



KR Audio Electronics

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Eunice Kron, owner and CEO of KR Audio Electronics in Prague,¹ was at her wits' end. "Some days I feel that I am tied to a monster. I'm tired of dealing with material shortages, broken promises by suppliers, unreasonable customer demands, and economic uncertainties."² The audio electronics business which at one time had brought her satisfaction and pride, had turned into an albatross. Her husband and mentor, Riccardo Kron, had died in October, 2002, leaving her with a business she did not feel competent to run. The economic environment had changed, and Eunice did not have the knowledge or experience to keep up. She felt that both suppliers and customers were taking advantage of her, and she was unsure how to sort through all the information in front of her. She was determined to prove to herself—and others—that she could keep Riccardo's dream alive and turn the company around. Yet, in the two years since Riccardo's death, she felt the emotional and financial toll the business had wrought.

"People keep giving me advice," she said with a shrug.

They tell me to hire a marketing expert or to partner with a big U.S. company. Some people say I should raise my prices, but they don't understand that there is only so much that people will spend, even people who are spending thousands of dollars on their stereo system. I don't want to lower my quality or make mass-produced goods. I know our expertise is in tubes and amplifiers and I want to stick to that. This is a niche business and it takes awhile to break into the distribution network.

I'm getting ready for the big electronics show in Las Vegas next month. No one buys there, but they talk and shop around and write reviews. We always get rave reviews. But we need sales, so I have to be ready to promote the company in the best light. Riccardo used to do this. I'm not a great salesperson, but no one knows the company as well as I do.

With only a few weeks left to get ready for the electronics show, Eunice met a young man who was willing to help represent KR in Las Vegas. He was eager to promote KR's products and was willing to work solely on commission, but he knew very little about the audio electronics industry. Was this was the opportunity Eunice had been looking for? Eunice was not sure whether to take him up on his offer or to continue on her own.

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The author wishes to thank Eunice Kron and the staff of KR Audio for their cooperation in the preparation of this case. This case is intended to stimulate class discussion rather than to illustrate the effective or ineffective handling of a managerial situation. All events and individuals in this case are real.

HISTORY IN THE MAKING

Riccardo Kron had been a man of many talents. An engineer by training, Kron was an art collector and audiophile. Riccardo's father was a concert violinist, so Riccardo grew up in a house filled with music and musicians. Growing up in Milan, Riccardo was eleven when World War II ended, old enough to understand the effects of the Nazi invasion, and young enough to benefit from Italy's post-war reconstruction. As a teenager, Riccardo considered himself a "tube nerd," enthralled with the technology of the time and with the exciting projects that could be created with the military surplus tubes and electronics. He and his friends built and sold and created their own radios and transmitters. As a university student, he was exposed to the best of both American and German technology.

Riccardo was recruited by Magnadyne, a large Italian electronics company, as it repositioned itself for expansion. Magnadyne's director became his mentor, and Kron quickly rose in management, overseeing the company's in-house radio and TV development. However, in the late 1960s and early 1970s, the post-war economic boom began to unravel. Kron was among the 6,000 workers who lost their jobs when state subsidization of Magnadyne's operations ended and the company retrenched in 1970. While he struggled to get back into management and technology development, the only positions open to him were in commission-only sales. With a wife and three daughters to support, Kron's financial setbacks contributed to marital problems and, finally, to a bitter divorce. Riccardo's fortunes began to turn around in 1977 when he met Eunice.

Eunice Eckstein had grown up in Brooklyn, New York, and attended Brooklyn College and Columbia Teachers College before she moved to Italy to study veterinary medicine in 1973. Eunice and Riccardo met by chance at a dinner party in Perugia at the home of Eunice's tutor. They fell in love immediately and Eunice followed Riccardo, first to Turin, then Milan and ultimately to Bassano del Grappa, where they lived for nearly 12 years. Riccardo traveled throughout Europe selling a variety of products for an ever-changing cadre of companies and Eunice taught English in Venice and Treviso. "Every day was an adventure," Eunice recalled. Riccardo worked solely on commission, so sometimes they felt rich, sometimes poor. "We were happy, loved each other, and enjoyed life. When we had money we spent it; when there was only an onion to eat, we shared it. Most often I did not know how we would cover our expenses, but things always worked out." Over time, Riccardo became a successful salesman, and he and Eunice traveled throughout Europe together.

In 1992, Riccardo and Eunice happened upon Alesa Vaic, a 26-year-old Czech engineer, selling old tubes in a flea market in central Italy. Vaic had learned to repair radios and televisions as a young boy, and had amassed a large collection of old radios and vacuum tubes. As student at Prague Technical University, Vaic learned about tube technology and electronics.³ Before the fall of the Berlin Wall, Vaic had been working at the Tesla High Vacuum Technology facility⁴ in Prague and, in his free time, experimented with vacuum and electron tubes with two Tesla colleagues. In 1990, state-owned companies were re-privatized and Vaic rented a small laboratory in the old Tesla building to start his own company, Vaic Valve, to replicate old Marconi tubes for radio collectors like him. Vaic supported himself by selling tubes and radios in flea markets.

After the commercialization of the solid-state transistor in the 1960s, tube production had taken a sharp decline. The machinery to make tubes was progressively getting older and no one wanted to invest in new tube equipment because the market for audio

tubes was confined to a small group of aficionados. Seeing Vaic's mound of old tubes, Riccardo sensed that this was the opportunity he had been looking for. Riccardo had kept up with modern audio tube design and had an idea about how to improve the vacuum tube, but had put his development plans in a drawer long ago. Vaic not only had access to tube production equipment at the old Tesla plant, he also had four employees who knew how to restore old tubes. Vaic wanted to continue making radio tubes, but Riccardo convinced him that there was no market for such a limited collectible. "Alesa," he said, "if you can build an audio tube, we will become rich!" At that time, Czech law required that all companies have Czech ownership, so Kron offered to finance Vaic's company, in a 50/50 partnership. Kron remained in Italy but provided expertise and advice to Vaic and his technicians in Prague.

