

DIRECTORY OF UNDERWATER SYSTEMS  
TRACKING, SCORING AND DATA PROCESSING  
SOFTWARE

UNDERWATER SYSTEMS GROUP  
RANGE COMMANDERS COUNCIL

WHITE SANDS MISSILE RANGE  
KWAJALEIN MISSILE RANGE  
YUMA PROVING GROUND

PACIFIC MISSILE TEST CENTER  
NAVAL WEAPONS CENTER  
ATLANTIC FLEET WEAPONS TRAINING FACILITY  
NAVAL AIR TEST CENTER

EASTERN SPACE AND MISSILE CENTER  
ARMAMENT DIVISION  
WESTERN SPACE AND MISSILE CENTER  
AIR FORCE SATELLITE CONTROL FACILITY  
AIR FORCE FLIGHT TEST CENTER  
AIR FORCE TACTICAL FIGHTER WEAPONS CENTER

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SOFTWARE

Prepared by

UNDERWATER SYSTEMS GROUP  
RANGE COMMANDERS COUNCIL

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## INTRODUCTION

The members and associate members of the Underwater Systems Group (USG) of the Range Commanders Council (RCC) have exchanged information on the computer hardware and software configurations in use at their respective ranges and activities regularly over the years with significant success. The enormous investment made in the current inventory of application software and the increasing tendency of software to dominate hardware in system costs indicated to the USG that an increased effort should be made to propagate information on existing programs in the expectation that large cost savings might accrue to the government.

Questionnaires were sent to all organizations represented in the USG. The information obtained from those questionnaires comprises the content of this directory.

The chapters in this directory are organized according to software program functions. Within each chapter the pages are arranged according to contributing activities in the following order:

- Kwajalein Missile Range (KMR)
- Eastern Space and Missile Center (ESMC)
- Pacific Missile Test Center (PMTTC)
- Atlantic Fleet Weapons Training Facility (AFWTF)
- Naval Air Test Center (NATC)
- Naval Undersea Warfare Engineering Station (NUWES)
- Naval Civil Engineering Laboratory (NCEL)
- Naval Underwater Systems Center (NUSC)
- Naval Coastal Systems Center (NCSC)

Chapter 1

UNDERWATER TRACKING PROGRAMS





TITLE: Hydroacoustic Tracking (Short Baseline)

ABSTRACT: Hydroacoustic (75 kHz) three-dimensional tracking on waterborne (surface/sub-surface) objects is performed using an array (short baseline) of four orthogonal hydrophones. Eight objects can be tracked simultaneously.

APPLICATION: MODCOMP IV 35/B using a DATACOM Model 8200 interface

LANGUAGE: FORTRAN IV

VINTAGE: 1980

LOCAL CATALOG NUMBER:

REMARKS:

POINT OF CONTACT: D. L. Pearson

NUWES

(206) 396-4541

AV 744-4541

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**Chapter 2**

**IMPACT SCORING PROGRAMS**

TITLE: ESSEX

ABSTRACT: Computer program ESSEX processes the measurement data from the Electronic Scoring System (ESS) on the Splash Detection Radars (SDRs) to obtain impact scores for reentry vehicles.

APPLICATION: Harris 6024/4VM computer system

LANGUAGE: FORTRAN

VINTAGE: Initiated in May 1977

LOCAL CATALOG NUMBER: None

REMARKS: None

POINT OF CONTACT: Don Strietzel KMR (205) 895-3850  
AV 742-3850

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TITLE: REDRESS

ABSTRACT: Computer program REDRESS reads the magnetic data tapes from the Electronic Scoring System (ESS) on the Splash Detection Radars (SDRs) and stores the measurements for processing by computer ESSEX.

APPLICATION: Harris 6024/4VM computer system

LANGUAGE: FORTRAN

VINTAGE: Initiated in May 1977

LOCAL CATALOG NUMBER: None

REMARKS: None

POINT OF CONTACT: Don Strietzel KMR (205) 895-3850  
AV 742-3850



TITLE: RVSCORE

ABSTRACT: Program RVSCORE computes a splash point for reentry vehicles missions and computes a miss distance from a known target based upon radar inputs, RADOT inputs, or Splash Detection Radar (SDR) inputs.

