Smithsonian
National Museum of American History Kenneth E. Behring Center

Guide to the William R. Stone Microwave Oven Papers

NMAH.AC.1320

Vanessa Broussard-Simmons and Audrey Willius

2023

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Collection Overview

Repository:	Archives Center, National Museum of American History
Title:	William R. Stone Microwave Oven Papers
Date:	1967-1989, undated
Identifier:	NMAH.AC.1320
Source:	Hoffman, Robin (Donor)
Creator:	Stone, William R., 1920-2006 (Creator) Raytheon Company
Extent:	0.6 Cubic feet (2 boxes)
Language:	English .
Summary:	Collection primarily consists of drafts, notes, caluations, reports, correspondence, Federal Communications Commission (FCC) materials, record of inventions, and designs from Stone's work for the Raytheon Company involving industrial applications and home use for the microwave. It also includes literature for the trade as well as educational materials for consumers dating from the 1950-1980s.

Administrative Information

Ownership and Custodial History

Donated to the Archives Center in 2014 by Robin Hoffman, William Stone's daughter.

Related Materials

Materials at the Archives Center, National Museum of American History

Product Cookbooks Collection, NMAH.AC.0396

Industry on Parade Film Collection, NMAH.AC.0507

Archives Center Cookbook Collection, NMAH.AC.0510

Servodyne Corporation Records, NMAH.AC.0839

Nordic Ware Collection, NMAH.AC.0980

Processing Information

Collection processed by Vanessa Broussard-Simmons, archivist, 2023, and Audrey Willius, intern, 2023.

Preferred Citation

William R. Stone Microwave Oven Papers, 1967-1989, Archives Center, National Museum of American History.

Restrictions on Access

Collection open for research on site by appointment. Unprotected photographs must be handled with gloves.

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Biographical / Historical

William Robert Stone (September 24, 1920-October 26, 2006) was an engineer for the Raytheon Company located in Waltham, Massachusetts. He was born in Boston, Massachusetts to Nathan Stone (June 30, 1900-January 7, 1968) and Ida Davis Stone (August 1, 1899-July 15, 1990). At the age of twenty-one he registered for the United States Army while working for the Boston Navy Yard in Charlestown, Massachusetts. Stone attended Northeastern University where he obtained his Associates of Electrical Engineering degree (A.E.E.) in 1953 and Bachelor of Business Administration degree (B.B.A.) in 1956. He also took classes in the Graduate School of Engineering at Northeastern University from 1956-1958.

In 1951 Stone began working for the Raytheon Company. He was involved in the invention and development of microwave ovens for industrial uses, such as for ink drying, rubber vulcanization, and later for home use. Stone published research on the industrial food applications of microwaves, specifically on oyster shucking and in outer space. In 2006 Stone died in Boca Raton, Palm Beach, Florida at the age of eighty-six.

Scope and Contents

Papers documenting William R. Stone's involvement in the invention and development of the microwave for industrial and home use. The collection includes biographical information; patents, and other invention related papers; photographs; design drawings; internal company papers and memoranda; Stone's research and reports, especially on the subject of microwave safety; and trade literature relating to products for both industrial and home use.

Arrangement

The collection is arranged into nine series.

Series 1: Correspondence, 1969-1985

Series 2: Federal Communications Commission (FCC), 1981-1985

Series 3: Conferences and Symposiums, 1969-1980

Series 4: Literature for the Trade, 1967-1986, undated

Series 5: Consumer Materials Consumer Materials, 1979-1980, undated

Series 6: Notes and Drafts 1971-1981, undated

Series 7: Raytheon Company Matereials, 1969-1989, undated

Series 8: Industrial Reports and Statndards, 1951-1984

Series 9: Other Materials, 1971, undated

Names and Subject Terms

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

Subjects:

Engineers -- 20th century
Microwave equipment industry
Microwave heating
Microwave oven industry
Microwave ovens
Oysters -- Shucking
Safety

Types of Materials:

Articles -- 1950-2000
Design drawings -- 20th century
Graphs
Memorandums -- 1950-2000
Notes
Patents -- 20th century
Photographs -- 20th century
Reports
Specifications
Trade literature

Names:

Hoffman, Robin

Places:

Outer space -- Exploration -- United States

Container Listing

Series 1: Correspondence, 1969-1985

Scope and Contents: Contains the incoming and outgoing communications of Stone primarily with colleagues working for the Raytheon Company and others in the field. Most of the communications relate to his publications, conferences, research and/or patents and include invention documentation. The materials are arranged in chronological order.

