

## The 25<sup>th</sup> Anniversary of Ampex in 1969

**The story of Ampex Corporation can begin no other way than with the story of the spirit behind the company itself.** And that spirit, which still pervades Ampex, belongs to the Russian immigrant who conceived and founded it 25 years ago, the man whose courage, confidence and dedication did more to create today's tape recording industry than any other single person:

### **Alexander M. Poniatoff.**

(It is sometimes thought the "AMP" in AMPEX stands for the unit of electrical current named for Andre Marie Ampere, the French physicist. "AMP" is in fact Poniatoff's initials; the "EX" stands for excellence.)

**Alexander Mathew Poniatoff was born in the Kazan District of Russia**, about 400 miles east of Moscow, on March 25, 1892. His middle name is the first Christian name of his father, such designations being a Russian family tradition. Mathew Poniatoff was a successful businessman with a couple of dozen employees engaged in cutting timberland and producing firewood and parts for carriages and sleighs.

**Throughout Poniatoff's life, coincidence and fate, if you will, play an important role.** (Poniatoff points out that the "goodness of people" plays an equally important role.) But the distinguishing feature throughout his life is his pioneering spirit the blending of tenacity and conviction remind you of Alexander Graham Bell. This is the spirit which inevitably separates the man of accomplishment from the ordinary man, the adventurer from the meek, the discoverer from the straggler.

### **Scientific Interest**

The young Poniatoff displayed this spirit early in life and showed a scientific bent even at the age of seven. At that age, he saw a locomotive for the first time, was enchanted by it, and decided immediately that he would design and build machinery when he grew up. This fascination led to studies in mechanical engineering at the University of Kazan, the Imperial College of Moscow, and an M.E. degree at Technical College in Karlsruhe, Germany.

While he was still in Germany at the age of 22, Russia declared war on that country, and Poniatoff found himself trapped. Warned that he would be thrown into a prison camp before long, he headed west for Belgium. On the train, he met two American women whose suitcases carried travel stickers from such places as Vienna, Rome and Paris. When the border guards threatened to prevent Poniatoff's passing (he spoke no English, only German, French and Russian), one of the women thrust her bags into the young engineer's hand, and told the guards that he was an American, a member of her group, and was bound for America.

He got through and headed for Great Britain. There he registered with the

Russian Embassy and undertook a crash, five-week course in English from neighbors in his boarding house to prepare to volunteer for the British Expeditionary Forces. But he soon received word that all Russian youths of draft age were to report to Newcastle, to be transported by ship to Norway, where they could easily get transportation to their homeland.

Back in Russia, he served briefly in an artillery unit and finally became a pilot in the Imperial Russian Navy, assigned to huge flying boats made of plywood and used as bombers. He was then called on to design armament for the lumbering craft, and after testing 37 millimeter guns on piles of coal, he successfully installed them on the flying boats.

### **Couldn't Be Idle**

While he never saw combat action, several episodes in the war point out a personality trait which would display itself in various forms throughout his life: Poniatoff was never content to sit idle while waiting for things to happen. Once, while his flying boat floated in the Baltic Sea waiting out a storm, he decided to take off before the storm had subsided.

"I was a typical impatient young man in those days," he calls now. "The waves were so high that when we were rolling along trying to build up air speed, we hit the top of a wave and the plane broke completely in half. It was quite a sensation." But the speed he had attained was sufficient to carry the pilot's half of the plane to a nearby beach. When he reported to headquarters after this incident, he was told that a shipment of French fighter planes had arrived, and he was in the group selected for training as a combat pilot.

He was excited at the prospect of flying the new fighter plane. While in training, he received instructions to take the craft into a spin after climbing 1,500 meters. Poniatoff climbed to a safer 3,000 meters to attempt the maneuver. Despite instructions to keep the controls in neutral to get out of the spin, he attempted to control the craft to pull out of the spin faster. The aircraft did not level off, instead it went into a reverse spin compounding Poniatoff's problems and panic. He said: "I remember seeing nothing but sky spinning around me. Finally, I threw the controls in neutral and pulled out of the earthward spiral just a few feet from the rooftops of a village." The 1,500 meter edge he had allowed himself in the maneuver saved him from disaster.

Poniatoff never had the opportunity to fly the new plane in combat. Before he could be sent to the front, the Russian Revolution started, and the peace treaty was signed between Germany and the new government of Russia. At the end of the war Poniatoff looked forward to resuming pursuit of his mechanical interests, but the Bolshevik Revolution was spreading. While at his home he was contacted by an underground group of officers and asked to join the White Forces which were being organized to overthrow the Communist government. He was told to stay at home and wait for instructions. He didn't

receive any word for some time. One day he heard heavy artillery fire near his home. He knew that the Civil War had started, and he must attempt to reach the White forces without falling into the hands of the Communists.

