personal computers without using an intermediate retail location, the consumer instead dealing directly with a web-site over the Internet. Information is distributed and downloaded onto a consumer's own internal hard disk or other storage device without the purchase of any material object such as a floppy disk or CD-ROM.

In the case of the CD-ROMs sold to consumers by the retail bookstore defendant, if a consumer is interested in one or more of the encrypted programs contained on the CD-ROM, a password must first be requested. The password enables the consumer to decrypt the desired program and copy it for later use. As with the other accused systems, the CD-ROM product avoids the need for a consumer to purchase a material object, such as a floppy disk or a CD-ROM, because the decrypted data is copied directly onto the consumer's own storage device.

C. Proceedings Below

The district court limited discovery to claim construction matters and ordered IGE to file a binding claim construction report. The court received IGE's report and the parties' claim construction briefs and, on May 15, 1998, rendered an opinion and order construing the claims of the Freeny patent. See *Interactive Gift Express, Inc. v. Compuserve Inc.*, 47 USPQ2d 1797 (S.D.N.Y. 1998). The district court did not address invalidity. The district court's opinion contained a thorough and careful analysis of the Freeny patent and the relevant legal standards for claim construction. See *id.* The district court devoted most of its lengthy claim construction to the following five disputed claim limitations: (1) the meaning of "point of sale location"; (2) the meaning of "material object"; (3) the meaning of "information manufacturing machine"; (4) the meaning of "authorization code"; and (5) whether the information must be provided to and stored at the IMM before the consumer requests it. See *id.*

After the district court provided its claim construction of the five above-noted claim limitations, the parties entered into a Stipulated Order and Judgment ("Judgment"). See *Interactive Gift Express, Inc. v. Compuserve Inc.*, No. 95-CV-6871 (S.D.N.Y. Mar. 12, 1999) (judgment and order) ("IGE Judgment"). The district court made no findings of fact regarding infringement. In the Judgment, IGE conceded that none of the defendants had in the past infringed, or was then infringing, any claim of the Freeny patent as construed by the court. See IGE Judgment, slip op. at 1. The Judgment stated specifically that "no method, system, or apparatus of any defendant includes any" of the five disputed claim limitations. *Id.*

In appealing the judgment, IGE challenges the district court's construction of each of the disputed claim limitations. Counsel for IGE acknowledged during the oral hearing before this court that in light of the stipulation entered into by the parties as part of the Judgment, and in view of the fact that the parties have stipulated not to what the accused methods or products are but only to what they are not, IGE must show that the district court was wrong in its construction of all five of the disputed claim limitations to prevail in this appeal.

DISCUSSION

A. Standard of Review

A finding of non-infringement requires a two-step analytical approach. First, the claims of the patent must be construed to determine their scope. See *Carroll Touch, Inc. v. Electro Mech. Sys., Inc.*, 15 F.3d 1573, 1576, 27 USPQ2d 1836, 1839 (Fed. Cir. 1993). Second, a determination must be made as to whether the properly construed claims read on the accused device. See *id.* In this case, IGE has conceded the second part of the infringement analysis, leaving only the question of the propriety of the district court's claim construction in issue. Claim construction is a matter of law and is reviewed *de novo* on appeal. See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456, 46 USPQ2d 1169, 1174 (Fed. Cir. 1998) (*en banc*).

B. Analysis

In this opinion, we focus on the construction of the five disputed claim limitations as provided in the conclusions of the district court's claim construction, and upon which IGE's stipulations in the Judgment are premised. In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to "particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention." 35 U.S.C. § 112, 2.

"It is well-settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification and, if in evidence, the prosecution history. Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1576 (Fed. Cir. 1996) (citation omitted). All intrinsic evidence is not equal however. See *id.* at 1582, 39 USPQ2d at 1576-77 (delineating a hierarchy among the intrinsic evidence). First, we look to the claim language. See *id.*; *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999) ("The starting point for any claim construction must be the claims themselves."); *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, 34 USPQ2d 1816, 1819 (Fed. Cir. 1995) (noting first the mandate to consult the claims). Then we look to the rest of the intrinsic evidence, beginning with the specification and concluding with the prosecution history, if in evidence. See *Vitronics*, 90 F.3d at 1582, 39 USPQ2d at 1576-77 (delineating this order); *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979, 34 USPQ2d 1321, 1329 (Fed. Cir. 1995) ("Claims must be read in view of the specification, of which they are a part."), *aff'd*, 517 U.S. 370 (1996); *Bell Communications*, 55 F.3d at 620, 34 USPQ2d at 1819 (noting first the mandate to consult the claims, followed by inspection of the rest of the specification).

If the claim language is clear on its face, then our consideration of the rest of the intrinsic evidence is restricted to determining if a deviation from the clear language of the claims is specified. A deviation may be necessary if "a patentee [has chosen] to be his own lexicographer and use terms in a manner other than their ordinary meaning." *Vitronics*, 90 F.3d at 1582, 39 USPQ2d at 1576. A deviation may also be necessary if a patentee has "relinquished [a] potential claim construction in an amendment to the claim or in an argument to overcome or distinguish a reference." *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 979, 52 USPQ2d 1109, 1113 (Fed. Cir. 1999). If however the claim language is not clear on its face, then our consideration of the rest of the intrinsic evidence is directed to resolving, if possible, the lack of clarity.