Box 1, Folder 1	Correspondence, 1969
Box 1, Folder 2	Correspondence, 1970
Box 1, Folder 3	Correspondence, 1971
Box 1, Folder 4	Correspondence, 1974
Box 1, Folder 5	Correspondence, 1976
Box 1, Folder 6	Correspondence, 1977
Box 1, Folder 7	Correspondence, 1978
Box 1, Folder 8	Correspondence, 1980
Box 1, Folder 9	Correspondence, 1981
Box 1, Folder 10	Correspondence, 1983
Box 1, Folder 11	Correspondence, 1984
Box 1, Folder 12	Correspondence, 1985

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Series 2: Federal Communications Commission (FCC), 1981-1985

Scope and Contents: Consist of materials created and distributed by the Federal Communications Commission (FCC), an agency within the United States government, that regulates communications by radio, television, wire, satellite, and cable across the country. Materials are arranged in chronological order.

Box 1, Folder 13	Digest of the 1981 Microwave Power Symposium, 1981
Box 1, Folder 14	Application for prototype certification for RadarLine model number QMP210A-6, 1981 June 17
Box 1, Folder 15	Federal Communications Commission (FCC) rules and regulations Part 18, 1981 July
Box 1, Folder 16	Electromagnetic interference test report on Model MK50, 1982 August 17
Box 1, Folder 17	Notice of proposed rule change for FCC, 1983 January 21
Box 1, Folder 18	Electromagnetic interference test report for FCC compliance, 1983 March 14
Box 1, Folder 19	Proceedings of hearing to revise part 18 governing industrial, scientific, and medical equipment, 1984 December 18
Box 1, Folder 20	Application for prototype certification for RadarLine model number QMP2103, 1985 January, undated
Box 1, Folder 21	FCC compliance test report on tempering tunnel, 1985 February 26
Box 1, Folder 22	FCC report, 1985 August 21

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Series 3: Conferences and Symposiums, 1969-1980

Scope and Contents: Include materials either created for or used at various conferences and are arranged in chronological order.

Box 1, Folder 23	Registrants for Aerospace Food Technology Conference, 1969 April 15-17
Box 1, Folder 24	Agenda for training program on RadarLine Microwave Tunnel, 1976 August 16-18
Box 1, Folder 25	The Case for Microwave Safety presented at Microwave Education: How and What to Teach, 1980 February 24

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Series 4: Literature for the Trade, 1967-1986, undated

Scope and Contents: Include technical materials created for the industry and relating to microwave use and its safety. Materials are arranged in chronological order.

Box 1, Folder 26	The Electronic Engineer Advertisment, 1967 October
Box 1, Folder 27	Literature on industrial food applications, 1974-1986
Box 1, Folder 28	Microwave safety booklet, 1975 December
Box 1, Folder 29	History of microwave heating applications, 1984 September
Box 1, Folder 30	Microwave cooking pamphlet, undated
Box 1, Folder 31	Microwaves: What Are They? RadarLine report, undated

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Series 5: Consumer Materials, 1979-1980, undated

Scope and Contents: Consist of materials directed towards the consumer market as a means of educating it on the use and safety of microwave ovens. Materials are arranged in chronological order.

Box 1, Folder 32	The Microwave Oven Safety pamphlet, 1979
Box 1, Folder 33	Food and Drug Administration (FDA) consumer memo on microwave radiation, 1979 March
Box 1, Folder 34	The language of microwave ovens pamphlet, 1980
Box 1, Folder 35	Dispensing the Myths and Mysteries of Microwave Cooking pamphlet, undated

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Series 6: Notes and Drafts, 1971-1981, undated

Scope and Contents: Contains the rough drafts, notes, and calulations of Stone's work before the materials become patents, publications, and conference presentations. The materials are arranged in choronlogical order.

