

# **University of California Division of War Research reports**

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**Descriptive Summary Languages:** English

Contributing Institution: Special Collections & Archives, UC San Diego

9500 Gilman Drive La Jolla 92093-0175

Title: University of California Division of War Research reports

Creator: University of California (1868-1952). Division of War Research

Identifier/Call Number: SAC 0018

Physical Description: 8.0 Linear feet(8 records cartons)

**Date (inclusive):** 1941-1953

**Abstract:** The University of California Division of War Research reports consists of an incomplete set of unclassified UCDWR reports, Navy Radio and Sound Laboratory (NRSL) and Naval Electronics Laboratory (NEL) files, memoranda, pamphlets, manuals, training aids, and data notebooks.

#### **Scope and Content of Collection**

The University of California Division of War Research reports consists of an incomplete set of unclassified UCDWR reports, Navy Radio and Sound Laboratory (NRSL) and Naval Electronics Laboratory (NEL) files, memoranda, pamphlets, manuals, training aids, and data notebooks. The Completion report... covering operations of the University of California Division of War Research... from 26 April 1941 to 30 June 1946 was prepared at the end of the contract period, highlighting the laboratory's history and organization. Additionally, it includes bibliographies detailing the technical reports produced and patents submitted during the project. The Completion report is found in box 6 of the collection, in the RESEARCH REPORTS series.

Arranged in five series: 1) SOUND FIELD DATA NOTEBOOKS; 2) INSTRUCTION MANUALS AND GUIDES; 3) RESEARCH REPORTS; 4) NAVY RADIO AND SOUND LABORATORY REPORTS; and 5) NAVY ELECTRONICS LABORATORY INTERNAL TECHNICAL MEMORANDA.

## **Administrative History**

The University of California Division of War Research (UCDWR) was created in response to an escalation of hostilities in Europe. In 1941, the National Defense Research Committee (NDRC) proposed a research and development program that would investigate methods for detecting submerged or partially submerged submarines. With the Navy's approval, two laboratories were set up. The Atlantic coast laboratory was located at the U.S. Navy Underwater Sound Laboratory in New London, Connecticut, and was operated under a contract with Columbia University. The Pacific coast laboratory was located at the U.S. Navy Radio and Sound Laboratory in San Diego, California, with the University of California acting as the contract agency. This was the first collaborative effort between the Navy and the University of California on wartime research.

The UCDWR concerned itself primarily with fundamental investigations of techniques and procedures for detecting and successfully combating submarines. Until the contracts were actually written up between NDRC and the universities, the Office of Scientific Research and Development (OSRD) assumed responsibility for the projects initiated by NDRC, and NDRC remained the directing body for the scientific programs. Contract OEMsr-30 between OSRD and the University of California was executed on August 15, 1941. At first, other names, such as the University of California Division of National Defense Research, and the San Diego Laboratory, were attached to the effort.

For many years UCDWR was located in the same building as the U.S. Navy Radio and Sound Laboratory (NRSL) at Point Loma. Problems of overcrowding and overlapping laboratory programs occurred with the rapid growth in UCDWR and NRSL personnel. The Navy helped to alleviate some of these problems by supplying buildings for UCDWR. Changes in laboratory organization and cooperation from the Navy fostered a close working relationship among UCDWR and NRSL, including other naval commands, U.S. Fleet Sonar School, local submarine squadron, and units of the Pacific fleet.

Though UCDWR was originally conceived as a temporary wartime operation, it was decided that its work could continue under the direction of a more permanent organization. On March 1, 1945, the UCDWR program was transferred to the Navy Department as contract NObs-2074 from OSRD, and the Bureau of Ships assumed responsibility for the direction of the contractor's work. When the war ended abruptly on September 2, 1945, immediate action was taken to complete all the reports for final distribution, which took many months to finish.

At the same time the Navy Radio and Sound Laboratory was absorbed by the Navy Electronics Laboratory (NEL) which eventually inherited all the structures at the Point Loma facility. In late June 1946, UCDWR became the Marine Physical Laboratory. The University of California assumed responsibility for Task 10 of contract NObs-2074. The Marine Physical

Laboratory (MPL) was officially opened on June 1, 1946, with Carl Eckart appointed as Director. It became part of Scripps Institution of Oceanography in April 1948.

## **Preferred Citation**

University of California Division of War Research records. SAC 18. Special Collections & Archives, UC San Diego.

#### **Acquisition Information**

Acquired 1985

#### **OFF-SITE STORAGE**

COLLECTION STORED OFF-SITE. ALLOW ONE WEEK FOR RETRIEVAL OF MATERIALS.

## **Publication Rights**

Publication rights are held by the creator of the collection.

#### **Related Materials**

Further information on UCDWR can be found in SIO Subject Files (SAC 6) in folders with contract number "NObs-2074." A small selection of photographs of UCDWR activities may be found in the SIO Photographs Collection, SMC 59.

#### **Custodial History/Provenance**

In 1957, the UCDWR records were sent to federal record centers. This collection of photocopies of unclassified reports was received by the Central University Library in 1976 and transferred to the SIO Archives in 1985. The data notebooks were found in SIO archives in 1981. No further information is available about these accessions.

SIO archivist Deborah Day attempted to collect additional UCDWR organizational records and traced them from one naval repository to another, but was unable to obtain the official working records of the group. She did obtain copies of photographs captured by the project's photographer; the original photos and negatives had been submitted to the Navy. In 1985, Day noted that Space and Naval Warfare Systems Command (SPAWAR) maintained a complete set of UCDWR reports, however this has not been recently verified.

## **Subjects and Indexing Terms**

Naval research -- United States

Underwater acoustics -- Research

Anti-submarine warfare -- Research

University of California (1868-1952). Division of War Research -- Archives

United States. Navy. Electronics Laboratory -- Archives

United States. Navy. Radio and Sound Laboratory -- Archives

## **SOUND FIELD DATA NOTEBOOKS**

**Scope and Contents of Series** 

Series 1) SOUND FIELD DATA NOTEBOOKS: Sound field investigations data, including plots, sound attenuation records, sound field data sheets, and ship drift position data collected on *E. W. Scripps* and U.S.S. *Jasper*. Notebook 10 is not held in the collection.

Box 1, Folder 1-3	Notebook 1 1943 May 21-June 1
Box 1, Folder 4-5	Notebook 2 1943 June 7-8
Box 1, Folder 6-8	Notebook 3 1943 June 18-July 2
Box 1, Folder 9-10	Notebook 4 1943 July 6-7
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Folder 11-13	
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Folder 14-16	
Box 1,	Notebook 7 1943 August 26-September 15
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Box 1,	Notebook 8 1943 September 16-24
Folder 20-23	
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Folder 24-28	

Notebook 11 1943 October 28-November 9 Box 1, Folder 29-31 Box 1. Notebook 12 1943 November 24-26 Folder 32-33 Notebook 13 1943 November 27-28 Box 1. Folder 34-35 Box 1, Folder 36 Notebook 14 1943 November 29 Box 1. Notebook 15 1943 November 30 Folder 37-39 **INSTRUCTION MANUALS AND GUIDES Scope and Contents of Series** Series 2) INSTRUCTION MANUALS AND GUIDES: Arranged chronologically. Box 1. Folder 40 Operation, maintenance and installation instructions for surface model RR-1 practice target (Navy project NS-97) 1942 December 14 General note UCDWR report no. U15. | Office of Scientific Research and Development. | File no. 91.32. Box 1, Folder 41 Instructor's manual for use with the primary bearing teacher. Prepared by Training Division 1943 May 1 **General note** UCDWR report no. U59. | Office of Scientific Research and Development. Contract OEMsr30. Box 1, Folder 42 Preliminary instruction book for model SR-2 antisubmarine practice target equipment installation, operation and maintenance manual 1943 May 14 **General note** UCDWR report no. U64. | Office of Scientific Research and Development. | File no. 91.32 (NS-144). Box 1, Folder 43 Preliminary instruction book for model BR-1 antisubmarine practice target equipment with the model S1-AB amplifier. Installation, operation and maintenance manual 1943 June 2 **General note** UCDWR report no. U70. | Office of Scientific Research and Development. | File no. 91.32 (NS-144). Box 1, Folder 44 Instructor's manual for the advanced bearing teacher. Prepared by Training Division 1943 June 8 **General note** UCDWR report no. U69. | Office of Scientific Research and Development. Contract OEMsr30. Box 1, Folder 45 Preliminary instruction book for model BR-1 A/S practice target with the model S3-AB amplifier. Installation, operation, and maintenance manual 1943 June 11 General note UCDWR report no. U71. | Office of Scientific Research and Development. | File no. 91.32 (NS-144).

Box 1, Folder 46	Operation, installation and alignment instructions for the Doppler doubler (as applied to the submarine signal company 755 receiver amplifier). Prepared by William A. Myers, Lt. Comdr. J. C. Myers, U.S.N. and Vaughn G. McKenney 1943 August 4
	General note
	UCDWR report no. U86.   Office of Scientific Research and Development.   File no. 02.311 (NS-142).
Box 1, Folder 47	Preliminary instruction manual for the shipboard anti-submarine attack teacher (SASAT A). Prepared by Clark F. Bradley and James M. Snodgrass 1943 August 31
	General note
	UCDWR report no. R94.   Office of Scientific Research and Development.   File no. 91.35.
Box 1, Folder 48	Supplementary notes on preliminary instruction book for model BR-1 A/S practice target with the model S3-AB amplifier 1943 September 16
	General note
	UCDWR report no. U71a.   Office of Scientific Research and Development.   File no. 91.32.
Box 1, Folder 49	Preliminary instructor's manual for use with the primary listening teacher 1943 October 18
	General note
	UCDWR report no. R119. $\mid$ Office of Scientific Research and Development. Contract OEMsr30.
Box 1, Folder 50	Instructor's manual on Doppler drills and tests - UCDWR D-Series 1943 October 30
	General note
	UCDWR report no. R127.
Box 1, Folder 51	Preliminary manual FM sonar model I - Installation and operation (Experimental) 1943 December 1
	General note
	Memorandum for file.   UCDWR report no. R134.   Office of Scientific Research and Development.   File no. 02.454.
Box 1, Folder 52	Instruction book for model SR5 practice target (Navy model oat practice target). Installation, operation and maintenance 1944 January
	General note
	UCDWR report no. R142.   Office of Scientific Research and Development.   File no. 91.236 (NS-144).
Box 1, Folder 53	Instructor's manual for model QFH sound training equipment (Conning teacher) - Edition A. Prepared by Training Division 1944 January
	General note
	UCDWR report no. R147. $\mid$ Office of Scientific Research and Development. Contract OEMsr30.
Box 1, Folder 54	Instructor's manual for the model QFK shipboard sound operator trainer 1944 March
	UCDWR report no. R191.   File no. 91.234 (NS-152).
Box 1, Folder 55	Instructor's manual for model QFH sound training equipment (Conning teacher) - Edition B 1944 March
	General note
	UCDWR report no. R192.   File no. 91.222 (NS-97).
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Box 1, Folder 56 Supplementary instruction book for anti-submarine practice targets 1944 April **General note** UCDWR report no. R200. | Office of Scientific Research and Development. | File no. 91.236 (NS-144). Box 1. Folder 57 Preliminary instruction book for fm sonar model I no. 3. Installation, operation and maintenance 1944 April General note UCDWR report no. R208. | File no. 02.454 (NS-142). Box 1, Folder 58 Preliminary instruction book for depth charge pattern records Mark I, mod O. Installation, operation, and maintenance 1944 May **General note** UCDWR report no. R173. | Office of Scientific Research and Development. | File no. 91.232 (NO-195). Box 2. Folder 1 Preliminary instruction book for FM sonar model I, no. 5. Installation, operation and maintenance 1944 June 12 General note UCDWR report no. R223. | Office of Scientific Research and Development. | File no. 02.454 (NS-142). Box 2. Folder 2 Preliminary instruction book for the secure echo sounding equipments, model 2. Installation, operation and maintenance 1944 June 13 **General note** UCDWR report no. S222. | Office of Scientific Research and Development. | File no. 09.21 (NS-211). Box 2, Folder 3 Preliminary instruction manual for advance listening teacher 1944 June 27 **General note** UCDWR report no. M232. | Office of Scientific Research and Development. | File no. 91.242 (NS-245). Box 2. Folder 4 Preliminary Instruction Book. FM sonar model 1, no. 5 - Operation and maintenance 1944 September 15 General note UCDWR report no. R223.1. | File no. 02.454 (NS-142). Box 2, Folder 5 Preliminary instruction book for the secure echo sounding equipments, model 3. Installation, operation and maintenance 1944 October 11 UCDWR report no. S222.1. | Office of Scientific Research and Development. | File no. 09.21 (NS-221). Box 2, Folder 6 Instructor's manual - Echo recognition group training 1944 October 15 General note UCDWR report no. M341. Box 2, Folder 7 Preliminary instruction book (Revised edition). FM sonar model I, nos. 6 - 10 -Operation and maintenance 1945 January 1

Box 2, Folder 8	Preliminary instruction manual for advanced listening teacher model 3 1945 January 22
	General note
	UCDWR report no. U291.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-2020.   File no. 91.242 (NS-245).
Box 2, Folder 9	Preliminary manual operation, maintenance and installation for echo recognition monitor recorder, model II 1945 March 15
	General note
	UCDWR report no. M305.   File no. 91.216.
Box 2, Folder 10	Submarine sound recognition group trainer instructor's manual - Preliminary edition 1945 May 1
	General note
	UCDWR report no. M310.   File no. 91.246.
Box 2, Folder 11	Preliminary Instruction Book. FM sonar model I, nos. 11-15 - Operation and maintenance. Prepared by Western Electric Company, Inc 1945 May 12
	General note
	UCDWR report no. R223.4.
Box 2, Folder 12	Preliminary Instruction Manual. CIC trainer model I with proposals for improvements and extensions 1945 June 1
	General note
	UCDWR report no. M320.   File no. 91.262.
Box 2, Folder 13	Preliminary Instruction Book. Secure echo sounding equipment (SESE) model 3 - Operation and maintenance 1945 June 1
	General note
	UCDWR report no. S222.2.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 09.21, problem n31959o. 3M3.
Box 2, Folder 14	Instructors manual for echo recognition refresher training (NavShips 91540) 1945 June 20
	General note
	UCDWR report no. M330.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.216, problem 5H.
Box 2, Folder 15	Preliminary instruction manual. NAD-10 prime sound beacon - Inspection, stowage and maintenance, operation 1945 July 10
	General note
	UCDWR report no. SM329.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 09.453, problem 1A.
Box 2, Folder 16	Preliminary Instruction Manual. Sound recognition group trainer 1945 July 20  General note
	UCDWR report no. M342.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.246, problem 5H.
Box 2, Folder 17	Preliminary Instruction Manual. NAD-6A sound beacon 1945 July 20
	General note
	UCDWR report no. SM332.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 09.453, problem 1A.

Box 2, Folder 18	Submarine sound recognition group trainer (Sonar training set AN/UQR-T1) - Revised instructor's manual (Second preliminary edition) 1945 September 1
	General note
	UCDWR report no. M310.1.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.246.
Box 2, Folder 19	Preliminary Instruction Manual. CIC trainer model I with proposals for improvements and extensions 1945 September 15
	General note
	UCDWR report no. M320.1.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.262, problem 6B.
Box 2, Folder 20	Preliminary instruction book for the assisting ship projector model I serial no. 3334 1946 January 21
	General note
	UCDWR report no. M373.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.239, problem 5E.
Box 2, Folder 21	Preliminary instruction manual for the group operator trainer 1946 February 8
	General note
	UCDWR report no. M376.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.213, problem 5G.
Box 2, Folder 22-23	Preliminary instruction manual for the group listening teacher model CXKG (WCA portion) 1946 March 15
	General note
	UCDWR report no. M380.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.247, problem 5A.
Box 2, Folder 24	Operating instructions for navy model CXKD expendable echo sounder 1946 August 1
	General note
	UCDWR report no. U418.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 02.135, problem U20CD.
Box 2, Folder 25	Preliminary instruction manual NAD-10A sound beacon 1946 October 1  General note
	UCDWR report no. M412.   Office of Scientific Research and Development. Contract
	NObs-2074 (formerly OEMsr-30).   File no. 09.452, problem 1A.
	RESEARCH REPORTS
	Scope and Contents of Series
	Series 3) RESEARCH REPORTS: Arranged chronologically.
Box 2, Folder 26	Echo recognition training - Recorder traces undated  General note
	UCDWR report no. U325, supplement.
Box 2, Folder 27	Multidirectional refraction microphone. Prepared by N. Most 1942 June 23
BOX E, I OIGCI E1	General note
	Memorandum for file.

Box 2,	Bi-weekly reports covering period June 29-December 26, 1942
Folder 28-29	General note
	No report for 1942 September 20-October 3.   Office of Scientific Research and Development   National Defense Research Committee, no. C-4.
Box 2, Folder 30	Explosive sound waves in the sea - Observations with a 2500 $\sim$ moving-coil oscillograph. Prepared by T. F. Johnston and R. W. Raitt 1942 September 16
	General note
	Memorandum for file.   UCDWR report no. M10.
Box 2, Folder 31	Echo repeater target, surface model RR-1. Prepared by Edwin M. McMillan, David J. Evans and William A. Myers 1942 November 12
	General note
	UCDWR report no. U1.   Office of Scientific Research and Development, no. 1040.   National Defense Research Committee, C4-sr30-399.   File no. 91.32.
Box 2, Folder 32	Bearing accuracy at lower operating frequencies. Prepared by F. N. D. Kurie 1942 November 21
	General note
	UCDWR report no. U2.   Office of Scientific Research and Development.   National Defense Research Committee, no. C-4.   File no. 02.317.
Box 2, Folder 33	A Laboratory study of surface and internal wave motion. Prepared by Oceanographic Division 1942 November 23
	General note
	UCDWR report no. U325, supplement.   Office of Scientific Research and Development.   National Defense Research Committee, no. C-4.   File no. 01-95.
Box 2, Folder 34	Triplane. Prepared by D. E. Ross and F. N. D. Kurie 1942 November 23
	General note
	UCDWR report no. U4.   Office of Scientific Research and Development.   National Defense Research Committee, C4-sr30-402.   File no. 02-15.
Box 2, Folder 35	Reverberation studies at 24 KC. Prepared by Reverberation Group 1942 November 23
	General note
	UCDWR report no. U7.   Office of Scientific Research and Development.   National Defense Research Committee, C4-sr30-401.   File no. 01.40.
Box 2, Folder 36	Shape of a flexible rope towing a submerged body. Prepared by Glen D. Camp 1942 November 30
	General note
	Memorandum for file.   UCDWR report no. M5.
Box 2, Folder 37	Transmission of explosive impulses in the sea. Prepared by R. F. Johnston and R. W. Raitt 1942 December 2 $$
	General note
	UCDWR report no. U8.   Office of Scientific Research and Development.   National Defense Research Committee, C4-sr30-403.   File no. 01.80.
Box 2, Folder 38	Magnetic close-proximity fuze. Prepared by S. C. Baden 1942 December 19 General note
	UCDWR report no. S16.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-405.   File no. 51.20.

