No. 05-1056

IN THE

Supreme Court of the United States

MICROSOFT CORPORATION,
Petitioner,

v.

AT&T CORP.,
Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF THE SOFTWARE & INFORMATION INDUSTRY ASSOCIATION AS *AMICUS CURIAE* SUPPORTING PETITIONER

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INTEREST OF *AMICUS*

Amicus curiae the Software & Information Industry Association (SIIA) is the principal trade association for the software and digital-content industry.[1] SIIA provides global services in government relations, business development, corporate education, and intellectual-property protection to the leading companies that are setting the pace for the digital age. With over 800 members, SIIA is the leading trade

[1] Pursuant to Supreme Court Rule 37.6, SIIA confirms that no counsel for a party authored this brief in whole or in part and that no person or entity other than SIIA, its members, or its counsel has made a monetary contribution to the preparation or submission of the brief. The brief is filed with the consent of the parties. See S. Ct. R. 37.3(a).

association representing software-code and information-content companies.[2]

The innovative companies that make up SIIA's membership rely upon patent protection to guard their inventions, but also depend upon the ability to develop their products free from improper assertions of patent rights. Consequently, SIIA's members are involved in patent litigation as both patentees and accused infringers; they cannot be categorized generally as plaintiffs or defendants. SIIA is thus in a balanced position, as *amicus curiae*, to address the proper interpretation of 35 U.S.C. §271(f) as it relates to software.

STATEMENT

This case presents an increasingly common fact pattern in the international distribution of technology developed in the United States. A technology creator (such as Microsoft in this case) develops computer code at its facilities in the United States. The creator then burns the computer code onto one or more "golden master" disks (CD-ROMs or DVD-ROMs or other media for transmitting computer code), also in the United States. The creator exports only master versions of the computer code to foreign manufacturers. Each foreign manufacturer uses the master version, outside of the United States, to manufacture the products based on the computer code. These products are typically computers loaded with traditional software, or even other digital media such as movies and computer games, all based on the golden master.

Products created according to this scenario also include semiconductors, which are frequently fabricated abroad based on computer code transmitted from the United States. While such fabrication does not involve the incorporation in a final

[2] A complete list of SIIA members can be found at http://www.siia.net/membership/memberlist.asp.

product of copies of computer code exported from the United States, it does involve the foreign manufacture of products based on computer code developed in the United States.

As technology advances, the number and diversity of products manufactured abroad based on computer code developed in the United States will surely increase. Although the extent of the change in form from the originally exported computer code to the final products varies from technology to technology, in each case computer code is exported and products based on that code are manufactured abroad.

In all of these increasingly common circumstances, no physical component shipped from the United States is ever incorporated or assembled into any product sold abroad to consumers. In particular, the "golden masters" that are actually shipped from the United States are never made a part of any product sold to consumers. The manufacture of products based on that code occurs *outside* the United States.

The same is true in this case. Although no Windows "golden master" disks shipped by Microsoft from the United States were ever assembled into a final computer, see Pet. App. at 45a, AT&T nevertheless accused all foreign-made *copies* of those disks as being "components of [the] patented invention" that were "supplied in or from the United States" in violation of 35 U.S.C. §271(f). The Federal Circuit agreed. Pet App. 1a (reported at *AT&T Corp.* v. *Microsoft Corp.*, 414 F.3d 1366 (CA Fed. 2005)).

SUMMARY OF ARGUMENT

In affirming the judgment of liability against Microsoft, the Federal Circuit improperly expanded the power of United States patents. Specifically, the Federal Circuit extended the extraterritorial application of United States patent law to cover foreign-made products containing foreign-made *copies* of a component originating in this country. In so doing, the

court effectively rewrote §271(f)'s clear requirement that "components of a patented invention" be "supplie[d] . . . from the United States" before liability can be assessed. 35 U.S.C. §271(f)(1). As construed by the court of appeals, the statute broadly imposes liability for exporting anything from which a *copy* of a component of a patented invention may be made and then assembled into a patented combination. The court candidly admitted that it adopted this construction "to account for the realities of software distribution," of which copying is "part and parcel." Pet. App. at 6a-7a. But although it is generally easier, cheaper, and faster to make copies of computer code than to make copies of traditional physical components, those considerations are not—and should not be—relevant to the application of §271(f). It is the province of Congress, not of the courts, to define the scope of liability under United States patent law. The Federal Circuit tacitly acknowledged this fundamental principle,[3] but disregarded it and imposed liability through an expansive interpretation of the statute.

