United States Court of Appeals for the Federal Circuit

IN RE ANTOR MEDIA CORPORATION

2011-1465
(Reexamination Nos. 90/007,839, 90/007,936, 90/007,942, 90/007,957, & 90/009,261)

Appeal from the United States Patent and Trademark Office, Board of Patent Appeals and Interferences.

Decided: July 27, 2012

THOMAS A. LEWRY, Brooks Kushman, P.C., of Southfield, Michigan, argued for appellant. With him on the brief was THOMAS W. CUNNINGHAM.

WILLIAM LAMARCA, Associate Solicitor, Office of the Solicitor, United States Patent and Trademark Office, of Alexandria, Virginia. With him on the brief were RAYMOND T. CHEN, Solicitor, and ROBERT J. MCMANUS, Associate Solicitor.

Before RADER, *Chief Judge*, LOURIE and BRYSON, *Circuit Judges*.

LOURIE, *Circuit Judge*.

Antor Media Corporation ("Antor") appeals from the decision of the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office ("PTO") rejecting on reexamination the claims of its U.S. Patent 5,734,961 (the "'961 patent") as anticipated and obvious over four references. *See Ex Parte Antor Media Corp.*, No. 2010-007531, 2010 WL 4149232 (B.P.A.I. Oct. 20, 2010) ("*Board Opinion*"), *reh'g denied*, 2011 WL 1100047 (B.P.A.I. Mar. 23, 2011) ("*Rehearing Opinion*"). Because the Board did not err in rejecting the claims as anticipated and obvious, we *affirm*.

BACKGROUND

Antor owns the '961 patent relating "to a method and apparatus for transmitting information recorded on digital disks from a central server to subscribers via a high data rate telecommunications network." '961 patent col.1 ll.15–18. The goal of the '961 patent is to allow subscribers to access and to receive information—digital media such as music, images, documents, video, and software—stored on information systems over a telecommunications network. *Id.* col.1 ll.19–21, col.2 ll.64–67, col.3 ll.1–27. Subscribers select information on the central server, which is then compressed and transmitted over the telecommunication network to them, as shown in Claim 1:

> 1. Method of receiving information from one of a plurality of information systems via a high data rate telecommunication network in response to a request from one of plural subscriber stations, said method comprising the steps of:
>
> initiating a two-way transmission from subscriber computer means of said one of said plural subscriber stations to one of said in-

> formation systems via said telecommunication network,
>
> outputting on output means of said one of said plural subscriber stations data related to plural information stored at one of said information systems,
>
> selecting at said one of said plural subscriber stations at least one of said information by means of input means of said one of said plural subscriber stations and transmitting a signal identifying said at least one selected information from said subscriber computer means to a selected information system via said telecommunication network,
>
> receiving at said one of said plural subscriber stations from said selected information system digital signals via said telecommunication network, expanding by expansion means said transmitted signals, converting said expanded digital signals into analog signals and delivering said analog signals to transducer means.

Id. col.12 ll.18–42. Claims 3, 7, 15, and 19 also add a "controller" limitation. *E.g.*, *id.* col.12 l.66 – col.13 l.3 (requiring a controller for "controlling each at least one selected information storage means drive to retrieve signals from each at least one selected information storage means"). Four prior art references are relevant to the appeal: Ghafoor, MINOS, Huang, and Barrett.

Ghafoor is a research publication published in 1988. Arif Ghafoor, et. al., *A Distributed Multimedia Database System*, Dep't of Elec. & Comp. Eng'g, Syracuse Univer-

sity (1988 IEEE) (J.A. 485–91). Ghafoor discloses a multimedia database system to provide multimedia services using a network controller, multimedia servers, a communications network such as a local area network ("LAN") or a broadband integrated services digital network ("B-ISDN"), and workstations. J.A. 485 (Abstract), 486 col. 2 § 2.3. Ghafoor uses a workstation to display data that can interface over a communication network with a central network controller and multimedia servers. J.A. 486 col. 2 § 2.2. As an illustration, Ghafoor discusses a physician searching a centrally stored patient medical history containing X-rays, CAT scans, and other information. J.A. 485 col. 2.

