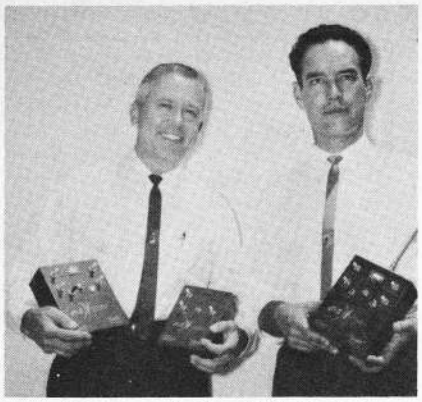

Bill Cannon (left) and Bob Hunter.

C & S

Like several hobby firm names, "C & S" stands for one present—and one former—partner. C & S Electronics got its start in 1961 in Phoenix, stemmed from the dissatisfaction of Bill Cannon with existing R/C equipment he had tried. Sole owner of the enterprise from a short time after it was formed, Cannon had been a model plane builder since about 1927, got into R/C in '55. His radio flying was not very successful—it was some two years before he could get good results with available commercial equipment, meanwhile suffering the usual crashes, flyaways and so on. His reaction was finally to design his own transmitter and receiver—forerunners of the popular Falcon and CS-501. Bill strongly feels you should be able to install equipment in a plane and forget it, to concentrate on flying. With his own gear he was finally able to do so.

Noting his success, local modelers wanted copies of his radio units, and he started making them in a very small way. C & S Electronics was then formed to produce and market them on a larger scale. Having used the best parts he could get for the job, the prices were rather high. Mail order sales were not outstanding and his partner pulled out, leaving Bill sole owner.

Cannon started building rubber models in Atlanta, Ga. He progressed to gassies, won some FF events in area meets, then left for a 4 year hitch in the Navy during the war. Though he flew a lot and got some stick time, Cannon was an electronics and radar specialist.

Both natives of Georgia, Bill and his wife keep in touch with many friends there (including model builders) but haven't lived there since the war. He had no time for modeling right after the war—too busy getting set up in business. An expert in administration, he has specialized in building up concerns that have not been too successful. Besides C & S he owns a firm that writes and illustrates technical manuals, and also a printing business to reproduce them. A graduate engineer, Bill does all C & S design work, writes his own instruction sheets and then prints them in his own plant.

The first C & S radio equipment was designed and tested in the Los Angeles area, but the units were produced in Phoenix under the supervision of the manager of one of his technical plants located there. As the equipment became more complex (getting into multi channel reeds and superhets) it was found harder and harder to keep track of manufacturing by "remote control", and all manufacturing was moved to L.A. late in 1963.

Though he designs and flies his own apparatus, Bill always has other modelers help out testing under varied field conditions. A pioneer in small proportional in the L.A. area Bill successfully persuaded other Coast modelers to use it. Ken Willard is one of his enthusiastic converts.

Bill has always been a small plane enthusiast. He designed the Griffin—a little 32" span mid-or-low winger—to carry his first light and compact receiver, gave free plans to buyers of latter. Further reduced in size (to 25" span) this same design appeared as the Veco-kitted shoulder wing "Li'l Pinto". As a real concession to size, the Griffin was blown up to 38½" span, called "Pinto"; this plane is also kitted by Veco Products. "Li'l Pinto" is quite a bomb, but handles nicely with proportional. Sticking to his small plane pitch, Cannon rigged up the first top Flite Schoolmaster seen in the area, powered it with one of the first throttle-equipped Cox .049's, flew demonstrations with his new miniature 6 channel reed gear and small multi servos. Bill feels such planes are ideal for small fields, make much less noise to bother non-modelers, are just as much fun to fly as the big multi monsters.

But back to C & S Electronics . . . Cannon had been told that distributor sales were the only way to make a go in the hobby field. His equipment was too expensive to be handled through other distributors, so as a last resort he started his own distribution. The intention at first was to distribute only his C & S line, but he soon had to expand. Arrangements were made with Ace Radio Control in the center of the country, and GM Hobby Specialties on the East Coast, so there would be three main points for obtaining the C & S line. As part of these arrangements, Cannon agreed to act as West Coast distributor for the Ace and GM lines.

