Defense RDT&E Online System (DROLS) Handbook

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Replaces or supersedes DLAM 4185.4, Sep 90 (Defense RDT&E Online System (DROLS) Handbook)

Approved for public release; Distribution is Unlimited.

This training handbook provides basic instruction in the use of the Defense RDT&E Online System (DROLS), an automated system providing access to major research and development (R&D) data collections. The Technical Report Database (TR) and Current File Technical Report Database (CF) both address completed R&D work efforts, whereas the Work Unit Database (WU) addresses work in progress. The IR&D Database, representing planned work efforts by Department of Defense (DoD) contractors wholly funded by the DoD. It is intended to be used in conjunction with the DROLS Workbook AD-A259 033. Information Retrieval, Online Systems, Training, Training Devices, Handbook, User Guide, DROLS.
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Standard Form 298 Back (Rev. 2-89)
FOREWORD


It should be noted that this handbook has been assigned an AD Number and is cited in the Technical Report Bibliographic Database.

Prepared under the direction of:
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INTRODUCTION

This training handbook provides basic instruction in the use of the Defense RDT&E Online System (DROLS), an automated system providing access to four major research and development (R&D) data collections. The Technical Report Database (TR) and Current File Technical Report Database (CF) both address completed R&D work efforts, whereas the Work Unit Database (WU) addresses work in progress. These databases contain both unclassified and classified up to secret information. The fourth database is the IR&D Database, representing planned work efforts by Department of Defense (DoD) contractors wholly funded by the DoD. This database is proprietary by nature and is protected as if classified secret. Classified and proprietary information is available only to DoD users through specially protected "dedicated terminals."

The chapters are arranged by the various DROLS functions. They are Search, Display, Transfer, Sort, Qualify, List, Recall, and Order. Each chapter will explain the application of various commands and how they are used in the different databases. Due to the intricacies of the DROLS system, it is essential that the appendices referenced throughout the handbook be properly used. You will not receive accurate results if the wrong appendix is used. Questions regarding the use of DROLS can be answered by using the Table of Contents, the Index and the Appendices as a guide. The commands are cross referenced by the abbreviated form and the meaning, so they can be easily located in the handbook. With some practice, you will find that searching the computer is much like going to any other information source. The computer can both speed up your search and help you discover new resources.
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CHAPTER 1 - OPERATING PROCEDURES

SIGNING-ON (DEDICATED)

Activate terminal and printer.

If you have a secure site, the required cryptographic synchronization procedures must be followed before the terminal can be activated. Such instructions are the responsibility of the crypto custodian at your site per DLAR 5230.3. When these procedures have been completed, the terminal and printer start-up may proceed.

The poll light/indicator will activate, indicating the dedicated telephone line between your terminal and DTIC has been established. At this time, you must sign-on to the Front End Processor (FEP) which functions as a communications link for DROLS. The FEP sign-on command is $$SON, followed by a space, your 6-character identification code and transmit. Dedicated sites need to press the transmit key once. Your FEP sign-on entry should look like this:

$$SON AA1234

System Response:

SESSION PATH OPEN TO

If your entry is incorrect, the system will respond with:

**NETWORK SIGN-ON FAILED: VERIFY TERMINAL ID AND RE-ENTER**

After you get the system response SESSION PATH OPEN TO:, enter the DROLS sign-on command SGNONS, a slash, your terminal identification, and transmit. Your entry should look like.

SGNONS/DTIC

The system will respond with:

*MSG ON 1 SIGN-ON ACCEPTED
If the system responds with a message other than the one shown, consult Appendix 2, Terminal User Condition Messages. Various situations are described, followed by corrective actions when necessary.

System Response:

At this point, enter your terminal identification and transmit. Example:   DTIC

The system will respond with an audible signal and the following message on the last line of your screen:

*MSG RECEIVED*

This indicates that your message has been sent, received, and is in a wait state in the computer at DTIC. In a few seconds, the system will respond by welcoming you online with the date, time, and two warning statements: the Export Control, International Traffic in Arms Regulation (ITAR) statement, and the No Sale statement as follows:

**WARNING**

---AS A CONDITION OF OBTAINING DTIC SERVICES, ALL INFORMATION RECEIVED FROM DTIC THAT IS NOT CLEARLY MARKED FOR PUBLIC USE WILL NOT BE PUBLISHED FOR PROFIT OR IN ANY MANNER OFFERED FOR SALE. NON-COMPLIANCE MAY RESULT IN TERMINATION OF ACCESS AND A REQUIREMENT TO RETURN ALL INFORMATION OBTAINED FROM DTIC. 