### **Tricking out the Russian Civil War parties.**

He decided to hire, for a price, the Red Commissar of his village to drive him to the combat area. If they were captured by Red forces, the Commissar would show his credentials. On the other hand, if they they were captured by the White Forces, Poniatoff would show his officer's credentials.

Here once more, the fates intervened for the young engineer. He and his driver were stopped, and they suddenly realized their plan had one flaw. They did not know which credentials to show because they didn't know which side the guard was on. Producing the wrong credential would be disastrous to both of them. However, Poniatoff noted the guard's polished boots, his reasonably clean and tailored uniform, and decided to gamble on his White papers, reasoning that the insurgent Reds were less likely to be neatly uniformed. He presented his officer's paper and found himself in the area of the White forces. The Red Commissar was sent on his way unharmed. Poniatoff vividly remembers flying over his parent's home and waving proudly to his mother and father, but being unable to land because the Kazan District was occupied by Red forces. It was the last time he would see his parents.

During the two years of Civil War, the White Army retreated through Siberia. Finally, the group of White forces to which Poniatoff was attached, learned that Admiral Kolchak, Chief Commanding Officer of the White forces in Siberia, and his military staff, had been routed and killed by the Red forces. The bitter struggle was over.

One member of Poniatoff's group was Captain Eugene Kostritsky, who had visited the United States years before. He kept his men entertained with stories of the American city, San Francisco. So fascinating was the man's tale of life in America, that Poniatoff decided then and there that if he made it through the revolution alive, he would go to San Francisco. Knowing he would never see his family or his home again, the 28-year-old pilot set out to make a new life for himself.

From Siberia he escaped into China in 1920 with high hopes of going on to the United States. In Shanghai, though, new difficulties arose. Poniatoff's English was barely intelligible, but his German managed to get him around. He looked for mechanical engineering work, but there was none - all the machinery in Shanghai was imported. Finally, his German landed him a job with the Shanghai Power Co., doing something completely new: electrical design work.

### **A Seven Year Wait**

Poniatoff then found that getting out of Shanghai was almost as difficult as his escape from Russia. He had no passport, no birth certificate nothing but his Army papers. The League of Nations eventually began issuing passports to Russian

refugees. It took Poniatoff seven years to get this essential document.

At 35 years of age, he finally sailed for San Francisco. He had a \$2,000 bonus given him by the Shanghai Power Co. for his five years of service, and a glowing letter of introduction to an influential person at the General Electric Company in New York. But he wasn't sure he wanted to pursue a technical career any longer. When he landed in San Francisco, he decided to give rural life a try he would become a farmer in this great modernized land of America.

But a shock greeted him. He found very quickly that America in 1927 was not "the land of pushbuttons and mechanized farming that I thought it was." A Russian church in San Francisco provided directions to the nearest Russian community of farmers. Poniatoff was "very disappointed." The farming community was poor. The grape growers and chicken farmers in and around the Petaluma area north of San Francisco worked very hard to make their living without the help of advanced or modern equipment.

So, with typical optimism, he used a portion of his \$2,000 to travel around the country, seeing the sights and cities of America. He visited Los Angeles, Chicago, Washington, New York and he marvelled at how prosperous most of the nation seemed to be. His tour completed, he decided to use his letter of introduction to General Electric in Schenectady, New York. "The letter was a little too praiseworthy," Poniatoff says in typically modest fashion. "It said I was qualified for jobs I considered way beyond my abilities.

G. E. didn't agree. He was hired as an engineer and immediately assigned to a circuit breaker design group. Another event happened at this stage of his life which aptly characterizes the man destined to launch an important new industry.

At his first meeting with General Electric engineers, Poniatoff was befuddled by the technical terms these fast-speaking Americans thrust at him. So he merely took notes at the meeting, saying nothing. The first thing he did at the end of the day was to go to the library to decipher the complicated terms he had written down at the meeting. To his delight, the librarian was a Russian. The man took Poniatoff under his wing, guided his studies, and it was almost a month before Poniatoff said anything at the meetings with the engineers. But when he did, he knew what he was talking about.

### **A Challenging Assignment**

A year later, with two patents issued in his name, he was called into the office of the head of the department. He was told that he would be a project engineer on a new vacuum type of circuit breaker.

Poniatoff said that this was the only time in his life he was hesitant since the project looked too difficult for him. He asked Mr. Rankin, the department head, why he was selected for this project instead of one of the more experienced engineers. Mr. Rankin replied with a smile: "These engineers, because of their

great experience, already know that it cannot be done. You are not smart enough yet to know it is impossible, and that's the reason I selected you."