That interpretation exposes American producers to potential global liability and upsets investments and plans made in reasonable reliance on previously settled law that limited the extraterritorial application of United States patent law to the narrow exception created in §271's 1984 amendments. Prior to the Federal Circuit's controversial series of decisions in *Eolas Technologies, Inc.* v. *Microsoft Corp.*, 399 F.3d 1325 (CA Fed.), *cert. denied*, 126 S.Ct. 568 (2005), *Union Carbide Chemicals & Plastics Technology Corp.* v. *Shell Oil Co.*, 425 F.3d 1366 (CA Fed. 2005), and this case, American firms understood that they were not constrained by United States patents from competing in

[3] As the court correctly noted, "'the remedy for any dissatisfaction with the results in particular cases lies with Congress' and not with this court." Pet. App. at 11a (quoting *Griffin* v. *Oceanic Contractors, Inc.*, 458 U.S. 564, 576 (1982)).

foreign markets, such as by making and selling patented products outside of the United States. Inventors similarly understood that they had to seek and obtain available patent protection in every distinct geographic market where they wanted a monopoly to practice their inventions.

Moreover, the broad extraterritorial extension of United States patent law upsets the international patent regime and disrespects foreign legal systems, which should have primary responsibility for enforcing intellectual-property rules regarding conduct occurring in foreign jurisdictions. Until the recent trio of Federal Circuit decisions, basic principles of international comity coexisted with §271(f), which was enacted only to close a narrow loophole. That loophole—recognized by this Court in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972)—allowed American companies to take clever advantage of shipment from the United States of unassembled components of a patented invention for foreign assembly, thus evading liability for actually "making" and "selling" the invention in the United States. In closing the loophole, Congress did not purport to radically alter the legal framework limiting the extraterritorial reach of United States patent law. Rather, at least until the Federal Circuit's recent extensions of §271(f), the statute was understood to bar only the export of the physical components of a United States-patented product for assembly abroad, not the use of *foreign-produced* components in foreign assembly.

The Federal Circuit's expansive construction of §271(f) now exposes American businesses of all kinds—not merely software companies—to potentially unlimited worldwide liability based on a *single* export. Given the role of the Federal Circuit as the national court of appeals in patent cases, only this Court can correct the Federal Circuit's now entrenched (but erroneous) reading of §271(f). In doing so, the Court will prevent vast economic harm to the high-tech

industries that are, and hope to remain, vital to the health of the United States economy.

Because the Federal Circuit's misinterpretation of §271(f) is contrary to the text and Congress's stated objectives in amending the patent statute, deviates from previously settled United States patent law, and has severe consequences for American companies that operate on a worldwide basis, the Court should reverse the judgment of the Federal Circuit.

ARGUMENT

I. THE FEDERAL CIRCUIT'S EXPANSIVE READING OF §271(F) UNJUSTLY UPSETS THE SETTLED AND REASONABLE EXPECTATIONS OF AMERICAN PRODUCERS.

The Federal Circuit's decision in this case threatens to usher in a new era in which foreign manufacturing, connected to the United States by little more than domestic design and development, will be pulled within the grasp of United States patent law. That result defies the plain language and legislative history of §271(f) and cannot be justified under the guise of interpreting a remedial statute to keep pace with advances in technology. Quite the contrary, confining the scope of §271(f) to supplying physical components for foreign combination into patented inventions satisfies the goals of the statute and adequately protects the rights of inventors without treading unnecessarily on principles of international comity. On the other hand, imposing unlimited liability under United States patent law for all foreign products that include foreign-made components made from a single master version of computer code exported from the United States, as the Federal Circuit has done, defies the statutory text of §271(f). That departure from previously settled law will likely further create perverse incentives for valued domestic industries to move their design and development activities overseas.