MINOS is an article published in the Journal of Management Information Systems in 1987. Stavros Christodoulakis & Theodora Velissaropoulos, *Issues in the Design of a Distributed Testbed for Multimedia Information Systmems (MINOS)*, Journal of Mgmt. Inf. Sys., Vol. 4, No. 2 (1987) (J.A. 495–508). MINOS discloses a system for storing multimedia digital information on optical disks at a central server accessible by a remote workstation over a network. J.A. 496 (Abstract). The system includes a number of workstations connected over a network (LAN or ISDN), a storage retrieval system, and a query system to search and locate media. J.A. 497 § 1.2, 500–01 § 3. The workstations can browse, zoom, annotate, and format that information. J.A. 496 § 1.1. MINOS also describes providing menus for selecting particular digital media when browsing the available information. J.A. 504 § 4.4, 505 § 4.6.

Huang is a publication reviewing the state of the art in diagnostic imaging from 1988. H.K. Huang, et. al., *Picture Archiving and Communications Systems (PACS) for Radiological Images: State of the Art*, CRC Critical Reviews in Diagnostic Imaging, Vol. 28, Issue 4 (1988)

(J.A. 911–55). Huang discloses a list of developments in the PACS field. J.A. 911–12. As an example, Huang describes a system that allows for the storage and retrieval of radiographic images. J.A. 925 (part IV.A. Introduction). Huang, like Ghafoor, discusses access to patient information—including summaries of that information and a list of available images on the server—using a telecommunications network like a LAN or over greater distances. J.A. 935, 937 (part VI. B. Networks).

Barrett, U.S. Patent 4,918,588, is a computer-based office automation system that retrieves document images and provides an image access subsystem built around a minicomputer connected to a telecommunication network. *Id.* abstract, col.1 ll. 5–8, col.3 ll.24–28, col.3. ll.44–45. Barrett's system allows for indexing of files and searching for documents. *Id.* col.12 l.65 – col.13 l.8.

The PTO granted *ex parte* reexamination, merging five separately filed requests. The examiner rejected claims 1–29 based on the above references and their various combinations, and Antor appealed to the Board. Antor argued that the claims of the '961 patent were not anticipated or obvious in light of the four references and that Ghafoor and MINOS were not enabling, relying on the declaration of Dr. Ray Mercer to support that argument. The PTO did not submit any rebuttal evidence regarding enablement. The Board found that Antor had not shown that Ghafoor and MINOS were not enabling and had not shown that their performance required undue experimentation. *Board Opinion*, 2010 WL 4149232, at *5–8; *Rehearing Opinion*, 2011 WL 1100047, at *2–6. With regard to anticipation, the Board found that claims 1–3, 5–7, 9, 11–15, 17–19, 21–24, and 26–29 were anticipated by Ghafoor; that claims 1–3, 5–7, 9, 11–15, 17–19, 21–24, and 26 were anticipated by Huang; and that claims 1–3, 5, and 13–15 were anticipated by

MINOS. *Board Opinion*, 2010 WL 4149232, at *8–10. Claims 1–3, 5–7, 9, 11–15, 17–19, 21–24, and 26–29 were held to be obvious over the combination of Ghafoor and Huang. *Id.* at *10–11. Claim 25 was held to be obvious over Ghafoor and either Barrett or Huang. *Id.* at *11–12. Finally, claims 1–29 were held to be obvious in view the combination of Barrett and MINOS. *Id.* at *12. Antor appealed from the Board's decision to this court. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

We review the Board's legal conclusions *de novo*. *In re Elsner*, 381 F.3d 1125, 1127 (Fed. Cir. 2004). We review the Board's factual findings underlying those determinations for substantial evidence. *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). A finding is supported by substantial evidence if a reasonable mind might accept the evidence to support the finding. *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938). Anticipation is a question of fact reviewed for substantial evidence in an appeal from the Board. *In re Gleave*, 560 F.3d 1331, 1334–35 (Fed. Cir. 2009). Enablement and obviousness, on the other hand, are questions of law, based on underlying factual findings. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *Elsner*, 381 F.3d at 1127; *Minn. Mining & Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1301 (Fed. Cir. 2002) ("Whether a prior art reference is enabling is a question of law based upon underlying factual findings.").

