INDUSTRIAL PROPERTY ADVISORY COMMITTEE

THE LEGAL PROTECTION IN NEW ZEALAND FOR COMPUTER PROGRAMS

Report to the Minister of Justice

10 December 1984

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THE LEGAL PROTECTION IN NEW ZEALAND

FOR COMPUTER PROGRAMS

SUMMARY

This report reviews the current protection available in New Zealand for computer programs.

It expresses agreement with the approach formulated in the United Kingdom for amendments to the law of copyright to overcome uncertainty in some areas. Developments in other countries are reviewed.

In the context of this general proposal submissions are invited on certain issues which will be dealt with in final recommendations. These include the nature and scope of protection, term and ownership. Certain suggested definitions are put forward for comment.

INTRODUCTION:

1.1 With the advance of technology in the field of microprocessing serious doubts have been expressed throughout the world whether existing domestic laws and international convention agreements are adequate to provide protection for the industrial and intellectual property used therein. As a consequence government agencies and private professional groups have extensively examined and debated this problem in various countries.

1.2 For example, the U.S. Congress set up, for a period of three years, a study group called the National Commission on New Technological Uses of Copyrighted Works (CONTU), and the United Kingdom Government commissioned the Whitford Report on Copyright and Design Law followed by a Green Paper. The World Intellectual Property Organization has been actively studying the question of legal protection of computer programs since 1971. A set of model provisions for nations wishing to introduce national legislation has been provided, discussions have been held on the desirability of setting up an international voluntary register for software, a draft treaty for international reciprocal protection of computer programs has been prepared, and there has been continuing discussion on the technical terms to be used in that treaty.

1.3 However uncertainty surrounding existing protection available nationally for computer programs continues to attract the conjecture of legal writers who have contributed a considerable volume of material on this topic.

THE NEED FOR REVIEW IN NEW ZEALAND

2.1 New Zealand is a member of both the Berne Convention For The Protection of Literary And Artistic Works, and the Universal Copyright Convention, but the extent of their application to computer programs is unclear. It is only domestic legislation which finally regulates internal rights and attracts reciprocal arrangements with other nations.

2.2 The high labour content in the production of new computer programs, and the ease with which they can be reproduced, makes them an attractive target for unauthorized use. The labour and production factors also make this area of endeavour an attractive local industry with export potential. In 1983 the National Research Advisory Council's Review of Science and Technology contained the following comments:-

"The software industry in New Zealand is developing rapidly and, with its low capital requirements, the high value and transportability of its products and its high demand on education and skill, is an ideal industry to establish here."

Some significant computer programs already have been developed here which have attracted world-wide interest, but this country cannot expect to obtain automatic and effective protection against unauthorized use in other countries unless it demonstrates similar clear reciprocal opportunity for foreigners in its own domain.

2.3 Although, as expressed later, this Committee believes that at least some protection already flows from existing intellectual property legislation, it is concerned to ensure greater certainty in this area. While it might be a reasonable expectation that the product of the intellectual effort involved in the formation of a computer program should be protected by the New Zealand Copyright Act 1962, it is only the original written version of programs which can command any confidence in this view. The several other forms of media in which a program can reside, and which are more immediately useful than the more comprehensible literary form, are subject to some uncertainty.

2.4 Certainty about the degree or existence of protection in New Zealand against the unauthorized use of computer programs is essential not only for the reasons already expressed, but also as a matter of justice. The Committee, acting on the initial suggestions received from the public, adopted this topic as one of its major studies.

SUBMISSIONS RECEIVED BY THE COMMITTEE

3.1 The Committee has given preliminary consideration to material received in response to its request for submissions from the public. Six submissions were received and their source and general content is set out in Appendices A and B of this report. While the Committee is pleased with the helpful content of those submissions it believes that there are others who might provide further assistance if given the opportunity, particularly in some of the matters dealt with later in this report. The purpose of this report then is to encourage additional input, and to elicit comment on some of the matters discussed herein.

SOLUTIONS ADOPTED OR PROPOSED OVERSEAS

4.1 It is prudent to be conscious of the international trends in this area not only because of the extent of experience in other countries, but also to aim, if that is possible, for compatability and reciprocation.