A. The Federal Circuit's Expansive View of §271(f) Disregards the Statutory Text.

The far-reaching extraterritorial extension of patent liability declared by the Federal Circuit is contradicted by the text of §271(f) itself. In particular, two key phrases of the statute were misconstrued by the court. First, the court ignored the plain meaning of the statutory term "component" in holding that the generalized information contained in computer code is, itself, a "component[] of a patented invention," without regard to the *physical manifestation of the code* in a particular computer. 35 U.S.C. §271(f). Second, the court unduly stretched the term "supplies" in holding that *copies* of a component of a patented product are "supplie[d] . . . from the United States" even when the copies are made in a foreign country. *Ibid.*

1. The Term "Components" Covers Only Physical Manifestations of Computer Software.

The proper meaning of the term "component" is necessarily informed by the surrounding words of the statute. *Whitman* v. *American Trucking Assn.*, 531 U.S. 457, 466 (2001) ("Words that can have more than one meaning are given content, however, by their surroundings . . . .") (citing *FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 132-133 (2000) and *Jones* v. *United States*, 527 U.S. 373, 389 (1999)). Adherence to this principle of construction is important "to avoid giving unintended breadth to an Act of Congress." *United States* v. *Locke*, 529 U.S. 89, 105 (2000).

The statutory context makes clear that the term "components" in §271(f) contemplates physical products that are capable of being "combin[ed]." Similarly indicative of physical form are the references in §271(f)(2) to "components" as "*articles* or commodities of commerce." 35 U.S.C. §271(f)(2) (emphasis added).

Physical form is also suggested in the legislative history by the juxtaposition of the terms "components" and "assemble," terms that usually connote tangible objects and physical attachment. See Section-by-Section Analysis: Patent Law Amendments Act of 1984, H.R. 6286, 98th Cong., 130 Cong. Rec. H10,525 (Oct. 1, 1984), as reprinted in 1984 U.S.C.C.A.N. 5827, 5828 (explaining that §271(f) "prevent[s] copiers from avoiding U.S. patents by supplying components of a patented product in this country so that the *assembly of the components* may be completed abroad") (emphasis added). The legislative history further confirms a physical meaning for "components" by describing them in terms of a "patented *machine*." See President's Message to Congress, Patent Law Amendments Act of 1984, Statement on Signing H.R. 6286 Into Law, 20 Weekly Comp. Pres. Doc. 1818, 1818 (Nov. 9, 1984) ("[Section 271(f)] closes a loophole in existing law which permits copiers to export jobs and avoid liability by arranging for *final assembly of patented machines* to occur off-shore . . . .") (emphasis added). In addition, reference in the legislative history to Congress targeting "*manufacture* of component *parts* within the United States for assembly outside the United States," also suggests components having a physical nature. 130 Cong. Rec. H6286, at 28,073 (Oct. 1, 1984) (statement of Rep. Kastenmeier) (emphasis added).

This view is consistent with pre-*AT&T* Federal Circuit precedent. As the court noted in *Pellegrini* v. *Analog Devices, Inc.*, 375 F.3d 1113 (CA Fed. 2004), §271(f) is "clear on its face" and applies "only where components of a patent invention are *physically present* in the United States and then either sold or exported 'in such a manner as to actively induce the combination of such components outside the United States in a manner that would infringe the patent if such combination occurred within the United States.'" *Id.*, at 1117 (emphasis added); see also *Bayer AG* v. *Housey Pharms., Inc.*, 340 F.3d 1367, 1372-1373 (CA Fed. 2003)

(noting that the term "component" in §271(g)(2) "appears to contemplate a physical product").

Because the term "component" contemplates physical products, it does not aptly describe the exported golden masters' relationship to the accused products. Only a few copies of master disks and electronic messages were ever "physically present" in the United States. But those things never even touched—much less became a part of—the accused computer systems. Pet. App. at 45a.

Consistent with the statute, a "component[] of a patented invention" in the context of computer code must refer to the particular instance of the computer code that is downloaded onto, and thus physically a part of, an accused computer system. The court of appeals, however, bypassed the "copy vs. original" distinction by adopting a metaphysical view of software in which the software was deemed fundamentally *intangible information* yet still fully qualified as a "component" under §271(f). Pet. App. at 4a (citing *Eolas*, 339 F.3d, at 1339, for the proposition that "*software code alone* qualifies as an invention eligible for patenting") (emphasis added); but see *Eolas*, 339 F.3d, at 1339 (emphasizing "computer readable" (*i.e.*, physical) nature of the component). Viewed as purely intangible information, the "component" was conceptually "supplied . . . from" the United States and combined into the foreign-made computers. But that analysis does not comport with the technical reality of computer software.

