UNCLASSIFIED

AD NUMBER
ADB011713

NEW LIMITATION CHANGE

TO
Approved for public release, distribution unlimited

FROM
Distribution authorized to U.S. Gov’t. agencies only; Test and Evaluation; 30 JUN 1975. Other requests shall be referred to Office of the Assistant Secretary for Installations and Logistics and Logistics, Washington, DC 20301.

AUTHORITY
APL ltr, 11 Aug 1978
THIS REPORT HAS BEEN DELIMITED AND CLEARED FOR PUBLIC RELEASE UNDER LOD DIRECTIVE 5200.20 AND NO RESTRICTIONS ARE IMPOSED UPON IT'S USE AND DISCLOSURE.

DISTRIBUTION STATEMENT A

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.
DCD WEAPON SYSTEMS
SOFTWARE MANAGEMENT STUDY
APPENDIX E, BIBLIOGRAPHY

THE JOHNS HOPKINS UNIVERSITY • APPLIED PHYSICS LABORATORY

Distribution of this document is limited to U.S. Government agencies because it contains Test and Evaluation Data. This study was published on 30 June 1975. Other requests for this document must be approved by the Office of the Assistant Secretary of Defense for Installations and Logistics, The Pentagon, Washington, D.C. 20301.
DOD WEAPON SYSTEMS
SOFTWARE MANAGEMENT STUDY
APPENDIX E, BIBLIOGRAPHY
### Bibliography

This appendix to the DoD Weapon Systems Software Management Study conducted by APL contains a bibliography of the relevant documents acquired and used throughout the course of the study and a brief discussion of an associated Software Library. The Library was established to support the study effort by providing easy access to necessary background material. The acquisition, processing, and circulation of the library documents are discussed along with the various computerized retrieval tools used to provide information about the documents.
This appendix to the DoD Weapon Systems Software Management Study conducted by APL contains a bibliography of the relevant documents acquired and used throughout the course of the study and a brief discussion of an associated Software Library. The Library was established to support the study effort by providing easy access to necessary background material. The acquisition, processing, and circulation of the library documents are discussed along with the various computerized retrieval tools used to provide information about the documents.
ACKNOWLEDGMENTS

TABLE OF CONTENTS
CONTENTS

Acknowledgments .............................................. v

1. Introduction ............................................ 1-1

2. Bibliography of Relevant Documents Acquired .......... 2-1

3. Acquisition, Processing, and Circulation of Documents ... 3-1
   3.1 Acquisition .................................. 3-1
   3.2 Processing ................................... 3-1
   3.3 Circulation .................................... 3-1

4. Information Retrieval Tools ................................ 4-1
   4.1 Computer-Generated Indexes ......................... 4-1
      4.1.1 KWOC Formal Title ......................... 4-1
      4.1.2 KWOC Common Title ........................ 4-1
      4.1.3 Corporate Source .......................... 4-1
      4.1.4 Personal Author ............................ 4-1
      4.1.5 Short Document Listing ...................... 4-1
      4.1.6 Baseline Documents ......................... 4-2
      4.1.7 Originating Source ........................ 4-2
      4.1.8 Type of Document .......................... 4-2
      4.1.9 Weapon Systems ............................ 4-2
   4.2 On-Line Searching ................................ 4-2
   4.3 Batch Searching ................................ 4-3
INTRODUCTION
1. INTRODUCTION

This appendix to the DoD Weapon Systems Software Management Study conducted by APL contains a bibliography of the relevant documents that were acquired and used throughout the course of the study. The majority of the documents are generally available.

At the start of the study, it was anticipated that many assorted formal and informal documents would be acquired and used within a short period of time. It became apparent that a Software Library, especially one with a computerized data base, would be an essential device to handle the documents. Accordingly, a Software Library was established to support the study effort by providing easy access to necessary background material. A short discussion of the methods used to acquire, process, and circulate the library documents is included; various library tools such as computer-generated indexes and batch and on-line searching that provided rapid retrieval of desired information are described.
BIBLIOGRAPHY OF RELEVANT DOCUMENTS ACQUIRED
2. BIBLIOGRAPHY OF RELEVANT DOCUMENTS ACQUIRED

The collection consists of formally published documents and draft material from the Department of Defense, the Air Force, Army, and Navy Departments, other Government agencies, commercial contractors, and journal articles. Specific types of items in the library include studies, symposia, technical reports, directives, standards, specifications, and memoranda. The documents are listed alphabetically by title.
1. 427M SPACE COMPUTATIONAL CENTER (SCC). COMPUTER PROGRAM CONFIGURATION ITEM TEST PLAN GUIDE. -U-
   TH-CN-1100/200/02
   PLAN. System Development Corp., Santa Monica, Calif.
   UNCLASSIFIED 37pp. 02JAN74

2. 1973 IEEE SYMPOSIUM ON COMPUTER SOFTWARE RELIABILITY. -U-
   73CH0741-9-CSR

3. ACM COMPUTING SURVEYS: SPECIAL ISSUE: PROGRAMMING. -U-
   REPORT. Association for Computing Machinery, New York.

4. ACQUIRING AND USING A HARDWARE MONITOR. -U- Noe, J.D.

5. ACQUISITION AND USE OF SOFTWARE PRODUCTS FOR AUTOMATIC DATA PROCESSING SYSTEMS IN THE FEDERAL GOVERNMENT. -U-
   E-115369

6. ACQUISITION MANAGEMENT. ACQUISITION AND SUPPORT OF COMPUTER RESOURCES IN SYSTEMS. -U-
   AFR-800-14-V2

7. ACQUISITION MANAGEMENT. COMPUTER RESOURCES ACQUISITION AND SUPPORT. -U-
   AFM-800-XX (proposed)

8. ACQUISITION MANAGEMENT. MANAGEMENT OF COMPUTER RESOURCES IN SYSTEMS. -U-
   AFR-800-14-V1
9. ACQUISITION OF MAJOR DEFENSE SYSTEMS. -U-COD-5000.1
DIRECTIVE. Department of Defense, Washington, D. C.
UNCLASSIFIED 7pp. 13JUL71.

10. AD HOC COMMITTEE ON INTEROPERABILITY OF TACTICAL DATA
SYSTEMS WITH DOD MANAGEMENT INFORMATION SYSTEMS. -U-
MEMO. Office of the Secretary of Defense (Research and
18JUN73.

11. ADP MANAGEMENT IMPROVEMENT CONFERENCE SUMMARY. -U-
Carabello, J. M.
REPORT. Office of the Assistant Secretary of Defense,

12. ADP SOFTWARE QUALITY ASSURANCE. -U- Ray, R. E. L. Murphy, D. T.
MEMO. Department of Defense, Washington, D. C. UNCLASSI-
SIFIED 5pp. 20SEP74.

13. ADVANTAGES AND LIMITATIONS OF COMPUTER SIMULATION IN
DECISIONMAKING. -U-
E-163074
REPORT. Comptroller General of the United States,
Washington, D. C. UNCLASSIFIED 43pp. 3MAY73.

14. ANALYSIS OF COMPUTER SOFTWARE MANAGEMENT REQUIREMENTS FOR
OPERATIONALLY DEPLOYABLE SYSTEMS. VOLUME 1. EXECUTIVE SUM-
MARY. -U- Zempolich, E. A.
REPORT. Industrial College of the Armed Forces, Washin-
gton, D. C. UNCLASSIFIED 50pp. FEB74.

15. ANALYSIS OF COMPUTER SOFTWARE MANAGEMENT REQUIREMENTS FOR
OPERATIONALLY DEPLOYABLE SYSTEMS. VOLUME 2. -U- Zempol-
ich, B. A.
REPORT. Industrial College of the Armed Forces, Washin-
gton, D. C. UNCLASSIFIED 250pp. APR75.

16. APPLICATION OF THE TOP-DOWN APPROACH TO A MULTI-DEVELOPER
SYSTEM. -U- O'Neill, D.
IBM-74-PM1-001
REPORT. IBM Federal Systems Div., Gaithersburg, Md.
UNCLASSIFIED 11pp. MAR74.
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.</td>
<td>APPROACH TO CCS CERTIFICATION AT THE LAND BASED EVALUATION FACILITY. -U- SB-15 PLAN. Naval Underwater Systems Center, Newport, R. I. UNCLASSIFIED 12pp. 10JAN75.</td>
</tr>
<tr>
<td>24.</td>
<td>ATEE/MAX EXECUTIVE COMPUTER PROGRAM PERFORMANCE SPECIFICATION. -U- FFS-09150000 REPORT. Fleet Combat Direction Systems Support Activity, San Diego, Calif. UNCLASSIFIED 230pp. 15JUN74</td>
</tr>
</tbody>
</table>
25. ATLAS - ABBREVIATED TEST LANGUAGE FOR AVIONIC SYSTEMS. -U-
Ellison, T. A.
UNCLASSIFIED 8pp.

26. AUTOMATED DATA SYSTEM DOCUMENTATION STANDARDS. -U-
LOD-4120.17
DIRECTIVE. Department of Defense, Washington, D. C.
UNCLASSIFIED 2pp. 29DEC72.

27. AUTOMATED DATA SYSTEM DOCUMENTATION STANDARDS MANUAL. -U-
LOD-4120.17-M
STANDARD. Office of the Assistant Secretary of Defense,

28. AUTOMATED GENERATION OF TEST CASE DATA SETS. -U-
Miller, E. F., Jr. Melton, R. A.
REPORT. General Research Corp., Santa Barbara, Calif.
UNCLASSIFIED 9pp. JAN75.

29. AUTOMATED SOFTWARE QUALITY ASSURANCE: A CASE STUDY OF THREE
SYSTEMS. -U- Brown, J. R. DeSalvio, A. J. Heine, D. E.
TRW-SS-72-02
REPORT. TRW Systems Group, Redondo Beach, Calif.
UNCLASSIFIED 25pp. JUN72.

30. AUTOMATIC DATA PROCESSING COSTS IN THE DEFENSE DEPARTMENT.
-U- Fisher, D. A., Jr.
IDA-P-1046
UNCLASSIFIED 68pp. OCT74.

31. AUTOMATIC DATA PROCESSING EQUIPMENT SOFTWARE QUALITY AS-
SURANCE STUDY. PHASE III THRU V REPORT. -U- Bidwell, R. L.
REPORT. Department of Defense, Washington, D. C.
UNCLASSIFIED 15pp. 26MAR75.

32. AUTOMATICALLY TRANSLATING FORTRAN TO IFTRAN. -U- Melton, R. A.
REPORT. General Research Corp., Santa Barbara, Calif.
UNCLASSIFIED 7pp. 12FEB75.

