

Collection: SAC 18  
Accession No.: 86-14

PROCESSING RECORD  
SCRIPPS INSTITUTION OF OCEANOGRAPHY ARCHIVES

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University of California Division of War Research

University of California Division of War Research Reports, n.d., 1941-1953

PHYSICAL DESCRIPTION: 8 record center cartons

DESCRIPTION: Incomplete set of unclassified UCDWR reports, 1941-53, mostly photocopies. Includes Navy Radio & Sound Laboratory (NRSL) & Naval Electronics Laboratory (NEL) files, memoranda, pamphlets, manuals, training aids, & a bibliography of UCDWR reports.

**Arrangement:** This collection of UCDWR reports is incomplete, and is largely photocopies of originals held by the U.S. Naval Electronics Laboratory Library (later names: NOSC, NRAD, SPAWAR). Some pages are faint and hard to read. The original arrangement has been disturbed. The reports were arranged in three series: University of California Division of War Research (UCDWR), Navy Radio and Sound Laboratory (NRSL) and Navy Electronics Laboratory (NEL). Reports were removed from their original manila envelopes and titles were transposed on to acid free folders. The files were arranged in chronological order within series. The Navy Department stamped reports "unclassified." Title pages of all reports are also stamped "microfilm." A folder list was made from the original manila envelopes and is attached to the accession record. The SPAWAR Library on Point Loma (formerly NOSC, formerly NEL) has the microfilm copies of all UCDWR reports.

**Scope and Content Note:** This collection includes many, but not all reports of the UCDWR. The reports in this collection cover the following periods: UCDWR, n.d., April 1941-October 1946; Navy Radio and Sound Laboratory, n.d., December 1940-October 1945; and Navy Electronics Laboratory, January 1952-December 1953. A complete bibliography of all UCDWR reports was prepared at the end of the contract period, and published in the "Completion Report Covering Operations of the UCDWR..." The bibliography is in Appendix A -technical bibliography, and Appendix B -patent bibliography.

**Related Collections:** A complete set of reports of the UCDWR is located at the SPAWAR Library in San Diego. Further information on UCDWR can be found in SIO Subject Files, 1890-1981, Collection 81-16, which has folders under the heading UCDWR and Contract NObs-2074.

**Administrative History:** The University of California Division of War Research was created in response to the escalation of hostilities in Europe. A committee of the National Academy of Sciences felt a thorough survey of U.S. preparations for subsurface warfare was urgently needed. In 1941 the National Defense Research Committee (NDRC) was approached by the Chief of the Navy Bureau of Ships to assist in the development of a program to improve U.S. wartime technology. 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. This laboratory was mainly concerned with the development of equipment and the final design of prototype gear for submarines. The Pacific coast laboratory was located at the U.S. Navy Radio and Sound Laboratory in San Diego with the University of California acting as 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 inaugurated 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 several names such as University of California Division of National Defense Research and The San Diego Laboratory were attached to the original university wartime research effort. It was after the U.S. entered the war that the university changed the name to UCDWR to reflect the physical aspects of the laboratory work undertaken.

For many years UCDWR was located in the same building as the U.S. Navy Radio and Sound Laboratory at Point Loma. Problems of overcrowding occurred with the rapid growth in UCDWR and NRSL personnel. There was also confusion as a result of overlapping of certain laboratory programs. The Navy helped to alleviate some of these problems by supplying buildings for UCDWR. Procedural guidelines for duties and responsibilities for civilian and naval personnel were soon developed. 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.

UCDWR has been credited with improvements to American submarines, the development of sonar devices, echo sounders, and bottom scanners. Though UCDWR was set up as a temporary wartime operation, it was decided that the work of UCDWR should continue at the end of the war, and that a long term permanent organization, rather than a temporary emergency agency such as OSRD should assume responsibility for it. 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. Immediate action had to be taken to convert UCDWR funds and equipment over the use of a new laboratory.

When the war ended abruptly on September 2, 1945, immediate action was taken to complete all the reports for final distribution. This was a very confusing period for all departments associated with UCDWR because many UCDWR staff members had already returned to their pre-war occupations. It took many months to complete all the reports. The original bibliography of UCDWR reports was amended with additional listings of reports.

At the same time the Navy Radio and Sound Laboratory was absorbed by the Navy Electronics Laboratory which eventually inherited all the structures at the Point Loma facility. The major part of UCDWR's program was continued at NEL with NEL's authority to assume cognizance of UCDWR's work according to a schedule that was satisfactory to both programs. In the latter part of June 1946, UCDWR became the Marine Physical Laboratory. The University of California assumed responsibility for Task 10 of contract NObs-2074, which was the extended contract used to set up the new laboratory. The Marine Physical Laboratory was officially opened on June 1, 1946, the date of Carl Eckart's appointment as Director. MPL became part of Scripps Institution of Oceanography on April 1948.

**Provenance:** These UCDWR reports were received at UCSD's Central University Library in 1976. The collection was transferred to the SIO Archives in August 1985.

**University of California Division of War Research Reports, 1941-1953**  
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**University of California Division of War Research series**  
**[ Box 1 ]**

Echo Recognition Training - Recorder Traces, (U), n.d. [Rept U325 Supplement]

Completion Report Covering Operations of the UCDWR at the U.S. Navy Electronics Lab...Under Contract Nobs-2074 from 26 April 1941 to 30 June 1946, n.d.

*The first half of this report (pgs. 1-141) was digitized in 2009 and is available by clicking the link below:*

[http://libraries.ucsd.edu/speccoll/DigitalArchives/sac0018/UCDWR\\_completion\\_report.pdf](http://libraries.ucsd.edu/speccoll/DigitalArchives/sac0018/UCDWR_completion_report.pdf)

Multidirectional Refraction Microphone, (U), by N. Most, 23 June 1942 [Memo for File 01.70 23 June 1942]

Bi-Weekly Reports Covering Period June 29, 1942 through December 26, 1942, (U), 14 July 1942-29 December 1942

Explosive Sound Waves in the Sea - Observations with a 2500 Moving Coil Oscillograph, (U), by T.F. Johnston, 16 September 1942 [Rept M10]

Echo Repeater Target, Surface Model RR-1, (U), by E.M. McMillan, 12 November 1942 [Rept U1]

Bearing Accuracy at Lower Operating Frequencies, (U), Prepared by F.N.D. Kurie, 21 November 1942 [Rept U2]

Laboratory Study of Surface and Internal Wave Motion, (U), 23 November 1942 [Rept U3]  
Triplane, (U), by D.E. Ross, 23 November 1942 [Rept U4]

Reverberation Studies at 24 KC., (U), 23 November 1942 [Rept U7]

Shape of a Flexible Rope Towing a Submarine Body, (U), by G.D. Camp, 30 November 1942 [Rept M5]

Transmission of Explosive Impulses in the Sea, (U), by T.F. Johnston, 2 December 1942 [Rept U8]

Maintenance and Installation Instructions for Surface Model RR-1 Practice Target, (U), 14 December 1942 [Rept U15]

The Magnetic Close-Proximity Fuze, (U), by S.C. Baden, 19 December 1942 [Rept S16]

Bi-Weekly Reports Covering Period December 27, 1942 through June 26, 1943, (U), 11 January 1943-30 June 1943

The Magnetic Flux-Change Fuze, (U), by L.D. Statham, 30 December 1942 [Rept S11]

Frequency-Modulation Echo-Ranging System, Cobar, Pribar, Subsight, (U), by M.C. Henderson, 30 December 1942 [Rept U12]

Advanced Bearing Teacher, (U), by H.E. Hartig, 2 January 1943 [Rept U18]

Sound-Ranging Conditions in the Japanese Area, (U), by R.B. Tibby, 4 January 1943 [Rept U20]

Masking of Echo by Reverberation, (U), by C. Eckart, 8 January 1943 [Rept M22]

Training Group Progress Reports, Bi-Weekly: 11 January-4 October 1943, (U), 8 February-4 October 1943

Sound-Ranging Conditions of the North Pacific Ocean, Supplement to, (U), by R.B. Tibby, 20 January 1943 [Rept M24]

Sound-Ranging Conditions in the Japanese Area, (U), by R.B. Tibby, 21 January 1943 [Rept U9]

Outline of the Proposed Fampas System, (U), by C.A. Hisserich, 24 January 1943 [Rept M30]

Measurements of the Sounds of Submarines by Three Independent Measuring Systems, by V.C. Knudsen, (U), 1 February 1943 [Rept 6.1-sr30-723]