Part of what seems to have confused the Federal Circuit is the distinction between the physical embodiment of the computer program (*i.e.*, the master disks containing the object code) and the intangible information contained within it (*i.e.*, the computer instructions consisting of 0s and 1s). One source of this confusion may have been imprecise use of the term "software." Software may be used to mean the computer program itself; it may also mean the physical

embodiment of that program that actually interacts with the computer hardware. As a component of a computer system, a computer program cannot be, however, merely the intangible information it represents. Rather, a computer program must take physical form to operate within a computer system, as the Federal Circuit acknowledged in *Eolas*.[4] And until it takes physical form as part of the claimed computer system, a computer program cannot be a component of the claimed invention.

To achieve this physical form, computer code—which may be embodied by plastic storage media with dimples for optical reading (*e.g.*, DVDs)—is first copied and then installed in a computer through a physical process of altering tangible objects, such as magnetic storage media (hard drives, etc.). This alteration adds a digital pattern to the storage media by rearranging the physical substance of those objects. See, *e.g.*, *In re Warmerdam*, 33 F.3d 1354, 1361 n.6 (CA Fed. 1994) ("[T]he storage of data in a memory physically alters the memory, and thus in some sense gives rise to a new memory."); *In re Bernhart*, 417 F.2d 1395, 1400 (CCPA 1969) ("[I]f a machine is programmed in a certain new and unobvious way, it is physically different from the machine without that program; its memory elements are differently arranged. The fact that these physical changes are invisible to the eye should not tempt us to conclude that the machine has not been changed."); see also Br. for the United States as

[4] The *Eolas* panel noted that computer code has intangible aspects and physical aspects, and observed that, in the context of the patented invention before it, the "computer transforms the code on the golden [master] into a machine component in operation." 399 F.3d, at 1339. Respondent itself argued that computer software is not merely intangible. Br. in Opp. to the Pet., at 12. But in its supplemental brief in response to the brief of the United States, Respondent shifted positions and asserted that "the issue is whether Microsoft supplied the Windows object code, a binary sequence of numbers that 'lacks physical existence.'" Supp. Br. of Resp. at 4 (citing Br. for the United States as *Amicus Curiae* at 8-9).

Amicus Curiae, at 8-9. Notably, the digital pattern created during installation is not necessarily identical to that on the golden master.[5]

When viewed in this correct technical sense, the Microsoft customers' fine-scale rearranging of the material of their foreign-sourced disks at foreign locations is better characterized as *foreign manufacturing* based on information supplied from the United States, rather than as merely adding a component as supplied from the United States. Section 271(f) imposes liability only for the latter.

Under the Federal Circuit's approach, however, liability is imposed under §271(f) for transmitting from the United States intangible information that is later used to create a tangible form in a foreign country for foreign use, under the misperception that the intangible information is somehow a component supplied from the United States. This approach not only defies the ordinary meaning of the term "component," but also produces anomalous results. For example, the court's approach would find infringement in the "'exportation' of a computer program" by someone who leaves the country having memorized the 0s and 1s "to input and use the program on a computer in a foreign country."

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[5] When a computer program is copied from a golden master onto a computer, it undergoes configuration and changes that often result in unique versions of the original program. The changes to the computer program range from customizing a computer according to customer specifications after receiving the order from the customer (including incorporating essential application and communication protocols to facilitate inoperability of computer programs) to configuring network interface(s), establishing directories and management control, storage, backup and recovery options. See Installing Oracle Database 10g Release 2 on Linux x86, <http://www.oracle.com/technology/pub/articles/smiley_10gdb_install.html>; see also Preinstalling Microsoft Windows XP by Using the OEM Preinstallation Kit, Part I, <http://download.microsoft.com/download/E/B/A/EBA1050F-A31D-436B-9281-92CDFEAE4B45/OPK-preinstall-intro.doc>.

