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TAX CONSEQUENCES OF PURCHASES OF
COMPUTER HARDWARE AND SOFTWARE

by

ROBERT W. MALONE*

I. INTRODUCTION

The advent of the computer age has resulted in a significant increase in the investment by businesses in computer hardware and software. The term “hardware” refers to the physical equipment which accepts (input), processes, and prints (output) information received by it. The term “software” refers to the instructions (language) used to direct a computer to perform desired tasks and the documentation (discs, tapes, etc.) on which such instructions are recorded. Examples of types of software include Basic, Fortran, Cobol, and RPG. This article addresses the tax aspects and planning opportunities associated with the purchases of computer hardware and software.

II. FEDERAL INCOME TAX CONSEQUENCES OF PURCHASES OF HARDWARE

The federal income tax consequences of the purchase of computer hardware are well established. Hardware constitutes 5-year recovery property qualifying for the Accelerated Cost Recovery System (hereinafter ACRS) so that the cost thereof may be written-off over five years according to the percentages set forth below.2

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage Deduction</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>15%</td>
</tr>
<tr>
<td>2</td>
<td>22%</td>
</tr>
<tr>
<td>3</td>
<td>21%</td>
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<td>4</td>
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</tr>
<tr>
<td>5</td>
<td>21%</td>
</tr>
</tbody>
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Hardware may also qualify for an investment tax credit equal to 10% of the cost thereof.3 If, however, the hardware is purchased by a taxpayer other than a corporation and is then leased to another person, there is a limitation on the availability of the credit.4 Section 46 (e)(3) of the Code provides that

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the credit is not available to a non-corporate lessor unless (1) the leased property was manufactured or produced by the lessor; or (2) the term of the lease is less than 50% of the Asset Depreciation Range (ADR) class life of the leased property; and (3) in the first twelve months of the lease the lessor pays amounts for maintenance and insurance equal to at least 15% of the gross rentals for such period.

Two recent cases have held that where the circumstances indicated that, because of the relationship of the lessor and lessee, the initial lease term was likely to be renewed, the 50% test described above was not met and the non-corporate lessor was precluded from claiming the investment tax credit. These decisions indicate that in most cases an individual who is a controlling shareholder of a corporation may not lease computer hardware to his corporation and individually claim the investment tax credit generated from the purchase of such hardware. However, the credit is not lost because the shareholder may pass through the credit to the corporation pursuant to Section 48(d)(1) of the Code. This election may be made with respect to any property other than used property, which qualifies for the investment tax credit.

Treasury Regulation 1.48-4 describes the mechanics of making the pass-through election. Basically, the lessor may make the election either on a property-by-property basis or on a general basis with respect to all of the property leased to a particular lessee. In either event, the election must be filed by the lessor with the lessee on or before the due date of the lessee’s income tax return for the taxable year during which possession of the property was transferred to the lessee. In addition to the election, the lessor must attach to his income tax return a summary statement of all property leased during the taxable year with respect to which an election is made. If the investment tax credit is claimed, the adjusted basis of the property purchased must be reduced by 50% of the credit. This basis reduction may be avoided, however, if the taxpayer elects to claim a credit of 8%, rather than 10%.

III. FEDERAL INCOME TAX CONSEQUENCES OF PURCHASES OF SOFTWARE

Computer software is a relatively new type of property interest and the law concerning its taxation is still developing. Thus, this is a very uncertain area and there are many questions which are as yet unanswered.

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1See Van D. Peterson, Jr., T.C.M. (CCH) 1982-441 (1982); Ragner V. Hokanson, T.C.M. (CCH) 1982-414 (1982).
3Treas. Reg. § 1.48-4(f), (g) (1972).
A. Capitalization or Current Deduction — Qualification for Investment Tax Credit

The first issue to be addressed is whether the cost of software should be deducted currently or amortized over a period of time. As a general rule, expenditures to create or purchase assets with a useful life in excess of one year must be capitalized and amortized or depreciated.¹¹ There is an exception to this general rule, however, for research and experimental expenditures as defined in Section 174.¹² Qualifying research expenditures may be either deducted currently or amortized over sixty months at the election of the taxpayer.

