



# The AMA History Project Presents: Biography of WILLIAM (BILL) M. CANNON, JR.



December 26, 1917 - September 10, 2008  
AMA #505291

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## Career:

- First to develop and market a micro four-channel proportional Radio Controlled system with a total airborne weight of less than four ounces
- By 1995, he reduced the airborne weight to less than three ounces
- 1995: Cannon Radio Control Systems was the sole true remaining manufacturer of Radio Control equipment in the U.S.
- He has been an electrical engineer, manufacturer and technical writer and publisher
- Studied at the University of Houston and Georgia Tech as well as with the U.S. military and the U.S. Bureau of Aeronautics
- 1949-1985: Started his own technical writing organization and did technical writing during that period
- President for one year of the Los Angeles Chapter of the National Technical Publications Society (NTPS)
- Director for his second year on the NTPS National Board
- 1955: Started C&S Electronics, which grew to become Cannon Electrics, then, finally, Cannon Radio Control Systems
- Designed many aircraft in more than 50 years, always emphasizing sub-miniature equipment within current state-of-the-art to permit control of the smallest models
- His small Ultra-Micro Airborne Pack made indoor Radio Control flying possible
- Cannon is known worldwide for the smallest, lightest sophisticated Radio Control units being manufactured
- Won first place at the Southeast Nationals in Atlanta with his hand-launched glider; placed second with a stick model
- His plans were published in various model publications

## Honors:

- 1996: Model Aviation Hall of Fame

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*The following information is taken from the Model Aviation Hall of Fame applications submitted on behalf of William M. Cannon, Junior by Hurst Bowers on April 10, 1995, John Worth on May 3, 1995, Richard F. Tax on May 24, 1995 and William C. Northrop, Jr. on March 28, 1996.*

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Hurst G. Bowers  
Colonel USAF (Ret.)

1649 Birch Road  
McLean, VA 22101

April 10, 1995

Subject: Nomination of William M. Cannon, Jr. as candidate to the [Model Aviation] Hall of Fame

To: Chairman, Hall of Fame Committee  
Academy of Model Aeronautics  
5151 E. Memorial Drive  
Muncie, Indiana 47302

In every field of endeavor, there are individuals who distinguish themselves through leadership and outstanding contributions to their particular professions and institutions. Bill Cannon is such a person. He was first to develop and market a micro four-channel proportional radio control system with a total airborne weight of under four ounces. This breakthrough in itself was of such significance as to have a profound effect on the entire aeromodeling field. His system became available to the hobby approximately 20 years ago, and with continuing development and refinement, he has reduced the airborne weight to less than three ounces, with improved performance and reliability. It is of great significance that Cannon Radio Control Systems is the sole true remaining manufacturer of this equipment in the entire United States.

Bill's aeromodeling activities have been closely interrelated to his brilliant career as an electrical engineer, technical writer, and publisher and as a manufacturer. His formal education includes electrical engineering at the University of Houston and Georgia Tech, as well as highly specialized studies with the military, industry and the U.S. Bureau of Aeronautics. His military service during World War II was with the U.S. Navy where he served with distinction on SBD dive-bombers in the Pacific Theater. Never forgetting his love for aeromodeling, he participated in model building and flying in competition throughout, and has always been readily available to fellow modelers in need of support and assistance.

Behind each successful man is a supportive and loving wife. Bill's good fortune can be largely attributable to his most charming wife, Charlie. She has been at his side for the past 25 years that I have known them, and has played a major role in bringing the fruits of Bill's fertile mind to aeromodelers worldwide.

Bill's accomplishments and contributions to our hobby are too extensive to cover within this nomination. Therefore, I am attaching an addendum to this letter, which will provide in detail the many contributions that I consider to more than qualify him for membership in the Hall of Fame.

I take great pride in sponsoring Mr. William M. (Bill) Cannon, Jr. for nomination into the Model Aviation Hall of Fame. Should any additional information be desired, please do not hesitate to advise me.

Hurst G. Bowers

Colonel, USAF, Ret.  
AMA Life Patron No. P-11  
Member, Hall of Fame

## **Background and Experience**

Learned to install, service, and repair commercial electrical systems and auto and home radio – 1933 to 1941.

U.S. Navy – 1941 to 1945. After Navy Electronic Training was attaching to N.A.S. in Long Beach Radar and Communications on SBD Dive Bombers.