Pensabene & Berschadsky, Software Patent Damages for Foreign Sales: Have the District Courts Gone Too Far?, 21 Computer & Internet Lawyer 23, 27 (July 2004). Previously established United States patent law certainly does not support that result. See *Pellegrini*, 375 F.3d, at 1117 (holding that components manufactured abroad cannot be components supplied from the United States even though they were made according to design and manufacturing instructions sent from the United States); *Bayer*, 340 F.3d, at 1376-1377 (avoiding a construction of §271(g) that would find infringement in the converse situation in which a person enters the country having memorized information generated by a patented process).

Simply put, the Federal Circuit went too far in its analysis by expanding the meaning of the term "component" to include the purely intangible informational aspect of computer code. Instead, the Federal Circuit should have limited the application of §271(f) to the particular physical embodiment of the patented computer program, consistent with the express terms of the statute itself and with the technical reality of computer code.

2. Transmitting a Single Copy of Computer Code from the United States Does Not "Supply" All Copies of the Code Later Created Overseas.

Only by adopting the view that a "component" under §271(f) can encompass the purely intangible aspect of computer code can it be asserted that an infinite number of physical manifestations were supplied from a single export of the code from the United States.[6] But because computer code

[6] Respondent incorrectly asserted that Petitioner's argument hinges on treating computer code in that manner. Br. in Opp. to Pet. at 15-16. To the contrary, it was the Federal Circuit's decision that disembodied the intangible information reflected in computer code from its physical manifestation and erroneously afforded such intangible information the

cannot be characterized as a "component" for purposes of §271(f) until it is physically manifested in a particular form, the Federal Circuit's decision cannot be sustained. The particular embodiment of the code that becomes part of an infringing product must itself be "supplie[d] . . . in or from the United States" to support liability under the statute. 35 U.S.C. §271(f)(1). The court of appeals erred in imposing liability on Microsoft because nothing that Microsoft supplied from the United States was ever combined into an infringing system. The master disks and encrypted transmissions and the code that they contained (the only things sent from the United States) were never actually incorporated into the allegedly infringing products. As Judge Rader accurately observed in his dissent, copying from a master is distinct from *supplying* the copies in the first instance:

> "[C]opying and supplying are separate acts with different consequences—particularly when the 'supplying' occurs in the United States and the copying occurs [abroad]. As a matter of logic, one cannot supply one hundred components of a patented invention without first making one hundred copies of the component, regardless of whether the components supplied are physical parts or intangible software. Thus copying and supplying are different acts, and one act of 'supplying' cannot give rise to liability for multiple acts of copying.
>
> * * *
>
> [Foreign] distributors copy the components supplied from the United States and then install those copies into the infringing products. The [foreign] manufacturers do not install the actual component 'supplied' from the U.S. (the master disc). Instead, they install a copy made in

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independent legal status of "component." Pet. App. at 4a. The court's error on the "suppl[ying]" issue thus lies hand-in-hand with its erroneous analysis of the "component" element of §271(f).

> [the foreign country]." Pet. App. at 13a, 15a (Rader, J., dissenting).

The illogic of the Federal Circuit's analysis is amplified by looking at any manufacturing process that involves duplication or the use of information as a template. By way of a simple example, suppose a clockmaker produces a single gear within the United States that is a component of a clock that infringes a United States patent. If the clockmaker completed an infringing clock by inserting that single gear, he would have "made" an infringing product under United States patent law, whether the clocks were sold in the United States or abroad. Moreover, if the clockmaker made 100 copies of the gear in the United States and exported the copies to be integrated into clocks assembled and sold in a foreign country, the clockmaker would be liable under §271(f) because those 100 copies were components supplied from the United States.

But a very different situation arises if the clockmaker produces a single infringing gear within the United States and sends that single gear abroad, whereupon copies of the gear are made abroad and then inserted into foreign-assembled clocks that are sold in a foreign country. In that situation, no liability can attach under §271(f) because the foreign-made gears are not components "supplie[d] . . . from the United States." 35 U.S.C. §271(f)(1). Rather, they are components manufactured abroad. This simple hypothetical example confirms that no component of a patented system is "supplied from" the United States when what is actually made a part of the system is a *copy* of an exported component.

Although no federal court would impose §271(f) liability for entirely foreign-made clocks, the Federal Circuit imposed liability on computer-code creators in legally indistinguishable circumstances. The relative ease and speed of making copies of computer code, as compared to making copies of clock gears, for example, are statutorily irrelevant.

