Is ROMed code copyrightable after all?

Editor:

The timing, as well as the content, of the article “Can We Stop Software Theft?” (February, pages 12-25) was unfortunate. The authors’ basic contention seemed to be that a programmed ROM was not “a copy” under the Copyright Act of 1976, as amended (17 U.S.C. §101), because it could not be “perceived, reproduced or otherwise communicated.” Had the statute been more completely quoted, it would have cast the matter in a much different light. Section 101 of the act contains definitions and provides in pertinent part:

“Copies” are material objects, other than phonorecords, in which the 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 [my italics]. The term “copies” includes the material object, other than a phonorecord, in which the work is first fixed.

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 a transitory duration.

The section of the act defining the subject matter of copyright (17 U.S.C. §102(a)) contains language very much like the first paragraph quoted above:

Copyright protection subsists, in accordance with this title, 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 [my italics].

Applying the statute, we can hardly dispute that a programmed ROM is a tangible medium of expression from which a work can be perceived with the aid of a machine or device. Since May, 1981, a number of courts have considered this question and come to this conclusion. For example, the petitioner in the ITC proceeding, Midway Mfg. Co., obtained injunctions against defendants in federal courts in Illinois (Midway Manufacturing Company, Inc. v. Arctic Interna-

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These video-game cases, however, raise a more novel question than the copyrightability of a programmed ROM. In these cases the video-game manufacturers based their copyrights on the audiovisual display of games which were recorded on tapes, and in the case of the “play” mode the copyright owners would assert coverage of audiovisual displays generated in various different ways or with different ROM chips. The authors did not clearly separate this issue from the much simpler issue of copyrightability of programmed ROMs.

In Note 13 the authors admit that the “attract” mode sequence, when stored in a ROM, is copyrightable. They distinguish this from the “play” mode by saying that the attract mode is perceptible in a single form on the screen. The fact that the play mode is perceptible in many different forms on the screen does not make it less perceptible than the attract mode. But more important, the amended Copyright Act makes no distinction concerning the type of machine assistance needed to perceive the contents of a ROM. If there is an issue in these cases, it is not the copyrightability of programmed ROMs, but the scope of the copyright in covering other than exact duplicates of the ROM.

A case on the point of copying a programmed ROM is Tandy Corp. v. Personal Micro Computers, Inc. (N.D. Cal., August 31, 1981), in which the plaintiff charged the defendant with duplicating one of its ROM chips. The California court, like the Illinois court in the Midway case cited above, gave little weight to the Data Cash case cited by the authors, and rejected the “lack of fixation” argument.

Besides the unfortunate timing of the article, the use of legal briefs is usually less effective than a straightforward commentary discussing both sides of an issue. Legal briefs tend to be persuasive first, and informative second, and sometimes omit details which the reader needs to make an informed judgment. The editors’ comments on the technical assumptions in the brief were quite incisive. This response on the legal content is not intended to make IEEE Micro a forum for legal debate, but to encourage any of those interested in copyrighting object-code embodiments of their programs to seek further information. Copyright protection is relatively inexpensive and is appropriate for protecting the creative work embodied in programmed ROMs.

A last note—while registration is not necessary for copyright validity or for institution of an ITC proceeding relating to import commerce, as stated on page 15 of the article, registration, or an attempt at registration, is a prerequisite under 17 U.S.C. §411 to bringing an infringement suit in the federal courts, which have exclusive jurisdiction over such suits.

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And is ROMed code really different from source code?

Editor:

I found the legal brief published in the February issue of IEEE Micro to be very interesting and informative. The comments were useful in that they addressed some questions I have considered. However, there remain several points which I would like to raise. First (and most critical to the issue) is that despite the editors’ comments, nowhere do the attorneys tackle the data vs. integrated circuit issue. The contents of a book are copyrighted, not the physical book—it is illegal to photocopy, microfilm, or even transcribe them by hand. Why then is a ROM considered for copyrightability, rather than the data it contains? If there is a legitimate reason for this, I would appreciate knowing it.

I now refer to the statements that source code is copyrightable because it is “a specialized dialect of English . . . ” (p. 14). Source code, even for a high-level language, need not be a dialect of English (e.g., APL). It is also stated that a “conversion of a program from one higher-level language to another . . . ” (p. 17) is considered a “copy” and hence is subject to copyright law. While legally this may be the case, I must wonder why, for it implies that this conversion is a fairly straightforward change in syntax.

As a blanket statement this is far from true—consider the extreme case of converting from Basic to APL, where the “ideas” or “methods of operation” must be extracted from the code, then recoded in the new language. Although this is an extreme example, this process is necessary to some extent in almost all language conversions (although perhaps only for a few sections of code). Note, however, that the citation given in Note 22 of the article would seem to preclude from copyright “nonstraightforward” conversions.

I would like to express my support for the new MicroLaw column. I hope my comments have been of value to other readers.

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The first MicroLaw appears on page 85 of this issue; it discusses further developments in the case examined in the February article.

—Ed.