Resort to the specification is particularly important in this case because IGE has conceded that the claim limitations in dispute include technical terms that are defined in the specification. However, in looking to the specification to construe claim terms, care must be taken to avoid reading "limitations appearing in the specification . . . into [the] claims." *Intervet Am., Inc. v. Kee-Vet Lab., Inc.*, 887 F.2d 1050, 1053, 12 USPQ2d 1474, 1476 (Fed. Cir. 1989). "We recognize that there is sometimes a fine line between reading a claim in light of the specification, and reading a limitation into the claim from the

specification." *Comark Communications, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186, 48 USPQ2d 1001, 1005 (Fed. Cir. 1998). In locating this "fine line" it is useful to remember that we look "to the specification to ascertain the meaning of the claim term as it is used by the inventor in the context of the entirety of his invention," and not merely to limit a claim term. *Id.* at 1187, 48 USPQ2d at 1005. If the meaning of the claim limitations is apparent from the totality of the intrinsic evidence, then the claim has been construed. If however a claim limitation is still not clear, we may look to extrinsic evidence to help resolve the lack of clarity.* Relying on extrinsic evidence to construe a claim is "proper only when the claim language remains genuinely ambiguous after consideration of the intrinsic evidence." *Bell & Howell Document Mgmt. Prods. Co. v. Altek Sys.*, 132 F.3d 701, 706, 45 USPQ2d 1033, 1038 (Fed. Cir. 1997); see also *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1346, 54 USPQ2d 1299, 1303 (Fed. Cir. 2000); *Key Pharms. v. Hercon Lab. Corp.*, 161 F.3d 709, 716, 48 USPQ2d 1911, 1917 (Fed. Cir. 1998); *Vitronics*, 90 F.3d at 1583-84, 39 USPQ2d at 1577-78. "Such instances will rarely, if ever, occur." *Vitronics*, 90 F.3d at 1585, 39 USPQ2d at 1579.

Extrinsic evidence may always be consulted, however, to assist in understanding the underlying technology. See *Pitney Bowes*, 182 F.3d at 1309, 51 USPQ2d at 1168 ("[C]onsultation of extrinsic evidence is particularly appropriate to ensure that [a judge's] understanding of the technical aspects of the patent is not entirely at variance with the understanding of one skilled in the art."); *Mantech Envtl. Corp. v. Hudson Envtl. Servs., Inc.*, 152 F.3d 1368, 1373, 47 USPQ2d 1732, 1737 (Fed. Cir. 1998); *Vitronics*, 90 F.3d at 1585, 39 USPQ2d at 1579 ("Had the district court relied on the expert testimony and other extrinsic evidence solely to help it understand the underlying technology, we could not say the district court was in error."). But extrinsic evidence may never be used "for the purpose of varying or contradicting the terms in the claims." *Markman*, 52 F.3d at 981, 34 USPQ2d at 1331. Throughout the construction process, it is important to bear in mind that the viewing glass through which the claims are construed is that of a person skilled in the art. See *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387, 21 USPQ2d 1383, 1386 (Fed. Cir. 1992); *ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1579, 6 USPQ2d 1557, 1560 (Fed. Cir. 1988); see also *Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1578, 38 USPQ2d 1126, 1129 (Fed. Cir. 1996) (stating that the court assigns a claim term the meaning that it would be given by persons experienced in the field of invention).

Although the district court provided a thorough and accurate description of the patent and of the relevant law, its claim construction impermissibly read limitations from the specification into each of the five disputed claim limitations. We treat each of these disputed claim limitations below.

I. Point of Sale Location

The district court made several findings with regard to the construction of the expression "point of sale location." We address these findings below, agreeing with some and disagreeing with others.

1.

In response to the district court's request for binding definitions of the disputed terms, described earlier, IGE identified the passage at column 5, lines 47-50 as defining a point of sale location. That passage states that a point of sale location is "a location where a consumer goes to purchase material objects embodying predetermined or preselected information." Freeny patent, col. 5, ll. 47-50. The district court held this definition to be correct, and we agree. Clear support is provided for this definition in the Freeny patent specification at column 5, lines 47-50.

2.

The district court further held that, although point of sale locations are not restricted to retail locations, a home is not a point of sale location. See *Interactive Gift Express*, 47 USPQ2d at 1810 & n.9. IGE contends that the district court was wrong. IGE urges that a point of sale location is simply the location at which the consumer makes or effects a purchase. IGE argues that the concept of a home being a point of sale location is not new, citing home shopping networks, pay-per-view cable television, and home Internet shopping. See Appellant's Br. at 18 n.3. IGE further argues that the specification defines a home as a point of sale location and discloses at least two embodiments in which the home is a point of sale location. IGE also argues that the prosecution history lists several transmission systems that could be adapted for use in the home. The appellees respond that IGE's asserted definition before the district court precludes a home from being a point of sale location, and that any references in the specification to homes as point of sale locations cannot overcome this definition. The appellees further respond that the rest of the intrinsic evidence, as well as the extrinsic evidence of standard dictionaries and references, supports the district court's construction.