But those legally irrelevant differences are precisely what led the Federal Circuit boldly to rewrite the statute, in effect, candidly confessing that its reading of §271(f) was aimed at addressing technological advances that "developed *after* the enactment of §271(f)." Pet. App. at 10a (emphasis added). The court's judicial amendment of §271(f) jettisons the statute's requirement that the component be supplied from the United States merely because the production of foreign-made components seemed too quick or easy to be considered a separate act of making.

3. The Federal Circuit's Inappropriate Extension of §271(f) Is Premised on a Mistaken View of the "Realities" of Software Distribution and a Misinterpretation of Congressional Intent.

In addition to effectively rewriting §271(f)'s text, the Federal Circuit overlooked statements from the Congressional Record and the President confirming that §271(f) was enacted solely to close the narrow loophole identified in *Deepsouth*.

In *Deepsouth*, the Court rejected an expansive reading of §271(a)'s proscription against "making" to extend to exporting constituent parts for foreign assembly. *Deepsouth*, 406 U.S., at 526. In so doing, the Court cautioned that "the sign of how far Congress has chosen to go can come only from Congress." *Id.*, at 530. Picking up on the Court's implicit invitation in *Deepsouth*, Congress stepped in to remedy an obvious loophole. According to the legislative history, §271(f) was enacted to "prevent copiers from avoiding U.S. patents by supplying components of a patented product in this country so that the assembly of the components may be completed abroad." Section-by-Section Analysis, 1984 U.S.C.C.A.N., at 5827. The stated objective in enacting §271(f) was to overrule *Deepsouth* and thus "to avoid encouraging *manufacturing* outside the United States." *Id.*, at 10,525 (emphasis added). In signing §271(f) into law,

President Reagan confirmed that the amendment "close[d] a loophole in existing law" that allowed evasion of liability for patent infringement "by arranging for *final assembly* of patented machines to occur offshore." President's Message to Congress, 20 Weekly Comp. Pres. Doc., at 1818.

This legislative history confirms that Congress meant to narrowly proscribe only the domestic exportation of physical components for foreign assembly into otherwise-infringing combinations. In this case, however, the Federal Circuit stretched §271(f) to cover not only combinations not assembled here but also components not even made in the United States. This misplaced effort to anticipate how Congress would have wanted patent law to apply to software and other new-economy technologies violated the Court's instruction to avoid the extraterritorial extension of United States patent law absent a clear statement from Congress. *Deepsouth*, 406 U.S., at 530.

B. The Federal Circuit's Interpretation of §271(f) Deviates From Previously Settled United States Patent Law.

In addition to relying on the text and history of §271(f), American producers with overseas operations have reasonably relied on years of precedent confirming the statute's limited extraterritorial scope. The recent series of cases from the Federal Circuit have upset those established expectations. See, *e.g.*, Pet. App. at 4a-10a (broadly construing "component" and "supplie[d] . . . from the United States"); *Union Carbide*, 425 F.3d, at 1366 (extending §271(f) to impose liability for the export of elements used in a patented method); *Eolas*, 399 F.3d, at 1325 (holding that exported software and methods are "components" under §271(f)). Those cases represent an unwarranted sea change in the law that this Court can and should correct.

Before the recent transformation in Federal Circuit decisions, existing precedent applied §271(f) narrowly, reinforcing the textual and historical interpretation that reasonably led software and other information-based companies to believe that United States patent law does not govern their conduct in foreign markets. For example, in *Standard Havens Products, Inc.* v. *Gencor Industries, Inc.*, 953 F.2d 1360, 1374 (CA Fed. 1991), the Federal Circuit held that §271(f) did not reach defendants selling devices to foreign customers who used them to perform patented *processes*. In *Johns Hopkins University* v. *Cellpro, Inc.*, 152 F.3d 1342, 1348, 1351-1352 (CA Fed. 1998), the Federal Circuit reviewed the district court's conclusion that the defendant's production of monoclonal antibody suspensions infringed the plaintiff's patents, even though the suspensions were produced outside the United States by cloning copies of the antibody from a master cell bank that had been sent abroad before the patent issued. The Federal Circuit reversed the district court's repatriation order, which also ordered destruction of the master cell bank and its clones, because the clones were to be sold overseas and posed no threat of future infringement in the United States. *Id.*, at 1366-1367. And just two years ago, the Federal Circuit held that §271(f) did not reach circuit chips manufactured in a foreign market, even though the chips were constructed using designs developed in, and instructions sent from, the United States. *Pellegrini*, 375 F.3d, at 1117.

