Richard C. Heyser Collection, 1933-1988

By HM

Collection Overview

Title: Richard C. Heyser Collection, 1933-1988
ID: 1000/07/RG1000.07
Extent: 18.0 Cubic Feet

Arrangement: The collection is arranged in five series and ten subseries, organized in alphabetical and chronological order.
Date Acquired: 07/00/2010
Subject Index: Acoustics; Electrical Engineering
Genres/Forms of Material: personal papers

Scope and Contents of the Materials

The material was not in order when received and much identification work was performed by Audio Arts & Acoustics faculty member Doug Jones and consultant Bob Hagenbach.

Earlier collection organization and identification was performed by Jon Prohs, who gathered material into an anthology of Richard Heyser’s work for the Audio Engineering Society in 1988.

The collection strength lies in its Writings series with published and unpublished full works, and notes and drafts chronicling ideas and thoughts. Other collection material includes presentations, patent information, and personal papers including schoolwork, manuals, and books.

The collection strength lies in Heyser's writings, especially the unpublished writings, and the drafts of his published and unpublished works.

Biographical Note

Richard (Dick) C. Heyser was born in 1931 in Chicago, Illinois. He attended the University of
Arizona, where he received a BSEE degree in 1953. Awarded a Charles LeGeyt Fortescue Fellowship for advanced studies, he earned a MSEE degree from the California Institute of Technology in 1954, and spent two additional years in postgraduate work at the California Institute of Technology, Pasadena, California.

In 1956 he joined the Jet Propulsion Laboratory (JPL) of the California Institute of Technology where he became a member of the technical staff. His work involved communication and instrumentation design for space programs at JPL, including the conceptual design of America's first satellite, Explorer I, and the application of coherent spread spectrum techniques to improve underwater sound and medical ultrasound imaging.

He maintained a personal laboratory where he conducted research on audio and acoustic measurement techniques. He was awarded nine patents, including time-delay spectrometry (TDS) and Time Energy Frequency (TEF).

Developed in 1967, TDS is a tool for acoustical analysis and design applicable to a variety of applications: medical ultrasound, ocean floor imaging, earthquake measurement and fault mapping, loudspeaker, microphone, amplifier, audio control room, recording studio and concert hall design, and noise identification and reduction in telecommunications. TDS was paired with another of Heyser’s discoveries, Energy Time Curve (ETC), patented under the name Time Energy Frequency or TEF. The Crown company’s division, Techron, unveiled the TEF System 10 in 1983, the first portable TDS analyzer and acoustical measurement system. TEF became an industry standard for all types of acoustical measurement applications from live-sound-reinforcement system design to voice recognition implementations.

At the time of his death on March 14, 1987, Heyser was the president-elect of the Audio Engineering Society, where he had been an active member for more than three decades. He served as a governor of the Society for 1983 to 1984 and was prominent in numerous society activities and committees.

Other roles he held include: senior editor of Audio magazine; member of the Institute of Electrical and Electronics Engineers (IEEE.); fellow of the Audio Engineering Society (AES), who further honored him in 1983 with the AES Silver Medal for his development of Time-Delay Spectrometry (TDS); fellow of the Acoustical Society of America; and member of the Hollywood Sapphire Group. He remains the only scientist to-date to have a volume of the AES Journal dedicated exclusively to his research studies about TDS.

The Richard C. Heyser Memorial Lecture series was established in May 1999 by the Audio Engineering Society Technical Council, its Board of Governors, and the Richard Heyser Scholarship Fund to honor his contributions to the field and his ability to communicate new and complex technical ideas with clarity and patience.

**Administrative Information**

Access Restrictions: Materials available for research

Use Restrictions: Materials are the property of Columbia College Chicago. Intellectual property rights of artwork belong to the College Archives at Columbia College Chicago. Intellectual property rights of any work not created by Heyser belong to the original creators.

Physical Access Note: An additional linear foot of material is not yet available for research
Acquisition Source: Gift

Separated Materials: Heyser's home laboratory equipment is stored at the Audio Arts & Acoustics department

Preferred Citation: Richard C. Heyser Collection, Columbia College Chicago Archives


Other Note: The Richard C. Heyser Memorial Lecture series, Audio Engineering Society

Other URL: http://www.aes.org/technical/heyser/

Box and Folder Listing

Series 1: Biographical and Correspondence, 1953-1987
The series contains biographic information and correspondence relating to his work. Further correspondence related to his patents are in series four.

