



## **Apple, Inc.—A Case Study in Successful Exploitation of Design and Innovation**

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An enterprise's most vital assets lie in its design and other creative capabilities.

— Samsung Chairman Kun-Hee Lee

Some of the world's strongest consumer products companies have achieved this success by harmoniously integrating technical innovation and distinctive product design. Worldwide brands such as Bang & Olufsen™ are built on consistently offering highly innovative consumer products incorporating unique, memorable design elements. It can be debated as to which is more innovative: the technical performance of the Bang & Olufsen™ products or the awe-inspiring design that captures the imagination of the consumer.

Apple, Inc. is another example of a strong consumer products company whose most recent product successes result from the successful integration of innovative technology with design innovation. This article will review recent examples of products and IPR registration strategies in which integrated technological innovation and innovative design are intertwined and then exploited to generate product sales and market power.

I would submit that one of the most transformative consumer products of the past 15 years is the Apple, Inc. iPod™.<sup>1</sup> The product was launched at retail in October 2001, and since then more than 300 million have been sold. The mere mention of the iPod™ brand likely instantly creates an image of the product in your mind, but a review of the product shows that the design is (apparently intentionally) incredibly simple and clean. As seen below in Figure 1, the product is a simple rectangular body having a rectangular display screen occupying the bulk of the top portion of the body and concentric circles forming the controls for the unit on the lower half of the body.



Figure 1 – Original iPod™ Design

My basic description does a great disservice to the creative insight, thought, design and analysis that were no doubt invested to create this simple, successful, innovative and memorable design. To better understand the integrated strategy for IPR protection for this product, we need to take a step back and review the timing and filings Apple, Inc. has pursued to secure various forms of intellectual property in an attempt to extract the full value of these innovations throughout the entire product life cycle.

Because this article comments on innovative product design, a side comment on the origin of design of the iPod™ may be warranted. As noted above, one of the more memorable design elements of the iPod™ is the integration of the rectangular body, the rectangular display screen and concentric circle controls. As memorable as the integration of these elements in the iPod™ design may be, some believe that this design was inspired by the 1954 Regency TR-1 Transistor Radio as seen in Figure 2.<sup>2</sup> The Regency TR-1 was the first commercially produced pocket-sized transistor radio which, like the iPod™, transformed the way consumers access music. Like the iPod™, the design of the TR-1 included a rectangular body supporting a small rectangle pattern (the holes through which the sound projected) adjacent to two concentric circles (the tuning

<sup>1</sup> Apple, iPod, iPhone, Shuffle, Cover Flow are all trademarks of Apple, Inc.

<sup>2</sup> See posting from Susannah Cullinane of the BBC News dated 21 September 2005 titled *The Old New* on [www.bbc.co.uk](http://www.bbc.co.uk).

dial). If in fact the design of the iPod™ was inspired by the Regency TR-1, then, in my mind, this revelation adds to the creativity of the design embodied in the iPod™. Who would have guessed that the ornamental design of a product from 1954 that revolutionized consumers' access to music would serve as the design inspiration nearly 50 years later for the next product to once again revolutionize consumers' access to music (and more).



Figure 2 – Regency TR-1 Transistor Radio from 1954

Those familiar with the iPod™ product line will recognize that the design of the iPod™ has changed over the past ten years; however the key design elements integrated into the product line that have remained largely constant such as the rectangular shape of the body (the Shuffle™ being one exception to this rule), the use of the rectangular display screen (again, the Shuffle™ being one exception to this rule) and the concentric circles of the click wheel (the click wheel has structurally changed since the product introduction in 2001, but the basic concentric circle design remains). Professor James Conley of the Kellogg School of Management at Northwestern University<sup>3</sup> refers to elements such as the rectangular body, rectangular display screen and concentric circles of the click wheel as user interface “touchpoints.”