4.2 The U.S.A. is believed to be the biggest software market in the world, the estimate of investment in software in the 1980's ranging up to over $100 billion. The CONTU report in 1978 urged Congress to review periodically in the light of technological change any legislation resulting from their recommendations. The Legislature seemed to conclude that it was premature to provide major legislation as a complete code in this area. In 1980 it adopted a cautious approach and confined its amendment of the Copyright Act to the addition of a definition of 'a computer program', and an exclusion from infringement of copyright (under certain conditions), of a further copy needed for utilization of the program, or one needed for archival purposes.

4.3 Mention has been made earlier of the Whitford Report in the United Kingdom on Copyright and Designs and of the subsequent Green Paper, which dealt with protection for computer programs. The latter indicates a proposal to protect computer programs under the same conditions as literary works, mentioning the need for consideration of 'term', 'ownership', and the necessary degree of originality. Due to the many forms in which programs can reside the U.K. Government expressed the view that the resulting copyright protection should extend to works fixed in any form which can be reproduced. Comment is made in the Paper that the many transformations that occur during the use of a program properly lie within the term 'adaptation' and that the definition of 'reproduction' should be amended to make it clear that the loading of a program into a computer installation is a restricted act.

Draft amendment proposals for the U.K. Copyright Act 1956 submitted by a barrister to The House of Lords, appear as far as they relate to computer programs, to be confined mainly to:

(1) the extension of 'literary works' to include computer programs;

(2) the inclusion within the term 'writing' of digital recording in magnetic or optical materials;

(3) the definition of 'object code' as a series of impulses capable of controlling the state of electrical, optical, or mechanical circuits operating as non-linear processes; and

(4) a series of definitions relating to 'transmutation', 'retransmutation', and 'crosstransmutation' in respect of the automatic conversion of a work into some other form or computer language of a different dialect.

Another Bill entitled "Copyright (Computer Software) Amendment Bill" has been introduced to the House of Commons to amend the Copyright Act 1956. This provides new penalties for offences relating to infringing copies of computer programs; provides for the issue and execution of search warrants; and confirms that copyright subsists in computer programs.

How far these particular proposals have been taken is unknown.

It should be noted that with the coming into force of the U.K. Patents Act 1977 computer programs were specifically disqualified from obtaining patent protection.

4.4 In Australia a Federal Judge recently held that certain categories of computer programs were not protected by copyright as literary works. Due to the importance of this question to industrial development the Australian Government undertook to introduce immediately legislation to protect computer programs, which it did notwithstanding that, subject to further appeal, a Full Federal Court set aside the lower Court's findings. The Full Court decided that source code can be protected as a literary work, a majority held that object code was protected as an adaptation of source code, two judges did not decide whether object code was of itself protected as a literary work, and the third judge found that it was not so protected.

Their legislation takes the form of amendments to the existing Copyright Act to provide an interim measure until a long term policy can be developed. We have added to this report several references to the provisions of this Australian legislation, which has now been enacted as the Copyright Amendment Act 1984 (No. 43 of 1984), and which came into operation on 15th June 1984.

4.5 Although there are sharp differences of opinion between two Ministries in Japan about the form it should take, efforts are being made to introduce software protection legislation into the Diet. One faction proposes a separate form of protection with a term of 15 to 20 years with compulsory licensing provisions, while the other proposes protection by copyright for a term of 50 years which compares with 75 years in the U.S. American interests are especially disturbed by the first proposal.

4.6 A Canadian White Paper on proposed revisions of the Copyright Act includes a section on computer program protection. It accepts that in the absence of special provisions the general rules of their copyright law will apply to computer programs, and that in particular the provisions covering literary works will be applicable to human-readable computer programs. However it comments that machine-readable forms of computer programs are not embraced by international copyright treaties and an entirely new regime can be created. Accordingly it is proposed that machine-readable programs will acquire a term of protection of five years from creation if unpublished, and five years from the end of the year of publication if published. The right of the owner to authorize (or prohibit) a machine readable program based on a published human-readable form will expire five years from the end of the year of creation of the latter. Special stipulations on reciprocal treatment by other nations are proposed.