Methods Suitable for the Calibration and Use of an Octave-Band Sound Level Meter, (U), by R.W. Young, 10 February 1943 [Rept M32]

Scattering of Underwater Sound by Solid Particles and Air Bubbles, (U), by G.E. Duvall, 11 February 1943 [Rept M40]

The Effect of Turbulent Motion on the Rate of Rise of Bubbles in a Wake, (U), by J.S. McNown, 19 February 1943 [Rept U25]

Subsight, (U), by M.C. Henderson, 20 February 1943 [Rept U12A]

Binaural Listening Gear, (U), by C.H. Kean, 25 February 1943 [Rept M35]

Data for the Design of Inductances Wound on Molybdenum Permalloy Cores, (U), by R.S. Gales, 25 February 1943 [Rept M37]

Towed Submerged Antisubmarine Practice Target, Model SR-2, (U), by D.J. Evans, 25 February 1943 [Rept U42]

Anti-Submarine Practice Target - Keel Model KR-2, (U), by D.J. Evans, 25 February 1943 [Rept U45]

Anti-Submarine Practice Target - Experimental Buoy Model BR-1, (U), by D.J. Evans, 25 February 1943 [Rept U53]

Multi-Channel Electronic Switch, (U), by S. Bertram, 1 March 1943 [Rept U29]

Comprehensive Outline for Harbor Reports, (U), 3 March 1943 [Rept M36]

Entrapment of Bubbles in Vortices, (U), by J.S. McNown, 3 March 1943 [Rept M46]

Underwater Sound Output from Submarine Charging Batteries, (U), 4 March 1943 [Rept M43]

Blanking and Screening by Surface Wakes, (U), 5 March 1943 [Rept M38]

Hydraulic Mine Fuze, (U), by R.D. Atchley, 11 March 1943 [Rept M41]

Variation of the Sound Field Near the Surface in Deep Water, (U), by H.T. O'Neill, 16 March 1943 [Rept U49]

Doppler Doubler and Square-Law Amplification, (U), by W.A. Myers, 1 April 1943 [Rept U48]

Volume Reverberation Scattering and Attenuation Vs. Frequency, (U), 13 April 1943 [Rept U50]

Amplifier and Power Supply - Model S1-AB, (U), by R.O. Burns, 16 April 1943 [Rept U51]

Amplifier and Power Supply - Model S2-AB, (U), by R.O. Burns, 16 April 1943 [Rept U56]

High Impedance Preamplifier, (U), by D.C. Kalbfell, 29 April 1943 [Rept M55]

Primary Listening Teacher, (U), by H.E. Hartig, 30 April 1943 [Rept U57]

Supplementary Notes on a Multi-Channel Electronic Switch, (U), by Sidney Bertram, 1 May 1943 [Rept U29A]

Instructor's Manual for Use with the Primary Bearing Teacher, (U), 1 May 1943 [Rept U59]

Inertia Contact Bomb Fuze for Use on Targets Above or Below the Surface of the Water, (U), by R.D. Atchley, 3 May 1943 [Rept M58]

Characteristics of Some Transducers Made by UCDWR, (U), 6 May 1943 [Rept U23]

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Acoustics Measurements on Surface Wakes in San Diego Harbor, (U), by R.R. Carhart, 8 May 1943 [Rept U62]

Reflection of Light from a Submarine Model, (U), by R.B. Tibby, 12 May 1943 [Rept M61]

Preliminary Instruction Book for Model SR-2 Antisubmarine Practice Target Equipment; Installation, Operation and Maintenance Manual, (U), 14 May 1943 [Rept U64]

Reflection of Sound in the Ocean from Temperature Changes, (U), by R.R. Carhart, 17 May 1943 [Rept U74]

Doppler Doubler and Square-Law Amplifier, (U), by W.A. Myers, 20 May 1943 [Rept U67]

Streamlined Cable Depressor, (U), by A.R. Champion, 25 May 1943 [Rept M68]  
Preliminary Survey of Certain Biological Underwater Sound on the East Coast of North America, (U), by M.W. Johnson, 25 May 1943 [Rept U63]

Airplane Location with Subsight, (U), by C.C. McProud, 29 May 1943 [Rept M65]

Discrimination of Transducers Against Reverberation, (U), 31 May 1943 [Rept U75]

Preliminary Instruction Book for Model BR-1 Antisubmarine Practice Target Equipment with the Model S1-AB Amplifier; Installation...Manual, (U), 2 June 1943 [Rept U70]

Instructor's Manual for the Advanced Bearing Teacher, (U), 8 June 1943 [Rept U69]

Preliminary Instruction Book for Model BR-1 A/S Practice Target...Manual, (U), 11 June 1943 [Rept U71]

Monitor Microphone Amplifier, (U), by D.C. Kalbfell, 14 June 1943 [Rept M77]

Bottom Reverberation: Dependence on Frequency, (U), 16 June 1943 [Rept U79]

Deep Water Tests of the Through-The-Hull Sonic Listening Equipment, (U), by T.F. Johnston, 18 June 1943 [Rept U73]

Bi-Weekly Reports Covering Period June 27, 1943 through December 25, 1943, (U), 15 July 1943-29 December 1943

Curvature Meter for Use in Disc Recording, (U), by L.W. Sepmeyer, 28 June 1943 [Rept M78]

Underwater Ambient Noise Survey - Bahamas and East Coast of Florida, (U), by R.H. Flemig, 29 June 1943 [Rept M80]

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**[ Box 1 ]**

Supplement to the Triplane, (U), by D.E. Ross, 29 June 1943 [Rept U4A]

**[ Box 2 ]**

Late Summer Hydrographic Conditions in the Japanese Area, (U), July 1943 [Rept U85]

Device for Obtaining Bearing and Range Rate, (U), by C. Eckart, 15 July 1943 [Rept M82]  
Proposed System for the Rapid Frequency Analysis of an Audio Spectrum, (U), by S. Bertram,  
16 July 1943 [Rept M84]

General Information for Staff Members, (U), 1 August 1943 [Rept F100]

Mine Detection with Cobar Devices, (U), by M.C. Henderson, 2 August 1943 [Rept M115]

Installation and Alignment Instructions for the Doppler Doubler, (U), by W.A. Myers, 4 August  
1943 [Rept U86]

SASAT Slide Rule, (U), by G.P. Harnwell, 13 August 1943 [Rept U90]

Echo Ranging with Explosive Sound, (U), by T.F. Johnston, 14 August 1943 [Rept U88]

Primary Conning Teacher, (U), by A.W. Melloh, 14 August 1943 [Rept U89]

Some Theoretical Studies of the Propagation of Sound in Shallow Water, (U), by G.D. Camp,  
15 August 1943 [Rept U102]

Echoes from Wakes, (U), 24 August 1943 [Rept M99]

An Object Locator, (U), by W.A. Myers, 27 August 1943 [Rept U92]

System for Recording Reverberation as It Occurs in the Ocean, (U), 28 August 1943 [Rept  
M111]

"Silent" Fathometer, (U), by G.W. Downs, 28 August 1943 [Rept SM98]

Shipboard Anti-Submarine Attack Teacher (SASAT A), (U), by C.F. Bradley, 30 August 1943  
[Rept U93]

Test-Retest Reliability of the 6B Audiometer, (U), by W.J. Giese, 30 August 1943 [Rept U116]

Preliminary Instruction Manual for the Shipboard Anti-Submarine Attack Teacher (SASAT A),  
(U), by C.F. Bradley, 31 August 1943 [Rept R94]



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[ **Box 2** ]

Interim Report on Echo Ranging at Lower Frequencies, (U), by L.M. Langer, 1 September 1943 [Rept U109]

Adjustment of the Bathythermograph for Errors in Surface Temperature and Pressure, (U), by J.S. McNown, 2 September 1943 [Rept M103]

Modification of a Type CBM-55081 Range Indicator, (U), by D.E. Ross, 4 September 1943 [Rept M104]

FM Sonar, (U), by M.C. Henderson, 4 September 1943 [Rept U95]

A Survey of Biological Underwater Noises off the Coast of California and in Upper Puget Sound, (U), by M.W. Johnson, 10 September 1943 [Rept U100]

Supplementary Notes on Preliminary Instruction Book for Model BR-1 A/S Practice...Amplifier, (U), 16 September 1943 [Rept U71A]

Reverberation Equalizer, (U), by G.W. Downs, 18 September 1943 [Rept U97]

