

PROTECTION TO LAYOUT DESIGN OF SEMICONDUCTOR INTEGRATED CIRCUIT: THE DESIGNS ACT, 1911 RE-VISITED

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I. INTRODUCTION

An average middle class individual in the developed world is helped in his daily life by a 'chip' in at least hundred different ways. His brush with this 'chip' starts in the morning when he gets up and continues till he goes to bed at night. This help which he gets from a chip can take various shapes like an electronic alarm clock, a similar tooth brush, a washing machine, a microwave oven, a refrigerator, car or the more advanced and sophisticated cellular phone, computers and the more advanced domestic electric security systems.

In developing world, especially in India, a middle class individual also comes in contact every day with this 'chip' though not at such a large scale. Since the application of the 'chip' is diverse and uses are beneficial for a common individual, some regulatory and preventive measures were thought to be necessary for protection of the creators of layout designs so that the incentive to 'create' is not taken away by shameless unauthorized duplications and piracies. This came about in the shape of the Semiconductor Integrated Circuit Layout-Design Act, 2000 ("the Layout Design Act").

II. MEANING AND INCLUSIONS

A layout design may either be analog or digital. Analog is one which is laid out by hand and digital is one which is laid out with the help of tools only. In cases of infringements, it is immaterial that a hand laid out design is pirated by a machine made design or vice versa since the result in both the cases would be denial of rights to the creators of such basic design. A semiconductor is one which as the name suggests neither involves complete conduction nor does it involve a complete insulation. It is partial in both respects. It is made of either silicon or silicon germinium. A change over from one medium to the other again cannot affect the rights of the creators.

The most important aspect of the Layout Design Act is the part which defines various elements constituting the chip or integrated circuit [section 2]. According to Act, it means "a layout of transistors and other circuitry elements and includes lead wires connecting such elements and expressed in any manner in a semiconductor integrated circuit" [section 2(h)].

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Since technical words are used in this part, for better understanding, the meaning of these technical words must be clarified. First of all we must know about a 'chip'. Multiplicity of transistors makes a chip. 'Other circuitry elements in this section means capacitors, resistors, inductors and diodes. Layout can easily be given its literal meaning which means with reference to the Layout Design Act as placement of transistors in a layout design. 'Lead wires' mean and include basic components which connect the elements.

The Layout Design Act further explains what constitutes a 'semiconductor integrated circuit'. It is a product which has transistors or other circuitry elements which are formed on a semiconductor material or on an insulating material or which is formed inside the semiconductor material. What is most important aspect of this definition is that it must have the capability of being functional in the sense that it must have the capability of performing an electronic circuitry function [section 2(r)]. A non-performing or experimental or dummy semiconductor is thus kept out of the scope of this Act.

III. REGISTRATION

The Layout Design Act puts a mandatory prohibition for registration of layout designs which are not original or have already been commercially exploited in India or a convention country. However, if within two years of commercial exploitation, the application for registration is made before the appropriate authority, it would not be deemed to be commercial exploitation for the purposes of this Act. This exception is recognized to see the response of the market so that improvements in the concerned design or product using the design can be made by the creator of such layout design. A layout design which is neither inherently distinctive nor has the inherent capacity to distinguish itself from another layout design which is already registered with the appropriate authority is not registrable [section 7(1) and (2)].

Originality of a layout design lies in creator's own intellectual efforts. It is considered original if it is not commonly known to other creators or manufacturers of such design at the time of application for registration of the concerned layout design. However, even if combinations of elements and interconnections are common knowledge amongst the creators of layout designs or manufacturers of semiconductor integrated circuits, it for the purposes of the Act shall be considered as original if such combination in the layout design taken as an integrated whole is the result of the creator's own intellectual efforts in the sense that he has not copied it from anywhere and the end result is because of his own efforts.

A creator of a layout design is the person who can apply to the Registrar for registration of his layout design provided conditions under section 7 of the Act are satisfied. But in cases where the layout design is the result of a commission or has been created under a contract of employment, it can only belong to the person who has commissioned such layout design or to the

person under whose employment such work has been created. In order to deny the right to the creator there must be a master-servant relationship, otherwise it will belong to the creator. It will also belong to the creator and not to the employer where there is an express contract giving the right of ownership to the creator.