***************WARNING***************
The terminal is now ready for use. Be sure you have activated your printer.

**NOTE:** If you have trouble signing-on to DROLS, call the voice recording, (703) 274-7882 or DSN 284-7882, for the DROLS status. If the system is up, and you still can't sign-on, call the DTIC Network Services Branch at (703) 274-7791 or DSN 284-7791 for assistance. If you think you have an equipment problem, call the Technical Control Office at (703) 274-7251 or DSN 284-7251.

**SIGNING-OFF (DEDICATED)**

To shut down the terminal, you must first terminate your connection with DROLS. Follow the procedures cited below that are applicable to your computer site.

Examples:  
**Classified Terminal**  
@ds1@  
w  
@term@  

**Unclassified Terminal**  
@term@  

System Response:

```
--THIS TERMINAL HAS BEEN TERMINATED
CONNECT TIME= ON HMMSS OFF HMMSS
MSG 007 - PLEASE SIGN OFF TERMINAL ***
```

Now you must break communication with the Front End Processor (FEP). Enter the sign-off command and transmit. The sign-off command is:

**$$SOFF**

System Response:

```
*INACTIVE TERMINAL*
```

All equipment may now be turned off.
SIGNING-ON (DIAL-UP)

Dial-Up is available in unclassified and classified modes. Classified Dial-Up access requires the use of a Secure Telephone Unit III (STU-III). For more information on the use of a STU-III contact DTIC’s Information Systems Support Directorate, Telecommunications Division, DTIC-ZT (703) 274-7967, DSN 284-7967

MODEM AND COMMUNICATION PROTOCOLS

Protocols

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<td>Half</td>
</tr>
<tr>
<td>Automatic Carriage Return</td>
<td>Off</td>
</tr>
<tr>
<td>Automatic Line Feed</td>
<td>Off</td>
</tr>
</tbody>
</table>

Activate terminal and printer. Initiate connection to DTIC by direct dial or through your local Tymnet node. Tymnet users must first enter their one-letter terminal identifier and one carriage return. Next enter Tymnet logon 82STINFO and one carriage return, then the Tymnet password DROLSTYM and one carriage return. This will give you the port number your terminal is assigned. (Note: Remember your port assignment. This information is valuable for trouble shooting communication problems.) Direct dial users need only enter the number 5 after their dial-up connection has been made (no carriage return is necessary).

Sign-on to the Front End Processor (FEP) by entering $SSSON, followed by a space, your 6 character identification code and transmit with one carriage return. Your TEP sign-on entry should look like this:

`$SSSON AA1234`

System Response:

`SESSION PATH OPEN TO:

Enter the Sign-on command SGNONA, a slash (/), your password, a slash (/), and the first five digits of your NTIS deposit account, and one carriage return. Your entry should look similar to the following:
At this time, enter your terminal identification (from your password card) and two carriage returns. Your entry should look similar to the following.

```
TNG1
```

