Naval Research Laboratory

Washington, DC 20375-5000

NRL Report 9117

ENEWS Resource Center Program Description

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ENEWS Program
Tactical Electronic Warfare Division

July 8, 1988

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION / AVAILABILITY OF REPORT Approved for public release, distribution unlimited.
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S)	5. MONITORING ORGANIZATION REPORT NUMBER(S) nrl 9117
6a. NAME OF PERFORMING ORGANIZATION Naval Research Laboratory 6b. OFFICE SYMBOL (If applicable) 5707	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code) Washington, DC 20375-5000	7b. ADDRESS (City, State, and ZIP Code)
8a. NAME OF FUNDING / SPONSORING ORGANIZATION Naval Air Systems Command 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code) Washington, DC 20361	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. 64255N; PROJECT NO. X0672; TASK NO.; WORK UNIT ACCESSION NO. DN120-188

11. TITLE (Include Security Classification)
ENEWS Resource Center Program Description

12. PERSONAL AUTHOR(S)
Hamilton, Z. B.

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
Final	FROM _____ TO 1/88	1988 July 8	20

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	ENEWS Retrieval system

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

This report describes a procedure developed at the Naval Research Laboratory (NRL) under the Effectiveness of Navy Electronic Warfare Systems (ENEWS) Program that is an automated technique for viewing data stored in a database management system. The procedure offers the user the capability of rapidly obtaining information pertaining to documents in the ENEWS library and provides a list of acronyms, ship designations, and ship classes. This retrieval system was designed to meet the needs of the electronic warfare community. Examples of the execution of the procedures are given.

20. DISTRIBUTION / AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED
22a. NAME OF RESPONSIBLE INDIVIDUAL Donald F. Grady	22b. TELEPHONE (Include Area Code) (202) 767-2769 22c. OFFICE SYMBOL 5707

DD Form 1473, JUN 86 *Previous editions are obsolete.* SECURITY CLASSIFICATION OF THIS PAGE

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ENEWS RESOURCE CENTER PROGRAM DESCRIPTION

INTRODUCTION

This report describes a program that was designed by the Tactical Electronic Warfare Division at the Naval Research Laboratory as an automated retrieval system for documents in the Effectiveness of Navy Electronic Warfare Systems (ENEWS) library. It contains acronyms, ship classes, and ship designations as related to the electronic warfare community.

Acquisition of information from an automated retrieval system involves an interaction between the user and the computer. As with any man-machine interaction, the more demanding and more sophisticated the user's request, the greater the system effort will have to be to achieve the desired goal.

Computer searches can be performed more quickly than manual searches. This is mainly because computer searches greatly reduce the time required for human scanning because of their ability to combine concepts and perform other manipulations that "narrow in" on the desired information. It is also likely that computer searches are more accurate than manual searches.

A complex process is undertaken when a retrieval system attempts to find material relevant to a user need. Three stages can be distinguished in the interaction of a user with the retrieval system. The process begins with presearch activities. For the user this involves determining what is to be asked of the retrieval system and then mapping the request into the system's formal query language.

The programs are written in Fortran programming language and use the data manipulation language (DML) of the DEC-VAX database management system. The DML is a special set of system software that organizes, stores, retrieves, and maintains records in a file or files. It was designed as a multiuser environment, which means that many users in the Tactical Electronic Warfare Division have concurrent access to the data. Access is possible on a variety of terminals including the VT100, VT200, and Textronix series. The system can be used 24 hours a day from any terminal in the division.

Future improvements to this group of programs include using the VAX terminal display management software (TDMS) package to facilitate usage. This package will provide

- a HELP key,
- video highlights,
- input data validation, and
- scrolled regions.

As the need arises, additional data items will be added to this database.

The ENEWS information menu consists of four components:

L - Library
A - Acronyms
S - Ship designations
U - U.S. ship names

Manuscript approved February 9, 1988.

General Information:

Only unclassified titles of documents are displayed. A capability exists to display classified titles in secure vaulted areas.