I.

We first address Antor's argument that the Board erred by holding that prior art publications cited by an examiner are presumptively enabling during prosecution. A prior art reference cannot anticipate a claimed invention "if the allegedly anticipatory disclosures cited as prior art are not enabled." *Amgen Inc. v. Hoechst Marion*

Roussel, Inc., 314 F.3d 1313, 1354 (Fed. Cir. 2003). As we stated in *Amgen*, both claimed and unclaimed materials disclosed in a patent are presumptively enabling:

> In patent prosecution the examiner is entitled to reject application claims as anticipated by a prior art patent without conducting an inquiry into whether or not that patent is enabled or whether or not it is the claimed material (as opposed to the unclaimed disclosures) in that patent that are at issue. *In re Sasse*, 629 F.2d 675, 681, 207 USPQ 107, 111 (C.C.P.A. 1980) ("[W]hen the PTO cited a disclosure which expressly anticipated the present invention . . . the burden was shifted to the applicant. He had to rebut the presumption of the operability of [the prior art patent] by a preponderance of the evidence." (citation omitted)). The applicant, however, can then overcome that rejection by proving that the relevant disclosures of the prior art patent are not enabled. *Id.*

Id. at 1355 (footnote omitted). We then indicated that that presumption applies in the district court as well as the PTO, placing the burden on the patentee to show that unclaimed disclosures in a prior art patent are not enabling. *Id.* That case, however, did not decide whether a prior art printed publication, as distinguished from a patent, is presumptively enabling during patent prosecution. *Id.* at 1355 n.22 ("We note that by logical extension, our reasoning here might also apply to prior art printed publications as well, but as Sugimoto is a patent we need not and do not so decide today."). As the issue regarding non-patent publications is squarely before the court today, we now hold that a prior art printed publication cited by an examiner is presumptively enabling barring any showing to the contrary by a patent applicant or patentee.

Relying on the presumption of validity accorded to issued patents, 35 U.S.C. § 282, Antor asserts that a presumption of enablement is applicable only to prior art patents, not to publications, because "the PTO must examine [patents] for enablement before they issue, and 35 U.S.C. § 282 says patents are presumed valid." Antor Br. 16–17. However, we rejected that argument in *Amgen*:

> On appeal, Amgen argues that there should be no presumption of enablement in this case because under § 282 courts only presume the claimed subject matter in a patent is enabled. Thus, Amgen argues, because only the unclaimed disclosures of [the prior art patent] are at issue here, no presumption of enablement should apply. This argument is not relevant, however, because, as reasoned below, *we do not only rely on § 282* as the source for a presumption. Instead, relying on our precedent, we hold a presumption arises that both the claimed and unclaimed disclosures in a prior art patent are enabled.

Amgen, 314 F.3d at 1355 (emphasis added). In the precedent cited by *Amgen*, the court had held the way it did because it is procedurally convenient to place the burden on an applicant who is in a better position to show, by experiment or argument, why the disclosure in question is not enabling or operative. It would be overly cumbersome, perhaps even impossible, to impose on the PTO the burden of showing that a cited piece of prior art is enabling. The PTO does not have laboratories for testing disclosures for enablement.

Unlike claimed disclosures in a patent, unclaimed disclosures are thus not examined by the PTO at all. As these unclaimed, unexamined disclosures still receive a

presumption of enablement during prosecution of a later patent, there is no reason why printed publications, which of course also lack the scrutiny of examination, should not logically receive the same presumption and for the same reasons. *See id.* at 1355 n.22.