4.7 From the foregoing it will be apparent that in countries of special interest to New Zealand where the characteristics of intended legislation have emerged;

(1) a preference has been shown for providing increased protection in the nature of copyright either by separate laws or by modifying the copyright law; and

(2) cautious restraint has been exercised in framing amendments to existing statutes having regard no doubt to the relative infancy of this new intellectual endeavour.

SOME PRELIMINARY VIEWS OF THE COMMITTEE

5.1 The following are preliminary conclusions reached by the Committee and are subject to review in the light of any additional information which may be received.

5.2 It would appear that there are three alternative approaches open to the Committee, namely:-

(a) No recommendation in the belief that existing legislation provides a satisfactory basis for judicial development of the protection of computer programs;

(b) A recommendation for special discrete legislation;

(c) An adaptation of existing legislation.

5.3 The first would involve development by case law without the advantage of public input and legislative discussion and approval, and could lead to hasty legislative action provoked by a decision in the courts that existing legislation in New Zealand does not extend sufficiently to protect programs in some of their forms.

5.4 The second option involves the preparation of very comprehensive legislation, preceded by an exhaustive examination of all facets of the subject. Such a course would introduce a long delay in removing uncertainty about the protection now available, and the legislation would be repetitive of many provisions already present in an existing statute. As we have already indicated it is notable that countries with considerable experience and financial interest in this field of activity have been reluctant to embark upon major legislation. They appear to hold the view that the near future holds promise of such additional advances that caution is demanded, and that small revisions of existing law are preferable.

5.5 The third option requires an examination of the suitability of our present statutes covering patents or copyright to embrace computer programs, i.e.the Patents Act 1953, or the Copyright Act 1962. We believe that to secure an early clarification of the protection available in New Zealand for computer software this third option should be adopted, even if at some later stage the necessity for special legislation should become apparent.

PROTECTION AT PRESENT AVAILABLE IN NEW ZEALAND

6.1 In practice the law relating to trade secrets is employed widely to secure software from unauthorized copying. The extensive use of contractual covenants and obligations of secrecy and confidentiality provides reasonable protection for software with limited applications or employed other than where publicly accessible. However, with the increasing development of broad application programs and "packages" capable of being marketed, and used widely, protection cannot be assured by these means.

Protection under the Patents Act 1953

6.2 The Institute of Patent Attorneys have directed our attention to the U.K. decision in Burroughs Corporation (Perkin's) Application [1974] R.P.C. 147, and have argued for similar allowance in New Zealand for patents for operating system software as opposed to application

software. In addition the Institute recommends that protection should be available for computer software irrespective of its form or the media in which it has been fixed. In the absence of any other decision or legislative provision, the Burroughs decision is likely to be applied in New Zealand. It is emphasised that as a result of amendment to the United Kingdom Patent Act since that decision the United Kingdom, along with other E.E.C. nations, no longer allow patents for computer programs. The Green Paper in the United Kingdom favours protection for software within copyright.

6.3 Any attempt to provide protection within the Patents Act would require the revision of the definition therein of 'invention'. While this may be desirable for other reasons it clearly involves complex questions which would be resolved only by lengthy study. Other provisions within the Patent Act seem to be inappropriate to software so that something more substantial than a mere revision of one definition would be required. It must also be remembered, that since a patent is an absolute monopoly, that Act insists upon great particularity in description and claiming of the monopoly sought, and this form of protection would be likely to prove less attractive and more onerous than protection automatically available under the Copyright Act. The 'priority date' concept for patents would not allow retrospective protection of already existing material and the novelty requirements would impose special difficulties. Another aspect arising from the Institute's submission on this aspect which concerns the Committee is the possibility of confusion arising if protection is available for software under two separate Acts of Parliament. Mr Hamel has asserted in his submission that it may be impossible to distinguish between operating system and application software. The Committee has not yet been able to discern any injustices which could arise from a clear separation of software controlled novel apparatus or a related process being protected under the Patents Act and the software program itself being protected under the Copyright Act.