Doppler Effect in FM Sonar, (U), by M.C. Henderson, 20 September 1943 [Rept U107]

Rapid-Response Thermometer, (U), by D.C. Kalbfell, 23 September 1943 [Rept M101]

Gas Production with Magnesium Amalgam, (U), by M. Silverman, 25 September 1943 [Rept M106]

Some General Ideas Concerning the Transmission of Sound in the Deep Sea, (U), by C. Eckart, 28 September 1943 [Rept M108]

Interim Report on the Sound Field of Echo-Ranging Gear, (U), 1 October 1943 [Rept U113]

Conclusions Derived from the Analysis of Transmission Data Obtained During Harbor Surveys: Preliminary Data, Part I, (U), 2 October 1943 [Rept U110]

Effect of the Ship's Roll on Echo Ranging, (U), by J.S. McNown, 8 October 1943 [Rept M114]

Training Group Quadra-Weekly Progress Reports: 17 October 1943-24 June 1944, (U), 26 November 1943-10 July 1944

Preliminary Instructor's Manual for Use with the Primary Listening Teacher, (U), 18 October 1943 [Rept R119]

Bi-Weekly Report No. 1-25, (U), 19 October 1943-20 September 1944 [Project 181]

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Some Ambient Water Noise Measurements in the Fourteenth Naval District, (U), 22 October 1943 [Rept M122]

WEA-1 and WEA-2 Adapters for SASAT, (U), by C.F. Bradley, 22 October 1943 [Rept U121]

Lloyd Mirror Effect in a Variable Velocity Medium, (U), by R.R. Carhart, 23 October 1943 [Rept M140]

Some Shallow Water Sound Propagation Measurements in the Thirteenth Naval District, (U), 26 October 1943 [Rept M126]

Instructor's Manual on Doppler Drills and Tests - UCDWR D-Series, (U), 30 October 1943 [Rept R127]

Bi-Weekly Report No. 2-35, (U), 30 October 1943-9 February 1945 [Project NS-164]

Gas Production with Mixtures of Magnesium Amalgam and Crystalline Acids ("Bubblite"), (U), by M. Silverman, 12 November 1943 [Rept M133]

Bi-Weekly Report No. 1-19, (U), 17 November 1943-28 July 1944 [Project NS-221]

A Survey of the Problem of Maximum Echo Ranges: Preliminary Draft, (U), by C. Eckart, 20 November 1943 [Rept U130]

Device for Plotting Rays in a Medium of Variable Velocity, (U), by L.I. Schiff, 29 November 1943 [Rept M125]

Investigation of the Power Handling Ability of 45o X-Cut and Y-Cut Rochelle Salt Crystals, (U), by F.X. Byrnes, 30 November 1943 [Rept M175]

Preliminary Manual, FM Sonar Model I: Installation and Operation (Experimental), (U), 1 December 1943 [Rept R134]

Buoyancy Control, (U), by R.D. Atchley, 3 December 1943 [Rept R135]

Bi-Weekly Reports Covering Period December 26, 1943 Through June 24, 1944, (U), 13 January 1944-29 June 1944

Construction of a Range-Bearing Plot for Aid in ASW Ship Conning, (U), by H.E. Hartig, 29 December 1943 [Rept M183]

Instruction Book for Model SR5 Practice Target (Navy Model OAT Practice Target): Installation, Operation and Maintenance, (U), January 1944 [Rept R147]

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Instructor's Manual for Model QFH Sound Training Equipment (Conning Teacher), (U),  
January 1944 [Rept R147]

Oscillograms of 24 KC Echoes from a Destroyer and Its Wake, (U), 3 January 1944 [Rept  
M141]

Theory of Secure Echo-Sounding, (U), by C. Eckart, 8 January 1944 [Rept S143]

Underwater Noise and the Distribution of Snapping Shrimp...Central Pacific Areas, (U), by  
M.W. Johnson, 15 January 1944 [Rept U146]

Measurements of 24KC Echoes from a Destroyer and Its Wake, (U), by G. Duvall, 20 January  
1944 [Rept M141A]

Burgess Sea Cell Operational Data, (U), by W.A. Myers, 20 January 1944 [Rept M148]

Supplement to Some Ambient Water Noise Measurements in the Fourteenth Naval District, (U),  
22 January 1944 [Rept M122A]

Preliminary Report on Echoes from a Diving Submarine and Its Wake, (U), 22 January 1944  
[Rept M172]

Doppler Effect in FM Sonar, (U) by M.C. Henderson, 8 February 1944 [Rept M184]

Quenching of Underwater Sound Projectors, (U), by C. Eckart, 16 February 1944 [Rept M178]

Tone Duration as a Factor of in Pitch Discrimination, (U), by E.G. Wever, 16 February 1944  
[Rept M179]

Bi-Weekly Reports 1-26, Detection of Small Objects, (U), 23 February 1944-9 February 1945  
[Project NS-142]

Shipboard Anti-Submarine Attack Teacher (SASAT B), (U), by F. Pierce, 25 February 1944  
[Rept U186]

Pressure-Proof Speaker, (U), by W.A. Myers, 26 February 1944 [Rept M185]

Model QFK Shipboard Sound Operator Trainer: Instructor's Manual, (U), March 1944 [Rept  
R191]

Instructor's Manual for Model QFH Sound Training Equipment (Conning Teacher), Edition B,  
(U), March 1944 [Rept R192]

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**[ Box 2 ]**

The West Coast Sound School Training Program for the Tactical Sound Range Recorder Teacher (Navy QFL), (U), by W.L. Jenkins, March 1944

The UCDWR Pitch-Memory Selection Test: A Report on Design Standards, (U), by A. Ford, March 1944 [Rept U196]

Revised Selection Procedure for Sonar Operations, (U), by A. Ford, March 1944 [Rept U197]

A Report on the Psychological Standards of Auditory Discrimination, (U), by A. Ford, March 1944 [Rept U206]

Data at 45 KC on Echoes from a Diving Submarine and Its Wake, (U), 3 March 1944 [Rept M172A]

Sound Transmission through Destroyer Wakes, (U), 8 March 1944 [Rept M189]

Some Experiments on the Transmission of Continuous Sound in 100-Fathom to 600-Fathom Water, (U), 15 March 1944 [Rept M193]

Anti-Submarine Practice Targets: Supplementary Instruction Book, (U), April 1944 [R 200]

Preliminary Instruction Book for FM Sonar Model I, No. 3 Installation, Operation and Maintenance, (U), April 1944 [Rept R208]

Preliminary Report on the Use of FM Sonar in Harbor Net Protection, (U), 14 April 1944 [Rept SM201]

Leading Cut-Ons on Attack Teachers and at Sea, (U), by W.L. Jenkins, 20 April 1944 [Rept M204]

Preliminary Report on the Sonic Ray Plotter, (U), by L.I. Schiff, 21 April 1944

Some Underwater Sound Measurements on Two Aircraft Carriers, (U), 27 April 1944 [IR A1]

Preliminary Instruction Book for Depth Charge Pattern Recorder Mark I Mod O Installation, Operation and Maintenance, (U), May 1944 [Rept R173]

**[ Box 3 ]**

Oscillograms of 24 KC Noise Produced by a Destroyer, (U), by G. Duvall, 1 May 1944 [IR A2]

Shipboard Anti-Submarine Sonar Trainer (SASAT A, Model V), (U), by E.J. Smuckler, 5 May 1944 [Rept U211]

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**[ Box 3 ]**

Target Strength of a Submarine at 24 KC, (U), by G. Duvall, 10 May 1944 [IR A4]

Depressor for a Special Magnetostriction Echo- Repeater, (U), by G.D. Reed, 10 May 1944 [Rept M216]

Further Underwater Sound Measurements on Aircraft Carriers, (U), 12 May 1944 [IR A3]

Recommendations for Monitoring and Measuring Sonic Output of Submarines, (U), by L.W. Sepmeyer, 13 May 1944 [IR A13]

Underwater Sound Measurements on Aircraft Carriers, (U), 15 May 1944 [Rept M212]

Scattering of Sound by the Surface of the Sea, (U), by L.I. Schiff, 15 May 1944 [Rept M217]  
Bottom Reverberation, (U), by T.H. Schafer, 16 May 1944 [IR A5]

Transmission of 60 KC Sound Data of March and April 1944, (U), by M.J. Sheehy, 17 May 1944 [IR A6]

Bottom Reverberation at 24 KC - E.W. Scripps Data, (U), by R.R. Carhart, 18 May 1944 [IR A7]