34. BASIC POLICIES FOR SYSTEMS ACQUISITION BY THE DEPARTMENT OF THE ARMY. -U- AR 1000-1 DIRECTIVE. Department of the Army, Washington, D. C. UNCLASSIFIED 8p. 05NOV74.


41. CHIEF PROGRAMMER TEAM MANAGEMENT OF PRODUCTION PROGRAMMING. -U- Baker, P.T.

42. COMBAT SYSTEM CONTROL. -U-

43. COMMAND AND CONTROL SYSTEM ENGINEERING AND INTEGRATION (CCS EEI). TRIDENT SUBMARINE. CCS SYSTEM LEVEL TEST REPORT LEVEL PROGRAM INTEGRATION (CDRL A046). -U- Bates, A.G.
IBM-75-PC5-001; WBSD-No.22352
REPORT. IBM Federal Systems Div., Gaithersburg, Md.
UNCLASSIFIED 343pp. 01MAR75.

44. COMMAND AND CONTROL SYSTEM ENGINEERING AND INTEGRATION (CCS EEI). TRIDENT SUBMARINE. TRIDENT SOFTWARE STANDARDS AND CONVENTIONS. -U- Sharp, F.S.
IBM-75-W3-012; NAVSHIPS-0900-076-5010; WBSID-No.25210
STANDARD. IBM Federal Systems Div., Gaithersburg, Md.
UNCLASSIFIED 104pp. 21FEB75.

45. COMMAND AND CONTROL SYSTEM SPECIFICATION. -U- NAVSHIPS-0900-074-4010REV.A

46. COMPOSITE DESIGN: THE DESIGN OF MODULAR PROGRAMS. -U-
Myers, G.J.
MEMO. International Business Machines Corp., Poughkeepsie, N. Y. Poughkeepsie Lab. UNCLASSIFIED 81pp. 29JAN73

47. COMPUTER PERIPHERAL STANDARDIZATION. -U-
TADSTASK-1-74
48. COMPUTER PROGRAM CONFIGURATION MANAGEMENT. GUIDE TO THE
CHANGE STATUS REPORT. -U- Searle, L.V.
TM-5327/003/00
REPORT. System Development Corp., Santa Monica, Calif.
UNCLASSIFIED 18pp. 05JUN74.

49. COMPUTER PROGRAM CONFIGURATION MANAGEMENT. GUIDE TO THE
CONFIGURATION INDEX. -U- Searle, L.V.
TM-5327/002/00
REPORT. System Development Corp., Santa Monica, Calif.
UNCLASSIFIED 53pp. 05JUN74.

50. COMPUTER PROGRAM CONFIGURATION MANAGEMENT. POLICIES AND
INTERNAL PROCEDURES. -U- Searle, L.V.
TM-5327/001/00
REPORT. System Development Corp., Santa Monica, Calif.
UNCLASSIFIED 81pp. 05JUN74.

51. COMPUTER PROGRAM DESIGN SPECIFICATION FOR AN/UYK-20 CMS-2M
COMPILER PX 10607. -U-
FX-1/607
SPECIFICATION. Naval Electronic Systems Command,

52. COMPUTER PROGRAM DESIGN SPECIFICATION FOR STANDARD AN/UYK-20
EXECUTIVE. -U-
FX-10844
SPECIFICATION. Sperry Rand Corp., St. Paul, Minn.
UNIVAC Defense Systems Div. UNCLASSIFIED 95pp. AUG74.

53. COMPUTER PROGRAM IMPLEMENTATION CONCEPT. B-1 AVIONICS SUP-
PORT SOFTWARE - MILESTONE 2. -U-
E229-10042-1
13FEB73.

54. COMPUTER PROGRAM MODULARIZATION. -U- Gieszl, L.R.
JHU/APL-TG-1223
MEMO. Johns Hopkins Univ., Silver Spring, Md. Applied
Physics Lab. UNCLASSIFIED 33pp. SEPT73
55. COMPUTER PROGRAM PERFORMANCE SPECIFICATION FOR AN/UYK-20 CMS-2H COMPILER. -U-
FX-10606
SPECIFICATION. Sperry Rand Corp., St. Paul, Minn.

56. COMPUTER PROGRAM PERFORMANCE SPECIFICATION FOR STANDARD AN/UYK-20 EXECUTIVE. -U-
SPECIFICATION. Department of the Navy, Washington, D.
C. UNCLASSIFIED 68pp. 15APR74.

57. COMPUTER PROGRAM RELIABILITY. -U- Anderson, P.G.
REDCRT. Command and Control Systems Engineering,
Mooresetown, N. J. Missile and Surface Radar Div.
UNCLASSIFIED 6pp. 10NOV73.

58. COMPUTER PROGRAM REQUIREMENTS SPECIFICATION B-1. AVIONICS SUPPORT SOFTWARE - MILESTONE 1. -U-
D-229-19118-1
SPECIFICATION. Boeing Co., Seattle, Wash. UNCLASSIFIED
55pp. 13FEB73.

59. COMPUTER PROGRAM SUBSYSTEM DEVELOPMENT MILESTONES SSD EXHIBIT 61-47B. -U-
SSD-Exhibit-61-47B
SPECIFICATION. Department of the Air Force, Washington,
D. C. UNCLASSIFIED 29pp. 1APR66.

60. COMPUTER PROGRAMS: SPECIAL APPLICATIONS -U-
N74-33678; NASA-SP-5967(2)
REPORT. National Aeronautics and Space Administration,

61. COMPUTER SOFTWARE MANAGEMENT. -U-
TADSTASK-4-74
DIRECTIVE. Naval Material Command, Washington, D. C.
UNCLASSIFIED 4pp. 20NOV74.

62. COMPUTER SOFTWARE MANAGEMENT FROM THE POINT OF VIEW OF THE SYSTEM MANAGER. -U-
AD-920-559L
STUDY. Air Univ., Maxwell AFB, Ala. Air Command and
Staff College. UNCLASSIFIED 87pp. MAY74.

2-9
63. COMPUTEFE SOFTWARE MANAGEMENT TASK FORCE DOCUMENT OUTLINES. -U-
STANDARD. Department of the Navy, Washington, D. C. UNCLASSIFIED 174pp. 15JAN75.

64. COMPUTEFE SOFTWARE STANDARDIZATION. -U-
TADSTASK-2-73

65. COMPUTEFE TECHNOLOGY TO REACH THE PEOPLE. -U-

66. CONCEPTS IN SOFTWARE DESIGN. -U- Stewart, S.L.
Kosaraju, S.
NBS-TH-842
REPORT. Naval Bureau of Standards, Washington, D. C. Institute for Computer Sciences and Technology. UNCLASSIFIED A USA74.

67. CONFIGURATION MANAGEMENT. -U-
NAVMATINST-4130.1A ; AR-70-37
DIRECTIVE. Department of the Navy, Washington, D. C. UNCLASSIFIED 27pp. 1JUL74.

68. CONFIGURATION MANAGEMENT AND CHANGE CONTROL PROCEDURES FOR TACTICAL AND TECHNICAL COMPUTER PROGRAMS DEVELOPED BY THE NAVAL MATERIAL COMMAND. -U- Barrett, J. M.
NAVMATINST-4130.2

69. CONFIGURATION OF COMPUTEFE DIRECTION SYSTEMS AND COMBAT SYSTEMS FOR THE GENERAL PURPOSE FORCES. -U-
CFNAVINST-7700.1

70. CONSTRUCTION AND CONTROL OF COMPUTER PROGRAMS FOR THE NAVY TACTICAL DATA SYSTEMS. -U-
OPNAVINST-03500.27A

2-10
71. CONSTRUCTION AND CONTROL OF DIGITAL PROCESSOR PROGRAMS FOR THE NAVY COMBAT DIRECTION SYSTEMS. -U- CENAVINST-3500.27E

72. CONTRACT COST PERFORMANCE, FUNDS STATUS AND COST/SCHEDULE STATUS REPORTS. -U- Penisten, G.D.
SECNAVINST-7000.15B
DIRECTIVE. Department of the Navy, Washington, D. C. UNCLASSIFIED 41pp. 05DEC74.

73. CONTRACT COST PERFORMANCE, FUNDS STATUS AND COST/SCHEDULE STATUS REPORTS. -U-
EOD-7000.10
DIRECTIVE. Department of Defense, Washington, D. C. UNCLASSIFIED 36pp. 06AUG74.

74. CONTRACTOR COST DATA REPORTING (CCDR). -U- Middendorf, J.W., 2nd.
SECNAVINST-7000.20
DIRECTIVE. Department of the Navy, Washington, D. C.
UNCLASSIFIED 19pp. 10APR74.

75. CONTRACTOR COST DATA REPORTING (CCDR). -U-
EOD-7000.11
DIRECTIVE. Department of Defense, Washington, D. C.
UNCLASSIFIED 16pp. 05SEP73.

76. CONTRACTOR COST PERFORMANCE MEASUREMENT FOR SELECTED ACQUISITIONS. -U- Sanders, F.
SECNAVINST-7000.17A
DIRECTIVE. Department of the Navy, Washington, D. C.
UNCLASSIFIED 14pp. 26JUL72.

77. COST OF DEVELOPING LARGE-SCALE SOFTWARE. -U- Wolverton, R.W.
REPORT. TRW Systems Group, Redondo Beach, Calif.
UNCLASSIFIED 21pp. JUN74.

2-11


86. DATA SECURITY AND DATA PROCESSING. VOLUME 6. EVALUATIONS AND INSTALLATION EXPERIENCES: RESOURCE SECURITY SYSTEM. -U- G320-1376-0

87. DECISION COORDINATING PAPER (DCP) AND THE DEFENSE SYSTEMS ACQUISITION REVIEW COUNCIL (DSARC). -U-

88. DEFENSE SYSTEMS ACQUISITION REVIEW COUNCIL (DSARC). -U-

89. DEFINITION OF AN APPROACH TO ESTABLISHMENT OF AN F-15 AVIONICS SOFTWARE SUPPORT CAPABILITY. -U-
REPORT. Aeronautical Systems Div., Wright-Patterson AFB, Ohio. UNCLASSIFIED/ID 436pp. JUL74.