Box 2. Bi-weekly reports covering period December 27, 1942-June 26, 1943 Folder 39-40 General note UCDWR report no. U22, U26, U31, U33, U39, U44, U47, U52, U54, U60, U66, U72, U76. Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-410-411, 413-414, 416-419, 671, 673-676. Box 2. Folder 41 Magnetic flux-change fuze. Prepared by L. D. Statham 1942 December 30 **General note** UCDWR report no. S11. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-407. | File no. 51.20. Box 2. Folder 42 Frequency-modulation echo-ranging systems cobar, pribar, subsight. Prepared by Malcolm C. Henderson 1942 December 30 **General note** UCDWR report no. U12. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-408. | File no. 02.41. Box 2. Folder 43 Advanced bearing teacher. Prepared by Henry E. Hartig, Firth Piece and George A. Brettell, Jr. 1943 January 2 General note UCDWR report no. U18. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-409. | File no. 91.22. Box 2. Folder 44 Sound-ranging conditions in the Japanese area winter season. Prepared by Oceanographic Section 1943 January 4 **General note** UCDWR report no. U20. | National Defense Research Committee, 6.1-sr30-722. | File no. 01.91. Box 2, Folder 45 Masking of echo by reverberation. Prepared by Carl Eckart 1943 January 8 **General note** Memorandum for file. | UCDWR report no. M22. Box 2. Bi-weekly report of Psychological Section and Training Group 1943 January Folder 46-47 11-October 4 **General note** UCDWR report no. ST1-19. Box 2. Folder 48 Supplement to sound-ranging conditions of the north Pacific Ocean. Prepared by Oceanographic Section 1943 January 20 **General note** Memorandum for file. | UCDWR report no. M24. | File no. 01.91. Box 2. Folder 49 Sound-ranging conditions in the Japanese area. Prepared by Oceanographic Section 1943 January 21 **General note** UCDWR report no. U9. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-722. | File no. 01.91. Box 2, Folder 50 Outline of the proposed Fampas system. Prepared by C. A. Hisserich 1943 January 25 **General note** Memorandum for file. | UCDWR report no. M30. | File no. 02.41.

Box 2, Folder 51	Measurements of the sounds of submarines by three independent measuring systems. Prepared by Vern O. Knudsen and L. J. Sivian 1943 February 1  General note
	Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-723.
Box 2, Folder 52	Methods suitable for the calibration and use of an octave-band sound level meter. Prepared by R. W. Young 1943 February 10
	General note
	Memorandum for file.   UCDWR report no. M32.   File no. 01.33.
Box 2, Folder 53	Scattering of underwater sound by solid particles and air bubbles. Prepared by George E. Duvall 1943 February 11
	General note
	Memorandum for file.   UCDWR report no. M40.   File no. 01.40.
Box 2, Folder 54	The effect of turbulent motion on the rate of rise of bubbles in a wake. Prepared by John S. McNown 1943 February 19
	General note
	UCDWR report no. U25.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-731.   File no. 01.50.
Box 2, Folder 55	Subsight. Prepared by Malcolm C. Henderson 1943 February 20
	General note
	UCDWR report no. U12a.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-415.   File no. 02.413.
Box 3, Folder 1	Binaural listening gear. Prepared by C. H. Kean 1943 February 25  General note
	Memorandum for file.   UCDWR report no. M35.   File no. 04.00.
Box 3, Folder 2	Data for the design of inductances wound on molybdenum permalloy cores. Prepared by R. S. Gales 1943 February 25
	General note
	Memorandum for file.   UCDWR report no. M37.   File no. 01.33.
Box 3, Folder 3	Towed submerged antisubmarine practice target - Model SR-2. Prepared by David J. Evans, T. Finley Burke and Donald G. Reed 1943 February 25
	General note
	UCDWR report no. U42. $\mid$ Office of Scientific Research and Development. $\mid$ File no. 91.32 (NS-144).
Box 3, Folder 4	Antisubmarine practice target - Keel model KR-1. Prepared by David J. Evans and Donald G. Reed 1943 February 25
	General note
	UCDWR report no. U45. $\mid$ Office of Scientific Research and Development. $\mid$ File no. 91.32 (NS-144).
Box 3, Folder 5	Antisubmarine practice target - Experimental buoy model BR-1. Prepared by David J. Evans 1943 February 25
	General note
	UCDWR report no. U53.   Office of Scientific Research and Development.   File no. 91.32 (NS-144).

Box 3, Folder 6	A Multi-channel electronic switch. Prepared by Sidney Bertram 1943 March 1
	General note
	UCDWR report no. U29. $\mid$ Office of Scientific Research and Development. $\mid$ File no. 02.41 (NS-142).
Box 3, Folder 7	Comprehensive outline for harbor survey reports. Prepared by UCDWR 1943 March 3
	General note
	Memorandum for file.   UCDWR report no. M36.   File no. 03.30.
Box 3, Folder 8	The Entrapment of bubbles in vortices. Prepared by John S. McNown 1946 March 3
	General note
	Memorandum for file.   UCDWR report no. M46.   File no. 01.50 (NS-141).
Box 3, Folder 9	Underwater sound output from submarine charging batteries. Prepared by Listening Section 1943 March 4
	General note
	Memorandum for file.   UCDWR report no. M43.   File no. 01.30.
Box 3, Folder 10	Blanking and screening by surface wakes. Prepared by Wake Studies Group 1943  March 5
	General note
	Memorandum for file.   UCDWR report no. M38.   File no. 01.50 (NS-141).
Box 3, Folder 11	Hydraulic mine fuze. Prepared by Raymond D. Atchley 1943 March 11  General note
	Memorandum for file.   UCDWR report no. M41.   File no. 60.00.
	Memorandam for the.   OCDWIN report no. M41.   The no. 00.00.
Box 3, Folder 12	Variation of the sound field near the surface in deep water. Prepared by H. T. O'Neil and T. F. Johnston 1943 March 16
	General note
	UCDWR report no. U49.   Office of Scientific Research and Development.   File no. 01.70.
Box 3, Folder 13	The Doppler doubler and square-law amplification. Prepared by William A. Myers 1943 April 1
	General note
	Memorandum for file.   UCDWR report no. M48.   File no. 09.00.
Box 3, Folder 14	Volume reverberation scattering and attenuation vs. frequency. Prepared by Reverberation Group 1943 April 13
	General note
	UCDWR report no. U50.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-670.   File no. 01.40.
Box 3, Folder 15	Amplifier and power supply - Model S1-AB. Prepared by R. O. Burns 1943 April 16
	General note
	UCDWR report no. U51.   Office of Scientific Research and Development.   File no. 91.32 (NS-144).
Box 3, Folder 16	Amplifier and power supply - Model S2-AB. Prepared by R. O. Burns 1943 April 16
	General note
	UCDWR report no. U56. $\mid$ Office of Scientific Research and Development. $\mid$ File no. 91.32 (NS-144).

Box 3, Folder 17	High impedance preamplifier. Prepared by David C. Kalbfell 1943 April 29
	General note
	Memorandum for file.   UCDWR report no. M55.   File no. 01.20.
Box 3, Folder 18	Primary listening teacher. Prepared by Henry E. Hartig and George A. Brettell, Jr. 1943 April 30
	General note
	UCDWR report no. U57.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-672.   File no. 91.23 (NS-97).
Box 3, Folder 19	Supplementary notes on a multi-channel-electronic switch. Prepared by Sidney Bertram 1943 May 1
	General note
	UCDWR report no. U29a.   Office of Scientific Research and Development.   File no. 02.41 (NS-142).
Box 3, Folder 20	An inertia contact bomb fuze for use on targets above or below the surface of the water. Prepared by Raymond D. Atchley 1943 May 3
	General note
	Memorandum for file.   UCDWR report no. M58.   File no. 51.10.
Box 3, Folder 21 Box 3, Folder 22	Characteristics of some transducers made by UCDWR 1947 May 7 Acoustic measurements on surface wakes in San Diego harbor. Prepared by Richard
,	R. Carhart and George E. Duvall 1943 May 8
	General note
	UCDWR report no. U62.   Office of Scientific Research and Development.   File no. 01.50 (NS-141).
Box 3, Folder 23	Reflection of light from a submarine model. Prepared by R. B. Tibby 1943 May 12
	General note
	Memorandum for file.   UCDWR report no. M61.   File no. 02.30.
Box 3, Folder 24	Reflection of sound in the ocean from temperature changes. Prepared by R. R. Carhart 1943 May 17
	General note
	UCDWR report no. U74.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-960.   File no. 01.95 (NS-140).
Box 3, Folder 25	Doppler doubler and square-law amplifier. Prepared by William A. Myers and Vaughn G. McKenney 1943 May 20
	General note
	UCDWR report no. U67.   Office of Scientific Research and Development.   File no. 02.311 (NS-142).
Box 3, Folder 26	A Streamlined cable depressor. Prepared by Albert R. Champion 1943 May 25
	General note
	Memorandum for file.   UCDWR report no. M68.   File no. 04.10.
Box 3, Folder 27	Preliminary survey of certain biological underwater sounds on the east coast of North America. Prepared by Martin W. Johnson 1943 May 25
	General note

Box 3, Folder 28	Airplane location with subsight. Prepared by C. G. McProud 1943 May 29  General note
	Memorandum for file.   UCDWR report no. M65.   File no. 02.413 (NS-142).
Box 3, Folder 29	The Discrimination of transducers against reverberation. Prepared by Reverberation Group 1943 May 31
	General note
	UCDWR report no. U75.   Office of Scientific Research and Development.   File no. 01.40.
Box 3, Folder 30	Monitor microphone amplifier. Prepared by D. C. Kalbfell 1943 June 24  General note
	Memorandum for file.   UCDWR report no. M77.   File no. 02.33.
Box 3, Folder 31	Bottom reverberation: dependence on frequency. Prepared by Reverberation Group 1943 June 16
	General note
	UCDWR report no. U79.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr-30-677.   File no. 01.40.
Box 3, Folder 32	Deep water tests of the through-the-hull sonic listening equipment. Prepared by T.F. Johnston 1943 June 18
	General note
	UCDWR report no. U73.   Office of Scientific Research and Development.   File no. 04.10.
Box 3,	Bi-weekly report covering period June 27-December 25, 1943
Folder 33-34	General note
	UCDWR report no. U81, U83, U87, U91, U96, U105, U112, U117, U123, U128, U131, U137-138.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-678-680, 683, 685-687, 689-692, 1220-1221.
Box 3, Folder 35	A Curvature meter for use in disc recording. Prepared by L. W. Sepmeyer 1943 June 28
	General note
	Memorandum for file.   UCDWR report no. M78.
Box 3, Folder 36	Underwater ambient noise survey - Bahamas and east coast of Florida. Prepared by R. H. Fleming and D. A. Proudfoot 1943 June 29
	General note
	Memorandum for file.   UCDWR report no. M80.   File no. 01.33.
Box 3, Folder 37	Supplement to the triplane. Prepared by D. E. Ross and F. N. D. Kurie 1943 June 29 General note
	UCDWR report no. U4a.   Office of Scientific Research and Development.   File no. 91.33.
Box 3, Folder 38	Late summer hydrographic conditions in the Japanese area 1943 July  General note
	Preliminary Submarine Supplement to Hydrographic Office Publication No. 123, Asiatic Pilot, Volume II, The Japanese Archipelago. Collaborators: University of California Division of War Research,; National Defense Research Committee, Bureau of Ships, Navy Department.   UCDWR report no. U85.

Box 3, Folder 39	Device for obtaining bearing and range rate, to be used as an auxiliary to SASAT A.  Prepared by Carl Eckart 1943 July 15
	General note
	Memorandum for file.   UCDWR report no. M82.   File no. 91.35.
Box 3, Folder 40	Proposed system for the rapid frequency analysis of an audio spectrum. Prepared by Sidney Bertram 1943 July 16
	General note
	Memorandum for file.   UCDWR report no. M84.   File no. 02.414.
Box 3, Folder 41	General information for staff members 1943 August 1
	General note
	UCDWR report no. F100.
Box 3, Folder 42	Mine detection with Cobar devices. Prepared by M. C. Henderson and A. H. Roshon 1943 August 2
	General note
	Memorandum for file.   UCDWR report no. M115.   File no. 02.411- 02.413.
Box 3, Folder 43	SASAT slide rule. Prepared by G. P Hartwell and L. I. Schiff 1943 August 13 General note
	UCDWR report no. U90.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-682.   File no. 91.35.
Box 3, Folder 44	Echo ranging with explosive sound. Prepared by T. F. Johnston and T. McMillian 1943 August 14
	General note
	UCDWR report no. U88.   Office of Scientific Research and Development.   File no. 06.00.
Box 3, Folder 45	Primary conning teacher. Prepared by A. W. Melloh 1943 August 14
	General note
	UCDWR report no. U89.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-681.   File no. 91-27.
Box 3, Folder 46	Some theoretical studies of the propagation of sound in shallow water. Prepared by Glen D. Camp and Carl Eckart 1943 August 15
	General note
	UCDWR report no. U102.   Office of Scientific Research and Development.   File no. 01.70.
Box 3, Folder 47	Echoes from wakes. Prepared by Reverberation Group 1943 August 24
	General note
	Memorandum for file.   UCDWR report no. M99.   File no. 01.50.
Box 3, Folder 48	Object locator. Prepared by W. A. Myers 1943 August 27
	General note
	UCDWR report no. U92.   Office of Scientific Research and Development.   File no. 09.20.
Box 3, Folder 49	"Silent" fathometer. Prepared by George W. Downs 1943 August 28  General note
	Memorandum for file.   UCDWR report no. M98.   File no. 09.21.
	The Hot Use He   Gest Wit Tepore Hot 1930.   The Hot Use 221.

Box 3, Folder 50	System for recording reverberation as it occurs in the ocean. Prepared by Reverberation Group 1943 August 28  General note
	UCDWR report no. M111.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1202.   File no. 01.40.
Box 3, Folder 51	Shipboard anti-submarine attack teacher (SASAT A). Prepared by Clark F. Bradley 1943 August 30 General note
	UCDWR report no. U93.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-684.   File no. 91.35.
Box 3, Folder 52	Test-retest reliability of the 6B audiometer under military conditions. Prepared by William J. Giese 1943 August 30
	General note
	UCDWR report no. U116.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-688.   File no. 91.11.
Box 3, Folder 53	Interim report on echo ranging at lower frequencies. Prepared by L. M. Langer 1943 September 1
	General note
	UCDWR report no. U109.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1114.   File no. 02.317.
Box 3, Folder 54	Adjustment of the bathythermograph for errors in surface temperature and pressure.  Prepared by John S. McNown 1943 September 2-28  General note
	Memorandum for file.   UCDWR report no. M103.   File no. 01.93.
Box 3, Folder 55	Modification of a type CBM-55081 range indicator. Prepared by D. E. Ross 1943 September 4
	General note
	Memorandum for file.   UCDWR report no. M104.   File no. 02.30.
Box 3, Folder 56	FM sonar. Prepared by Malcolm C. Henderson and Charles A. Hisserich 1943 September 4
	General note
	UCDWR report no. U95.   Office of Scientific Research and Development.   File no. 02.414.
Box 3, Folder 57	Survey of biological underwater noises off the coast of California and in upper Puget Sound. Prepared by Martin W. Johnson 1943 September 10
	General note
	UCDWR report no. U100.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1113.   File no. 01.33.
Box 3, Folder 58	Reverberation equalizer. Prepared by George W. Downs, Jr. 1943 September 18  General note
	UCDWR report no. U97.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-692.   File no. 02.316 (NS-142).
Box 3, Folder 59	Doppler effect in FM sonar. Prepared by M. C. Henderson 1943 September 20
	General note
	UCDWR report no. U107.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1115.   File no. 02.414.

Box 3, Folder 60 Rapid-response thermometer. Prepared by D. C. Kalbfell 1943 September 23

**General note** 

Memorandum for file. | UCDWR report no. M101. | File no. 01.95.

Box 3, Folder 61 Gas production with magnesium amalgam. Prepared by Milton Silverman 1943

September 25

**General note** 

Memorandum for file. | UCDWR report no. M106. | File no. 09.41.

Box 3, Folder 62 Some general ideas concerning the transmission of sound in the deep sea. Prepared

by Carl Eckart 1943 September 28

**General note** 

Memorandum for file. | UCDWR report no. M108. | File no. 01.70.

Box 3, Folder 63 Interim report on the sound field of echo-ranging gear. Prepared by The U.S. Navy
Radio and Sound Laboratory and the University of California Division of War

Research 1943 October 1

**General note** 

UCDWR report no. U113. | File no. 01.72.

Box 3, Folder 64 Conclusions derived from the analysis of transmission data obtained during harbor

surveys 1943 October 2

**General note** 

UCDWR report no. U110. | File no. 01.7.