The Designs Act of 1911 in very clear terms lays down that in order to be entitled to registration, a design must be new or original and not previously published in India. Novelty is a concept borrowed from patent law and originality in a design under the Layout Design Act has to have the same meaning and interpretation as in the 1911 Designs Act. Under the 1911 Act, original was interpreted as something which originates by the exercise of intellectual activity based on an idea which comes from the originator and had not occurred to any one before him. Thus in both the Acts the conditions for registration are almost same.

The procedure for registration follows almost same pattern as the registration of patents. The Registrar has power to accept, reject or ask for modification of a layout design. After advertisement of its acceptance, the opposition, if any, can be filed with the Registrar within three months. The original applicant can furnish his explanation within two months of the communication from the Registrar. If he does not send his reply to the objections, his application is deemed to be abandoned.

Section 13 of the Layout Design Act gives authority to the Registrar to register the layout design and the registration relates back to the date of application for such registration.

The Layout Design Act has fixed a period of ten years for a registered design to be counted from the date of application or the date of first commercial exploitation anywhere in any country whichever is earlier. Thus, if a person has already gone in for commercial exploitation, the term is reduced by two years and after the actual date on which it is registered, the exclusive right can be enjoyed for eight years only (section 15).

The Layout Design Act indirectly makes registration mandatory because no person is allowed to start proceedings to either prevent or to recover damages for the infringement of unregistered layout design [section 16].

IV. EFFECTS OF REGISTRATION

The registration of layout design confers on a person exclusive right to the use of such a design even when it is not incorporated in any article. His rights are infringed [section 18(1)] if any person not authorized by him reproduces such a design or incorporates the same in a semiconductor integrated circuit in part or in its entirety. Over and above this, a person is said to have infringed the layout design which is already registered if he imports such design for sale or sells a semiconductor integrated circuit which incorporates such layout

design or sells articles incorporating such semiconductor integrated circuits which contains the registered layout design. While dealing with the situations that do not constitute infringements, the Layout Design Act follows to a great extent the provisions on 'fair dealing' which are considered as exceptions to infringement of copyrights. It removes from the ambit of infringements those acts which are performed for the purposes of scientific evaluation or analysis, research or teaching [section 18(1)]. The obvious idea is to protect the people who are involved in scientific development and application and dissemination of knowledge. Without this provision there can not be a meaningful scientific development in the chosen field and knowledge would remain static if the creator of the layout design chooses not to use or allow the use of such a design in any article.

If a person on the basis of scientific evaluation and analysis creates another layout design which is recognized as original under the Layout Design Act, he gets the same rights as the owner of original design and can incorporate the same in any semiconductor device. This to some extent is similar to the rights of a person who gets a right under the Patents Act for patent of improvement provided the conditions thereunder are satisfied.

According to clause (b) of section 18 of the Layout Design Act, a person infringes the layout design if he imports, sells or distributes for commercial purpose such a design. But sub-section 5 of the same section makes proof of *mens rea* mandatory and unless a person knows or has means to know about the existence of such a registered layout design, he can not be held responsible for infringement of such a layout design. If after such knowledge he continues to perform the prohibited acts in respect of the stock on hand, he is under obligation to pay the owner of the registered layout design money as royalty which may be decided between the parties or by Appellate Board. The royalty paid must be reasonable and should be calculated having regard to the benefit accrued to such person as a result of such commercial exploitation of registered layout design in a semiconductor integrated circuit or an article using such semiconductor integrated circuit which incorporates the registered design.