90. DEPARTMENT OF DEFENSE AUTOMATION OBJECTIVES. -U- McClary, T. E.

91. DEPARTMENT OF DEFENSE SPACE SHUTTLE ON-BOARD SOFTWARE REQUIREMENTS STUDY. VOLUME 1: STUDY SUMMARY. -U-
AD-923-425L ; SAMSO-TR-74-155-V1 ; TRW-F04701-74-C-0316 ; CL-161873
STUDY. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED/LE 165pp. 31OCT74.

92. DEPARTMENT OF DEFENSE SPACE SHUTTLE ON-BOARD SOFTWARE REQUIREMENTS STUDY. VOLUME 2: PROPOSED CHANGE PAGES TO DOD SPACE SHUTTLE ON-BOARD SOFTWARE REQUIREMENTS. -U- Drexlere, J. H.
TRW-25475-6011-TU-00 ; SAMSO-TR-74-155-V2 ; AD-923-426L ; CL-161877
STUDY. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED/LE 112pp. 31OCT74.
STUDY. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED/ID 312pp. 31OCT74.

STUDY. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED/ID 105pp. 31OCT74.

STUDY. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED 102pp. 31OCT74.

96. DEPARTMENT OF DEFENSE SPACE SHUTTLE ON-BOARD SOFTWARE REQUIREMENTS STUDY. VOLUME 6: RECOMMENDED ALTERNATE SOFTWARE DESIGN APPROACHES TO REDUCE RECURRING COSTS. -U- Eberhard, R. C. AD-923-430L; TRW-25475-6015-TU-00; SAMS-TR-74-155-V6; DI-161875
STUDY. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED/ID 150pp. 31OCT74.


98. DESIGN OF COMPUTER SOFTWARE. -U- Flynn, R. J. REPORT. Institute of Electrical and Electronics Engineers, Inc., New York. UNCLASSIFIED 4pp. 28JAN75.
99. DEVELOPMENT OF DOE POLICY AND GUIDELINES FOR THE MANAGEMENT OF COMPUTER SOFTWARE IN MAJOR WEAPON SYSTEMS. -U- Webster, D. A.
MEMO. Department of Defense, Washington, D. C. UNCLASSIFIED 19pp. 01OCT74.

100. DEVELOPMENT OF INITIAL PROGRAM COST ESTIMATES - A WORK BREAKDOWN STRUCTURE APPROACH. -U- Grosson, J. V. Rakow, W. O.
REPORT. Strategic Systems Project Office (Navy), Washington, D. C. UNCLASSIFIED 9pp. FEB75.

101. DEVELOPMENT OF REQUIREMENTS FOR MAJOR WEAPON SYSTEMS - TASK 73-9. -U- McCullough, H.
REPORT. Logistics Management Inst., Washington, D. C. UNCLASSIFIED 17pp. JUL73.

102. DOD HIGHER ORDER PROGRAMMING LANGUAGE. -U- Whitaker, W. A. Currie, M. R.
DIRECTIVE. Office of the Secretary of Defense (Research and Engineering), Washington, D. C. UNCLASSIFIED 2pp. 26DEC74.

103. DOD HIGHER ORDER PROGRAMMING LANGUAGE. -U- Vellertsen, R. A.
MEMO. Fleet Combat Direction Systems Support Activity, Dam Neck, Va. UNCLASSIFIED 5pp. 17JAN75.

104. EFFECTIVE MANAGEMENT OF CONTRACT PROGRAMMERS. -U- Kitts, K. D.
REPORT. Furke Concrete Accessories, Inc., Burlingame, Calif. UNCLASSIFIED 5pp. JAN71.

105. EFFECTIVE PROGRAM DESIGN. -U- Packer, D. W.

106. EFFECTS OF MANAGEMENT PHILOSOPHY ON SOFTWARE PRODUCTION. -U- Fleischer, R. J.
MTR-2648-V2

2-15

108. ENGINEERING MANAGEMENT. -U-
   MIL-STD-499A (USAF)

109. ENGINEERING OF QUALITY SOFTWARE SYSTEMS. -U- Clapp, J.A.
   Lapadula, L.J.
   MIT-2648-V1

110. ENGINEERING SOFTWARE FOR TESTABILITY. -U- Miller, E.P., Jr.
    REPORT. General Research Corp., Santa Barbara, Calif. UNCLASSIFIED 5pp. FEB75.

111. ENGINEERING SOFTWARE IDENTIFICATION AND RELEASE STANDARD.
    -U- Parnell, J.H.
    180-17661-1

112. ESTABLISHMENT OF TACTICAL SOFTWARE USERS BOARD. -U-
    TADSTMB-2-75

113. ESTABLISHMENT OF THE NAVAL AIR SOFTWARE MANAGEMENT ADVISORY
    COMMITTEE. -U- Foxgrover, J.H.
    NAVAIRINST-5420.24

114. EVALUATING THE EFFECTIVENESS OF SOFTWARE VERIFICATION PRACTICAL EXPERIENCE WITH AN AUTOMATED TOOL. -U- Brown, J.R.
    Hoffman, R.H.
    TRW-SS-72-08
    REPORT. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED 10pp. DEC72

2-16
115. EXTENDING PL/1 FOR STRUCTURED PROGRAMMING. -U- Sullivan, J.E.
    FITRE-2353
    30Mar72.

116. FIRST NATO SYMPOSIUM ON QUALITY AND ITS ASSURANCE. THE ROLE
    OF QUALITY ASSURANCE IN ADVANCED TECHNOLOGY. -U- McGinnis, F.
    REPORT. Sperry Rand Corp. UNCLASSIFIED 62pp. OCT73.

117. FISCAL CYCLE. -U-
    REPORT. General Dynamics, Pomona, Calif. Pomona Div.
    UNCLASSIFIED 48pp.

118. FLOWCHART SYMBOLS AND THEIR USAGE IN INFORMATION PROCESSING.
    -U-
    ANSI-X3.5-1970
    STANDARD. American National Standards Inst., Inc., New

119. FORTRAN AUTOMATIC CODE EVALUATION SYSTEM (FACES). PART I.
    -U- Ramanan, C.V. Ho, S.F.
    ERL-M466; AD-A004-168
    REPORT. California Univ., Berkeley. Electronics
    Research Lab. UNCLASSIFIED 512pp. 25JUL74.

120. GAELIC - GRUMMAN AEROSPACE ENGINEERING LANGUAGE FOR INSTRUCTIONAL CHECKOUT. -U- Stolov, S.E.
    REPORT. Grumman Aerospace Corp., Bethpage, N.Y.

121. GETTING GOODER SOFTWARE CHEAPER AND QUICKER. -U- Brown, J.R.
    REPORT. TRW Systems Group, Redondo Beach, Calif.
    UNCLASSIFIED 37pp. 01AUG74

122. GRAPHICAL AUTOMATIC PROGRAMMING. -U- Kossiakoff, A.
    REPORT. Johns Hopkins Univ., Silver Spring, Md. Applied
    Physics Lab. UNCLASSIFIED 24pp. SEP-OCT69.


125. HACS SOFTWARE SYSTEM PROJECT DESIGN PLAN. (MANAGEMENT PLAN) (SCURIL ITEM S002). -U- Velguth, C.A. TM-{L}-5265/100/00 REPORT. System Development Corp., Santa Monica, Calif. UNCLASSIFIED 86pp. 21JAN74.


130. IMPACT OF NEW TECHNOLOGIES ON SOFTWARE CONFIGURATION MANAGEMENT. -U- Boehm, B.W. Bosch, C.A. Liddle, A.S. REPORT. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED 218pp. 10JUN74.
131. IMPLEMENTATION OF INTERFACE STANDARDS FOR SHIPBOARD SYSTEMS. 
- U -
NAVMATINST-4120.101A
DIRECTIVE. Naval Material Command, Washington, D. C.
UNCLASSIFIED 3pp. 30APR71.

132. INFORMAL REPORT. ADVANCED NTEC STUDY. PHASE II. - U -
IR(A)-2682
REPORT. Fleet Combat Direction Systems Support Activity, Virginia Beach, Va. UNCLASSIFIED 218pp. 30NOV73.

Haile, A.C.
SAMSO/XRS-71-1 ; SAMSO-TR-72-122 ; AD-742-292
REPORT. Space and Missile Systems Organization, Los Angeles, Calif. UNCLASSIFIED 17pp. FEB72.

134. INFORMATION PROCESSING/DATA AUTOMATION IMPLICATIONS OF AIR FORCE COMMAND AND CONTROL REQUIREMENTS IN THE 1980s (CCIP-85). VOLUME 1. HIGHLIGHTS. -U- Boehm, B.W. Haile, A.C.
SAMSO/XRS-71-1-V-1 ; SAMSO-TR-72-141-V-1 ; AD-900-031
REPORT. Department of the Air Force, Washington, D. C.
UNCLASSIFIED 140pp. APR72.

- U - Boehm, B.W. Haile, A.C.
SAMSO/XRS-71-1-V-2 ; SAMSO-TR-72-200-V-2 ; AD-521-887L
REPORT. Space and Missile Systems Organization, Los Angeles, Calif. SECRET-RD 31pp. JUN72.

SAMSO/XRS-71-1-V-2A ; SAMSO-TR-72-200-V-2A ; AD-521-888L ; 20770-6007-R1-00
REPORT. TRW Systems Group, Redondo Beach, Calif.
SECRET-RD 262pp.

2-19


2-20


147. INTERACTIVE PROGRAM VERIFICATION SYSTEM. -U- ISI/RR-74-22 ; ARPA-O-2223 REPORT. University of Southern California, Marina del Rey. Information Sciences Inst. UNCLASSIFIED 32pp. OCT74.


149. INTERNATIONAL CONFERENCE ON RELIABLE SOFTWARE, 1975. -U- REPORT. Institute of Electrical and Electronics Engineers, Inc., New York. UNCLASSIFIED 567pp. 21APR75.

2-21
150. INTRODUCTORY GUIDE TO COMPUTER PROGRAM CONFIGURATION MANAGEMENT. -U- Searele, L.V.
TM-5327/000/00
REPORT. System Development Corp., Santa Monica, Calif.
UNCLASSIFIED 73pp. 05JUN74.

151. JCB AND JOESTREAM MODELING IN THE TRW TIMESHARE SYSTEM SIMULATION. -U- Kaspar, H. Miller, D.S.
TRW-SS-74-03
REPORT. TRW Systems Group, Redondo Beach, Calif.
UNCLASSIFIED 27pp. MAY74.

152. JOCT - JOVIAL COMPILER IMPLEMENTATION TOOL. -U- Dunbar, T.L.
REPORT. Computer Sciences Corp., Los Angeles, Calif.
UNCLASSIFIED 70pp. JAN75.