Sub-Series 1: Biographical

Box 1: Biographical
Contains biographical information about Heyser including tribute material from his colleagues, information, and college yearbooks

Folder 1: Desert yearbook, University of Arizona, 1953
Folder 2: Arizona Alumnus' magazines, 1959-1961
Folder 5: Article: signal biasing amplifier, 1960
Folder 6: Article: diagnostic tests, 1975
Folder 7: Resume/CV information, 1975-1984
Folder 8: Audio Engineering Society (AES) fellow certificate, 1975
Folder 9: Photos (color) re: brain studies and medical imaging research, 1974
Folder 10: Nameplates and Audio magazine business card, 1986
Folder 11: Dick Heyser Tribute - slide script, 1987
Folder 12: Dick Heyser Tribute - speech, 1987
Folder 13: Dick Heyser Tribute - comments, 1987
Folder 14: Dick Heyser Tribute - biography, 1987
Folder 15: Dick Heyser Tribute - historical mission, 1987
Folder 16: Dick Heyser Tribute - articles about and articles by, 1987
Folder 17: Dick Heyser Tribute - letters to and from, 1987

Sub-Series 2: Correspondence

Box 1: Correspondence
Contains correspondence to and from Heyser regarding his work. All correspondence
regarding his patents is located in series four. Arranged alphabetically by date.

Folder 18: Altec Corp. to Bill Fowler, 1984
   re: capacitance check of voice coil alignment
Folder 19: Arndt, Fred, 1983
   coordinate locator using TDS
Folder 20: Audio Engineering Society (AES) correspondence, 1967-1985
   general letters
Folder 21: AES/ Jackie Harvey, 1967
   AES executive secretary
Folder 22: AES/ Jackie Harvey, 1970
   AES executive secretary
Folder 23: AES/ to Amy Heyser, 1989
   anonymous reviews of 'Fundamental Principles & Some Applications of TDS' article
Folder 24: Audio magazine/Gene Pitts, 1976-1984
   correspondence between the men
   re: ultrasonic transducers for in-vivo detection of bubbles in blood
Folder 26: Beckman Instruments, 1975
   re: TDS
Folder 27: Bruel & Kjaer (B&K), 1975-1982
   Heyser draft letter to
Folder 28: B&K, 1980
   Heyser draft letter to
Folder 29: B&K, 1982
   Heyser draft letter to
Folder 30: B&K, 1983
   correspondence re: Heyser's energy paper
Folder 31: B&K, 1983
   re: TDS principles
Folder 32: DB magazine, 1985
   response to loudspeaker article
Folder 33: JW Davis & Co - contract, 1979
   re: low voltage signal based amplification
Folder 34: Elsvier Scientific Publishing, 1975-1976
Folder 35: Gerzon, Michael/draft to, 1970s
   re: Gerzon AES journal rejection
Folder 36: Gerzon, Michael, 1970-1977
   four papers and five articles written by Gerzon
Folder 37: Hartwig, Fritz, 1972
   re: coherent pattern recognition with intent of word recognition
Folder 38: Hewlett Packard, 1971-1972
   re: TDS
Folder 39: Institute for Electronic & Electrical Engineers (IEEE), 1972
   Heyser draft response to Dr Capetanopoulos re: TDS
   general letters
Folder 41: Le Croissette, DH, 1969
   a privileged communication + a formula regarding Heyser's TDS work
Folder 42: McGill University, 1984
re: external review of master's thesis
Folder 43: Moore, Tom, 1985
  re: Heyser concept paper, Auditory Response, to Armstrong Aerospace Medical Research Labs
Folder 44: Palmer, Paul, 1982
  re: quantum mechanics
Folder 45: Pierce, John, 1971
  Pierce writing: 'How I Made a Very Embarrassing Mistake"
Folder 46: Schomer, Paul, 1972
  Heyser draft response to a Schomer paper
  articles re: TDS
Folder 48: Syn-Aud-Con Newsletter, 1978-1979
  articles re: TDS
Folder 49: Syn-Aud-Con editors' article: TDS: A Progress Report, 1979
  editors Don & Carolyn Davis wrote article for Audio Magazine
Folder 50: Syn-Aud-Con, 1979
  re: signal biased amplification
Folder 51: Walling, Arthur, 1977
  re: frequency
Folder 52: Xerox/C. Cummings, 1972, 1974
Folder 53: General Correspondence, to, 1967-1986
Folder 54: General Correspondence, from, 1960-1986

Series 2: Writings, 1959-1986
Contains the published and unpublished works of Heyser including completed papers, draft, notes, and fragment writings.

Sub-Series 1: Published Writings
Contains pre-prints, completed and partial drafts and notes regarding his published work. Arranged alphabetically by publication and then chronologically by date. Any notes about dates found in the later material were made by John Prohs.