NAC Beacon Tests, (U), by D.J. Evans, 19 May 1944 [Rept SM215]

Reflection Coefficients of Surface and Bottom, (U), by R.W. Raitt, 22 May 1944 [IR A8]

Range Limitation in Shallow Water as Controlled by Bottom Character, State of Sea, and Thermal Structure, (U), by F.P. Shepard, 22 May 1944 [IR A10]

Some Considerations Pertaining to Systematic Masking of Ship Sounds, (U), by R.S. Gales, 23 May 1944 [IR A11]

Bearing Deviation Indicator Trainer, (U), by C.F. Bradley, 23 May 1944 [Rept U218]

Comparison of the Measuring Systems at 24 KC of the Listening Section and the Echo-Ranging Section, (U), by G.P. Welch, 29 May 1944 [IR A12]

Selection Research on Sonar Officers - A Report on Validating Research, (U), by A. Ford, June 1944 [Rept M235]

Workbook for Prediction of Maximum Echo Ranges to be Used with Prediction of Sound Ranges...Observations, (U), 1 June 1944 [Rept R230]

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Underwater Sound Measurements on Aircraft Carriers (May 24 and June 1, 1944), (U), by H.J. Oorthuys, 2 June 1944 [IR A14]

Attenuation of Sound in the Sea, (U), by C. Eckart, 6 June 1944 [Rept U236]

Transmission of the 24 KC Component of a Shock Excited Diaphragm, (U), by M.J. Sheehy, 9 June 1944 [IR A15]

Some Evidence for Specular Bottom Reflection of 24 KC Sound, (U), by R.R. Carhart, 9 June 1944 [IR A17]

Self-Noise of PC Boats, (U), by T.F. Johnston, 10 June 1944 [IR A16]

Preliminary Instruction Book for FM Sonar Model 1, No. 5, (U), 12 June 1944 [Rept R223]

Preliminary Instruction Book for the Secure Echo Sounding Equipment, Model 2, (U), by D.H. Ransom, 13 June 1944 [Rept S222]

Modifications and Tests Made on Taylor Model Basin Self-Propelled Practice Target, (U), by D.J. Evans, 14 June 1944 [Rept M225]

Secure Echo Sounding Equipment, (U), by D.H. Ransom, 14 June 1944 [Rept SM231]

Bottom Reverberation in Very Shallow Water - Applications to Small Object Detection, (U), 15 June 1944 [IR A18]

Validation of "Inventory of Musical Background, Form B," (U), by W.J. Giese, 19 June 1944 [Rept M227]

Some Sound Propagation Measurements in the Fourteenth Naval District, (U), 19 June 1944 [Rept M228]

British ASDIC Type 135 Tests, (U), by M. Chun, 19 June 1944 [Rept SM221]

Sound Output of Six-Inch NAD, (U), 21 June 1944 [IR A20]

Bi-Weekly Reports Covering Period June 25, 1944 Through December 23, 1944, (U), 14 July 1944-27 December 1944

Preliminary Instruction Manual for Advance Listening Teacher, (U), 27 June 1944 [Rept M232]

Masking Experiments - Report No. 1, (U), 28 June 1944 [Rept U229]

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Spectral Analysis of Three and Ten-Inch NAD, (U), 30 June 1944 [IR A22]

NAC Beacon Tests in 14th Naval District, (U), by V.G. McKenney, 30 June 1944 [Rept SM240]

Spectral Analysis of Magnetostriction and Bridge- Type Speakers, (U), 12 July 1944 [IR A25]

Chemical Recorder Traces of Submarine Wakes at 20 KC, (U), by G. Duvall, 18 July 1944 [IR A23]

Masking Effect of Water Noise on Short Pulses, (U), by R.C. Fisher, 25 July 1944 [Rept S239]

Comparison of Calculated and Observed Intensities for Some Split Beam Sound Field Runs, (U), by R.R. Carhart, 2 August 1944 [IR A26]

Relative Movement Test in Sonar Officer Selection, (U), 5 August 1944 [Rept M245]

The Sonic Ray Plotter, (U), by L.I. Schiff, 8 August 1944 [Rept U246]

Frequency Characteristics of Echoes and Reverberation, (U), by W.M. Rayton, 9 August 1944 [Rept U244]

NAC Beacon, (U), by W.G. McKenney, 15 August 1944 [Rept S243]

Amplitude Fluctuations of Transmitted and Reflected Sound Signals in the Ocean, (U), by M.J. Sheehy, 17 August 1944 [IR A29]

Bottom Reverberation in Very Shallow Water, (U), 18 August 1944 [Rept SM249]

Sea Tests of Overhearing of the Secure Echo Sounding Equipment (SESE) Model 21 Aboard the Submarine SS411 (SPADEFISH), (U), by D.H. Ransom, 22 August 1944 [Rept SM251]

Observed Ranges on a Submarine at 90 Feet Keel Depth, Reported by the USS RATHBURNE, (U), by R.R. Carhart, 24 August 1944 [IR A30]

Transmission of 24 KC and 60 KC Sound in Very Shallow Water, June 1944, (U), by M.J. Sheehy, 26 August 1944 [IR A31]

24 KC Echoes from a 3-Foot Sphere, (U), by G. Duvall, 26 August 1944 [IR A32]

Submarine Echo Ranges Observed and Predicted - Mike Pattern, Below Layer, (U), by C. Eckart, 29 August 1944 [IR A33]

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- Wake of a Fleet-Type Submarine, (U), by W.M. Rayton, 5 September 1944 [IR A34]
- Layer Effect, (U), by R.W. Raitt, 9 September 1944 [IR A35]
- Midget Bearing Demonstrator, (U), by K.H. Sommermeyer, 14 September 1944 [Rept M256]
- FM Sonar, Model 1, No. 5, Operation and Maintenance: Preliminary Instruction Book, (U), 15 September 1944 [Rept R223.1]
- Secure Echo Sounding Equipment, (U), by D.H. Ransom, 15 September 1944 [Rept S257]
- Masking Experiments - Report No.II, (U), 15 September 1944 [Rept U258]
- Coherence and Fluctuation of FM Reverberation, (U), by M.J. Sheehy, 19 September 1944 [IR A37]
- Detectibility of Repeated Pulses, (U), by R.C. Fisher, 27 September 1944 [Rept M261]
- Manual for Bathythermograph Pilot Instructors, (U), W.D., 30 September 1944 [Rept M250]
- Transmission of Underwater Sound Over a Sloping Bottom, (U), by R.R. Carhart, 1 October 1944 [IR A39]
- Variability of Deep Water Transmission, (U), by M.J. Sheehy, 5 October 1944 [IR A40]
- Self-Noise of the S23, (U), by T.F. Johnston, 5 October 1944 [IR A41]
- Preliminary Instruction Book for the Secure Echo Sounding Equipment, Model 3: Installation, Operation and Maintenance, 11 October 1944 [Rept S222.1]
- Further Experiments on the Transmission of Continuous Sound, (U), by R.E. Chambers, 13 October 1944 [IR A42]
- Instructor's Manual: Echo Recognition Group Training, (U), 15 October 1944 [Rept M341]
- Transmission of 24 KC and 60 KC Sound in Very Shallow Water, October 1944, (U), by M.J. Sheehy, 23 October 1944 [IR A31-a]
- Directional Control Devices, (U), by L.N. Schwein, 24 October 1944 [Rept U266]
- Echoes from Swells, (U), by G.E. Duvall, 27 October 1944 [IR A43]
- Consulting Services Under Navy Project NS-195, (U), 27 October 1944 [Rept U269]



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**[ Box 3 ]**

Correlation of Simultaneous Transmission in Deep Water at Different Frequencies, (U), by M.J. Sheehy, 28 October 1944 [IR A44]

Submarine Barometer Simulator, (U), 28 October 1944 [Rept M270]

Underwater Sound Output of Cruiser, Destroyer, and Aircraft Carrier, (U), 28 October 1944 [Rept SM268]

FM Sonar, Model 1, Nos. 6-10, Operation and Maintenance: Preliminary Instruction Book, (U), 1 November 1944 [Rept R223.2]

Sound-Ranging Conditions off Southern California, (U), by K.O. Emery, 6 November 1944 [IR A45]

Sound Measuring Equipment on the Yag-6, (Ex- Enchantress), (U), by T. McMillian, 8 November 1944 [IR A47]

DR1 Practice Target for Rocket Practice, (U), 9 November 1944 [Rept M273]