APPLICATION: CDC 6400 or CDC 7600

LANGUAGE: FORTRAN

VINTAGE: 1976

LOCAL CATALOG NUMBER: K2618

REMARKS: None

POINT OF CONTACT: Don Strietzel KMR (205) 895-3850  
AV 742-3850

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TITLE: SCORE

ABSTRACT: Program SCORE computes a splash point of a reentry vehicle in northings and eastings and in WGS66 Coordinates from Splash Detection Radar (SDR) inputs, RADOT inputs, or radar inputs.

APPLICATION: CDC 6400 or CDC 7600

LANGUAGE: FORTRAN

VINTAGE: 1976

LOCAL CATALOG NUMBER: K2619

REMARKS: None

POINT OF CONTACT: Don Strietzel KMR (205) 895-3850  
AV 742-3850





TITLE: FSSRP

ABSTRACT: FSSRP is a multistage general launcher setting angle program for small rocket operations to enable the correction of stage impact point(s) due to wind effects.

APPLICATION: CDC 6400/7600

LANGUAGE: FORTRAN

VINTAGE: 1968

LOCAL CATALOG NUMBER: S2623P

REMARKS: None

POINT OF CONTACT: Don Strietzel KMR (205) 895-3850  
AV 742-3850

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TITLE: IMTA - MILS Target Array Program

ABSTRACT: A program for computing impacts of single or multiple reentry bodies (REBs). Gives least squares adjustment of position, splash times, relative distances, miss distances, etc., from data collected on deep ocean hydrophone arrays.

APPLICATION: CYBER 74/73

LANGUAGE: FORTRAN 2189

VINTAGE: November 1980

LOCAL CATALOG NUMBER: 970

REMARKS: For quick look and post-processing of POLARIS, POSEIDON, TRIDENT, and MINUTEMAN operational launches.

POINT OF CONTACT: Donald L. Leonard ESMC/ROA (305) 494-7961  
AV 854-7961





TITLE:        **LOCATE**

ABSTRACT: Given the transit times from N (6) sound sources (coplanar) to each of three hydrophones, this program computes the depths and interhydrophone distances of the triad.

APPLICATION: CDC 3300 computer

LANGUAGE: FORTRAN

VINTAGE: Not certified for general distribution purposes

LOCAL CATALOG NUMBER:

REMARKS: The algorithm used is a least square version of a method originally attributed to Dr. Vanderkulk and published in a JUA journal. Inputs include a sound velocity profile in addition to the 3N transit times.

POINT OF CONTACT: Henry Maurais

NUSC

(401) 841-4800  
AV 948-4800

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**Chapter 3**

**SURFACE AND IN-AIR TRACKING PROGRAMS**

TITLE: ABCD Autotape BCD Tape Reduction Program

ABSTRACT: This program decodes the 7-track BCD tapes generated by the Autotape Electronic Positioning System. The Autotape raw data is written to 9-track magnetic tape in standard mediary binary format. The 7-track input tapes are multifile.

APPLICATION: CDC CYBER 74/73

LANGUAGE: FORTRAN 187 ASSEMBLY 0

VINTAGE: October 1978

LOCAL CATALOG NUMBER: 973

REMARKS: Offshore ship tracking for calibration purposes.

POINT OF CONTACT: Donald L. Leonard ESMC/ROA (305) 494-7961  
AV 854-7961

---

TITLE: OPTRACK

ABSTRACT: This program accepts readings taken during a 3-D 'SAD' from each of the three theodolite stations and calculates the ship's position in range coordinates and range and bearing from a specified 3-D target. 'OPTRACK' also has the option of accepting a ship's position (determined by 3-D) and giving the resulting look angles for each theodolite station.

APPLICATION: MODCOMP IV/35B

LANGUAGE: FORTRAN IV

VINTAGE: April 30, 1979

LOCAL CATALOG NUMBER:

REMARKS: OPTRACK has built-in values for St. Croix grid using 'Sandy', 'Two Bro', and 'Sprat'; St. Croix grid using 'Sandy', 'Long Point', and 'Sprat'; or 'Roosevelt Roads Grid System'. The operator also has the option of selecting other coordinate systems and entering theodolite and backsight positions through the console typewriter.

