

WILLIAMS ELECTRONICS, INC. v. ARTIC INTERNATIONAL, INC.

United States Court of Appeals for the Third Circuit, 1982
685 F.2d 870

SLOVITER, Circuit Judge.

Defendant Artic International, Inc. appeals from the district court's entry of a final injunction order permanently restraining and enjoining it from infringing plaintiff's copyrights on audiovisual works and a computer program relating to the electronic video game DEFENDER. The district court severed plaintiff's demand for injunctive relief from its demand for monetary damages, and further severed plaintiff's claims of copyright infringement from its claims of trademark infringement and unfair competition. App. at 210a. These latter claims have not yet been adjudicated. However, because the injunction granted by the district court goes to the merits of the dispute and has "serious, perhaps irreparable, consequences", the order can be considered a "routine interlocutory injunctive order" and appealable under 28 U.S.C. § 1292(a) (1). See *Shirey v. Bensalem Township*, 663 F.2d 472, 476-77 & n.3 (3d Cir. 1981); *Tokarcik v. Forest Hills School District*, 665 F.2d 443, 446-47 (3d Cir. 1981).¹

Plaintiff-appellee Williams Electronics, Inc. manufactures and sells coin-operated electronic video games. A video game machine consists of a cabinet containing, *inter alia*, a cathode ray tube (CRT), a sound system, hand controls for the player, and electronic circuit boards. The electronic circuitry includes a microprocessor and memory devices, called ROMs (Read Only Memory), which are tiny computer "chips" containing thousands of data locations which store the instructions and data of a computer program. The microprocessor executes the computer program to cause the game to operate. Judge Newman of the Second Circuit described a similar type of memory device as follows: "The [ROM] stores the instructions and data from a computer program in such a way that when electric current passes through the circuitry, the interaction of the program stored in the [ROM] with the other components of the game produces the sights and sounds of the audiovisual display that the player sees then hears. The memory devices determine not only the appearance and movement of the [game] images

¹ The district court also made the requisite finding under Fed. R. Civ. P. 54(b) that there is no just reason for delay and expressly directed the entry of a final judgment as to the demand for injunctive relief as to copyright infringement. App. at 210a. Because we have jurisdiction under § 1292(a) (1), we need not decide whether the Rule 54(b) determination sufficed to provide jurisdiction under § 1291. See *Shirey v. Bensalem Township*, 663 F.2d at 476 n.3.

but also the variations in movement in response to the player's operation of the hand controls." *Stern Electronics, Inc. v. Kaufman*, 669 F.2d 852, 854 (2d Cir. 1982).

In approximately October 1979 Williams began to design a new video game, ultimately called DEFENDER, which incorporated various original and unique audiovisual features. The DEFENDER game was introduced to the industry at a trade show in 1980 and has since achieved great success in the marketplace. One of the attractions of video games contributing to their phenomenal popularity is apparently their use of unrealistic fantasy creatures, a fad also observed in the popularity of certain current films. In the DEFENDER game, there are symbols of a spaceship and aliens who do battle with symbols of human figures. The player operates the flight of and weapons on the spaceship, and has the mission of preventing invading aliens from kidnapping the humans from a ground plane.

Williams obtained three copyright registrations relating to its DEFENDER game: one covering the computer program, Registration No. TX 654-755, effective date December 11, 1980; the second covering the audio-visual effects displayed during the game's "attract mode",² Registration No. PA 97-373, effective date March 3, 1981; and the third covering the audiovisual effects displayed during the game's "play mode",³ Registration No. PA 94-718, effective date March 11, 1981. Readily visible copyright notices for the DEFENDER game were placed on the game cabinet, appeared on the CRT screen during the attract mode and at the beginning of the play mode, and were placed on labels which were attached to the outer case of each memory device (ROM). In addition, the Williams program provided that the words "Copyright 1980--Williams Electronics" in code were to be stored in the memory devices, but were not to be displayed on the CRT at any time.

Defendant-appellant Artic International, Inc. is a seller of electronic components for video games in competition with Williams. The district court made the following relevant findings which are not disputed on this appeal. Artic has sold circuit boards, manufactured by others, which contain electronic circuits including a microprocessor and memory devices (ROMs). These memory devices incorporate a computer program which is virtually identical to Williams' program for its DEFENDER game. The result is a circuit board "kit" which is sold by Artic to others and which, when connected to a cathode ray tube, produces audiovisual effects and a game almost identical to the Williams DEFENDER game including

² The "attract mode" refers to the audiovisual effects displayed before a coin is inserted into the game. It repeatedly shows the name of the game, the game symbols in typical motion and interaction patterns, and the initials of previous players who have achieved high scores.