Box 3, Folder 65 Bi-weekly report no. 1-25 covering period October 3, 1943-September 16, 1944

**General note** 

UCDWR report no. S118, S124b, S129b, S132b, S136b, S139b, S145b, S171b, S177b, S180b, S187b, S195b, S199b, S203b, S210b, S214b, S220b, S226b, S233b, S237b, S242b, S247b, S252b, S254b, S259b. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1118-1119, 1121, 1123, 695, 698, 1223, 1227, 1231, 1235, 1238, 1404, 1410, 1416, 1502, 1508, 1514, 1520, 1524, 1528, 1534,

1693, 1743, 1748, 1753, 1759.

Box 3, Folder 66 The effect of the ship's roll on echo ranging. Prepared by John S. McNown and Carl

Eckart 1943 October 8

**General note** 

Memorandum for file. | UCDWR report no. M114. | File no. 02.30.

Box 3, Quadra-weekly progress report training group October 17, 1943-June 24, 1944

Folder 67-68 General not

UCDWR report no. PR1-PR9. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1080-1088.

Box 3, Folder 69 Some ambient water noise measurements in the fourteenth naval district. Prepared

by Listening Section 1943 October 22

**General note** 

Memorandum for file. | UCDWR report no. M122. | File no. 01.331.

Box 3, Folder 70 WEA-1 and WEA-2 adapters for SASAT. Prepared by Clark F. Bradley 1943 October 22

**General note** 

UCDWR report no. U121. | Office of Scientific Research and Development. | File no. 91.35.

Box 3, Folder 75

Box 3, Folder 76

Box 3. Folder 77

Box 3, Folder 78

Box 3, Folder 79

Box 3, Folder 71 Lloyd mirror effect in a variable velocity medium. Prepared by Richard B. Carhart 1943 October 23

**General note** 

Memorandum for file. | UCDWR report no. M140. | File no. 01.92.

Box 3, Folder 72 Some shallow water sound propagation measurements in the thirteenth naval district. Prepared by Listening and Oceanographic Sections 1943 October 25

**General note** 

Memorandum for file. | UCDWR report no. M126. | File no. 01.73 (NS-140), 03.30 (NO-163).

Box 3, **Bi-weekly report no. 2-35 (Projects NS-164, NS-293, and NS-316) 1943 October** Folder 73-74 **30-1945 February 9** 

**General note** 

UCDWR report no. S124a, S129a, S132a, S136a, S139a, S145a, S171a, S177a, S180a, S187a, S195a, S199a, S203a, S210a, S214a, S220a, S226a, S233a, S237, S242a, S247a, S252a, S254a, S259a, S265a, S272a, S275a, S279a, S282a, S286a, S288a, S293a, S298a. Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1120, 1122, 694, 697, 1222, 1226, 1230, 1234, 1237, 1403, 1409, 1415, 1501, 1507, 1513, 1519, 1523, 1527, 1533, 1692, 1742, 1747, 1752, 1758, 1866, 1872, 1875, 1879, 2012, 2015, 2018, 2022, 2026. | File no. 09.421 (NS-164), 09.45 (NS-293).

Gas production with mixtures of magnesium amalgam and crystalline acids ("Bubblite"). Prepared by Milton Silverman, W. Bruce Beckley and M. L. Kyle 1943 November 12

**General note** 

Memorandum for file. | UCDWR report no. M133. | File no. 09.44.

Bi-weekly report no. 1-19 (Project NS-221) 1943 November 17-1944 July 28

General note

UCDWR report no. S129c, S132c, S136c, S139c, S145c, S171c, S177c, S180c, S187c, S195c, S199c, S203c, S210c, S214c, S226c, S233c, S237c, S242c. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1211, 1217, 696, 699, 1224, 1228, 1232, 1236, 1239, 1405, 1411, 1417, 1503, 1509, 1515, 1525, 1529, 1535, 1694. | File no. 09.21.

Survey of the problem of maximum echo ranges (Preliminary draft). Prepared by Carl Eckart 1943 November 20

General note

UCDWR report no. U130. | Office of Scientific Research and Development. | File no. 01.92 (NS-140).

Device for plotting rays in a medium of variable velocity. Prepared by L. I. Schiff 1943 November 29

General note

Memorandum for file. | UCDWR report no. M125. | File no. 01.92.

Investigation of the power handling ability of 45 degree X-cut and Y-cut Rochelle salt crystals. Prepared by Francis X. Byrnes 1943 November 30

**General note** 

Memorandum for file. | UCDWR report no. M175. | Office of Scientific Research and Development. Contract OEMsr30. | File no. 01.22.

Box 3, Folder 80 Buoyancy control. Prepared by R. D. Atchley 1943 December 3 **General note** Memorandum for file. | UCDWR report no. M135. | File no. 09.44. Box 3. Bi-weekly reports covering period December 26, 1943-June 24, 1944 Folder 81-82 **General** note UCDWR report no. U144, U170, U176, U181, U188, U194, U198, U202, U209, U213, U219, U224, U234. | National Defense Research Committee, 6.1-sr30-1225, 1229, 1233, 1401, 1407-1408, 1419, 1500, 1506, 1512, 1518, 1522, 1531. | File no. NS-139-142, NS-144, NS-160, NO-163, NS-308. Box 3. Folder 83 Construction of a range-bearing plot for aid in ASW ship conning. Prepared by H. E. Hartig 1943 December 29 **General note** Memorandum for file. | UCDWR report no. M183. | File no. 80.00. Box 3. Folder 84 Oscillograms of 24 KC echoes from a destroyer and its wake. Prepared by Echo-Ranging Section 1944 January 3 General note Memorandum for file. | UCDWR report no. M141. | File no. 01.50. Box 3, Folder 85 Theory of secure echo-sounding - Project NS-221. Prepared by Carl Eckart 1944 January 8 **General note** UCDWR report no. S143. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1224. Box 3. Folder 86 Underwater noise and the distribution of snapping shrimp with special reference to the Asiatic and the southwest and central Pacific areas. Prepared by Martin W. Johnson 1944 January 15 **General note** UCDWR report no. U146. | Office of Scientific Research and Development. Box 3. Folder 87 Measurements of 24 KC echoes from a destroyer and its wake. Prepared by George Duvall 1944 January 20 **General note** Memorandum for file. | UCDWR report no. M141a. | File no. 01.50 (NS-141). Box 3. Folder 88 Burgess sea cell operational data. Prepared by W. A. Myers 1944 January 20 **General note** Memorandum for file. | UCDWR report no. M148. | File no. 09.40 (NS-164). Supplement to some ambient water noise measurements in the fourteenth naval Box 3, Folder 89 district. Prepared by Listening Section 1944 January 22 **General note** Memorandum for file. | UCDWR report no. M122a. | File no. 01.331 (NO-163). Box 3, Folder 90 Preliminary report on echoes from a diving submarine and its wake. Prepared by Sonar Section 1944 January 22 **General note** Memorandum for file. | UCDWR report no. M172. | File no. 01.50 (NS-141).

Box 3, Folder 91 Doppler effect in FM sonar (Mathematical appendix). Prepared by M. C. Henderson 1944 February 8 **General note** Memorandum for file. | UCDWR report no. M184. | File no. 02.454 (NS-142). Box 3. Folder 92 Quenching of underwater sound projectors. Prepared by Carl Eckart 1944 February **General note** Memorandum for file. | UCDWR report no. M178. | File no. 01.22. Box 3. Folder 93 Tone duration as a factor in pitch discrimination. Prepared by E. G. Weaver 1944 February 16 **General note** Memorandum for file. | UCDWR report no. M179. | File no. 01.41. Bi-weekly reports no. 1-26 (Projects NS-142 and NS-297) 1944 February 23-1945 Box 3. Folder 94 February 9 **General note** Includes "Detection of small objects" and "Shallow water sonar" projects. | UCDWR report no. S180d, S187d, S195d, S199d, S203d, S210d, S214d, S220d, S226d, S233d, S237d, S242d, S247d, S252d, S254d, S259d, S263b, S265b, S272b, S275b, S279b, S282b, 5286b, S288b, S293b, S298b. | National Defense Research Committee, 6.1-sr30-1400, 1406, 1412, 1418, 1504, 1510, 1516, 1521, 1526, 1530, 1536, 1695, 1744, 1749, 1754, 1860, 1864, 1877, 1873, 1876, 2010, 2013, 2016, 2019, 2023, 2027. | File no. NS-142. Box 3, Folder 95 Shipboard anti-submarine attack teacher (SASAT B). Prepared by Firth Pierce and Jay Schisel 1944 February 25 **General note** UCDWR report no. U186. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1402. | File no. 91.235 (NS-152). Box 3, Folder 96 Pressure-proof speaker. Prepared by W. A. Myers 1944 February 26 **General note** Memorandum for file. | UCDWR report no. M185. | File no. 93.00. Box 3, Folder 97 West coast sound school training program for the tactical sound range recorder teacher (Navy QFL). Prepared by W. L. Jenkins 1944 March **General note** UCDWR report no. U190. Box 3, Folder 98 UCDWR pitch-memory selection test: A report on design standards. Prepared by Adelbert Ford 1944 March **General note** UCDWR report no. U196. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1413. | File no. 91.10 Box 3, Folder 99 Revised selection procedure for sonar operations: A report on validating research. Prepared by Adelbert Ford, S. W. Osgood, W. J. Giese, W. R. Thurlow and L. J. Cronbach 1944 March **General note** 

Defense Research Committee, 6.1-sr30-1414. | File no. 91.10

UCDWR report no. U197. | Office of Scientific Research and Development. | National

Box 3, Folder 100	D-series of Doppler drills and tests: A report on the psychological standards of auditory discrimination. Prepared by Adelbert Ford 1944 March
	General note
	UCDWR report no. U206.   Office of Scientific Research and Development.   National
	Defense Research Committee, 6.1-sr30-1505.   File no. 91.10
Box 4, Folder 1	Data at 45 KC on echoes from a diving submarine and its wake. Prepared by Sonar Section 1944 March 3
	General note
	Memorandum for file.   UCDWR report no. M172a.   File no. 01.50.
Box 4, Folder 2	Sound transmission through destroyer wakes. Prepared by Listening Section 1944 March 8
	General note
	Memorandum for file.   UCDWR report no. M189.   File no. 01.50 (NS-141).
Box 4, Folder 3	Some experiments on the transmission of continuous sound in 100-fathom to 600-fathom water: A series of tests made in cooperation with UCDWR and MIT (DIC 6187) - 31 August-10 September 1943
	General note
	UCDWR report no. M193. $\mid$ Office of Scientific Research and Development. $\mid$ File no. 01.73 (NS-140).
Box 4, Folder 4	Preliminary report on the use of FM sonar in harbor net protection. Prepared by Sonar Group 1944 April 14
	General note
	Memorandum for file.   UCDWR report no. SM201.   File no. 02.13.
Box 4, Folder 5	Leading cut-ons on attack teachers and at sea. Prepared by W. L. Jenkins 1944 April 20
	General note
	Memorandum for file.   UCDWR report no. M204.   File no. 91.60.
Box 4, Folder 6	Preliminary report on the sonic ray plotter. Prepared by L. I. Schiff 1944 April 21  General note
	Memorandum for file.   UCDWR report no. M207.   File no. 01.92 (N5-140).
Box 4, Folder 7	Some underwater sound measurements on two aircraft carriers. Prepared by Listening Section 1944 April 27
	General note
	Internal Report No. A1.   File no. 01.31.
Box 4, Folder 8	Oscillograms of 24 KC noise produced by a destroyer. Prepared by George Duvall and the Sonar Section 1944 May 1
	General note
	Internal Report No. A2.   File no. 01.50.
Box 4, Folder 9	Shipboard anti-submarine sonar trainer (SASAT 1, model V). Prepared by Edward J. Smuckler 1044 May ${\bf 5}$
	General note
	UCDWR report no. U211.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1511.   File no. 91.234 (NS-152).

Box 4, Folder 10	Target strength of a submarine at 24 KC. Prepared by George Duvall and the Echo-Ranging Section 1944 May 10
	General note
	Internal Report No. A4.   File no. 01.80.
Box 4, Folder 11	Depression for a special magnetostriction echo-repeater. Prepared by D. G. Reed 1944 May 10
	General note
	Memorandum for file.   UCDWR report no. M216.   File no. 91.236 (NS-144).
Box 4, Folder 12	Further underwater sound measurements on aircraft carriers. Prepared by Listening Section 1944 May 12
	General note
	Internal Report No. A3.   File no. 01.31.
Box 4, Folder 13	Recommendations for monitoring and measuring sonic output of submarines.  Prepared by L. W. Sepmeyer, R. S. Gale and the Listening Section 1944 May 13
	General note
	Internal Report No. A13.   File no. 01.35.
Box 4, Folder 14	Underwater sound measurements on aircraft carriers. Prepared by Listening Section 1944 May 15
	General note
	Memorandum for file.   UCDWR report no. M212.   File no. 01.31 (NO-163).
Box 4, Folder 15	Scattering of sound by the surface of the sea. Prepared by L. I. Schiff 1944 May 15  General note
	Memorandum for file.   UCDWR report no. M217.   File no. 01.72, 01.73 (NS-140).
Box 4, Folder 16	Bottom reverberation. Prepared by T. H. Schafer and the Echo-Ranging Section 1944 May 16
	General note
	Internal Report No. A5.   File no. 01.40.
Box 4, Folder 17	Transmission of 60 KC sound data of March and April 1944. Prepared by M. J. Sheehy and the Echo-Ranging Section 1944 May 17
	General note
	Internal Report No. A6.   File no. 01.72.
Box 4, Folder 18	Bottom reverberation at 24 KC - E. W. Scripps data. Prepared by R. R. Carhart and the Oceanographic Section 1944 May 18
	General note
	Internal Report No. A7.   File no. 01.60, x01.40.
Box 4, Folder 19	NAC beacon tests. Prepared by David J. Evans and Vaughn G. McKenney 1944 May 19
	General note
	Memorandum for file.   UCDWR report no. SM215.   File no. 09.412.
Box 4, Folder 20	Reflection coefficients of surface and bottom. Prepared by R. W. Raitt and the Echo-Ranging Section 1944 May 22
	General note
	Internal Report No. A8.   File no. 01.40.

Box 4, Folder 21	Range limitation in shallow water as controlled by bottom character, state of sea, and thermal structure. Prepared by Francis P. Shepard and the Oceanographic and Echo-Ranging Sections 1944 May 22  General note
	Internal Report No. A10.   File no. 01.60, x01.40.
Box 4, Folder 22	Some considerations pertaining to systematic masking of ship sounds. Prepared by R. S. Gales and the Listening Section 1944 May 23
	General note Internal Report No. A11.   File no. 01.35.
D 4511 00	
Box 4, Folder 23	Bearing deviation indicator trainer. Prepared by Clark F. Bradley 1944 May 23  General note
	UCDWR report no. U218.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1517.   File no. 91.217.
Box 4, Folder 24	Comparison of the measuring systems at 24 KC of the listening section and the echo-ranging section. Prepared by G. P. Welch, Listening Section, M. J. Sheehy and the Echo-Ranging Section 1944 May 29
	General note
	Internal Report No. A12.   File no. 01.72, x01.73.
Box 4, Folder 25	Selection research on sonar officers - Technical report on validation studies. Prepared by Adelbert Ford, S. W. Osgood, W. J. Giese, W. R. Thurlow and L. J. Cronbach 1944 June
	General note
	UCDWR report no. M235. $\mid$ Office of Scientific Research and Development. $\mid$ File no. 91.12 (NS-97).
Box 4, Folder 26	Workbook for prediction maximum echo ranges to be used with prediction of sound ranges from bathythermograph observations (NavShips 943-C2). Prepared by Oceanographic Section and the Training Group 1944 June 1
	General note
	Preliminary edition.   UCDWR report no. R230.   Office of Scientific Research and Development. Contract OEMsr30.
Box 4, Folder 27	Underwater sound measurements on aircraft carriers. Prepared by T. McMillian, H. J. Oorthuys and the Listening Section 1944 June 2
	General note
	Internal Report No. A14.   File no. 01.31.
Box 4, Folder 28	Attenuation of sound in the sea. Prepared by Carl Eckart 1944 July 6
	General note
	UCDWR report no. U236.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1532.   File no. 01.70 (NS-140).
Box 4, Folder 29	Transmission of the 24 KC component of a shock excited diaphragm. Prepared by M. J. Sheehy and the Echo-Ranging Section 1944 June 9
	General note
	Internal Report No. A15.   File no. 01.72.

Box 4, Folder 30	Some evidence for specular bottom reflection of 24 KC sound. Prepared by R. R. Carhart and the Oceanographic Section 1944 June 9
	General note
	Internal Report No. A17.   File no. 01.60, x01.40.
Box 4, Folder 31	Self-noise of PC boats. Prepared by T. F. Johnston and the Listening Section 1944 June 10
	General note
	Internal Report No. A16.   File no. 01.332.
Box 4, Folder 32	Modifications and tests made on Taylor model basin self-propelled practice target. Prepared by D. J. Evan 1944 June 14
	General note
	Memorandum for file.   UCDWR report no. M225.   File no. 91.236 (NS-144).
Box 4, Folder 33	Secure echo sounding equipment. Prepared by David H. Ransom 1944 June 14
	General note
	Memorandum for file.   UCDWR report no. SM231.   File no. 09.21 (NS-221).
Box 4, Folder 34	Bottom reverberation in very shallow water. applications to small object detection. Prepared by R. W. Raitt and the Echo-Ranging Section 1944 June 15
	General note
	Internal Report No. A18.   File no. 01.40.
Box 4, Folder 35	Validation of "Inventory of musical background, form B". Prepared by W. J. Giese 1944 June 19
	General note
	Memorandum for file.   UCDWR report no. M227.   File no. 91.11 (NS-97).
Box 4, Folder 36	Some sound propagation measurements in the fourteenth naval district. Prepared by Listening and Oceanographic Sections 1944 June 19
	General note
	Memorandum for file.   UCDWR report no. M228.   File no. 03.30 (NS-140).
Box 4, Folder 37	British ASDIC type 135 tests. Prepared by Melvin E. Chun 1944 June 19 General note
	Memorandum for file.   UCDWR report no. SM221.   File no. 02.13.
Box 4, Folder 38	Sound output of six-inch NAD. Prepared by T. M. McMillian and the Listening Section 1944 June 21
	General note
	Internal Report No. A20.   File no. 09.40.
Box 4,	Bi-weekly report covering period June 25-December 23, 1944
Folder 39-40	General note
	UCDWR report no. U238, U241, U248, U253, U255, U260, U262, U264, U271, U274, U278, U281, U285.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1537, 1539, 1745, 1750, 1861-1862, 1865, 1871, 1874, 1878, 2011, 2014.
Box 4, Folder 41	Masking experiments - Report no. 1. Prepared by Listening Section 1944 June 28
	General note
	UCDWR report no. U229.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1751.   File no. 01.35 (NO-163, NS-164).