POINT OF CONTACT: Toby Ramos AFWTF-7125 (809) 863-2000  
AV 831-5314



TITLE: TRACAR

ABSTRACT: This program is used at the Atlantic Undersea Test and Evaluation Center (AUTEK) Range to process raw theodolite data from up to six cameras. Raw azimuth and elevation angles are corrected and position coordinates, velocity, acceleration, and trajectory angles are then computed.

APPLICATION: CDC 3400

LANGUAGE: FORTRAN

VINTAGE: 1977

LOCAL CATALOG NUMBER:

REMARKS:

POINT OF CONTACT: E. Moody

NUSC  
Code 38213

(401) 841-4800  
AV 948-4800

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TITLE: AERIS Real-Time Tracking Program

ABSTRACT: Processes tracking data from two targets. Range-range position information derived from Cubic DM-40 distance-measuring equipment interfaced with the computer system is processed and converted to X-Y coordinates, speed, and heading.

APPLICATION: Digital Equipment Corporation PDP-11/35

LANGUAGE: FORTRAN and ASSEMBLY language, DEC RT-11 Version 2 operating system

VINTAGE: 1979

LOCAL CATALOG NUMBER: None (File name is AEREMS.SAV)

REMARKS: Requires special hardware interfaces.

POINT OF CONTACT: H. P. Trujillo

NCSC  
Code 733

(904) 234-4495  
AV 436-4495







**Chapter 4**

**GEODETTIC DATA AND SURVEY PROGRAMS**

TITLE: SURVEY

ABSTRACT: Program SURVEY calculates possible observer locations from possibly biased look-angles to known targets. SURVEY yields two-dimensional coordinate components relative to the same origin as for the known targets.

APPLICATION: CDC 6400/7600

LANGUAGE: FORTRAN

VINTAGE: 1973

LOCAL CATALOG NUMBER: K2424

REMARKS:

POINT OF CONTACT: Don Strietzel KMR (205) 895-3850  
AV 742-3850

---

TITLE: GEORG

ABSTRACT: Program GEORG takes the latitude, longitude and height information of selected locations and calculates the (X,Y,Z) position using each of the selected locations as the origin of every other selected location to calculate azimuth and elevation angles. The earth model used is the Wake-Eniwetak 60 ellipsoid.

APPLICATION: CDC 6400/7600

LANGUAGE: FORTRAN

VINTAGE: 1972

LOCAL CATALOG NUMBER: K2412

REMARKS:

POINT OF CONTACT: Don Strietzel KMR (205) 895-3850  
AV 742-3850

TITLE: MCOTRAN

ABSTRACT: Program MCOTRAN is a generalized coordinate transformation routine. Input/output options are E, F, G (geodetic coordinates), A, E, R (AZ/EL, range), X, Y, Z (earth surface fixed coordinates).

APPLICATION: CDC 6400/7600

LANGUAGE: FORTRAN

VINTAGE: 1974

LOCAL CATALOG NUMBER: K2407

REMARKS:

POINT OF CONTACT: Don Strietzel KMR (205) 895-3850  
AV 742-3850

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TITLE: RCOM - SINS/ASPS NAV Data Comparison

ABSTRACT: This program compares Ship's Inertial Navigation System (SINS) data with the Acoustic Ship Positioning System (ASPS) navigation data.

APPLICATION: CDC CYBER 74/73

LANGUAGE: FORTRAN 226

VINTAGE: October 1978

LOCAL CATALOG NUMBER: 1029

REMARKS: Mainly used for analysis/accuracy studies.

POINT OF CONTACT: Donald L. Leonard ESMC/ROA (305) 494-7961  
AV 854-7961

TITLE:        **MIGP - MILS GDOP Program**

ABSTRACT: This program computes Geometric Dilution of Precision (GDOP) for events of interest by using various combinations of hydrophones internally or externally selected.