³ The "play mode" refers to the audiovisual effects displayed during the actual play of the game, when the game symbols move and interact on the screen, and the player controls the movement of one of the symbols (*e.g.*, a spaceship).

both the attract mode and the play mode. The play mode and actual play of Artic's game, entitled "DEFENSE COMMAND", is virtually identical to that of the Williams game, *i.e.*, the characters displayed on the cathode ray tube including the player's spaceship are identical in shape, size, color, manner of movement and interaction with other symbols. Also, the attract mode of the Artic game is substantially identical to that of Williams' game, with minor exceptions such as the absence of the Williams name and the substitution of the terms "DEFENSE" and/or "DEFENSE COMMAND" for the term "DEFENDER" in its display. App. at 204a-206a. Based on the evidence before it, the district court found that the defendant Artic had infringed the plaintiff's computer program copyright for the DEFENDER game by selling kits which contain a computer program which is a copy of plaintiff's computer program, and that the defendant had infringed both of the plaintiff's audiovisual copyrights for the DEFENDER game by selling copies of those audiovisual works. App. at 207a-209a.

In the appeal before us, defendant does not dispute the findings with respect to copying but instead challenges the conclusions of the district court with respect to copyright infringement and the validity and scope of plaintiff's copyrights. The recent market interest in electronic audiovisual games has created an active market for original work, and as frequently happens, has also spawned copies, many of which have been the subject of a flurry of recent opinions. *See, e.g., Atari, Inc. v. North American Philips Consumer Electronics Corp.*, 672 F.2d 607 (7th Cir. 1982); *Stern Electronics, Inc. v. Kaufman*, 669 F.2d 852 (2d Cir. 1982); *Midway Manufacturing Co. v. Omni Video Games, Inc.*, 668 F.2d 70 (1st Cir. 1981); *Midway Manufacturing Co. v. Artic International, Inc.*, No. 80 C 5863 (N.D. Ill. March 10, 1982); *Atari, Inc. v. Amusement World, Inc.*, No. Y-81-803 (D. Md. Nov. 27, 1981); *Midway Manufacturing Co. v. Dirkschneider*, 543 F. Supp. 466 (D. Neb. 1981); *in Re Certain Coin-Operated Audiovisual Games and Components Thereof (viz, Pac-Man and Rally-X)*, No. 337-TA-105 (International Trade Commission July 1, 1982); *In Re Coin-Operated Audio-Visual Games and Components Thereof*, No. 337-TA-87 (International Trade Commission June 25, 1981).

In the case before us, the parties agreed at the district court level that the only issues to be decided on the injunction were legal ones. App. at 199a. Essentially, defendant Artic attacks the validity and the scope of the copyrights which it has been found by the district court to have infringed. Plaintiff possesses certificates of registration issued by the Copyright Office. Under the Copyright Act, these certificates constitute *prima facie* evidence of the validity of plaintiff's copyright. 17 U.S.C. § 410(c). Defendant, therefore, has the burden of overcoming this presumption of validity. *See Flick-Reedy Corp. v. Hydro-Line Manufacturing Co.*, 351 F.2d 546, 549 (7th Cir. 1965), *cert. denied*, 383 U.S. 958, 86 S. Ct. 1222, 16 L. Ed. 2d 301 (1966).

With respect to the plaintiff's two audiovisual copyrights, defendant contends that there can be no copyright protection for the DEFENDER game's

attract mode and play mode because these works fail to meet the statutory requirement of "fixation." Section 102 of the 1976 Copyright Act, 17 U.S.C. § 102, provides in part:

(a) Copyright protection subsists . . . in original works of authorship *fixed in any tangible medium of expression*, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:

(1) literary works;

. . . .

(6) motion pictures and other audiovisual works;

. . . .

(emphasis added). The fixation requirement is defined in section 101 in relevant part as follows:

A work is "fixed" in a tangible medium of expression when its embodiment in a copy or phonorecord, by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration.

Defendant claims that the images in the plaintiff's audiovisual game are transient, and cannot be "fixed," because the video game generates or creates "new" images each time the attract mode or play mode is displayed, notwithstanding the fact that the new images are identical or substantially identical to the earlier ones.