Box 4, Folder 42 Spectral analyses of three and ten-inch NAD. Prepared by Listening Section 1944 lune 30 General note Internal Report No. A22. | File no. 09.40. Box 4. Folder 43 NAC beacon tests in 14th naval district. Prepared by Vaughn G. McKenney and W. Bruce Beckley 1944 June 30 General note Memorandum for file. | UCDWR report no. SM240. | File no. 09.412 (NS-164). Box 4. Folder 44 Spectral analyses of magnetostriction- and bridge-type speakers. Prepared by T. McMillian and the Listening Section 1944 July 12 General note Internal Report No. A25. | File no. 09.40. Chemical recorder traces of submarine wakes at 20 KC. Prepared by George Duvall Box 4. Folder 45 and the Echo-Ranging Section 1944 July 18 **General note** Internal Report No. A23. | File no. 01.50. Box 4, Folder 46 Masking effect of water noise on short pulses. Prepared by Raymond C. Fisher 1944 July 25 **General note** UCDWR report no. S239. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1538. | File no. 09.21 (NS-221). Box 4, Folder 47 Comparison of calculated and observed intensities for some split beam sound field runs. Prepared by R. R. Carhart, L. A. Thacker and the Oceanographic Section 1944 August 2 **General note** Internal Report No. A26. | File no. 01.92, x01.72. Box 4. Folder 48 Relative movement test in sonar officer selection. Prepared by Selection and

Box 4, Folder 48 Relative movement test in sonar officer selection. Prepared by Selection and Training Group 1944 August 5

**General note** 

Memorandum for file. | UCDWR report no. M245. | File no. 91.11 (NS97).

Box 4, Folder 49 Sonic ray plotter. Prepared by Leonard I. Schiff 1944 August 8

**General** note

UCDWR report no. U246. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1741. | File no. 01.92 (NS-140).

Box 4, Folder 50 Frequency characteristics of echoes and reverberation. Prepared by W. M. Rayton and R. C. Fisher 1944 August 9

General note

UCDWR report no. U244. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1740. | File no. 01.41 (NS-140).

Box 4, Folder 51 NAC beacon. Prepared by Vaughn G. McKenney, Benjamin F. Howell, Walter G. Bryant and W. Bruce Beckley 1944 August 15

General note

UCDWR report no. S243. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1746. | File no. 09.412 (NS-164).

Box 4, Folder 52 Amplitude fluctuations of transmitted and reflected sound signals in the ocean. Prepared by M. J. Sheehy and the Echo-Ranging Section 1944 August 17 **General note** Internal Report No. A29. | File no. 01.72. Box 4. Folder 53 Bottom reverberation in very shallow water. Prepared by Echo-Ranging Section 1944 August 18 **General note** UCDWR report no. SM249. | Office of Scientific Research and Development. | File no. 02.13 (NS-140, NS-297). Box 4. Folder 54 Seat tests of overhearing of the secure echo sounding equipment (SESE) model 2 aboard the submarine SS411 ( Spadefish). Prepared by D. H. Ransom and R. C. Fisher 1944 August 22 **General note** Memorandum for file. | UCDWR report no. SM251. | File no. 09.21 (NS-221). Box 4. Folder 55 Observed ranges on a submarine at 90 feet keel depth, reported by the U.S.S. Rathburne. Prepared by R. R. Carhart and the Oceanographic Section 1944 August 24 **General note** Internal Report No. A30. | File no. 01.92. Box 4. Folder 56 Transmission of 24 KC and 60 KC sound in very shallow water. Prepared by M. J. Sheehy and the Echo-Ranging Section 1944 August 26 **General note** Internal Report No. A31. | File no. 01.72. Box 4. Folder 57 24 KC echoes from a 3-foot sphere. Prepared by George Duvall and the Echo-Ranging Section 1944 August 26 **General note** Internal Report No. A32. | File no. 01.80. Box 4. Folder 58 Submarine echo ranges observed and predicted - Mike pattern, below layer. Prepared by Carl Eckart 1944 August 29 **General note** Internal Report No. A33. | File no. 01.92. Box 4. Folder 59 Wake of a fleet-type submarine. Prepared by W. M. Rayton, George Duvall and the Echo-Ranging Section 1944 September 5 **General note** Internal Report No. A34. | File no. 01.50, x01.80. Box 4. Folder 60 Layer effect. Prepared by R. W. Raitt, M. J. Sheehy and the Echo-Ranging Section 1944 September 9 **General note** Internal report no. A35. Includes comments on report by Carl Eckart. | File no. 01.72. Box 4. Folder 61 Midget bearing demonstrator. Prepared by Karl H. Sommermeyer 1944 September 14 **General note** Memorandum for file. | UCDWR report no. M256. | File no. 91.214 (NS-97).

Box 4, Folder 62	Secure echo sounding equipment. Prepared by David H. Ransom 1944 September 1 General note
	UCDWR report no. S257.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1756.   File no. 09.21 (NS-221).
Box 4, Folder 63	Masking experiments - Report no. II. Prepared by Listening Section 1944 Septembe
	General note
	UCDWR report no. U258.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1757.   File no. 01.35 (NS-163, NS-164).
Box 4, Folder 64	Coherence and fluctuation of FM reverberation. Prepared by M. J. Sheehy and the Echo-Ranging Section 1944 September 19
	General note
	Internal Report No. A37.   File no. 01.41.
Box 4, Folder 65	Detectability of repeated pulses. Prepared by Raymond C. Fisher and Carl Eckart 1944 September 27
	General note
	Memorandum for file.   UCDWR report no. M261.   File no. 09.22 (NS-221).
Box 4, Folder 66	Transmission of underwater sound over a sloping bottom. Prepared by R. R. Carhar and K. O. Emery 1944 October 1
	General note
	Internal Report No. A39.   File no. 01.70.
Box 4, Folder 67	Variability of deep water transmission. Prepared by M. J. Sheehy and the Echo-Ranging Section 1944 October 5
	General note
	Internal report no. A40. Includes comments on report by Richard H. Fleming.   File no. 01.72.
Box 4, Folder 68	Self-noise of the S23. Prepared by T. F. Johnston and the Listening Section 1944 October 5
	General note
	Internal Report No. A41.   File no. 01.332.
Box 4, Folder 69	Further experiments on the transmission of continuous sound. Prepared by R. E. Chamber and the Listening Section 1944 October 13
	General note
	Internal Report No. A42.   File no. 01.73.
Box 4, Folder 70	Transmission of 24 KC and 60 KC sound in very shallow water. Prepared by M. J. Sheehy and the Echo-Ranging Section 1944 October 23
	General note
	Internal Report No. A31a.   File no. 01.72.
Box 4, Folder 71	Directional control devices. Prepared by L. N. Schwien Engineering Company 1944 October 24
	General note
	UCDWR report no. U266.   Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1868.   File no. 09.45 (NS-293).

Box 4, Folder 72	Echoes from swells. Prepared by George E. Duvall and the Echo-Ranging Section 1944 October 27
	General note
	Internal Report No. A43.   File no. 01.80.
Box 4, Folder 73	Consulting services under Navy project NS-195 1944 October 27  General note
	Office of Scientific Research and Development.   National Defense Research Committee, 6.1-sr30-1870.   File no. 91.236 (NS-195).
Box 4, Folder 74	Correlation of simultaneous transmission in deep water at different frequencies. Prepared by M. J. Sheehy and the Echo-Ranging Section 1944 October 28
	General note
	Internal Report No. A44.   File no. 01.72.
Box 4, Folder 75	Submarine barometer simulator. Prepared by Training Group 1944 October 28  General note
	UCDWR report no. M270.   Office of Scientific Research and Development.   National
	Defense Research Committee, 6.1-sr30-1853.   File no. 91.249.
Box 4, Folder 76	Underwater sound output of cruiser, destroyer, and aircraft carrier - A series of measurements made in cooperation with MIT (DIC-6187) during August 1944.  Prepared by Listening Section 1944 October 28
	General note
	UCDWR report no. SM268.   Office of Scientific Research and Development.   File no. 01.31 (NO-163).
Box 4, Folder 77	FM sonar model 1, nos. 6-10 - Operation and maintenance 1944 November 1  General note
	UCDWR report no. R223.2.   File no. 02.454 (NS-142).
Box 4, Folder 78	Sound-ranging conditions off southern California. Prepared by K. O. Emery and the Oceanographic Section 1944 November 1
	General note
	Internal report no. A45. Includes comments on report by R. W. Raitt.   File no. 01.90.
Box 4, Folder 79	Sound measuring equipment on the YAG-6 (Ex-enchantress). Prepared by T. McMillian and the Listening Section 1944 November 8
	General note
	Internal Report No. A47.   File no. 01.73.
Box 4, Folder 80	DR1 practice target for rocket practice 1944 November 9
	General note
	Memorandum for file.   UCDWR report no. M273.   File no. 91.236.
Box 4, Folder 81	Observations made during ten days at sea with FM sonar on the U.S.S. <i>Tinosa</i> (SS283). Prepared by Melvin O. Kappler 1944 November 11  General note
	Memorandum for file.   UCDWR report no. SM280.   File no. 02.454 (NS-142).
Box 4, Folder 82	Bi-weekly report covering period November 12-25, 1944  General note
	General note  UCDWR report no. U278.   Office of Scientific Research and Development.   National  Defense Research Committee, 6.1-sr30-1878.

Box 4, Folder 83 Calibration of underwater sound level meter and analyzer. Prepared by H. J. Oorthuys and the Listening Section 1944 November 15

General note

Internal Report No. A48. | File no. 01.31.

Box 4. Folder 84 Bi-weekly report cover period October 29-November 11, 1944

**General note** 

UCDWR report no. U274. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1874.

Box 4. Folder 85 Submarine sounds recorded for Mare Island navy yard - Abstract. Prepared by Listening Section 1944 November 18

**General note** 

Memorandum for file. | UCDWR report no. M277. | File no. 01.31.

Box 4. Folder 86 Multi-string light valve (An alternative form of analyzer for FM sonar). Prepared by Electrical Research Products Division of the Western Electric Company, Inc. 1944 November 25

General note

UCDWR report no. U276. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-1858. | File no. 02.454.

Box 4. Folder 87 Afternoon effect, its application to sound-ranging charts. Prepared by E. C. LaFond and the Oceanographic Section 1944 November 25

General note

Internal Report No. A49. | File no. 01.91, x01.92.

Box 4. Bi-weekly report covering period November 26, 1944-February 3, 1945 Folder 88-89

General note

UCDWR report no. U281, U287, U292, U297. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-2011, 2017, 2021, 2025.

Box 4. Folder 90 Interference effect between echo and reverberation. Prepared by A. M. Small and the Listening Section 1944 December 16

**General note** 

Internal Report No. A50. | File no. 01.40, x01.40.

Box 4. Folder 91 Sound cavitation tests on U.S.S. Springer (SS414). Prepared by Listening Section 1944 December 20

**General note** 

Memorandum for file. | UCDWR report no. M283. | File no. 01.31.

Box 4. Folder 92 Layer effect at 24 KC and 60 KC. Prepared by M. J. Sheehy and the Echo-Ranging Section 1944 December 27

General note

Internal Report No. A51. | File no. 01.72.

Box 4. Folder 93 Ambient water noise in the Central and Southwest Pacific. Prepared by M. W. Johnson and T. F. Johnston 1944 December 28

**General note** 

Based on Observations made by W.E. Loomis. | UCDWR report no. M284. | Office of Scientific Research and Development. | File no. 01.331 (NO-163).

Box 4, Folder 94 Short range spatial pattern measurements on the JK-SK4926 transducer at 24 KC. Prepared by N. Most and the Echo-Ranging Section 1945 January 5 **General note** Internal Report No. A52. | File no. 01.72. Box 4, Sonar data: Monthly progress report - Series I 1945 February-1946 February Folder 95-98 General note UCDWR report no. MR-304-I, MR-315-I, MR-316-I, MR-323-I, MR-334-I, MR-345-I; MR-354-I; MR-365-I, MR-372-I, MR-383-I, MR-390-I, MR-402-I, MR-415-I. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). Box 5. Folder 1-3 Sonar devices: Monthly progress report - Series II 1945 February-1946 February **General note** UCDWR report no. MR-304-II; MR-315-II; MR-323-II; MR-334-II; MR-345-II, MR-354-II; MR-365-II, MR-372-II; MR-383-II; MR-390-II; MR-402-II; MR-415-II. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). Box 5. Folder 4-8 Training aids: Monthly progress report - Series IV 1945 February-1946 February **General note** UCDWR report no. MR-304-IV: MR-315-IV. MR-316-IV: MR-323-IV. MR-334-IV: MR-345-IV. MR-354-IV; MR-365-IV, MR-372-IV; MR-383-IV; MR-390-IV; MR-402-IV; MR-415-IV. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). Box 5. Folder 9 Bi-weekly report covering period January 21-February 3, 1945 General note UCDWR report no. U297. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-2025. Box 5. Folder 10 Operational procedure and equipment used in sonar sound field studies. Prepared by Echo-Ranging Section 1945 February 15 **General note** UCDWR report no. U295. | Office of Scientific Research and Development. | National Defense Research Committee, 6.1-sr30-2024. | File no. 01.72 (NS-140). Box 5. Folder 11 Surface reflected submarine echoes. Prepared by G. E. Duvall and the Echo-Ranging Section 1945 February 24 General note Internal Report No. A54. | UCDWR report no. A54. | File no. 01.80. Box 5, Folder 12 Procedures proposed for the treatment of sound transmission data at 200, 600, and 1800 CPS. Prepared by R. W. Young and the Listening Section 1945 February 24 General note Internal Report No. A56. | UCDWR report no. A56. | File no. 01.73. Box 5, Folder 13 Record catalog: Underwater sound recordings on file in the recording laboratory 1945 March General note UCDWR report no. R174.1. Box 5, Folder 14 Underwater sound output U.S.S. Spot (SS413). Prepared by Listening Section 1945 March 1 General note UCDWR report no. M296. | File no. 01.31.

Box 5, Folder 15	Echoes of very short pings from submarines. Prepared by W. M. Rayton 1945 March 1  General note  UCDWR report no. M301.   File no. 01.80.
Box 5, Folder 16	Echo injector. Prepared by Sommermeyer, Karl 1945 March 1  General note  UCDWR report no. U302.   File no. 91.215 (NS-97).
Box 5, Folder 17	Underwater sound output of U.S.S. <i>Tinosa</i> (SS283). Prepared by Listening Section 1945 March 5  General note  UCDWR report no. M303.   File no. 01.31.
Box 5, Folder 18	Surface reflected submarine echoes. Prepared by Echo-Ranging Section 1945 March 15  General note  UCDWR report no. M306.   File no. 01.80.
Box 5, Folder 19	The influence of thermal conditions on the transmission of 24 KC sound. Prepared by Sonar Data Division 1945 March 16  General note  UCDWR report no. U307.   File no. 01.72, problem 2A.
Box 5, Folder 20	Internal waves. Prepared by C. W. Ufford 1945 March 19 General note  UCDWR report no. M289.   File no. 01.95.
Box 5, Folder 21	Internal waves off San Diego, California. Prepared by C. W. Ufford 1945 March 19 General note  UCDWR report no. M290.   File no. 01.95.
Box 5, Folder 22	The Thermal microstructure of the ocean. Prepared by C. W. Ufford, 1945 March 19 General note UCDWR report no. M294.   File no. 01.95.
Box 5, Folder 23	Tests on water activated battery, Burgess type 4-CC-167 samples #1 and #2. Prepared by W. L. Bryant 1945 April 9 General note UCDWR report no. M309.   File no. 09.412.
Box 5, Folder 24	Talk-through equipment for submarine sonar training. Prepared by Carlton Beyer 1945 April 12  General note  UCDWR report no. M308.   File no. 91.14.
Box 5, Folder 25	Submarine listening cues for target angle. Prepared by Adelbert Ford 1945 April 24  General note  UCDWR report no. M311.   File no. 91.14.
Box 5, Folder 26	Comparison of echo recognition at 800 and 500 cycles. Prepared by A. Ford and L. J. Cronbach 1945 April 30  General note  UCDWR report no. M312.   File no. 91.14.

