



# The Pod Father

Long before the iPod, the Hoosier-made Regency TR-1 filled our ears. And judging by appearance, the Apple didn't fall far from the tree.

**BY MEGAN FERNANDEZ**

In an overlooked corner of the Indiana State Museum, past several kiosks and cases of the Global Treasures area, there's a collection of small, colorful vintage radios under glass. Visitors tend to cruise past this display without a second glance, but if they were to see the old gadgets alongside an iPod, they might stop in their tracks.

The radios displayed are Regency TR-1s, made in 1954 by a small start-up electronics company in Indianapolis called I.D.E.A. Among collectors, science professors and historians, the TR-1 has long been famous as the world's first commercial transistor radio, an invention that radically changed the electronics industry and led the way to an era of cell phones

and laptops. The Smithsonian Institution keeps a TR-1 in its permanent collection, yet the history of the gadget remains "a surprisingly obscure story, considering how significant it is," says Dale Ogden, chief curator of cultural history at the Indiana State Museum.

One reason the radio's story remains off-the-radar is because our museum's telling of it, like most, fails to mention the most intriguing part—the part that yanks the Regency TR-1 into the spotlight of modern pop culture. With its compact size,

**THINK DIFFERENT?** The similarities between the Regency TR-1 and Apple's iPod (shown actual size) were first noted by a BBC staff member.

vertical orientation, bright colors, bud-style earphone and round dial, the radio looks remarkably like the Apple iPod, arguably the most successful product created in this century. The TR-1's design screams what the museum's display only hints at: It's the earliest ancestor of portable music players.

A couple of years ago, after a BBC staffer's personal Web site showed a photo of TR-1s next to like-colored iPods, the British company produced a story bringing the old radio back into the public eye, saying, "Hi-tech, trendy colours, rock music, punchy slogan. Remind anyone of anything?" Then, *PC World* ranked the most important gadgets of the last 50 years, and the Regency radio came in number 10. It was the highest-placed product that a reader might not recognize, and ranked just below its offspring, the Sony Walkman, the iconic cassette player of the '80s, and the iPod, the iconic MP3 player of today.

Too often today's portable-music craze is traced back only as far as the once-ubiquitous Walkman. When the

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evolution is traced back to the portable transistor radio, Sony sometimes gets the credit for that, too. (Diane Sawyer once propagated this myth on *20/20*.) The iPod's striking similarity to the TR-1 has added to the radio's legacy, but more important, it has sparked curiosity, allowing the TR-1 to claim its rightful spot in the annals of pop culture and offering an occasion to sing the praises of the little company that invented it.

**JOE WEAVER AND JOHN PIES,** both graduates of Rose Polytechnic

Institute (now Rose-Hulman Institute of Technology), worked as electrical engineers for RCA in Indianapolis until the mid-1940s, when the company moved their jobs to its headquarters in New Jersey. Neither man wanted to leave Indiana—Pies was recovering from a collapsed lung, making a move even less attractive—so they decided to stay put and start their own business. Called Industrial Development Engineering Associates, or I.D.E.A. for short, the venture started in 1945 as a garage-based consulting practice. In 1947, Pies and Weaver incorporated I.D.E.A. and brought on a management team so they could focus on engineering. The company's biggest success was a television-signal booster sold at Sears under the Silvertone label. Producing boosters and other small pieces of equipment was steady business, but the innovative minds at I.D.E.A. were looking for greater challenges.

An opportunity was blooming 900 miles away, at the Dallas headquarters of Texas Instruments. In the early

1950s, Texas Instruments was a small company with big ambitions—aspirations led by Pat Haggerty, who viewed the brand-new transistor as TI's magic seed. Bell Laboratories had invented the transistor in 1947 with the hope of revolutionizing electronics by replacing bulky vacuum tubes in radios and televisions with much smaller circuitry. Indeed, the transistor's inventors won the Nobel Prize for Physics in 1956, and now there are millions of the microscopic components in every cell phone and computer. But half a century ago, only a few people envisioned the tiny transistor's potential, and Haggerty was one of them.

Bell licensed transistor development rights to a handful of electronics companies, which started finding applications for it. Hearing aids debuted as the first transistorized consumer product, but Haggerty had bigger goals for the invention: specifically, a fat contract supplying transistors to a company like IBM in the emerging field of computers. "We needed a means of showing

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the world that Texas Instruments could produce large quantities of good transistors at moderate prices," Haggerty explained in a speech honoring the 25th anniversary of the TR-1.