APPLICATION: CDC CYBER 74/73

LANGUAGE: FORTRAN 1163     ASSEMBLY 0

VINTAGE: April 1978

LOCAL CATALOG NUMBER: 923

REMARKS: For POLARIS and POSEIDON programs and pre-mission operations

POINT OF CONTACT: Donald L. Leonard                    ESMC/ROA                    (305) 494-7961  
AV 854-7961

---

TITLE:        **MISD - DOT Raw Data Decode**

ABST ACT: This program decodes raw data-recorded during a Deep Ocean Transponder (DOT) array survey operation from shipboard SRN-9 or BRN-3.

APPLICATION: CDC CYBER 74/73

LANGUAGE: FORTRAN 749

VINTAGE: August 1980

LOCAL CATALOG NUMBER: 1043

REMARKS: Pre-mission tasks for survey programs

POINT OF CONTACT: Donald L. Leonard                    ESMC/ROA                    (305) 494-7961  
AV 854-7961

TITLE: MFTQ - MILS Transponder Position

ABSTRACT: This program provides a least squares reduction of survey data for a Deep Ocean Transponder (DOT) array or for a Missile Impact Location System (MILS) target array.

APPLICATION: CDC CYBER 74/73

LANGUAGE: FORTRAN 2236

VINTAGE: August 1980

LOCAL CATALOG NUMBER: 941

REMARKS: Project Support: POSEIDON, PERSHING programs and pre-mission operations. Program MITT (1027) is appropriate for generating or modifying general data tape for DOT array input to other programs.

POINT OF CONTACT: Donald L. Leonard ESMC/ROA (305) 494-7961  
AV 854-7961

---

TITLE: MVPA VPRS Survey General Data

ABSTRACT: This program establishes the general data for Deep Ocean Transponders (DOT) associated with Velocity and Position Recording System (VPRS) units.

APPLICATION: CDC CYBER 74/73

LANGUAGE: FORTRAN 460

VINTAGE: November 1980

LOCAL CATALOG NUMBER: 1118

REMARKS: The program is the first step in reduction of survey data for VPRS array.

POINT OF CONTACT: Donald L. Leonard ESMC/ROA (305) 494-7961  
AV 854-7961

TITLE: MVPB VPRS Mini Survey

ABSTRACT: This program reduces ship geodetic and acoustic slant range data to provide an estimate of the positions of Deep Ocean Transponders (DOT) associated with Velocity and Position Recording System (VPRS) units.

APPLICATION: CDC CYBER 74/73

LANGUAGE: FORTRAN 773 ASSEMBLY 0

VINTAGE: November 1980

LOCAL CATALOG NUMBER: 1119

REMARKS: Used for launch point arrays on POSEIDON and TRIDENT programs.

POINT OF CONTACT: Donald L. Leonard ESMC/ROA (305) 494-7961  
AV 854-7961

---

TITLE: MVPC - VPRS Range Matching

ABSTRACT: This program computes the ranges from the Acoustic Ship Positioning System (ASPS) transducer to Deep Ocean Transponders (DOT). Recorded ranges which differ from the computed ranges by no more than an input gate valve are selected as matched ranges.

APPLICATION: CDC CYBER 74/73

LANGUAGE: FORTRAN 404 ASSEMBLY 0

VINTAGE: November 1980

LOCAL CATALOG NUMBER: 1120

REMARKS: Used for launch point arrays on POSEIDON and TRIDENT programs.

POINT OF CONTACT: Donald L. Leonard ESMC/ROA (305) 494-7961  
AV 854-7961

TITLE: MISG Satellite Navigation Program

ABSTRACT: This program reduces satellite navigation system data from shipboard BRN-3 or SRN-9 to provide latitude and longitude positions. The program also handles Acoustic Ship Positioning System (ASPS) range data for use in subsequent programs.

APPLICATION: CYBER 74/73

LANGUAGE: FORTRAN 923 ASSEMBLY 0

VINTAGE: CDC CYBER 74/73

LOCAL CATALOG NUMBER: 1177

REMARKS: Projects supported are POLARIS, POSEIDON, and TRIDENT launches. Program breaks up satellite pass into ship's track of 20-minute increments.