Box 5, Folder 27	A Comparison of transmission loss at 16 KC and 24 KC. Prepared by Sonar Data Division 1945 May 5
	General note
	UCDWR report no. M313.   File no. 01.72.
Box 5, Folder 28	Learning studies on the sound recognition group trainer: Single ping range reading. Prepared by L. J. Cronbach 1945 May 18
	General note
	UCDWR report no. M319.   File no. 91.14.
Box 5, Folder 29	Point Loma ship-sound monitoring station. Prepared by Listening Section 1945 May 25
	General note
	UCDWR report no. M321.   File no. 01.31.
Box 5, Folder 30	The Automatic target positioner for DRT. Prepared by Firth Pierce 1945 June 1
	General note
	UCDWR report no. M322.   File no. 85.00.
Box 5, Folder 31	Experimental study of masking by a line spectrum. Prepared by Sonar Data Division 1945 June 7
	General note
	UCDWR report no. M314.   File no. 01.35, problem 2M2.
Box 5, Folder 32	Preliminary charts with histograms for the fourth edition of the sound ranging (sonar) charts June 1-August 31, 1945. Prepared by UCDWR and Woods Hole Oceanographic Institution  General note
	UCDWR report no. M326.   File no. 01.92, problem 2H.
	ocean report no. Piozo.   The no. 01.32, problem 21.
Box 5, Folder 33	Sonar hut noise measurements on a frigate. Prepared by Psycho-Physical Group and the Listening Section 1945 June 11
	General note
	UCDWR report no. M324.   File no. 01.41, problem 2F.
Box 5, Folder 34	Isolation of additive effects. Prepared by Sonar Data Division 1945 June 13  General note
	UCDWR report no. M327.   File no. 01.72, problem 2A.
Box 5, Folder 35	Basic material for inclusion in "Use of submarine bathythermograph observation:
Box 3, 101del 33	Part 7, problems" (NavShips 900, 069). Prepared by Publications Group 1945 June 15 General note
	UCDWR report no. M328.   File no. 91.80, problem 5D.
Box 5, Folder 36	Low frequency underwater sound source, type MEF. Prepared by Listening Section 1945 June 22
	General note
	UCDWR report no. M331.   File no. 01.73, problem 2A.
Box 5, Folder 37	Operation's with fleet type submarines. Prepared by Rushmore Shope 1945 June 23
25% 5/1 01001 5/	General note
	UCDWR report no. M333.   File no. 91.70, problem 5E.
	COSTACTOR PISSO.   The No. 52.70, problem 52.

Box 5, Folder 38	Processing sound field data. Prepared by Sonar Data Division 1945 July 7
	General note
	UCDWR report no. M336.   File no. 01.72, problem 2A.
Box 5, Folder 39	Proposed content of a manual explaining the factors governing sound ranges.  Prepared by Publications Group 1945 July 9
	General note
	UCDWR report no. M335.   File no. 91.80, problem 5D.
Box 5, Folder 40	Echo recognition group training as developed for use with the echo recognition monitor recorder model 2 1945 July 10
	General note
	UCDWR report no. U325.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.216, problem 5H.
Box 5, Folder 41	Learning studies on the sound recognition group trainer: Turn counting. Prepared by L. J. Cronbach and Dale Lovell 1945 July 14
	General note
	UCDWR report no. M338.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.246, problem 5E.
Box 5, Folder 42	Preliminary report on small object detector (SOD). Prepared by M. E. Chun and C. F. Mongan 1945 July 17
	General note
	UCDWR report no. M343.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 02.131, problem 4A.
Box 5, Folder 43	A New method for measuring the acoustical constants of sediment samples.  Prepared by Sonar Data Division 1945 July 21
	General note
	UCDWR report no. M340.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.60, problem 2A.
Box 5, Folder 44	XQHA sonar tests. Prepared by William H. Williams 1945 July 30 General note
	UCDWR report no. M339.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 02.132, problem 4B.
Box 5, Folder 45	Doppler judgement at low beat-frequency oscillator settings. Prepared by A. Ford, L. J. Cronbach and D. F. Lovell 1945 August 10
	General note
	UCDWR report no. M347.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.41, problem 5E.
Box 5, Folder 46	List of publications 1945 August 15 General note
	UCDWR report no. M348.
	OCDWK TEPOIL NO. MIS40.
Box 5, Folder 47	Internal waves measured at three stations. Prepared by C. W. Ufford 1945 August 15
	General note
	UCDWR report no. M350.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.95, problem 2A.

Box 5, Folder 48 Investigation of OAS practice targets for use at 300 foot depths. Prepared by W. L. **Bryant 1945 August 25 General note** UCDWR report no. M349. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.236.1, problem 5C. Box 5. Folder 49 Learning studies on the sound recognition group trainer: Classification of supersonic targets. Prepared by L. J. Cronback and Dale Lovell 1945 August 25 **General note** UCDWR report no. M351. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.14, problem 5E. Box 5. Folder 50 Learning studies on the sound recognition group trainer: Bow stern identification. Prepared by L. J. Cronbach and Dale Lovell 1945 August 25 General note UCDWR report no. M352. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.14, problem 5E. Proposed design features for the new NAD-8 beacon. Prepared by Raymond D. Box 5. Folder 51 Atchley 1995 August 27 **General note** UCDWR report no. SM355. | File no. 09.454, problem 1B. Box 5. Folder 52 Air-borne noise measurements on the AGC-5. Prepared by Listening Section 1945 August 28 **General note** UCDWR report no. M356. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.31, problem 2G. Box 5, Folder 53 The Bathythermograph simulator. Prepared by The Training Aids 1945 September 13 **General note** UCDWR report no. U360. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.248. Box 5. Folder 54 Afternoon effect and its application to sound-ranging charts 1945 September 15 **General note** UCDWR report no. U357. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.93, problem 2A. Box 5, Folder 55 Learning studies on the sound recognition group trainer: Target classification. Prepared by L. J. Cronback and Dale Lovell 1945 September 17 **General note** UCDWR report no. M359. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.14, problem 5E. Box 5, Folder 56 Non-obscurable focusing DRT light. Prepared by Training Aids Division 1945 September 19 General note UCDWR report no. M358. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.20, problem 5E.

Box 5, Folder 57

The Automatic target positioner for the dead reckoning tracer model I 1945
September 20

General note

LICDWR report no. LI353. L Office of Scientific Research and Development. Control

UCDWR report no. U353. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 85.00, problem 6A.

Box 5, Folder 58 Limitation of echo ranges by reverberation (Deep water). Prepared by Sonar Data
Division 1945 September 20

**General note** 

UCDWR report no. M361. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.90, problem 2A.

Box 5, Folder 59 Submarine bathythermograph classroom demonstration 1945 September 20

**General note** 

UCDWR report no. M363. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.248.1, problem 5E

Box 5, Folder 60 Interim report: Transmission of underwater sound at lower frequencies 1945
November 1

General note

UCDWR report no. U362. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.73, problem 2A.

Box 5, Folder 61 Tests and learning studies on JP and WCA submarine sonar trainers. Prepared by Carlton Beyer and Dale F. Lovell 1945 November 5

**General note** 

UCDWR report no. M366. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.14, problem 5E.

Box 5, Folder 62 Reminders on style 1945 November 6

**General note** 

UCDWR report no. M374. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.80.

Box 5, Folder 63 Transmission of 24 KC sound in shallow water. Prepared by Sonar Data Division 1945
November 20

**General note** 

UCDWR report no. M368. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.72, problem 2A.

Box 5, Folder 64 The Transmission of sound at 56 KC. Prepared by Sonar Data Division 1945
November 28

**General note** 

UCDWR report no. M378. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.72, problem 2A.

Method of reading sound field records: Appendix I to UCDWR report M336, processing sound field data. Prepared by Sonar Data Division 1945 November 29

**General** note

UCDWR report no. M336.1. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.72.

Box 5, Folder 65

Box 5, Folder 66 The additive effects of wind force, thermal gradient, and particle size on the transmission of 24 kc sound over sand bottoms in shallow water. Prepared by Sonar Data Division 1945 December 1 General note UCDWR report no. M375. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.72. Box 5, Folder 67 Additive analysis with disproportionate weighting. Prepared by Sonar Data Division 1945 December 5 General note UCDWR report no. M379. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.72. Box 5. Folder 68 Production of sonar maintenance manuals 1945 December 5 **General** note UCDWR report no. U370. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.413, problem 5M1. Box 5. Folder 69 The Sound recognition group trainer: A study of the tests used 1945 December 10 General note UCDWR report no. N371. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.246, problem 5H. The Range indicator trainer. Prepared by Training Aids Division 1945 December 11 Box 5. Folder 70 General note UCDWR report no. M381. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.246. Box 5. Folder 71 Fluctuation of 24 KC signals at short range as a function of the roll of the sending ship. Prepared by Sonar Data Division 1945 December 11 **General note** UCDWR report no. M386. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.72, 01.76. Box 5. Folder 72 Psychological methods and projects in sonar training. Prepared by Adelbert Ford **1945 December 12 General note** UCDWR report no. M369. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.14, problem 5E. Box 5, Folder 73 Attenuations and fluctuation studies used on supersonic bottom echoes. Prepared by **Sonar Data Division 1945 December 13 General note** UCDWR report no. M384. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.71, 01.76.

# Status report on self-noise measurements of sonar installations. Prepared by Sonar Data Division 1945 December 29

**General note** 

UCDWR report no. M385. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.332, problem 2.

Box 5, Folder 74

Box 5, Folder 75	Submarine operating conditions in the western Pacific ocean 1946 February 1
	General note
	UCDWR report no. U344.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.913, problem 2H.
Box 5, Folder 76	Principles of training in Doppler discrimination 1946 February 1
	General note
	UCDWR report no. U367.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.14.
Box 5, Folder 77	Selection of sonar officers, operators, and maintenance men 1946 February 8
	General note
	UCDWR report no. M377.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.14.
Box 5, Folder 78	Overlays useful in the analysis of sound transmission data 1946 February 10  General note
	UCDWR report no. M391.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.73, problem 2A.
Box 5, Folder 79	Status report on echoes from small objects. Prepared by Sonar Data Division 1946 February 14
	General note
	UCDWR report no. M388.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.80.
Box 5, Folder 80	Moored echo-repeater mine. Prepared by Sonar Devices Division 1946 February 14
	General note
	UCDWR report no. M393.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 91.236.
Box 5, Folder 81	Coherence and fluctuation of FM reverberation. Prepared by Sonar Data Division 1946 February 14
	General note
	UCDWR report no. M395.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 02.41.
Box 5, Folder 82	Stratification of sound scatterers in the ocean. Prepared by Sonar Data Division 1946 February 16
	General note
	UCDWR report no. M397.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.40.
Box 5, Folder 83	Buoyancy control - General instructions for use. Prepared by R. D. Atchley 1944 February 22
	General note
	UCDWR report no. M182.   File no. 09.44.
Box 5, Folder 84	The Stationary echo repeater decoy for submarine use. Prepared by Sonar Devices Division 1946 February 28
	General note
	UCDWR report no. SM396.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 09.411.

Box 5, Folder 85	The Fiducial signal generator. Prepared by Sonar Devices Division 1946 March 12
	General note
	UCDWR report no. M405.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 09.30.
Box 5, Folder 86	Hand-held echo-ranging devices. Prepared by Sonar Data Division 1946 March 18 General note
	UCDWR report no. M403.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 02.132.
Box 5, Folder 87	Forward scattering from the deep scattering layer. Prepared by Sonar Data Division 1946 March 19
	General note
	UCDWR report no. M398.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.72.
Box 5, Folder 88	Frequency weighting in ship sound measurements - An audibility meter. Prepared by Sonar Data Division 1946 March 19
	General note
	UCDWR report no. M399.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.35.
Box 5, Folder 89	The sea surface and its effect on the reflection of sound and light. Prepared by Sonar Data Division 1946 March 20
	General note
	UCDWR report no. M407.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.75.
Box 5, Folder 90	Second model of the automatic receiver gain changer used in transmission studies.  Prepared by Sonar Data Division 1946 March 23
	General note
	UCDWR report no. M401.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.72.
Box 5, Folder 91	Underwater noise caused by snapping shrimp 1946 April 1 General note
	Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).
Box 5, Folder 92	The influence of thermal conditions on the transmission of 24 KC sound 1946 April 1
	General note
	UCDWR report no. U394.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.72, problem 2A.
Box 5, Folder 93	Completion report for UCDWR consultation work on BuShips contract NXSR87757 for NAD-6 sound beacon. Prepared by Sonar Devices Division 1946 April 6
	General note
	UCDWR report no. M413.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 09.452.
Box 5, Folder 94	Transmission of 24-KC sound from a deep projector. Prepared by Sonar Data Division 1946 April 8
	General note
	UCDWR report no. M409.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.73.

Box 6, Folder 1 The Doppler effect in sonar operation 1946 April 10

**General note** 

UCDWR report no. M382. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.14.

Box 6, Folder 2 **Processing low-frequency sound transmission data. Prepared by Sonar Data Division**1946 April 10

**General** note

UCDWR report no. M414. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.73.

Box 6, Folder 3 Completion report for submarine evasive aid navy model NAD-3 sound beacon 1946
April 10

**General note** 

UCDWR report no. SU-364. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 09.451, problem 1A.

Box 6, Folder 4 Internal waves measured with three thermocouples. Prepared by Sonar Data Division 1946 April 12

General note

UCDWR report no. M406. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.95.

Box 6, Folder 5 Identification of target aspect by submarine listening. Prepared by Sonar Data
Division 1946 April 15

**General note** 

UCDWR report no. M400. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.31.

Box 6, Folder 6 QFL range recorder errors, their effect on instruction, and a discussion of methods for minimizing them. Prepared by Training Aids Division 1946 April 16

**General note** 

UCDWR report no. M416. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 91.50.

Box 6, Folder 7 Directivity pattern of the JK projector at 24 KC as a function of range. Prepared by Sonar Data Division 1946 April 25

**General note** 

UCDWR report no. M411. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.72.

Box 6, Folder 8 Calibration sets, UCDWR types AP & AR. Prepared by Sonar Devices Division 1946
May 10

General note

UCDWR report no. M420. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.73.

Box 6, Folder 9 Pilot's emergency transducer (PET) for NAJ sonar beacon. Prepared by Sonar Devices
Division 1946 May 10

**General note** 

UCDWR report no. SM389. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 09.70.

### Box 6, Folder 10 Transmission of 24 KC sound at short ranges. Prepared by Sonar Data Division 1946 May 20

**General** note

UCDWR report no. M421. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.72.

#### Box 6, Folder 11

### Harmonic analysis of the internal waves and the tide. Prepared by Sonar Data Division 1946 May 30

**General** note

UCDWR report no. M427. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.95.

#### Box 6. Folder 12

#### CXKD and lead-line expendable sounding equipment 1946 June 1

**General note** 

UCDWR report no. U346. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 02.135, problem 7C.

#### Box 6. Folder 13

### Propagation of 20-KC sound over a submarine canyon. Prepared by Sonar Data Division 1946 June 7

General note

UCDWR report no. M428. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.73.

#### Box 6, Folder 14

# Methods of reverberation measurements and preliminary analysis. Prepared by Sonar Data Division 1946 June 25

**General note** 

UCDWR report no. M424. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.40.

#### Box 6, Folder 15

## A Proposed method for measurement of swell by observation of ship's roll. Prepared by Sonar Data Division 1946 June 28

**General note** 

UCDWR report no. M392. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.95.

### Box 6, Folder 16

# Completion report on transducer calibration facilities and techniques of UCDWR 1946 June 30 $\,$

**General note** 

UCDWR report no. U435 (NS-139). | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.10, problem 2MI.

# Completion report... covering operations of the University of California Division of War Research... from 26 April 1941 to 30 June 1946 ①

https://library.ucsd.edu/speccoll/DigitalArchives/sac0018/sac0018d01.pdf

**General note** 

Does not include Appendix C (Personnel roster), which was bound separately.

#### Box 6, Folder 17

# Completion report... covering operations of the University of California Division of War Research... from 26 April 1941 to 30 June 1946

**General note** 

Incomplete. Pages 144-319 (Section 5.D.-Appendix B).

Box 6, Folder 18 Correlation of 24 KC signals received simultaneously on two hydrophones 1946 July 1 General note UCDWR report no. M429. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.72. Box 6. Procedure for handling bathythermograph data. Prepared by Sonar Data Division Folder 19-20 1946 July 1 **General note** UCDWR report no. M442. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.93. Box 6. Folder 21 An Electronic bathythermograph. Prepared by Sonar Data Division 1946 July 10 **General note** UCDWR report no. M439. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.95. Box 6. Folder 22 The Influence of thermal conditions on the transmission of 24 KC sound III. Transmission to a deep hydrophone in deep water 1946 July 15 General note UCDWR report no. U422. | File no. 01.72, problem 2A. Box 6, Folder 23 UCDWR activities on NAD sound beacon project at Pearl Harbor 1946 July 17 **General note** UCDWR report no. SM417. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 09.45. Box 6. Bottom studies of selected areas off California and lower California. Prepared by Folder 24-25 Sonar Data Division 1946 July 18 **General note** UCDWR report no. M433. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.60. Box 6. Folder 26 Dependence of bottom reflection loss on median diameter of bottom sediment particles. Prepared by Sonar Data Division 1946 July 18 General note UCDWR report no. M436. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.60. Box 6. Folder 27 Completion report on consulting services for NAC sound beacon BuShips contract NXSR 60065. Prepared by Sonar Devices Division 1946 July 30 **General note** UCDWR report no. M441. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 09.412. Box 6. Folder 28 An Introduction to the theory of time-series. Prepared by Sonar Data Division 1946 August 12 UCDWR report no. M408. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.00.

Box 6, Folder 29	Thermal structure of Sweetwater Lake. Prepared by Sonar Data Division 1946 August 12
	General note
	UCDWR report no. M434.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.95.
Box 6, Folder 30	Limitation of echo ranges by reverberation (Deep water) - Supplement 1946 August 20
	General note
	UCDWR report no. M361.1.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.90.
Box 6, Folder 31	Summary report - Transmission of 24 KC sound in shallow water. Prepared by Sonar Data Division 1946 August 28
	General note
	UCDWR report no. M423.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.72.
Box 6, Folder 32	Completion report for contour bottom scanner 1946 September 1
	General note
	UCDWR report no. U432.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 02.134, problem 3M2.
Box 6, Folder 33	Study of bottom materials. Prepared by Sonar Data Division 1946 September 12
	General note
	UCDWR report no. M404.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.60.
Box 6, Folder 34	Completion report on consulting services for NAD-IO sound beacons. Prepared by Sonar Devices Division 1946 September 18
	General note
	UCDWR report no. M444.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 09.453.
Box 6, Folder 35	Reverberation of 24-KC sound in shallow water. Prepared by Sonar Data Division 1946 September 19
	General note
	UCDWR report no. M438.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.40.
Box 6, Folder 36	Studies of the recognition of submarine echoes. Prepared by Sonar Data Division 1946 September 30
	General note
	UCDWR report no. M431.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).   File no. 01.41.
Box 6, Folder 37	Regulated power supplies. Prepared by Sonar Devices Division 1946 September 30
	General note
	UCDWR report no. M437.   Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30).