There are two basic types of computer software with an infinite variety of hybrids. Most people are familiar with the so-called “canned” or standardized software packages, such as Visicalc, which are sold by retail vendors to many customers. In addition, a computer owner may develop his own custom software to perform unique functions. Standardized packages may also be adapted in varying degrees for specialized applications. As will be discussed in more detail below, historically, the general rule has been that the costs of purchasing a standardized software package must be amortized, whereas, the cost of developing unique software is currently deductible.

The Internal Revenue Service (hereinafter referred to as IRS) has taken the position in Revenue Procedure 69-21, that the cost of developing software is analogous to research expenditures and that taxpayers may, therefore, elect to expense or amortize such expenditures.¹³ The cost of purchasing software is not currently deductible, however, but must be capitalized and amortized on a straight-line basis over five years, or the useful life of the software, if less than five years.¹⁴

If the cost of purchased software is included as a part of the cost of related hardware, then it may be depreciated in the same manner as the hardware.¹⁵ If, on the other hand, the price of the software is separately stated, it must be amortized ratably over the useful life of the software, but not in excess of five years.¹⁶ Clearly, in the case of purchased software with a useful life in excess of five years, it is preferable to include the cost thereof in the purchase price of related hardware because:

(1) The cost may then be depreciated on an accelerated basis (150% declining balance) in accordance with the ACRS; and
(2) the cost of the software will qualify for the 10% investment tax credit.¹⁷

¹⁴Id at § 4.
The fact that a taxpayer has paid a third party for software does not necessarily mean that it was "purchased" for purposes of Revenue Procedure 69-21. If the payments to a third party were made under circumstances which indicate that the taxpayer bore the risk of operational failure, and that such risk was significant, then the IRS has held that such payments will be treated as development costs deductible under §3 of Revenue Procedure 69-21. A taxpayer will bear the risk of operational failure where it is obligated to pay for a third party's efforts in developing software even if such efforts fail.

In summary, the cost of purchasing software must, as a general rule, be capitalized and amortized as described above. A taxpayer may deduct software costs only if he (1) develops the software himself or (2) contracts with a third party to develop the software package and the taxpayer bears the risk that the software may not perform properly.

One final caveat should be noted. The taxpayer's election to expense or capitalize software development costs is treated as a method of accounting so that once the taxpayer has made such an election, it may not be changed without the consent of the Secretary of the Treasury.²⁹

B. Qualification for Research Credit

Section 44F, enacted by the Economic Recovery Tax Act of 1981,²⁰ provides that a taxpayer may claim a 25% credit with respect to the excess of its research expenditures in a taxable year over the average of such expenses for the preceding three taxable years or, if less than three, those tax years ending after June 30, 1981, and prior to the current year. In no event, however, will the taxpayer be treated as though he has expended during the base period defined above, an amount equal to less than 50% of the qualified research expenses paid or incurred in the current year.²¹

The credit is only available with respect to expenses paid or incurred after June 30, 1981, and before January 1, 1986.²² In the case of a tax year which is less than twelve months, the taxpayer is required to prorate the base period and current expenses accordingly.²³ Research expenses paid to a third party are taken into consideration in computing the credit only to the extent of 65% thereof.²⁴

²²Id. § 44F(C)(3) (West Supp. 1983).
Section 44F(d) cross-references Section 174 for purposes of defining which expenses qualify for the research credit. It would appear, therefore, that if the cost of software qualifies as a development expense as described above, such cost would be taken into consideration as a research expenditure in computing the taxpayer’s research credit.

There is one additional requirement for qualification under Sections 44F and 174 which should be mentioned. The research credit only applies to expenses paid or incurred by a taxpayer in “carrying on” the taxpayer’s “trade or business.” Similarly, Section 174 requires that qualifying expenditures thereunder be paid or incurred “in connection with” the taxpayer’s “trade or business.” For businessmen, this requirement should be easily satisfied.

C. Proposed Regulations

On January 21, 1983, the IRS issued new proposed regulations interpreting Sections 44F and 174 which, if adopted, could substantially change the applicable tests for qualification thereunder. Although the amendments to Section 1.174-2 are proposed to be effective for taxable years beginning after 1953, the IRS will not require changes in the treatment of expenses described therein on returns filed before the publication of a Treasury Decision on this subject.