His strategy was to generate buzz by making transistors work in something more common than a hearing aid—something like a pocket-sized AM radio, which would represent a huge improvement on the clunky tabletop models of the day. Texas Instruments lacked the production and marketing capabilities to do it alone, so in 1954, Haggerty

began shopping his idea to major electronics companies. "He took a big risk because every time Texas Instruments tried to enter the consumer industry, they had a colossal flop," says Robert J. Simcoe, a Boston engineer who has written about the Regency project. According to Simcoe, the big companies initially rejected the radio idea: "They didn't think [the transistor] was ready for prime time yet."

Bret Phillips, a TR-1 collector and researcher (those are his radios on display at the Indiana State Museum), says that Haggerty then ran across an ad for I.D.E.A.'s signal booster and pitched his radio project to the company in May 1954. I.D.E.A. accepted the job, and it's believed that the company's leaders (who are all deceased) thought such a radio would become essential to Americans during the Cold War. According to Simcoe, I.D.E.A. predicted that the Regency TR-1 would be a fixture in the family bomb shelter. The owner's manual included instructions for use "during an enemy attack."

I.D.E.A. signed on to an improbable timetable: four months to get a pocket-sized radio into stores before Christmas. "I.D.E.A. had a mad scramble," says Ed Millis, a retired Texas Instruments engineer who helps maintain the company's archives. "There was almost nothing from the vacuum-tube models that could be used." Texas Instruments supplied transistors and a prototype radio, and I.D.E.A. worked on making a better version. Engineer Richard Koch pored over the unfamiliar circuitry and eventually tightened it from six transistors to a patent-worthy and pocket-sized four.

"Taking on the radio was a probably a real white-knuckler because there were challenges beyond the transistor," says Don Pies, son of one I.D.E.A. founder. Indeed, a tiny radio would need tiny parts, and no such parts existed. While Koch puzzled over the circuitry, I.D.E.A. colleagues convinced suppliers around the country to tool miniature parts—a speaker, power switch, tuner dial, transformer, capacitor. CTS

\$49.95  
New battery

Uses tiny transistors . . . no bulky tubes, combines amazingly compact size, high performance

• First truly personal radio! Weighs only 12 ounces, measures 2" x 5" x 1 1/2". Fits in pocket or purse, available with leather carrying case. Genuine superheterodyne circuit; astonishingly clear tone . . . through acoustically-balanced speaker or tiny earphone. Shock-resistant, virtually service-free . . . engineered for lifetime performance. Uses standard 22 1/2 V. battery. Smart plastic case in black, ivory, mandarin red, cloud grey, mahogany or olive green. See it! Hear it! Get it!

REGENCY DIVISION, I. D. E. A. INC., INDIANAPOLIS, INDIANA



**MAKING NOISE** Thanks to its size and sexy advertising, the TR-1 was an instant hit.

Corporation in Elkhart came through with a wee volume knob, and the respected industrial-design firm of Painter, Teague and Petertil in Chicago designed the radio's plastic case. All the suppliers had to work at breakneck speed and were kept in the dark about I.D.E.A.'s secret project; meanwhile, the engineers in Indy crossed their fingers that none of the little parts would turn out even a smidge too big. The plastic cases arrived in Indy only days before the November deadline, and Koch's team started putting the pieces in place. They just fit.

**"SEE IT! HEAR IT! GET IT!"** The Regency TR-1, a name taken from a pack of Regency cigarettes, was advertised as the world's smallest and lightest transistor radio. Priced at \$49.95 (equal to about \$345 today), it was released only in New York City and Los Angeles, and sold in jewelry stores and other places where the wealthy shopped. The "pocket-sized" claim was partially true—at 5 inches long, 3 inches

wide and 1.25 inches thick, the 12-ounce Regency fit into the breast pocket of a high-quality Arrow dress shirt, but not the smaller pockets of discount-store shirts. It was available in several colors, such as red and black (snappier, iPodish hues came later), and optional accessories included a snug leather case and a single earphone.