Protection under the Copyright Act 1962

6.4 As protection within the framework of this Act is discussed in greater detail at a later point in this report the comments here will be limited in scope. It is probably sufficient to remark that countries with considerable experience in the software and copyright area have found it possible to accommodate protection for the former within the latter, initially with minor

amendments. This is not surprising because the whole objective of copyright legislation is to provide protection for intellectual works as distinct from manufacturing activities, and the writing of computer programs lies squarely in the intellectual area.

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6.5 The Committee believes that the intellectual property which exists in computer software or firmware programs should be protected against unauthorized reproduction and use, under a form of copyright law; and that confusion should be avoided by excluding these programs (as distinct from the method of manufacture to fix them in some material form, or the apparatus which they control) from patent or any other law.

THE COMMITTEE'S PROPOSALS

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7.1 Since the New Zealand Copyright Act of 1962 was derived largely from the U.K. Copyright Act of 1956 the attitude of Great Britain is of special interest. A section of the Whitford Committee's report on Copyright and Designs Law in that country is devoted specifically to computers, and it has been followed by a Government Green Paper (as a consultative document), which expresses a tentative opinion on the factors which the law there should take into account. The intention in the United Kingdom appears to be to provide new legislation for computer program protection under the same conditions as now apply to literary works, and specifically raises questions concerning term, sufficiency of originality, and ownership. Comment has also been made there on the less accessible and less conventional material forms in which computer programs reside, the various transformations which can occur during the use of programs and which might lie within the term 'adaptation', the control by the owner of the loading of the program in contrast to the control of the use of it, and the need for a different approach where a display on a screen of stored copyright material is involved.

7.2 The Committee believes that the proposals in the Whitford Committee report and the U.K. Green Paper should be adapted for New Zealand. To achieve this it will be necessary to resolve some of the differences apparent in these proposals and to make specific recommendations on points they have left open. Some of these are set out in the following paragraphs of this report with references to issues to be addressed. Interested parties should be invited to make submissions on them.

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Term of Protection

7.3 Some initial questions arise concerning the point at which the term commences, and how ascertainable is the cessation of that term when it occurs some fifty to seventy five years from the death of the author, and the complications which arise where a plurality of authors is involved. These questions are not confined to any particular copyright work. However the major concern is what should be the extent of the term of protection for computer programs. Some urge that the term which will result from treating this material as a literary work is too long, but that attitude does not appear to have gained support in the United Kingdom. Any restricted or more specified term must be assessed in the light of the provisions of the Berne and Universal Copyright Conventions, of which New Zealand is a signatory, to ascertain the course open to us. In addition the question of international reciprocity requires consideration. The fact that some programs are actually printed as, or within, literary works must also be borne in mind. One official faction in Japan is proposing special computer legislation setting a term of between fifteen and twenty years, and one of the submissions received by us from a professional group proposes a term of between 15 and 25 years. On the other hand Canada is proposing a term of 5 years for machine-readable programs.

7.4 In addition to the interests of copyright owners no doubt some regard must be had for the natural public prejudice against unduly long terms of protection, and whether any advance in the art will be encouraged by the selection of some special duration. The Australian legislative provisions, falling as they do within the literary work category of their Copyright Act, make no new proposals on the duration of the term of protection.

Ownership

7.5 Irrespective of whether computer program protection is provided in New Zealand within the existing Copyright Act, or by discrete legislation, there is a need to deal with the question of ownership of the intellectual product involved. On the basis of the information at present available to this Committee it would appear that where a work is performed either for an employer, or by commissioning the work, for money's worth, the resulting work should become the property of that person who has paid for it. This should be so whether the author has been commissioned directly or through a master contractor, and the same result should obtain where data for inclusion in a program has been supplied under similar conditions. If programs are to be regarded as literary works within the Copyright Act 1962 it would seem that attention must be given to the adequacy of

section 9 of that Act to deal specifically with computer programs. Regard must be had for the difficulties arising from the joint contributions made to a program by persons operating under different terms of employment, and from evidential problems relating to their status.