Transferred to B-24 Electronics Installation Base, Phoenix, Arizona. Then as aviation chief electronics technician, to Navy Bureau of Aeronautics, Lockheed Burbank in engineering capacity including electronics, aircraft electrical, radar, and flight-testing.

Overseas with Combat Air Service Unit, Saipan, Marianas Islands (Pacific), 1944 to 1945. In charge of over 150 Technical Service Personnel.

Electronic and mechanical technical writer, 1945 to 1949. Started own technical writing organization from 1949 to 1985 and did technical writing during that period. President for one year of the Los Angeles Chapter of National Technical Publication Society (NTPS); Director for second year on the NTPS National board.

## **Education**

- Trained to service and repair automotive and home radios
- Electrical engineering, Georgia Tech
- Navy, Electronics school; basics and repair of aircraft radio/electrical systems
- Electronics engineering, University of Houston
- Advanced radar school, Corpus Christi, Texas
- Aircraft maintenance and repair (A&R) training with Bureau of Aeronautics, Lockheed Burbank
- Technical writing education and training
- Transistor engineers, UCLA (for purpose Radio Control design)
- Computer operation and repair
- Owner and technical writer supervisor in publication firm for 35 years
- Electronic writer experience included aircraft electrical, hydraulics, other aircraft equipment, autopilots, communication equipment, missiles, fire control equipment, remote control target drones and guidance systems, etc.

Started C&S Electronics in 1955, designed the company's first miniature solid-state receiver and transmitter. Company grew and reorganized as Cannon Electronics, then Cannon Radio Control Systems.

Basis of all equipment planning from the beginning was design and production of the very smallest, lightest Radio Control equipment possible within current state-of-the-art.

None: His business has always been solely the design of Radio Control units. As of 1995, Cannon Radio Control is now the only true remaining manufacturer of Radio Control equipment operational in the U.S.

## **Accomplishments**

Cannon has conceived, designed, and produced over a period in excess of 35 years, dozens of varied Radio Control systems and units for model aircraft and hobby use and for theatrical and commercial applications. Designs cover many types of transmitters, receivers, servos, actuators and peripheral accessory equipment. Emphasis has always been placed on design of sub-miniature equipment, within current state-of-the-art, to permit control of the smallest models.

Radio Control equipment types designed by Bill Cannon include the following:

- Gas tube receivers
- Miniature relay-less super-regen single channel Rx (Humming Bird)
- Double ended relay-less super-regenerative Rx for pulse proportional operation (Finch and Finch II)
- Single-channel transmitters (Falcon, Falcon II, and Falcon III)
- Pulser control attachment for Tx (Pulsitran)
- Magnetic pulse actuator (Septalette)
- Plus several other single channel receivers; these include super-regen and superhets

Designed and manufactured a number of Reed Transmitters and Reed Receivers ranging from four through 12 channels. Units named Hawk, Hawk II, Eagle, and Eagle II.

Redesigned the first Digicon (square-wave type) to become model 518 Digicon II, Cannon's first full pulse-digital proportional to go into production.

Digicon II was followed by more technically improved proportional systems, even including one KiT Series, Model No. 525.

More recent systems, starting with the 520 models, were known as CRC (Canadian) Models 530, 540, Gran Prix, 810, 820, 825, 830 and 840 series. These covered two through seven channels.

Major changes and improvements have culminated in the 910 series, containing a much more advanced transmitter with high power output, servo reversing, dual rate, and even two mixer types.

Our Super-Micro receivers have finalized into the Micro-Elite System, extremely small and light, and the Crown Jewel in this line of products, the Ultra-Micro Radio Control System, two through five channels. In addition, the Ultra-Micro receiver is narrow band and provides full proportional

operation and virtually line of sight range. Total flying weight of a complete four-channel Ultra-Micro Airborne Pack, receive, four servos and a NiCad batter, is slightly over two ounces!

This small system makes possible even indoor Radio Control and other unlimited applications, hitherto unattainable!

Cannon has always been known worldwide for the very smallest, lightest sophisticated Radio Control units currently being manufactured.