Box 2

Folder 1: AES - Signal Biasing Amplifier (SBA), 1959
  Audio Engineering Society (AES) presentation: Oct conference
Folder 2: AES - A Signal Biasing Output Transformerless Transistor, 1960
  print out of JAES vol 8 no 3 July
Folder 3: AES - Acoustical Measurements by Time Delay Spectrometry (TDS), 1967
  AES October presentation and Journal of AES print vol 15, no. 4 October issue
Folder 4: Acoustical Measurements by TDS - RCA laboratories reprint, 1967
Folder 5: Acoustical Measurements by TDS - notes, 1967
  handwritten fragment
Folder 6: AES - Loudspeaker Phase Characteristics & Time Delay Distortion Part 1, 1969
  JAES vol 17, no. 1 January
Folder 7: AES - Loudspeaker Phase Characteristics & Time Delay Distortion Part 2, 1969
  JAES vol 17, no. 2 April
Folder 8: Loudspeaker Phases Characteristics & Time Delay Distortion Parts 1 &2, 1969
Part 1 AES preprint and loudspeaker tests

Folder 10: AES - Determination of Loudspeaker Signal Arrival Times Part 1, 1971
JAES vol 19 no. 9, October

Folder 11: AES - Determination of Loudspeaker Signal Arrival Times Part 2, 1971
JAES vol 19 no. 10, November

Folder 12: AES - Determination of Loudspeaker Signal Arrival Times Part 3, 1971
JAES vol 19 no. 11, December

Folder 13: Determination of Loudspeaker Signal Arrival Times Part 2, 1971
graphics, not used

Folder 14: Determination of Loudspeaker Signal Arrival Times Parts 1 and 2, 1971
final draft

Folder 15: AES - The Delay Plane, Objective Analysis of Subjective Properties Part 1, 1973
JAES vol 21 no. 9 Nov

Folder 16: The Delay Plane, Objective Analysis of Subjective Properties Part 1, 1973
final draft

Folder 17: AES - The Delay Plane, Objective Analysis of Subjective Properties Part 1, 1973
presentation slides, AES May convention

Folder 18: AES - The Delay Plane, Objective Analysis of Subjective Properties Part 2, 1973
JAES vol 21 no 10 December

Folder 19: The Delay Plane, Objective Analysis of Subjective Properties Part 2, 1973
draft

Folder 20: The Delay Plane, Objective Analysis of Subjective Properties Part 1, 1973
draft

Folder 21: The Delay Plane, Objective Analysis of Subjective Properties Part 2, 1973
draft

Folder 22: The Delay Plane, Objective Analysis of Subjective Properties, 1973
draft and notes

draft response to Michael Gerzon letter regarding paper

Folder 24: AES - Geometric Considerations of Subjective Audio, 1974
JAES vol 22 no. 2 March

Folder 25: Geometric Considerations of Subjective Audio, 1974
final draft

Folder 26: Geometric Considerations of Subjective Audio, 1974
draft and notes

Folder 28: AES - A Rosetta Stone for Audio? (editorial), 1974
draft and notes, published in JAES vol 22 no. 4 May

Folder 29: A Rosetta Stone for Audio? (editorial), 1974
different draft version

Folder 30: Some New Audio Measurements & Geometry of Sound AES correspondence, 1975
drafts and AES correspondence

Folder 31: AES - Geometry of Sound Perception, 1975
preprint of presentation at May AES convention

Folder 32: AES - Geometry of Sound Perception, 1975
Folder 31: Fundamental Principles and Some Applications of TDS - outline of paper, 1985
  manuscript draft and notes
Folder 32: Fundamental Principles and Some Applications of TDS - early handwritten
drafts, 1985
  manuscript draft and notes
Folder 33: Fundamental Principles and Some Applications of TDS - early handwritten
drafts, 1985
  manuscript draft and notes
Folder 34: Fundamental Principles and Some Applications of TDS - early handwritten
drafts, 1985
  manuscript draft and notes
Folder 35: Fundamental Principles and Some Applications of TDS - early handwritten
drafts, 1985
  manuscript draft and notes
Folder 36: Fundamental Principles and Some Applications of TDS - early handwritten
drafts, 1985
  manuscript draft and notes