Box 6, Folder 38

Transmission of 56-KC sound in deep water. Prepared by Sonar Data Division 1946
September 30

General note

UCDWR report no. M440. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.72.

Box 6, Folder 39

Model studies of echo formation. Prepared by Sonar Data Division 1946 September 30

General note

UCDWR report no. M443. | Office of Scientific Research and Development. Contract

NObs-2074 (formerly OEMsr-30). | File no. 02.133.

Box 6, Folder 40 Studies of the deep scattering layer. Prepared by Sonar Data Division 1946
September 30

**General note** 

UCDWR report no. M445. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.40.

Box 6, Folder 41 Sea-going equipment for sonic transmission studies. Prepared by Sonar Data
Division 1946 September 30

**General note** 

UCDWR report no. M446. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.73.

Box 6, Folder 42 Status report on self-noise measurements of sonar installations II. Prepared by Sonar Data Division 1946 September 30

**General note** 

UCDWR report no. M447. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.332.

Box 6, Folder 43 Underwater sound transmission at sonic frequencies. Prepared by Sonar Data Division 1946 September 30

**General note** 

UCDWR report no. M448. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.73.

Box 6, Folder 44 **UDT paddleboard sounding equipment. Prepared by Sonar Devices Division 1946**September 30

**General note** 

UCDWR report no. M449. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 02.135.

Box 6, Folder 45 Submarine photography off the California coast. Prepared by F. P. Shepard and K. O. Emery 1946 September 30

**General** note

UCDWR report no. M454. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 01.60.

Box 6, Folder 46 Completion report for NAD-6 sound beacon 1946 October

**General note** 

Navy project no. N5293. Task no. 1. | UCDWR report no. U451. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). | File no. 09.452, problem 1A.

Box 6, Folder 47 Summary report - Sound recording at UCDWR 1946 October 1 **General note** UCDWR report no. U450. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). Box 6. Folder 48 Completion report for NAD-10 sound beacon 1946 October 1 General note UCDWR report no. U452. | Office of Scientific Research and Development. Contract NObs-2074 (formerly OEMsr-30). **NAVY RADIO AND SOUND LABORATORY REPORTS** Scope and Contents of Series Series 4) NAVY RADIO AND SOUND LABORATORY REPORTS: Arranged chronologically. Box 6. Folder 49 Memorandum for file on a time triangulation method for determining the depth of submarines. Prepared by L. P. Delsasso undated Box 6. Folder 50 Test of a modified model TAQ transmitter on U.S.S. California. Prepared by R. B. Owens 1940 December 30 General note No. 1. Box 6, Folder 51 Antenna measurements on U.S.S. Bridge. Prepared by R. B. Owens, W. F. Squibb and D. D. Parkhurst 1941 July 3 **General note** No. 2. | BuShips problem B3-12D. Box 6, Folder 52 Antenna measurements on U.S.S. Kanawha. Prepared by R. B. Owens, W. F. Squibb, R. T. Brackett and D. D. Parkhurst 1941 September 19 **General note** No. 3. | BuShips problem B3-12D. Box 6, Folder 53 Antenna measurements on U.S.S. Saratoga. Prepared by R. T. Brackett, W. F. Squibb and R. B. Owens 1941 September 19 **General note** No. 5. | BuShips problem B3-12D. Box 6, Folder 54 Directional characteristics of shipboard transmitting antennas - U.S.S. Saratoga 1941 October 8 **General note** No. 4. | BuShips problems W5-8D and B3-12D. Box 6, Folder 55 Radio hazard to security of extremely small antenna voltages - Receiving antennas on U.S.S. Concord. Prepared by R. T. Brackett and R. B. Owens 1942 January 5 **General note** No. 6. | BuShips problem R5-46CD. Box 6, Folder 56 Radio hazard to security of extremely small antenna voltages - Receiving antennas on U.S.S. Hughes and U.S.S. Crosby. Prepared by R. T. Brackett and R. B. Owens 1942 February 14 **General note** No. 7. | BuShips problem R5-46CD.

Box 6, Folder 57	Development of sono impulse recorder - Problem U2-8D. Prepared by W. K. Lyon, N. J. Holter, R. M. Sherwood and D. D. Dresson 1942 February 20
	General note
	No. S-1.   BuShips problem U2-8D.
Box 6, Folder 58	Radio hazard to security of extremely small antenna voltages - Receiving antennas on U.S.S. <i>Tippecanoe</i> and U.S.S. <i>Zeilin</i> . Prepared by R. T. Brackett and R. B. Owens 1942 March 31
	General note
	No. R-8.   BuShips problem R5-46CD.
Box 6, Folder 59	Instructions for the installation and operation of sono optical recorder - Experimental model 1942 May 22
Box 6, Folder 60	Radio hazard to security of extremely small antenna voltages - Receiving antennas on U.S.S. <i>Harris</i> . Prepared by R. T. Brackett, L. G. Trolese and R. B. Owens 1942 May 22
	General note
	No. R-9.   BuShips problem R5-46CD.
Box 6, Folder 61	Radio hazard to security of extremely small antenna voltages - High frequency receiving antenna on U.S.S. <i>Crosby</i> . Prepared by R. T. Brackett, L. G. Trolese and R. B. Owens 1942 June 12
	General note
	No. R-10.   BuShips problem R5-46CD.
Box 6, Folder 62	Directional characteristics of a high frequency receiving antenna on U.S.S. <i>Crosby</i> .  Prepared by L. G. Trolese, R. T. Brackett and R. B. Owens 1942 June 18  General note
	No. R-11.   BuShips problems W5-8D and B3-12D.
Box 6, Folder 63	Preliminary instructions - Depth charge direction recorder 1942 June 30  General note
	No. S-2.
Box 6, Folder 64	Characteristics of antennas on U.S.S. San Diego. Prepared by L. G. Trolese, R. T. Brackett and R. B. Owens 1942 July 11
	General note
	No. R-12.   BuShips problem B3-12D.
Box 6, Folder 65	Antenna impedance measurements on the U.S.S. <i>Hornet</i> . Prepared by R. T. Brackett and R. B. Owens 1942 July 23
	General note
	No. R-13.   BuShips problem B3-12D.
Box 6, Folder 66	Antenna impedance measurements on U.S.S. <i>President Jackson</i> . Prepared by L. G. Trolese, R. T. Brackett and R. B. Owens 1942 August 12  General note
	No. R-14.   BuShips problem B3-12D.
Box 7, Folder 1	Antenna measurements on U.S.S. <i>Long Island</i> . Prepared by L. G. Trolese, R. T. Brackett and R. B. Owens 1942 August 22
Box 7, Folder 1	

Box 7, Folder 2	Antenna measurements on U.S.S. <i>Laffey</i> and U.S.S. <i>Woodworth</i> . Prepared by S. R. Radom, R. T. Brackett and R. B. Owens 1942 August 29
	General note
	No. R-16.   BuShips problem B3-12D.
Box 7, Folder 3	Antenna impedance measurements on U.S.S. <i>Wasp</i> . Prepared by R. V. Steppler, R. T. Brackett and R. B. Owens 1942 September 9
	General note
	No. R-17.   BuShips problem B3-12D.
Box 7, Folder 4	Radio hazard to security from small antenna voltages - Receiving antennas on U.S.S. <i>San Diego</i> , U.S.S. <i>Laffey</i> and U.S.S. <i>PC 570</i> . Prepared by S. R. Radom, R. T. Brackett and R. B. Owens 1942 September 11
	General note
	No. R-18.   BuShips problem R5-46CD.
Box 7, Folder 5	Model TBS antenna field patterns - U.S.S. <i>Crosby</i> , U.S.S. <i>Woodworth</i> and U.S.S. <i>Wahoo</i> . Prepared by C. W. Tirrell, R. T. Brackett and R. B. Owens 1942 September 16
	General note
	No. R-19.   BuShips problem W5-8D.
Box 7, Folder 6	Report on proposed herald locations - San Pedro harbor 1942 September 28
	General note
	No. S-6.
Box 7, Folder 7	Characteristics of antennas on U.S.S. <i>PC 487</i> , U.S.S. <i>PC 569</i> and U.S.S. <i>PC 570</i> . Prepared by C. W. Tirrell, R. T. Brackett and R. B. Owens 1942 October 5
	General note
	No. R-20.   BuShips problem B3-12D.
Box 7, Folder 8	Apparatus for determining radar blind zones. Prepared by R. V. Keeran, E. F. Kiernan, A. F. Deming and H. E. Reppert 1942 October 14
	General note
	No. WP-1.   BuShips problem X59CD.
Box 7, Folder 9	Radar wave propagation. Prepared by Lloyd Anderson, John B. Smyth, F. R. Abbott and Roger Revelle 1942 November 30
	General note
	No. WP-2.   BuShips problem X4-49CD.
Box 7, Folder 10	Investigation of surface ship wakes. Prepared by Norman J. Holter and Roger R. Revelle 1942 December 1 $$
	General note
	No. S-3.   BuShips problem U2-9C-D.
Box 7, Folder 11	Variation of airplane receiver response with distance and direction from the U.S.S. Long Island. Prepared by S. R. Radom, R. T. Brackett and R. B. Owens 1942 December 12
	General note
	No. R-21.   BuShips problem W5-8D.

Box 7, Folder 12	Antenna measurements on submarines of the Albacore class - U.S.S. <i>Wahoo</i> (SS 238), U.S.S. <i>Whale</i> (SS 239), U.S.S. <i>Sunfish</i> (SS 282). Prepared by R. V. Steppler, R. T. Brackett and R. B. Owens 1942 December 31
	General note
	No. R-22.   BuShips problem B3-12D.
Box 7, Folder 13	Electric razors as a radio hazard to security. Prepared by R. B. Owens 1943 January 22
	General note
	No. R-23.   BuShips problem R5-46CD.
Box 7, Folder 14	Survey of San Francisco harbor to determine the suitability of proposed locations for harbor defense installations. Prepared by C. R. Moe and J. O. Long 1943 January 23
	General note
	No. S-4.   BuShips problem U5-4DC.
Box 7, Folder 15	Survey of Puget Sound area - Report on the suitability of possible herald locations, strait of Juan de Fuca and Admiralty Inlet 1943 February 1
	General note
	No. S-5.   BuShips problem U5-4CD.
Box 7, Folder 16	Antenna measurements on the U.S.S. <i>Tunny</i> (SS 282). Prepared by R. T. Brackett and R. B. Owens 1943 February 2
	General note
	No. R-24.   BuShips problem B3-12D.
Box 7, Folder 17	Radio hazard to security resulting from receiver radiation from submarine antennas Summary of previous radio hazard data. Prepared by R. B. Owens 1943 February 3
	General note
	No. R-25.   BuShips problem R5-46CD.
Box 7, Folder 18	Report on radar wave propagation reflection of radar waves from targets of simple geometric form. Prepared by Lloyd Anderson, John B. Smyth and F. R. Abbott 1943 February 24
	General note
	No. WP-3.   BuShips problem X4-49CD.
Box 7, Folder 19	Antenna measurements on destroyers of the Bristol class. Prepared by C. W. Tirrell, R. T. Brackett and R. B. Owens 1943 February 27
	General note
	No. R-26.   BuShips problem B3-12D.
Box 7, Folder 20	Radiation field patterns of antennas on U.S.S. <i>Phelps</i> (DD 360). Prepared by R. V. Steppler, R. T. Brackett and R. B. Owens 1943 March 6
	General note
	No. R-27.   BuShips problem B3-12D.
Box 7, Folder 21	No. R-27.   BuShips problem B3-12D.  Radiation field patterns of antennas on U.S.S. Long Island (ACV 1) 1943 March 17
Box 7, Folder 21	

Box 7, Navy Radio and Sound Laboratory. Sound Division. Bi-weekly reports 1-55 1943 Folder 22-24 March 6-1945 June 9 **General note** NRSL report no. ND11/NP22/S68 Serial C-RS-657, 675, 700, 729, 747, 758, 776, 802, 820, 833, 854, 872, 890, 901, 923, 938, 950, 968, 988, 1010, 1021, 1033, 1053, 1064, 1085, 1106, 1128, 1139, 1152, 1174, 1188, 1209, 1235, 1252, 1264, 1286, 1293, 1342, 1353, 1406, 1424, 1438, 1453, 1470, 1490, 1504, 1522, 1540, 1548, 1579, 1593, 1611, 1646, 1701, 1765. Box 7, Folder 25 Recording tide current meter. Prepared by Don D. Dressen, Waldo K. Lyon and Chesney R. Moe 1943 May 1 **General note** No. S-7. Box 7. Folder 26 Graphical construction of a radar radiation pattern in a stratified atmosphere. Prepared by Lloyd Anderson and F. R. Abbott 1943 May 1 **General note** No. WP-4. | BuShips problem X4-49CD. Box 7. Folder 27 Directivity in shipboard antennas - Summary of observations to April 1943. Prepared by R. T. Brackett and R. B. Owens 1943 May 4 **General note** No. R-29. | BuShips problem B3-12D. Box 7. Folder 28 Report on radar wave propagation atmospheric refraction - A qualitative investigation. Prepared by Lloyd Anderson and John B. Smyth 1943 May 7 General note No. WP-5. | BuShips problem X4-49CD. Box 7, Folder 29 Roll and pitch corrector and attack plotter for use with echo ranging equipment. Prepared by Robert M. Sherwood 1943 May 22 **General note** No. S-8. | BuShips problem U11CD. Box 7. Folder 30 Geometry of surface wakes and experiments on artificial wakes. Prepared by Norman J. Holter 1943 May 22 **General note** No. S-10. | BuShips problem U2-9CD. Box 7, Folder 31 Antenna installations for fighter-director communication on auxiliary aircraft carriers - Performance and progress toward improvement. Prepared by S. R. Radom and R. B. Owens 1943 May 27 **General note** No. R-30. | BuShips problem W5-8D. Box 7, Folder 32 Surveys for harbor underwater detection equipment in the fourteenth naval district. Prepared by Jess O. Long 1943 June 23 General note

No. S-9. | BuShips problem U5-4CD.

Box 7, Folder 33 Simple methods of determining directivity characteristics of shipboard antennas by the use of aircraft. Prepared by S. R. Radom, C. W. Tirrell and R. B. Owens 1943 July General note No. R-31. | BuShips problem B3-12D. Box 7. Folder 34 Antenna measurements on U.S.S. Doherty (DE-14). Prepared by R. V. Steppler, C. W. Tirrell and R. B. Owens 1943 August 17 General note No. R-32. | BuShips problem B3-12D. Box 7. Folder 35 Directivity characteristics of antennas on the submarine chaser U.S.S. SC 1003. Prepared by S. R. Radom, C. W. Tirrell and R. B. Owens 1943 August 24 **General note** No. R-33. | BuShips problem B3-12D. Box 7. Folder 36 Characteristics of antennas on the submarines U.S.S. Tinosa (SS 283), U.S.S. Tullibee (SS 284), U.S.S. Seahorse (SS 304), and U.S.S. Skate (SS 305). Prepared by C. W. Tirrell and R. B. Owens 1943 September 15 General note No. R-34. | BuShips problem B3-12D. Box 7, Folder 37 Optical sound bearing system. Prepared by Robert M. Sherwood, Robert J. Urick and Waldo K. Lyon 1943 September 20 General note No. S-11. | BuShips problem U5-4CD. Box 7, Folder 38 Magnetic detection loops and acoustic survey Fort Worden, Washington. Prepared by J. O. Long 1943 September 28 General note No. S-12. | BuShips problem U5-4CD. Box 7. Folder 39 Radiation and impedance characteristics of various types of whip antennas and installed on wooden SC boats. Prepared by J. L. Olsen and C. W. Tirrell 1943 October 18 **General note** No. R-35. | BuShips problem B19CD. Box 7. Folder 40 Sound transmission loss through and thickness of the wakes of anti-submarine vessels. Prepared by N. J. Holter 1943 November 22 **General note** No. S-13. | BuShips problem U2-9DC. Box 7. Folder 41 Model SB radar equipment - Life and performance tests. Prepared by H. E. Bryan and H. E. Reppert 1943 November 23 **General note** No. X-1. | BuShips problem X160CD. Box 7. Folder 42 Directivity characteristics of the new antennas on the U.S.S. Nassau (CVE 16). Prepared by S. R. Radom and C. W. Tirrell 1943 November 25 **General note** No. R-36. | BuShips problem B3-12D.