BUILDING ON AN IDEA

The early years were difficult and creating a new audio tube proved more troublesome than either Vaic or Kron had anticipated. Vaic and his team spent two years experimenting with tube design to resolve some of the problems inherent in conventional audio tubes. Maintaining the detailed, hand-blown process was painstaking and labor-intensive, but essential for high-quality sound reproduction. In the fall of 1994, they had produced two working tubes [see Exhibit 1], which Kron proudly took to an audio show in Milan. Riccardo recalled,

The sound changed dramatically when placed in the big and costly 300B amplifier used at that time. It was like real music. I had done it, but now what was I to do? The tube was expensive, the name of the company unknown, the country was absolutely new, the OEM's were used to paying very little for their accessories, so now how could I convince the industry that what I had realized was valid? The sound reproduced from the improved tube came very close to sound made naturally. [But] the reluctance of the industry and the incredulous reaction to the price even with the positive reaction to the sound was disheartening. No one bought the new tube. Who could trust this new innovation? What did it mean after 54 years to improve a vacuum tube?⁵

The audiophile community was especially skeptical because of the company's Czech origins. "People didn't want to buy his tubes at the beginning because they didn't trust anything made in the Czech Republic, or anything new," Eunice explained.⁶ In order to build up that trust, Kron suggested that they design an amplifier that would demonstrate the power of their new tubes.

Public acceptance came slowly, but Kron was able to find a few customers in Europe and Asia for the new tubes. Vaic, eager to sell as much as the company could produce, shipped all products. A \$600,000 loss from defective tubes sent to Japan was a signal to Kron that he needed to step in and manage the company himself. After a year of traveling between Milan and Prague, the Krons moved to Prague in 1996.

Unable to finance the company personally, Kron found financing from a Swiss venture capital group, and Vaic Valve Productions became a subsidiary of a Swiss holding company with Kron as managing director. With the influx of new capital, Kron installed quality control systems and expanded the research facility. In 1998, Vaic left over financial and contract disputes, and the company was renamed KR Enterprises. Two years later, the Swiss holding company folded and Kron assumed full ownership of the company, renaming it KR Audio Electronics. Later that year, the Krons sold their

house in Italy to pay off the company's outstanding debts and keep the product development going until enough sales came in to sustain the company's operations.

By that time, KR had 15 full-time employees, 13 of whom were electronics technicians or engineers. Kron hired Marek Gencev, a young Czech engineering student, to help design amplifiers and improve the tube production process. Together with KR's existing team of technicians, they made further innovations in tube and circuitry design and developed a prototype amplifier. Riccardo referred to his new amplifier as the Rolls-Royce of audio components, because it used bigger tubes and reproduced sound better than any of the competitors. Marek created a Web site that explained KR's history and technology, to appeal to the technical savvy of KR's end-users, highlighting the new amplifier, unique tube design, hand-crafted quality, and innovative research and production facility in Prague. Riccardo courted importers and electronics distributors in Italy, Germany, France, Portugal, and the Netherlands.

In January 1999, Kron set up a booth at the International Consumer Electronics Exhibition (CES) in Las Vegas. Held every January at the Las Vegas Convention Center, International CES was the world's largest annual tradeshow for consumer technology. Riccardo's demonstration of the new "Kronzilla" amplifier at CES was the catalyst the company needed. The amplifier drew positive reviews from audiophiles and, despite the fact that KR handcrafted tubes sold for \$150–\$720 each, compared to \$30–\$80 for their machine-made competitors, sales orders started to come in from the U.S.A. and Canada. Inquiries also came in from Hong Kong, China, and Korea. But the smell of success was short-lived.

"Riccardo was diagnosed with cancer in late 1999. He was a proud and practical man. To avoid pity and take time to get his affairs in order, this was deliberately kept secret. He underwent two operations in early 2000. As any good engineer with an ingrained habit to careful planning would, he made his final preparations despite an official diagnosis to be in remission. He changed the former partnership of KR Enterprise to a single proprietorship as KR Audio. This would assure that the company continued without strife and interference in his absence. He used the remaining time given to him to improve his products and make them more cost-effective to manufacture. All products approved by him during this final period were innovative versions of existing models or brilliant new designs."⁷

Kron had groomed Marek Gencev to be his successor in product design. Kron's plan was for Marek to head the R&D efforts and manage the technical aspects of the company, so that Kron could focus on selling. With no capital, KR needed to become a production facility as well as a design company, and to bring in sales to support its operations. Marek hoped for an influx of money to upgrade KR's equipment and create parallel systems, one for new product design and testing and the other for the production of existing products. This would help avoid downtime and improve yield—the number of perfect tubes coming off the line—and separate the design team from the production team.

On June 24, 2002, Kron fell in the parking lot on his way to work. It was only when his broken hip failed to heal properly that the doctors discovered the cancer, for which he had had surgery two years before, had returned. Riccardo died four months later. News of his death spread quickly, because by then KR Audio had built a strong reputation in the closely knit world of audiophiles. Two years after his death, Eunice still shed tears at the memory of the most difficult time of her life.