Box 4

Folder 1: Acoustical Society of America (ASA) Panel Description and notes, 1980
  print copy and handwritten notes
Folder 2: ASA- form and program, 1980
  print copy
Folder 3: ASA- Some Advance Applications of TDS, 1980
  panel presentation notes
Folder 4: ASA - Subjective & Objective Considerations of the Loudspeaker Interface, 1980
  partial notes of presentation
Folder 5: Audio Magazine- Breaththrough in Speaker Testing, 1973
  print copy - Audio vol 57 Nov
Folder 6: Audio Magazine - Speaker Tests - Impedance, 1974
  print copy - Audio vol 58 Sept
Folder 7: Audio Magazine - Speaker Tests - Phase Response, 1974
  print copy - vol 58 December
Folder 8: Audio Magazine - Speaker Tests - Room Test, 1975
  print copy - Audio vol 59 Jan
Folder 9: Audio Magazine - Speaker Tests- Polar Response, 1975
  print copy - Audio vol 59 May
Folder 10: Audio Magazine - Harmonic Distortion, 1976
  print copy - Audio vol 60 Feb
Folder 11: Audio Magazine - IM Distortion in Speaker Systems, 1976
  print copy - Audio vol 60 March
Folder 12: Audio Magazine - Crescendo Test, 1976
  print copy - Audio vol 60 May
Folder 13: Audio Magazine - Energy-Time Test, 1976
  print copy - Audio vol 60 June
Folder 14: Audio Magazine - Perception and Geometry, 1977
  final draft, Audio vol 61 June
Folder 15: Perception and Geometry Unpublished, 1977
Sub-Series 2: Unpublished Writings

Box 4: Unpublished Writings
Contains completed and partial drafts and notes regarding his work. Arranged chronologically by date, with two sections at the end of the subseries for unpublished Audio magazine articles and the undated material. Any notes about dates found inside folders of the later material were made by John Prohs and any notes on the outside of folders were made by Doug Jones.

Folder 45: Schmatics for Heyser's personal test equipment setup, 1960s
    handwritten diagram
Folder 46: A Law of Sinces for Transistors, 1969
    handwritten draft
Folder 47: A Unique Transformerless Transistor Power Amplified, 1969
    draft
Folder 48: Microphone Theory, 1970
    handwritten draft
Folder 49: Signal Analysis, 1971
    draft and handwritten notes
Folder 50: The Impulse and the Doublet, 1971
    handwritten draft, different from loudspeaker signal arrival time article
Folder 51: Delay Plane, 1972
    handwritten draft and formulas
Folder 52: Reducing Uncertainty, 1972
    draft and handwritten notes, two different drafts
Folder 53: Uncertainty Principle, 1972
    draft
Folder 54: Uncertainty Principle, 1972
    draft and handwritten notes
Folder 55: Brief Theory of Coherent Processor, 1973
    drafts
Folder 56: Acoustical Society of America (ASA) - Time Delay Spectrometry + correspondence, 1974
    Final draft, ASA Journal submission
Folder 57: Time Delay Spectrometry, 1974
    drafts
Box 5

Folder 1: Time Domain and Frequency Domain, 1980s  
handwritten draft
Folder 2: Operators, 1980s  
handwritten draft
draft
Folder 4: Alternatives, 1982-1983  
handwritten draft and notes
Folder 5: Abstractions - Concepts, 1983  
handwritten draft
Folder 6: Alternatives in Quantum Theory, 1983  
final draft and correspondence to Prof. Feynman
Folder 7: Alternatives in Quantum Theory, 1983  
final draft
Folder 8: Alternatives in Quantum Theory, 1983  
draft and notes
Folder 9: Fundamentals of TDS (applied to medical use), 1983  
draft
Folder 10: Time Delay Spectrometry, 1984  
handwritten draft and notes
Folder 11: mathematical calculations re: intensity, 1985  
draft and calculations
Folder 12: intensity flow chart, 1985  
handwritten figures
Folder 13: table of digital audio history, 1985  
draft
Folder 14: material re: Chicago AES conference, 1986  
drafts, notes, graphics
Folder 15: Reverberation, 1986  
handwritten draft
Folder 16: Complex Time Representations, 1960s-1986  
final draft
Folder 17: Description of Quadrature Phase Tracking Receiver, 1960s-1986  
handwritten draft
Folder 18: Euclidean & Riemannian Geometries, undated  
draft
Folder 19: Geometry and Sound, undated  
draft and notes
Folder 20: Geometry and Sound, undated  
draft and notes
Folder 21: Hearing and Describing Sound, undated  
handwritten draft
Folder 22: Mapping, undated  
handwritten draft and notes
Folder 23: Mathematical Analysis, Preface, undated  
partial draft
Folder 24: Number Theory, undated
Folder 48: Audio Magazine: 'Loudspeaker Impedance Measurements' + correspondence, 1984
  draft and correspondence
  notes and partial draft
Folder 50: Circuit drawings, 1977-1978
  mixed drawings grouped together
Folder 51: Circuit panel drawings and information, 1977 - 1978
  mixed drawings grouped together
Folder 52: Notes and drafts - various topics, 1983-1984
Folder 53: Notes, drafts, formulas - various topics, 1985 - 1986
Folder 54: Fragments: Notes, Graphs, Formulas, undated
Folder 55: Fragments: introduction, undated
Folder 56: Fragments: tone burst testing, undated
Folder 57: Fragments: circuit drawings, undated
Folder 58: Fragments: formula and fortran program, undated
Folder 59: Fragments: graphs with no titles, undated
Folder 60: Fragments: graphics, undated
Folder 61: Fragments: notes and drafts, undated
Folder 62: Fragments: notes and drafts, undated

Series 3: Presentations and Talks, 1976-1986
Contains prepared lectures and presentations. Arranged chronologically when date evident; followed by material that is undated.