153. JOINT CDC/AMC ARTADS INTERFACE MANAGEMENT PLAN (AIMP). -U-
REPORT. Army Combat Developments Command, Fort Belvoir, Va.
UNCLASSIFIED 57pp. OCT72.

154. JOINT CONFIGURATION MANAGEMENT OF AN/UYK-7(V) COMBAT SYSTEM PROCESSOR. -U-
NAVMATINST-4130.4A ; MAT-09Y
DIRECTIVE. Naval Material Command, Washington, D. C.
UNCLASSIFIED 7pp. 23APR73.

155. JOINT CONFIGURATION MANAGEMENT OF STANDARD COMBAT SYSTEM DATA PROCESSING HARDWARE AND SOFTWARE. -U-
NAVMATINST-4130.3A ; MAT-09Y/RSF
DIRECTIVE. Naval Material Command, Washington, D. C.
UNCLASSIFIED 12pp. 23SEP74.

F.11:1-124. MAR75.
REPORT. Pennsylvania State University, University Park.
Department of Computer Science. UNCLASSIFIED 14pp.
30DEC74.
157. MANAGEMENT CONCEPTS FOR TOP DOWN STRUCTURED PROGRAMMING. -U-McBride, R.C.
FSC-73-0001
REPORT. IBM Corp., Gaithersburg, Md. UNCLASSIFIED 30pp. FEB73.

158. MANAGEMENT INFORMATION SYSTEMS: POLICIES, OBJECTIVES, PROCEDURES, AND RESPONSIBILITIES. -U-
ARM-18-1
SPECIFICATION. Department of the Army, Washington, D. C. UNCLASSIFIED 290pp. 9NOV73.

159. MANAGEMENT OF AUTOMATED DATA SYSTEM DEVELOPMENT. -U-
ECD-5010.27

160. MANAGEMENT OF TECHNICAL DATA. -U-
ECD-5010.12
DIRECTIVE. Department of Defense, Washington, D. C. UNCLASSIFIED 35pp. 5DEC68.

161. MANAGEMENT OF WEAPON SYSTEM SOFTWARE. -U-Currie, M.R. Mendolia, A.I. McClary, T.E.

162. MANAGING COMPUTER PROGRAM DEVELOPMENT. -U- Steels, S.A.
UNCLASSIFIED 4pp. 09NOV72.

163. MASTER COMBAT DIRECTION SYSTEMS PLAN. (Draft) -U-

164. MATHEMATICAL FOUNDATIONS FOR STRUCTURED PROGRAMMING. -U-
Mills, H.D.
FSC-72-6012; DL-153-562
165. MEASURING THE COMPLEXITY OF COMPUTER SOFTWARE. -U- Sullivan, J.E.
MIT-264E-V5
25JUN73.

166. MEETING AGENDA FOR THE WEAPON SYSTEMS SOFTWARE MANAGEMENT
STEERING GROUP, 10 MARCH 75. -U- Hensley, R.D.
10MAR75.

167. MEMORANDUM FOR ASSISTANT SECRETARIES OF THE MILITARY DEPART-
MENTS (R&D) - COMPUTER SOFTWARE. -U- Currie, M.R.
MAR74.

168. METHODOLOGY FOR COMPREHENSIVE SOFTWARE TESTING. -U- Miller, E.F., Jr.
CE-1-465
REPORT. General Research Corp., Santa Barbara, Calif.
UNCLASSIFIED 149pp. FEB75.

169. MILITARY SPECIFICATION - GENERAL SPECIFICATION FOR TACTICAL
SOFTWARE. -U-
REPORT. Department of the Navy, Washington, D. C.
UNCLASSIFIED 23pp.

170. MILITARY SPECIFICATION - SOFTWARE QUALITY ASSURANCE PROGRAM
REQUIREMENTS. -U-
MIL-S-52779 (AC)
SPECIFICATION. Department of the Army, Washington, D.
C. UNCLASSIFIED 6pp. 5APR74.

171. MILITARY SPECIFICATION - SPECIFICATIONS, TYPES AND FORMS.
-U-
MIL-S-83490
SPECIFICATION. Department of Defense, Washington, D. C.
UNCLASSIFIED 6pp. 30OCT68.

172. MILITARY STANDARD - CONFIGURATION CONTROL ENGINEERING
CHANGES, DEVIATIONS AND WAIVERS. -U-
MIL-STD-480
STANDARD. Naval Air Systems Command, Washington, D. C.
UNCLASSIFIED 49pp. 30OCT68.

2-24
173. MILITARY STANDARD - CONFIGURATION CONTROL ENGINEERING CHANGES, DEVIATIONS AND WAIVERS (SHORT FORM). -U- MIL-STD-481A
STANDARD. Department of Defense, Washington, D. C.
UNCLASSIFIED 19pp. 18OCT72.

174. MILITARY STANDARD - CONFIGURATION MANAGEMENT PRACTICES FOR SYSTEMS, EQUIPMENT, MUNITIONS, AND COMPUTER PROGRAMS. -U- MIL-STD-483 (USAF)
STANDARD. Air Force Systems Command, Washington, D. C.
UNCLASSIFIED 127pp. 1JUN71.

175. MILITARY STANDARD - CONFIGURATION STATUS ACCOUNTING DATA ELEMENTS AND RELATED FEATURES. -U- MIL-STD-482A

176. MILITARY STANDARD - QUALITY ASSURANCE TERMS AND DEFINITIONS. -U- MIL-STD-109B
STANDARD. Naval Ship Systems Command, Washington, D. C.
UNCLASSIFIED 12pp. 04APR69.

177. MILITARY STANDARD - SPECIFICATION PRACTICES. -U- MIL-STD-490
STANDARD. Department of Defense, Washington, D. C.
UNCLASSIFIED 76pp. 18MAY72.

178. MILITARY STANDARD - TECHNICAL REVIEWS AND AUDITS FOR SYSTEMS, EQUIPMENT, AND COMPUTER PROGRAMS. -U- MIL-STD-1521 (USAF)
STANDARD. Department of Defense, Washington, D. C.
UNCLASSIFIED 86pp. 1SEP72.

179. MILITARY STANDARD - WORK BREAKDOWN STRUCTURES FOR DEFENSE MATERIAL ITEMS. -U- MIL-STD-801
STANDARD. Air Force Systems Command, Washington, D. C.
UNCLASSIFIED 104pp. 01NOV68.

2-25
180. MINUTES OF THE DOD WEAPON SYSTEMS SOFTWARE MANAGEMENT STEER-
ING GROUP. -U- Hensley, R.D.
MEMO. Department of Defense, Washington, D. C. UNCLASS-
IFIED 9pp. 21MAR75.

181. MISSILE AND POWER STATION DEVELOPMENT PROGRAM. SOFTWARE
ACCEPTANCE CRITERIA. -U-
LETTER. Martin Marietta Aerospace, Orlando, Fla.
UNCLASSIFIED 06pp. OCT70

182. MISSION AND FUNCTIONS OF TACTICAL DIGITAL SYSTEMS OFFICE
(TADSO). -U-
NAVMATINST-5230.5A ; M/T-051/JBJ
DIRECTIVE. Naval Material Command, Washington, D. C.
UNCLASSIFIED 5pp. OCT74.

183. MITRE TECHNICAL REPORT. FURTHER INVESTIGATIONS INTO THE
COMPLEXITY OF SOFTWARE. -U- Bell, D.E. Sullivan, J.E.
28JUN74.

184. MUDD REPORT: A CASE STUDY OF NAVY SOFTWARE DEVELOPMENT
PRACTICES. -U- Weiss, D.M.
NRL-R-7909
REPORT. Naval Research Lab., Washington, D. C. Communi-
cations Sciences Division. UNCLASSIFIED 28pp. 21MAY75

185. MYTHICAL MAN-MONTH: HOW DOES A PROJECT GET TO BE A YEAR
LATE? ONE DAY AT A TIME. -U- Brooks, F.P., Jr.
REPORT. North Carolina Univ., Chapel Hill. UNCLASSIFIED

186. NADC SUPPORT SOFTWARE PLANNING STUDY FINAL REPORT. -U-
STUDY. SofTech., Inc., Waltham, Mass. UNCLASSIFIED
132pp. 20MAR74.

187. NAVAL TACTICAL DATA SYSTEM EQUIPMENT SPECIFICATION FOR THE
USS AMERICA (CV-66). -U-
D-66
REPORT. Fleet Combat Direction Systems Support Activi-
ty, San Diego, Calif. UNCLASSIFIED 17pp. 31JAN75
188. NAVAL TACTICAL DATA SYSTEM, MODEL II - OPERATIONAL SPECIFICATIONS. -U- FR-3062
REPORT. Fleet Computer Programming Center, Pacific, San Diego, Calif. CONFIDENTIAL 222pp. 26MAR65

189. NAVAL TACTICAL DATA SYSTEM, MODEL III, PHASE 3 - PRODUCTION CONTROL HANDBOOK. -U-
H-4011
REPORT. Fleet Combat Direction Systems Support Activity, San Diego, Calif. UNCLASSIFIED 172pp. 01MAR74

190. NAVAL TACTICAL DATA SYSTEM, MODEL III, PHASE 3A. -U- FC-6300-66E
REPORT. Fleet Combat Direction Systems Support Activity, San Diego, Calif. CONFIDENTIAL 52pp. 26SEP73

191. NAVAL TACTICAL DATA SYSTEM, MODEL III, PHASE 3B. -U- FC-6300-68B
MEMO. Fleet Combat Direction Systems Support Activity, San Diego, Calif. CONFIDENTIAL 60pp. 11APR75

192. NAVAL TACTICAL DATA SYSTEM, MODEL IV, PHASE 0 - TECHNICAL PROGRAM DESIGN FOR CCEX/1/MIRC UPAK/SLDR/STBS. -U- TPD-09150000 ; TPD/M4PO/CC(P)CC
REPORT. Fleet Combat Direction Systems Support Activity, San Diego, Calif. UNCLASSIFIED 226pp. 15JAN75

193. NAVAL TACTICAL DATA SYSTEM OPERATIONAL EFFECTIVENESS DEMONSTRATION - FUNCTION OPERATIONAL DESIGN FOR AIRCRAFT LANDING CONTROL. -U- FOD(P)-04171000 ; FOD/OED/ACIC(P)
REPORT. Fleet Combat Direction Systems Support Activity, San Diego, Calif. CONFIDENTIAL 156pp. 15NOV74

194. NAVAL TACTICAL DATA SYSTEM OPERATIONAL EFFECTIVENESS DEMONSTRATION - SYSTEM OPERATIONAL DESIGN FOR AIRCRAFT CARRIERS. -U- SOD(P)-04171000 ; SOD/OED/CV(P)
REPORT. Fleet Combat Direction Systems Support Activity, San Diego, Calif. CONFIDENTIAL 480pp. 19APR74
195. NAVY AIRBORNE SOFTWARE SUPPORT ACTIVITY. -U-
NMC-TR-73-60
REPORT. Naval Missile Center, Point Mugu, Calif.
UNCLASSIFIED-L 143pp. 14DEC73.