We agree with IGE's position that a home is not precluded from being a point of sale location. Looking first, as we must, to the claim language itself, we find nothing precluding a home from being a point of sale location. See *Vitronics*, 90 F.3d at 1582, 39 USPQ2d at 1576. Except for requiring that an IMM be present, the independent claims are silent regarding the possible venues of a point of sale location. Looking next to the specification, see *id.* at 1582, 39 USPQ2d at 1577, we acknowledge the great likelihood that a point of sale location will not be a home, given that: (1) IGE's asserted definition, with which we agree, requires that a consumer go to a point of sale location "to purchase material objects," Freeny patent, col. 5, ll. 48-49; and (2) the specification requires, and IGE does not dispute, that the IMM be located at the point of sale location, see, e.g., Freeny patent, col. 5, ll. 32-33, col. 12, ll. 66-67. However, IGE's asserted definition, premised on the specification at column 5, lines 48 and 49, does not preclude a home from serving as a point of sale location, and the specification further describes a vending machine embodiment that could be utilized in a home. See Freeny patent, cols. 26-27. This intrinsic evidence unambiguously allows a home to serve as a point of sale location. Therefore, it is unnecessary to address IGE's arguments alleging that the prosecution history additionally supports our conclusion.

Given the lack of ambiguity in the intrinsic evidence, it would be improper to address any of the parties' arguments relating to extrinsic

evidence, such as other examples of point of sale locations and standard references. See *Vitronics*, 90 F.3d at 1583, 39 USPQ2d at 1577 ("In those cases where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper.").

3.

The district court also held that a point of sale location "must have . . . at least two blank material objects." *Interactive Gift Express*, 47 USPQ2d at 1810. IGE argues that this limitation is not recited in the claims or required by the specification and has improperly been read into the claims from a particular embodiment. The appellees respond that the specification supports the requirement that there be two or more blank material objects. We agree with IGE that a point of sale location need not have two blank material objects.

We begin, as we must, with the language of the claims. See *Vitronics*, 90 F.3d at 1582, 39 USPQ2d at 1576 (stating that construction begins with the claim language). The claim language specifically recites "reproducing in a material object." *Freeny* patent, col. 28, l. 44 (claim 1; emphasis added); *id.* at col. 36, l. 63 (claim 37; emphasis added). Although the single element of claim 37 initially mentions material objects in the plural, it is later modified by a singular reference and does not require more than one material object. Compare *id.* at col. 36, l. 49 with *id.* at l. 63. The preambles of the independent claims similarly recite plural "material objects," but they do so in the context of multiple IMMs and/or multiple point of sale locations. See, e.g., *id.* at col. 28, ll. 22-24 (claim 1); *id.* at col. 36, ll. 45-46 (claim 37). The preambles do not require multiple material objects at each point of sale location. Given the preambles' generality, we need not consider whether they are more than statements of intended use.

We look next to the specification. See *Vitronics*, 90 F.3d at 1582, 39 USPQ2d at 1577. We note that the district court based the requirement of two blank material objects on a passage in the specification stating that "[e]ach point of sale location has . . . a plurality of blank material objects." See *Interactive Gift Express*, 47 USPQ2d at 1805 (citing to the *Freeny* patent, col. 12, ll. 66-68). From the passage itself, it is unclear whether this isolated statement in the specification is intended to be a general statement or to be limited to a particular embodiment. However, there is nothing in the rest of the specification supporting the position that a point of sale location is defined as having at least two blank material objects. To the contrary, it is clear that the IMM requires only a single material object to fully process a consumer's request. See, e.g., *Freeny* patent, col. 5, ll. 21-31 ("Each [IMM] 14 is constructed to . . . provide . . . information . . . to a reproduction unit 24 which is adapted to reproduce received information in a material object.") (underlining added). Further, the opening sentence of the background section of the *Freeny* patent states that "[t]he present invention relates generally to a system for reproducing information in a material object." *Freeny* patent, col. 1, ll. 7-8 (emphasis added). Accordingly, we hold that the entirety of the specification dictates that the reference to a plurality be understood to refer to a "supply" of blank material objects, and that the supply can consist of one material object. See *Digital Biometrics, Inc. v. Identix, Inc.*, 149

F.3d 1335, 1345, 47 USPQ2d 1418, 1425 (Fed. Cir. 1998) (basing the claim construction on the entire written description, despite an isolated passage in apparent conflict).

4.

The district court also held that a point of sale location must have blank material objects "available for sale to consumers." *Interactive Gift Express*, 47 USPQ2d at 1810. IGE argues that this limitation is not recited in the claim or required by the specification and has improperly been read into the claim from a particular embodiment. Notably, the appellees do not argue in defense of this limitation. We agree with IGE that a point of sale location need not have any blank material objects separately for sale.