Box 6

Folder 1: It's a Great Day Tomorrow, 1976
  final draft, complete with slides
Folder 2: Geometry of Perception, 1977
  final draft
Folder 3: Geometry of Perception, 1977
  draft and notes
Folder 4: Geometry of Perception, 1977
  notes
Folder 5: Advanced Audio Measurements, 1979
  Bruel & Kjaer workshop, August, includes slides
Folder 6: Advanced Audio Measurements, 1979
  Bruel & Kjaer workshop, August, full copy with slides
Folder 7: Advanced Audio Measurements, 1979
  draft and slide notes
Folder 8: A New Approach to the Judgment of Quality of Audio Reproduction, 1980
  final draft and slides, Fitzhugh W. Boggs Memorial Lecture in Acoustics, April
Folder 9: Audio, 1980
  final draft and slides, California Institute of Technology, Feb
  final draft, University of CA Los Angeles (UCLA), May
Folder 11: New Paradigm
  slides only, Syn-Aud-Con
Folder 12: Intensity, 1986
  handwritten draft, Alberta, Canada, June
Folder 13: Talk outline, undated
   notes
Folder 14: Alternatives Principles, undated
   handwritten draft
Folder 15: Audio - Subjective and Objective, undated
   final draft
Folder 16: Audio - Subjective and Objective, undated
   final draft, alternate version
Folder 17: Audio - Subjective and Objective, undated
   slides only
Folder 18: Audio - Subjective and Objective, undated
   transparencies only
Folder 19: Bows & Arrows & Sines & Things, undated
   handwritten draft
Folder 20: Definition Commutator Map, undated
   slides
Folder 21: Energy, undated
   slides
Folder 22: Energy Density, undated
   slides
Folder 23: Geometry and Audio, undated
   final draft
Folder 24: Geometry and Audio, undated
   final draft, alternate version
Folder 25: Geometry and Audio, undated
   final draft, alternate version
Folder 26: Group Delay/Instantaneous Frequency, undated
   slides
Folder 27: History of Scientific Thought, undated
   drafts, notes, and slides
Folder 28: Loudspeakers & Distortion, undated
   slides
Folder 29: Map Transform, undated
   handwritten draft
Folder 30: Measuring Distortion of an Audio System, undated
   final draft
Folder 31: Number Theory, undated
   final draft and slides
Folder 32: Psychoacoustics, undated
   final draft
Folder 33: Representation Distortion, undated
   final draft
Folder 34: Response Sequence, undated
   draft
Folder 35: Signal Processing, undated
   slides
Folder 36: Time and Frequency, undated
   final draft
Folder 37: Time Delay, undated
   slides
Folder 38: Time Delay Spectrometry (TDS): Acoustical Measurements of TDS, undated
Series 4: Patents & Time Energy Frequency (TEF), 1964-1986
Contains material related to his inventions. The first subseries holds material about his patents including correspondence and draft filings. The second subseries holds material related to Time Energy Frequency (TEF), one of his inventions.

Sub-Series 1: Patents
material related to patent applications

Box 7

Folder 1: Balanced Transistor Power Amplifier Connected in a Bridge Configuration, 1964
US Patent Office, photocopy, March 10
Folder 2: Time Delay Spectrometer, 1969
US Patent Office, photocopy, September 9
Folder 3: Temperature Control System with a Pulse Width Modulated Bridge, 1973
US Patent Office, photocopy, May 15
Folder 4: Medical Tomography System Using Ultrasound Transmission, 1978
US Patent Office, photocopy, April 11
Folder 5: Method and Apparatus for Shaping and Aiming Narrow Beams, 1980
European Patent Office, photocopy, October 24
Folder 6: Method and Apparatus for Delay Analysis of Energy Transmitted Through a Medium, 1981
US Patent Office, photocopy, July 14
Folder 7: Method and Apparatus for Shaping and Aiming Narrow Beams, 1981
US Patent Office, photocopy, July 14
Folder 8: Correspondence re: Temperature Control System with a Pulse Width Modulated Bridge, 1970
correspondence and drafts
Folder 9: Correspondence re: TDS, 1979
correspondence and drafts
Folder 10: Correspondence re: Method for Shaping and Aiming Narrow Beams, 1979
  correspondence and drafts
Folder 11: Correspondence re: Method and Apparatus for Delay Analysis of Energy
  Transmitted Through a Medium, 1980
  correspondence and drafts
Folder 12: Correspondence re: Apparatus and Method for Detection Using the Analytic
  Signal, 1986
  correspondence and drafts
Folder 13: Spectrosonex Inc, 1985-1986
  invention assigned to the company
Folder 14: Spectrosonex Inc: Patent Disclosures: Method of Transmission of Multiple
  Signals for TDS, 1986
  CONFIDENTIAL
Folder 15: Spectrosonex Inc: Patent Disclosures: Method and Apparatus of Detection of
  Spatial or Temporal Change, 1986
  CONFIDENTIAL
Folder 16: Spectrosonex Inc: patent copies, 1986
  patent copies, other inventions
Folder 17: Spectrosonex Inc: Patent Disclosures: Method and Apparatus for Enhancing
  Resolution in an Imaging System, 1986
  CONFIDENTIAL
Folder 18: Spectrosonex Inc: patent copies, 1986
  patent copies, other inventions