System Response:

```
WELCOME ONLINE - DATE MMDDYY TIME HHMMSS
--IF YOU DISPLAY ENTRIES OF REPORTS WITH REFERENCES MARKED
--EXPORT CONTROL THE FOLLOWING WARNING APPLIES:
******************************************************************************
--THIS DOCUMENT CONTAINS TECHNICAL DATA WHOSE EXPORT IS
--RESTRICTED BY THE ARMS EXPORT CONTROL ACT (TITLE 22,
--U. S. C., SEC. 2751 ET SEQ.) OR EXECUTIVE ORDER 12474,
--VIOLATIONS OF THESE EXPORT LAWS ARE SUBJECT TO SEVERE
--CRIMINAL PENALTIES. DISTRIBUTION OF THIS DOCUMENT IS
--SUBJECT TO Dodd 5230.25 PROCEDURES
******************************************************************************
--AS A CONDITION OF OBTAINING DTIC SERVICES, ALL INFORMATION
--RECEIVED FROM DTIC THAT IS NOT CLEARLY MARKED FOR PUBLIC
--RELEASE WILL BE USED ONLY TO DID OR PERFORM WORK UNDER A
--U.S. GOVERNMENT CONTRACT OR GRANT OR FOR PURPOSES
--SPECIFICALLY AUTHORIZED BY THE U.S. GOVERNMENT AGENCY
--THAT IS SPONSORING ACCESS. FURTHER, THE INFORMATION WILL
--NOT BE PUBLISHED FOR PROFIT OR IN ANY MANNER OFFERED FOR
--SALE. NON-COMPLIANCE MAY RESULT IN TERMINATION OF ACCESS
--AND A REQUIREMENT TO RETURN ALL INFORMATION OBTAINED
--FROM DTIC.
******************************************************************************
```

The system is now operational.

**NOTE:** Though your asynchronous dial-up will allow you to move about freely on the screen, DROLS will only recognize that input which is made on the bottom line. However, synchronous dial-up terminals allow input anywhere on the screen.
SIGNING-OFF (DIAL-UP)

To shut down the terminal, you must first terminate your connection with DROLS. Follow the procedures cited below.

Examples: @term@

System Response:

```
**INACTIVE TERMINAL**
```

Now you must break communication with the Front End Processor (FEP). Enter the sign-off command and one carriage return. The sign-off command is:

SSSOFF

System Response:

```
**INACTIVE TERMINAL**
```

All equipment may now be shut down.

**NOTE:** Your connection will be terminated after 15 minutes of inactivity. When an interruption of service is anticipated, a message similar to the following will appear:

```
**************************************************************
DROLS SYSTEM BROADCAST MESSAGE
**************************************************************
ADMINISTRATIVE AND/OR TECHNICAL CONDITIONS AT THE CENTRAL
DTIC COMPUTER SITE REQUIRE THAT LOCAL AND REMOTE TERMINAL
OPERATION OF DROLS BE TEMPORARILY SUSPENDED AS INDICATED
BELOW:
**************************************************************
* DROLS SYSTEM OPERATION WILL BE: *
** INTERRUPTED IN ** TEN MINUTES **
**************************************************************
```

Additional information on the DROLS system can be obtained by displaying the information log. The command for this is @DIL@. See Chapter 3 for further instruction on display commands.
CHAPTER 2 - SEARCH

The search function is the primary method for retrieving information from the DROLS databases. By matching user provided query terms against the Inverted File, an index of searchable terms and term phrases, the system retrieves a set of search results. Boolean logic is used to define conceptual relationships and refine the search results.

To perform a search, enter one of the search commands and construct a search strategy in the format specified. Please note the following:

- If you are using a dedicated terminal, clear the screen or press the Start of Entry (SOE) key before performing a search. If you are using a dial-up terminal, move to the next blank line before beginning a search.
- All search commands are preceded and followed by the @ sign, i.e., @STR@. This command means Search Technical Reports.
- Search options %, $, ?, and * can be used alone or in combination.
- Each term or term phrase used in the search strategy must occupy its own screen line. When the Boolean connectors AND or NOT are used in the search question, they must also occupy one screen line each. The Boolean connector OR is not used. Instead, all terms or term phrases listed on successive screen lines of the same search level are assumed by DROLS to be in a Boolean OR condition (NOTE: The start of a new search level within a search question is indicated by a Boolean AND or NOT).
- There is a 60-character maximum per search term or term phrase.
- Neither role codes nor mnemonics are required for subject searching. However, extraneous search results may occur.
- Search questions are limited to 9 levels; however, the number of terms per level is limited to 525-term limit on Dedicated terminals, and the 300-term limit on Dial-Up terminals.
- If you are using a dedicated system and your search strategy requires more than one full screen, use the following steps. After the last term is entered at the bottom of the first (or any succeeding) screen, press your transmit key. The system will respond with a blank screen and a message prompting you to enter additional terms or END. Continue entering terms until the search strategy is complete, type END and TRANSMIT.
- Boolean connectors are AND, NOT and OR (assumed). When NOT is used, it must be the last level.
Search output is limited to 25,000 finds or accessions.
Total search time is limited to 3 minutes.
Planning a search.
Before a search can be performed, a search strategy must be developed. Developing the strategy is the process of analyzing the question and selecting the terms or term phrases that will best answer it. These terms or term phrases may be subject terms or they may be an author's name, a title, a report number, etc. The information that is requested will determine the order in which the selected terms or term phrases are combined.