Poniatoff successfully completed the vacuum circuit assignment and with heightened self-confidence decided at last to go to San Francisco. This was in 1930. His goal was to work in the development of new products. Because of the depression, he was unable to find any research and development work. Few companies were risking investment capital on the future. He accepted the one job that was available to him as an engineer with the Pacific Gas & Electric Company.

He never lost sight of his research goals, however, and continued to seek such work. During his search he was told that to spend money in such times on development of a new product, one has to be crazy. Eventually, in 1940, Poniatoff found such a man in Irving Moseley, who operated a small company called Dalmo Victor, which was developing small electrical appliances. In his eagerness for this type of work, Poniatoff offered his first three months' services without pay.

Dalmo Victor was at the time manufacturing permanent wave machines and had problems. The temperature controls of the machine created radio interference, for one thing, and the waves produced were not as permanent as desired. Poniatoff developed a new system that solved these problems. Moseley patented the new controls in Poniatoff's name. The patent was sold and Poniatoff received a portion of the income from the patent.

Meanwhile, Dalmo Victor had been developing an electric razor which when put on the market brought a patent infringement suit from a major manufacturer of electric shavers. Dalmo Victor lost the suit and was forced to reduce expenditures in development work. Poniatoff went back to P. G. & E. At this time he met Helen Hess of San Jose. They were married soon after and settled in Mill Valley near San Francisco.

Still eager for product development work, Poniatoff went to work for Westinghouse in Sunnyvale, and grew fond of the life on the Peninsula.

In 1942, as World War II raged, Poniatoff got a call from his old friend Moseley asking him to come back to Dalmo Victor. Moseley had received a contract to develop Navy Airborne radar scanners. According to the contract, the development of a prototype of the scanner had to be completed in 100 days. Poniatoff quickly accepted.

"The project group went without shaving for days at a time," he recalls. "The working hours were from seven in the morning until 11 at night."

### **Founding his Own Company**

Two of the components in the Dalmo Victor system, sophisticated motors and generators, were virtually impossible to obtain from existing sources. Seeing this as the opportunity for his friend to establish his own company, Moseley suggested that Poniatoff start manufacturing the two needed components.

Poniatoff took his own resources, rounded up a handful of men, outfitted the abandoned furniture loft above the Dalmo Victor plant, in San Carlos, California, and formed the Ampex Electric and Manufacturing Company. The Dalmo-Victor building, in which Poniatoff began his company, has since been replaced by a supermarket.

It was November 1, 1944. At 52 years of age, when most men are beginning to plan for retirement, Alexander M. Poniatoff founded his company. The young pilot of World War I, ousted from his homeland by the Communists, was on the threshold of one of the most significant developments in electronics of the century.

Today, as he approaches this month's 77th birthday, Mr. Poniatoff is active as always with various projects. As Chairman of the Board of Ampex, he leaves active management of the corporation to younger men. He heads the company's Alexander M. Poniatoff Laboratory, which is devoted to investigation of advanced and experimental techniques in magnetic recording. He keeps regular hours in his Ampex office and pays fastidious attention to his health. In his office he has an ultraviolet light system and equipment to ionize the air.

He devotes a great deal of his time to the important field of preventive medicine. In his opinion, scientific and technological advances, although benefiting man in many ways, have brought with them a complexity of life which is often detrimental to human health. Medicine and surgery have made great progress, but tensions of big city life, polluted environment, and insufficient contact of man with nature have created many new diseases. Knowledge and understanding of environmental factors including nutrition, he contends, will prevent diseases or reduce their incidence, and as a result will extend man's useful life.

And the passion that radiates from his clear blue eyes makes every visitor share his excitement. He pursues his philosophy through various channels. He takes active part in several foundations which are devoted to medical research and to educational and charitable work. He sponsored and organized the Foundation for Nutrition and Stress Research of which he is the Managing Director.

He says: "A man's life is not complete unless he has made a contribution to humanity." And he thinks the opportunities for making such contributions are numerous: "The United States still has the greatest potential of any nation in the world. The destiny of man is to be involved in creative work and to acquire new knowledge, and to make new discoveries which are of value and importance to human life and progress."

Mr. and Mrs. Poniatoff live in the spacious home he designed (the late architectural genius Frank Lloyd Wright, who was consulted on plans for the house, sanctioned the entire Poniatoff design except for a fireplace position). While at home, the Poniatoffs spend much of their time gardening. They grow many varieties of fruits and vegetables and experiment with soil conditioning and the addition of chelated minerals and trace elements to improve flavor and nutritional value of garden products.

As a young boy, he was impressed with the Tartar violin music of his neighbors. On his sound system, Poniatoff nostalgically enjoys violin music of Jppofitov-Jvanov, which reflects the Tartar influence. What kind of equipment does this pioneer of tape recording own? "Ampex. It's the best equipment I could find," he says with a chuckle.

<http://www.tonbandmuseum.info/ampex-story-teil1.html>

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