At first Bill did all the packing and mailing himself. This got pretty burdensome, and when he met a likely modeler at the flying field, Bill persuaded him to handle these chores from the modeler's own garage. And this was the entry of Bob Hunter into the R/C business.

Besides servicing mail orders, Bob started calling on a few local hobby shops to show the C & S line. These dealers began asking for items from other manufacturers, which Bob would handle as a favor. The favors grew until it became evident that a full-scale distribution setup was necessary, and C & S Distributors was set up under Bob Hunter's management as a separate entity from C & S Electronics.

Bob himself had been a long time model builder, produced his first planes from small kits some 30 years ago (which he admits dates him somewhat). Always very engrossed in model building, he showed accelerated interest in it when he and his wife moved to the West Coast in 1946, and culminated an exceptionally successful 3 year contest program by becoming Grand National Champion in 1959. Some of his better known planes were the Satellite series of free flight contest models and the Niblick glider series. Though best known in the FF gas field, Bob actually got into R/C in '56; he recalls one very reliable plane he often flew at night. On the way to the '60 Dallas Nats all his models were lost—which slowed him down drastically. Bob tied in with C & S in 1961, has headed C & S Distributors since this branch was started.

Hunter looks forward to lots more R/C flying, but the expanding business has kept him pretty tied up. More salesmen, more office help soon to be added may allow him more time on the flying field. Bob's activities have allowed Bill Cannon to concentrate on the fields *he* prefers—design, test flying and manufacture.

Just about everyone in the C & S organization is a hobbyist, as Cannon feels their real interest in what they are doing makes them more valuable to him. Cannon designs are notable for simplicity of assembly; a 511 receiver takes only 30 to 40 minutes to complete. All C & S receivers are checked on Signal Generators and other lab equipment, but the final test is conducted in an open area away from all trees and buildings. The receivers must perform satisfactorily at 60' from a standard C & S transmitter—with no antenna on latter.

When originally marketed, the 501 was the smallest such receiver available. C & S pioneered the "double-ended" receiver, which is ideal for proportional control, brought out a transistor pulser to go with it. Looking for a single propo actuator, Cannon heard of one designed by Stan John of New Orleans from ideas developed many years ago by George Trammell. Stan's actuator was added to the C & S line in two sizes (the Mark III and Mark V Septalettes).

Competition forced redesign of the 501 and double-ended 505, and smaller and considerably improved versions are now available as the 511 and 505A. Improvements included greater range, and swamp-proof circuitry. Since Bill is fully aware of the requirements of proportional operation, C & S receivers have all been designed to operate reliably at high pulse rates. C & S su-

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C & S

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perhets feature very narrow band pass —to exclude interference from other transmitters, and from sparking motors and other plane equipment. Special extra-sharp Clevite filters are utilized. This brings about one problem—receiver and transmitter frequencies must be very closely matched. This is automatically taken care of if you purchase units the concern has checked together. Or you can send your own transmitter to the factory and a receiver will be matched to it, at nominal cost.

Single channel superhets in the line are convertible at any future time to 6, 10 or 12 channel operation, a very simple job. If you have it done at the factory, the receiver gets a complete check over, and is returned with full new receiver guarantee—no matter how long you had previously flown it single channel.

The L.A. area is a hotbed of slot car racing activity and C & S is very firmly in this field; they carry a large assortment of slot racing kits, cars and parts, have their own exclusive line of plastic bodies, are top U.S. distributors of the Dynamic Models line of slot car components. C & S now stocks quite a good deal of European model material (through handling the GM Hobbies line) and expects to get into Japanese imports too.

From a small start by a manufacturing hobbyist in 1961, and in full scale distribution only since '62, C & S has come a long way in a remarkably short time. When Bill Cannon says in his quiet way that he hopes eventually to make his operation one of the biggest in the country—you have little doubt he might well reach that goal!