Box 7, Folder 43	Radar ray patterns associated with normal and anomalous, propagation conditions. Prepared by F. P. Dane, R. U. F. Hopkins and L. J. Anderson 1943 December 10
	General note
	No. WP-6.   BuShips problem X4-49CD.
Box 7, Folder 44	Measurement of radar wave refraction and associated meteorological conditions.  Prepared by L. J. Anderson and L. G. Trolese 1943 December 10
	General note
	No. WP-7.   BuShips problem X4-49CD.
Box 7, Folder 45	Rapid reduction of meteorological data to index of refraction at radar frequencies. Prepared by L. J. Anderson and F. R. Abbott 1943 December 10
	General note
	No. WP-8.   BuShips problem X4-49CD.
Box 7, Folder 46	Transmission of plane waves through a single stratum separating two media.  Prepared by J. B. Smyth and F. R. Abbott 1943 December 22
	General note
	No. WP-9.   BuShips problem X4-49CD.
Box 7, Folder 47	Dynamics and vibration of Mark IV 22 MM gun. Reticle image vibration in Mark XIV gun sight. Prepared by Earl F. Kiernan and Waldo K. Lyon 1944 February 24
	General note
	No. S-14.
Box 7, Folder 48	Sono optical recorder service tests. Prepared by R. M. Sherwood and W. K. Lyon 1944 February 27
	General note
	No. S-15.   BuShips problem U2-8D.
Box 7, Folder 49	Mechanical determination of the path difference of rays subject to discontinuities in the vertical gradient of refractive index. Prepared by F. R. Abbott 1944 March 10  General note
	No. WP-10.   BuShips problem X4-49CD.
Box 7, Folder 50	Instruction memorandum on CW modification for type 896 fathometer U.S.S. <i>Midway</i> (CVE-63) 1944 March 15
Box 7, Folder 51	Antenna directivity patterns and influence of radar training on TBS patterns - U.S.S. <i>Irwin</i> (DD-794). Prepared by R. T. Brackett 1944 April 8
	General note
	No. R-37.   BuShips problem B3-12D.
Box 7, Folder 52	Procedure and charts for estimating the low level coverage of shipborne 200 MCS radars under conditions of pronounced refraction. Prepared by F. R. Abbott, L. J. Anderson, F. P. Dane, J. P. Day, R. U. F. Hopkins, J. B. Smyth, L. G. Trolese and Ens. A. P. D. Stokes 1944 May 10
	General note
	No. WP-11 (Rev.).   BuShips problem X4-49CD.
Box 7, Folder 53	Employment of a ship's mast as a shunt excited antenna - Some measurements aboard vessels of the frigate type. Prepared by R. T. Brackett 1944 May 25
	General note
	No. R-38.   BuShips problem B3-12D.

Box 7, Folder 54	Antenna directivity patterns and influence of radar training on TBS patterns - U.S.S. Orca (AVP-49). Prepared by R. T. Brackett 1944 May 29
	General note
	No. R-39.   BuShips problem B3-12D.
Box 7, Folder 55	Calibration and standardization of land based radars by the use of small plane targets. Prepared by F. R. Abbott 1944 June 10
	General note
	No. WP-12.   BuShips problem No. X4-49CD.
Box 7, Folder 56	Transmission of plane waves through a single stratum separating two media - Part II.  Prepared by J. B. Smyth and F. R. Abbott 1944 June 23
	General note
	No. WP-13.   BuShips problem No. X4-49CD.
Box 7, Folder 57	Radar operator's training equipment. Prepared by C. H. Freres, H. E. Bryan, B. G. Ward and R. V. Keeran 1944 July 7
	General note
	No. X-2.
Box 7, Folder 58	Antenna directivity patterns on U.S.S. <i>Tang</i> (SS-306) and U.S.S. <i>Spadefish</i> (SS-411) with experimental measurements on whip antenna extension to radarscope antenna system on U.S.S. <i>Spadefish</i> (SS-411). Prepared by R. V. Steppler and R. T. Brackett 1944 July 19
	General note
	No. R-40.   BuShips problem No. B3-12D.
Box 7, Folder 59	Rotating hydrophone audio torpedo detector. Prepared by L. L. Morse 1944 July 19
	General note
	No. S-16.   BuShips problem No. U13-CD.
Box 7, Folder 60	Measurements of the horizontal thermal structure of the ocean. Prepared by Norman J. Holter 1944 August 18
	General note
	No. S-17.   BuShips problems No. U4-1CD, U2-9CD.
Box 7, Folder 61	Antenna directivity patterns on U.S.S. <i>Petrof Bay</i> (CVE 80) TBK, TBL and TDE whip and VHF antennas. Prepared by R. V. Steppler 1944 August 23
	General note
	No. R-41.   BuShips problem No. B3-12D.
Box 7, Folder 62	Antenna directivity patterns for U.S.S. <i>Halloran</i> (DE-305) - Comparison between nearby and remote transmissions, effect of radar training Upon TBS patterns. Prepared by R. T. Brackett 1944 August 30
	General note
	No. R-42.   BuShips problem No. B3-12D.
Box 7, Folder 63	An Acoustic interferometer for the measurement of sound velocity in the ocean. Prepared by R. J. Urick 1944 September 18
	General note
	No. S-18.   BuShips problem No. U4-1CD.

Box 7, Folder 64	Antenna directivity patterns of U.S.S. <i>Trepang</i> (SS 412) and submarine and frigate shunt excited superstructure radiation measurements. Prepared by R. V. Steppler 1944 October 12
	General note
	No. R-43.   BuShips problem No. B3-12D.
Box 7, Folder 65	Predicted low level coverage of S-band shipborne radars as affected by weather.  Prepared by L. L. Whittemore, L. W. Cross, E. J. Wyrostek and F. R. Abbott 1944  November 1  General note
	No. WP-N4.   BuShips problem No. X4-49CD.
Box 7, Folder 66	Predicted low level coverage of 200 MCS band shipborne radars as affected by weather. Prepared by L. L. Whittemore, L. W. Cross, E. J. Wyrostek and F. R. Abbott 1944 November 4
	General note
	No. WP-15.   BuShips problem No. X4-49CD.
Box 7, Folder 67	Wired sonde equipment for high altitude soundings. Prepared by L. J. Anderson 1944 November 17
	General note
	No. WP-16.   BuShips problem No. X4-49CD.
Box 7, Folder 68	Identification of projectile fragments for the Anti-Aircraft Training Center, Pacific Beach, California. Prepared by C. H. Milligan and W. K. Lyon 1944 December 16
	General note
	No. S-19.
Box 7, Folder 69	Atmospheric refraction - A preliminary quantitative investigation. Prepared by L. J. Anderson, F. P. Dane, J. P. Day, R. F. Hopkins, L.G. Trolese and Lt. (JG) A. P. D. Stokes 1944 December 28
	General note
	No. WP-17.   BuShips problem No. X4-49CD.
Box 7, Folder 70	Theory, design and construction of a remote antenna tuning unit frequency range: 2.0 to 18.2 MCS. Prepared by J. L. Olsen and C. W. Tirrell 1944 December 30
	General note
	No. R-44.   BuShips problem No. T-100CD.
Box 7, Folder 71	Thermal wake detection. Prepared by David H. Garber, Robert J. Urick and Joseph Cryden 1945 January 12
	General note
	No. S-20.
Box 7, Folder 72	Atmospheric waves fluctuations in high frequency radio waves. Prepared by J. B. Smyth and L. G. Trolese 1945 February 1
	General note
	No. WP-18.   BuShips problem No. X4-49CD.
Box 7, Folder 73	Atmospheric refraction under conditions of a radiation inversion. Prepared by L. J. Anderson, J. P. Day, C. H. Freres, R. U. F. Hopkins, J. B. Smyth and A. P. D. Stokes 1945 April 21
	General note
	No. WP-19.   BuShips problem No. X4-49CD.

Box 7, Folder 74	A Note on the resistance of electric hygrometer elements. Prepared by L. J. Anderson and S. T. Stephenson 1945 May 8  General note  No. AERO-1.
Box 7, Folder 75	Summary of discussion at Navy Radio and Sound Laboratory on Bureau of Ships problem B22RD "Ship Type Antenna Systems" 1945 June 4-5  General note  BuShips problem No. B22-RD.
Box 7, Folder 76	A/S detection in harbor defense - Analysis of operational tests at Puget Sound 1946 June 6
Box 7, Folder 77	Bathythermograph pen lifting attachment and expanded scale bathythermograph.  Prepared by F. Kelly Eccles, Robert M. Sherwood and Waldo K. Lyon 1945 June 7  General note  No. S-21.   BuShips problem No. S68 (U2-9CD).
Box 7, Folder 78	K-band attenuation due to rainfall. Prepared by L. J. Anderson, J. P. Day, L. G. Trolese, C. H. Freres, A. P. D. Stokes and J. B. Smyth 1945 June 8  General note  No. WP-20.   BuShips problem No. X4-49SD.
Box 7, Folder 79	Panoramic recorder (Small object detector and plotter). Prepared by Louis E. Smith, Earl F. Kiernan and Waldo K. Lyon 1945 July 3  General note  No. S-22.   BuShips problem No. S68 (U5-4CD).
Box 7, Folder 80	Improvements in USNRSL meteorological sounding equipment. Prepared by L. J. Anderson, S. T. Stephenson and A. P. D. Stokes 1945 July 3  General note  No. WP-21.   BuShips problem No. X4-49CD.
Box 7, Folder 81	Test of radar beacons. Prepared by R. V. Keeran and H. E. Bryan 1945 August 4 General note No. R-45.   BuShips problem No. X-161CD.
Box 7, Folder 82 Box 7, Folder 83	U.S. Navy Radio and Sound Laboratory - Quarterly Report 1945 September Some measurements of humidity, temperature, and refractive index gradients immediately above the ocean. Prepared by S. T. Stephenson 1945 September 12  General note  No. WP-22.   BuShips problem No. X4-49CD.
Box 7, Folder 84	Remote monitoring of transponder beacons. Prepared by H. E. Bryan, R. R. McFadden and B. G. Ward 1945 September 17  General note  No. R-46.   BuShips problem No. X159CD.
Box 7, Folder 85	Radar - MK III IFF - Modification of BM equipment suppressor pulse circuits. Prepared by F. W. Schott 1945 September 18  General note  No. R-47.   BuShips problem No. X-167CD.

Box 7, Folder 86	Sonic radio-link wave height meter. Prepared by L. E. Smith 1945 October 1
	General note
	No. S-25.   BuShips problem No. U24CD.
	NAVY ELECTRONICS LABORATORY INTERNAL TECHNICAL MEMORANDA
	Scope and Contents of Series
	Series 5) NAVY ELECTRONICS LABORATORY INTERNAL TECHNICAL MEMORANDA: Arranged chronologically.
Box 8, Folder 1	Acoustic traveling waves in rods as directive elements for underwater sound applications. Prepared by Theory and Applied Physics staff 1952 January 24
	General note
	No. 9.   NE 121401.   Subtask 1.   Problem NEL-2A8.
Box 8, Folder 2	Transmitting angular position data using phase shifting capacitors. Prepared by A. F. Bowen 1952 March 24
	General note
	No. 2.   NE 130711.   Problem NEL-6F1.
Box 8, Folder 3	Temperatures in the vicinity of an atomic explosion. Prepared by Joseph J. Marciano 1952 March 24
	General note
	No. 8.   Problem NEL-3H4a.
Box 8, Folder 4	A Study of the effect of carrier frequency drift on AC lead networks. Prepared by C. T. Kleiner 1952 March 28
	General note
	No. 4.   NE 130711.   Problem NEL-6F1.
Box 8, Folder 5	Further developments in selective spectrum lighting. Prepared by Max W. Lund 1952 April 1 $$
	General note
	No. 7.   NE 121303.   Subtask 2.   Problem NEL-3B2c.
Box 8, Folder 6	A Method for determining the optimum ratios for radar aided tracking mechanisms. Prepared by J. H. Poirier 1952 April 2
	General note
	No. 11.   NE 081412.   Subtask 1.   Problem NEL-6M5.
Box 8, Folder 7	Investigation of simulated blind flying equipment. Prepared by C. T. White and Paul G. Cheatham 1952 April 30
	General note
	No. 10.   NE 121303.   Subtask 3.   Problem NEL-3B3.
Box 8, Folder 8	Remote indicating system for a shaft position. Prepared by Howard L. Newman 1952 May 1 $$
	General note
	No. 3.   NE 051456.   Subtask 7.   Problem NEL-3C8.
Box 8, Folder 9	Thyration speed control servo. Prepared by N. H. Kennedy 1952 June 14
	General note
	No. 18.   NE 121303.   Subtask 3.   Problem NEL-3B2.

Box 8, Folder 10	A Mechanical transformer to increase the low frequency response of a condenser hydrophone and allow deep submergence. Prepared by Donald H. Robey 1952 June 18
	General note
	No. 12.   NE 951248.   Subtask 2.   Problem NEL-2C1.
Box 8, Folder 11	Human engineering aspects of the Boreader film reader. Prepared by Wesley E. Woodson 1952 July 1
	General note
	No. 13.   NE 081412.   Subtask 1.   Problem NEL-3B2b.
Box 8, Folder 12	Human engineering aspects of the sonar set AN/SQG-1. Prepared by Wesley E. Woodson 1952 July 1
	General note
	No. 15.   NE 121303.   Subtask 3.   Problem NEL-3B1.
Box 8, Folder 13	A Phasing system for directive radiation from a disordered assemblage of radiating elements. Prepared by F. R. Abbott 1952 July 2
	General note
	No. 14.   NE 121401.   Subtask 1.   Problem NEL-2A8.
Box 8, Folder 14	Conclusions of the task group for the Anti-Submarine Technical Evaluation Center (ASTEC). Prepared by C. M. Beyer, F. G. Fisher, D. W. Conover, W. P. Mitchel and C. C. Cram 1952 July 11
	General note
	No. 21.   NE 051240.   Subtask 1.   Problem NEL-5M2.
Box 8, Folder 15	Receiver antenna and tuning control servo amplifier. Prepared by N. H. Kennedy 1952 July 14
	General note
	No. 16.   NE 020149.   Subtask 1.   Problem NEL-2D12.
Box 8, Folder 16	D. C. controlled thyration servo amplifier. Prepared by N. H. Kennedy 1952 July 14  General note
	No. 17.   NE 060909.   Subtask 1.   Problem NEL-3C3.
Box 8, Folder 17	Evaluation tests on the automatic range-tracking servo system of the AN/KPQ-1 (XG-1) radar (Modified). Prepared by G. M. Dodd and N. H. Kennedy 1952 July 14
	General note
	No. 19.   NE NC062411.   Problem NEL-3E2.
Box 8, Folder 18	Automatic range and bearing of random targets with spherical acoustic lens.  Prepared by W. J. Toulis 1952 July 14
	General note
	No. 20.   NE 121401.   Subtask 1.   Problem NEL-2A7.
Box 8, Folder 19	Comparison of sonar systems for the detection of bottomed mines. Prepared by E. S. Lamar and P. H. Miller 1952 August 1 $$
	General note
	No. 22.   NE 091206.   Subtask 1.   Problem NEL-2M1.

Box 8, Folder 20	Radar navigation and shore bombardment trainer - AN/SPN-T1 (XG-1). Prepared by S. W. Pethley 1952 August 1
	General note
	No. 23.   Problem NEL-2F8.
Box 8, Folder 21	The Philosophy of systems development and its role in the research & development laboratory. Prepared by R. O. Burns 1952 August 1
	General note
	No. 24.   Problem NEL-3Z1.
Box 8, Folder 22	The Transmission of sound through sandwiches. Prepared by R. E. Gaskell 1952 August 13
	General note
	No. 25.   NE 051248.   Subtask 2.   Problem NEL-2C1.
Box 8, Folder 23	A Simplified method of deducing the influence of errors on the effectiveness of a system. Prepared by K. J. Friedenthal 1952 August 13
	General note
	No. 26.   NE 091206.   Subtask 1.   Problem NEL-6M2.
Box 8, Folder 24	Relative contributions to JT sonar self-noise on U.S.S. <i>Bluegill</i> from propeller, hydrophone motion, auxiliaries and vibration. Prepared by C. J. Krieger 1952 August 14
	General note
	No. 27.   NE 121401.   Subtask 1.   Problem NEL-2A8.
Box 8, Folder 25	Pressure-volume relationship for corprene and celltite rubber. Prepared by Dee J. Fraughton 1952 August 29
	General note
	No. 31.   NE 051248.   Subtask 2.   Problem NEL-2C2.
Box 8, Folder 26	Theory of the effect of a magnetic field on the phase velocity of sound in electrically conducting plates. Prepared by Donald H. Robey 1952 September 1
	General note
	No. 60.   NE 051248.   Subtask 2.   Problem NEL-2C1.
Box 8, Folder 27	NEL repairable plug-in package unit. Prepared by Robert H. Harwood 1952 September 9
	General note
	No. 28.   NE 051334.   Subtask 1.   Problem NEL-3F7.
Box 8, Folder 28	The Rectifying property of polarized barium titanate. Prepared by Donald L. Waidelich 1952 September 12
	General note
	No. 30.   NE 051248.   Subtask 2.   Problem NEL-2C1.
Box 8, Folder 29	Human engineering aspects of the sonar set AN/UQX-4. Prepared by Richard Coburn 1952 September 12
	General note
	No. 39.   NE 121303.   Subtask 3.   Problem NEL-3B1.
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Box 8, Folder 30	Target visibility on the dark-trace CRT as a function of ambient illumination.
	Prepared by C. T. White 1952 September 15
	General note
	No. 29.   NE 121303.   Subtask 3.   Problem NEL-3B2.
Box 8, Folder 31	Study of bottom reflection losses for underwater sound. Prepared by K. V. Mackenzie 1952 September 24
	General note
	No. 32.   NE 120221.   Subtask 3.   Problem NEL-2A1.
Box 8, Folder 32	The Necessary relations between sound propagation in sea water and electromagnetic phenomena. Prepared by J. M. Stroud 1952 September 29
	General note
	No. 33.   NE 121303.   Subtask 3.   Problem NEL-3B1.
Box 8, Folder 33	Brightness enhancement of a flashing red light. Prepared by M. Lichtenstein, D. Conover and P. Hamilton 1952 October 1
	General note
	No. 41.   NE 121303.   Subtask 3.   Problem NEL-3B1.
Box 8, Folder 34	Time and the brain. Prepared by John M. Stroud 1952 October 6
	General note
	No. 34.   NE 121303.   Subtask 3.   Problem NEL-3B2.
Box 8, Folder 35	Human engineering aspects of the sonar set AN/SQS-7. Prepared by Richard Coburn 1952 October 6
	General note
	No. 38.   NE 121303.   Subtask 3.   Problem NEL-3B1.
Box 8, Folder 36	Improving stability of toroidal coils. Prepared by Allen T. Steinkamp 1952 October 7  General note
	No. 35.   NE 020149.   Subtask 1.   Problem NEL-2D12.
Box 8, Folder 37	Continuous transmission (FM) mine detection sonar model XHB. Prepared by A. H. Roshon Jr. 1952 October 8
	General note
	No. 36.   NE 051456.   Subtask 7.   Problem NEL-3C8.
Box 8, Folder 38	Cycling "on-off" timer. Prepared by J. L. Leonard and C. E. Cunningham 1952 October 15
	General note
	No. 37.
Box 8, Folder 39	Sonic power transmission detection on vibrating structures. Prepared by George M. Coleman 1952 October 27
	General note
	No. 45.   NE 121401.   Subtask 1.   Problem NEL-2A7.
Box 8, Folder 40	Modulated auto correlation functions as a secure intelligence handling technique - Proposal. Prepared by John M. Stroud 1952 October 28
	General note
	No. 40.   NE 121303.   Subtask 3.   Problem NEL-3B3.