The funeral was on the first of November. I had to face employees on November 4. Marek had stepped in to help and had been keeping things together while Riccardo was in the hospital, but when he died the employees thought I'd close the company. I knew I needed to go on, that Riccardo would have wanted his dream to continue. Not one employee left, they all stuck with me and we kept things going together. They still believe I can perform a miracle.

Before Riccardo's death, Eunice had been KR's English translator and PR department. Riccardo would contact importers, and Eunice would write an introduction and follow-up letters. When Riccardo died, Eunice had to take on the role of finding leads and making contacts herself. "When Riccardo died, I felt like Katherine Graham," Eunice recalled, referring to the president of the Washington Post who had taken the helm of the newspaper after her husband's death, with no training or experience to guide her.⁸

Buyers thought we'd go out of business, so some stopped paying on former invoices; others stopped orders that had already been placed. They asked, "What about product guarantees?" For the first time, I had to make contacts myself. I was a good writer, but I had never had to deal with people face-to-face. I boldly went to Vienna myself to collect a 4,000-Euro past-due payment. I almost backed out, but I knew I needed to show people that I was in charge and that the company was still in business.

FURTHER SETBACKS

Traveling across country borders with high-tech equipment after the September 11, 2001, terrorist attack on the World Trade Center in New York was difficult, but international travel the following year was worse. In November, 2002, the first outbreak of the deadly SARS⁹ epidemic was diagnosed in the Guangdong province of southern China. By April, 2003, SARS had spread to 30 countries on five continents, and the World Health Organization (WHO) issued a travel warning recommending that all non-essential travel to Hong Kong and Guangdong be postponed. Later that month, WHO and the U.S. Center for Disease Control (CDC) issued a health alert for travelers to Toronto, where a Canadian outbreak had been detected. Two months later, in May, 2003, the SARS alert hit Prague, when a man who had spent time in Thailand tested positive for SARS at a Czech hospital.¹⁰ By the time the SARS threat had passed in July, there were over 8,000 SARS cases and 774 deaths worldwide.¹¹

With global travel severely restricted, and worldwide confidence low, KR was effectively cut off and sales representatives stopped placing orders. In July, 2003, Eunice used inheritance money from her mother's estate to pay employees and keep the company afloat. That fall, she gave up her dream home in the Prague 10 suburb and moved to a small flat, carefully storing Riccardo's collections of art, books, and antiques. Eunice was working on getting a line of credit at the bank, which she hoped to use as a guarantee for materials orders such as glass, wire, and circuitry.

Striving to keep her husband's legacy alive, Eunice began combing Riccardo's files for audio distributors, calling and writing letters, hoping to rekindle interest in KR's products. She worked closely with KR's secretary, a Czech woman fluent in Italian, who, like Eunice, had admired Riccardo's genius. Marek Gencev, who had by now completed his degree in engineering, became KR's chief engineer, directing the research in tube and amplifier design that Riccardo had begun. Without any training to guide

her, Eunice began sorting through KR's finances, struggling to pay bills, solicit orders and collect on invoices. Eunice did her best to understand every aspect of the business. "The technology and the economy change every day," she said, as the second anniversary of her husband's death approached.

Marek has a free hand; he runs the factory and does a lot of experimentation. We've already developed three new products since my husband's death, and we've made further improvements in the tube design. But last year we had the worst year of KR history in terms of money. I couldn't do anything in Canada for a year because Toronto was quarantined, and then no sales because of the war in Iraq. This year the [presidential] election in the U.S. created doubts. We have one distributor in America, but he hasn't sold anything for us for over a year. Instead of spending \$20,000 or \$60,000 on a stereo system, you can buy a boat. It's disposable income in a psychologically unstable time.

The summer of 2004 brought promising news. KR product development had progressed nicely, and tube orders had increased. However, the dollar's fall in value against the Euro and the Czech Crown (CZK) threatened KR's already-precarious financial situation. With goods priced in U.S. dollars (USD), KR took in less money than it had anticipated in relation to its expenses, which it paid in Czech Crowns (CZK). Throughout 2003, exchange rates fluctuated unpredictably, and most emerging country currencies appreciated against the U.S. dollar, following the trend of the increasingly strong Euro. The U.S. dollar, which had purchased 1.168 Euros at its introduction in January, 2002, had fallen below .95 Euros by the end of the year, or roughly 30 CZK. By March, 2004, the dollar purchased .80 Euros or 26.3 CZK.¹² In November, the dollar hit an all-time low of 0.75 Euro, or 23.2 CZK.

Last year we thought we had touched bottom with the dollar at 26, 25 CZK. Today it's 23.83. This means a lot because all my debts and prices have been contracted in the old money, all in U.S. dollars, so I don't know what's going to happen. We'll probably be taking another loss this year, which is not my fault. Uncontrollable. Can't do a damn thing about it. I keep thinking, what would my husband do with this? I have no idea. Each market is new for me, because I don't have the 40 years of experience that he had. I don't know if I'm doing the right things. There's nobody here to tell me. The technicians keep asking, "What should we produce next?" I said, I don't know. Of course, a boss is never supposed to say, "I don't know." So now, I tell them what we'll produce. I don't know how many we'll sell, and I don't know where we'll sell it. It all remains to be written.