Observations Made During Ten Days at Sea with FM Sonar on the TINOSA (SS 283), (U), by M.O. Kappler, 11 November 1944 [Rept SM280]

Bi-Weekly Report Covering Period November 12 -November 25, 1944, (U), 1 December 1944 [Rept U278]

Calibration of Underwater Sound Level Meter and Analyzer, (U), by H.J. Oorthuys, 15 November 1944 [IR A48]

Bi-Weekly Report Covering Period October 29 -November 11, 1944, (U), 16 November 1944 [Rept U274]

Submarine Sounds Recorded for Mare Island Navy Yard, (U), 18 November 1944 [Rept M277]

**[ Box 4 ]**

Afternoon Effect, Its Applications to Sound-Ranging Charts, (U), by E.C. LaFond, 25 November 1944 [IR A49]

Multi-String Light Valve (An Alternative Form of Analyzer for FM Sonar), (U), by Electrical Research Products Division of the Western Electric Co., Inc., (U), 25 November 1944 [Rept U276]

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[ **Box 4** ]

Bi-Weekly Report Covering Period November 26 -December 9, 1944, (U), 14 December 1944  
[Rept U281]

Interference Effect Between Echo and Reverberation, (U), by A.M. Small, 16 December 1944  
[IR A50]

Sound Cavitation Tests on USS SPRINGER, (U), 20 December 1944 [Rept M283]

Bi-Weekly Reports Covering Period December 24, 1944 Through February 1945, (U), 13  
January 1945-10 February 1945

Layer Effect at 24 KC and 60 KC, (U), by M.J. Sheehy, 27 December 1944 [IR A51]

Ambient Water Noise in the Central and Southwest Pacific, (U), by M.W. Johnson, 28  
December 1944 [Rept M284]

FM Sonar, Model 1, Nos. 6-10, Operation and Maintenance: Preliminary Instruction Book  
(Revised Edition), (U), 1 January 1945 [Rept R233.3]

Short Range Spatial Pattern Measurements on the JK- SK4926 [IR A52]

Preliminary Instruction Manual for Advanced Listening Teacher, Model 3, (U), 22 January 1945  
[Rept U291]

Sonar Data: Monthly Progress Reports - Series I, February 1945 -February 1946, (U), n.d.

Sonar Devices: Monthly Progress Reports - Series II, February 1945 -February 1946

Training Aids: Monthly Progress Reports - Series IV, February 1945 -February 1946

Bi-Weekly Report Covering Period January 21 -February 3, 1945, (U), 10 February 1945  
[Rept U297]

Operational Procedure and Equipment Used in Sonar Sound Field Studies, (U), 15 February  
1945 [Rept U295]

Surface Reflected Submarine Echoes, (U), by G.E. Duvall, 24 February 1945 [IR A54]

Procedures Proposed for the Treatment of Sound Transmission Data at 200, 600, and 1800 CPS,  
(U), by R.W. Young, 24 February 1945 [IR A56]

Record Catalog: Underwater Sound Recordings on File in the Recording Library, (U), March  
1945 [Rept R174.1]

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**[ Box 4 ]**

Underwater Sound Output - USS SPOT, (U), 1 March 1945 [Rept M296]

Echoes of Very Short Pings from Submarines, (U), by W.M. Rayton, 1 March 1945 [Rept M301]

Echo Injector, (U), by K. Sommermeyer, 1 March 1945 [Rept U302]

Underwater Sound Output of USS TINOSA (SS 283), (U), 5 March 1945 [Rept M303]

Echo Recognition Monitor Recorder Model 2; Preliminary Manual - Operation, Maintenance and Installation, (U), 15 March 1945 [Rept M305]

Surface Reflected Submarine Echoes, (U), 15 March 1945 [Rept 306]

The Influence of Thermal Conditions on Transmission of 24 KC Sound, (U), 16 March 1945 [Rept U307]

Internal Waves, (U), by C.W. Ufford, 19 March 1945 [Rept M289]

Internal Waves off San Diego, California, (U), by C.W. Ufford, 19 March 1945 [Rept M290]

Thermal Microstructure of the Ocean, (U), by C. Ufford, 19 March 1945 [Rept M294]

Tests on Water Activated Battery, Burgess Type 4- CC-167, (U), by W.L. Bryant, 9 April 1945 [Rept M309]

Talk-Through Equipment for Submarine Sonar Training, (U), by C. Beyer, 12 April 1945 [Rept M308]

Submarine Listening Cues for Target Angle, (U), by A. Ford, 24 April 1945 [Rept M311]

Comparison of Echo Recognition at 800 and 500 Cycles, (U), by A. Ford, 30 April 1945 [Rept M312]

Submarine Sound Recognition Group Trainer: Instructor's Manual, Preliminary Edition, (U), 1 May 1945 [Rept M310]

Comparison of Transmission Loss at 16 KC and 24 KC, (U), 5 May 1945 [Rept M313]

FM Sonar, Model 1, Nos. 11-15, Operation and Maintenance: Preliminary Instruction Book, (U), 12 May 1945 [Rept R223.4]

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**[ Box 4 ]**

Learning Studies on the Sound Recognition Group Trainer: Single Ping Range Reading, (U), by L.J. Cronbach, 18 May 1945 [Rept M319]

Point Loma Ship-Sound Monitoring Station, (U), 25 May 1945 [Rept M321]

Preliminary Instruction Manual for the CIC Trainer, Model 1 - with Proposals for Improvements and Extensions, (U), 1 June 1945 [Rept M320]

Automatic Target Positioner for DRT, (U), by F. Pierce, 1 June 1945 [Rept M322]

Secure Echo Sounding Equipment (SESE) Model 3, (U), 1 June 1945 [Rept S222.2]

Experimental Study of Masking by a Line Spectrum, (U), 7 June 1945 [Rept M314]

Preliminary Charts with Histograms for the Fourth Edition of the Sound Ranging (Sonar) Charts, June 1 -August 31, 1945, (U), 8 June 1945 [Rept M326]

Sonar Hut Noise Measurements on a Frigate, (U), 11 June 1945 [Rept M324]

Isolation of Additive Effects, (U), 13 June 1945 [Rept M327]

Basic Material for Inclusion in "Use of Submarine Bathythermograph Observations; Part 7, Problems," (U), 15 June 1945 [Rept M328]

Preliminary Instructor's Manual for Echo Recognition Refresher Training, (U), 20 June 1945 [Rept M330]

Low Frequency Underwater Sound Source, TYEP MEF, (U), 22 June 1945 [Rept M331]

Operations with Fleet Type Submarines, (U), by R. Shope, 23 June 1945 [Rept M333]

Processing Sound Field Data, (U), 7 July 1945 [Rept M336]

Proposed Content of a Manual Explaining the Factors Governing Sound Ranges, (U), 9 July 1945 [Rept M335]

Preliminary Instruction Manual for NAD-10 Prime Sound Beacon, (U), 10 July 1945 [Rept SM329]

Echo Recognition Group Training as Developed for Use with the Echo Recognition Monitor Recorder Model 2, (U), 10 July 1945 [Rept 325]

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**[ Box 4 ]**

Learning Studies on the Sound Recognition Group Trainer: Turn Counting, (U), by L.J. Cronbach, 14 July 1945 [Rept M338]

**[ Box 5 ]**

Preliminary Report on Small Object Detector (SOD), (U), by M.E. Chun, 17 July 1945 [Rept M343]

Preliminary Instruction Book for the Sound Recognition Group Trainer, (U), 20 July 1945 [Rept M342]

Preliminary Instruction Manual for NAD-6A Sound Beacon, (U), 20 July 1945 [Rept SM332]

New Method for Measuring the Acoustical Constants of Sediment Samples, (U), 21 July 1945 [Rept M340]

XQHA Sonar Tests, (U) by W.H. Williams, 30 July 1945 [Rept M339]

Doppler Judgement at Low Beat-Frequency Oscillator Settings, (U), by A. Ford, 10 August 1945 [Rept M347]

List of Publications, (U), 15 August 1945 [Rept M348]

Internal Waves Measured at Three Stations, (U), by C.W. Ufford, 15 August 1945 [Rept M350]

Investigation of OAS Practice Targets for Use at 300 Foot Depths, (U), by W.L. Bryant, 25 August 1945 [Rept M349]

Learning Studies on the Sound Recognition Group Trainer: Classification of Supersonic Targets, (U), by L.J. Cronbach, 25 August 1945 [Rept M351]