Box 8, Folder 41	Human engineering aspects of the sonar set AN/SQS-9. Prepared by W. E. Woodson and Richard Coburn 1952 October 28
	General note
	No. 42.   NE 121303.   Subtask 3.   Problem NEL-3B1.
Box 8, Folder 42	An Approach to system error analysis. Prepared by L. V. Mclean 1952 November 6
	General note
	No. 43.   NE 091206.   Subtask 1.   Problem NEL-6M2.
Box 8, Folder 43	A Motion picture camera of simple design which is effectively shutterless. Prepared by John M. Stroud 1952 November 10
	General note
	No. 44.   NE 121303.   Subtask 3.   Problem NEL-3B2.
Box 8, Folder 44	Instrumentation for the determination of the phase relation between blade position and ship propeller cavitation. Prepared by C. J. Krieger and R. S. Gales 1952 November 25
	General note
	No. 49.   NE 121401.   Subtask 1.   Problem NEL-2A7.
Box 8, Folder 45	Hydrophone system calibration at the Point Sur Sofar station. Prepared by R. Halley and O. W. Schreiber 1952 December 5
	General note
	No. 46.   NE 121401.   Subtask 1.   Problem NEL-2A8.
Box 8, Folder 46	An Investigation of focusing within the deep sound channel-off Point Sur. Prepared by R. M. Zarnowitz 1952 December 10
	General note
	No. 47.   NE 120221.   Subtask 3.   Problem NEL-2A5.
Box 8, Folder 47	An Electromechanical system for evaluating vibration-measuring instruments.  Prepared by R. A. Rasmussen 1952 December 30
	General note
	No. 48.   NE 121401.   Subtask 1.   Problem NEL-2A7.
Box 8, Folder 48	A Study of the spectrum of ship propeller noise. Prepared by C. J. Krieger 1953 January 7
	General note
	No. 50.   NE 121401.   Subtask 1.   Problem NEL-2A8.
Box 8, Folder 49	Low-frequency array phasing systems using vibrations or magnetic recording media
	as delay devices. Prepared by C. J. Krieger and F. R. Abbott 1953 January 12 General note
	No. 56.   NE 121401.   Subtask 1.   Problem NEL-2A8.
Box 8, Folder 50	A Cross-polarization technique for lighting control. Prepared by C. T. White and J. F. Bryant 1953 January 15  General note
	No. 51.   NE 121303.   Subtask 3.   Problem NEL-3B2C.
Box 8, Folder 51	Trip report - Travel to Washington, D.C. and United Kingdom. Prepared by R. M. Sherwood 1953 January 15
	General note
	No. 64.   NE NS 713217.   Subtask 4.   Problem NEL-2A8d.

Box 8, Folder 52 Relative to true bearing servo system. Prepared by A. F. Bowen 1953 January 19 **General note** No. 52. | NE 051456. | Subtask 3. | Problem NEL-3M2. Box 8. Folder 53 An Application of the single-sideband suppressed carrier system for the conversion from low to high audio frequency signals with phase preservation. Prepared by Jack Wong 1953 January 19 **General note** No. 57. | NE 121401. | Subtask 1. | Problem NEL-2A8. Box 8. Folder 54 Low frequency electric and magnetic energy transfer in sea water. Prepared by E. R. Abbott 1953 January 28 **General note** No. 53. | NE 121401. | Subtask 1. | Problem NEL-2A8. Box 8. Folder 55 Prefabricated panel-sections as a standardized packaging technique. Prepared by Richard Coburn 1953 February 2 **General note** No. 54. | NE 121303. | Subtask 3. | Problem NEL-3B1. Box 8, Folder 56 Human considerations in the design of the radar indicator, AN/SPA-12. Prepared by Richard Coburn 1953 February 3 **General note** No. 55. | NE 121303. | Subtask 3. | Problem NEL-3B1. Box 8. Folder 57 Survey of automatic data reduction methods. Prepared by Harold D. Dickstein 1953 February 4 **General note** No. 58. | NE 010921. | Subtask 4. | Problem NEL-5D2a. Box 8, Folder 58 A Comparison of performance rating and auditor test scores of submarine sonar operators. Prepared by John C. Webster 1953 February 12 **General note** No. 59. | NE 121303. | Subtask 1. | Problem NEL-1B1. Box 8, Folder 59 Configurational analysis. Prepared by Douglas G. Ellison 1953 February 16 No. 61. | NE 121303. | Subtask 3. | Problem NEL-3B2. Box 8. Folder 60 Own ship position solver. Prepared by A. F. Bowen 1953 February 25 **General note** No. 63. | NE 051456. | Subtask 7. | Problem NEL-3M2. Box 8. Folder 61 Mortar location computer. Prepared by Norman H. Kennedy 1953 February 25 **General note** No. 66. | NE NC 062411. | Problem NEL-3E2. Box 8, Folder 62 Proposed interim modification of the AN/SSQ-T2 (XG-1) CIC/PGDS, to meet urgent ASW dual ship training needs at the CIC/TTC, San Diego. Prepared by Rubin Goldberg 1953 February 26 **General note** No. 65. | NE 051336. | Subtask 2. | Problem NEL-2H5.

Box 8, Folder 63	Some signals of seismic origin received at Pacific Sofar stations. Prepared by M. J. Sheehy 1953 March 3
	General note
	No. 62.   NE 120221.   Subtask 1.   Problem NEL-2A11.
Box 8, Folder 64	Use of Arma type B and type G resolvers. Prepared by A. F. Bowen 1953 March 17
	General note
	No. 69.   NE 130711.   Subtask 4.   Problem NEL-6F1.
Box 8, Folder 65	The Transmission of sound through a three layer sandwich. Prepared by D. H. Potts 1953 March 18
	General note
	No. 68.   NE 051248.   Subtask 2.   Problem NEL-2C1.
Box 8, Folder 66	Experimental verification of mathematically predicted performance of several heterodyne auto-correlators. Prepared by W. E. Klund 1953 March 18
	General note
	No. 72.   NE 041216.   Subtask 1.   Problem NEL-3C7d.
Box 8, Folder 67	Arc-over of heater terminals in the temperature-humidity altitude chambers - Experiments on cause and prevention of. Prepared by Bernard L. Lieb 1953 March 24
	General note
	No. 70.
Box 8, Folder 68	Preliminary information on the influence of input errors on the effectiveness of an A/S attack system. Prepared by R. A. Mueller and K. J. Friedenthal 1953 March 30
	General note
	No. 67.   NE 091206.   Subtask 1.   Problem NEL-6M2.
Box 8, Folder 69	Summary of sea experiments August 1952 to March 1953. Prepared by Knute J. Takle and Richard J. Derenthal 1953 April 1
	General note
	No. 83.
Box 8, Folder 70	Operational tests of two types of linear array hydrophones. Prepared by J. C. Rock 1953 April 14
	General note
	No. 108.   NE 120221.   Subtask 3.   Problem NEL-2A1.
Box 8, Folder 71	An Isolation amplifier for large signals. Prepared by Glen M. Dodd 1953 April 17
	General note
	No. 71.   NE 130711.   Subtask 4.   Problem NEL-6F1.
Box 8, Folder 72	A 60-Cycle phase sensitive demodulator for the brush recorder. Prepared by Z. H. Blankers 1953 April 17
	General note
	No. 73.   NE 130711.   Subtask 4.   Problem NEL-6F1.
Box 8, Folder 73	Proposed functional requirements and training: Considerations for the evaluation of the radar navigation and shore bombardment trainer AN/SPN-T1 (XG-1). Prepared by
	Rubin Goldberg 1953 April 23
	Rubin Goldberg 1953 April 23 General note

Box 8, Folder 74	Study of hydrodynamic equations of ship's motion. Prepared by Robert L. Ogram 1953 April 28
	General note
	No. 76.
Box 8, Folder 75	A Proposal for a coordinated NEL program on low-frequency sonar. Prepared by R. A. Mueller, K. V. Mackenzie and F. X. Byrnes 1953 May 1
	General note
	No. 75.
Box 8, Folder 76	Interim modification of the AN/SSQ-T2 (XG-1) CIC problem generator and display system. Prepared by R. L. Ogram 1953 May 14
	General note
	No. 81.   NE ST-22.   Problem NEL-2H8.
Box 8, Folder 77	Variable resonant transducer. Prepared by Donald H. Robey 1953 May 28
	General note
	No. 86.   NE 051248.   Subtask 2.   Problem NEL-2C1.
Box 8, Folder 78	Some modulator techniques for producing short pulses in high powered magnetrons. Prepared by Thomas J. Parker 1953 June 1
	General note
	No. 77.   NE 050632.   Subtask 1.   Problem NEL-3E1c.
Box 8, Folder 79	Horizontal refraction at the sound channel-axis in the deep Bering Sea. Prepared by R. M. Lesser and R. M. Zarnowitz 1953 June 1
	General note
	No. 78.   NE 120221.   Subtask 3.   Problem NEL-2A5.
Box 8, Folder 80	Identities between elastic constants for isotropic solids. Prepared by J. F. Haskins 1953 June 1
	General note
	No. 79.   NE 051248.   Subtask 2.   Problem NEL-2C1.
Box 8, Folder 81	Calibration of electroacoustic transducers: Computation of characteristics from test data. Prepared by Ellen S. Stewart 1953 June 1
	General note
	No. 80.   NE 051248.   Subtask 2.   Problem NEL-2C3.
Box 8, Folder 82	Some measurements of sound output levels and listening thresholds of underwater swimmers. Prepared by R. M. Ady 1953 June 5
	General note
	No. 82.   NE 051456.   Subtask 1.   Problem NEL-3C10.
Box 8, Folder 83	CIC team training center to Navy Electronics Laboratory radar distribution equipment. Prepared by H. C. Kerr Jr. and H. F. Reiden 1953 June 5
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Box 8, Folder 84	Structural elements for use in rapid mockup construction. Prepared by Fred G. Henry 1953 June 12
	General note
	No. 85.   NE 1221303.   Subtask 3.   Problem NEL-3B1d.

Box 8, Folder 85	Some theoretical aspects of low frequency moving coil transducer design for deep submergence. Prepared by D. H. Robey 1953 June 15
	General note
	No. 118.   NE 051248.   Subtask 2.   Problem NEL-2C1.
Box 8, Folder 86	Color and pattern coding as applied to large opaque plotting surfaces. Prepared by Carroll T. White and Wesley E. Woodson, Jr. 1953 June 16
	General note
	No. 88.   NE 121303.   Subtask 3.   Problem NEL-3B1.
Box 8, Folder 87	Electronic data correlator and computer. Prepared by Harold R. Ahrens 1953 June 22
	General note
	No. 87.   NE 120308.   Subtask 1.   Problem NEL-1A1.
Box 8, Folder 88	Linearized hyperbolic transducer. Prepared by A. A. Hudimac and J. J. Barry 1953 June 30
	General note
	No. 90.   NE 051247.   Subtask 4.   Problem NEL-2A10.
Box 8, Folder 89	A Novel gated marker circuit. Prepared by George D. Jensen 1953 July 1 General note
	No. 89.   NE 050632.   Subtask 1.   Problem NEL-3E1d.
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Box 8, Folder 90	Application of correlation techniques to secure sonar communication. Prepared by Woodrow H. Littrell 1953 July 8
	General note
	No. 91.   NE 041216.   Subtask 1.   Problem NEL-3C7c.
Box 8, Folder 91	Human engineering rationale in scale design. Prepared by M. Lichtenstein and W. E. Woodson 1953 July 16
	General note
	No. 92.   NE 121303.   Subtask 3.   Problem NEL-3B1.
Box 8, Folder 92	A Human engineering evaluation of an experimental dial index design. Prepared by M. Lichtenstein and W. E. Woodson 1953 July 27
	General note
	No. 94.   NE 121303.   Subtask 1.   Problem NEL-3B1a.
Box 8, Folder 93	A Method of recording high speed data on magnetic tape at low forward tape velocities. Prepared by John P. Day 1953 July 30
	General note
	No. 93.   NE 120308.   Subtask 1.   Problem NEL-1A1.
Box 8, Folder 94	Effect of velocity gradient conditions at Carr Inlet on sound intensity distribution.  Prepared by Frances A. Dahm 1953 August 1
	General note
	No. 96.   NE NS713-217.   Subtask 4.   Problem NEL-2A8d.
Box 8, Folder 95	Impedance of a rigid piston in an infinite rectangular array of pistons. Prepared by A. A. Hudimac 1953 August 10
	General note
	No. 95.   NE 121401.   Subtask 1.   Problem NEL-2A8.

Box 8, Folder 96	Magnetic delay device using magnetic cylinder and gears. Prepared by C. J. Krieger 1953 August 18
	General note
	No. 102.   NE 121401.   Subtask 1.   Problem NEL-2A8.
Box 8, Folder 97	Flutter in lightweight recording. Prepared by S. H. Sessions and E. F. Travis 1953 September 8
	General note
	No. 98.   Problem NEL-7Z1.
Box 8, Folder 98	Multi-display tube and readout device (Laminated, glow-discharge type). Prepared by Edwin W. Smith 1953 September 8
	General note
	No. 100.   NE 121303.   Subtask 3.   Problem NEL-3B1.
Box 8, Folder 99	Enhancement of signals on a ground-stabilized display scope. Prepared by P. J. Himes 1953 September 14
	General note
	No. 99.   NE 051456.   Subtask 3.   Problem NEL-3M2.
Box 8, Folder 100	The Theoretical design of blocking oscillator circuits. Prepared by Thomas J. Parker 1953 September 21
	General note
	No. 97.   NE 050632.   Subtask 1.   Problem NEL-3E1d.
Box 8, Folder 101	Automatic shaft position data encoder. Prepared by Harold D. Dickstein 1953 October 1
	General note
	No. 101.   NE 010921.   Subtask 4.   Problem NEL-5D2a.
Box 8, Folder 102	Simple matrix algebra applied to transistor circuits. Prepared by James C. Sampson 1953 October 1
	General note
	No. 103.   NE 130711.   Subtask 4.   Problem NEL-6F1.
Box 8, Folder 103	Two dimensional electrical delay networks. Prepared by F. R. Abbott 1953 October 6 General note
	No. 106.   NE 121401.   Subtask 1.   Problem NEL-2A8.
Box 8, Folder 104	Oceanographic factors in the mine countermeasure tests at Panama City, Florida in April-May 1953. Prepared by Alfred J. Carsola 1953 October 19
	General note
	No. 104.   NE 120221.   Subtask 3.   Problem NEL-2A5.
Box 8, Folder 105	A Tube tester for receiving-type tubes operating in the positive grid region. Prepared by T. J. Parker and W. D. Wilson 1953 October 20
	General note
	No. 105.   NE 050632.   Subtask 1.   Problem NEL-3E1c.
Box 8, Folder 106	Low frequency projector development. Prepared by R. C. Mathes 1953 October 28
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Box 6, Folder 100	General note No. 107.   NE 051248.   Subtask 2.   Problem NEL-2C1.

Box 8, Folder 107	Correction of hydroacoustic output measurements for effects of surface reflection under specific refractive conditions. Prepared by F. A. Dahm 1953 November 15
	General note
	No. 112.   NE 121401.   Subtask 1.   Problem NEL-2A8.
Box 8, Folder 108	A Two-dimensional electrical delay network. Prepared by R. N. Goss 1953 November 15
	General note
	No. 113.   NE 121401.   Subtask 1.   Problem NEL-2A8.
Box 8, Folder 109	Pseudo-random noise generators. Prepared by R. G. Stephenson 1953 November 23
	General note
	No. 109.   NE 041216.   Subtask 1.   Problem NEL-3C7c.
Box 8, Folder 110	Secure communications systems using pseudo-random noise generators (Secret). Prepared by R. G. Stephenson 1953 November 23
	General note
	No. 110.   NE 041216.   Subtask 1.   Problem NEL-3C7c.
Box 8, Folder 111	An Investigation of certain electrical and mechanical characteristics of twenty-six polyester resins. Prepared by E. F. Meckfessel 1953 November 23  General note
	No. 111.   NE 050632.   Subtask 1.   Problem NEL-3E1e.
Box 8, Folder 112	Sequential scan radar detection of small targets in the presence of high intensity sea return. Prepared by W. F. Bradley Jr. and E. F. Meckfessel 1953 November 30
	General note
	No. 115.   NE 050632.   Subtask 1.   Problem NEL-3E1e.
Box 8, Folder 113	The Effect of radiation on the vibration of a clamped square plate. Prepared by A. A. Hudimac 1953 December 1
	General note
	No. 114.   NE 121401.   Subtask 1.   Problem NEL-2A8.
Box 8, Folder 114	Theory of the effect of a thin air film on the displacement of a stretched circular membrane. Prepared by D. H. Robey 1953 December 9
	General note
	No. 119.   NE 051248.   Subtask 2.   Problem NEL-2C1.
Box 8, Folder 115	On a class of solutions of Maxwell's equations. Prepared by D. H. Potts 1953 December 10
	General note
	No. 117.   NE 120308.   Subtask 2.   Problem NEL-1A5.
Box 8, Folder 116	Human engineering aspects of the sonar receiving set AN/FQR-1 (Harbor Defense Listening Array). Prepared by W. E. Woodson 1953 December 16
	General note
	No. 116.   NE 121303.   Subtask 3.   Problem NEL-3B1.