

# Patents for Computer Related Inventions

## Types of protection

In Australia there are three main forms of official protection for computer related intellectual property. They are:

1. Patents
2. Copyright and
3. Circuit Layout Rights

The three forms of protection have distinct differences and the appropriate form of protection for a particular invention will depend on the type of computer related intellectual property and its application.

The distinction between patent protection and copyright is vital to the developers of software inventions. Copyright protects only the specific code of a computer program from being copied and does not protect the ideas or methodologies that might be embodied in the specific program. On the other hand, patents are granted for software embodying methods that produce an artificially created end result of economic utility. The protection of such methods by correctly drafted patent claims means that any "new" program, subsequently developed by another programmer, which embodies those methods will still be an infringement of the patent. Consequently, patents offer a significantly stronger form of protection for software in most instances.

## 1. Patents

In general, a patent may be granted for an innovative idea that provides a practical solution to a technological problem. In this context, a patent for a computer related invention is no different from any other form of innovation.

A patent can be granted for subject matter that is:

- **New:**  
That is the invention should not have previously been publicly known.
- **Inventive:**  
The invention must involve some degree of invention or innovation when it is compared with what was known before.
- A "**Manner of Manufacture**":  
That is the invention must involve applying ingenuity to produce a practical solution to a technological problem. Patents are not granted for just a discovery, idea, scientific principle or mathematical algorithm. The practical application of a discovery, idea, scientific principle or mathematical algorithm can, however, be patented.
- **Useful:**  
The invention should have a demonstrated use. There must be an actual practical use for the invention.

## Software

Australian patent law enables a diverse range of software to gain patent protection in addition to protection under copyright.

Software is patentable if it includes a mode or manner of achieving an end result that is artificially created and has economic utility. Whether a particular invention falls within this definition may be a matter for professional legal advice. However, a rough rule of thumb is that the invention must be industrially applied. Software that is merely a procedure for solving a given type of mathematical problem is not patentable. Consequently mathematical algorithms and abstract intellectual concepts, on their own, are not suitable for patents.

If you have a software innovation we suggest it is vitally important that you consider seeking patent protection. You should seek advice from a legal professional, eg a qualified patent attorney, who will be able to advise you as to appropriate forms of protection and whether patent protection is appropriate in your circumstances.

### The following are examples of software suitable for patents:

1. Software included within an industrial process controller. An example of a claim for such an invention is:

*"A method of producing a vulcanised rubber product by:*  
*(a) closing a vulcanising mould;*  
*(b) filling the mould;*  
*(c) heating the mould;*  
*(d) constantly measuring the temperature and pressure in the mould and providing these measurements to a computer;*  
*(e) calculating in the computer the value of the temperature multiplied by the pressure; and*

*(f) when the value exceeds 3000, opening the mould and removing the product."*

Even though this claim includes at item (e) a mathematical program in a computer, the claimed method is suitable subject matter for a patent because the program is applied to an industrial process.

2. Software directed to the operation of a computer. For example such software may control data flow within the computer, or enable the computer to operate faster, or allow the computer to handle larger files, or produce a better quality of output display. An example of a claim for such types of inventions is:

*"A method of reducing turnaround time in an edit-compile-link-run cycle of a programming development system, comprising the steps of:*  
*(a) editing a module of application source text, said source text being resident in a file system and held during all editing actions in virtual memory in a source text buffer including a plurality of lines;*  
*(b) incrementally compiling said module of application source text to create a module of executable application code;*  
*(c) incrementally linking said module of executable application code to create in memory an executable form of application program;*  
*(d) executing said executable form of the application program in place."*

3. Electronic commerce.

Patent applications directed to electronic commerce are similarly acceptable if there is an end result or way of achieving an end result that is an artificially created state of affairs of economic utility.

### 3. Electronic commerce cont.

Examples of applications for electronic commerce that may be patentable include methods of enabling electronic transactions, or methods of electronically creating or monitoring interactions of Internet sites, or creating electronic links between customers and suppliers and banks.

The following is a suitable example of a claim related to electronic commerce:

*"A value transfer system comprising:  
(a) a plurality of electronic purses and interface devices whereby purses may communicate with each other to transfer value by means of transactions;  
(b) each of which involves an exchange of electric signals between a pair of purses;  
(c) each purse including memory means storing a record of the accumulated value currently contained within the purse;  
(d) the system being characterised in that each purse is assigned a class in a hierarchical structure and in that said memory means further stores a record of the class of that purse together with a list of those classes to which that purse can transfer value."*

The above examples are only illustrative of some types of software innovations that are suitable for patent protection.

### Hardware

Physical devices that work in an improved way over previously known devices are suitable subject matter for a patent application. This includes complete computer systems, or computer components such as disk drives, memory chips, bus architectures, and monitors. Accessories for computers such as a floppy disk with an improved construction are suitable for patenting.

A disk that has an improved format or layout of data may be patentable if that format results in an improved working of the disk such as increasing the amount of data storage, allowing faster access to data, or reducing errors. However, a floppy disk that differs from known disks only in the information stored on the disk is not patentable.

### Advice

Computer related technology has many unprecedented developments and there may be many patentable inventions not covered by the above examples. For advice about patent issues and more detailed and specific information about patenting computer related inventions you should consult a patent attorney (listed in the Yellow Pages□ telephone directory of the capital city nearest you).

## 2. Copyright

In Australia, source code, executable code and data banks and tables are automatically copyright under the Copyright Act 1968 without the need for observing any formality such as registration. However:

- not all foreign countries recognise copyright in codes or data banks or tables; and
- those which do recognise such copyright may require observance of some formality, such as marking with the universal copyright symbol \*, and marking with the date of first publication and the name of the copyright owner.

If you wish to ensure overseas copyright in a computer program or data bank or table, you should consult a patent attorney or a legal practitioner **before** you publish your work anywhere in the world.

## 2. Copyright cont.

In respect to computer programs it is important to remember that copyright only protects the specific code of a computer program and does not protect the ideas or methodologies which might be embodied in the specific program. Once those methodologies are known, a competent programmer would be able to write a "new" program, which could perform those methods, and do so without infringing copyright on any pre-existing computer program.

The Attorney General's Department administers copyright legislation. Information is also available from the Australian Copyright Council.

## 3. Circuit Layout Rights

In Australia, the layout of an integrated circuit, that is "the three-dimensional location of the active and passive elements and interconnections making up an integrated circuit" is automatically protected by the Circuit Layouts Act 1989. The design or layout of a circuit is generally not patentable. The situation in overseas countries may be different. If you want protection for an IC layout overseas, you should consult a patent attorney or legal practitioner for up to date information. The Attorney General's Department administers the legislation on Circuit Layout rights.

## Seek Professional Advice

This sheet provides only basic information. Patent matters can involve complex legal issues and it may be in your best interests to consult a patent attorney, solicitor experienced in intellectual property matters, or your business adviser.