How to use Boolean Logic:
DROLS uses Boolean logic to show the relationships among terms. The Boolean operations are: OR, AND, and NOT. Instructions for using the operations follow:

Or
- Groups together similar or related terms.
- OR does not have to be typed between terms, it is understood.
- In the following example, DROLS will find technical reports with any of the terms listed.

Example: @str@
    psychiatry
    healing
    military medicine
    end

And
- Shows relationship among terms.
- Enter AND on a separate line.
- In the following example, DROLS will find only those technical reports dealing with both military medicine and psychiatry.

Example: @str@
    military medicine
    and
    psychiatry
    end

Not
- Eliminates terms or term phrases from consideration.
- Enter NOT on a separate line. NOT must be the last level in the search strategy.
Use only one NOT.

In the following example, DROLS is searching the term medicine. However, the user is not interested in gerontology and geriatrics and therefore has eliminated this from these terms results by using NCT.

Example:  @str@
medicine
not
gerontology
geriatrics
end

When planning a search, try to enter terms on the first level that are likely to give the fewest results in order to save computer processing time. The computer searches the first level terms, then matches the second level terms with the finds on level one, then matches the finds of the first and second levels with terms on the third level, and so on.

- If a search cannot be completed, one of the following messages will be displayed immediately preceding the TOTAL-SEARCH FINDS line.

1. -INCOMPLETE - 3-MIN SEARCH TIME EXCEEDED
2. -INCOMPLETE - TOO MANY FINDS ON LEVEL ONE
3. -INCOMPLETE - TOO MANY TERMS IN STATISTICS FILE
4. --SEARCH XXXXXX DELETED NO FINDS END OF LEVEL X

- Complete each search strategy with the terminator word END and transmit. (*Reminder: Dial-Up sites require two carriage returns to transmit and Dedicated sites need to press the transmit key once.*)

- Search New Accessions @SNA@ limits your search results to the items entered into the TR database since the last update cycle.

- A search can be specified by accession number ranges. (See Appendix 7 for the assignment of AD numbers by calendar year.) As many as 10 ranges can be used for any one search. They do not have to be arranged in sequential order. An AD number range may follow the last term or precede the first term of your search strategy and does not require a logical operator. Give both the low and high number for the range in parentheses, separating the range with a hyphen.
Examples: @str@ $humans or (ada000001-ada017003) and $gastrointestinal diseases (ada000001-ada017003) and $humans and $gastrointestinal diseases end

- You may also limit a TR search by accession date (which is the date that the reports were added to the database). This is not synonymous with the Report Date. You may limit your search to (2), (5), or (10) years, or use (all) to search the entire database. There is an automatic search default to the last 10 years of ADs.

The year designator may follow the last term or immediately precede the first term of your search. It does not require a logical operator, but must be enclosed in parentheses.

Examples: @str@ $humans (5) and $humans $gastrointestinal diseases and (5) $gastrointestinal diseases end

**SEARCH RESULTS**

The following statistics are displayed after each search on a dedicated terminal. To get the same information on a dial-up terminal, use the @RSS@ command (see Chapter 8).

TOTAL-SEARCH FINDS - Actual number of accessions retrieved excluding duplicates.
FIRST-LEVEL FINDS - Total number of accessions retrieved that satisfy any search term within the first level.
FIRST AND SECOND LEVEL FINDS - Total number of finds that result when the search requirement of the first and second levels are met.

1 + 2 + 3 LEVEL FINDS - Total number of finds that result when the search requirement of the first, second and third levels are met.

1 + 2 + 3 + 4 LEVEL FINDS - Total number of finds that result when the search requirement of the first, second, third and fourth levels are met.