THE HIGH-END HOME AUDIO ELECTRONICS INDUSTRY

Most high-end audio systems were sold in boutique stores that usually carried a variety of audio components (2-channel systems) and home theater systems (4- to 8-channel systems that accommodated video and multiple sound devices). Companies offered two-channel systems in three price/quality levels. Music buffs with money to spend were willing to pay upwards of \$100,000 for a component system that would transform a room into a concert hall. These people often had vinyl record collections as well as CDs, and customized their sound systems to the particularities of their listening room (or vice versa). Many audiophiles and home theater purchasers bought components separately, but first-time purchasers usually purchased an entire system at one time. The typical customer base for high-end electronics was high-income purchasers for whom price was not a deterrent. For example, Netscape founder Jim Clark had paid \$125,000 for Wilson speakers for his home stereo system in 2003. Speaker manufacturer David

Wilson relied on “a small slice of the market where the big predators aren’t interested in going” for his clientele.¹³ Careful attention to optimized performance specifications and relationships with dealers who catered to high-end customers were keys to profitability in this niche market. Audio equipment sales grew 3.8 percent in 2000, reaching \$9.2 billion in retail value in the U.S. in 2000. Snapshots International, Ltd., which specialized in international market research, predicted sales of \$10.6 billion for audio equipment in the United States in 2005, representing an average compound annual market growth rate of 2.8 percent.¹⁴

Few manufacturers produced all components—amplifiers, tuners, CD players, vinyl record changers, tone-arms and cartridges, and speakers. Most specialized in either speakers or amplification equipment or transmission devices, relying on retailers to use their components to demonstrate sound and compatibility as part of a complete system. Retailers that sold high-end equipment had acoustically designed sound rooms to demonstrate various combinations of components for the customer.

Audiophiles considered the amplifier the most important component in any system, even more important than the speakers. Most hi-fi amplifiers contained two channels (left and right stereo). Multi-channel amplifiers were required for surround-sound systems. Some home-theater systems accommodated five or six channels of amplification (left, center and right front, plus two rear channels and, for some systems, a subwoofer for low frequency output).

A monoblock power amplifier was a single-channel amplifier. The most expensive amplifiers often came in pairs, with one amplifier powering each speaker. These amplifiers often weighed 50–70 pounds each and sold for as much as \$30,000 for the pair. Power was essential for driving speakers, which could cost up to \$60,000 a pair. Amplifiers turned small electronic signals—from the recorded medium (vinyl, tape or CD player)—into larger signals. The most expensive systems had separate power amplifiers, which drove the loudspeakers, and pre-amplifiers, which contained the driver with the input for the various source signals (e.g., volume, balance, tone and other signal processing). Integrated amplifiers combined the loudspeaker driver with the input device in one box.

Aficionados thought electron tubes (known as “valves” to speakers of British English) were better suited for high fidelity audio applications than solid-state amplifiers with integrated circuits, despite the fact that tube amplifiers produced distortion when operated near their power limits. While some listeners thought that the distortion produced by the addition of harmonics was acceptable and even pleasant, an amplifier that produced the purest sound was favored by most audiophiles. Even old mid-priced tube amplifiers were considered much better than modern solid-state equipment, especially in maintaining the separation of individual orchestral instruments. Solid-state amplifiers tended to muddle the sounds together, masking the individual identities of instruments and adding undesirable overtones. The larger the tube, the more anode heat capacity to dissipate the thermal load. The higher the vacuum, the purer the sound and the longer the life of the tube.

Modern tube audio equipment was considered a specialty item. Few retailers sold only tube equipment, and most carried a variety of system components. Modern amplifiers were styled to show off their tubes and transformers whereas older equipment kept such things “under the hood.” To obtain, refurbish, and maintain old tube audio equipment was for some an enjoyable and rewarding hobby, and older equipment could be found in thrift shops, garage and estate sales, and Web-based auction sites (such as eBay).

However, tubes had a limited lifespan. Several thousand hours of use was typical. Many on and off cycles shortened tube life, thus a tube set was usually left on when not in use, generating heat and degrading overall efficiency.

There were few name brand amplifiers that catered to the high-end user, most of whom had national or international reputations and large marketing budgets. Companies like Conrad-Johnson, B&K, Krell, BAT, VAC, Nagra, and VTL had a significant market presence in the U.S. and Europe. Small companies like Ayre in Colorado, Art Audio in Rhode Island, or Clayton Audio in St. Louis relied on dealers to demonstrate their products and generate customer awareness. Swiss speaker maker Piega had recently stepped up its U.S. marketing efforts.¹⁵

No companies in the U.S. produced audio tubes; all amplifier manufacturers outsourced their tubes from one or more of the overseas companies making tubes.¹⁶ Machine-made tubes were also available from companies in China and Russia, which ensured consistent production, but which did not allow for as tight a vacuum—for less sound distortion—and as long a tube life as KR tubes. Because KR tubes were hand-made, they were customized for specific amplifier models. This was an advantage for manufacturers who wanted tubes to fit their design specifications. Over the past two years, Eunice had established dealerships for KR amplifiers in Taiwan and Canada, but she had not yet had success in getting a foothold for amplifier sales in the United States. Purchasers of KR tubes included manufacturers in Switzerland, Germany, France, Spain and the U.S. who used KR tubes as upgrades for their highest-quality amplifiers.

PLANNING FOR THE FUTURE

In 2004, KR Audio had a loyal workforce of 11 highly-skilled engineers and technicians, a devoted secretary, and a one-person shipping and packaging department. Three people worked on amplifier design and assembly. All the employees were Czech, but Marek and the head glass man also spoke English. The secretary spoke Czech and Italian, and Eunice spoke English and Italian. Eunice had a close relationship with the secretary, who helped her understand the office systems, and she relied on Marek to manage the employees. The tube technicians were skilled craftsmen who took pride in their work. For the most part, their work was highly specialized. Some of the lower-skilled jobs, such as wire circuitry and stamping, could be done by more than one person, but most employees were experts in one critical aspect of tube assembly.