7.6 One important question which must be resolved is that of ownership of any copyright which might reside in material generated by use of a program in a computer. Material generated by use of a program in a computer may have an element of originality so as to attract copyright. It is necessary to determine ownership of such copyright. Differing views have been advanced. Our preliminary view is that output which is dictated solely by the program without any influence by the computer operator, as by the introduction of data for processing, should be owned by the owner of the copyright in the program. In all other cases ownership should rest in the operator. By 'operator' is meant the person concerned, his employer, or the person who commissioned the work.

7.7 If those involved in the day-to-day production of software programs, or their purchase, or use, see other facets of this matter which require consideration, they are invited to submit them to us.

Algorithms

7.8 We have been invited to recommend protection for algorithms which we understand may be defined as a clear set of rules or processes for the solution of a problem in a finite number of steps. While particular expressions forming a set of rules now qualify for protection as a literary work, algorithms as concepts are not protectable. There appears to be a concern that computer programs flowing from algorithms should be protected for the advantage of the author of the algorithm on which those programs are based, but the protection afforded by the Copyright Act does not extend to ideas, or expansions of them, and is restricted to the particular expression of ideas. The construction of a computer program from an algorithm requires the contribution of additional intellectual effort, and if copyright law clearly embraces computer programs, it seems that it is the author of that additional contribution, or his employer, who must acquire the right of protection. Remarks made in conjunction with the introduction of the computer program protection amendments to the Australian Copyright Act make it clear that protection for the abstract aspects of algorithms is not intended.

Semiconductor Chip Topography

7.9 Brief mention has been made in a submission to the desirability of protecting the topography of semiconductor chips. By topography we understand the submission to mean the three dimensional arrangement of the material that forms the circuits of a semiconductor device.

If the above meaning of the term topography agrees with that intended in the submission, attention is drawn to paragraphs 3.3 and 3.4 of the Committee's Report on Copyright in relation to Industrial Design dated 20 February 1984. Therein we recommended the repeal of the non-expert test in relation to the conversion of two dimensional copyright drawings into three dimensional articles, and we expressed the hope that it would go some distance towards assisting with the protection of micro-chip configuration.

In this report we are concerned with copyright of programs and data that operate or set the circuits of a device or are operated on, or set by such circuits.

Program material introduced into a micro-chip is to be regarded as a particular form of expression of a program so as to qualify for protection in the same way as other forms of the program whether as a reproduction or as an adaptation.

Use

7.10 It has been submitted to us that the copyright owner of a computer program should enjoy control of the use of the program. This would involve making 'use' one of the restricted acts constituting infringement. In our preliminary discussions it seems to the Committee that such a right would be unnecessary because loading the program prior to use would involve reproduction or adaptation. We understand it is always open to a copyright owner to impose terms of sale or licensing arrangements to meet special circumstances. We note that the United Kingdom Government feels that control over the initial loading of a program will be sufficient. Any views which might have an impact on those conclusions would be of interest to the Committee.

Reproduction and Adaptation

7.11 The Copyright Act 1962 lists in subsection 3 of section 7 acts restricted by copyright, and those which are of special significance to our study are:

(1) reproducing the work in any material form;

(2) making an adaptation of the work; and

(3) reproducing an adaptation of the work.

They are supported by definitions of the terms 'reproduction' and 'adaptation' at the beginning of the Act.Irrespective of the legislation finally used to protect computer programs these activities are useful considerations in our deliberations. Clearly computer programs (and that material when used in similar devices) are susceptible to copying from, and into, many mediums and forms of expression, including the situation where a program has been composed and entered into a computer through the keyboard without prior expression in any visual material form. If the terms "reproduction" and "adaptation" are to be used to define restricted acts then they must be expanded to more extensive forms than they at present possess under the Copyright Act. In addition there must be an expanded definition of "literary work", "writing", and "infringing copy", and new definitions covering "computer program", "notation" and "object code". More specifically "reproduction" or "adaptation" must encompass copying of a program in the freely available form and also any of the transformations which can occur in, and may be extracted from, digital computers or similar apparatus. It should follow that the loading of a program either in a permanently installed ROM form, or as temporary task loading, would involve a transformation of the form of the intelligence, and so be a restricted act.

7.12 Readers of this report are invited to comment on the concept of controlling use, etc., of the program by making any loading a restricted act irrespective of the kind of transformation of the program used in that loading process.