Copying computer instructions (*i.e.*, code) is, at bottom, no different from using a recipe to make a drug, a mold to make a tire, a cell bank to clone helpful antibodies as in *Cellpro*, or instructions to produce a computer chip as in *Pellegrini*. Indeed, the computer code on the master disk represents nothing more than a *digital pattern* that is replicated onto the copy disk through a physical process that rearranges the physical substance of the copy disk in accordance with the digital instructions on the master disk. Before this case, there

was uniform agreement between the case law and legal commentary that exporting instructions, molds, cell banks, and the like would not trigger United States patent liability for foreign manufacturing. But, given the Federal Circuit's new approach, no principled reason prevents United States patent law from encompassing those and other similar activities performed wholly in foreign countries. The Federal Circuit's new rule, confirmed in recent cases interpreting §271(f), is thus a striking and unwarranted deviation from settled case law.

C. The Federal Circuit's Flawed Analysis Harms America's Important High-Technology Sectors and the National Economy in General.

The Federal Circuit's broad interpretation of §271(f) implicates the important federal interest in preventing major economic injury to the national economy. The decision is especially harmful to America's high-technology sector, which has flourished in the more than two decades since Congress passed the 1984 amendments to the patent statute. The Federal Circuit's broad extraterritorial interpretation of §271(f) now creates potentially worldwide liability not only for software companies but for several vital industries—such as the semiconductor industry—that rely on information created in the United States that is often transferred as computer code. By generating immediate, yet congressionally unintended, legal exposure for United States companies, the decision may dissuade information-based companies from maintaining their operations in the United States, as doing so will burden them with risks and a competitive disadvantage relative to foreign companies.

Prior to the Federal Circuit's recent shift toward an expansive construction, §271(f) had been understood during the decades since its enactment to cover only physical components exported from the United States for final

assembly abroad. The technology companies that have propelled the explosive growth of the American economy have made investments at home and abroad in reliance on the settled framework of United States patent law. Companies in the high-technology sector, in particular, hold settled and reasonable expectations that they may lawfully design and develop their products in the United States and then manufacture, in factories located abroad, products destined for foreign markets, subject to foreign patent regulation, but without incurring liability based on United States patents for such foreign manufacture and sales. That arrangement enabled companies to create hundreds of thousands of desirable knowledge-worker jobs in the United States.

With the Federal Circuit's unjustified expansion of United States patent law to govern foreign activities that Congress never intended to regulate, companies are exposed to potentially crippling present and future global liability for the manufacture and sale of products that was previously unthinkable. Now, the export of a single tangible component—the "golden master" disks—exposes the company to potentially endless liability under United States patents for foreign use of the intangible information embodied by that component. Under the pre-*Eolas* framework, a firm's liability would be capped by its domestic sales. But under the Federal Circuit's new framework for §271(f), America's high-technology companies (many of which depend on both domestic and foreign sales) now face unprecedented global exposure.

The Federal Circuit's expansive interpretation of §271(f) affects numerous important industries of the new economy, an economy in which the United States currently enjoys a comparative advantage over most countries. The new standards significantly impact United States-based developers of not only software, but also of semiconductor chip designs, cell lines, and other products that rely heavily on computer-

based designs, templates and prototypes, and other product "masters." Traditional goods usually involve the assembly of parts on a one-to-one basis. But high-technology producers of information invest massive amounts of time and money to develop single prototypes that, after the huge initial investment, are used only for manufacturing abroad.

The semiconductor industry in particular faces the risk of exposure if the Federal Circuit's erroneously broad construction of §271(f) is left standing. The domestic semiconductor industry creates leading-edge semiconductor designs, but usually relies on foreign manufacturers, known as foundries, to manufacture physical products cost effectively. The domestically created semiconductor designs are typically embodied in computer code sent abroad on computer tapes or through electronic transmissions. Although the difference between a semiconductor design embodied in computer code and the actual silicon computer chips manufactured from those designs is more easily appreciated than the transformation of the golden master in this case, one can readily envision aggressive patentees attempting to push §271(f) to cover that scenario if this Court does not rein in the expansion of this provision.