Since the introduction of the first iPod™ in 2001, virtually every new iPod™ release has integrated these innovative “touchpoints” which results in the memorable mental picture consumers conjure up whenever somebody mentions the word iPod™. Apple, Inc. has been systematic and

<sup>3</sup> The author owes Professor James Conley a great deal of credit for the concepts and ideas included in this article. Those having an interest in the concepts of Value Transference are encouraged to seek out the writings of Professor Conley such as *Shape of Things to Come*, *The Wall Street Journal*, May 12, 2008; *Inventing Brands: Opportunities at the Nexus of Semiotics and Intellectual Property*, *Design Management Review*, Spring, 2008 and *Trademarks, Not Patents: The Real Competitive Advantage of the Apple iPod*, [www.core77.com](http://www.core77.com).

thorough in taking full advantage of the available intellectual property protection schemes to extract the maximum value in the marketplace from these user interface touchpoints. For example, within 18 months of the consumer release of the iPod™, Apple, Inc. was granted the first of many US Design Registrations directed to this product line.<sup>4</sup>

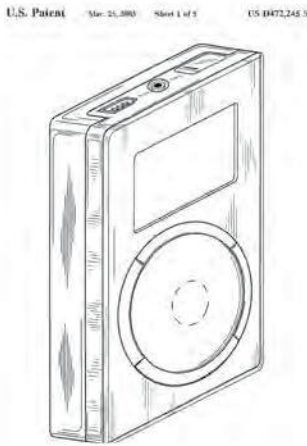


Figure 3 – US Design Registration direct to Original iPod™

As seen in Figure 3, this design includes the basic touchpoints discussed above, namely the rectangular body, rectangular display screen and concentric circle click wheel. This Design Registration grants Apple, Inc. the right to exclude others in the United States from commercializing a product incorporating the depicted non-functional design elements for a period of 14 years. Not being content with the limited 14-year life of a Design Registration, Apple, Inc. took the protection of these nonfunctional design elements one step further and successfully secured registered protection for these touchpoints as a Trademark (see Figure 4).<sup>5</sup>

<sup>4</sup> Please note, Apple was granted a US Design Patent (US Pat No. D472245 issued 25 March 2003) which is most analogous in Europe to a Design Registration. Similarly, Apple, Inc. has been granted numerous US Utility Patents which, in this case, are most analogous to a “Patent” in Europe (not a Utility Model). In view of the fact that this audience is largely European, this article will use the phrase “Design Registrations” when referring to US Design Patents and will use “Patents” when referring to US Utility Patents.

<sup>5</sup> See US Trademark Registration No. 3855964 registered 5 October 2010.



Figure 4 – US Trademark Registration directed to iPod™

As a result of this multifaceted, proactive registration strategy, Apple, Inc. has secured varying registered IPR protecting the original iPod™ design over time as follows:<sup>6</sup>

- From March 2003 to October 2010—Design Registration protection.
- From October 2010 to March 2017—Both Design Registration and Registered Trademark protection.
- March 2017 to ?—Registered Trademark protection exists for as long as Apple, Inc. continues to make use of the mark in the US marketplace.

Professor Conley refers to this multifaceted IPR registration strategy as “Value Transference.” Specifically, Value Transference is the premeditated use of multiple intellectual property regimes during specific points in time throughout the product life cycle to realize meaningful product differentiation in the marketplace.<sup>7</sup> In this case, Apple, Inc. has utilized in the US both the Design Registration regime and the Trademark Registration regime to safeguard its investment in the innovative design embodied in the original iPod™.

<sup>6</sup> Please note, Apple, Inc. has other issued Design Registrations, Patents and other Registered Trademarks directed to the iPod™ product; these comments should not be interpreted to suggest that the assets specifically mentioned represent the complete scope and extent of the registered portfolio for the iPod™ product.

<sup>7</sup> See *Trademarks, Not Patents: The real competitive advantage of the Apple iPod*, [www.core77.com](http://www.core77.com).