During prosecution, an examiner is governed by 35 U.S.C. § 132, which requires notification to an applicant of the reasons for a rejection with "such information and references as may be useful in judging of the propriety of continuing the prosecution of his application." Section 132 "does not mandate that in order to establish prima facie anticipation, the PTO must explicitly preempt every possible response to a section 102 rejection." *In re Jung*, 637 F.3d 1356, 1363 (Fed. Cir. 2011) (quoting *Chester v. Miller*, 906 F.2d 1574, 1578 (1990)). Instead, that statute only requires that "an applicant at least be informed of the broad statutory basis for the rejection of his claims, so that he may determine what the issues are on which he can or should produce evidence." *Id.* In discussing the theory of the rejection, the prior art basis for the rejection, and where each limitation of the rejected claims is shown in the prior art reference, an examiner has met his initial burden. *Id.* at 1363 ("[A]ll that is required of the office to meet its prima facie burden of production is to set forth the statutory basis of the rejection and the reference or references relied upon in a sufficiently articulate and informative manner as to meet the notice requirement of § 132."). Indeed, as indicated with regard to unclaimed patent prior art, an examiner, who has no access to experts or laboratories, is not in a position to test each piece of prior art for enablement in citing it, and requiring him to do so would be onerous, if not impossible. An examiner, therefore, is not required to anticipate every possible response to a rejection, including showing that a cited reference is enabling.

Consistent with the statutory framework and our precedent, we therefore hold that, during patent prosecution, an examiner is entitled to reject claims as anticipated by a prior art publication or patent without conducting an inquiry into whether or not that prior art reference is enabling. As long as an examiner makes a proper prima facie case of anticipation by giving adequate notice under § 132, the burden shifts to the applicant to submit rebuttal evidence of nonenablement.

II.

Turning now to the Board's decision here, the prima facie rejections during prosecution put the burden of proving the nonenablement of Ghafoor, MINOS, Huang, and Barrett on Antor. Antor argued to the Board that Ghafoor and MINOS were not enabling disclosures, relying primarily on the declaration of Dr. Ray Mercer. Antor did not challenge the enablement of Huang and Barrett. Because we hold that the Board did not err in finding that Ghafoor is enabling and anticipates the appealed claims, we do not address the other overlapping anticipation rejections relating to MINOS and Huang.

As previously noted, a prior art reference cannot anticipate a claimed invention "if the allegedly anticipatory disclosures cited as prior art are not enabled." *Amgen*, 314 F.3d at 1354. Antor argues that Ghafoor does not sufficiently enable a person of ordinary skill to make or use the invention in the '961 patent because Ghafoor is "forward looking," relying on Ghafoor's use of the term "should" throughout its disclosure and arguing that Ghafoor is not enabling as to three specific features of the '961 claims: "high data rate telecommunication network"; accessing and retrieving of data; and "a controller."

The PTO responds that Antor has not met its burden to show that undue experimentation would be required

for one of ordinary skill in the art to make or use the invention in the '961 patent. It argues that forward-looking language is irrelevant to enablement and that Antor ignores the level of skill in the art, merely pointing to some missing details in the Ghafoor disclosure. We agree with the PTO that Antor has not shown that undue experimentation would be required to perform the claimed invention based on the teaching in Ghafoor.

As an initial matter, the mere use of forward-looking language (such as terms like "should") does not show one way or another whether a person of ordinary skill in the art would have to engage in undue experimentation to perform the claimed invention. Indeed, undue experimentation is determined based on both the nature of the invention and the state of the art. *See Elan Pharm., Inc. v. Mayo Found. for Med. Educ. & Research*, 346 F.3d 1051, 1055 (Fed. Cir. 2003) (quoting *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988)). The word "should" thus constitutes a disclosure even if it is only precatory and does not necessarily convey the meaning of "did." Thus, the verb tense and word choice used in a prior art reference, taken without an understanding of the state of the art and the nature of the invention, shed no light on enablement. That reality is consistent with our precedent holding that the invention in a prior art publication need not have actually been made or performed to satisfy enablement. *Novo Nordisk Pharm., Inc. v. Bio-Tech. Gen. Corp.*, 424 F.3d 1347, 1355 (Fed. Cir. 2005); *In re Donohue*, 766 F.2d 531, 533 (Fed. Cir. 1985).