Sub-Series 2

Box 7: Time Energy Frequency (TEF)
  Information about his invention, TEF, workshops, schematics, workbooks, and code

Folder 19: Syn-Aud-Con: Workshop Presentation, 1979
  draft and notes
Folder 20: Syn-Aud-Con: TEF Signal Blocks schema, 1979
  drawing and notes
Folder 21: Syn-Aud-Con: Presentation, 1979
  slides
  presentation slides, not in order
  presentation slides, in order
Folder 25: TEF machine schematic, 1983
  handwritten drawing
Folder 26: TEF Description of Variables, 1983
  draft and notes
Folder 27: TEF Programming notes, 1983
  handwritten draft
Folder 28: TEF notes, 1983 -1984
  handwritten
Folder 29: TEF Setup Instructions, 1984
  draft and notes
Folder 30: TEF Software Overview, 1984
Folder 31: TEF - Special Functions Disc correspondence, 1984
docopy from Heyser
folder diary
Folder 32: TEF Special Functions Disc, 1984
handwritten draft and notes
Folder 33: TEF Special Functions Disc, 1984
handwritten draft and notes
Folder 34: TEF Cursor Mode, 1984
handwritten draft and notes
Folder 35: Crown Notebook: notes, 1983
handwritten notes and draft
author, Gerald Stanley
Folder 37: Crown Notebook: Filedoc and Datadoc Section, 1983
author, Gerald Stanley
Folder 38: Crown Notebook: Software Overview, 1983
author, Gerald Stanley
Folder 39: Crown Notebook: Major Overlays, 1983
author, Gerald Stanley
Folder 40: Crown Notebook: Assembly Source, 1983
author, Gerald Stanley
Folder 41: Crown Notebook: TEF, 1983
author, Gerald Stanley
draft
Folder 43: TDS and TEF Summary, 1984
handwritten draft

Box 8

Folder 1: TEF Code Print Out: Section 1, 1983
Folder 2: TEF Code Print Out: Section 1, 1983
Folder 3: TEF Code Print Out: Section 1, 1983
Folder 4: TEF Code Print Out: Section 1, 1983
Folder 5: TEF Code Print Out: Section 3, 1983
Folder 6: TEF Code Print Out: Section 3, 1983
Folder 7: TEF Code Print Out: Section 3, 1983
Folder 8: TEF Code Print Out: Section 3, 1983
Folder 9: TEF Code Print Out: Section 3, 1983
Folder 10: TEF Code Print Out: Section 4, 1983
Folder 11: TEF Code Print Out: Section 4, 1983
Folder 12: TEF Code Print Out: Section 4, 1983
Folder 13: TEF Code Print Out: Section 4, 1983
Folder 14: TEF Source Code, 1983
Folder 15: TEF Code Print Out, 1983
Folder 16: TEF: Sample Measurements, not documented, 1983
Folder 17: TEF: Sample Measurements, documented, 1983

Series 5: Personal Papers, 1904-1980
Contains four subseries:
  schoolwork, items found inside books, manuals, and book collection
Sub-Series 1: Schoolwork
Material relating to his schoolwork at University of Arizona and California Institute of Technology