196. NAVY AND MARINE CORPS TACTICAL DIGITAL EQUIPMENT CATALOG.
-U-

197. NAVY SYSTEM ACQUISITION. -U-
REPORT. General Dynamics, Pomona, Calif. Pomona Div.
UNCLASSIFIED 19pp.

198. NEW HIGH ORDER COMPUTER LANGUAGE FOR THE NAVY. -U- Loper, N. E.
CS-4-VRGN

199. OBJECTIVES AND POLICIES FOR SHIP LIFE-CYCLE MANAGEMENT. -U-
NAVMATINST-5400.14

200. CN MEASURING SOFTWARE RELIABILITY. -U-
SF-S.

201. ON TESTING PROGRAMS. -U- Paige, M.R. Balkovich, E.E.
REPORT. General Research Corp., Santa Barbara, Calif.
UNCLASSIFIED 5pp.

202. OPPORTUNITY FOR GREATER EFFICIENCY AND SAVINGS THROUGH THE USE OF EVALUATION TECHNIQUES IN THE FEDERAL GOVERNMENT'S COMPUTER OPERATIONS. -U-
E-115369

2-28
203. OPTIMAL SOFTWARE TEST PLANNING THROUGH AUTOMATED NETWORK ANALYSIS. -U- Krause, K.W. Smith, R.W. Goodwin, M.A.
TRW-SS-73-01
REPORT. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED 05pp. APR73

204. OVERVIEW AND STATUS PROGRAM VALIDATION PROJECT. -U-
MEPO. General Research Corp., Santa Barbara, Calif. UNCLASSIFIED 05pp. 01OCT74

205. OVERVIEW OF THE CS-4 COMPUTER PROGRAMMING LANGUAGE. -U-
Filler, J.S.

206. F-3C ORION EVOLUTION. -U- Craddock, W.
Lockheed Orion Service Digest. F-25. AUG72.
REPORT. Lockheed-California Co., Burbank. UNCLASSIFIED 31pp. AUG72.

207. F-3C UPDATE PROJECT. -U-
REPORT. Naval Air Development Center, Warminster, Pa. UNCLASSIFIED 19pp.

208. F-3C UPDATE PROJECT NAVY MANAGEMENT STRUCTURE. -U-
REPORT. Naval Air Development Center, Warminster, Pa. UNCLASSIFIED 4pp.

209. PARADOXES IN MANAGEMENT: SOFTWARE STANDARDS AND PROCEDURES.
-U- Wolverton, R.W.
REPORT. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED 28pp.

210. PERSHING Ia SYSTEM DESCRIPTION. -U-
OR-13149
REPORT. Martin Marietta Aerospace, Orlando, Fla. UNCLASSIFIED 160pp. JUN74.

211. PLANNING AND IMPLEMENTATION OF TESTS AND EVALUATIONS OF NEW WEAPON SYSTEMS. -U-
NAVMATINST-3960.6

2-29
212.  POLICIES AND PROCEDURES FOR FBM AND TRIDENT WEAPON SYSTEM COORDINATION DRAWINGS. -U-
DIRECTIVE. Department of the Navy, Washington, D. C.
UNCLASSIFIED 24pp. 29DEC72.

213.  PRACTICAL APPLICATIONS OF AUTOMATED SOFTWARE TOOLS. -U-
Brown, J.R.
TEW-SS-72-05
REPORT. TRW Systems Group, Redondo Beach, Calif.
UNCLASSIFIED 06pp. SEP72.

214.  PREDICTION OF SOFTWARE RELIABILITY DURING DEBUGGING. -U-
Pozanda, P.E.
REPORT. Institute of Electrical and Electronics Engineers, Inc., New York. UNCLASSIFIED 6pp. 28JAN75.

215.  PRELIMINARY INTERFACE DESIGN SPECIFICATION FOR HARPOON WEAPON SYSTEM. -U-
FCDSSA-D.N.74-39; WS-14789A
SPECIFICATION. Naval Ship Weapons Systems Engineering Station, Port Hueneme, Calif. UNCLASSIFIED 27pp.
13OCT74.

216.  PRINCIPLES OF PROGRAMMING. -U- Krutzer, P.J.

217.  PROCEDURES FOR TRANSFER OF NAVY TACTICAL DIGITAL SYSTEM SOFTWARE RESPONSIBILITY. -U-
NAVMATINST-5200.27A; MAT-09Y:RSF
DIRECTIVE. Naval Material Command, Washington, D. C.
UNCLASSIFIED 7pp. 18APR73.

218.  PROCEEDINGS OF A SYMPOSIUM ON THE HIGH COST OF SOFTWARE HELD AT THE NAVAL POSTGRADUATE SCHOOL, MONTEREY, CALIFORNIA, ON SEPTEMBER 17-19, 1973. -U-
SRI Project 3272; AD-777-121
UNCLASSIFIED 152pp. SEP73.


221. PROCESS DESIGN SYSTEM FOR LARGE REAL TIME SYSTEMS. -U- Eate, R.R. MEMO. Texas Instruments, Inc., Huntsville, Ala. UNCLASSIFIED 9pp.


223. PROGRAM AUTOMATED DOCUMENTATION METHODS. -U- Lanzano, B.C. TRW-SS-70-04 REPORT. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED 24pp. NOV70.


225. PROGRAM PRODUCTION PROCEDURES MANUAL (CS-1/MS-1 LIBRARY CONTROL PROCEDURES) VOLUME III. -U- F(A)-5040-V3 SPECIFICATION. Fleet Combat Direction Systems Support Activity, Virginia Beach, Va. UNCLASSIFIED 8pp. 29MAR74.

2-31
226. PROGRAM PRODUCTION PROCEDURES MANUAL (MTDS OVERVIEW AND DESIGN PROCEDURES) VOLUME I. -U-
M(A)-5040-V1
STANDARD. Fleet Combat Direction Systems Support Activity, Virginia Beach, Va. UNCLASSIFIED 102pp.
29MAR74.

227. PROGRAM PRODUCTION PROCEDURES MANUAL (PROGRAMMING GUIDELINES) VOLUME II. -U-
M(A)-5040-V2
SPECIFICATION. Fleet Combat Direction Systems Support Activity, Virginia Beach, Va. UNCLASSIFIED 368pp.
29MAR74.

228. PROGRAM PRODUCTION PROCEDURES MANUAL (TEST MANAGEMENT PROCEDURES) VOLUME IV. -U-
M(A)-5040-V4
29MAR74.

229. PROGRAMMER PRODUCTIVITY AND THE DELPHI TECHNIQUE. -U-
Scott, R.F. Simmons, D.B.

230. PROGRAMMING LANGUAGE FOR REAL-TIME SYSTEMS. -U- Kossiakoff, A. Sleight, T.P.

231. PROGRESS REPORT ON THE ATIAS LANGUAGE. -U- Ellison, T.A.

232. PROJECT PACER FLASH. VOLUME I. EXECUTIVE "TWO" AND FINAL REPORT. -U-
STUDY. Air Force Logistics Command, Wright-Patterson AFB, Ohio. UNCLASSIFIED 226pp. 28SEP73.

2-32
233. PROPOSAL FOR P-3C UPDATE II TEST SOFTWARE DEVELOPMENT. -U-
LR-26593-Rev. 1.
REPORT. Lockheed-California Co., Burbank. UNCLASSIFIED 66pp. 17SEP74.

234. PROPOSAL TO ENHANCE NAVSEA'S MANAGEMENT AND CONTROL OF THE
ACQUISITION OF DIGITALLY COMPLEX SHIPS. -U- Fernandes,J.E.
SEA 93/JEF Ser 47.

235. PROPOSED REVISION TO THE MILITARY STANDARD WORK BREAKDOWN
STRUCTURE (WES) FOR ELECTRONIC SYSTEMS (MIL STD 881 APPENDIX
E). -U-
MIL-STD-881 (Draft).

236. PSYCHOLOGY OF COMPUTER PROGRAMMING. -U- Weinberg,G.M.
REPORT. State Univ. of New York, Binghamton. School of Advanced Technology. UNCLASSIFIED 288p. 1971

237. RED TASKS ORIENTED TOWARDS THE IMPROVEMENT OF SOFTWARE RELI-
ABILITY. -U- Lieblein,E.

238. FELIABILITY OF LARGE REAL-TIME CONTROL SOFTWARE SYSTEMS. -U-
MacWilliams,W.H.

239. REPORT CONCERNING NAVAIR SOFTWARE MANAGEMENT. -U-

240. REPORT OF AD HOC COMMITTEE ON INTEROPERABILITY OF TACTICAL
DATA SYSTEMS WITH DOD MANAGEMENT INFORMATION SYSTEMS. -U-
REPORT. UNCLASSIFIED

2-33
241. REPORT OF DXGN SYSTEMS INTEGRATION ADVISORY GROUP. OCTOBER 1968. -U-
MEMO. DXGN Systems Integration Advisory Group. UNCLASSIFIED 60pp. OCT68.

242. REPORT OF THE ARMY SCIENTIFIC ADVISORY PANEL AD HOC COMMITTEE FOR ARMY TACTICAL DATA SYSTEM SOFTWARE DEVELOPMENT. -U-

243. REPORT ON AIR FORCE LOGISTICS COMMAND OPERATION FLIGHT PROGRAM SUPPORT. VOLUME 1. INTRODUCTION AND SUMMARY. -U-
TM-5439/000/00
REPORT. System Development Corp., Santa Monica, Calif. UNCLASSIFIED 86pp. DEC74.

244. REPORT ON AIR FORCE LOGISTICS COMMAND OPERATION FLIGHT PROGRAM SUPPORT. VOLUME 2. DATA ANALYSIS AND CONCLUSIONS. -U-
TM-5439/001/00
REPORT. System Development Corp., Santa Monica, Calif. UNCLASSIFIED 434pp. DEC74.