ARMY - NAVY - AIR FORCE - OTHER - When searching the Work Unit (WU) file, this column shows finds broken down by the major military services and miscellaneous governmental and contractual organizations. Zeros appear for TR and IR&D files.

SEARCH - A unique computer-assigned, 6-character, alphanumeric control number used to identify the search.

TIME OF DAY - The time, by hour, minute, and second, that the computer started processing the search question.

FINDS - Same as Total Search Finds.

COMPUTER TIME - Internal computer processing time required to accomplish the search.

The command @DSR@ is used to display search results. See Chapter 3 for more information on display commands.

SEARCH OPTIONS

The following search options should be considered when structuring search questions. These options may be used individually or in combination. Remember, all search commands for the TR database should start with the command, Search Technical Reports, @STR@.

HIERARCHY OPTION ($) 

Descriptors

The DTIC Thesaurus and its hierarchical index identify the hierarchical relationship among DTIC descriptors. The DTIC Thesaurus identifies, for each descriptor, the related descriptors which are generically one level broader than, or narrower than a specific term. The hierarchical index displays the complete multi-level structure of each term hierarchy. When a descriptor is entered preceded by the $
sign, all of the DTIC Thesaurus descriptors which are hierarchically narrower than the term entered, in addition to the term itself, are added to the search strategy.

Example: @str@
   $tropical diseases$
end

Use of the descriptor TROPICAL DISEASES hierarchically will produce the same results as a cumulated search of the following terms:

- CHOLERA
- DENGUE
- FILARIASIS
- TROPICAL SPRUE
- TYPHUS

**NOTE:** A search strategy must not exceed 525 terms (Dedicated) or 300 terms (Dial-Up). Use of the hierarchy option on one or more entries may, because of the introduction of the hierarchically-related terms, result in a search strategy exceeding 525 terms. In that case, the system would respond with the message:

```
-- SEARCH STRATEGY TOO LARGE SEARCH ABORTED
```

**Source Codes**

The hierarchy option is used to search for an organization together with its subdivisions and former corporate names. The Source Hierarchy List contains the source codes associated with the current source name, its organizational subdivisions, and its former names.

Example: @str@
   laser weapons
   and
   ?02$406553
end

**TRUNCATION OPTION (%)**

Subject searching on specific terms may not always yield the best results. An alternative is to shorten or truncate the spelling of the term or term phrase that may have several different endings. Truncated terms or term phrases are searched in all narrative fields. This allows a greater number of term matches and their related accessions to be considered as possible answers to a search question.
NOTE: Avoid truncating a short term. For example: FUR (you will pick up too many irrelevant terms or term phrases; i.e., FURALDEHYDES, FURN RESINS, FURANS, FURNACES, FURNITURE, ... etc.).

If 2 to 4 characters are used in your truncation option, the system will inform you that the search may be too broad. You will have to respond with Y (yes) to continue or N (no) to abort. This very broad form of truncation should be performed with caution, since costly and time consuming searches will result.

To eliminate unwanted terms, you could use NOT logic. The Boolean connector NOT must always be the last statement of the search. Be careful when using NOT logic because it will override finds in earlier search levels. This means that even though an item meets all of the specifications of earlier search levels, if it also meets the criteria of the NOT level, it will be rejected. The following is an example of a search using the NOT logic.

Example: @str@ %aircraft not %aircraft carrier end

WEIGHTED TERM (*)

Occasionally, you may want to restrict your search results to those items where the term or terms you are interested in are the primary subject of the report. To search for such terms, use the weighted term option immediately before the term. The weighted term option is only available in the TR database.

Example: @str@ *gastrointestinal diseases and $humans end
Accession Date Matrix

The following matrix shows accession date defaults and options used in each database.

<table>
<thead>
<tr>
<th>File Names</th>
<th>Automatic Default</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR</td>
<td>10 years</td>
<td>2, 5, All, Spans</td>
</tr>
<tr>
<td>NA</td>
<td>All</td>
<td>Spans</td>
</tr>
<tr>
<td>CF</td>
<td>All</td>
<td>Spans</td>
</tr>
<tr>
<td>WUIS</td>
<td>All</td>
<td>Spans</td>
</tr>
<tr>
<td>IR&amp;D</td>
<td>2 years</td>
<td>All, Spans</td>
</tr>
</tbody>
</table>

**Table: 1**

**NOTE:** Accession date is the date the report was added to the database.

Search Option Matrix

The following matrix shows which search option may be used in which database and on what types of data they are effective.