The Layout Design Act recognizes the multiplicity of the rights on the same type of layout design provided it is shown that the subsequent layout design which is similar to a registered layout design was the result of application of independent intellect and was created before the registration of the registered layout design [section 18(8)]. In this case a problem can arise as registration relates back to the date of application and if the subsequent layout design is created between the date of application and date of registration then the independent effort of the person is wasted. In such cases, it would be appropriate to protect the rights of creators of both the layout designs by taking the actual date of registration into account because that is the date which gives validity to registration even if it operates from the back date i.e., the date of application. If this interpretation is not accepted, section 18 (8) of the Layout

Design Act would become meaningless as rights of many creators who have used their independent skill would be undermined. Moreover registration being mandatory formality, the rights cannot arise if a person does not go in for registration. Therefore, for the purposes of this clause, actual date of registration should be considered and both of them should be allowed to enjoy the fruits of their labour as no piracy is involved. This argument draws support from the principle of 'concurrent honest use' where both the parties are allowed to reap the fruits of their labour.

V. ASSIGNMENT AND TRANSMISSION/COMPULSORY LICENCES

Since the Layout Design Act is part of industrial and intellectual property, it was natural to treat it as moveable/intangible property in the hands of the owner of the registered layout design. The Act gives a registered proprietor of a layout design the right to assign the layout design and issue receipts for any consideration received as a result of such an assignments [section 20]. In this respect the Act gives an overriding effect to the rights of the owner by clearly saying that all contrary provisions will have to be read subject to the rights of transmission and assignment given to a creator under Chapter V of the Layout Design Act.

The procedure of assignment is almost the same as in case of original registration of layout design. The assignee has to make an application to the Registrar within six months which can be extended by another three months at the direction of the Registrar for advertisement of such assignment. Where there is no opposition to the assignment in favour of the applicant, his name can be entered in the register on the proof of valid assignment as proprietor of such layout design. If the document of assignment is not entered in the register, it can not be admitted in evidence by the Registrar or the Appellate Board or any court as a proof of title by assignment or transmission.

Perhaps the most disturbing aspect of the Layout Design Act is found in section 51 which in effect talks about compulsory licensing though indirectly. Such a provision is not only anti-competitive but also takes away the incentive for foreign investment in the country especially in view of the reservations expressed by foreign companies about such a provision in the Indian Patents Act, 1970.

Section 51 of the Act gives authority to the Appellate Board to permit the use of a registered layout design if the Government or any person authorized by the Government makes an application to the Appellate Board. The Board is authorized to impose conditions on such use. The permitted use can be for non-commercial purposes or for extreme public urgency or in those cases where there is national emergency. Over and above this, such use can not give the power of assignment or transmission of rights to a permitted user. The registered user is given royalty during the period of permitted use and such

royalty is fixed by the Appellate Board [section 51]. Appeals in case of dispute with the Appellate Board lies with the high court [section 53(1)].

VII. OFFENCES AND PENALTIES

Any person who indulges in infringement of a layout design as envisaged under section 18 of the Layout Design Act, can be imprisoned for a term which may extend to three years or a minimum fine of fifty thousand rupees can be imposed on him. This fine can extend to rupees ten lakhs. The punishment can in cases be very severe as the provision gives discretion to impose both the jail term as well as the fine [section 56].

Further a person who misrepresents a layout design as a 'registered' layout design can be imprisoned for a term that can extend to six months or may have to pay a fine of upto fifty thousand rupees or both [section 57].

Further if a person describes his place of business as connected with the registry of semiconductor integrated circuits layout design which in fact it is not and thus misleads the public at large, can be punished for a term which may extend to six months or can be fined or both [section 58].

The Act does not allow a third party to institute criminal proceedings against an infringer. The owner of a registered layout design only is allowed to file a case if individual rights are infringed [section 64(a)]. If the offences are against the registry as mentioned under sections 58 and 59, only Registrar or his authorized officer is allowed to make a complaint [section 64(b)]. The prohibition in case of third parties is mandatory as the provision clearly begins with the words that 'no court shall take cognizance'. It thus clearly moves away from the basic principle of criminal law that the complaint in the form of first information report can be filed by anyone who is aware of commission of an offence.

VII. MISCELLANEOUS

Chapter X of the Act deals with the miscellaneous items. Section 68 puts a bar on Registrar to make public any kind of information regarding registration of any layout design which can adversely affect the security of India. He is under obligation to cancel any registration if the security of India is involved provided the Central Government has notified the same in the official Gazette [section 68].