Unlike most tube factories that used machine-made vacuum devices, each KR tube was made of tempered glass, hand-made to achieve the highest vacuum, and individually tested. One tube could take as much as 120 man-hours to produce. At full production, KR could manufacture 16 small tubes per day and one Kronzilla for a total of 320 tubes per month, each of which sold for \$150–\$500, depending on the model. [Exhibits 2 and 3 list dealer prices for each KR product.] The largest tubes, which were used in the Kronzilla amplifier, took much longer to manufacture than the smallest tubes. No more than four large tubes could be produced in one day, and then only if the entire production line was dedicated to this production. The optimal production schedule produced one Kronzilla tube and 10 smaller tubes each day. Marek had estimated that KR needed \$30,000 in sales each month just to meet expenses. Both Eunice and Marek believed that the company's success depended on sales of the Kronzilla amplifier, which had a retail price of \$22,000. Exhibit 4 contains a photograph of the

Kronzilla SD amplifier set up in KR's listening room. Exhibit 5 lists KR's suggested retail prices.

Because of the way the tubes were fit to the particular amplifier specifications, KR tubes worked particularly well in KR's own amplifiers. Careful fit between the amplifier design and the tube contributed to sound quality and consistency and to tube life. KR product development had gone well, but the sales revenue was not high enough to cover the company's expenses [see financial statements in Exhibits 6 and 7].

In October 2004, Eunice presented KR's new product upgrades at the Royal Audio show in Barcelona. Encouraged by the reception she received, she began to prepare for the upcoming International CES in Las Vegas in January 2005. The 2004 exhibition had hosted 2,400 exhibitors from 110 countries, and had drawn over 130,000 attendees, including 4,000 reporters and 1,500 financial analysts. CES organizers anticipated an even bigger crowd for 2005. KR's American distributor had arranged for them to share a booth at the convention, and Eunice hoped to generate interest for the Kronzilla in the U.S. and Canada.

As Eunice prepared a new pricelist for the CES in Las Vegas, she thought about how to promote the company's products and solicit amplifier sales. Her budget did not allow for fancy brochures and she could not afford her own sales team. This would be KR's eleventh year demonstrating its products, and Eunice was not sure how to draw the right people to her booth to audition the new Kronzilla and offer to distribute her products in the U.S. She put together a press release and sent it to distributors and retailers who were listed on the CES attendance list [see Exhibit 8].

Shortly before Christmas, Eunice met Bradley Walker, a young American who was in the process of setting up a computer and technology services company in Prague. Eunice explained about CES and confided her frustration with her inability to break into the amplifier market in the U.S. Bradley was intrigued by KR's products and believed that the key to success was more than just having a presence at the CES tradeshow. He offered to help with marketing research and to represent Eunice at CES to find out more about the industry and its sales channels. A week in Las Vegas might be fun, and would certainly be a learning experience, so he offered to work solely on commission—a percentage of sales as a “finder's fee”—and asked only for plane fare and accommodations in Las Vegas. He and Eunice estimated that a plane ticket would cost \$1,500 if they acted quickly and that the trip's total cost would be between \$3,000–\$4,000. Eunice had previously been told that it would take \$250,000 seed money to set up a sales network of independent reps in the U.S., so she was eager to listen to what Bradley had to say. Bradley was personable and seemed to have good ideas, but he didn't understand the company and had no experience in audio systems or electronics manufacturing and sales. On one hand, \$3,000–\$4,000 was very little to spend for a week of an energetic young man's time. On the other hand, company finances were tight, so she did not want to act impulsively and risk spending money needlessly.

Bradley scanned the Internet and hastily put together a marketing plan [see Exhibit 9]. Both he and Eunice knew that he would need more than just two weeks to do the research he proposed, but he was convinced that Eunice would not be able to adequately represent KR herself. Eunice intended to sit at KR's display booth and talk with people who sought her out. Bradley wanted to mingle with other sales reps at CES and look at what the competition had to offer. He also thought he could promote KR to audio-system retailers, who were unlikely to visit KR's display booth on their own.

Eunice knew she would have to make a decision soon. Despite Bradley's optimism, she was haunted by concerns and doubts. She had tried to keep her company much

the same as it had been under her husband's direction. She knew that KR tubes were superior to all others—this had been confirmed in every review of KR's products—but she also knew that the market was sensitive to price, because standard tubes were available from other sources. She also knew that selling KR products in the U.S. would not be easy.

Riccardo was an impresario, not a businessman. He ranged from technical to artistic. Riccardo believed the product would sell itself; that quality would win out. We had no real division between family and work, but the truth is, I was protected from the realities of the business. I never had to understand the market or the finances. At first I thought of selling the company. Most days, I think I can make it. I'd love to find a partner. I work well with someone. Now I have to make all the decisions, find all the contacts. It's a big change from writing letters and answering the phone. I'm just starting to feel like a businesswoman. But I don't know how to move the company forward. And I'm not sure where to turn for advice.