Learning Studies on the Sound Recognition Group Trainer: Bow Stern Identification, (U), by L.J. Cronbach, 25 August 1945 [Rept M352]

Proposed Design Features for the New NAD-8 Beacon, (U), by R.D. Atchley, 27 August 1945 [Rept SM355]

Air-Borne Noise Measurements on the AGC-5, (U), 28 August 1945 [Rept M356]

Submarine Sound Recognition Group Trainer: Instructor's Manual, Second Preliminary Edition, (U), 1 September 1945 [Rept M310.1]

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**[ Box 5 ]**

Bathymograph Simulator, (U), 13 September 1945 [Rept U360]

Preliminary Instruction Manual for the CIC Trainer, Model 1, (U), 15 September 1945 [Rept M320.1]

Afternoon Effect and Its Application to Soundranging Charts, (U), 15 September 1945 [Rept U357]

Learning Studies on the Sound Recognition Group Trainer: Target Classification, (U), by L.J. Cronbach, 17 September 1945 [Rept M359]

Non-Obscurable Focusing DRT Light, (U), 19 September 1945 [Rept M358]

Automatic Target Positioner for the Dead Reckoning Tracer Model 1, (U), 20 September 1945 [Rept U353]

Limitation of Echo Ranges by Reverberation, Deep Water, (U), 20 September 1945 [Rept M361]

Submarine Bathymograph Classroom Demonstration, (U), 20 September 1945 [Rept M363]

Transmission of Underwater Sound at Lower Frequencies Interim Report, (U), 1 November 1945 [Rept U362]

Tests and Learning Studies on JP and WCA Submarine Sonar Trainers, (U), by C.M. Beyer, 5 November 1945 [Rept M366]

Reminders of Style, (U), 6 November 1945 [Rept 374]

Transmission of 24 KC Sound in Shallow Water, (U), 20 November 1945 [Rept M368]

Transmission of Sound at 56 KC, (U), 28 November 1945 [Rept M378]

Method of Reading Sound Field Records: Appendix I RO UCDWR Report M336, Processing Sound Field Data, (U), 29 November 1945 [Rept M336.1]

Additive Effects of Wind Force, Thermal Gradient, and Particle Size on the Transmission of 24 KC Sound Over Sand Bottoms in Shallow Water, (U), 1 December 1945 [Rept M375]

Additive Analysis with Disproportionate Weighting, (U), 5 December 1945 [Rept M379]

Production of Sonar Maintenance Manuals, (U), 5 December 1945 [Rept U370]

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**[ Box 5 ]**

Sound Recognition Group Trainer; A study of the Tests Used, (U), by A. Ford, 10 December 1945 [Rept M371]

Range Indicator Trainer, (U), 11 December 1945 [Rept M381]

Fluctuation of 24 KC Signals at Short Range as a Function of the Roll of the Sending Ship, (U), 11 December 1945 [Rept M386]

Psychological Methods and Projects in Sonar Training, (U), 12 December 1945 [Rept M369]

Attenuation and Fluctuation Studies Based on Supersonic Bottom Echoes, (U), 13 December 1945 [Rept M384]

Status Report on Self-Noise Measurements of Sonar Installations, (U), 29 December 1945 [Rept M385]

Preliminary Instruction Book for the Assisting Ship Projector, Model 1, (U), 21 January 1946 [Rept M373]

Submarine Operating Conditions in the Western Pacific Ocean, (U), 1 February 1946 [Rept U344 Vol.1]

Principles of Training in Doppler Discrimination, (U), 1 February 1946 [Rept U367]

Preliminary Instruction Manual for the Group Operator Trainer, (U), 8 February 1946 [Rept M376]

Selection of Sonar Officers, Operators, and Maintenance Men, (U), 8 February 1946 [Rept M377]

Overlays Useful in the Analysis of Sound Transmission Data, (U), 10 February 1946 [Rept M391]

Status Report on Echoes from Small Objects, (U), by W.M. Rayton, 14 February 1946 [Rept M388]

Moored Echo-Repeated Mine, (U), by C.A. Young, 14 February 1946 [Rept M393]

Coherence and Fluctuation of FM Reverberation, (U), by W.M. Rayton, 14 February 1946 [Rept M395]

Stratification of Sound Scatterers in the Ocean, (U), 16 February 1946 [Rept M397]

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**[ Box 5 ]**

Buoyancy Control-General Instructions for Use, (U), by R.D. Atchley, 22 February 1946 [Rept SM182]

Stationary Echo Repeated Decoy for Submarine Use, (U), 28 February 1946 [Rept SM396]  
Preliminary Instruction Manual for the Group Listening Teacher, Model CXKG...Part I, Text, (Y), 15 March 1946 [Rept M380 Part 1]

Preliminary Instruction Manual for the Group Listening Teacher, Model CSKG...Part 2, Illustrations, (U), 15 March 1946 [Rept M380 Part 2]

Fiducial Signal Generator, (U), 12 March 1946 [Rept M405]

Hand-Held Ranging Devices, (U), 18 March 1946 [Rept M403]

Forward Scattering from the Deep Scattering Layers, (U), 19 March 1946 [Rept M398]

Frequency Weighting in Ship Sound Measurements-An Audibility Meter, (U), 19 March 1946 [Rept M399]

Sea Surface and Its Effect on the Reflection of Sound and Light, (U), by C. Eckart, 20 March 1946 [Rept M407]

Second Model of the Automatic Receiver Gain Changes Used in Transmission Studies, (U), 23 March 1946 [Rept M401]

Underwater Noise Caused by Snapping Shrimp, (U), 1 April 1946 [Rept U337]

The Influence of Thermal Conditions on the Transmission of 24-KC Sound. II. Summary of Transmission to a Shallow Hydrophone in Deep Water, 1 April 1946 [Rept U394]

Completion Report for UCDWR Consultation Work on Buships Contract NXSR 87757 for NAD-6 Sound Beacon, (U), 6 April 1946 [Rept M413]

Transmission of 24-KC Sound from a Deep Projector, (U), by M.J. Sheehy, 8 April 1946 [Rept M409]

Doppler Effect in Sonar Operation, (U), 10 April 1946 [Rept M382]

Processing Low-Frequency Sound Transmission Data, (U), 10 April 1946 [Rept M414]

Completion Report for Submarine Evasive Aid, Navy Model NAD-3 Sound Beacon, (U), 10 April 1946 [Rept SU364]



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**[ Box 5 ]**

Internal Waves Measured with Three Thermocouples, (U), 12 April 1946 [Rept M406]

Identification of Target Aspect, (U), 15 April 1946 [Rept M400]

QFL Range Recorder Errors, Their Effect on Instruction, and a Discussion of Methods for Minimizing Them, (U), 16 April 1946 [Rept M416]

Directivity Pattern of the JK Projector at 24 KC as a Function of Range, (U), 25 April 1946 [Rept M411]

Pilot's Emergency Transducer (PET) for NAJ Sonar Beacon, (U), by F.M. Byrnes, 10 May 1946 [Rept SM389]

Calibration Sets, UCDWR Types AP and AR, (U), by E.C. Wright, 10 May 1946 [Rept M420]

Transmission of 24 KC Sound at Short Ranges, (U), 20 May 1946 [Rept M421]

Harmonic Analysis of Internal Waves and the Tide, (U), by C.W. Ufford, 30 May 1946 [Rept M427]

CXKD and Lead-Line Expendible Sounding Equipment, (U), 1 June 1946 [Rept U346]

Propagation of 20 KC Sound Over a Submarine Canyon, (U), by R.F. Johnston, 7 June 1946 [Rept M428]

Methods of Reverberation Measurements and Preliminary Analysis, (U), 25 June 1946 [Rept M424]

Proposed Method for Measurement of Swell by Observation of Ship's Roll, (U), by C.W. Ufford, 28 June 1946 [Rept M392]

Completion Report on Transducer Calibration Facilities and Techniques of UCDWR, (U), 30 June 1946 [Rept U435]

Correlation of 24 KC Signals Received Simultaneously on Two Hydrophones, (U), 1 July 1946 [Rept M429]

Procedure for Handling Bathythermograph Data, (U), 1 July 1946 [Rept M442]

Electronic Bathythermograph, (U), by C.W. Ufford, 10 July 1946 [Rept M439]

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**[ Box 6 ]**

Influence of Thermal Conditions on the Transmission of 24-KC Sound. III. Transmission to a Deep Hydrophone in Deep Water, (U), 15 July 1946 [Rept U422]