We reject this contention. The fixation requirement is met whenever the work is "sufficiently permanent or stable to permit it to be . . . reproduced, or otherwise communicated" for more than a transitory period. Here the original audiovisual features of the Defender game repeat themselves over and over. The identical contention was previously made by this defendant and rejected by the court in *Midway Manufacturing Co. v. Artic International, Inc.*, *supra*, slip op. at 16-18. Moreover, the rejection of a similar contention by the Second Circuit is also applicable here. The court stated:

The [video game's] display satisfies the statutory definition of an original "audiovisual work," and the *memory devices of the game satisfy the statutory requirement of a "copy" in which the work is "fixed."* The Act defines "copies" as "material objects . . . in which a

work is fixed by any method now known or later developed, and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device" and specifies that a work is "fixed" when "its embodiment in a copy . . . is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration." 17 U.S.C. App. § 101 (1976). *The audiovisual work is permanently embodied in a material object, the memory devices, from which it can be perceived with the aid of the other components of the game.*

Stern Electronics, Inc. v. Kaufman, 669 F.2d at 855-56 (footnote omitted; emphasis added). See also *Midway Manufacturing Co. v. Dirkschneider*, *supra*, slip op. at 13-14; *Atari, Inc. v. Amusement World, Inc.*, *supra*.

Defendant also apparently contends that the player's participation withdraws the game's audiovisual work from copyright eligibility because there is no set or fixed performance and the player becomes a co-author of what appears on the screen. Although there is player interaction with the machine during the play mode which causes the audiovisual presentation to change in some respects from one game to the next in response to the player's varying participation, there is always a repetitive sequence of a substantial portion of the sights and sounds of the game, and many aspects of the display remain constant from game to game regardless of how the player operates the controls. See *Stern Electronics, Inc. v. Kaufman*, 669 F.2d at 855-56. Furthermore, there is no player participation in the attract mode which is displayed repetitively without change.

Defendant argues that there can be no copyright protection for the ROMs because they are utilitarian objects or machine parts. Defendant's argument in this regard is misdirected. The issue in this case is not whether plaintiff, if it sought, could protect the ROM itself under the copyright laws. Rather, before us is only the plaintiff's effort to protect its artistic expression in original works which have met the statutory fixation requirement through their embodiment in the ROM devices. Defendant Artic's challenge to the validity of a copyright based upon this "utilitarian object" argument was recently raised by Artic and rejected by the district court in *Midway Manufacturing Co. v. Artic International, Inc.*, *supra*, slip op. at 19-20. In granting a preliminary injunction against Artic's infringement of audiovisual copyrights on similar electronic video games, Judge Decker stated:

Artic initially claims that Midway's attempt to copyright the audiovisual aspects of its games was, in reality, an attempt to copyright the ROMs in the games. Because the ROMs are utilitarian objects, they may not be copyrighted. . . . While the court agrees that utilitarian objects may not be copyrighted, it appears that Artic has misconstrued the copyrights at issue in this case. As noted above, Midway has sought and obtained protection for the audiovisual

aspects of its games that appear on the screen. Midway no more restricts the use of ROMs than an author with a valid copyright restricts the use of books.

Id. at 19 (citation omitted).

Defendant also claims that plaintiff failed to comply with the statutory deposit requirement that copies of the works as published be filed with the Copyright Office, 17 U.S.C. § 408, because plaintiff apparently deposited videotapes of the DEFENDER game's attract and play modes instead of depositing the ROM circuit board or the video game machine itself. However, section 408(c) (1) of the statute provides that the Register of Copyrights is authorized "to specify by regulation . . . the nature of the copies or phonorecords to be deposited" and also "may require or permit, for particular classes, the deposit of identifying material instead of copies." The plaintiff Williams has substantially complied with these regulations. *See* 37 C.F.R. § 202.20(c) (2) (1981). The deposit of videotapes as a satisfactory method of complying with the statutory deposit requirement has been universally accepted in cases considering copyrights for the audiovisual works displayed in these video games. *See, e.g., Midway Manufacturing Co. v. Artic International, Inc., supra*, slip op. at 6-8, 13-15; *Atari, Inc. v. Amusement World, Inc., supra*. *See also Stern Electronics, Inc. v. Kaufman*, 669 F.2d at 854; *Midway Manufacturing Co. v. Drikschneider, supra*, slip op. at 15.