Looking again to the claims, nothing in the claim language itself requires that blanks be for sale. The claims require only that information be reproduced in a material object. See, e.g., *Freeny* patent, col. 28, ll. 22-23 (preamble to claim 1) and 44-45 (step four of claim 1); *id.* at col. 36, ll. 45-46 (preamble to claim 37) and ll. 62-63 (single element of claim 37). Looking next to the specification, we note that nothing in IGE's asserted definition, derived from the *Freeny* patent at column 5, lines 47-50, requires that blanks be for sale. That definition refers exclusively to the purchase of non-blank material objects, that is, to "material objects embodying . . . information." *Id.*

The district court based its conclusion that blanks must be for sale on the passage at column 13, lines 25-44. See *Interactive Gift Express*, 47 USPQ2d at 1805. However, that passage does not state that the blanks are sold to the customers as blanks, but only that the retailer is reimbursed for the cost of blanks on which information is reproduced. See *Freeny* patent, col. 13, ll. 25-44. The district court, therefore, misconstrued the specific embodiment in that passage. Further, there is no support in the rest of the specification for this requirement; all of the embodiments are directed at providing material objects with information on them and not at selling blank material objects. See, e.g., *id.* at col. 13, ll. 1-13 (reproducing information on an 8-track or cassette tape); *id.* at col. 22, l. 62 - col. 23, l. 6 (describing various material objects in which information can be reproduced); *id.* at cols. 26-27 (describing the reproduction of information in the vending machine embodiment). Indeed, the opening sentence of the background section of the *Freeny* patent states that "[t]he present invention relates generally to a system for reproducing information in a material object." *Freeny* patent, col. 1, ll. 7-8 (emphasis added).

5.

Accordingly, we construe a point of sale location to be a location where a consumer goes to purchase material objects embodying predetermined or preselected information. This construction permits a home to be a point of sale location. A point of sale location need not have more than one blank material object and it need not have any material objects separately for sale as blanks.

II. Material Object

As with the term point of sale location, the district court made several findings with regard to the construction of the term "material

object." We address these findings below, agreeing with some and disagreeing with others.

1.

The district court held that a material object is "a tangible medium or device in which information can be embodied, fixed, or stored, other than temporarily, and from which the information embodied therein can be perceived, reproduced, used or otherwise communicated, either directly or with the aid of another machine or device." *Interactive Gift Express*, 47 USPQ2d at 1810. Although IGE admits in its brief to this court that a material object is a tangible medium, counsel for IGE argued to this court at the oral hearing that a material object is defined as the information itself and need not be a tangible medium. See Appellant's Br. at 35. The appellees respond that the district court's construction is supported by the specification.

A material object cannot be the information itself, as IGE now argues. Examining first the claim language, claim 1, for example, requires that the information be reproduced in a material object. See *Freeny* patent, col. 28, ll. 22-23 (preamble to claim 1) and 44-45 (step four of claim 1). If the information itself is the material object, as IGE argues, then claim 1 would require the information to be reproduced in itself. Such a construction is illogical and does not accord with the plain import of the claim language. See *White v. Dunbar*, 119 U.S. 47, 52 (1886) ("[I]t is unjust to the public, as well as an evasion of the law, to construe [a claim] in a manner different from the plain import of its terms. This has been so often expressed in the opinions of this court that it is unnecessary to pursue the subject further."); *Ethicon Endo-Surgery, Inc. v. United States Surgical Corp.*, 93 F.3d 1572, 1579, 40 USPQ2d 1019, 1024 (Fed. Cir. 1996) (rejecting a proffered construction because "the plain meaning of the claim [would] not bear [such] a reading"); cf. *Conopco, Inc. v. May Dep't Stores Co.*, 46 F.3d 1556, 1562, 32 USPQ2d 1225, 1228 (Fed. Cir. 1994) (noting that "a finding that the accused process literally infringed did not . . . eviscerate the plain meaning of the [relevant] term").

Despite the plain language of the claims, we turn to the specification to discern whether IGE attributed a different meaning to the term material object. See *Vitronics*, 90 F.3d at 1582, 39 USPQ2d at 1577 ("[I]t is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning."). Examining the specification, it is clear that even the broadest definition of material object in the specification requires that a material object be a "medium or device in which information can be embodied or fixed." *Freeny* patent, col. 4, ll. 36-38. Thus, IGE's argument that the reproduced information itself constitutes the material object is not only illogical, but unsupported in the specification as well.

2.

The district court further held that a material object must be: (a) separate and distinct from the IMM, (b) removed from the IMM after purchase, and (c) intended for use away from the point of sale location. See *Interactive Gift Express*, 47 USPQ2d at 1810. IGE argues that neither the claims nor the specification requires that a material object be separate and distinct from the IMM or intended for use at a location other than the point of sale location, and that these limitations were improperly read into the claims from the

specification. The appellees respond that the district court's construction is supported by the specification. We agree with the district court on these three limitations, with one variation regarding point (c) above. On that point, we find that the material object could be intended for use at the point of sale location as long as it is on a device separate from the IMM.