NOTES

1. The Czech Republic is a landlocked country in Central Europe, which regained its sovereignty in January 1993. The republic borders Poland to the north, Germany to the northwest and west, Austria to the south, and Slovakia to the east. Historic Prague, a major tourist attraction, is its capital and largest city. It is made up of two main regions, Bohemia and Moravia. On May 1, 2004, it became a member state of the European Union. http://www.brainyencyclopedia.com/encyclopedia/cz/czech_republic.html.
2. Unless otherwise noted, quotes are from personal interviews.
3. Information about Alesa Vaic is taken from the Vaic Valves Web site: <http://www.vaic-audio.info/All%20about%20Ing.Alesa%20Vaic.htm> (first accessed October 2004)
4. During the communist regime in Czechoslovakia, all companies were state-owned and state-controlled. Under communist control, Tesla was a research facility, developing vacuum tubes for military and defense purposes. Before 1945, Tesla had produced small bakelite radios with Philips circuits. This circuitry was abandoned in Western countries in 1950, but remained in production in Czechoslovakia, where there was no competition and no import or export with western markets until the fall of Communism in November 1989.
5. Quoted from KR Audio's Web site (February 20, 2002). <http://www.kraudio.com>
6. Beckwith, S. (December 18, 2002), "KR Audio reinvents tube: Electronic sound equipment manufacturer uses old-style technology in innovative way," *The Prague Post*. <http://www.praguepost.com/P03/2002/Art/1218/busi7.php>.
7. <http://www.6moons.com/industryfeatures/kraudio/kraudio.html>.
8. When Philip L. Graham, who suffered from manic depression, committed suicide in 1963, his wife Katherine became president of the company. In her autobiography, she recalled, "I had very little idea of what I was supposed to be doing, so I set out to learn. What I essentially did was to put one foot in front of the other, shut my eyes, and step off the edge." Graham, K. (1997) *Personal History*, Alfred A. Knopf, Inc.
9. SARS stands for "Severe Acute Respiratory Syndrome," a deadly and highly contagious respiratory virus.

10. Hrobsky, M. (May 22, 2003) "Current Affairs," *Radio Prague*, <http://www.radio.cz/en/article/40956>.
11. World Health Organization, <http://www.who.int/csr/sars/country/en/>.
12. www.bct.gov.tn/francais/download/report/fiche3.pdf.
13. Martin, J. (July 23, 2003), "Quality Rules: Beyond Bose," *Fortune Small Business*, <http://fortune.com/fortune/print0,15935,460275,00.html>.
14. Snapshots International, Ltd., *U.S. Audio Equipment Report*, 2001.
15. Palenchar, J. (February 25, 2002), "Piega stepping up U.S. marketing efforts," *TWICE, This Week in Consumer Electronics*, 17 (5): 30.
16. <http://www.newtube.com/>.

Exhibit 1 KR Audio Tube



KR 300B Amplifier Tube

Photo: Courtesy KR Audio

Exhibit 2 KR Audio Tube Export Price List

**KR Audio Electronics S.R.O.
Export Price List 2004
KR Power Tubes**

KR PX-25*	\$ 150 USD each
KR 300B Balloon	\$ 160 USD each
KR 842VHD	\$ 170 USD each
KR 300BXLS	\$ 180 USD each
KR 825	\$ 190 USD each
KR T100	\$ 200 USD each
KR 211	\$ 190 USD each
KR PX-4	\$ 150 USD each
KR T-1610	\$ 720 USD each
Marconi "R" Valve TM	ask for price

*English pin version available

PLEASE NOTE THAT THE UNIT TUBE PRICE FOR EXPORT PER SAMPLE CHANGES ON THE BASIS OF A MIN. STOCKING ORDER OF \$5000.00 USD FOR AN EXCLUSIVE DISTRIBUTORSHIP AGREEMENT.

The prices quoted above include the KR special matching fee when bought in pairs.

Source: KR Audio documents.

Exhibit 3 KR Audio Amplifier Export Price List

**KR Audio Electronics S.R.O.
Export Price List 2004
Hi-fi Audio Equipment**

Antares VA300 stereo 12+12WRMS amp. With 842 VHD	\$ 1,800
Antares VA300 stereo 20+20WRMS amp. With 842 VHD	\$ 2,100
VT850 dual mono-block tube amp 22WRMS per channel	\$ 3,600
Kronzilla SD stereo 22+22WRMS tube amplifier	\$ 4,000
Kronzilla DM dual mono-block tube amp. 42 WRMS per chan.	\$ 8,000
A50 stereo 50+50 WRMS solid state amp.	\$ 500
Kronzilla HD stereo 150+150WRMS solid-state amp.	\$ 3,500
DVD 6 Channels solid state amp. 50 WRMS per channel	\$ 1,500
P150 stereo pre-amp. vol. and chan. RC	\$ 800

Source: KR Audio documents.

Exhibit 4 KR Audio Listening Room



Source: Photo taken on-site by case author.

Exhibit 5 KR Audio Suggested Retail Prices		
KR Audio 2004 Retail Prices		
May 10, 2004		
	AYDN*	Eurogram*
KR 300B Balloon pr	\$560.00	749.00
KR 300BXL pr.	\$590.00	849.00
KR 842 pr	\$585.00	799.00
KR 845 pr	\$665.00	899.00
KR PX-25 pr	\$530.00	699.00
KR T-1610 pr	\$2,400.00	—
KR VZ 320	\$5,600.00	4,990.00
KR VA 300	\$5,100.00	4,290.00
VT 850	\$8,950.00	8,490.00
Kronzilla SD	\$12,100.00	10,990.00
Kronzilla DM	\$21,900.00	21,990.00
KR P-150	\$2,265.00	1,980.00
KR DVD	\$4,255.00	3,490.00
KR A50	\$1,400.00	1,190.00
KR 340 stereo integrated	—	5,790.00
*Note: KR Distributor AYDN is located in Los Angeles; Eurogram is located in Amsterdam.		
Source: KR Audio documents.		