I.D.E.A.'s first batch of radios sold out immediately, freeing radio from the family room just as rock 'n' roll was hitting the AM airwaves. According to Pies, *Fortune* magazine wrote that if you owned a Regency TR-1, you were the coolest things on two legs. Hollywood gave its stamp of approval when movie director Michael Todd ordered special TR-1s and personalized cases for the celebrity cast of *Around the World in 80 Days*, winner of the Best Picture Oscar in 1957.

The radio was an instant hit, and the electronics industry was caught off-guard. Major manufacturers slammed the brakes on vacuum tubes and rushed to enter the transistor game.

**If the iPod's mere appearance can cast a spell on today's seen-it-all consumers, imagine how seductive the TR-1 must have been 50 years ago, when most radios qualified as furniture.**

Competition arrived fast. In 1955, several American companies released small transistor radios, though none with as nifty a design as the Regency. Soon after, the first Japanese transistor radio hit the market, cheaper than all others. Its salesmen wore shirts custom-tailored with breast pockets big enough to hold the radio, and it sold so well that the maker, Tokyo Tsushin Kogyo, renamed itself with a more Western-friendly moniker: Sony.

Despite the competition, the TR-1 remained the gold standard of transistor

radios for several years, appearing on the cover of *Popular Electronics* in 1957. But neither I.D.E.A. nor Texas Instruments made any money from it. The \$49.95 price was the companies' break-even rate. By 1961, as cheaper radios flooded the market, Regency sales were far short of the 20 million that I.D.E.A. had originally projected based on their hopes for a bomb-shelter market. The company sold its radio patents to Texas Instruments to settle some debts, changed its name to Regency Electronics, and focused on manufacturing new high-end gadgets. In the early 1960s, profits started to climb from the development of two-way radios and other specialized equipment. Regency grew to a multimillion-dollar operation with several divisions, but it never regained the national spotlight, and most of its records were tossed when the company was sold in pieces in 1989.

**REMEMBERING THE REGENCY** as the world's first transistor radio or the

iPod's earliest ancestor doesn't cover the extent of the company's contributions to the modern era. What's really amazing, Simcoe says, is that the radio moved the electronics industry toward miniaturization, triggering an age of electronics that are personal and portable. So why didn't I.D.E.A. become a household name along with Sony and Texas Instruments?

Competition from overseas was one reason. Pricing was another. In 1980, Haggerty acknowledged in a speech that the low price had been a strategic mistake. But the flub had worse consequences for I.D.E.A. than for Texas Instruments. After all, the deal was never set up in I.D.E.A.'s favor. Texas Instruments was in charge the whole way, and the company's goal was to create markets for its transistors, not pocket-sized radios.

Pies believes the I.D.E.A. leadership simply didn't care about topping the charts of consumer electronics. "The spirit of Regency, to my knowledge, was taking on new things and not getting

caught up in the viability or practicality of it," he says. "My dad assumed the Regency legacy had faded, put it in the past and moved on."

Pies, along with a community of TR-1 collectors, would like to see Regency recognized as an electronics-industry pioneer. Their Web sites exalt the radio and the company's later inventions, chiefly Regency's advanced amateur radio equipment, but resurrecting a defunct electronics company's reputation is not at the top of anyone's priorities. On the handful of Web sites operated by Regency's admirers, no one notes the resemblance between the TR-1 and the iPod.

Still, the TR-1 had a magic that should not be forgotten. Apple has sold nearly 88 million of its MP3 player, a product whose aura stems largely from the way it looks and feels—not just what it does. "Consumers today are emotional about their products," says Scott Shim, assistant professor of industrial design at Purdue University. "They get attached." If the iPod's mere appearance can cast

such a spell on today's seen-it-all consumers, imagine how instantly seductive the TR-1 must have been more than 50 years ago, when most radios qualified as furniture.

Seductive enough to directly influence the iPod's design? Maybe. Online, the verdict among the technorati is that Apple didn't blatantly rip off the TR-1, and Shim says that the restrained aesthetic of the TR-1 and iPod is common for new technology. Still, it's worth noting that the iPod's designer, Jonathan Ive, has sometimes been called an "industrial design ninja" with a keen appreciation for his field's history, and that Apple's overall aesthetic echoes mid-century design, an American style marked by clean lines, a lack of ornamentation and industrial sleekness. Apple won't comment on the similarity of the two music players, but accidental or not, it's more of a compliment than a crime—Indy's own pocket-sized piece of history. ●