Beginning with the claim language, we note that the preamble of claim 1, for example, describes a method in which IMMs are located at point of sale locations and in which information is reproduced in material objects utilizing the IMMs. See Freeny patent, col. 28, ll. 22-24. This language could be read to suggest that the material objects, which receive the reproduced information, are not part of the IMM and are intended to be purchased and removed from both the IMM and the point of sale location, but that reading is not clear from the claim itself. The claim later describes reproducing the information in a material object, but again there is no clear indication that the material object is or is not a separate and distinct item that is to be removed from the IMM after purchase and used on another device. See *id.* at col. 28, ll. 42-45. Thus, we look to the specification for further guidance. The Freeny patent envisions and discloses only material objects that are separate from the IMM and that can be purchased by the consumer and taken away from the IMM. See, e.g., Freeny patent, col. 13, ll. 25-48 (retail store embodiment), cols. 26-27 (vending machine embodiment). The emphasis of the specification on distribution and sale consistently reveals that the material objects are intended to be separate from the IMM, removed from the IMM, and used apart from the IMM. See, e.g., Freeny patent, col. 4, ll. 13-18 ("The system of the present invention solves the problems associated with manufacturing, inventory, configuration distribution and collection . . . and permits sale of material objects embodying information in a more efficient, economical and profitable manner."). These three conditions, namely, that a material object be separate and distinct from the IMM, removed from the IMM after purchase, and used apart from the IMM, are fundamental to the meaning of a material object as clearly and consistently specified in the patent description. See, e.g., Freeny patent, col. 4, ll. 36-59; col. 5, ll. 47-50; col. 13, ll. 36-44; col. 26, ll. 28-34.

IGE contends that "material object" should be construed so broadly as to include a hard disk that is internal to a personal computer. Although the specification describes numerous material objects, a hard disk, internal or otherwise, is never mentioned as a possibility. In fact, where a hard disk is discussed, it is in relation to the implementation of particular aspects of the IMM or the ICM and not as an example of a material object. See *id.* at col. 22, ll. 6-34. Any construction of the expression "material object" which encompasses a hard disk is not only not envisioned anywhere in the specification but is also inconsistent with the definition asserted by IGE before the district court. Specifically, a consumer would not go to a point of sale location to purchase an internal hard disk embodying predetermined or preselected information. See *id.* at col. 5, ll. 47-50.

3.

The district court also held that a material object "[m]ust be offered for sale independently from the information that may be reproduced onto the material object." *Interactive Gift Express*, 47 USPQ2d at 1810. The district court applied this same limitation to a point of sale

location. For the reasons discussed earlier with respect to a point of sale location, we again disagree with the district court's reading of this condition into the claims.

4.

Accordingly, we construe a material object to be a tangible medium or device in which information can be embodied, fixed, or stored, other than temporarily, and from which the information embodied therein can be perceived, reproduced, used or otherwise communicated, either directly or with the aid of another machine or device. A material object must be offered for sale, and be purchasable, at point of sale locations where at least one IMM is located. Further, a material object must be separate and distinct from the IMM, removed from the IMM after purchase, and intended for use on a device separate from the IMM either at the point of sale location or elsewhere. "Material object" does not encompass the hard disk component of a home personal computer. Finally, a material object need not be offered for sale independently from the information that may be reproduced onto the material object, that is, as a blank.

III. Information Manufacturing Machine

As with the term point of sale location, the district court made several findings with regard to the construction of the term IMM. For this term, however, we disagree with most of the district court's findings. We address each below.

1.

The district court required that the IMM functionality be divided into at least the following four "separate and distinct components: (a) a Manufacturing Control Unit, (b) a Master File Unit, (c) an Information Manufacturing Unit, and (d) a Reproduction Unit." *Interactive Gift Express*, 47 USPQ2d at 1810 (emphasis added). IGE maintains that the district court improperly read the limitations of an embodiment into the claims. The appellees respond that these four components are required because Figure 1 of the Freeny patent, which contains these components, depicts the invention and not merely an embodiment of the invention. We agree with IGE.

Again, we turn first to the claim language itself. The independent claims do not recite any of these four components and do not convey any clear meaning of an IMM to one skilled in the art. The only limitations in the exemplary independent claims pertaining to the IMM relate to its placement at a point of sale location and to certain functions that it must perform, namely, storing information to be reproduced, receiving a request reproduction code, receiving an authorization code, and reproducing the requested information in a material object. See Freeny patent, col. 28, ll. 26-47 (claim 1), col. 36, ll. 47-64 (claim 37).

The specification describes an embodiment of the IMM containing the four components noted by the district court and performing the functions recited in the claims. See *id.* at col. 6, ll. 27-30, col. 9, l. 39 - col. 10, l. 49. The disclosed embodiment of the IMM also performs the functions, not explicitly recited in either claim 1 or claim 37, of transmitting a request reproduction code and receiving and decoding encoded information. Of these, only five functions, namely,

storing information to be reproduced, receiving and transmitting a request reproduction code, receiving an authorization code, and reproducing the requested information in a material object, are critical to the operation of the IMM as defined in the specification. See *id.* at col. 5, l. 21 - col. 6, l. 23. As explained below, the receiving and decoding of encoded information is not essential to the present invention. There is no general description or definition of what constitutes an IMM other than this narrow functional definition presented in the specification. That is the only definition on which the public can rely, and it is therefore reasonable to conclude that an IMM must contain these five functions. To the extent that the district court's decision, by requiring all four components of the disclosed IMM to be present, requires more than these five critical functions to be performed by the IMM, it is in error.