Secondly, Antor argues that Ghafoor does not enable use of a "high data rate telecommunication network" connected to servers and workstations. '961 patent col.12 ll.18–20. Antor points to language in Ghafoor that the integration of multimedia services in a single broadband network "poses new communication requirements" not

disclosed by Ghafoor. J.A. 486 § 2.3. In particular, Antor notes that Ghafoor requires data bit rates up to "200–300 Mbit/sec," a bit rate far beyond the level of ordinary skill in 1989 according to Dr. Mercer. *Id.*; J.A. 450–51 ¶ 11(e). In addition, Antor points to Dr. Mercer's testimony that a skilled artisan would be unable to interface B-ISDN to Ghafoor's workstations without undue experimentation. J.A. 450–51 ¶ 11.

A more thorough review of Ghafoor, however, tells a different story. Under the section entitled "Communication Network," Ghafoor states that "the main function of . . . [its] network is to interconnect geographically dispersed servers and users with broadband multimegabit services." J.A. 486 § 2.3. Ghafoor then gives an example of using the "*widely supported* broadband integrated services digital network (B-ISDN)" implemented using the "dual bus Queued Packet and Synchronous Switch (QPSX)" based network. *Id.* (emphasis added). QPSX, according to Ghafoor, is known to have "outstanding reliability" with support for "arbitrary network size and speed." *Id.* Without qualification or condition, Ghafoor then states that "such a network *can* be employed effectively in the proposed HMD system." *Id.* (emphasis added). Ghafoor adds that its workstations "interface with the communication network and support communication protocols in order to interact with the central controller and multimedia servers." J.A. 486 § 2.2. Ghafoor therefore discloses the use of a "high data rate telecommunications network" such as B-ISDN that can interface with its workstations.

Moreover, whether the maximum data-bit rates recited in Ghafoor were beyond the level of ordinary skill in 1989 is not the relevant inquiry for enablement. Enablement of prior art requires that the reference teach a skilled artisan to make or carry out what it discloses in relation to the claimed invention. *See Elan Pharm.*, 346

F.3d at 1054; *Donohue*, 766 F.2d at 533; *see also Beckman Instruments, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551 (Fed. Cir. 1989) ("Even if a reference discloses an inoperative device, it is prior art for all that it teaches."). In other words, a prior art reference need not enable its full disclosure; it only needs to enable the portions of its disclosure alleged to anticipate the claimed invention. Here, the proper inquiry is whether Ghafoor discloses using a "high data rate telecommunication network" connected to servers and workstations as required by the '961 patent. The '961 patent discloses an existing "high data rate digital network", an ISDN line, capable of transmission at 64kbits/sec as embodying the invention. '961 patent col.1 ll.40–44, col.3 ll.63–67. Ghafoor explicitly notes that transmission speeds well under 64kbits/sec were more than adequate to transmit images, graphs, maps, charts, audio, and text data, all of which are "information" as claimed in the '961 patent. J.A. 486 § 2.3; *see, e.g.*, '961 patent col.1 ll.19–21 ("The technical field of the invention is . . . transmitting information such as sounds, images, or writing."). Given the disclosure of an existing ISDN technology in the '961 patent and the "widely supported" B-ISDN in Ghafoor, Antor has not shown that undue experimentation would be needed to practice the '961 patent's claimed "high data rate telecommunication network" based on Ghafoor's disclosure.

Third, Antor argues that Ghafoor does not enable accessing and retrieving of data. While that language does not appear in claim 1, Antor appears to be referring to the "selecting . . . at least one of said information" that is later received by the "subscriber station." Antor Br. 23 n.2. Antor argues, based on the declaration of Dr. Mercer, that the search functionality disclosure in Ghafoor regarding its hierarchical object graph feature is unintelligible. *See* J.A. 453–54 ¶ 15; *id.* 489–90. According to Antor: "while

Ghafoor identifies a desired result, it does not meaningfully disclose how to accomplish that result." Antor Br. 24. We conclude that Antor's argument falls short of showing nonenablement.