The proposed regulations establish the general rule that software costs will not qualify for the research credit under Section 44F or current deduction under Section 174. This approach is fundamentally different from that taken in Revenue Procedure 69-21, discussed above, which states that all costs attributable to the development of software are currently deductible under Section 174. The proposed regulations set out a relatively narrow definition of the type of software costs that will qualify under Section 44F and 174 as follows:

... [T]he term “research or experimental expenditures”, as used in section 174, includes the programming costs paid or incurred for new or significantly improved computer software. The term does not include costs paid or incurred for the development of software, the operational feasibility of which is not seriously in doubt. The costs of modifying previously developed computer software programs, such as the costs of adapting an existing program to specific customer needs, or the costs of translating an existing program for use with other equipment, do not constitute research on experimental expenditures. Whether software is “new or significantly improved” will be determined with regard to the computer

program itself rather than the end use of the program. For example, the costs of developing a program to perform economic analysis which involves only standard or well known programming techniques are not research or experimental expenditures even if the economic principles embodied in the program are novel. However, if the programming itself involves a significant risk that it cannot be written, the costs of developing the program are research or experimental expenditures regardless of whether the economic principles of formulas embodied in the program are novel.  

The quoted provision indicates that software development costs will only qualify for the research credit and current deduction if the "operational feasibility" thereof is seriously in doubt. Thus, if a taxpayer is fairly certain that the software which will be developed will accomplish what is intended, then, under the proposed regulations, no research credit may be claimed and the costs thereof will have to be capitalized and amortized.

Although the limitations of the proposed regulations are fairly clear, it is not clear that they will be adopted, or that they are valid interpretations of the law. Indeed, the controversy created by the proposed regulations has apparently caused the IRS to back down to the extent that the proposed regulations would restrict the deductibility of software development costs. The same day hearings on the proposed regulations commenced, the IRS announced that the regulations to be adopted under Section 174 would not alter the rules concerning deductibility or capitalization of software costs established by Revenue Procedure 69-21. This announcement does not, however, affect the restrictions contained in the proposed regulations upon the qualification of software costs for the research credit. It appears as though the final regulations will be very restrictive in this regard.

D. Application of the Alternative Minimum Tax to Computer Software

For software costs that can be characterized as research expenditures, the new alternative minimum tax enacted by the Tax Equity Fiscal Responsibility Act of 1982 will become a factor to be considered. This new tax is applicable to noncorporate taxpayers if the amount thereof is greater than the taxpayer's regular tax liability. The tax is imposed at the 20% rate on the excess of alternative minimum taxable income over a defined exempt amount ($30,000 for single taxpayers, $40,000 for married taxpayers filing joint returns, and $20,000

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for married taxpayers filing separate returns, estates, and trusts).\(^3\) Alternative minimum taxable income equals adjusted gross income as decreased by certain items, and increased by certain tax preferences including, specifically, the amount of the deduction for research expenditures under Section 174 in excess of the amount which would have been deductible if such expenditures had been capitalized and amortized over ten years.\(^7\) The taxpayer can avoid the characterization of research expenditures as a tax preference item if he elects to capitalize and amortize such expenditures over a ten year period.\(^3\)

In the case of computer hardware which is leased by the taxpayer to a third party, another item of tax preference subject to the alternative minimum tax is the excess of ACRS deductions attributable to such leased property for each year, computed at the accelerated depreciation rate described above, over the deductions which would be applicable if the property had been depreciated over an eight year period on a straight line basis.\(^3\)

A taxpayer may elect to avoid or reduce this tax preference by depreciating computer hardware using the straight line method over periods of 5, 12, or 25 years.\(^4\) It should be noted that such an election will affect the taxpayer's method of depreciation with respect to other 5-year recovery property purchased in the year in which the election is made.\(^4\)

### IV. Ohio Sales and Use Taxation of Sales and Purchases of Computer Software and Hardware

Section 5739.02 of the Ohio Revised Code imposes a sales tax on each retail sale made in the state of Ohio. If a retail sale which would otherwise be taxable is exempt because of its impact on interstate commerce, a use tax is imposed on the use, storage, or consumption of tangible property in Ohio, or the benefit received in Ohio of any service provided.\(^4\) The rate of tax varies depending upon the price of the item sold, with the maximum rate being 5%. In addition, various local governments can add "piggy-back" taxes onto that of the State.\(^4\)

Historically, sales and use taxes were only imposed on the sale or use of tangible personal property. In those transactions, such as the sale of software, which involved both services and tangible personal property, the issue became whether the "true object" of the purchaser was the service *per se* or the prop-
erty produced thereby. If the true object was the product then the transaction was tangible. Alternatively, if the true object was the service, the transaction was not taxable. This test was not easily understood or applied.

