



The AMA History Project Presents: Biography of ROBERT E. (BOB) NOVAK

Born September 18, 1939



Written by JM (04/2011); Transcribed by JS (04/2011)

The following information was written and submitted to the AMA History Project (at the time called the AMA History Program) by Jay Mendoza.

Bob came out to California in the mid-1960s after working for crystal manufacturer named CTS Corporation back east. Bob was a hobbyist and had been involved in doing some crystal oscillator design consultations for several Radio Control manufactures, which ultimately landed him a job at Micro Avionics with Doug Spreng and Don Mathes of Digicon fame.

Micro Avionics was a subsidiary of Orbit Electronics. It was part of a deal the Dunhams had worked out with Mathes and Spreng whereby they designed the digital proportional radios for Orbit and in trade got to run their own company, making their own versions as well. The Dunhams supplied all the cases, stampings and injection molded parts, but the internal electronics were different.

Novak designed a second-generation version of the Micro Avionics radios that relied heavily on integrated circuits. This reduced the size, weight, and cost significantly, and was a sign of what was to follow industry-wide in a few years. Unfortunately, the Motorola first-generation integrated circuits Bob used had problems and would cause intermittent radio failures.

The systems were known as the XL and the XLIC. Both had distinctive wood grain vinyl-clad transmitter cases. The nature of the problems with the Motorola chips weren't noticed right away. Quite a few radios had been produced before they were able to pinpoint the source of the problem. All this happened right when Datatron bought Orbit and Micro Avionics from the Dunhams in December of 1969. Bob moved over to the new Orbit factory and was suddenly let go with no explanation. He was not even allowed to clean out his desk!

Not long thereafter, Bob teamed up with Gordon Larson in Orange, California to work with him at his shop called Larson Electronics. There, the two talented engineers put their heads together and created the next generation of the Bonner Digimite 4RS and 6RS systems. They chose orange as their color for the radios, and named them RS Systems. RS stood for "Real Small." The receiver was the size of a five-pack of Wrigley's gum, the smallest for its time. The servos used Railings mechanics and had the fastest response time of any servo at the time. Eventually Gordon sold the whole operation to Bob. He then changed the name and location; it became RS Systems.

Bob had taken on some investors to help him purchase the company from Gordon Larson, and at one point, he took a trip up to northern California. Upon his return he discovered his investors had sold the company to recover their money and closed the shop...Bob was back on the street again!

Undaunted, Bob persevered and continued to make servos and receivers of his own design based on the rugged and extreme demands his Formula 1 and ¼ Midget racing planes put on them. Many competitors used Novak's custom flight packs to upgrade their airborne equipment. Around this time (1980,) the Radio Control electric car market - led by Associated Electrics, less than a mile away from Bob's shop - took off.

Bob was perfectly poised to supply rugged and fast servos that these cars required. He also developed an electronic speed control to replace the inefficient rheostat cars then-used for motor control. Next, in the early 1980s, Bob went one step further and designed the first available dual conversion AM narrow band receivers to be used with the new even and odd channels that the AMA had lobbied the FCC for in 1981. This receiver was in an orange case just like the old RS Systems "gum packs" and was very small and light. Well ahead of its time using the then-new S042 double balanced mixer chip, it had spectacular performance specifications that others did not match or exceed for years.

The Radio Control electric car market continued to grow at such a fantastic rate that Bob could not keep up with the ever-increasing demand for his aftermarket servos - Mosfet speed controls (ESCs), receivers, and chargers - so he expanded his operation. By 1983, he had released a micro AM 3-channel receiver for cars based on the LM1872 chip. It was only one inch square and the smallest of its kind, another Novak first.

By the end of the decade, Novak had become *the* manufacturer of choice when it came to fitting out a Radio Control electric car for racing. Virtually all the Norca, IFMAR, and other championship races were won by drivers using his equipment. Names such as Joel "Magic" Johnson, Masami, Gil Losi Jr., Brian Kittenwald, Tony Neisinger, and Cliff Lett were on his roster. Novak equipment by the end of the 1990s had won every major event in the Radio Control car world. Bob had a new state of the art manufacturing plant in Irvine set up with the latest surface mount technology machines to build circuit boards robotically, and his daughter and her husband worked in key positions at the facility.

Today they manufacture 3-phase ESCs and a whole myriad of other electric powered accessories, including motors for electric powered models. Bob still has Joanie handle the finances. Many would say he is the most successful Radio Control manufacturer in the USA ever.

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