In its analysis, the district court looked to the specification, and specifically the embodiment depicted in Figure 1, and correctly concluded that the disclosed IMM contained each of the four functional components listed above. See *Interactive Gift Express*, 47 USPQ2d at 1807 (After stating that "the IMM is comprised of four separate and distinct components," the district court cited to column 6, lines 27-30, which identifies the four components in the IMM depicted in Figure 1.). However, while the five functions identified above are required in an IMM, there is nothing in the specification that requires that these functions be performed by the particular components of Figure 1 or that such components be separate and distinct. See *Freeny* patent, col. 9, l. 39 - col. 10, l. 68. These five functions of the IMM are all of a type that can be performed within a computer, and it is well within the reasonable expectation of a person skilled in the art to move the boundaries between the four identified components to suit a desired application. Such movement would allow, for example, any one piece of the IMM to perform any number of the five required functions. See *Intellicall*, 952 F.2d at 1387, 21 USPQ2d at 1386.

2.

The district court also held that the IMM must "receive a 'request reproduction code,'" must "transmit the 'request reproduction code' to an 'information control machine' ('ICM')," and must "receive an 'authorization code' from the ICM." *Interactive Gift Express*, 47 USPQ2d at 1810. As just explained, we agree that an IMM must receive and transmit these codes. We further agree that the IMM must transmit the request reproduction code to, and receive the authorization code from, a central device, such as an ICM, but the device need not be restricted to an ICM.

We note first that neither claim 1 nor claim 37 recites the details of the ICM of the preferred embodiment. However, it is critical to the operation of the IMM, as defined in the specification, that the IMM send the request reproduction code to the same device that then sends the authorization code to the IMM. See *Freeny* patent, col. 5, l. 51 - col. 6, l. 23. While this device takes the form of an ICM in the preferred embodiment, there is nothing in the specification that would suggest to a person skilled in the art that an IMM would only work with the particular ICM defined in the specification. See *id.* at col. 5, ll. 32-50 (emphasizing that the ICM is located at a location remote from the IMM); *Intellicall*, 952 F.2d at 1387, 21 USPQ2d at 1386.

Thus, we construe the term IMM to require communication with a remote device, such as but not restricted to an ICM, and hold that the district court's definition of IMM as requiring communication with an ICM is erroneous.

3.

The district court also held that the Master File Unit and the Reproduction Unit components of the IMM must, at a minimum, contain a number of detailed attributes. See *Interactive Gift Express*, 47 USPQ2d at 1810. IGE argues that the language of the claims does not recite any of these limitations. Again, we agree with IGE.

There is no recitation of the specific attributes of the Master File Unit or the Reproduction Unit in the language of the independent claims. There is also no support for these limitations in the text of the specification referenced in IGE's asserted definition of the IMM before the district court. See *Freeny* patent, col. 5, ll. 32-47. Further, the invention is primarily concerned with distributed reproduction, and there is nothing to suggest that a person skilled in the art would not readily understand that the invention could be practiced without the received information being encoded, without decoding the received information, or without receiving information "on a unidirectional signal path . . . in analog form." *Interactive Gift Express*, 47 USPQ2d at 1810; see *Freeny* patent, col. 1, ll. 7-9, col. 4, ll. 13-18 (revealing that the invention is primarily concerned with distributed reproduction); *Intellicall*, 952 F.2d at 1387, 21 USPQ2d at 1386 (indicating that terms are construed according to the understanding of one skilled in the art). We conclude that the district court erred and impermissibly read these limitations into the claims.

4.

Accordingly, we hold that an IMM must contain one or more components for performing at least the functions of: (1) storing information to be reproduced; (2) receiving a request reproduction code; (3) transmitting a request reproduction code to a device remotely located from the IMM; (4) receiving an authorization code from the device remotely located from the IMM; and (5) reproducing the requested information in a material object in response to receiving the authorization code. An IMM need not contain the four separate and distinct components of the preferred embodiment.

IV. Authorization Code

The district court made several findings with regard to the construction of the term authorization code. We agree with some of these findings, disagree with others, and address them below.

1.

The district court held that an authorization code must "include a code that enables the IMM to decode the information that is to be reproduced in a material object and that was previously stored in encoded form at the IMM." *Interactive Gift Express*, 47 USPQ2d at 1809. The district court reasoned that the "seminal component" of the disclosed authorization codes was the encoded catalog decipher program that allowed the IMM to decode information. See *id.* at 1805. Without this component, the district court continued, "the IMM would be unable to

convert the information from its encoded, unusable format to its decoded, usable format." *Id.* Accordingly, the district court held that "the encoded catalog decipher program is the true 'authorizing' mechanism," and the authorization code needs such a component. *Id.* IGE argues that an authorization code need only authorize copying and need not provide decoding information. IGE points to the language of the claims to substantiate its argument. The appellees respond that the portions of the specification noted in IGE's asserted definition before the district court require that the authorization code perform a decoding function, and that the specification does not disclose an authorization code without such a function. The appellees also maintain that an authorization code must include an IMM code, used to identify the IMM intended to receive the authorization code from the ICM. The appellees further respond that the definition of the term authorization code requires that it be transmitted electronically between the IMM and the ICM.