To help resolve this ambiguity and to augment the State’s revenues, Section 5739.01 of the Ohio Revised Code was amended effective July 1, 1983, to provide for the taxation of computer services. Computer services are defined so as to include “designing, selling, leasing, modifying, or debugging of specialized or customized computer programs or other software. . . ” Although the language of the statute is garbled, a letter from the Ohio Department of Taxation clearly indicates that software costs are not taxable where incurred in connection with services which are primarily not computer oriented, such as legal or accounting services. That exception aside, however, software expenditures are now generally subject to sales and use tax.

V. APPLICABILITY OF OHIO PROPERTY TAXES TO COMPUTER HARDWARE AND SOFTWARE

Tangible personal property located and used in business in the state of Ohio is subject to tax pursuant to Section 5709.01 of the Revised Code. With limited exceptions, tangible personal property is assessed at 35% of its value. The amount of the tax imposed upon such value varies across the state. For example, in Summit County, the average tax amounts to approximately .6% of the assessed value of the property. In any event, there is a constitutionally imposed ceiling of 1% on the tax that may be imposed on tangible personal property. As a part of Governor Celeste's commitment to phase out the property tax, the assessment rate is to be reduced by 1% per year (assuming certain revenue requirements are met), commencing in 1984, until the rate has been reduced to 25%. Also commencing in 1984, the first $10,000 in taxable value of a taxpayer’s tangible personal property is exempt from tax.

Unless specifically exempted by statute, all intangible property of Ohio

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“See Accountant's Computer Services, Inc. v. Kosydar, 35 Ohio St. 2d 120, 298 N.E. 2d 519 (1973).
“Ohio Rev. Code Ann. § 5709.01 (Baldwin Supp. 1983). When section 5739.01(B) was amended, the pertinent language which the Amendment omitted was:
The transfer of title or possession, or both, of tangible personal property, or the granting of a license to use or consume tangible personal property by an electronic data processor in conveying the results of the electronic processing or others' data by such processor is not a sale, and the electronic data processor is deemed to be rendering a service. . . Ohio Rev. Code Ann. §5739.01(B) (Baldwin 1981).
“Ohio Const. Art. XII, § 2; Ohio Rev. Code Ann. § 5705.02 (Baldwin 1981); Ohio Tax Reports (CCH), ¶ 20-403.
residents is subject to tax regardless of whether or not used in business.\textsuperscript{54} Generally, such property is assessed at 100\% of its value and the rates of tax vary depending upon the type of intangible property involved.\textsuperscript{55} Money, credits, and all other taxable intangibles, which is the category of property into which software might be categorized, is currently subjected to tax at a .3\% rate.\textsuperscript{56} Nevertheless, such tax will be repealed after 1985.\textsuperscript{57}

The Revised Code defines intangibles as including "every valuable right, title, or interest" unless specifically excluded by statute.\textsuperscript{58} One Ohio case has held that a patent license agreement is an intangible asset taxable to the licensor.\textsuperscript{59} Arguably, computer software is analogous to a patent and could also be characterized as an intangible.

It is clear that computer hardware would be subject to the Ohio tangible personal property tax. Whether software is subject to either the tangible or intangible property tax is, however, unclear. There is no authority directly on this question in this state.

In other states, the weight of authority is that computer software is not tangible property subject to the tangible property tax.\textsuperscript{60} In recent months, however, there appears to be a shift in the trend of the cases toward subjecting at least canned software packages to tangible property taxes.\textsuperscript{61} With respect to the federal income tax, the IRS has held that software is an intangible which does not qualify for the investment credit unless the cost thereof is bundled with the cost of related hardware.\textsuperscript{62} Although no Ohio court has considered this specific question, there has been litigation dealing with a related issue in the context of the Ohio sales tax.