Some key functions of the terminal should be noted:

- If a prompt does not appear, the system is not ready to receive any commands.
- The backspace or rubout key is used to correct errors.
- The carriage return [RETURN] key is used to request the system to respond. It must be pressed after each command.
- This program has a user cue or prompt symbol to indicate that a response from the searcher is required.

On-line assistance is available either by using the H prompt as a menu item to display a brief outline of the commands needed to search the database, or by pressing the H key while searching. A list of prompts will be displayed that may be used at that particular time.

The Line Mode displays one line of data at a time.

Acceptable commands needed to proceed through the data are:

Line Mode options

N - (or carriage return) to display the next item
R - to display the previous item
B - to display the last item
T - to display the top or first data item
S - to specify the data item desired. The user will be prompted for the specified item.
P - to enter the Page Mode
H - to display a list of acceptable commands to be used at that particular time
E - to end the present state and return to the previous state
Q - to quit the present state and return to the ENEWS Information Menu

The Page Mode displays a full page of data items.

The commands used to proceed through the data are:

Page Mode options

N - (or carriage return) to display a page of data beginning with the next data item
T - to display a page of data beginning with the first data item
S - to display a page of data beginning with a specified data item
L - to enter the Line Mode
H - to display a list of acceptable commands to be used at that particular time
E - to end the present state and return to the previous state
Q - to quit the present state and return to the ENEWS Information Menu

LIBRARY

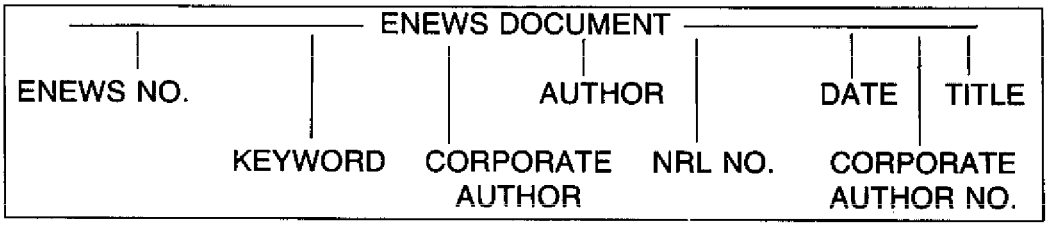


Fig. 1 — Document entries

The ENEWS Library is a reference library of information related to electronic warfare. One of the most useful features is its on-line catalog system. The on-line catalog provides considerable flexibility in retrieving bibliographic data about the library's document collection.

Documents held in this library are listed according to their security classification. These classifications are top secret (T), secret (S), confidential (C), and unclassified (U), and they are listed for both the title and the content of the document.

This program also supports term or keyword searching. This means that individual words within names, titles, subject headings, and other parts of a document can be searched as individual entities. Keyword access provides in-depth retrieval of a document.

Each document is given a catalog number, commonly known as an ENEWS number, and designated either "current" or "obsolete." Current documents are held in the library and are available to be checked out by users. Obsolete documents are listed in the card catalog system for reference purposes only. They have either been destroyed or returned to the NRL Documents Section (Code 2627). It may be possible, however, to obtain these documents depending on their location in the Document Section. The location of a document can be obtained by selecting the letter "A" while searching in the line mode. (see Appendix A, Figs. A1 and A2.)

This program was developed because of a need for quick access to the list of documents in the ENEWS Library. It replaces the many pages of multiple listings of titles of documents that had to be scanned to find the desired document. Within economic limits, a given document can be provided any number of entries to ensure that whatever approach is made the document can be traced.

The Retrieval System:

Entries to find a document in the ENEWS Library are:

- AUTHOR
- CORPORATE AUTHOR
- DATE
- ENEWS NUMBER
- KEYWORD
- NRL NUMBER
- ORIGINATORS NUMBER
- TITLE

AUTHOR

The author capability is twofold. A user may display a list of all authors in the database, alphabetized according to the author's last names followed by full first names or initials, or the user may display the titles of all documents written by a specific author. The author's name is entered in the database exactly as it appears in the document. Access is also provided to all authors of a document. The display will show the author (last name first), ENEWS number, date, and title of document.