We agree with IGE that the authorization code need only authorize copying. Our holding is based on the claim language and the language of the specification identified in IGE's asserted definition before the district court. First, the language of the independent claims does not require that the information be encoded, much less that the authorization code have decoding information. Encoded information is not claimed until claim 5. Further, the claim language itself suggests that the sole function of the authorization code is "authorizing . . . reproduction." *Freeny patent*, col. 28, l. 47 (claim 1). Second, in response to the district court's request for a binding definition of all disputed terms, IGE identified the passage in the *Freeny patent* at column 6, lines 1-23 as defining the term authorization code. At two points in that passage, the purpose of the authorization code is stated to be providing permission for copying. In the context of the preferred embodiment, it states that "if [the request for reproduction is] approved, [the ICM] provides an authorization code." *Id.* at col. 6, ll. 4-5. Later, it notes that information is reproduced only with permission, "such permission being indicated by the authorization code." *Id.* at col. 6, ll. 21-22. The only reference in this passage to decoding information merely states that such decoding occurs in the IMM of the preferred embodiment "[i]n response to receiving the authorization code." *Id.* at col. 6, ll. 7-8. This simply does not state that the authorization code must include a decoding code. It does indicate a sequence to the events or a causality between reception of the authorization code and the decoding action, but this is expected given that information, which may or may not be encoded, cannot be decoded before permission to reproduce has been received. See *id.* at col. 6, l. 17.

The appellees' arguments that an authorization code must also include an IMM code and that the authorization code must be transmitted electronically are not persuasive. Neither of these proposed limitations is mandated by the claim language itself or the specification. Although the preferred embodiment routes the authorization code with the use of an IMM code and electronic transmission, these features are not recited in the independent claims and we are not at liberty to read them into the claims. See *Laitram Corp. v. Cambridge Wire Cloth Co.*, 863 F.2d 855, 865, 9 USPQ2d 1289, 1299 (Fed. Cir. 1988) ("References to a preferred embodiment, such as those often present in a specification, are not claim limitations.");

SRI Int'l. v. Matsushita Elec. Corp. of Am., 775 F.2d 1107, 1121, 227 USPQ 577, 585-86 (Fed. Cir. 1985) (en banc); cf. Toro Co. v. White Consol. Indus., Inc., 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999) ("It is well established that the preferred embodiment does not limit broader claims that are supported by the written description.").

2.

The district court also held that the authorization code is separate and distinct from the request reproduction code. This is clearly correct. First, these codes are separately recited in claim 1. Compare Freeny patent, col. 28, ll. 31-36 (origination of request reproduction code) with id. at ll. 37-41 (origination of authorization code). Second, the specification supports this distinction. In the preferred embodiment, a request reproduction code originates from the user and is passed from the user to the IMM and then to the ICM. See id. at col. 5, l. 60 - col. 6, l. 3. However, an authorization code originates from the ICM and is passed from the ICM to the IMM. See id. at col. 6, ll. 3-7.

3.

As discussed above with respect to the IMM, the district court further held that an ICM must transmit the authorization code to the IMM. This is a limitation associated with the ICM or the IMM and not with the term "authorization code." Because an authorization code need only authorize copying, it would be improper in this case to construe the term "authorization code" to include limitations regarding its origin or its destination. See Intervet, 887 F.2d at 1053, 12 USPQ2d at 1476; Laitram, 863 F.2d at 865, 9 USPQ2d at 1299; SRI Int'l, 775 F.2d at 1121, 227 USPQ at 585-86; cf. Toro, 199 F.3d at 1301, 53 USPQ2d at 1069.

4.

Accordingly, we hold that: (1) an authorization code must authorize copying but need not provide decoding information; (2) the term "authorization code" is not to be construed to require that it include an IMM code or that it be transmitted electronically; and (3) an authorization code is separate and distinct from a request reproduction code.

V. Real-time Transactions

The district court held that the claimed invention does not "cover real-time transactions where the requested item of information is transmitted to the IMM at the time it is requested by the consumer." Interactive Gift Express, 47 USPQ2d at 1809. The district court noted that this requirement is equivalent to requiring that step one of the claim be performed prior to step four. See Interactive Gift Express, 47 USPQ2d at 1802, 1804.

IGE argues that such an order or sequence of steps is not recited, nor required, by the claims. IGE further argues that claim 1 does not exclude real-time delivery of information but that claim 37 does and, therefore, the doctrine of claim differentiation requires a broader construction of claim 1. IGE also claims that real-time delivery is disclosed in the specification and points to embodiments in the specification that it alleges utilize real-time delivery.

The appellees respond that the claim language and the specification limit the claim to methods that do not utilize real-time delivery. With regard to the claim language, the appellees point out that claim 1 recites that the information is reproduced in the material object "in response to" receiving the authorization code. The appellees maintain that this requires the information to be locally stored prior to receipt of the authorization code. With regard to the specification, the appellees maintain that even though the "concept" of real-time delivery is disclosed, it is not claimed and is therefore dedicated to the public.

1.