UCDWR Activities on NAD Sound Beacon Project at Pearl Harbor, (U), 17 July 1946 [Rept SM417]

Bottom Studies of Selected Areas off California and Lower California, (U), 18 July 1946 [Rept M433]

Dependence of Bottom Reflection Loss on Median Diameter of Bottom Sediment Particles, (U), 18 July 1946 [Rept M436]

Consulting Services for NAC Sound Beacon, (U), 30 July 1946 [Rept M441]

Operating Instructions for Navy Model CXKD Expendable Echo Sounder; Preliminary Edition, (U), 1 August 1946 [Rept U418]

Introduction to the Theory of Time-Series, (U), by C. Eckart, 12 August 1946 [Rept M408]

Thermal Structure of Sweetwater Lake, (U), by B.E. Holtzmark, 12 August 1946 [Rept M434]

Limitation of Echo Ranges by Reverberation (Deep Water); Supplement, (U), 20 August 1946 [Rept M361.1]

Transmission of 24 KC Sound in Shallow Water, (U), 28 August 1946 [Rept M423]

Contour Bottom Scanner; Completion Report, (U), 1 September 1946 [Rept U432]

Study of Bottom Materials, (U), 12 September 1946 [Rept M404]

Completion Report on Consulting Services for NAD-10 Sound Beacons, (U), 18 September 1946 [Rept M444]

Reverberation of 24-KC Sound in Shallow Water, (U), 19 September 1946 [Rept M438]

Regulated Power Supplies, (U), by B.A. Penners, 30 September 1946 [Rept M437]

Transmission of 56-KC Sound in Deep Water, (U), 30 September 1946 [Rept M440]

Model Studies of Echo Formation, (U), by C.E. Mongan, 30 September 1946 [Rept M443]

Studies of the Deep Scattering Layer, (U), 30 September 1946 [Rept M445]

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Sea-Going Equipment for Sonic Transmission Studies, (U), by R.C. Manninger, 30 September 1946 [Rept M446]

Status Report on Self-Noise Measurements of Sonar Installation II, (U), 30 September 1946 [Rept M447]

Underwater Sound Transmission at Sonic Frequencies, (U), 30 September 1946 [Rept M448]

The UDT Paddleboard Sounding Equipment (Completion Report), (U), 30 September 1946 [Rept M449]

Submarine Photography off the California Coast, (U), by F.P. Shepard, 30 September 1946 [Rept M454]

Studies of the Recognition of Submarine Echoes, (U), 30 September 1946 [Rept N431]

Completion Report for NAD-6 Sound Beacon, (U), October 1946 [Rept U451]

Preliminary Instruction Manual for NAD-10A Sound Beacon, (U), 1 October 1946 [Rept M412]

Sound Recording at UCDWR: Summary Report, (U), 1 October 1946 [Rept U450]

Completion Report for NAD-10 Sound Beacon, (U), 1 October 1946 [Rept U452]

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[ **Box 6** ]

Memorandum for File on a Time Triangulation Method for Determining the Depth of Submarines, (U), by L.P. Delsasso, n.d.

Test of Modified Model TAQ Transmitter on U.S.S. CALIFORNIA, (U), by R.B. Owens, 30 December 1940 [Rept R-1]

Antenna Measurements on U.S.S. BRIDGE, (U), by R.B. Owens, 3 July 1941 [Rept R-2]

Antenna Measurements on U.S.S. KANAWHA, (U), by R.B. Owens, 19 September 1941 [Rept R-3]

Antenna Measurements on U.S.S. SARATOGA, (U), by R.T. Brackett, 19 September 1941 [Rept R-5]

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**[ Box 6 ]**

Directional Characteristics of Shipboard Transmitting Antennas - U.S.S. SARATOGA, (U), 8 October 1941 [Rept R-4]

Radio Hazard to Security of Extremely Small Antenna Voltages - Receiving Antennas on U.S.S. CONCORD, (U), by R.T. Brackett, 5 January 1942 [Rept R-6]

Radio Hazard to Security of Extremely Small Antenna Voltages - Receiving Antennas on U.S.S. HUGHES and U.S.S. CROSBY, (U), by R.T. Brackett, 14 February 1942 [Rept R-7]

Development of SONO Impulse Recorder, (U), by W.K. Lyon, 20 February 1942 [Rept S-1]

Radio Hazard to Security of Extremely Small Antenna Voltages - Receiving Antennas...ZEILIN, (U), by R.T. Brackett, 31 March 1942 [Rept R-8]

Instructions for the Installation and Operation of SONO Optical Recorder Experimental Model, (U), 22 May 1942

Radio Hazard to Security of Extremely Small Antenna Voltages - Receiving Antennas on U.S.S. HARRIS, (U), by R.T. Brackett, 22 May 1942 [Rept R-9]

Radio Hazard to Security of Extremely Small Antenna Voltages - High Frequencies...CROSBY, (U), by R.T. Brackett, 12 June 1942 [Rept R-10]

Directional Characteristics of a High Frequency Receiving Antenna on U.S.S. CROSBY, (U), by L.G. Trolese, 18 June 1942 [Rept R-11]

Preliminary Instructions, Depth Charge Direction Recorder, (U), 30 June 1942 [Rept S-2]

Characteristics of Antennas on U.S.S. SAN DIEGO, (U), by L.G. Trolese, 11 July 1942 [Rept R-12]

Antenna Impedance Measurements on the U.S.S. HORNET, (U), by R.T. Brackett, 23 July 1942 [Rept R-13]

Antenna Impedance Measurements on U.S.S...PRESIDENT JACKSON, (U), by L.G. Trolese, 12 August 1942 [Rept R-14]

Antenna Measurements on U.S.S. LONG ISLAND, (U) by L.G. Trolese, 22 August 1942 [Rept R-15]

Antenna Measurements on U.S.S. LAFFEY and U.S.S. WOODWORTH, (U), by S.R. Radom, 29 August 1942 [Rept R-16]

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**[ Box 6 ]**

Antenna Impedance Measurements on U.S.S. WASP, (U), by R.V. Stepler, 9 September 1942 [Rept R-17]

Radio Hazard to Security Resulting from Small Antenna Voltages - Receiving Antennas on U.S.S. LAFFEY and U.S.S. PC 570, (U), by S.R. Radom, 11 September 1942 [Rept R-18]

Model TBS Antenna Field Patterns - U.S.S. CROSBY, U.S.S. WOODSWORTH and U.S.S. WAHOO, (U), by C.W. Tirrell, 16 September 1942 [Rept R-19]

Report on Proposed Herald Locations - San Pedro Harbor, (U), 28 September 1942 [Rept S-6]

Characteristics of Antennas on the U.S.S. PC 487, U.S.S. PC 569 and U.S.S. PC 570, (U), by C.W. Tirrell, 5 October 1942 [Rept R-20]

Apparatus for Determining Radar Blind Zones, (U), by R.V. Keeran, 14 October 1942 [Rept WP-1]

Radar Wave Propagation, (U), by L. Anderson, 30 November 1942 [Rept WP-2]

Investigation of Surface Ship Wakes, by N.J. Holter, 1 December 1942 [Rept S-3]

Variation in Airplane Receiver Response with Distance and Direction from the U.S.S. LONG ISLAND, (U), by S.R. Radom, 12 December 1942 [Rept R-21]

**[ Box 7 ]**

Antenna Measurements on Submarines of the Albacore Class - U.S.S. WAHOO, U.S.S. WHALE, U.S.S. SUNFISH, (U), by R.V. Stepler, 31 December 1942 [Rept R-22]

Electric Razors as a Radio Hazard to Security, (U), by R.B. Owens, 22 January 1943 [Rept R-23]

Survey of San Francisco Harbor to Determine the Suitability of Proposed Locations for Harbor Defense Installations, (U), by C.R. Moe, 23 January 1934 [Rept S-4]

Survey of Puget Sound Area - Report on the Suitability of Possible Herald Locations, Strait...Inlet, (U), by C.R. Moe, 1 February 1943 [Rept S-5]

Antenna Measurements on the U.S.S. TUNNY, (U), by R.T. Brackett, 2 February 1943 [Rept R-24]

Radio Hazard to Security Resulting from Receiver Radiation from Submarine Antennas - Summary...Data, (U), by R.B. Owens, 3 February 1943 [Rept R-25]

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**[ Box 7 ]**

Reflection of Radar Waves from Targets of Simple Geometric Form, (U), L. Anderson, 24 February 1943 [Rept WP-3]