7.13 It is appropriate at this point to refer to the practice of purchasers of programs to 'reproduce' the program in the form of a 'back-up' or 'archival' copy to guard against accidental destruction or mutilation of the purchased copy. The Committee has noted with approval the inclusion in the U.S. amendments to their Copyright

Act of exemptions of such actions from infringement, subject to strict compliance with certain safe-guards. We now note that the new Australian legislation also provides in Section 43A an exclusion of this activity from unauthorized reproduction or adaptation.

Statutory Penalties

7.14 Since our initial consideration of the submissions made to us amendments have been introduced into Parliament increasing substantially the monetary penalties contained in section 28 of the Copyright Act 1962. However we have noted with interest the Australian proposal to include the act of advertising for sale an infringing copy, and the transmission or reception on a communication link of an unauthorized copy, as offences.

Definitions

7.15 The formulation of appropriate definitions generally is a drafting matter. However in this field, with its technical complexities, it is a difficult task. To enable those with the necessary expertise to assist we set out in Appendix C certain tentative definitions which might be employed in amendments to the Copyright Act for the purpose of clarifying the nature and scope of protection for programs.

In addition, in Appendix D, we set out certain definitions taken from the new Australian Act.

The definitions to be adopted will depend in part upon matters yet to be resolved but comment on those in Appendices C and D will be of assistance.

CONCLUSION

8.1 The Committee recommends that this preliminary report be published for the purposes of discussion and comment. It is hoped that firm recommendations for amendments to the Copyright Act 1962 can be made at an early date in the light of submissions on the matters raised herein.

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APPENDIX A

LIST OF PERSONS, FIRMS AND ORGANISATIONS MAKING SUBMISSIONS ON THE LEGAL PROTECTION IN NEW ZEALAND FOR COMPUTER PROGRAMS

GLAXO NEW ZEALAND LIMITED

HAMEL, MR M.J.A.

MONSANTO COMPANY

NEW ZEALAND COMPUTERS AND OFFICE PRODUCTS INDUSTRY FEDERATION (INC.) (2)

NEW ZEALAND INSTITUTE OF PATENT ATTORNEYS

PROGENI SYSTEMS LIMITED

APPENDIX B

SUBMISSIONS RECEIVED BY THE COMMITTEE

The following seem to be the salient points which are contained in the submissions so far received.

GLAXO NEW ZEALAND LIMITED

A revision of the Copyright Act 1962 is sought to give specific protection to original computer programs in all their reproducible forms, with term and ownership as for other literary works. The submission proposes that the act of loading a program into a computer should be reserved under the Copyright Act to the copyright owner or his licensees, but that further use, and the production of one copy within the machine (the copyright in which lies with the original programmer), should be outside copyright and be a matter for agreement between the supplier and the user. It is further suggested that there should be an option for registration by a deposit of the program. The view is also taken that ownership of rights in the computer output should be with the person using the computer or his employer.

NEW ZEALAND INSTITUTE OF PATENT ATTORNEYS

The submission stresses at the outset that it excludes the question of the protection of computer stored data and its ownership, which it is believed is a separate topic, and it makes the point that industrial protection for software products is relatively weak or non-existent on an international basis. In its submission the Institute divides software into four primary categories of software, namely:-

(1) operating systems (which perform computer "housekeeping" duties);
(2) application software in "professional" form (e.g. a general ledger system);
(3) mass produced software for personal and small business microcomputers; and
(4) microprocessor software stored in semiconductor chips (firmware).