CORPORATE AUTHOR

The corporate author capability is also twofold. It can give the user an alphabetical list of all corporate authors in the database; it can also display a list of documents by all authors working for a particular organization. This list includes the documents' ENEWS numbers, dates, NRL numbers, and corporate author numbers.

DATE

The date of publication of a document is displayed as the year, month, and day in increasing numerical order beginning with the year.

ENEWS NUMBER

The ENEWS number is a catalog number that contains up to 8 digits and is given to all documents in the ENEWS library. Titles of documents are displayed in increasing ENEWS number order.

KEYWORD

Keyword (search term) capability enables a user to view a list of search terms in sorted order. It also allows a user to display a list of documents having a specified keyword. This list includes a display of that documents ENEWS number, NRL number, date, and corporate author.

NRL NUMBER

The NRL number contains up to 7 digits and is given to most documents by the NRL Documents Section. Titles of documents are displayed in increasing NRL number order, and those without an NRL number are not displayed by using this category.

ORIGINATORS NUMBER

The originators (corporate author) number is a control number containing up to 40 characters that is given to most documents. Titles of documents are sorted and displayed in ascending order of originators number.

TITLE

Titles of documents are displayed in alphabetical order. The first names of titles beginning with A, An, or The are suppressed. Each document has two security classifications, one for the title and one for the document. The classification for the title is a one-character notation in parenthesis at the end of the title. The security classification for the document is displayed as a one-character separate notation after the title as:

TEWD Program Listing (U) S

An asterisk * in a title indicates that a word or phrase has been omitted for display purposes only. To view the full or actual title press the letter F while searching in the line mode. The full title will be displayed at the bottom of the screen. Only unclassified titles of documents are displayed.

To view classified titles of documents, the terminals in the ENEWS Library (Building 210, Room 1104) must be used.

Options

The ENEWS information database provides many options for the user to view the data. All programs in this set can be run in the page or line mode. The page mode is more advantageous if a user is browsing. To find a particular document and information about its availability, the line mode should be used.

Two line mode options are worth noting, the A and the I option. The A option dispays all available information for a particular document. Items shown are the ENEWS number, NRL number, full title of document, its security classification, all authors, originators number, date published, copy number, location of all copies held, and all keywords. To use, press the letter A while viewing a particular document (see Appendix A, Figs. A1 and A2).

The I option is used when viewing a list of items such as keywords, corporate authors, or authors. It allows a user to display the titles of all documents having that particular data item within the list. For example. while viewing a list of authors, if the letter I is pressed at a particular author, the program will display all documents in the ENEWS library by that author. The cursor must be on the item when selecting I (see Appendix A, Figs. A4 and A5).

Adding Keywords or Corporate Authors to the Database

A user may wish to add a keyword or corporate author to a document. This is done by selecting the Insert option from the library display menu (see Appendix A). The user is prompted for the ENEWS number of the document in question and the keywords or corporate authors to be added.

ACRONYMS DATABASE

The acronyms database is a dictionary of abbreviations. An acronym is composed of the initial letters or parts of a compound term; it is usually read or spoken as a single word (as radar — (radio detection and ranging) rather than letter by letter.

Similar abbreviated terms have served as handy communication shortcuts for centuries. The tremendous growth of this new "language" and the need to make it manageable and readily available to the electronic warfare community has led to the development of the acronyms database and subsequent programs.

This program alphabetically displays acronyms in letter-by-letter sequences, regardless of spacing, punctuation, or capitalization. If the same abbreviation has more than one meaning, the various meanings are then subarranged alphabetically in word-by-word sequences. They are also displayed in all-capital letters.

Acronyms are continually updated. An additional feature allows any user to add an acronym and its meaning to an "add acronym" file. The database administrator will subsequently add the new additions to the database.