POINT OF CONTACT: Donald L. Leonard ESMC/ROA (305) 494-7961  
AV 854-7961

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TITLE: Weighted Baseline Least Squares Lattice Locator WBLSLI

ABSTRACT: Computes the relative locations of hydrophones using Vanderkulk Survey baseline data as input.

APPLICATION: CYBER 175

LANGUAGE: FORTRAN

VINTAGE: 1978

LOCAL CATALOG NUMBER: Tech Note 3450-7-78 Deck No. R15 WBLSLI 2J780990

REMARKS:

POINT OF CONTACT: D. VanZante PMTC (805) 982-7177  
Code 3452 AV 351-7177

TITLE:        **Least Squares Hydrophone Locator**

ABSTRACT: Adjusts both the survey boat locations and the hydrophone locations to obtain the best estimate of the position of the hydrophone.

APPLICATION: IBM 7094

LANGUAGE: FORTRAN

VINTAGE: 1977

LOCAL CATALOG NUMBER: Tech Note 3450-9-77 Deck No. R15 LSHL 25770980

REMARKS:

POINT OF CONTACT: D. VanZante

PMTC  
Code 3452

(805) 982-7177  
AV 351-7177

---

TITLE:        **COOTR**

ABSTRACT: This program accepts as input the coordinates of any point in the vicinity of the St. Croix AFWTF and outputs the coordinates of this same point in five different coordinate systems.

APPLICATION: MODCOMP IV/35B

LANGUAGE: FORTRAN IV

VINTAGE: April 30, 1970

LOCAL CATALOG NUMBER:

REMARKS:

POINT OF CONTACT: Toby Ramos

AFWTF-7125

(809) 863-2000  
AV 831-5314



TITLE:       **SURV3**

ABSTRACT: This program accepts OPTRACT data, uncorrected array coordinates data, sound velocity/depth velocity data, and transducer depth to produce a calculated array location.

APPLICATION: MODCOMP IV/35B

LANGUAGE: FORTRAN IV

VINTAGE:

LOCAL CATALOG NUMBER:

REMARKS:

POINT OF CONTACT: Toby Ramos

AFWTF-7125

(809) 863-2000  
AV 831-5314

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TITLE:       **Array Survey (SURVEY)**

ABSTRACT: This program is used to establish the location (position, rotation, and depth) of an array (short baseline, orthogonal array of four hydrophones). The results are used in the hydroacoustic tracking program to transform the track of an object from "array coordinates" to range (local) coordinates.

APPLICATION: MODCOMP IV

LANGUAGE: FORTRAN IV

VINTAGE: 1980

LOCAL CATALOG NUMBER:

REMARKS:

POINT OF CONTACT: D. L. Pearson

NUWES

(206) 396-4541  
AV 744-4541





**Chapter 5**

**UNDERWATER SOUND PROPAGATION PROGRAMS**

TITLE: MIVC - MILS Velocity Profile

ABSTRACT: Given the velocity vs. depth profile data, the program computes the average vertical (effective) velocity and ray path data for selected starting and stopping depths for either the direct signal path or the surface reflect signal path.

APPLICATION:

LANGUAGE: FORTRAN 745 ASSEMBLY 0  
FORTRAN 731 ASSEMBLY 0 (MIVP)

VINTAGE: September 1977

LOCAL CATALOG NUMBER: 916/965/1044

REMARKS: Used for POSEIDON and TRIDENT programs and pre-mission support. Program MIVF will also provide same results.

POINT OF CONTACT: Donald L. Leonard ESMC/ROA (305) 494-7961  
AV 854-7961

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TITLE: Underwater Sound Velocity (USV) Program

ABSTRACT: USV inputs depth vs. temperature or sound velocity via cards or a Sound Velocity Profile (SVP) tape. Outputs are a CALCOMP plot tape of the SVP and of sound ray path. An SVP tape can also be outputted.

APPLICATION: UNIVAC 1230

LANGUAGE: FORTRAN IV

VINTAGE: 1979

LOCAL CATALOG NUMBER: Tech Note 3450-31-79 Deck No. G19 USVP 03J 790018

REMARKS: Modification of NUWES SOUNDRAV program.