The Institute favours the patentability of certain types of computer programs, and the application of copyright to all programs irrespective of the form to which they have been reduced. Reference is also made to software produced by "program generators", or by the interpretive "query" language which may by-pass a programmer. Comment is also made upon a leading United Kingdom decision, (in the absence of any local one), on the patentability of computer programs, [Burroughs Corporation (Perkin's) Application [1974] R.P.C. 147], which it is said formulated the principle that if a claim, however worded, is clearly directed to a method involving the use of apparatus modified or programmed to operate in a new way, it should be accepted. Due to the distinction between operating systems and application programs, the Institute fears that New Zealand courts could opt for any one of three different attitudes towards computer programs, and the Institute therefore recommends that the statutory definition of "invention" be recast to codify the narrow ratio decidendi established in the Burroughs case so that application software, as distinguished from software of the operating system type, should not be patentable. While conceding that such a course would be contrary to the trend in Europe, it is claimed that such an attitude would be consistent with the way the law is developing in the United States. The submission lists ten forms of, or activities relating to the use of, computer programs, and concludes that while the Copyright Act has the potential to provide protection for computer software, in seven of those examples the existence of protection is most uncertain. The uncertainty of the protection for programs not originated in written form on paper is highlighted.

Specific recommendations made in the submission are:-

(1) Copyright should subsist in computer software irrespective of its form or media and "literary works" should be extended to secure this result. However, adaptations or translations by non-human effort should be excluded.

(2) Notwithstanding (1) above, "reproduction" should encompass reiteration by human or machine agency into the same or different form or medium, and irrespective whether the reproduced form is permanent or ephemeral. Instruction-by-instruction, as well as complete versions, should be included.

(3) In this area it is submitted that "use" for monetary gain is equivalent to "performance" and that to put the matter beyond question such "use" should be a restricted act.

(4) The term of protection in the computer program category of "literary works" should be between 15 and 25 years.

(5) Section 9(3) of the Copyright Act 1962, which provides for copyright ownership by a person who commissions work, should be extended to include computer software production.

(6) Due to the inexpensive nature of the transfer medium, and the simplicity of the copying process, it is urged that any future additions to the control of audio and video recordings should also be considered in relation to computer software.

PROGENI SYSTEMS LIMITED

Protection of software programs in the international sphere is stressed as being of paramount importance particularly since New Zealand companies do not usually possess resources to allow protracted legal battles. It is predicted that financially crippling conflict will increase, and to minimize the impact, (a) the criminal code should include penalties against unauthorized computer program use; (b)the conceptual problems raised by 'software' should be addressed; (c) the Copyright Act 1962 should be amended to expressly embrace 'software', and a central register should be provided if necessary; (d) an independent tribunal should be established to speedily resolve technical matters so as to limit litigation costs; and (e) 'trade secrets' legislation should be considered. The submission acknowledges that international protection for New Zealand software cannot be acquired by an isolated approach but it is a matter of priority that some certainty be brought into this area if New Zealand is to develop 'new technology' industries.

M.J.A. HAMEL

Although Mr Hamel concedes that his submission is one of destructive criticism rather than advancing constructive alternatives, he feels obliged to counter the published advocacy that 'operating system' software should be patentable while application software should be excluded therefrom. He suggests that it is near impossible to distinguish between the two, and that in any event the obiter comment from which this attitude flows, [Burroughs Corporation (Perkins) Application [1974] R.P.C. 147], was that the judge felt that all computer programs should be patentable. Mr Hamel comments that the E.E.C. countries have denied patentability to computer software, presumably feeling that the solution lies in the field of copyright, and he urges that no distinction between classes of software be attempted without some firm basis that is unlikely to be rendered obsolete within a few years.

MONSANTO COMPANY

The summary appended to this lengthy submission observes that in the past most software that is transferred outside the premises of the corporate proprietor has been well protected by restrictive trade licenses. It advances the view that copyright protection for software appears to be the mechanism that will show the most improvement in the future, and that the broad protection of software by patents does not seem to be viable.

The recommendation is made that if New Zealand does not wish to embark upon novel protection legislation in the software field, then it should amend its existing laws along the lines of the United States to provide at least some protection beyond trade secrecy.

NEW ZEALAND COMPUTERS AND OFFICE PRODUCTS INDUSTRY FEDERATION (INC.)

The submission traverses the areas of Patents, Trade Secrets, Contract and Copyright law as possible forms of protection for computer program protection and concludes that copyright is the best vehicle for this purpose.

It is suggested that attention should be given to the activities against which protection is necessary, and the creation of a 'use' right so that commercial users will be obliged to compensate copyright owners.