In the example of the original iPod™ discussed above, Apple, Inc. was successful in securing protection for the non-functional design elements of the original iPod™ within 18 months of the consumer product launch as a result of the granting of the first US Design Registration. So, before competitors could introduce a copy of the product, Apple, Inc. had the Design Registration and could exclude copycats using the protected design. Once the Trademark registered in 2010, Apple, Inc. has another tool available to protect its innovations and, perhaps more importantly, is able to protect many of these same non-functional design elements well beyond the expiration of the Design Registration in 2017. As long as Apple, Inc. continues to use in the marketplace the design seen in the Trademark registration, it will be able to renew the Trademark registration and prevent competitors from selling a confusingly similar product. Therefore, the value that Apple, Inc. initially developed in the Design Registration is currently being transferred to the Trademark Registration. Provided in Figure 5 is a graphic which illustrates this concept of Value Transference among Design Registrations, Patents and Trademarks.

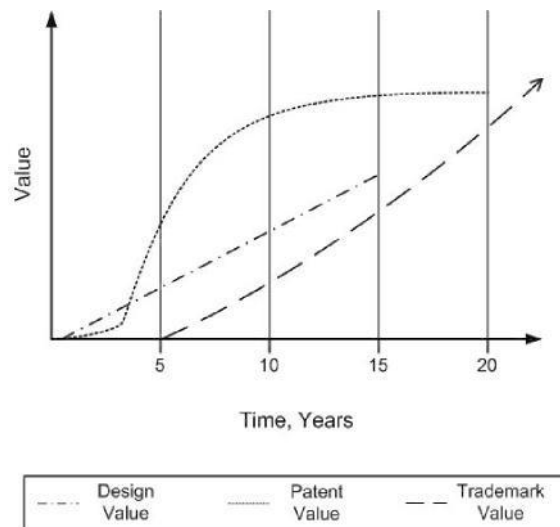


Figure 5 – Value Transference of IPR

The iPod™ example discussed above focused on Value Transference between Design Registrations and Registered Trademarks, but Figure 5 also depicts Value Transference from Patents. While there can often be great similarity between the non-functional design elements seen in a Design Registration and a Registered Trademark, the same cannot be said for a Patent, which is directed solely to functional features. However, the concept of value transference applies similarly to Patents. If a product, such as the iPod™, includes functional innovations capable of protection via a Patent, then a creative marketing company, such as Apple, Inc., can



capitalize on this technical innovation and create an association in the minds of consumers between the innovative functional features and the non-functional design elements, thereby transferring the value of the innovative functional features to the non-functional design elements.

Figure 5 also shows the timing often experienced in the IPR registration schemes. The US Design Registration can issue within a matter of months of the filing. So if one is strategic in timing the filing the application as compared to the timing of the product launch, the 14 years of protection in the US can begin very close to the launch of the product. The US Patent application pendency varies with technology, but it is not unusual for an application to be pending for three years. The valuation of the Patent depicted above presumes three years of pendency until issuance. As seen, the value of the Patent increases dramatically at year three (which is the assumed issuance date), with the value remaining until the end of Patent term at twenty years from the filing date. The value of the registration of the Trademark begins to increase at approximately year five because registering a non-traditional Trademark in the US can be difficult until after five years of promotion and sale of the mark in the marketplace. After several years of continuous and exclusive promotion and use of the non-traditional mark, consumers will develop an association between the product configuration and source of the product.

The iPod™ is just one example of an Apple, Inc. product protected via this multifaceted registration strategy. Not surprisingly, the extraordinarily successful iPhone™ is also the subject of a Design Registration<sup>8</sup> (see Figure 6) and more recently, Trademark Registrations<sup>9</sup> (see Figure 7).