Box 9

Folder 1: Surveying Field notebook, 1950-1951
  handwritten note pad
Folder 2: Qualitative Analysis, 1952
  handwritten notebook
Folder 3: Electrical Engineering 170a, 1953
  CA Institute of Technology, coursework
Folder 4: Electrical Engineering 170a, 1953
  CA Institute of Technology, coursework
Folder 5: Electrical Engineering 180a, 1953
  CA Institute of Technology, coursework
Folder 6: Electrical Engineering 180a, 1953
  CA Institute of Technology, coursework
Folder 7: Time and Frequency Analysis, 1954
  coursework
Folder 8: Course Notes for Circuit Analysis/ WH Pickering and W Ward, 1954
  coursework
Folder 9: Class notes, 1955
Folder 10: Electrical Engineering 190, 1955
  coursework
Folder 11: Math notebook, 1955
  handwritten notebook
Folder 12: Physics 131b, 1955
  coursework
Folder 13: Physics 129a - RP Feynman, 1955
  handwritten notebook
Folder 14: Transistor Electronics, 1955
  coursework
Folder 15: Transistor Electronics, 1955
  coursework

Sub-Series 2: Items From Books
Material here was found inside books from his collection

Box 10: Latin Book 1
  Between p.306-307

Folder 1: Latin Book 1
  Between p.308-309
Folder 2: Latin Book 1
  Between p.318-319
Folder 3: Latin Book 1
  Between p.372-373
Folder 4: Latin Book 1
  Between p.404-405
Folder 5: Latin Book 1
Folder 6: Latin Book 1  
Between p.412-413

Folder 7: Latin Book 1  
Between p.166-167

Folder 8: Latin Book 1  
Between p.182-183

Folder 9: Latin Book 1  
Between p.198-199

Folder 10: Latin Book 1  
Between p.200-201

Folder 11: Latin Book 1  
Between p.176-177

Folder 12: Latin Book 2  
Between p.160-161

Folder 13: Latin Book 2  
Between p.188-189

Folder 14: Latin Book 2  
Between p.208-209

Folder 15: Latin Book 2  
Between p.224-225

Folder 16: Latin Book 2  
Between p.264-265

Folder 17: Latin Book 2  
Between p.312-313

Folder 18: Latin Book 2  
Between p.322-323

Folder 19: Latin Book 2  
Between p.372-373

Folder 20: Adventures in World Literature  
Between p.XIV-XV

Folder 21: Adventures in World Literature  
Between p.292-293

Folder 22: Adventures in World Literature  
Between p.304-305

Folder 23: Adventures in World Literature  
Between p.554-555

Folder 24: Adventures in World Literature  
Between p.990-991

Folder 25: Adventures in World Literature  
Between p.1082-1083

Folder 26: Adventures in World Literature  
Between p.1118-1119

Folder 27: Adventures in World Literature  
Between p.1140-1141

Folder 28: Adventures in World Literature  
Between p.1150-1151

Folder 29: Learning to Write in College  
Between p.4-5

Folder 30: Learning to Write in College  
Between p.48-49

Folder 31: Learning to Write in College
Between p.72-73
Folder 32: Learning to Write in College
Between p.176-177
Folder 33: Learning to Write in College
Between p.374-375
Folder 34: Advanced Algebra
Just inside front cover
Folder 35: Advanced Algebra
Between p.84-85
Folder 36: Advanced Algebra
Between p.100-101
Folder 37: Advanced Algebra
Between p.126-127
Folder 38: Advanced Algebra
Between p.130-131
Folder 39: Advanced Algebra
Between p.144-145
Folder 40: Advanced Algebra
Between p.154-155
Folder 41: Advanced Algebra
Between p.238-239
Folder 42: Advanced Algebra
Between p.290-291
Folder 43: Advanced Algebra
Between p.314-315
Folder 44: Advanced Algebra
Between p.332-333
Folder 45: Advanced Algebra
Between p.402-403
Folder 46: Advanced Algebra
Just inside back cover
Folder 47: Advanced Algebra
Just inside back cover
Folder 48: Advanced Algebra
Just inside back cover
Folder 49: Advanced Algebra
Just inside back cover
Folder 50: Advanced Algebra
Just inside back cover
Folder 51: Advanced Algebra
Between p.86-87
Folder 52: Advanced Algebra
Between p.262-263
Folder 53: Advanced Algebra
Between p.322-323
Folder 54: Advanced Algebra
Between p.346-347
Folder 55: Advanced Algebra
Between p.396-397
Folder 56: Advanced Algebra
Between p.402-403
Folder 57: Advanced Algebra
Just inside back cover
Folder 58: First Course in Algebra
Between p.220-221
Folder 59: First Course in Algebra
Between p.388-389
Folder 60: First Course in Algebra
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Small collection of manuals and printed matter

Folder 295: Symposium on Auditory Perspective, 1933  
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Folder 296: Basic Principles of Sterophonic Sound/William Snow, 1953  
pub
Folder 297: Loudspeaker Testing Using Digital Techniques/ KEF Electronics, 1975  
pub
Folder 298: LF Converter Type RA 137B, 1960  
manual
Folder 299: Dual Beam Oscilloscope Type 551- Instructions, 1969  
manual
Folder 300: Measurement Set-Ups for Time Delay Spectronomy and a Few Typical  
Applications/B&K, 1980s  
manual