As previously discussed, Ghafoor's disclosure must be viewed in light of the knowledge of one of ordinary skill in the pertinent art, which, as the Board found, is "quite advanced." *See Board Opinion*, 2010 WL 4149232, at *6. Ghafoor discloses "smart terminal" workstations that can "interface with the communication network" in order to "interact with the central controller and multimedia servers." J.A. 462 § 2.2. That interaction, according to Ghafoor, allows users to search the database on a central server from a remote workstation. J.A. 490 § 3.3. While Ghafoor proposes using a certain hierarchical object graph structure to accomplish that functionality, the '961 patent does not require that specific hierarchical object graph; it only requires the ability to select and receive information on the system. '961 patent col.12 ll.29–42. The hierarchical object graph in Ghafoor, intelligible or not, does not lead to the conclusion that a skilled artisan could not implement some form of selecting and receiving information without undue experimentation. Given the high level of skill in the art, Antor has not shown that undue experimentation would be needed to practice the '961 patent's claim limitations of selecting and receiving information in view of Ghafoor.

Fourth, Antor argues that Ghafoor's disclosure of a "controller" is not enabling as to claims 3, 7, 15, and 19. In particular, Antor argues that there is not enough detail explaining how the controller works in Ghafoor. Antor Br. 25. Quite to the contrary, Ghafoor discloses two controllers, a local and network controller, detailing their functionality, architecture, and database integration. J.A. 486 § 2.2 (HMD Network Controller), 489 (Local Control-

ler). For example, Ghafoor's network controller determines the location of stored information, selects servers, and determines operations to perform on the information, such as search and retrieval, based on user requests. J.A. 486 § 2.2. According to Ghafoor, the network controller can be a "uniprocessor having sufficient memory" that supports various "communication protocols." *Id.* The local controller, on the other hand, must be able to receive a query and pass on requests to the network controller. J.A. 488 (Database System), 489 (Local Controller). Given the high level of skill in the art, Antor has not shown that undue experimentation would be needed to practice the claimed "controller" limitation.

Antor next argues that Ghafoor cannot anticipate the '961 patent's claims because it does not disclose "data related to the plural information." Antor argues that "data related to the plural information" is not the plural information stored by the central information system, but some other data, such as a list of the information available on the server (*i.e.*, a menu). The PTO responds that Antor's reading is too narrow and that any information output at a workstation is "related" to information on the central database. As an example, the PTO argues that a single image transmitted to the workstation is "related" to the larger set of images on the server. The PTO also points out that Ghafoor allows a physician to remotely browse a patient's medical history and access a summary of the patient information stored on the central server, thus meeting Antor's narrow construction.

We agree with the PTO that Ghafoor discloses "data related to the plural information." Ghafoor explicitly discloses a physician accessing a summary of patient information on the central server. J.A. 485 § 1 (Introduction). In doing so, the physician receives a summary of the patient's history from which information can be

selected and retrieved. Ghafoor's system is also able to browse the patient's medical history on the server. *Id.* Under either party's definition, the summary of a patient's medical history and a listing of the files available on the server is "data related to the plural information."

The Board thoroughly reviewed each of Antor's and Dr. Mercer's allegations regarding the enablement of Ghafoor, and Antor has not rebutted the presumption that Ghafoor is enabling because it has not shown that undue experimentation would be needed to practice the claimed invention. The Board's rejection of claims 1–3, 5–7, 9, 11–15, 17–19, 21–24, 26, and 27–29 as anticipated by Ghafoor is supported by substantial evidence and is therefore affirmed.

III.

The Board also rejected claims 1–29, including the claims not covered by the Board's anticipation rejections, as having been obvious based on Barrett in view of MINOS. While Antor argues that MINOS is not enabling in challenging the Board's anticipation rejection, MINOS can still qualify as prior art in determining obviousness under 35 U.S.C. § 103, independent of enablement. *See Symbol Techs. Inc. v. Opticon Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991) ("[A] non-enabling reference may qualify as prior art for the purpose of determining obviousness under § 103."). On appeal, Antor raises only one issue with regard to that combination: that MINOS and Barrett fail to disclose a high data rate telecommunication network. Thus we review the obviousness rejection on the sole ground Antor raised in its brief, without regard to whether MINOS is enabling.