<table>
<thead>
<tr>
<th>SEARCH OPTION</th>
<th>FILE NAMES</th>
<th>TIPS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TR</td>
<td>CF</td>
</tr>
<tr>
<td>$ Hierarchy</td>
<td>Thesaurus</td>
<td>Source Code</td>
</tr>
<tr>
<td>Source Code</td>
<td></td>
<td>Source Code</td>
</tr>
<tr>
<td>% Truncation</td>
<td>ALL</td>
<td>ALL</td>
</tr>
<tr>
<td>Thesaurus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifiers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weighted</td>
<td>Thesaurus</td>
<td>N/A</td>
</tr>
<tr>
<td>Open Ended</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>?NN Role Code</td>
<td>ALL</td>
<td>ALL</td>
</tr>
</tbody>
</table>

**Table: 2**

2-8
Combined Search Options Matrix

There are occasions when you may want to use the search option in combination to obtain highly specific results. The following matrix shows which options are available to you.

<table>
<thead>
<tr>
<th>SEARCH OPTION</th>
<th>FILE NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>* $</td>
<td>Thesaurus</td>
</tr>
<tr>
<td>* %</td>
<td>Thesaurus</td>
</tr>
<tr>
<td>(TR) $ ? NN</td>
<td>Source Code</td>
</tr>
<tr>
<td>(WU) $ Mnemonic</td>
<td></td>
</tr>
<tr>
<td>$ %</td>
<td>Thesaurus</td>
</tr>
</tbody>
</table>

*NOTE: The combined search option $% should not be used because the search results default to the hierarchy of thesaurus terms. Therefore the truncation function is not performed.*

TECHNICAL REPORT (TR) DATABASE

The TR database contains approximately 1.5 million bibliographic citations spanning a wide variety of scientific and technical subjects dating roughly from 1917 to the present.

TR DATABASE ROLE CODES (?NN)

Each searchable field may be identified by a field or role code (see Appendix 3) which when used eliminates unwanted data from entering the search process. To implement this option, precede the term with the ? symbol and the appropriate 2-digit role code.

Example:  
```plaintext
@str@
?q1wayman rj
end
```
?00 - Index Terms Search

In general, searching with index terms (Descriptors [DTIC controlled vocabulary], Identifiers [author assigned terms], and Open-Ended Terms [general terms]) does not require the use of a role code. Also, when you use a hierarchy option $ with descriptors, you do not need to use the role code. However, when you use the truncation option %, you should use ?00 if you want your search to include only indexed terms, otherwise extraneous search items such as authors, titles, etc. could be included in your results.

Examples:

<table>
<thead>
<tr>
<th>Entered Term</th>
<th>Retrieved Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>%UNDER</td>
<td>UNDERWATER ACOUSTIC DECOUPLER</td>
</tr>
<tr>
<td></td>
<td>UNDERWATER ACOUSTIC PANELS</td>
</tr>
<tr>
<td></td>
<td>UNDERWATER ACOUSTIC PRESSURE</td>
</tr>
<tr>
<td></td>
<td>UNDERWATER ACOUSTICS</td>
</tr>
<tr>
<td></td>
<td>UNDERWATER ACOUSTIC/REVERBERATION</td>
</tr>
<tr>
<td></td>
<td>UNDERWATER AMBIENT</td>
</tr>
<tr>
<td></td>
<td>UNDERWOOD, AH</td>
</tr>
<tr>
<td></td>
<td>ETC.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Entered Terms</th>
<th>Retrieved Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>?00%UNDER</td>
<td>UNDERWATER AMBIENT</td>
</tr>
<tr>
<td></td>
<td>UNDERWAY SAMPLING</td>
</tr>
<tr>
<td></td>
<td>UNDERWEAR</td>
</tr>
<tr>
<td></td>
<td>UNDERWRITER OPERATIONS</td>
</tr>
<tr>
<td></td>
<td>UNDER-REAMED PILES</td>
</tr>
<tr>
<td></td>
<td>UNDER-THE-WING FLAPS</td>
</tr>
<tr>
<td></td>
<td>ETC.</td>
</tr>
</tbody>
</table>