Prior to the recent amendment to Section 5739.01 of the Revised Code by House Bill 291, which explicitly subjected computer services to sales tax,\textsuperscript{63} the Supreme Court of Ohio in the case of Accountant's Computer Services, Inc.\textsuperscript{64} considered whether computer software was subject to the Ohio sales tax. The court held that the sale of the software, including the tangible property associated therewith, was exempt from sales tax under Section

\textsuperscript{54}Ohio Rev. Code Ann. § 5709.02 (Baldwin Supp. 1983).
\textsuperscript{56}Ohio Rev. Code Ann. §§ 5707.03(E), 5707.04(D) (Baldwin Supp. 1983).
\textsuperscript{57}Id.
\textsuperscript{58}Ohio Rev. Code Ann. § 5701.09 (Baldwin 1981).
\textsuperscript{59}Beckett v. Tax Commissioner, 7 Ohio App. 2d 181, 219 N.E.2d 305 (1965).
\textsuperscript{60}See, Rosen, Computer Software Classed as Intangible Property is Exempt From State Property Taxes, 58 J. Tax’n 114 (1983).
\textsuperscript{62}See IRS Letter Ruling 8408049; Rev. Rul. 71-177, 1971-1 C.B. 5.
\textsuperscript{63}Ohio Rev. Code Ann. §§ 5739.01(B)(3)(e), 5739.01(Y) (Baldwin Supp. 1983).
\textsuperscript{64}35 Ohio St. 2d 120, 298 N.E.2d 519 (1973).
5739.01(B) of the Revised Code which provided an exemption for sales of tangible personal property as an inconsequential part of a personal service transaction. Since the Supreme Court determined that a purchase of software represents primarily a personal service transaction, one could logically conclude that such personal service is not subject to either tangible or intangible property taxes. There is, however, a Board of Tax Appeals case decided since the Kosydar decision dealing specifically with computer software. The Board held that a program embodied in computer tapes purchased by a taxpayer was tangible personal property subject to the sales tax. Although it appears that this case is in conflict with the Kosydar decision discussed above, its existence creates uncertainty as to the applicability of the tangible personal property tax to computer software.

As a practical matter, most taxpayers who have deducted software development costs have not reported the same as either a tangible or intangible asset for personal property tax purposes. It would be difficult for the Department of Taxation to determine that a deducted software cost was not reported for property tax purposes and, to date, there appears to be no situation in which it has done so. If, however, the software and hardware costs are bundled, most taxpayers have probably reported the entire bundled cost as subject to the tangible personal property tax. It appears, however, that a taxpayer could take the position that, to the extent of the software costs, no property tax is applicable. The Ohio Department of Taxation may well discover such treatment, however, in which case the taxpayer would probably have to contest the tax in question.

VI. CONCLUSION

For federal income tax purposes, the tax treatment of purchases of computer hardware and software is well settled. The cost qualifies for the investment tax credit and may be deducted over five years in accordance with ACRS.

The federal income tax consequences relative to the acquisition of computer software is not quite so clear, although some definite trends do appear to be manifesting themselves. The cost of developing software may be currently deducted. As a general rule, however, the price paid to purchase software must be capitalized and depreciated or amortized. A taxpayer may expense the cost of purchasing software only if it bears a real risk of the software’s operational failure. If such costs are expensed, they will constitute a tax preference item for purposes of the alternative minimum tax.

Regarding the qualification of software purchases for a tax credit, the position of the IRS is rather strict. It has been held that software will not qualify for investment tax credit unless it is purchased in conjunction with the acquisition of related hardware. With respect to the research credit, the proposed

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NCR Corporation v. Lindley, Ohio B.T.A. No. 78-D-221 (May 14, 1980).
regulations discussed above provide that only software development expenses may be considered, and then only if there is significant doubt that the software will work after it is written.

Whether the cost of software is subject to the intangible or tangible property tax in Ohio is unclear. Other states have differed in their positions on this issue. The position of the Ohio Department of Taxation is that the tangible personal property tax is applicable. Nevertheless, additional litigation will be required to definitively resolve this question in Ohio.