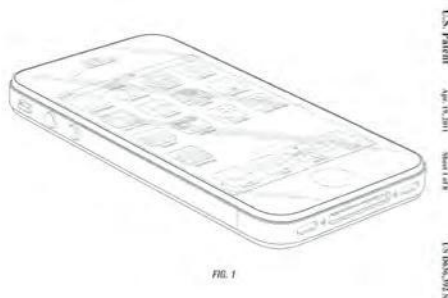


Figure 6 – iPhone Design Registration



Figure 7 – iPhone™ TM Registration

8 US Design Registration No. D636392.  
 9 US Trademark Registration Nos. 3470983 and 3475327.

Still another Apple, Inc. innovation capable of this multifaceted registration strategy is the Cover Flow™ technology for displaying album artwork, photographs and the like on the iPod™. This author is unaware of any Patent protection directed to this innovative display methodology, but innovations such as these are clearly subject matter capable of protection via Patents (as evidenced by the fact that Apple, Inc. was sued on the grounds that the Cover Flow™ technology allegedly infringed certain Patents held by Mirror Worlds, LLC). Apple, Inc. has successfully secured Design Registration protection<sup>10</sup> (See Figure 8) for the Cover Flow™ display, and it remains to be seen whether Apple, Inc. will pursue Registered Trademark protection for this innovative display.

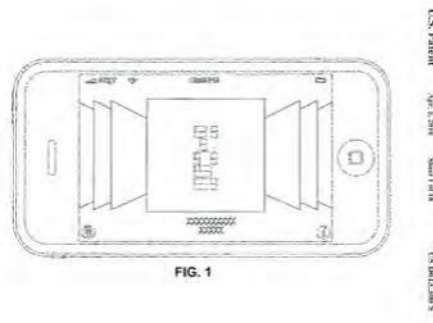


Figure 8 – Design Registration for Cover Flow™ Display

So it is clear that Apple, Inc. has engaged in a premeditated, intentional strategy of utilizing many available forms of intellectual property protection to register its rights in the innovative design elements.<sup>11</sup> The phenomenal commercial success of the iPod™, iPhone™ and, more recently iPad™ products bolsters these registered rights so that Apple, Inc. is now able to create and exploit a two-dimensional graphical icon that consumers associate with the Apple, Inc. products. As seen below in Figures 9 and 10, Apple, Inc. has also secured registered Trademark protection in the US for these two dimensional icon product representations.<sup>12</sup> Apple, Inc. can extract further value from its original product innovations by licensing these registered icon Trademarks to manufacturers of iPod™, iPhone™ and iPad™ accessories.

<sup>10</sup> US Design Registration No. D613300.

<sup>11</sup> Copyright presents yet another viable avenue for the multifaceted protection of IPR. Under US law, Copyright protections may not be well suited to the innovations described herein, but we must keep this option in mind, especially as we consider markets outside the US.

<sup>12</sup> See US Trademark Registration Nos. 3341214 and 3796033.



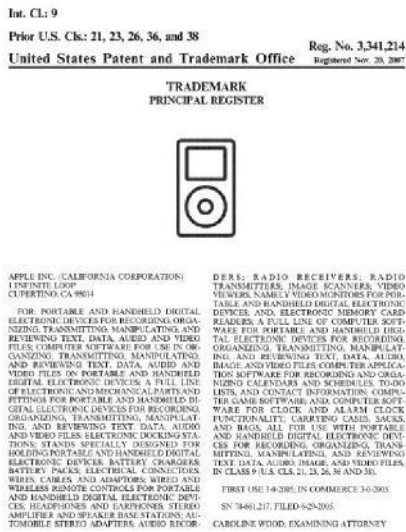


Figure 9 – iPod™ Icon Registration



Figure 10 – iPhone™ Icon Registration

While we may not all have the flair for creative spark or intuition for identifying relevant technology as Apple, Inc., we can follow the pattern for commercial exploitation of these assets exhibited by Apple, Inc. First, invest energy and resources in integrating innovative product design into technically innovative products. Second, utilize different IPR protection schemes to proactively register multiple facets of the technical, functional and non-functional innovations so that the value inherent in these multifaceted innovations can be transferred from one IPR protection scheme to another over the life cycle of the product.