'Security of India' is explained in the Act as meaning the use of such layout design or semiconductor integrated circuit using such design or an article using such semiconductor integrated circuit directly or indirectly for war or for the use of military establishment or for any other kind of emergency in its international relations.

The chapter also talks about implied warranty on the part of the seller of layout design or a semiconductor incorporating such a design or an article incorporating such a semiconductor integrated circuit that such a layout design or the layout design so incorporated in the chip or article containing that chip has a genuine registration. This presumption can be rebutted only by a written and signed document by the seller or some one on his behalf who has such authority from the seller [section 71]. This provision obviously is incorporated to protect an innocent buyer from prosecution if it is found subsequently that such a registration is not genuine.

The chapter also gives wide judicial powers to the Registrar while dealing with a matter which comes before him. All the powers enjoyed by a civil court are also enjoyed by him. He can receive evidence, administer oath, enforce the attendance of witnesses, compel the discovery and production of documents and issue commissions for the purposes of examination of witnesses. He has been even given the power to review his own decision. Besides this in many matters the acts of Registrar are taken as being final and the documents issued by him or the certificates under his signature pertaining to the registration are admitted in evidence and the court can not ask for the actual document of registration.

VIII. CONCLUSIONS

The primary object of the Layout Design Act, 2000 seems to be for the benefit of the general public as they are the ultimate beneficiaries since they would be the end users of the articles which incorporate such layout designs in any semiconductor integrated circuit. It is because of this fact that the state should encourage the painful researches of learned men. The easiest and most useful way of doing it is by securing to them the property in their own works. Even though, a good creation may not initially be liked and a bad one thoroughly advertised, yet sooner than later the reward will be in proportion to the merit of the work. A person who engages in a laborious work with sharp intellect will do it with more enthusiasm, if besides fame, he knows that his creation may provide a comfortable life to his family²⁰. It is only then that he would not be forced to sell or mortgage his intellect for a decent living or flattery.

The effect of the Layout Design Act dealing with layout design of semiconductor integrated circuit is to afford maximum protection to the creators of such design if they follow the simple procedure laid down in the Act for registration of their layout designs. The procedure for registration is simple. The setting up of the Layout Design Registry and Appellate Board assures full protection of all rights in relation to a layout design which is registered whether the same has been incorporated in a semiconductor integrated circuit or in any article which uses such a semiconductor integrated circuit.

The layout design is like patents and trade mark, part of industrial property because of the fact that the application is commercial in nature. To a great extent all forms of industrial property confer negative rights to prevent the appropriation of individual rights over such property by another. This is overtly visible in all forms of industrial property. Patentee's rights are prevented from being appropriated by an infringer. But over and above this he has the additional right to prevent another person from using his invention, even though that other person arrived at the same result by using independent means and had no knowledge about the original invention. This is one aspect where the Layout Design Act dealing with layout design differs from the patent law. Even though both give some sort of monopoly, the monopoly in respect of patents is absolute while the monopoly in respect of layout design of semiconductor integrated circuit is only a limited one. It is because if the second creator of the same design arrives at the same result by using his own intellect and by independent means, the first creator of a registered design cannot by virtue of his registration prevent the second creator from registering his design or commercially exploiting it. An independent design is thus considered original notwithstanding the fact that there is already in existence an earlier design which is identical to it. Because of this factor the right which a person gets under the Layout Design Act is more akin to the rights of authors of original creation under copyright law.

Lastly, the Layout Design Act is a step in the right direction in view of the expansion of the global economy. The Act protects the rights of the individuals, promotes creativity and facilitates dissemination and application of technical information. The future of the developing countries depends on the creativity of its people and therefore the promotion and encouragement of intellectual creativity is of paramount importance. The developing world can not run the risk of being marginalized, isolated and left behind the developed world in the newly emerging knowledge based technical environment. The creation and use of technology must be indispensable element and at the core of development of the developing economies.