To use this program, select A in the ENEWS information menu. Then select the position in which to start the search. All line and page mode options previously described can be used here. Search results may be printed out.

The acronym and its translation are displayed as:

Acronym	*Translation*
RCS	Radar cross section

SHIPS DATABASE

The ships database is divided into two parts—ship designations and ship classes. Ship classes comprise ship names, their types, and hull numbers. The ships database contains no classified material.

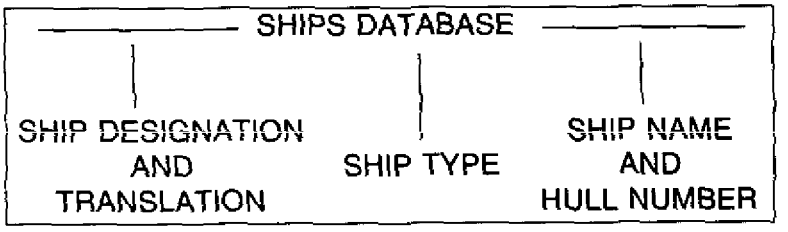


Fig. 2 — Ships data base

Ship Designation

A ship designation is a distinguishing name for a ship, commonly known as a code name. It is a reference tool that is used primarily to assist researchers and all who require an understanding of specialized terms.

Ship designations are arranged alphabetically in letter-by-letter sequences. Duplicate ship designations are subarranged alphabetically in word-by-word sequence.

To access the ship designation database, select S in the ENEWS information menu. As previously described, there are two modes of display, line and page. Select the starting position: T for the first ship designation in the database, or S to specify the ship designation. Options to obtain a copy of search results and to add ship designations are also available.

A ship designation and its translation are displayed as:

Designation	*Translation*
BB	Battleship
CCB	Command and control boat

U.S. Ship Class

The ship class database comprises U.S. ship names, types, and hull members. To access the ship class database, select U in the ENEWS information menu.

One must select whether to search for ship names or ship types; both will display the same information but in different formats.

All page and line mode options previously mentioned also apply.

Ship name—N

U.S. ship names can be retrieved from the database by either first or last name. To retrieve information for a specific ship name, specify only the last name. All ships having that last name will be displayed. If a ship name is not in the database, the program displays the ship name closest to the specified one. Each ship name is displayed in sorted order with its corresponding ship type and hull number.

Ship Type—T

This option lists ship names and corresponding hull numbers that are grouped under a specific ship type, and it also lists ship types in sorted order. (See Appendix C, Figs. C1 and C2.)

An option is also available to retrieve a ship name by inserting a ship type and hull number. To use this option, the correct hull number must be known.

SUMMARY

On-line computer searching is fast and more accurate than manual searches. It greatly reduces human scanning by its ability to combine concepts and perform other manipulations to narrow in on the wanted references.

What we have covered in this report is designed to provide effective use of the computer in obtaining usable information from the database. The program is designed so that users with no data processing knowledge can interactively search for items, obtaining information without knowing a database language. The menus and prompts provide guidance for every step of the way.

Users may search data records by using eight different data elements, including the familiar title and author elements, in the library data base.

Additional data items can be added, and techniques will be changed as the situation demands.

ACKNOWLEDGMENTS

Special thanks to Will Dahl, Database Administrator; Donald Grady for his help and suggestions; and Stanley Leroy for making this program available to the TEW community.

Appendix A
LIBRARY

The interaction between the searcher and the computer in on-line searching can be thought of as a dialog. The on-line search process is best explained by example.

To be connected to a system, one must go through a process called "logging on."