Sub-Series 4: Books  
Books kept and used by Heyser that accompanied the collection

Item 1: A College Algebra, 1904
Item 2: A Survey of The Principles & Practice of Wave Guides, 1947
Item 3: Advanced Algebra, 1947
Item 4: Advanced Antenna Theory, 1952
Item 5: Advanced Calculus, 1947
Item 6: Adventures in English Literature, 1947
Item 7: Adventures in World Literature, 1947
Item 8: Alternating Current Machines, 1949
Item 9: American Writers, 1946
Item 10: An American English Grammar, 1948
Item 11: An Elementary Treatise on Differential Equations, 1933
Item 12: Analytical Mechanics for Engineers, 1948
Item 13: Audio Measurements, 1958
Item 14: Basic Electrical Measurements, 1950
Item 15: Conductance Design of Active Circuits, 1959
Item 16: Direct-Current Machinery, 1949
Item 17: Disk Recording; Volume 2; Disk Playback and Testing; An anthology of articles on disk recording from the pages of the Journal of the Audio Engineering Society Vol. 1-Vol. 28 (1953-1980), 1981

Item 18: Electrical Engineering Experiments: Theory and Practice, 1949

Item 19: Electronic Fundamentals and Applications, 1950

Item 20: Electronic Semiconductors, 1958

Item 21: Electrons and Holes in Semiconductors with Applications to Transistor Electronics, 1954

Item 22: Elements of Radio, 1945

Item 23: Engineering Drawing: Practice and Theory, 1947

Item 24: Engineering Economy, 1950


Item 26: Engineering Mechanics, 1950

Item 27: Fields and Waves in Modern Radio, 1952

Item 28: First Course in Algebra, 1935

Item 29: Fluid Mechanics, 1951


Item 31: General Chemistry For Colleges, 1949


Item 33: Good Citizen, 1948

Item 34: Hadamard Transform Optics, 1979

Item 35: Handbook of Power Resistors: The Only Complete Authentic Treatise

Item 36: High-Speed Computing Devices, 1950

Item 37: How to Draw Comics, 1944

Item 38: How to Draw Funnies, 1944

Item 39: Introduction to Semimicro Qualitative Analysis, 1949

Item 40: Introduction to the Calculus, 1922


Item 42: Latin Book One, 1942

Item 43: Latin Book Two, 1937

Item 44: Learning to Write in College, 1949

Item 45: Magic: New and Unusual Entertainment, 1944

Item 46: Mechanical Engineering Practice: A Laboratory Reference Text, 1949

Item 47: Mechanics, 1947

Item 48: Mechanics of Materials, 1949

Item 49: Mechanism, 1939

Item 50: Modern Minds: An Anthology of Ideas, 1949

Item 51: Modern Physics, 1945

Item 52: New World of Chemistry: Science in the Service of Man, 1947


Item 54: Physics, 1950

Item 55: Plane and Solid Analytic Geometry, 1948

Item 56: Plane Geometry, 1943

Item 57: Plane Trigonometry, 1946

Item 58: Principles of Accounting: A Diagrammatic Approach, 1950

Item 59: Principles of Radar by Members of the Staff of the Radar School, 1952

Item 60: Principles of Transistor Circuits, 1954

Item 61: Progress in Semiconductors; Volume 1, 1956

Item 62: Progress in Semiconductors; Volume 3, 1958

Item 63: Reference Data for Radio Engineers, 1954
Item 64: Solid State Physics, 1957
Item 65: Solid State Physics: Advances in Research and Application, Volume 1, 1955
Item 66: Static and Dynamic Electricity, 1950
Item 67: Surveying: Theory and Practice, 1940
Item 68: Technical Descriptive Geometry, 1948
Item 69: The Face of the Earth, 1959
Item 70: The Illustrated Aviation Encyclopedia, 1944
Item 72: The Radiotron Designer's Handbook, 1942
Item 73: The World Within the Atom: How Scientists Explored the Atom and Learned to Release Its Energy, 1950
Item 74: Theory and Application of Industrial Electronics, 1951
Item 75: Theory and Application of Microwaves, 1947
Item 76: Thermodynamics, 1951
Item 77: Transient Analysis in Electrical Engineering, 1951
Item 78: Transistor Electronics, 1956
Item 79: Transistors, 1963
Item 80: Transistors Handbook, 1956
Item 81: Trigonometry: Plane and Spherical with Tables, 1945
Item 82: What is Mathematics?: An Elementary Approach to Ideas and Methods, 1951
Item 83: What's That Plane?: How to Identify American and Jap Planes, 1943