We agree with IGE. As the district court noted, the only way that claim 1 can be limited to embodiments in which the information is predelivered and prestored is if at least the first and fourth steps of the method have to be performed in order. Unless the steps of a method actually recite an order, the steps are not ordinarily construed to require one. See *Loral Fairchild Corp. v. Sony Corp.*, 181 F.3d 1313, 1322, 50 USPQ2d 1865, 1870 (Fed. Cir. 1999) (stating that "not every process claim is limited to the performance of its steps in the order written"). However, such a result can ensue when the method steps implicitly require that they be performed in the order written. See *Loral*, 181 F.3d at 1322, 50 USPQ2d at 1870 (stating that "the language of the claim, the specification and the prosecution history support a limiting construction[, in which the steps must be performed in the order written,] in this case"); *Mantech*, 152 F.3d at 1376, 47 USPQ2d at 1739 (holding that "the sequential nature of the claim steps is apparent from the plain meaning of the claim language and nothing in the written description suggests otherwise"). In this case, nothing in the claim or the specification directly or implicitly requires such a narrow construction.

Looking at the claim language, there is no reason why step one's "providing" of information to the IMM must occur before step four's "receiving the request reproduction code." See *Freeny* patent, col. 28, ll. 26 (step one) and 42-43 (step four). Logically, information could be sent after a request is made. In the specification, two embodiments are disclosed which operate in real-time and send information after a request is made. See *id.* at col. 24, ll. 24-32 and 33-58 (explicitly describing the second system as an "embodiment"). In both of these embodiments, the "providing" of information is performed after "receiving the request reproduction code." See *id.* at col. 24, ll. 29-30 (stating that the information would be transmitted each time it was requested) and ll. 45-46 (stating that the information is sent with the authorization code). Although the specification describes these two non-preferred embodiments as impractical and uneconomical, respectively, it does not characterize them as inoperative nor is there anything in the specification which would nullify the effect of the disclosure in supporting a claim construction that is not limited to the predelivery of information. See *id.* at col. 24, ll. 28-29 and 50. The appellees' argument regarding the "in response to" language of the claims is unpersuasive. Even if the language "in response to" required immediate copying after the authorization code was received, which it does not, such a result could be achieved if the information were transmitted along with the authorization code, as disclosed in the *Freeny* patent. See *id.* at col. 24, ll. 41-46.

2.

We now address the district court's rationale for finding that at least the first and fourth steps of claim 1 must be performed in order. The district court relies on the fact that "step four does not provide for the transmission from the ICM to the IMM of the information sought to be reproduced," and reasons from this that the information must be predelivered. *Interactive Gift Express*, 47 USPQ2d at 1803. We find this logic unpersuasive.

As explained above, there is no reason why the claim needs to be construed to require that the steps be performed in the order written. Further, as explained below, such a construction would not read on the preferred embodiment, and therefore would "rarely, if ever, [be] correct and would require highly persuasive evidentiary support." *Vitronics*, 90 F.3d at 1583, 39 USPQ2d at 1578; see also *Modine Mfg. Co. v. United States Int'l Trade Comm'n*, 75 F.3d 1545, 1550, 37 USPQ2d 1609, 1612 (Fed. Cir. 1996) ("[A] claim interpretation that would exclude the inventor's device is rarely the correct interpretation; such an interpretation requires highly persuasive evidentiary support"); *Hoechst*, 78 F.3d at 1581, 38 USPQ2d at 1130 ("We share the district court's view that it is unlikely that an inventor would define the invention in a way that excluded the preferred embodiment, or that persons of skill in this field would read the specification in such a way.").

In the preferred embodiment, the following sequence of events occurs (the parenthetical notations referring to the sequence of steps recited in exemplary claim 1): (1) the user provides a request reproduction code to the IMM (step two) and the IMM receives it (step four); (2) the IMM sends the request reproduction code to the ICM (not claimed); (3) the ICM provides an authorization code to the IMM (step three) and the IMM receives it (step four); and (4) the IMM copies the information onto a material object (step four). As indicated in the parenthetical remarks, the steps of claim 1 are not performed in order by the preferred embodiment. They are not even performed serially in their entirety because part of step four is performed before step three, and part is performed after step three. Thus, if the claim was construed to require that the steps be performed in order, the claim would not read on the preferred embodiment. However, there is no "highly persuasive evidentiary support" for such a result. See *Vitronics*, 90 F.3d at 1583, 39 USPQ2d at 1578. Indeed, given that the claim itself and the specification both support a construction in which the steps are not performed in order, the appellees have not directed us to any evidentiary support at all.

3.

Thus, because the steps of claim 1 need not be performed in order, claim 1 does not require predelivery and/or prestorage of the information. Accordingly, we hold that claim 1 is not limited to embodiments that pre-store or pre-deliver the information to the IMM, but that it covers real-time transactions in which the requested item of information is transmitted to the IMM at or prior to the time it is requested by the consumer.

CONCLUSION

We hold that the district court erred in at least one aspect of its construction of each of the five claim limitations upon which the judgment of non-infringement was based. Accordingly, we vacate and remand for further proceedings consistent with the claim construction provided in this opinion.

VACATED AND REMANDED