245. REQUIREMENTS FOR DIGITAL COMPUTER PROGRAM DOCUMENTATION. -U-
WS-8506

246. REQUIREMENTS FOR INTERCOMPUTER INTERFACE DOCUMENTATION. -U-

247. RESEARCH AND DEVELOPMENT SOFTWARE ACQUISITION - A GUIDE FOR THE MATERIEL DEVELOPER. -U-
MANF 70-4

248. RESPONSIBILITIES FOR THE ADMINISTRATION OF THE AUTOMATIC DATA PROCESSING PROGRAM. -U-
DCD-5100.40
DIRECTIVE. Department of Defense, Washington, D. C. UNCLASSIFIED 8pp. MAY70.

2-34
249. RESPONSIBILITY FOR THE COORDINATION AND MANAGEMENT OF WEAPON SYSTEM TACTICAL DIGITAL PROCESSORS AND RELATED SOFTWARE. -U-
Wittmann, P.G.
NAVAINST-5320.4
DIRECTIVE. Naval Air Systems Command, Washington, D.C.
UNCLASSIFIED 3pp. 01AUG75.

250. RESULTS OF AN EXPERIMENT IN THE APPLICATION OF SOFTWARE QUALITY PRINCIPLES. -U-
Corriqan, A.E.
MTR-2874-V3

251. FXVP: AN AUTOMATED VERIFICATION SYSTEM FOR FORTRAN. -U-
MEMO. General Research Corp., Santa Barbara, Calif.
UNCLASSIFIED 16pp. JAN75.

252. FXVP: FORTRAN AUTOMATED VERIFICATION SYSTEM. LEVEL 1. USER'S GUIDE. -U-
FM-1942
MEMO. General Research Corp., Santa Barbara, Calif.
UNCLASSIFIED 58pp. 01OCT74.

253. S-3A AVIONICS WEAPON SYSTEM FUNCTIONAL DESCRIPTION. -U-
Kcvalcik, E.J. Becker, R.S.
IB-23666
SPECIFICATION. Lockheed-California Co., Burbank.
UNCLASSIFIED 126pp. 28MAY70.

254. S-3A SOFTWARE MAINTENANCE STUDY (PCessa, Dam Neck, Virginia). -U-
Wiltsey, G.C. Wyche, F.R.
IB-26113
STUDY. Lockheed-California Co., Burbank. UNCLASSIFIED 158pp. 29OCT73.

255. SELECTION AND ACQUISITION OF AUTOMATIC DATA PROCESSING RESOURCES. -U-
EOD-4105.55
DIRECTIVE. Department of Defense, Washington, D.C.
UNCLASSIFIED 16pp. 19MAY72.
256. SHIP LIFE-CYCLE MANAGEMENT. -U-
NAVMATINST-5400.10
DIRECTIVE. Naval Material Command, Washington, D.C.
UNCLASSIFIED 7pp. 07MAR67.

257. SIMON FETOTYPE SPECIFICATIONS. -U-
MTR-WP-20144
24JAN75.

258. SITE DEFENSE PROGRAM SOFTWARE STANDARDS AND PROCEDURES. -U-
Miller,E.W.
TRW-NO.10780000D
STANDARD. TRW Systems Group, Redondo Beach, Calif.
UNCLASSIFIED 176pp. 06JUL73.

259. SOFTWARE AND ITS IMPACT: A QUANTITATIVE ASSESSMENT. -U-
Eoehm,B.W.
AE-765-925
REPORT. Rand Corp., Santa Monica, Calif. UNCLASSIFIED
52pp. DEC72.

260. SOFTWARE DEVELOPMENT AND CONFIGURATION MANAGEMENT MANUAL.
-U-
REPORT. TRW Systems Group, Redondo Beach, Calif.
UNCLASSIFIED 59pp. 17DEC73.

261. SOFTWARE DEVELOPMENT AND CONFIGURATION MANAGEMENT MANUAL.
-U- Eoehm,B.W.
TRW-SS-73-07
REPORT. TRW Systems Group, Redondo Beach, Calif.
UNCLASSIFIED 301pp. 17DEC73.

262. SOFTWARE DEVELOPMENT STANDARD. -U- Burr,W.R.
D180-17664-1
STANDARD. Boeing Co., Seattle, Wash. UNCLASSIFIED/SD
62pp. 08JAN75.

263. SOFTWARE DOCUMENTATION STANDARDS. -U- Barger,S.C.
D180-17662-1
STANDARD. Boeing Co., Seattle, Wash. UNCLASSIFIED/SD
160pp. 01NOV74.

2-36


2-38
279. SOFTWARE RELIABILITY: PHILOSOPHICAL UNDERPINNINGS. -U- Garrill, R.C.
   REPORT. Rand Corp., Santa Monica, Calif. UNCLASSIFIED
   20pp. OCT74.

280. SOFTWARE RELIABILITY TECHNICAL REPORT. -U-
   REPORT. International Business Machines Corp. UNCLASSIFIED 16pp.

281. SOFTWARE REQUIREMENTS ENGINEERING METHODOLOGY NOTEBOOK
    (FINAL REPORT). -U-
    22944-6221-020; AD-923-470L
    REPORT. TRW Systems Group, Huntsville, Ala. UNCLASSIFIED 260pp. 31OCT74.

282. SOFTWARE REQUIREMENTS ENGINEERING PROJECTS (SREP). TECHNICAL
    DIRECTION BRIEFING. SPECIAL REPORT. -U-
    27322-6921-001
    REPORT. TRW Systems Group, Huntsville, Ala. UNCLASSIFIED 27pp. 04NOV74.

283. SOFTWARE RESEARCH RECOMMENDATIONS. -U- Court, T.D.
   REPORT. System Development Corp., Santa Monica, Calif.
   UNCLASSIFIED 14pp. 23JAN75.

284. SOFTWARE STANDARDS AND PROCEDURES. -U-
    REPORT. TRW Systems Group, Redondo Beach, Calif.
    UNCLASSIFIED 45pp.

285. SOFTWARE STANDARDS OVERVIEW. -U-
    E180-17660-1
    REPORT. Boeing Co., Seattle, Wash. UNCLASSIFIED/LD
    47pp. 10JAN75.

286. SOME CASE STUDIES IN STRUTUPED PROGRAMMING. -U- Cheng, L.L.
    MTR-2648-V6
    29JUN73.
287. SOME EXPERIENCE WITH AUTOMATED AIDS TO THE DESIGN OF LARGE-SCALE RELIABLE SOFTWARE. -U- Boehm, E.W. McClean, R.K. Urrig, D.B. 
REPORT. TRW Systems Group, Redondo Beach, Calif. 

RM-6213-PR 
MEMO. Rand Corp., Santa Monica, Calif. UNCLASSIFIED 
45pp. JAN70.

289. SOME STEPS TOWARD FORMAL AND AUTOMATED AIDS TO SOFTWARE REQUIREMENTS ANALYSIS AND DESIGN. -U- Boehm, E.W. 
TRW-SS-14-02 
REPORT. TRW Systems Group, Redondo Beach, Calif. 
UNCLASSIFIED 10pp. AUG74.

290. SPECIAL FEATURE: BUILDING EDF SUCCESS BY STANDING ON SHOULDERS. -U- Harper, W.I. 

291. STANDARDE ENGINEERING PRACTICES FOR SAMSO EXHIBIT COMPUTER SOFTWARE DESIGN AND DEVELOPMENT. -U- 
1500.73-50 RME ; SAMSO-Exhibit-73-3 
MEMO. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED 23pp. 06OCT73.

292. STANDARD FIRE CONTROL SYMBOLS. -U- 
NAVORD-1700-V1 

293. STANDARD FIRE CONTROL SYMBOLS FOR MISSILE RELATED QUANTITIES. -U- 
NAVORD-1700-V3-C2 
294. STANDARD FIRE CONTROL SYMBOLS FOR UNDERWATER RELATED QUANTITIES. -U- NAVORD-1700-V2

295. STANDARD OPERATING PROCEDURES OF MANAGEMENT FOR TACTICAL SYSTEMS PROGRAMMING SUPPORT DIVISION (TSPSD), MARINE CORPS TACTICAL SYSTEMS SUPPORT ACTIVITY (MCTSSA). -U- TM-4767/000/00
   REPORT. System Development Corp., Santa Monica, Calif. UNCLASSIFIED 216pp. 23JUL71.

296. STATUS REPORT ON QUALITY ASSURANCE AUTOMATED DATA PROCESSING EQUIPMENT SOFTWARE STUDY. -U- Katrieb, C.H.

297. STATUS REPORT ON QUALITY ASSURANCE AUTOMATIC DATA PROCESSING EQUIPMENT STUDY. -U- Katrieb, C.H. Ray, R.E.
   MEMO. Department of Defense, Washington, D. C. UNCLASSIFIED 2pp. 04NOV73.

298. STRUCTURALLY BASED AUTOMATIC PROGRAM TESTING. -U- Miller, E.P., Jr. Bardens, J.A. Benson, J.F.
   REPORT. General Research Corp., Santa Barbara, Calif. UNCLASSIFIED 7pp. 12AUG74.

299. STRUCTURED PROGRAMMING SERIES. VOLUME 1. PROGRAMMING LANGUAGE STANDARDS. FINAL REPORT. -U- FSD-74-0288
   REPORT. IBM Federal Systems Div., Gaithersburg, Md. UNCLASSIFIED 143pp. 15MAR75.

300. STRUCTURED PROGRAMMING SERIES. VOLUME 3. ANS COBOL PRECOMPILE PROGRAM DOCUMENTATION. -U- Campbell, D.G. Kessler, M.M.
   REPORT. IBM Federal Systems Div., Gaithersburg, Md. UNCLASSIFIED 42pp. 22MAR75.

301. STRUCTURED PROGRAMMING SERIES. VOLUME 5. PROGRAMMING SUPPORT LIBRARY (PSL) FUNCTIONAL REQUIREMENTS. -U- Luppino, F.M.
   Smith, R.L.
   BADC-TR-74-300V5 ; AD/A-003-339
   REPORT. IBM Federal Systems Div., Gaithersburg, Md. UNCLASSIFIED 55pp. 25JUN74
302. STRUCTURED PROGRAMMING SERIES. VOLUME 6. PROGRAMMING SUPPORT PROGRAMMING SUPPORT LIBRARY (PSL) PROGRAM SPECIFICATIONS. -U- Timoff, N. Lupino, P.H.
FADC-TR-74-300-V6
REPORT. IBM Federal Systems Div., Gaithersburg, Md.
UNCLASSIFIED 191pp. 22NOV74.