## **Model Aircraft Designs**

Bill Cannon has personally designed many types and models of small aircraft during the last 50 years, mostly for his own pleasure, some for contests, but lately for commercial Radio Control exploitation and advertising. Models include the following:

- Rubber-powered Free Flight, both scale and sport types
- Hand-launched gliders (first place win) at Southeast Nationals, Atlanta, Georgia
- Same design won virtually every contest in which later entered
- Stick model placed second, southeast contest, bring Bill Cannon second place overall, although he could not participate in the fuselage category because rubber breakage destroyed fuselage structure before any flights
- Low wing compressed air models (60-inch span)
- Several Free Flight models, gas powered
- Radio Control single-channel models, Pinto and Lil' Pinto, kitted by Veco – very popular
- Two models, Griffin III and Griffen IV, both four-channel low wing Radio Control proportional models, miniature size, designed for .03 and .061 G-Mark power; plans sold nationwide and were published in Model Builder magazine
- Lil' Streaker – low win, .10 powered, four-channel, Radio Control plane; published in Radio Control Sportsman magazine (Ed Sweeney)

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*John Worth  
Past AMA President and Executive Director*

*May 4, 1995*

*Academy of Model Aeronautics  
Hall of Fame Committee  
5151 E. Memorial Drive  
Muncie, Indiana 47302*

*Subject: Nomination for Bill Cannon*

*Bill Cannon has made a unique contribution to the history of Radio Control, currently the largest segment of model aviation. He has for many years and continues to specialize and dedicate his efforts to the development and production of sub and micro miniature Radio Control equipment.*

*These efforts have had a major effect in making Radio Control flying of indoor models a practical activity, which previously was possible only for highly skilled experimenters and made it viable for a much larger group of hobbyists. By providing Radio Controllers with off-the-shelf commercial products suitable for indoor Radio Control flying, he has changed the nature of the activity, which was engaged in by a very limited few modelers, to a potential for thousands of average modelers to enjoy.*

*No firm, other than Bill Cannon's, manufactures Radio Control equipment of such very small size with the multi-channel capabilities of the typical larger and heavier equipment used by thousands (millions?) of the most Radio Control modelers. Thus, Bill Cannon stands along in the world of Radio Control in making such an unusual contribution for the benefit of all modelers. Therefore, this unique achievement fully deserves the recognition and prestige of induction into Model Aviation Hall of Fame.*

*John Worth  
AMA 13*

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*Richard F. Tax  
630 Montview Place  
River Vale, NJ 07675*

*May 24, 1995*

*[Model Aviation] Hall of Fame  
Academy of Model Aeronautics  
5151 E. Memorial Drive  
Muncie, Indiana 47302*

*Hall of Fame Committee:*

*I am proud to nominate Bill Cannon, Jr. as a candidate for the Model Aviation Hall of Fame. Bill has dedicated his life toward the development and production of precision miniature Radio Controlled systems.*

*Bill has been a modeler since childhood and although not noted as a contest competitor he has met the challenge of making Radio Control equipment smaller and again, even smaller. Because of his efforts, 0.03 cubic inch engines, CO2 engines, and rubber can be used to power Radio Control model aircraft. He has made it possible to build and fly four-channel model aircraft under the weight of 24 ounces and satisfied the needs of model builders around the world.*

*I thank you for the opportunity to nominate Bill as a candidate for the Model Aviation Hall of Fame.*

*Fraternally yours,*

Richard F. Tax  
AMA 6860

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*Date: March 28, 1996  
To: Council of AMA Presidents  
From: William C. Northrop, Jr., AMA Number 1804  
Subject: Supporting remarks concerning nomination of William M. Cannon to the Model Aviation Hall of Fame*

*Though never really into competition, club activities, contest organization and management or involvement in AMA or FAI matters, Bill Cannon's primary contributions to the model aviation hobby have come through his knowledge, expertise and practical applications of Radio Control electronics.*

*Bill is most noted in recent years for his development, production and marketing of extremely miniaturized fully proportional Radio Control systems for model aircraft so small and light that they may be flown indoors! In addition, these systems are extremely popular for control of model blimps and balloons, where equipment size and weight is even more critical than in aircraft.*

*As with many of our innovators in the hobby, it is the challenge and satisfaction of success in attaining certain goals that provides their greatest reward, not so much the monetary return, which if examined from a practical viewpoint would no doubt turn their efforts in more profitable directions!*

*William C. Northrop, Jr.*

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