In support of its argument, Antor posits that MINOS only discloses using a LAN, which Antor argues is not a telecommunication network. In addition, Antor notes

that MINOS only mentions ISDN twice, and not as a replacement for the LAN used for data transfer. *See* J.A. 497. As for Barrett, Antor relies on the PTO's admission that Barrett "fails to explicitly disclose" a "high data rate telecommunication network." J.A. 648. Antor also faults the Board for not taking into account Antor's proffered secondary consideration of nonobviousness, the existence of a number of licenses to the '961 patent.

The PTO responds that nothing in the claims of the '961 patent prohibits a high data rate LAN from qualifying as a "high data rate telecommunication network," especially in light of the fact that the claim language imposes no distance limitation. The PTO notes that MINOS also discloses using high-capacity communication networks such as ISDN. The PTO does not address whether Barrett discloses a high data rate telecommunication network, but does mention that Barrett "can be connected to remotely located workstations via a telecommunications network." PTO Br. 10 (citing *Barrett*, col.3 ll.44–45). Finally, the PTO notes that the licenses cited by Antor as having been granted and supporting secondary considerations of nonobviousness were not in the record and that Antor failed to establish a nexus between any specific license and the patented invention. We agree with the PTO that MINOS discloses using a high data rate telecommunications network and that Antor has failed to establish a nexus between its licensing and the patented invention.

Under the Patent Act, "[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a). Although the ultimate determination of

obviousness under § 103 is a question of law, it is based on several underlying factual findings, including (1) the scope and content of the prior art; (2) the level of ordinary skill in the pertinent art; (3) the differences between the claimed invention and the prior art; and (4) evidence of secondary factors, such as commercial success, long-felt need, and the failure of others. *Graham*, 383 U.S. at 17–18.

MINOS discloses "high band width local area networks (LANs) and optical fiber technology" that "allow for the effective transfer of . . . large volumes of data." J.A. 497 § 1.2. MINOS also discloses the use of "high capacity communication networks" such as ISDN, which Antor admits is a telecommunication network. *Id.*; Antor Reply Br. 12 ("The Director also argues that MINOS discusses ISDN networks — which are admittedly telecommunication networks."). As previously discussed, the '961 patent discloses the existence of an ISDN line capable of transmission at 64kbits/sec and as embodying the claimed "high data rate telecommunication network." '961 patent col.1 ll.40–44, col.3 ll.63–67. A skilled artisan reading MINOS at the time would have thus known that ISDN was available, as noted in the '961 patent, and that MINOS could work with a variety of types of integrated telecommunication networks, including ISDN. Therefore, MINOS, contrary to Antor's position, discloses using a high data rate telecommunication network.

With regard to Antor's argument that the Board failed to consider licenses granted under the '961 patent as a secondary consideration of nonobviousness, it is clear from the record that the Board did consider the existence of those licenses. *E.g.*, *Board Opinion*, 2010 WL 4149232, at *12. As we have previously held, "without a showing of nexus, 'the mere existence of . . . licenses is insufficient to overcome the conclusion of obviousness.'" *Iron Grip*

Barbell Co. v. USA Sports, Inc., 392 F.3d 1317, 1324 (Fed. Cir. 2004) (quoting *SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp.*, 255 F.3d 1349, 1358 (Fed. Cir. 2000)). Antor, beyond alleging the existence of a number of licenses, has not asserted any nexus between the merits of the invention and the licenses themselves. *See In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995). Antor merely lists the licensees and their respective sales revenue. The licenses themselves are not even part of the record. Antor provides no evidence showing that the licensing program was successful either because of the merits of the claimed invention or because they were entered into as business decisions to avoid litigation, because of prior business relationships, or for other economic reasons. The Board was thus correct in holding that the existence of those licenses is, on its own, insufficient to overcome the prima facie case of obviousness.

As no other issues have been raised with respect the Board's rejection of claims 1–29 as obvious based on the combination of MINOS and Barrett, we affirm the Board's determination.

IV.

We have considered Antor's remaining arguments and conclude that they are without merit. Accordingly, the Board's decision is affirmed.

AFFIRMED