In the cases previously decided dealing with video games, the courts considered only the copyrights secured in audiovisual works; counsel have represented that this is the first case dealing with copyrighted computer programs in the video game context. Defendant has conceded both in the district court and before us that a computer program can be the subject of a copyright as a literary text. *See 1 Nimmer on Copyright* § 2.04[C] (1981), *cited with approval in Stern Electronics, Inc. v. Kaufman*, 669 F.2d at 855 n.3. The parties have differed over whether such copyright protection was first extended by the 1980 amendments to the 1976 Copyright Act, Act of Dec. 12, 1980, Pub. L. No. 96-517, § 10, 94 Stat. 3028, which explicitly refers to computer programs in revised sections 101 and 117, or whether the programs had already been covered under the 1976 Copyright Act as suggested by the legislative history⁴ and the 1978 report of the congressionally

⁴ The House Report on the 1976 Act contains the following statement:

The term "literary works" does not connote any criterion of literary merit or qualitative value: it includes catalogs, directories, and similar factual, reference, or instructional works and compilations of data. *It also includes computer data bases and computer programs to the extent that they incorporate authorship in the programmer's expression of original ideas, as distinguished from the ideas themselves.*

created National Commission on New Technological Uses of Copyrighted Works (CONTU).⁵ Since the copyright-ability of computer programs is firmly established after the 1980 amendment to the Copyright Act, and the infringement in this case took place after the effective date of that Act, we need not consider the scope of prior Acts for purposes of affirming the injunction order.

Defendant contends that the computer program would be infringed only if an unauthorized copy of the program text was made. Since Artic does not make the boards but buys them from others, it argues Artic cannot be an infringer. Brief for Appellant at 19. We believe defendant is not free to make that argument at this phase of the litigation. The district court made a finding that "The kits sold by defendant Artic International, Inc. contain a computer program *which is a copy of plaintiff's computer program* for its video game DEFENDER and which is the subject of copyright registration TX 654-755." App. at 209a (emphasis added). Indeed the extent of the copying could reasonably lead to no other conclusion.⁶ The parties stipulated and agreed "that there was no dispute of fact concerning the plaintiff's copyright claim and that the matters in dispute were solely issues of law." App. at 199a. Whether and by whom an unauthorized copy of the computer program text was made or whether the copying was effected by copying the ROM are issues of fact which, by agreement, are not before us now. Since defendant has

H.R. Rep. No. 94-1476, 94th Cong., 2d Sess. 54 (1976) (emphasis added). *See also* S. Rep. No. 94-473, 94th Cong., 1st Sess. 50-51 (1975).

⁵ The CONTU Report states that "it was clearly the intent of Congress to include computer programs within the scope of copyrightable subject matter in the Act of 1976." National Commission on New Technological Uses of Copyrighted Works, *Final Report* 16 (1978). *See also* Boorstyn, *Copyright Law* § 2.21 (1981).

⁶ There is overwhelming evidence in the present case that the Williams computer program has been copied in some form. The following facts, among others, manifest the similarities between the Williams program and that stored in the Artic memory devices:

- (1) The game created by the Artic circuit boards contains an error which was present in early versions of the Williams computer program--it displays the wrong score value for destroying a particular alien symbol;
- (2) The attract mode of both games displays a listing of high scores achieved by previous players alongside their initials, and Artic's game contains the initials of Williams employees, including its president, who initially achieved the highest scores on the DEFENDER game;
- (3) Using a laboratory developmental device, Williams' employees printed out a listing in code of the contents of the memory devices of both games. In excess of 85% of the listings are identical;
- (4) The Williams program provided that the words "Copyright 1980--Williams Electronics" in code were to be stored in its memory devices, but were not to be displayed on the CRT at any time, thus providing a "buried" or hidden copyright notice. When the contents of Artic's memory devices were printed out by Williams' employees, the listings contained the "buried" Williams copyright notice in code.

stated at oral argument that there is no dispute that the printed circuit board which it sold contained programs which have been copied from the plaintiff, we must sustain the district court's order unless it can be challenged on some basis other than who is responsible for the copying or how the copying was effected.

Defendant argues that the basic question presented is whether the ROMs, which it views as part of a machine, can be considered a "copy" of a copyrighted work within the meaning of the Copyright Act. Defendant argues that a copyright for a computer program is not infringed when the program is loaded into electronic memory devices (ROMs) and used to control the activity of machines. That use, it claims, is a utilitarian one not within the scope of the Copyright Act. We have already rejected defendant's similar argument in the context of the copyrights for the audiovisual works. Defendant makes the further point that when the issue is the copyright on a computer program, a distinction must be drawn between the "source code" version of a computer program, which it would hold can be afforded copyright protection, and the "object code" stage, which it contends cannot be so protected.⁷ Its theory is that a "copy" must be intelligible to human beings and must be intended as a medium of communication to human beings.

