Smithsonian
National Museum of American History Kenneth E. Behring Center

Guide to the Paul G. Watson Collection

NMAH.AC.0104

Robert Harding, archivist

1991

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Collection Overview

Repository:	Archives Center, National Museum of American History
Title:	Paul G. Watson Collection
Date:	1960-1965
Identifier:	NMAH.AC.0104
Creator:	Watson, Paul Gristock, 1900-1966 (naval officer) (Creator)
Extent:	1 Cubic foot (3 boxes)
Language:	English .
Summary:	The collection documents the early development of radio apparatus.

Administrative Information

Acquisition Information

No acquisition paperwork is extant.

Provenance

The collection was transferred to the Archives Center from the Division of Electricity (now the Division of Work and Industry) in 1984.

Related Materials

Materials in the Archives Center

George H. Clark Collection of Radioana (AC0055)

Materials at the National Museum of American History

Electron tubes related to Watson are in the Division of Work and Industry.

Processing Information

Processed by Robert Harding, archivist, 1991; revised by Catherine Keen, archivist, June 2010.

Preferred Citation

Paul G. Watson Collection, Archives Center, National Museum of American History, Smithsonian Institution

Restrictions

The collection is open for research use.

Researchers must handle unprotected photographs with gloves.

Conditions Governing Use

Collection items available for reproduction, but the Archives Center makes no guarantees concerning copyright restrictions. Other intellectual property rights may apply. Archives Center cost-recovery and use fees may apply when requesting reproductions.

Biographical / Historical

Paul Watson (1900-1966) was a retired naval commander and collector of electron tubes and material documenting them.

Scope and Contents

The collection consists of five loose leaf binders labeled Historical Notes Concerning the Invention and Early Development of the Electron Tube. The binders contain articles reproduced by Watson from the diaries and publications of several radio developers as well as chapters written by Watson himself. Concentrating most heavily on Lee de Forest's invention of the "audion" electrolytic receiver and amplifier between 1902 and 1907, Watson narrates the story of the electron vacuum tube. The three-electrode tube patented by de Forest combined all of the technology of Edison and Marconi into an extremely efficient and high-frequency-producing radio device. After 1915 transmissions through the air from Arlington, Virginia to both San Francisco and the Eiffel Tower, the age of the electron vacuum tube had arrived. Several companies sought rights to its development, and Watson's combination of personal insight and original material brings order to these early days of wireless communication.

The collection also includes a one-volume book on the Arlington, Virginia radio transmitter; a five volume study of the electron tube's development; and a folder of miscellaneous materials. The single volume is a 1965 work which tells the story of the National Electric Signaling Company (NESCO) and Naval involvement at the Arlington short wave radio transmission station. Built in 1909 by NESCO, this station was originally equipped with a huge 100 kilowatt spark transmitter in an effort to concentrate all Atlantic Naval communication and to provide a means of directly signaling the West Coast. A more effective and compact kilowatt arc or "continuous wave" transmitter was added in 1913, and in 1924 several vacuum tube transmitters superseded both former types. This work is the story of that transition.

The five volume set contains an overview of wireless development throughout the twenties and beginning with the vacuum tube development. The first volume discusses de Forest's life's work, the manufacture of his "audions", General Electric radio-receiving tube progress, and selected quotes from de Forest's letters to Watson. The second volume narrates Watson's experience with amateur radio, radio in the U.S. Navy, early radio organizations, and General Electric and Westinghouse developments. The third volume provides a list of brand names and manufacturers of electron tubes and a series of photographs of Watson's personal tube collection. The fourth volume develops de Forest's pre-"audion" days and discusses his company's line of radio equipment. The fifth and final volume contains a catalogue of Marconi brand equipment and several illustrated chapters on naval radio in World War I, including the 1915 Arlington experiments. The miscellaneous materials consists of one folder of advertisements for various radio vacuum tube manufacturers and complete photographs of Watson's private tube collection.

Arrangement

The collection is arranged into one series.

Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

Subjects:

Electric equipment
Electron tubes
Vacuum-tubes

Types of Materials:

Black-and-white photographic prints -- Silver gelatin -- 1950-2000
Correspondence -- 1930-1950
Sales catalogs
Technical literature

Container Listing

Box 1, Binder 1	Historical Notes Covering the Invention and Early Development of the Electron Tube, Volume 1, undated
Box 1, Binder 2	Historical Notes Covering the Invention and Early Development of the Electron Tube, Volume 2, undated
Box 1, Binder 3	Historical Notes Covering the Invention and Early Development of the Electron Tube, Volume 3, undated
Box 2, Binder 1	Historical Notes Covering the Invention and Early Development of the Electron Tube, Volume 4, undated
Box 2, Binder 2	Historical Notes Covering the Invention and Early Development of the Electron Tube, Volume 5, undated
Box 3	Historical Notes Covering the Invention and Early Development of the Electron Tube, Volume 6, 1965-09-29
Box 2, Binder 3	The Arlington Naval Radio Station, Its Early Years, 1909-1924, 1965
Box 2, Folder 1	Miscellaneous materials, undated