

Roots of the iPod's Industrial Design

Bill Buxton – Excerpt from catalogue of [The Amazing Gadgets Show: Selections from the Buxton / Microsoft Collection](#)



Regency TR-1, (1954)

Sony TR-63 (1957)

Braun T3 (1958)

Apple iPod G4 (2004)

Note: To emphasize similarities in form, and better enable comparisons of size, I have positioned devices in a vertical stance, with the rotary controls at the bottom, to match that of the iPod. Hence the Regency and Sony are upside-down, and the Braun on its side.

The genesis of design language which defines the Apple iPod Classic family is a useful illustration of the “Standing on the shoulders of giants” nature of design practice.

This story spans 50 years, from the 1954 launch of the first transistor radio, the Regency TR-1, to the 2004 launch of the 4th generation of the iPod Classic. Among students of industrial design and Apple products, it is rather well known that an inspiration for the industrial design of the iPod Classic's industrial design was the 1958 Braun T3, a transistor radio designed by Dieter Rams and the Ulm Hochschule für Gestaltung. The overall proportions, rounded corners, circular control (flush to the front surface), as well as the relationship between the circular control and the display (audio in case of the T3), the general muted colours, and the clean minimal design, are all shared by both.

This is no surprise. First, the T3 is a classic, and – deservedly - holds a place in the design collection of the Museum of Modern Art in NYC. Second, Jonathan Ive, the design lead at Apple, makes no secret of the high degree of respect that has for the work of Dieter Rams.

But for our purposes, the question to explore is: *Is the relationship between these two products the exception or the rule?*

What I hope to convince you of is that it is unquestionably the rule. My approach to doing so is to trace the iPod Classic's lineage back even further, and demonstrate that just as Jonathan Ive drew on the work of Dieter Rams and his colleagues, so – in turn - did they draw on those who came before them.

Look again at the Regency TR-1. It was designed by the Chicago-based design firm, Painter, Teague and Peterfil. Here we see some strong similarities to the Braun T3. These include a flush-mounted circular control, rounded corners, the use of a square array of circular holes to define the speaker grill, and those holes being directly in the face of the radio, thereby retaining a clean, flush front surface.

Beside the Regency TR-1 sits the Sony TR-63 which was released the year before the Braun T3. This was the second transistor radio released by Sony, but the first to be released outside of Japan. Again, we see the large rotary control prominent on the front, as well as the use of round holes to define the speaker grill, first seen on the Regency TR-1. In contrast to the TR-1 and the Braun t3, the front dial is *not* mounted flush to the front surface, and the speaker grill's holes smaller. Note also the bright red of the side power/volume dial on the side, and the highlights around the main dial. Coupled with the addition of a metal speaker grill, the Sony brings a level of "bling" which is in marked contrast to the Regency TR-1, and especially the Braun T3.

The especially clean and coherent design of the T3 is created by considerations absent in the other radios. These include using the same colour and materials in the control wheel as in the radio's body, the absence of any brand name or logo on the face, almost hiding the power/volume control discretely onto the side of the radio, and eliminating any indentations on the surface of the face other than the grill holes.

There is one other difference of note – one which may surprise those who have never seen all four devices side-by-side. Size.

If one searches the Web for images of the Braun T3 and iPod together, they are mostly commonly shown as if they were the same size. This is clearly not the case. Hence many are surprised when they finally see the actual devices together. Size matters. It speaks to values, intent, and market. It therefore warrants a few words.

It was not until 1950 that Texas Instruments produced world's first commercially available silicon transistor. It was not until 1952 that the first transistorized product became available in the USA, a hearing aid from Sonotone. The Regency TR-1 came into existence, in partnership with

Texas Instruments, largely to create a “killer-app” which would prove the merits of the transistor. Prime amongst those merits was the potential for miniaturization. So, size was a prime concern – a key value proposition.

This was not missed by Sony. There was a race to be first, and Sony lost out to Regency. But if they could not be first, Sony was determined to be smallest. One of their specific design objectives was to be small enough to fit in a man’s shirt pocket. In this they failed, but only just. Having come so close, they were reluctant to give up on the PR value of having done so. Hence, at the launch, the Sony representatives all wore customer shirts, with enlarged pockets holding the radios. Through such means doth marketing make some claims “true”.

Besides being a reminder of the nature and importance of the relationship between design and marketing, this focus on size provokes another question: If a key benefit of transistors was to enable things to be made smaller, why is the Braun T3 so much larger than the earlier two transistor radios?

Here again we have an example of how such comparative case studies help tease out important factors of design. One response could be, “Just because you *can* do something does not mean that you *should*.”

Within the realm of possibilities, what constitutes a “correct” choice are considerations such as why you are making the product, who your intended customer is, and where they are going to use it – in short, how well you know your customer? Your market?

In the United States, the diminutive portable transistor radio was as much a life-style accessory as a music listening device. This was the emerging age of rock-and-roll, the era where then notion of “teen-ager” became a distinct entity. It was also an era of new-found post-war wealth and mobility. Hence, small, portable and affordable were all a good fit.

Europe was different. Radio was dominated by state-owned stations, and the music played was far more conservative. Quality of sound trumped size. The size of the Braun T3 was a balanced compromise between portability and sound quality – the larger speaker being required to meet the desired standard of quality, and thus the need for a larger – but still acceptable - form factor.

Overall, we see how design elements are picked up from one product to the next. Just as Apple and Jonathan Ive drew heavily on Dieter Rams for the iPod Classic, so did Dieter Rams and Sony draw on the Regency TR-1. Yet, despite that, each remains differentiated from the other due to simultaneously making other design decisions, which distinguish them from the others. Such is the essence of design and innovation.

Generally speaking, if you find a case where the adoption seen in this example does not exist, most likely you just haven’t looked hard enough to uncover the sources of inspiration! Statistically speaking, nobody invents anything alone, from scratch. That is the lesson!