The answer to defendant's contention is in the words of the statute itself. A "copy" is defined to include a material object in which a work is fixed "by *any* method now known or later developed, and *from which the work can be perceived,*

⁷ According to the *Final Report of the National Commission on New Technological Uses of Copyrighted Works*.

A source code is a computer program written in any of several programming languages employed by computer programmers. An object code is the version of a program in which the source code language is converted or translated into the machine language of the computer with which it is to be used.

Id. at 21 n.109 (majority report). A somewhat different explanation of these terms is provided in Commissioner Hersey's dissent to the CONTU Report:

All computer programs go through various stages of development. . . .

. . . .

The stages of development of a program usually are: a definition, in eye-legible form, of the program's task or function; a description; a listing of the program's steps and/or their expression in flow charts; the translation of these steps into a "source code," often written in a high-level programming language, such as FORTRAN or COBOL; the transformation of this source code within the computer, through intervention of a so-called compiler or assembler program, into an "object code." This last is most often physically embodied, in the present state of technology, in punched cards, magnetic disks, magnetic tape, or silicon chips--its mechanical phase.

Id. at 28.

reproduced, or otherwise communicated, either directly or *with the aid of a machine or device.*" 17 U.S.C. § 101 (emphasis added). By this broad language, Congress opted for an expansive interpretation of the terms "fixation" and "copy" which encompass technological advances such as those represented by the electronic devices in this case.⁸ We reject any contention that this broad language should nonetheless be interpreted in a manner which would severely limit the copyrightability of computer programs which Congress clearly intended to protect. We cannot accept defendant's suggestion that would afford an unlimited loophole by which infringement of a computer program is limited to copying of the computer program text but not to duplication of a computer program fixed on a silicon chip. This was also the conclusion reached in *Tandy Corp. v. Personal Micro Computers, Inc.*, 524 F. Supp. 171, 175 (N.D. Cal. 1981) (Peckham, C.J.), albeit in the context of computers rather than video games.

The only authority upon which defendant relies for its claim that plaintiff is entitled to no copyright protection is the district court's opinion in *Data Cash Systems, Inc. v. JS&A Group, Inc.*, 480 F. Supp. 1063 (N.D. Ill. 1979), *aff'd on other grounds*, 628 F.2d 1038 (7th Cir. 1980). Significantly, the statements of the district court in that case that the copying of ROMs was not actionable under the copyright laws was not the basis of the affirmance by the Court of Appeals which expressly stated that it did not reach the merits of this issue. 628 F.2d at 1041. It has been suggested that the Court of Appeals implicitly reversed the district court on that issue. *See 2 Nimmer on Copyright* § 8.08 at 8-106.3 n.18 (1981); *Tandy Corp. v. Personal Micro Computers, Inc.*, 524 F. Supp. at 175. The district court's analysis in *Data Cash* has been expressly rejected in both the video game audiovisual copyright context, *Midway Manufacturing Co. v. Artic International, Inc.*, *supra*, slip op. at 27-29, and the computer program copyright context, *Tandy Corp. v. Personal Micro Computers, Inc.*, 524 F. Supp. at 175. Accordingly, we find that defendant has failed to provide any persuasive reason which would overcome the statutory presumption of validity of the copyright registration and we will affirm the district court's grant of an injunction.

⁸ The legislative history of the 1976 Copyright Act supports this interpretation. It emphasizes the expanded scope of the fixation requirement:

This broad language is intended to avoid the artificial and largely unjustifiable distinctions, derived from cases such as *White-Smith Publishing Co. v. Apollo Co.*, 209 U.S. 1, 28 S. Ct. 319, 52 L. Ed. 655 (1908), under which statutory copyrightability in certain cases has been made to depend upon the form or medium in which the work is fixed. Under the bill it makes no difference what the form, manner, or medium of fixation may be--whether it is in words, numbers, notes, sounds, pictures, or any other graphic or symbolic indicia, whether embodied in a physical object in written, printed, photographic, sculptural, punched, magnetic, or any other stable form, and whether it is capable of perception directly or by means of any machine or device "now known or later developed."

H.R. Rep. No. 94-1476, at 52; S. Rep. No. 94-473, at 51.

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