Exhibit 6 KR Audio Income Statements					
Calendar year:	2000	2001	2002	2003	Jan-Sept** 2004
REVENUES (Turnover)					
Sales: tubes	5,391,690	5,383,544	3,848,593	3,256,809	3,969,604
Sales: amplifiers	2,342,613	6,309,338	6,560,717	3,927,614	2,339,083
Services and reimbursements	46,766	866,951	1,207,771	1,642,377	249,195
Exchange rate profits	<u>29,033</u>	<u>23,643</u>	<u>106,102</u>	<u>116,640</u>	<u>9,900</u>
Total Revenues	7,810,102	12,583,476	11,723,183	8,943,440	6,567,782
EXPENSES					
Raw materials in stock	2,680,006	2,972,883	2,196,710	1,855,904	2,915,389
Finished goods in stock		628,329	118,880	417,790	1,352,663
Utilities	135,852	80,019	102,812	88,950	64,059
Repairs/maintenance	289,966	176,720	268,224	145,440	351,721
Travel and entertainment	340,882	382,911	627,448	342,108	103,896
Rent and office expenses	2,946,142	3,662,825	2,532,487	2,329,627	1,207,076
Wages, including contract work	5,741,618	2,275,611	3,592,571	3,606,537	2,878,246
Taxes and insurance	2,522,627	1,861,935	1,396,603	1,157,953	833,742
Reserves		667,555	714,100	1,105,777	409,406
Exchange rate losses	172,118	177,771	362,114	341,250	114,197
Bank fees	<u>94,243</u>	<u>127,631</u>	<u>78,177</u>	<u>81,818</u>	<u>72,278</u>
Total Expenses	14,923,454	13,014,190	11,990,126	11,473,154	10,302,673
PROFIT (LOSS)	(7,113,352)	(430,714)	(266,943)	(2,529,714)	(3,734,891)
*all figures are Czech Crowns (Kc) x 1000; approx 25 Cz = \$1 U.S.D. average for 2004.					
** 3rd quarter totals (unaudited estimates)					
Source: Consolidated from KR Audio records.					

Exhibit 7 KR Audio Balance Sheet*		
Consolidated Balance Sheets*		
Calendar year:	2002	2003
ASSETS		
Small tangible assets	\$ 8,489	\$ 8,489
Long-term materials/assets/patents	247,789	256,832
Machinery and equipment	129,600	129,600
Depreciation	(313,878)	(35,712)
Materials in stock	316,868	373,308
Finished goods in stock	482,026	979,355
Cash and accounts	368,809	636,671
Receivables	2,620,875	2,846,720
Prepaid expenses	<u>131,401</u>	<u>26,174</u>
TOTAL ASSETS	\$3,991,979	\$5,221,437
LIABILITIES		
Payables	\$ 629,479	\$ 654,577
Wages and contracted work owed	180,512	196,885
Taxes and insurance payments due	97,700	477,162
Reserves for bad debts	112,439	1,207,742
Loan Dr. Kron—debt to business	2,011,197	4,366,634
Basic capital**	100,000	100,000
Obligatory reserves	1,290,100	1,031,590
Past profits (losses)	(247,505)	(514,448)
Current profit (deficit)	<u>(266,943)</u>	<u>(2,529,714)</u>
TOTAL LIABILITIES AND OWNER'S EQUITY	\$ 3,991,979	\$ 5,221,437
*All figures are Czech Crowns (CZK) x 1000; approx. 25 CZK = \$1 USD average for 2004.		
**Minimum owner's equity required by law.		
Source: Consolidated from KR Audio records.		

Exhibit 8 KR Audio Press Release

PRESS RELEASE

December 15, 2004

KR Audio stands high in high-fi excellence

KR Audio Electronics has maintained its reputation as the most advanced, high quality tube manufacturer in the world. Located in Prague, the heart of European technology and culture, KR has been well-known among audiophiles for over a decade for its precision hand-crafted tubes, which are responsible for unparalleled sound reproduction. KR employs skilled craftsmen, most of whom have been with the company since its founding.

Recently, KR's new integrated amplifier was reviewed by 6moons, discerning critics of the best audio components on the market today. They described KR as "Old-day technology combined with 21st century ideas, craftsmanship and a musical ear... Their latest offspring, the integrated transistor/tube hybrid **KR VA340**, is definitely the finest amplifier we have had in our listening room this year. Just as when you play a record of a group you just have witnessed live on stage, the visual memories add something to the in-house performance of this amp. Switching it on brings back visions of wandering the curved hallways of the old Prague factory."

This is consistent with typical listeners' responses. When KR hosted a demonstration at its factory headquarters in Prague, it hired an actual string quartet to play behind a curtain to compare the sound with KR's audio system. Visitors were amazed that the recorded sound was so similar to the actual performance. One visitor commented, "I was embarrassed that I thought the recorded sound was more life-like." Dick Olsher, reviewing KR's T-1610 "Kronzilla" amplifier for Enjoythemusic.com, described it as "the most substantial audio power triode put into production since the days of the Western Electric 212E . . . its effect on an unrepentant tube-aholic such as yours truly, has mainly been instant adoration. From its brass base and meticulous internal construction, to its hard glass envelope, this handcrafted colossus is a thing of beauty. . . . The Kronzilla is capable of producing 22 watts of pure, unadulterated, single-ended triode power. A small tube simply does not possess the anode heat capacity to safely sink and dissipate the thermal load. In addition, The T-1610 features a new ribbon filament construction and KR Audio's patented distributed cathode with 64 cathode elements." True audiophiles know that all tubes are not created equal. Many manufacturers have tried substituting inexpensive tubes from China or Russia, but even casual listeners can discern the difference in clarity between mass-produced components and KR's handcrafted tubes.