The proposals urge protection for source and object codes (for both application programs and operating systems), documentation and manuals, databases, screen visuals and ephemerals, semiconductor chip topography and mathematical algorithms, irrespective of the medium in which they are fixed.

The view is held that computer software should be embraced by the definition of literary work so that existing provisions of the Copyright Act will apply, including that for the protection term.

Suggested definitions are advanced for 'computer software' and 'reproduction'.

They are -

> 'Computer Software - notations in any form on any medium utilized for any purpose in a computer process or a manifestation as a result of a computer process transitory or otherwise which is visually perceptible'.
>
> 'Reproduction - computer software shall be deemed to have been reproduced in a material form if a copy is created, from time to time, as an essential step in the operation of a computer process in conjunction with a machine, and in any such copy shall be deemed to be a reproduction of the work.'

In a supplementary submission additional representations were made.

Amendment of subsection 4 of section 9 of the Copyright Act is suggested to ensure that work performed in the course of employment, and copyright arising therefrom, will belong to the employer, and that similar rights should belong to a contractor in respect of subcontractors.

The Federation believes that patent and copyright protection should exist for computer program inventions and it has provided details of the U.S. Patent Office examining procedure in such cases. It comments that section 17 of our Patents Act does not exclude computer program inventions from patentability, and that the section should be clarified to exclude mathematical expressions alone so that the Patent Office will have discretion to consider computer program patent applications.

It now submits that semiconductor chip topography can be protected by protection of the industrial process involved.

Responding to questions from the Committee it expresses the view that both source and object code should be independently protected, and not simply one as an adaptation or reproduction of the other.

It confirms that protection should be provided for the expression of the idea rather than the idea itself.

Reviewing the earlier suggestion of a 'use' right it urges effective protection by a broad right over 'reproductions'.

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APPENDIX C

LIST OF PROBABLE DEFINITIONS FOR INCLUSION IN NEW LEGISLATIVE PROVISIONS

'Literary work' includes any written table or compilation or any computer or like program.

'Computer program' means a sequence of instructions in writing to be executed by a digital computer or similar apparatus.

'Writing' includes any form of notation whether by hand, printing, typewriting, digital or other code, recorded on, or in, any physical, chemical electrical, optical or other medium.

'Adaptation' in relation to computer and the like programs, includes -

(1) the automatic conversion of a work into an object code by electronic, mechanical, optical or similar techniques.

(ii) the automatic conversion of an object code version into a literary, dramatic, musical or artistic version or the work by electronic, mechanical; optical or similar techniques.

(iii) the automatic conversion of an object code version of a work into a version written in a different computer object code or computer language of a different dialect of the same computer object code or language by electronic, mechanical, optical or similar techniques.

'Notation' means a set of signs and/or symbols used to represent information, instructions, or motivation.

'Object code', includes a series of impulses capable of controlling the state of electrical, optical or mechanical circuits.

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APPENDIX D

DEFINITIONS ADOPTED IN THE AUSTRALIAN COPYRIGHT AMENDMENT ACT 1984

'Adaptation' in relation to a literary work being a computer program - a version of the work (whether or not in the language, code or notation in which the work was originally expressed) not being a reproduction of the work;

'Computer program' means an expression, in any language, code or notation, of a set of instructions (together with or without related information) intended, either directly or after either or both of the following:

(a) conversion to another language, code or notation;

(b) reproduction in a different material from,

to cause a device having digital information processing capabilities to perform a particular function;

'Infringing copy' means -

(a) in relation to a work - a reproduction of the work, or of an adaptation of the work, not being a copy of a cinematograph film of the work or adaptation;

.....

(e) in relation to a published edition of a work - a reproduction of the edition;

being an article the making of which constituted an infringement of the copyright in the work, recording, film, broadcast or edition or, in the case of an article imported without the licence of the owner of the copyright, would have constituted an infringement of that copyright if the article had been made in Australia by the importer;

'Literary work' includes -

(a) a table, or compilation, expressed in words, figures or symbols (whether or not in visible form); and

(b) a computer program or compilation of computer programs;

'Material form', in relation to a work or an adaptation of a work, includes any form (whether visible or not) of storage from which the work or adaptation, or a substantial part of the work or adaptation, can be reproduced.

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