In addition to exposing American companies to unwarranted foreign liability based on United States patents, the Federal Circuit's new approach also creates disincentives for future investment in America's high-tech industries. Companies may move their design facilities abroad to avoid liability under United States patent law; others that would have invested in design operations in the United States may choose to go elsewhere. The elimination of knowledge-worker jobs, without receiving any benefit in return except to give patent holders a lottery ticket based on United States patents for damages from foreign-produced goods, would damage America's economy.

The Federal Circuit candidly admitted that its modified construction of §271(f) was intended to address advances in fields of technology that "developed *after* the enactment of §271(f)." Pet. App. at 10a (emphasis added). Struck by the speed and ease of production from new-economy templates, the court chose not to wait for Congress to consider and decide whether the existing scheme of patent regulation needed adjustment, and tried to anticipate how Congress might choose to extend extraterritorial patent liability. But as this Court aptly observed in *Deepsouth*, the "sign of how far Congress has chosen to go can come only from Congress." *Deepsouth*, 406 U.S., at 530. The lessons learned from *Deepsouth* and Congress's narrow response apply with particular force in the golden master and similar scenarios. It is for Congress to consider the national interests in preventing unwarranted economic harm and to define the duties of the new knowledge-industry firms that export designs and intangible information to foreign markets.

II. BROAD EXTRATERRITORIAL APPLICATION OF U.S. PATENT LAW UPSETS THE INTERNATIONAL PATENT REGIME AND DISRESPECTS FOREIGN LEGAL SYSTEMS.

The Federal Circuit's broad interpretation of §271(f) is also at odds with principles of comity and gratuitously encroaches on the patent systems of foreign nations. Strong incentives previously existed for American patent holders to "seek [protection] abroad through patents secured in countries where [their] goods are being used." *Deepsouth*, 406 U.S., at 531. But allowing the Federal Circuit's new, expansive construction of §271(f) to stand would weaken those incentives. Meanwhile, this broadened extraterritorial effect of United States patent law imposes duties on conduct occurring wholly within foreign countries, conduct that Congress respectfully left to the regulatory schemes of those sister nations.

When faced with similar policy choices and balancing of interests, Congress has generally limited the extraterritorial reach of United States patents. Absent "a clear and certain signal" to the contrary, Congress leaves the difficult choices about extraterritorial patent protection exclusively to foreign governments in whose territory the otherwise-infringing products are produced. *Ibid*. Similarly, giving proper regard for the right of other sovereigns to regulate commerce (including intellectual-property protections) within their markets, the Court has repeatedly emphasized the United States patent system's limited extraterritorial effects and has stated that "we correspondingly reject the claims of others to [extraterritorial] control over our markets." *Ibid.*[7] Implicit in that statement is the Court's recognition that extraterritorial patent protections create substantial risks of international conflict, making it particularly inappropriate for the Federal Circuit to expand the application of United States patent law in foreign markets beyond the bounds set by Congress. Cf. Pet. App. at 10a (interpreting the statute to account for technological advances "that developed after the enactment of §271(f)"). Subject to §271(f)'s narrow exception, *foreign* patents provide the exclusive patent liability for American companies competing "with an American patent holder in foreign markets." *Deepsouth*, 406 U.S., at 531.

The Federal Circuit's parochial disregard for the sovereign authority of other countries to regulate conduct within their own markets creates a serious risk of harm to American producers and consumers. Foreign nations—upset with the encroachment of American patent law on their legal regimes or simply looking for justifications to impose protectionist

[7] See also *Dowagiac Mfg. Co.* v. *Minn. Moline Plow Co.*, 235 U.S. 641, 650 (1915) (noting that U.S. patent laws do not apply extraterritorially); *Brown* v. *Duchesne*, 19 How. 183, 195 (1856) (recognizing that American patent laws generally are "not intended to[] operate beyond the limits of the United States").

measures—may attempt to impose liability on American companies producing goods within the United States that incorporate components or even intangible ideas covered by patents in their legal systems. That type of legal liability, and the possibility of retaliatory trade barriers, would increase costs for many producers and raise prices for consumers in the United States and abroad.

CONCLUSION

The Court should reverse the judgment of the Federal Circuit.

Respectfully submitted,

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