POINT OF CONTACT: Bruce Hill PMTC (805) 982-7077  
Code 3453 AV 351-7077







TITLE:       **Acoustic Ray Path Computation Program**

ABSTRACT: The standard Navy acoustic ray path computer models FACT and NISSM II have been implemented on a general-purpose computer to make offline acoustic tables for the countermeasures evaluator hybrid computer simulation system.

APPLICATION: B-5500

LANGUAGE: FORTRAN

VINTAGE: Unknown

LOCAL CATALOG NUMBER:

REMARKS: The programs are adaptations of UNIVAC and CDC computer programs developed at other activities.

POINT OF CONTACT: Max F. Dannecker

NCSC  
Code 732

(904) 234-4495  
AV 436-4495

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**Chapter 6**

**OCEAN ENGINEERING PROGRAMS**

TITLE: SNAPLD

ABSTRACT: Lumped parameter model for simulating the dynamic response of two-dimensional series connected cable structures. Can simulate payout/reel-in, ship translation, and current.

APPLICATION: CDC 175, CDC 7600

LANGUAGE: FORTRAN

VINTAGE: 1979

LOCAL CATALOG NUMBER: CEL Technical Memorandum M-44-80-1

REMARKS: Presently limited to two-dimensional problems; not more than two cables can connect at any node. Printed output includes positions, velocities, and tensions; plotted output includes geometry and tension history. Random excitations can be input.

POINT OF CONTACT: W. J. Nordell NCEL (805) 982-5500  
AV 360-5500

---

TITLE: CABANA

ABSTRACT: Frequency domain solution for estimating peak tension variation in lifting lines. Uses spectral or sinusoidal excitation. Aids in selecting lines to withstand dynamic loadings.

APPLICATION: CDC 175, CDC 7600

LANGUAGE: FORTRAN

VINTAGE: 1978

LOCAL CATALOG NUMBER: CEL Technical Memorandum M-44-80-4

REMARKS: Produces printer plots showing peak tension vs. excitation frequency. Output shows probability of exceeding a given tension.

POINT OF CONTACT: W. J. Nordell NCEL (805) 982-5500  
AV 360-5500



**Chapter 7**

**GRAPHICS AND DISPLAY PROGRAMS**



TITLE:           **Graphics Tracking Display**

ABSTRACT: This program formats in air (radar, cinesextant) and hydroacoustic tracking data for display in plan (X,Y) and elevation/depth on a multicolor video graphics display monitor.

APPLICATION: MODCOMP IV 35/B with DATACOM 8200 interface and GENISCO model GTC 3000 graphics system

LANGUAGE: FORTRAN IV

VINTAGE: 1980

LOCAL CATALOG NUMBER:

REMARKS:

POINT OF CONTACT: D. L. Pearson

NUWES

(206) 396-4541  
AV 744-4541

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Chapter 8

RANGE DATA PROCESSING PROGRAMS

TITLE: ASIM - MILS Target Array Simulation Program

ABSTRACT: This program is a Monte Carlo simulation program designed to simulate complex missile impacts in Missile Impact Location System (MILS) target array. It loops through a set of logic and computations that determine if acoustic signals generated by Reentry Bodies (REBs) are masked at various hydrophones.

APPLICATION: CYBER 74/73

LANGUAGE: FORTRAN 1819 ASEMBLY 0

VINTAGE: April 1978

LOCAL CATALOG NUMBER: 752

REMARKS: Applicable to TRIDENT, POSEIDON, and MINUTEMAN programs. Used for analysis of pre-mission tasks.

POINT OF CONTACT: Donald L. Leonard ESMC/ROA (305) 494-7981  
AV 854-7981

---

TITLE: Error Propagation Through Various Tracking Algorithms

ABSTRACT: Propagates variances and biases through underwater tracking algorithms (2D and 3D, hyperbolic and spherical, least squares, etc.) and plots radius of error.