LOGGING ON TO THE SYSTEM

1. At the username prompt, type TEWD *USERNAME:* **TEWD**

2. At the $ prompt, type TEWD **$TEWD**

After typing TEWD, the following list of subject headings (MENU) will appear:

ENEWS INFORMATION MENU

Enter the desired letter:

L ibrary
A cronyms
S hip designation
U S ship names
E xit

Enter selection: **L**

Library Display Menu

E NEWS Numbers
N RL Numbers
T itles
C orporate Authors
O riginator's Numbers
D ates
K eywords
A uthors
I nsert Keyword/Originator to document
H elp
X - exit

Enter Selection: **K**

Enter type of document desired:

C - current document
O - obsolete document
D - all documents
X - exit

Enter selection: **C**

Enter starting position:

T - first keyword in the database
S - at or near a specified keyword
K - to display a list of keywords

Enter selection: **S***

Enter Keyword to use:

EW_____

```
Current Documents Only
KEYWORD> EW
ENEWS NO.   NRL NO.     Date      Corporate Author
Title

   0.164                860500       ENEWS
MODEL DOCUMENTATION                                  U

  22.228       8737     850816         NRL
RF RECEIVERS FOR ELECTRONIC WARFARE                  U

 1758.001                860000     UNKNOWN
INTRODUCTION TO ELECTRONIC WARFARE                   U A*
```

*The A option allows a used to display *all* data for a particular document.

Fig. A1 — Keyword display

* User will be prompted for desired keyword

```
ENEws Number . . . . . 1758.001
NRL Number . . . . . .
TITle . . . Introduction to Electronic Warfare (U)
SECurity Classification . . . . . Unclassified
AUThor . . . . . D. C. Schleher
Corporate Author . . . . . Unknown
ORIginators Number . . . . . .
DATe published . . . . . 00-JAN-86
CLAssifier . . . . . Unknown

COPy Number and LOCation of all copies held
    1    LIBRARY - ROOM 1104

KEYwords assigned to this item
    EW

End of Data for this Document Press RETURN    RETURN*
```

*A Carriage Return redisplays previous menu.

Fig. A2 — All data displayed for a document

```
Current Documents Only
KEYWORD> EW
ENEWS NO.      NRL NO.          Date        Corporate Author
Title

1758.001                        860000      UNKNOWN
INTRODUCTION TO ELECTRONIC WARFARE                          U

1987.005       558684           821000          CNO
U.S. NAVY EW MASTER PLAN ANNEX 6 ASSESSMENT (U)             S  E*
```

*E ends current display.

Fig. A3 — Document with keyword EW displayed

Do you wish to see more keywords and their documents? (Y or N): **N**

Do you wish to see a list keywords? (Y or N): **Y**

Enter the letter of the starting position

C - continue with the next keyword
T - first keyword in the database
S - at or near a specified keyword

Enter selection: **S**

Enter Keyword to use:

ELINT_____

```
KEYWORDS

ELINT
ELINT ANALYSIS
ELINT REPORT
ELO
ELT                    I*
```

*The I option displays all documents with the specified keyword (see Fig. A5).

Fig. A4 — Listing of keywords

```
Current Documents Only
KEYWORD> ELT
ENEWS NO.      NRL NO.        Date          Corporate Author
Title

1956.054       567757         860124              SAC
COMBAT X-RAY DEPLOYMENT 2ND SEGMENT SIGNAL REPORT (U)    S E
```

Fig. A5 — Document with keyword ELT displayed

Library Display Menu

E NEWS Numbers
N RL Numbers
T itles
C orporate Authors
O riginator's Numbers
D ates
K eywords
A uthors
I nsert Keyword/Originator to document
H elp
X - exit

Enter selection: T

```
TITLE                                  ENEWS NO.   NRL NO.
ACOUSTIC INDEX (U)                S      23.001    498111
AEGIS EME HANDBOOK (U)            U    1990.034    542640
BISON WEAPON SYSTEM (U)           S    1619.000
CATALOG OF EW COMPUTER MODELS     U      87.000    565462    E*
```

*The E option ends this display.

Fig. A6 — Title display

Appendix B
ACRONYMS

ENEWS Information Menu

Enter the desired letter:

L ibrary
A cronyms
S hip designations
U S Ship names
E xit

Enter selection: **A**

The user has the option of selecting the starting position. T - displays the first acronym in the database; S - prompts the user for the desired acronym; A - allows a user to add new acronyms and their meanings to a user file. The database administrator will subsequently add these acronyms to the database.