Eunice Kron, the company's CEO, has been featured in many articles written about her company. Her husband, who started the company in 1994, was well known as the technological and artistic visionary of KR's products. When he died in 2002, skeptics believed that Eunice would either sell the company or discontinue its operations. "Riccardo was the genius behind the company's launch," Eunice said, "but his protégé, Marek Gencev, has taken KR to new heights in technology and precision sound." Along with their innovative triodes, KR still hand-crafts every tube and component they manufacture, employing special care in their industrial processes to produce hi-end award winning audio equipment. KR's newest products will be exhibited at the International CES in Las Vegas, in room 1503AP, Alexis Park Hotel, 345 E. Harmon Avenue from January 6–9, 2005. CEO Kron invites anyone to compare their equipment with hers. "We enjoy the reactions in A-B comparison tests because there is no comparison except live music. Our products sell themselves." Compared to the cost of hiring professional musicians, KR's equipment is a sound investment.

For further information about KR Audio's products, you may contact the company directly at Kr Audio Electronics, Nademlejska 1/600, Prague 9, Czech Republic, Telephone/fax: +420-283-064-228, E-mail: kr.audio@tiskali.cz Website: <http://kr.audio.web.wo.cz>

Exhibit 9 Mr. Walker's Marketing Plan Proposal for CES Las Vegas 2005

Marketing Goal for 2005: Gain Entry to the United States Market for KR Audio Products

Main Objective for CES 2005: Gather the information necessary to achieve the Marketing Goal. Minimally, we want to make contact with distributors, and gain a better knowledge of the U.S. markets and best how to assist KR Audio with its entry into these markets.

Secondary Objectives

Identify and evaluate the competition

Identify the major media covering the sector

Information Needed about KR Audio?

- § What is the entire product line and what are its applications?
- § Sales at previous CES Shows?
- § List of existing business relationships in the U.S.?
- § Sales figures, minimally numbers of each product sold in the past and to whom?
- § What equipment will be at the show?

Lacking good information on what the production costs of KR Audio products are, I would not recommend pursuing new business relationships on anything other than the most basic and general terms; certainly nothing beyond the very short-term.

Potential Markets for KR products

1. OEM Tube Amplifier manufacturers, who would integrate KR tubes into their products
2. OEM Amplifier manufacturers that may wish to take advantage of KR's quality and price/production advantage, but re-brand and sell the product under their own mark.
3. Retail Market for the ultra-high-end of Hi-Fi Audio

NB: Kit Amplifiers?

Information required for Market 1

- § Who is making tube amplifiers at a price point that warrants KR quality tubes?
- § What tubes do they currently use?
- § How many tube amps do they sell each year? Increasing? Declining?
- § Who else is manufacturing high-quality vacuum tubes?
- § What are the typical prices for standard and premium tubes?
- § How are the tubes distributed? Direct, dealers, warehouses?

Information required for Market 2

- § Who are the smaller/smallest amplifier companies that might want a high-end product but have no room for the R&D to build their own?
- § Are they interested in having a premium line?
- § What kind of a price point would KR have to sell at to make it valuable to this type of company?
- § Is this price point still profitable to KR?

Information required for Market 3

- § Who are the major distributors in ultra-high-end of Hi-Fi?
- § Are there Manufacturer Reps?
- § Are there Manufacturer Rep Associations/Firms?
- § Who are the largest retailers of ultra-high-end Hi-Fi?
- § Who are their Manufacturer Reps?
- § What are the typical commissions for Reps?
- § What are the typical price point breakdowns for ultra-high-end Hi-Fi?
- § What kind of terms do manufacturers offer to dealers? Distributors?
- § What is the competition? Who? What? How Much? How do they market? Distribute?

NB: We assume that these Rep associations/firms exist and that they will be at CES

Exhibit 9 Mr. Walker's Marketing Plan Proposal for CES Las Vegas 2005 (continued)

Other Potential Tasks

Find potential reviewers/publications
Gather as much marketing material from other manufacturers as possible
Investigate the possibility of arranging listening rooms in major metropolitan areas

Contingencies/needs

Hotel room
Plane ticket
Business cards
Need to know what the budget is

Potential contacts at the Assn, who might be helpful.

Mr. Skip West, Consumer Electronics Assn. Small business Council
Mr. Gary Warzin, Audiophile Systems, Ltd.
Mr. Jeffrey Hipps, Sherwood America Corporation
Mr. Stephen Baker, Denon Electronics Inc.
Mr. Steven Caldero, Yamaha Electronics Corporation
Mr. Toussaint Celestin, Advanced Micro Devices
Mr. Tom Cumberland, Axiom Audio Ltd.
Ms. Katherine Garrett, Pioneer Electronics (USA), Inc., CSD
Ms. Katherine Gornik, Thiel Audio Products Company
Mr. Steve Howcott, JVC Company of America
Mr. Loyd L. Ivey, Mitek Corporation
Mr. Paul Jacobs, Klipsch Audio Technologies
Mr. Lew Johnson, Conrad-Johnson Design Inc.
Mr. John Kean, National Public Radio
Ms. Susan Keeley, Shure Incorporated
Ms. Roberta Lewis, Phase Technology Corp.
Mr. Mark Lucas, Altec Lansing Technologies, Inc.
Mr. Elliot Mazer, Radio Computing Services
Ms. Karen Richardson, Genelec, Inc.
Mr. Richard Schram, Parasound Products Inc.
Mr. Herman J. Sperling, Harman Consumer Group
Mr. Robert Struble, iBiquity Digital Corp.
Mr. Peter Tribeman, Atlantic Technology International Corp.
Ms. Jeannie Vogler, Norcent Technology