Antenna Measurements on Destroyers of the Bristol Class, (U), by C.W. Tirrell, 27 February 1943 [Rept R-26]

Sound Division, Biweekly Report No. 1-55, (U), 6 March 1943-9 June 1945

Radiation Field Patterns of Antennas on U.S.S. PHELPS, (U), by R.V. Stepler, 6 March 1943 [Rept R-27]

Radiation Field Patterns of Antennas of U.S.S. LONG ISLAND, (U), 17 March 1943 [Rept R-28]

Recording Tide Current Meter, (U), by D.D. Dressen, 1 May 1943 [Rept S-7]

Graphical Construction of a Radar Radiation Pattern in a Stratified Atmosphere, (U), by L. Anderson, 1 May 1943 [Rept WP-4]

Directivity in Shipboard Antennas - Summary of Observations to April, 1943, (U), by R.T. Brackett, 4 May 1943 [Rept R-29]

Atmospheric Refraction - A Qualitative Investigation, (U), by L. Anderson, 7 May 1943 [Rept Wp-5]

Roll and Pitch Corrector and Attack Plotter for Use with Echo Ranging Equipment, (U), by R.M. Sherwood, 22 May 1943 [Rept S-8]

Geometry of Surface Wakes and Experiments on Artificial Wakes, (U), by N.J. Holter, 22 May 1943 [Rept S-10]

Antenna Installations for Fighter-Director Communications on Auxiliary Aircraft Carriers - Performance and Progress Toward Improvement, (U), by S.R. Radom, 27 May 1943 [Rept R-30]

Surveys for Harbor Underwater Detection Equipment in the Fourteenth Naval District, (U), by J.O. Long, 23 June 1943 [Rept S-9]

Simple Methods of Determining Directivity Characteristics of Shipboard Antennas by the Use of Aircraft, (U), by S.R. Radom, 26 July 1943 [Rept R-31]

Antenna Measurements on U.S.S. DOHERTY DE-14, (U), by R.V. Stepler, 17 August 1943 [Rept R-32]

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Characteristics of Antennas on the Submarines U.S.S. TINOSA, U.S.S. TULLIBEE, U.S.S. SEAHORSE, and U.S.S. SKATE, (U), by C.W. Tirrell, 15 September 1943 [Rept R-34]

Optical Sound Bearing System, (U), by R.M. Sherwood, 20 September 1943 [Rept S-11]

Magnetic Detection Loops and Acoustic Surveys Fort Worden, Washington, (U), by J.O. Long, 28 September 1943 [Rept S-12]

Radiation and Impedance Characteristics of Various Types of Ship Antennas as Installed on Wooden SC Boats, (U), by J.L. Olsen, 18 October 1943 [Rept R-35]

Sound Transmission Loss Through and Thickness of the Wakes of Anti-Submarine Vessels, (U), by N.J. Holter, 22 November 1943 [Rept S-13]

Model SB Radar Equipment - Life and Performance Tests, (U), by H.E. Bryan, 23 November 1943 [Rept X-1]

Directivity Characteristics of the New Antennas on the U.S.S. NASSAU - CVE 16, (U), by S.R. Radom, 25 November 1943 [Rept R-36]

Radar Ray Patterns Associated with Normal and Anomalous Propagation Conditions, (U), by F.P. Dane, 10 December 1943 [Rept WP-6]

Measurement of Radar Wave Refraction and Associated Meteorological Conditions, (U), by L.J. Anderson, 10 December 1943 [Rept WP-7]

The Rapid Reduction of Meteorological Data to Index of Refraction at Radar Frequencies, (U), by L.J. Anderson, 10 December 1943 [Rept WP-8]

Transmission of Plane Waves Through a Single Stratum Separating Two Media, (U), by J.B. Smyth, 22 December 1943 [Rept WP-9]

Dynamics and Vibration of Mark IV 20 MM. Gun, Reticule Image Vibration in Mar XIV Gun Sight, (U), by E.F. Kiernan, 24 February 1944 [Rept S-14]

SONO Optical Recorder Service Tests, (U), by R.M. Sherwood, 27 February 1944 [Rept S-15]

Mechanical Determination of the Path Difference of Rays Subject to Discontinuities in the Vertical Gradient of Refractive Index, (U), by F.R. Abbott, 10 March 1944 [Rept WP-10]

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Instruction Memorandum on CW Modification for Type 896 Fathometer, U.S.S. MIDWAY (CVE-63), (U), 15 March 1944

Antenna Directivity Patterns and Influence of Radar Training on TBS Patterns - U.S.S. IRWIN, (U), by R.T. Brackett, 8 April 1944 [Rept R-37]

Procedures and Charts for Estimating the Low Level Coverage of Shipborne 200 MCS Radars Under Conditions of Pronounced Refractions, (U), by F.R. Abbott, 10 May 1944 [Rept WP-11 Rev]

Employment of a Ship's Mast as a Shunt Excited Antenna - Some Measurements Aboard Vessels of the Frigate Type, (U), by R.T. Brackett, 25 May 1944 [Rept R-38]

Antenna Directivity Patterns and Influence of Radar Training on TBS Patterns - USS ORCA, (U), by R.T. Brackett, 29 May 1944 [Rept R-39]

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Transmission of Plane Waves Through a Single Stratum Separating Two Media - Part II, (U), by J.B. Smyth, 23 June 1944 [Rept WP-13]

Radar Operator's Training Equipment, (U), by C.H. Freres, 7 July 1944 [Rept X-2]

Antenna Directivity Patterns on U.S.S. TANG and U.S.S. SPADEFISH with Experimental Measurements...SPADEFISH, (U), by R.V. Stepler, 19 July 1944 [Rept R-40]

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Antenna Directivity Patterns on U.S.S. PETROF BAY, TBK, TBL, and TDE WHIP and VHS Antennas, (U), by R.V. Stepler, 23 August 1944 [Rept R-41]

Antenna Directivity Patterns for U.S.S. HALLORAN - Comparison Between Nearby and Remote Transmissions, ...Patterns, (U), by R.T. Brackett, 30 August 1944 [Rept R-42]

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Antenna Directivity Patterns of U.S.S. TREPANG and Submarine and Frigate...Measurements, (U), by R.V. Stepler, 12 October 1944 [Rept R-43]



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Predicted Low Level Coverage of S-Band Shipborne Radars as Affected by Weather, (U), by L.L. Whittemore, 1 November 1944 [Rept WP-14]

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Wired Sonde Equipment for High Altitude Soundings, (U), by L.J. Anderson, 17 November 1944 [Rept WP-16]

Identification of Projectile Fragments for the Anti-Aircraft Training Center, Pacific Beach, Cal., (U), by C.H. Milligan, 16 December 1944 [Rept S-19]

Atmospheric Refraction: A Preliminary Quantitative Investigation, (U), by J.B. Smyth, 28 December 1944 [Rept WP-17]

Theory, Design and Construction of a Remote Antenna Tuning Unit, Frequency Range: 2.0 to 18.2 MCS, (U), by J.L. Olsen, 30 December 1944 [Rept R-44]

Thermal Wake Detection, (U), by D.H. Garber, 12 January 1945 [Rept S-20]

Atmospheric Waves; Fluctuations in High Frequency Radio Waves, (U), by J.B. Smyth, 1 February 1945 [Rept WP-18]

Atmospheric Refraction Under Conditions of a Radiation Inversion, (U), by L.J. Anderson, April 1945 [Rept WP-19]

Note on the Resistance of Electric Hydrometer Elements, (U), by L.J. Anderson, 8 May 1945 [Rept AERO-1]

Summary of Discussion at Navy Radio and Sound Laboratory on Bureau of Ships Problem B22RD "Ship Type Antenna Systems," (U), 4 and 5 June 1945

A/S Detection in Harbor Defense - Analysis of Operational Tests at Puget Sound, May 1945 ; Interim Report, (U), by W. Lyon, 6 June 1945

Bathythermograph Pen Lifting Attachment and Expanded Scale Bathythermograph, (U), by F. Kelly, 7 June 1945 [Rept S-21]

K-Band Attenuation Due to Rainfall, (U), by L.J. Anderson, 8 June 1945 [Rept WP-20]

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Tests of Radar Beacons, (U), by R.V. Keeran, 4 August 1945 [Rept R-45]

Quarterly Report, (U), September 1945

Some Measurements of Humidity, Temperature and Refractive Index Gradients Immediately Above the Ocean, (U), by S.T. Stephenson, September 1945 [Rept WP-22]

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