303. STRUCTURED PROGRAMMING SERIES. VOLUME 7. DOCUMENTATION STANDARDS. FINAL REPORT. -U-
REPORT. IBM Federal Systems Div., Gaithersburg, Md.
UNCLASSIFIED 220pp. 21SEP74.

304. STRUCTURED PROGRAMMING SERIES. VOLUME 7. DOCUMENTATION STANDARDS. FINAL REPORT. ADDENDUM. -U- Bennett, M.S. Hughes, S.W. Ortega, L.H.
REPORT. IBM Federal Systems Div., Gaithersburg, Md.
UNCLASSIFIED 98pp. 15APR75.

305. STRUCTURED PROGRAMMING SERIES. VOLUME 9. MANAGEMENT DATA COLLECTION AND REPORTING. FINAL REPORT. -U- Smith, R.L.
FADC-TR-74-300-V9
REPORT. IBM Federal Systems Div., Gaithersburg, Md.
UNCLASSIFIED 122pp. 24OCT74.

306. STRUCTURED PROGRAMMING SERIES. VOLUME 10. CHIEF PROGRAMMER TEAM OPERATIONS DESCRIPTION. -U-
REPORT. IBM Federal Systems Div., Gaithersburg, Md.
UNCLASSIFIED 49pp. 22JAN75.

307. STRUCTURED PROGRAMMING SERIES. VOLUME 11. ESTIMATING SOFTWARE PROJECT RESOURCE REQUIREMENTS. FINAL REPORT. -U-
REPORT. IBM Federal Systems Div., Gaithersburg, Md.
UNCLASSIFIED 61pp. 22JAN75.

308. STRUCTURED PROGRAMMING SIMPLIFIED. -U- Chapin, R. House, R. McDaniel, N.
309. STRUCTURED PROGRAMMING TECHNIQUES. -U- Benson, J.P.

310. SUBSYSTEMS DESIGN-TO-COST EXPERIENCE. -U- O'Donohue, R.F.
REPORT. Department of Defense, Washington, D.C.
UNCLASSIFIED 36pp. 11FEB75.

311. SUMMARY NOTES OF A GOVERNMENT/INDUSTRY SIZING AND COSTING WORKSHOP. -U-
UNCLASSIFIED 55pp. 11FEB75.

312. SYSTEM ACQUISITION IN THE DEPARTMENT OF THE NAVY. -U-
SECNAVINST-5000.1
DIRECTIVE. Department of the Navy, Washington, D.C.
UNCLASSIFIED 41pp. 13MAR72.

313. SYSTEM COST RELIABILITY ANALYSIS PROGRAM (SCRAP) DOCUMENTATION. -U- Pytlik, W.F.
EL-160855 ; TR-NMER/RM-73-121 ; AD-911-399L
REPORT. Ogden Air Materiel Area, Hill AFB, Utah.
UNCLASSIFIED/ID 49pp. JUN73.

314. SYSTEM DESCRIPTION FOR P-3C UPDATE. VOLUME I OF IV TECHNICAL OVERVIEW. -U-
REPORT. Naval Air Development Center, Warminster, Pa.
UNCLASSIFIED 76pp. 24JAN74.

315. SYSTEM DEVELOPMENT CORPORATION SOFTWARE FACTORY. -U- Bratman, H. Court, T.
SF-3806
REPORT. System Development Corp., Santa Monica, Calif.

316. SYSTEM FOR RELIABLE ENGINEERING SOFTWARE. -U- Culvepper, L.M.
AL-A003-465
REPORT. N.R.C. Research and Development Center, Bethesda, MD.
UNCLASSIFIED 16pp. NOV74.
317. SYSTEMS ANALYSIS AND THE POLITICAL PROCESS. -U Schlesinger, J.R.
AE-657-313
REPORT. Rand Corp., Santa Monica, Calif. UNCLASSIFIED
31pp. JUN67.

318. SYSTEMS MANAGEMENT; CONFIGURATION MANAGEMENT FOR SYSTEMS,
EQUIPMENT, MUNITIONS AND COMPUTER PROGRAMS. -U-
AFSC/AFLC-M-375-7
REPORT. Air Force Systems Command, Washington, D. C.
UNCLASSIFIED 107pp. 31MAR71.

319. TACTICAL COMPUTER SOFTWARE ACQUISITION AND MAINTENANCE STAFF
STUDY. -U- Reich, E.T.

320. TACTICAL DATA SYSTEMS GLOSSARY. -U-
REPORT. Department of the Navy, Washington, D. C.
UNCLASSIFIED 175pp. 26MAR75.

321. TACTICAL DIGITAL SYSTEMS DOCUMENTATION STANDARDS. -U-
SECNAVINST-3560.1
STANDARD. Department of the Navy, Washington, D. C.
UNCLASSIFIED 323pp. 8AUG72.

322. TADSTAND 1 (REVISION 1): STANDARD SHIPBOARD TACTICAL DIGITAL
PROCESSORS AND PROGRAM LANGUAGE. -U-
TADSTAND-1 (Revision 1)
DIRECTIVE. Naval Material Command, Washington, D. C.
UNCLASSIFIED 4pp. 29MAY73.

323. TADSTAND 1: STANDARD SHIPBOARD TACTICAL DIGITAL COMPUTER AND
PROGRAM LANGUAGE. -U-
TADSTAND-7
DIRECTIVE. Naval Material Command, Washington, D. C.
UNCLASSIFIED 3pp. 3NOV71.

324. TADSTAND 2 (REVISION 1): STANDARD SPECIFICATION FOR TACTICAL
DIGITAL COMPUTER PROGRAM DOCUMENTATION. -U-
TADSTAND-2 (Revision 1)
DIRECTIVE. Department of the Navy, Washington D. C.
UNCLASSIFIED 2pp. 1NOV74.

2-44
325. TADSTAND 2: STANDARD SPECIFICATION FOR DIGITAL COMPUTER PROGRAM DOCUMENTATION. -U-
TADSTAND-2

326. TADSTAND 3 (REVISION 1): STANDARD REQUIREMENTS FOR INTER-DIGITAL PROCESSOR INTERFACE DOCUMENTATION. -U-
TADSTAND-3 (Revision 1)
DIRECTIVE. Department of the Navy, Washington, D. C. UNCLASSIFIED 3pp. 5NOV74.

327. TADSTAND 3: STANDARD REQUIREMENTS FOR INTER-DIGITAL DATA PROCESSOR INTERFACE DOCUMENTATION. -U-
TADSTAND-3

328. TADSTAND 4: STANDARD DEFINITION OF TACTICAL DIGITAL SYSTEMS. -U-
TADSTAND-4

329. TADSTAND 5: STANDARD RESERVE CAPACITY REQUIREMENTS FOR DIGITAL COMBAT SYSTEM PROCESSORS. -U-
TADSTAND-5

330. TADSTAND 6: COMBAT SYSTEM DESIGNS EMPLOYING MULTIPLE AN/UYK-7 PROCESSORS. -U-
TADSTAND-6

331. TADSTAND 7: STANDARD SHIPBOARD DIGITAL DISPLAY CONSOLES. -U-
TADSTAND-7
DIRECTIVE. Department of the Navy, Washington, D. C. UNCLASSIFIED 5pp. 25JUL74.


334. TECHNICAL DESCRIPTION FOR THE P-3C SYSTEM TEST PROGRAM FLEET ISSUE G.3. -U- LR-26407 SPECIFICATION. Lockheed-California Co., Burbank. UNCLASSIFIED 82pp. 08APR74

335. TECHNICAL DISCUSSION ASSESSMENT OF 'STANDARD ENGINEERING PRACTICES FOR COMPUTER SOFTWARE DESIGN AND DEVELOPMENT' (SAMSO EXHIBIT 73-3). -U- Welverton, R.W. MEMO. TRW Systems Group, Redondo Beach, Calif. UNCLASSIFIED 24pp. 20FEB74.


337. TERMINAL DEFENSE PROGRAM. REAL-TIME SOFTWARE DEVELOPMENT. PROCESS DESIGN SYSTEM: DESIGNER'S OVERVIEW. -U- Sloan, R.R. H1-847709-002 ; CDRL-A00N REPORT. Texas Instruments, Inc., Huntsville, Ala. UNCLASSIFIED-LD. 47pp. DEC73

338. TERMINAL DEFENSE PROGRAM. REAL-TIME SOFTWARE DEVELOPMENT. PROCESS DESIGN SYSTEM: GENERAL DESCRIPTION. -U- Sloan, R.R. H1-847712-003 ; CDRL-A00N REPORT. Texas Instruments, Inc., Huntsville, Ala. UNCLASSIFIED-LD. 41pp. FEB74

2-46
339. TERMINAL DEFENSE PROGRAM. REAL-TIME SOFTWARE DEVELOPMENT.
SPECIAL REPORT: FROGSS IN RESEARCH ON PDS 2. -U- Goke, L.R.
Sloan, R.R.
F740902D; CDRL-BOOD
REPORT. Texas Instruments, Inc., Huntsville, Ala.

340. TEST AND EVALUATION OF NAVY SYSTEMS AND EQUIPMENTS.
-U- CENGAVINST-3960.8
DIRECTIVE. Office of the Chief of Naval Operations,

341. TEST AND EVALUATION OF SHIP ACQUISITION. -U- Kidd, I.C.
NAVMATINST-3960.7; NAVSHIPS-0900-077-3010
DIRECTIVE. Naval Material Command, Washington, D.C.
UNCLASSIFIED 55pp. 31MAY74.

342. TEST TOOLS: ARE THEY A CURE-ALL? -U- Reifer, D.J. Etteng-
er, R.L.
SAMSO-TE-75-13; TR-0075(5112)-5
REPORT. Aerospace Corp., El Segundo, Calif. UNCLASSI-
IFIED 33pp. 15OCT74.

343. TESTING FOR SOFTWARE RELIABILITY. -U- Brown, J.R. Lipow, M.
REPORT. TRW Systems Group, Redondo Beach, Calif.
UNCLASSIFIED 10pp. 1973

344. TCOLS AND TECHNIQUES FOR IMPROVING THE EFFICIENCY OF FEDERAL
AUTOMATIC DATA PROCESSING OPERATIONS. -U-
E-115369
REPORT. Comptroller General of the United States,
Washington, D.C. UNCLASSIFIED 44pp. 3JUN74.

345. TOWARD AUTOMATED SOFTWARE TESTING: PROBLEMS AND PAYOFFS.
-U-
Miller, E.F., Jr.
REPORT. General Research Corp., Santa Barbara, Calif.
UNCLASSIFIED 6PP. FEB75.