APPLICATION: CDC CYBER 175

LANGUAGE: FORTRAN IV

VINTAGE: 1978

LOCAL CATALOG NUMBER: Documentation: Tech Note 3450-2-78, S14 ERRPLT 2J780985

REMARKS: The output is 8.5 x 11 plots drawn by an SD 4460 plotter

POINT OF CONTACT: Larry A. Anderson PMTC (805) 982-7177  
AV 351-7177











TITLE: FORACS

ABSTRACT: This program computes the actual range, adjusted range, relative bearing and true bearing from shipboard equipment to on-range targets.

APPLICATION: MODCOMP IV/35B

LANGUAGE: FORTRAN IV

VINTAGE: April 30, 1979

LOCAL CATALOG NUMBER:

REMARKS:

POINT OF CONTACT: Toby Ramos

AFWTF-7125

(809) 863-2000  
AV 831-5314

---

TITLE: FORSUR

ABSTRACT: This program accepts OPTRACK data, approximate FORACS location in range coordinates, velocity and other program constants; and through an iteration procedure, a posit for a FORACS is determined.

APPLICATION: MODCOMP IV/35B

LANGUAGE: FORTRAN IV

VINTAGE: April 30, 1979

LOCAL CATALOG NUMBER:

REMARKS:

POINT OF CONTACT: Toby Ramos

AFWTF-7125

(809) 863-2000  
AV 831-5314











TITLE: P3CII and Chesapeake Test Range

ABSTRACT: Software reads Chesapeake Test Range (CTR) tape and copy of navigation data from P3CII. Output is plot and listing of navigation error.

APPLICATION: System Engineering Laboratories (SEL 32/55)

LANGUAGE: FORTRAN

VINTAGE: 1979

LOCAL CATALOG NUMBER:

REMARKS:

POINT OF CONTACT: Daniel W. Buckner NATC (301) 863-4612  
AV 356-4612

---

TITLE: RTOUT

ABSTRACT: Program RTOUT is a program to smooth and time correlate specified in-water and radar data. Input is from the Atlantic Undersea Test and Evaluation Center (AUTEK) real-time program.

APPLICATION: CDC 3400 and SEL 32

LANGUAGE: FORTRAN

VINTAGE: 1978

LOCAL CATALOG NUMBER:

REMARKS: Data is smoothed by a user controlled least squares filter.

POINT OF CONTACT: E. Moody NUSC (401) 841-4800  
Code 38213 AV 948-4800



TITLE: RPVA

ABSTRACT: Program RPVA takes uncorrected radar measurements for time, azimuth, elevation, and range as input and computes smoothed Cartesian position, velocity, and acceleration.

APPLICATION: CDC 3400

LANGUAGE: FORTRAN

VINTAGE: 1977

LOCAL CATALOG NUMBER:

REMARKS: The origin for the coordinate systems for the output need not be the same as that for input.

POINT OF CONTACT: E. Moody

NUSC  
Code 38213

(401) 841-4800  
AV 948-4800

---

TITLE: PVATRNS

ABSTRACT: PVATRNS gives time correlated trajectory or point parameters (position, velocity, acceleration) referenced to some origin of latitude, longitude, and height. Will compute trajectory parameters referenced to a maximum of 19 sites.

APPLICATION: CDC 3400

LANGUAGE: FORTRAN

VINTAGE: 1975

LOCAL CATALOG NUMBER:

REMARKS: The program input is from cards or tape. The tape input is expected to conform to an AUTEC standard binary format.

POINT OF CONTACT: E. Moody

NUSC  
Code 38213

(401) 841-4800  
AV 948-4800

TITLE:       **TRACKT**

ABSTRACT: TRACKT is the AUTEK Range primary post-test in-water tracking program. Computations are based on an orthogonal X-Y-Z coordinate system and conversions to heights above sea level are made where necessary.

APPLICATION: CDC 3400

LANGUAGE: FORTRAN

VINTAGE: 1977

LOCAL CATALOG NUMBER:

REMARKS: Input to this program is the raw hydrophone data tape generated by the AUTEK real-time program.

POINT OF CONTACT: E. Moody

NUSC  
Code 38213

(401) 841-4800  
AV 948-4800

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