Box 1, Folder 37	Records and notes, 1971-1981, undated
Box 1, Folder 38	Plans and drafts, 1977, undated
Box 1, Folder 39	Power ratio and numbers, undated
Box 1, Folder 40	Handwritten notes and calculations, undated
Box 1, Folder 41	Circular wave guide mode chart, undated

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Series 7: Raytheon Company Materials, 1969-1989, undated

Scope and Contents: Include materials that were created or received by Stone in the course daily work for the company. The materials are arranged in chronological order.

Box 2, Folder 1	Plant engineering materials and maintenance conference permissions and materials, 1969-1979, undated
Box 2, Folder 2	Design consideration for Microwave Heating Space Food presentation at the University of South Florida, 1969 April 17
Box 2, Folder 3	Microwave opening of oysters publication, 1969 October 1
Box 2, Folder 4	Records and notes on solid state microwave oven, 1970, undated
Box 2, Folder 5	Record of invention welding plastics, 1970 February-May
Box 2, Folder 6	Microwave performance and application notes, 1971, undated
Box 2, Folder 7	Records for RF Absorber, 1971, undated
Box 2, Folder 8	Record of invention of dry wall absorber, 1917 March 12
Box 2, Folder 9	Electromagnetic radiation interference with cardiac pacemakers, 1971 April
Box 2, Folder 10	Microwave systems report, 1972 April 26
Box 2, Folder 11	Historical profile, 1976 November
Box 2, Folder 12	Reports on transfer molding in microwave technology, 1977, undated
Box 2, Folder 13	Microwave processing equipment for foundry industry, 1978, undated
Box 2, Folder 14	Plant Engineering Council (PEC), 1979
Box 2, Folder 15	Raytheon comments on General World Administrative Radio Conference of the International Telecommunication Union, 1978 August 8
Box 2, Folder 16	Microwaves "What, Where, How" presented at Blue Ridge Rubber Group Fall Technical Meeting, 1980 October 24
Box 2, Folder 17	Records on attenuator for continuous microwave processing equipment, 1982-1983
Box 2, Folder 18	Industrial microwave processing equipment information, 1982 October
Box 2, Folder 19	Osepchuk file, 1984-1985

Box 2, Folder 20	United States Patent for Leakage Suppression Tunnel, 1984 December 11
Box 2, Folder 21	Microwave applications in the baking industry, 1985 September 16
Box 2, Folder 21	Industrial microwave equipment information, 1989
Box 2, Folder 23	Artwork template for use on VU-Graphs, 35 mm and 3 1/4 x 4 slides, undated
Box 2, Folder 24	Comparative technology study on tempering tunnel, undated
Box 2, Folder 25	Microwaves - What are they? publication, undated
Box 2, Folder 26	Safety of microwave ovens relative to microwave leakage report, undated

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Series 8: Industrial Reports and Standards, 1951-1984, undated

Box 2, Folder 27	Memo on cut-off frequencies, 1951 October 31
Box 2, Folder 28	Worldwide specifications on waveguides and flanges, 1967 July
Box 2, Folder 29	Microwaves in food processing publication, 1970, undated
Box 2, Folder 30	RPN technical notebook, 1980 November 10
Box 2, Folder 31	Rules and regulations to non-ionizing radiation, 1984 December 19
Box 2, Folder 32	Basic formulas for calorimetric power measurements, undated
Box 2, Folder 33	Considerations for microwave processing application presentation, undated
Box 2, Folder 34	Design parameters of microwave equipment for oyster processing, undated
Box 2, Folder 35	Microwave heating data, undated
Box 2, Folder 36	Tables of Constants for (Industrial, Scientific and Mechanical) ISM waveguides, undated
Box 2, Folder 37	The International Systems of Units, undated

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Series 9: Other Materials, 1971, undated

Scope and Contents: Contain resumes and images most likely of Raytheon Company employees. In addition, there are magazine articles and newspaper clippings relating to the leather industry and oyster shucking. Materials are arranged in chronological order.

Box 2, Folder 38	Magazine and newspaper clippings, 1971
Box 2, Folder 39	Biographical information, undated
Box 2, Folder 40	Photographs, undated

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