Enter the desired option

T - to display the first acronym in the database
S - to display at or near a specified acronym
A - to add acronyms
H - for help
E - to end

Enter selection: **S**

Enter Acronym:

BAO_____

ACRONYM	TRANSLATION
*********	**********
BAO	BASIC ATTACK OPTION
BAOR	BRITISH ARMY OF THE RHINE
BCAS	BEACON COLLISION AVOIDANCE SYSTEM
BIS	BUREAU OF INSPECTION AND SURVEY
CAO	CONTROL OF ATOMIC OPERATIONS
CAP	CIVIL AIR PATROL
CAP	COMBAT AIR PATROL
GBELS	GROUND BASED EMITTER LOCATION SYSTEM E

Fig. B1 — Acronym display

Appendix C
SHIPS

ENEWS Information Menu

Enter the desired letter:

L ibrary
A cronyms
S hip Designations
U S Ship names
E xit

Enter selection: **U**

SHIP TYPE

Do you wish to display:

T - ship types
N - ship names
E - end display

Enter selection: **T**

Enter the desired option:

T - to display the first ship type in the database
S - to display at or near a specified ship type
K - to display a list of ship types
F - to find a specified ship type and hull number
H - for help
E - to end

Enter selection: **S**

Enter Ship type:

AGOR_____

AGOR not found

Do you wish to have this ship type added to the database? (Y or N): **N**

Do you wish to:

C ontinue with the nearest ship type to AGOR
S earch for more ship types
or **E** nd the program (C,S or E)? **C**

SHIP TYPE - AO*		
SHIP NAME *********	HULL NO. ********	
JOHN LENTHALL	189	
HUMPHREYS, J.	188	
WILLIAMETTE	180	
PLATTE	186	
MONONGAHELA	178	**E**

*Ship type AO is the nearest ship type to AGOR.

Fig. C1 — Ship type display

Do you wish to see more ship types (Y or N)? **N***

Do you wish to display:

T - ship types
N - ship names
E - end display

Enter selection: **T**

Enter the desired option

T - to display the first ship type in the database
S - to display at or near a specified ship type
K - to display a list of ship types
F - to find a specific ship type and hull number
H - for help
E - to end

Enter selection: **K**

*Control returns to the ship menu.

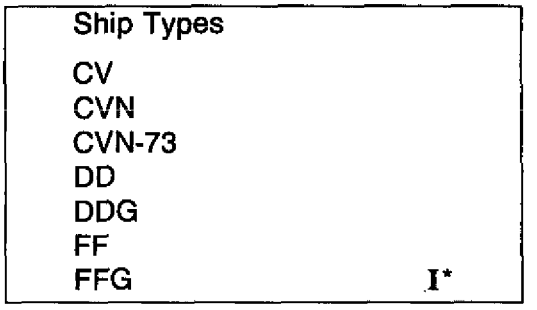
Enter the letter of the starting position

C - continue with the next ship type
T - first ship type in the database
S - at or near a specified ship type

Enter selection: **S**

Enter Ship Type

CV_____



*I option allows the user to display all ships with the given ship type.

Fig. C2 — List of ship types

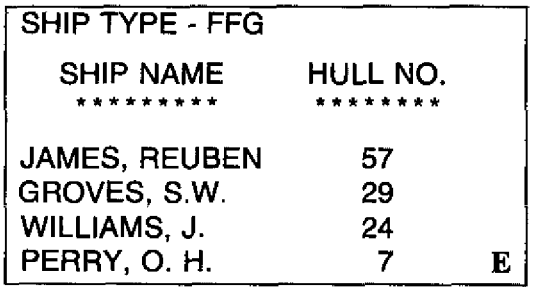


Fig. C3 — Ship type display

Display shows all ship names with ship type FFG.