346. TOWARDS AN ANALYSIS OF THE LISP PROGRAMMING LANGUAGE.
-U-
Engleman, C.
PITR-2648-V4
30JUN73.

2-47
347. TRIDENT - COMMAND AND CONTROL SYSTEM SOFTWARE MANAGEMENT PLAN. -U- NAVSHIPS-0900-075-4010, Rev. 1 
PLAN. Naval Ship Systems Command, Washington, D. C. 
UNCLASSIFIED 150pp. 02JAN74.

348. TRIDENT - COMMAND AND CONTROL SYSTEM SOFTWARE STATUS REPORT. -U- NSSC-R-11 
REPORT. Naval Ship Systems Command, Washington, D. C. 
UNCLASSIFIED 51pp. 14JUN74.

349. TRIDENT SOFTWARE DEVELOPMENT. -U- REPORT. International Business Machines Corp. UNCLASSIFIED 37pp.

350. TRW SOFTWARE SERIES: INDEX TO PUBLICATIONS IN PRINT. -U- Mcnthehy, P.C. 
TRW-SS-INDEX; Issue No. 2 
REPORT. TRW Systems Group, Redondo Beach, Calif. 
UNCLASSIFIED JAN75.

351. TRW SOFTWARE SERIES: INDEX TO PUBLICATIONS IN PRINT. -U- TRW-SS-INDEX; Issue No. 1 
REPORT. TRW Systems Group, Redondo Beach, Calif. 
UNCLASSIFIED 25pp. JUL74.

352. TWENTY COMMANDMENTS FOR MANAGING THE DEVELOPMENT OF TACTICAL COMPUTER PROGRAMS. -U- Ward, J.A. 

353. UNDERSTANDING SOFTWARE COST: INTROSECTION, RETROSPECTION AND TOOLS. -U- Brown, J.R. 
REPORT. TRW Systems Group, Redondo Beach, Calif. 
UNCLASSIFIED 11pp. 1973

354. USE OF GRAPHICS IN SOFTWARE DESIGN, DEVELOPMENT, AND DOCUMENTATION. -U- Sleight, T.P. Kossiakoff, A. 
APL/JHU-TG-1242 
355. USERS REQUIREMENTS ADVISORY GROUP (URAG) FOR THE ALL APPLICATIONS DIGITAL COMPUTER (AAIC). -U-
MAT-09Y:AJW; SER-107; TADSTASK-1-73
DIRECTIVE. Naval Material Command, Washington, D. C.
UNCLASSIFIED 6pp. 3MAY73.

356. WHY NOT USE A MINI INSTEAD? -U- Stein, P.
REPORT. UNCLASSIFIED 02pp. DEC74.

357. WHY TOOLS? -U- Brown, J.R.
REPORT. TRW Systems Group, Redondo Beach, Calif.
UNCLASSIFIED 03pp. 1974
ACQUISITION, PROCESSING, AND CIRCULATION OF DOCUMENTS
3. ACQUISITION, PROCESSING, AND CIRCULATION OF DOCUMENTS

3.1 ACQUISITION

Documents were obtained formally from publishing centers such as the National Technical Information Service (NTIS) or the Naval Publications and Forms Center, or informally through personal contacts with Government and commercial organizations.

3.2 PROCESSING

A document entry form was devised for project personnel to use in assisting the library. Each document was assigned an accession number and cataloged by the library staff. The information recorded for each document included the formal title, a descriptive title using common terminology (e.g., WS 8506), the personal author (if any), the corporate author, the specific originating agency, the report number and date, the classification of the title and the report, the number of pages, the type of document (i.e., Memo, Standard, etc.), subject descriptors, and a brief abstract if available.

All this cataloged information was then typed onto magnetic cards using specific format codes for each data element; it was then edited and stored on an IBM 360/91 computer system. The master file was updated regularly, and a computer-generated list of all documents in the file produced.

3.3 CIRCULATION

All documents and duplicate copies were filed numerically by the Defense Software Study External (DSSX) accession number and stored in file cabinets located in the library. One copy was retained in the library for reference purposes. Additional copies were circulated to study members by a self "checkout" procedure.
INFORMATION RETRIEVAL TOOLS
4. INFORMATION RETRIEVAL TOOLS

Since the material in the library was quite bulky and broad in scope, it was important to use sorting, cataloging, and indexing operations that would make desired information easy to find. Thus, several information retrieval tools were developed. They fell into three interrelated categories: computer-generated indexes, on-line searching, and batch searching.

4.1 COMPUTER-GENERATED INDEXES

The following indexes were generated each time an update was performed.

4.1.1 KWOC Formal Title

The KWOC (Key Word Out of Context) index was an alphabetical listing of key words from the formal titles. Below each key word was a listing of all titles containing that word and the corresponding DSSX numbers. Key words included all informative words in a title (i.e., they excluded "a", "the", etc.).

4.1.2 KWOC Common Title

This index was similar to the KWOC formal title (4.1.1) but used more descriptive or widely used common titles as its base (e.g., "Tactical Digital Systems Documentation Standards" became "SECNAVINST 3560.4 - Navy Tactical Software Documentation").

4.1.3 Corporate Source

The corporate sources in the master file were listed alphabetically, with the associated formal titles and DSSX numbers arranged below each source.

4.1.4 Personal Author

All the personal authors in the master file were listed alphabetically, with the relevant formal titles and DSSX numbers arranged below each author.

4.1.5 Short Document Listing

Not actually an index, this listing presented a skeleton of the master list by displaying DSSX numbers (in ascending order) and formal and common titles of all documents in the library.
4.1.6 Baseline Documents

The Baseline Documents were those designated by various agencies as being significant to the APL study. The titles and DSSX numbers were listed under the alphabetical headings of Air Force, Army, Comptroller, DSS (DoD Software Management Steering Committee), IPA, and Navy.

4.1.7 Originating Source

The document listings were grouped under the headings Air Force, Army, DoD, Navy, Other Government Agency, FCRC, Non-Government Institution, and Commercial Contractors.

4.1.8 Type of Document


4.1.9 Weapon Systems

Finally, the documents were grouped by the major Weapon Systems investigated.

4.2 ON-LINE SEARCHING

The need for an on-line search program was recognized at the very beginning of the study, and the program was made part of the library from its inception. Actual operation during the course of the study amply confirmed the great value of providing study members with the immediate ability to easily locate relevant material.

The on-line search program was built to operate on the Time Sharing Option (TSO) of the IBM 360/91. Whenever the master file was updated, a copy of the new master file was overwritten on the corresponding TSO file so that the TSO file always contained the latest version of the library.

The actual search program was created as a load module. Various versions of this program (the different versions related primarily to user interactions) were invoked in both Batch (Computer-Generated Indexes, Section 4.1, and Batch Searching, Section 4.3) and Interactive (On-Line Searching, Section 4.2) modes.

The user at the TSO terminal executed a Short Command Procedure (e.g., "EXEC SEARCH") that specified the file to be searched and the load module to be used, and directed output to the terminal.

The search program itself is a "free-format" one; i.e., it can search for any character string in the file. If a "hit" is found anywhere
in a document record (up to 4000 characters long), then user-requested information is displayed. Not surprisingly, the majority of the actual code in the program is devoted to user interaction (menu selection etc.) and display options. The entire file is searched sequentially for each character string requested. The program executes rapidly with several hundred documents in the file, and no timing or excessive cost problems have been encountered.

4.3 BATCH SEARCHING

A batch searching program was generated by modifying the main search program to handle non-interactive input. A variation of this program was also used (as previously indicated) to generate most of the computer indexes. The program could be run from a TSO terminal and was useful whenever a large volume of output was expected. It could be run at any time, in contrast to the Section 4.1 indexes that were generated only during the updating process.
# INITIAL DISTRIBUTION EXTERNAL TO THE APPLIED PHYSICS LABORATORY

The work reported in SR 75-12 was done under Navy Contract N00017-72-C-4403. This work is related to Task 20-6, which is supported by NAVSEA.

<table>
<thead>
<tr>
<th>ORGANIZATION</th>
<th>LOCATION</th>
<th>ATTENTION</th>
<th>No of Copies</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPARTMENT OF DEFENCE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOD Software Management Steering Committee</td>
<td>OSD (144), Pentagon Room 2A318</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Joint Logistics Commanders, Software Reliability Work Group</td>
<td>Pentagon, Washington, D.C.</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Defense Systems Management School</td>
<td>Washington, D.C.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>DDC</td>
<td>Alexandria, VA</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Department of the Navy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAVSEA</td>
<td>Washington, D.C.</td>
<td>6441</td>
<td>1</td>
</tr>
<tr>
<td>NAVFAC</td>
<td></td>
<td>6452</td>
<td>1</td>
</tr>
<tr>
<td>NDC (Naval Air Development Center)</td>
<td></td>
<td>6461</td>
<td>1</td>
</tr>
<tr>
<td>NNC (Naval Missile Center)</td>
<td></td>
<td>6472</td>
<td>1</td>
</tr>
<tr>
<td>Navy Surface Weapons Center</td>
<td></td>
<td>6481</td>
<td>1</td>
</tr>
<tr>
<td>NSWC (Naval Surface Weapons Center)</td>
<td></td>
<td>6491</td>
<td>1</td>
</tr>
<tr>
<td>NWC (Naval Undersea Center)</td>
<td></td>
<td>6501</td>
<td>1</td>
</tr>
<tr>
<td>NSWC (Naval Underwater Systems Center)</td>
<td></td>
<td>6511</td>
<td>1</td>
</tr>
<tr>
<td>Department of the Army</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MICOM (Army Missile Command)</td>
<td>Redstone Arsenal, Huntsville, AL 35809</td>
<td>SAM-D</td>
<td>2</td>
</tr>
<tr>
<td>MEDC (Ballistic Missile Defense Command)</td>
<td>Redstone Arsenal, Huntsville, AL 35809</td>
<td>Pershing</td>
<td>2</td>
</tr>
<tr>
<td>CENCOM, Army Material Command</td>
<td>Washington, D.C.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Department of the Air Force</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RAD (Rome Air Development Center)</td>
<td>Griffiss AFB, NY 13440</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Requests for copies of this report from DoD activities and contractors should be directed to DDC, Cameron Station, Alexandria, Virginia 22314 using DDC Form 1 and, if necessary, DDC Form 5.

*Initial distribution of this document within the Applied Physics Laboratory has been made in accordance with a list on file in the APL Technical Publications Group.*