?57 - Entry Classification Statement

The Technical Report database, you may limit your search to certain report classifications by using ?57 to search the entry classification field or ?58 to search the actual report classification field. Unclassified terminals will receive sanitized citations to classified documents. The following abbreviations are used for the different classifications:

- S - Secret
- C - Confidential
- R - Restricted
Example: To retrieve only those citations or documents on STRESS during DIVING that are classified confidential, your search pattern for the referenced classification statement should look like this:

<table>
<thead>
<tr>
<th>Entry Classification Statement</th>
<th>Report Classification Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>@str@ stress(physiology)</td>
<td>@str@ stress(physiology)</td>
</tr>
<tr>
<td>and</td>
<td>and</td>
</tr>
<tr>
<td>%diving</td>
<td>%diving</td>
</tr>
<tr>
<td>%diver</td>
<td>%diver</td>
</tr>
<tr>
<td>and</td>
<td>and</td>
</tr>
<tr>
<td>?57c</td>
<td>?58c</td>
</tr>
<tr>
<td>end</td>
<td>end</td>
</tr>
</tbody>
</table>

SECURE SITES. If a displayed field is classified, the entry classification will appear as the first element of the display.

Example:

```
***************
--- ENTRY CLASSIFICATION: RESTRICTED
***************
```

The display of any field with a security classification will be noted as a classified display. Safeguarding classified printouts is your responsibility. If you want only unclassified citations, use NOT logic to exclude the classified citations.

Example:

```
@str@ stress(physiology)
  and
  %diving
  %diver
  not
  ?58s
  ?58c
  ?58r
end
```

In the example above, the first and second level finds represent all of the reports on the subject. The third level finds represent the unclassified documents.
TITLE SEARCHING

Title searching can be accomplished three ways: through free text searching, through the use of the first five words of the title, or through the use of a search key algorithm constructed from the first five words of the title. For every record stored in the TR database, the computer has created a title key, a short abbreviation of the title. The role codes used in title searching are as follows:

?60 - Free Text - Title

In the TR database, free text searching is limited to single words that appear in the titles of any document processed since the beginning of 1975. The following information applies to searches using ?60:

- Single words (uniterms) are entered.
- Search option is limited to truncation (%) only.
- All forms of the word must be entered, such as foreign spelling, Arabic numbers, Roman numerals, numbers spelled out, etc.
- All punctuation or special characters are treated as spaces.
- Consult the STOP WORD LIST for a listing of the words that cannot be used in full text searching.

Example:

<table>
<thead>
<tr>
<th>Narrative Phrase</th>
<th>Search Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis of the YC-15 @str@</td>
<td>@str@</td>
</tr>
<tr>
<td>Acoustic Loads</td>
<td>?60analysis</td>
</tr>
<tr>
<td>Under-the-wing Flaps</td>
<td>and</td>
</tr>
<tr>
<td></td>
<td>?60yc</td>
</tr>
<tr>
<td></td>
<td>and</td>
</tr>
<tr>
<td></td>
<td>?6015</td>
</tr>
<tr>
<td></td>
<td>end</td>
</tr>
</tbody>
</table>
Stop Word List

<table>
<thead>
<tr>
<th>Stop Word</th>
<th>Substitute Word</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>DISCUSSED</td>
</tr>
<tr>
<td>AFTER</td>
<td>DUE</td>
</tr>
<tr>
<td>ALSO</td>
<td>DURING</td>
</tr>
<tr>
<td>AN</td>
<td>EACH</td>
</tr>
<tr>
<td>AND</td>
<td>FOR</td>
</tr>
<tr>
<td>ANY</td>
<td>FOUND</td>
</tr>
<tr>
<td>ARE</td>
<td>FROM</td>
</tr>
<tr>
<td>AS</td>
<td>FURTHER</td>
</tr>
<tr>
<td>AT</td>
<td>GENERAL</td>
</tr>
<tr>
<td>AUTHOR</td>
<td>GIVEN</td>
</tr>
<tr>
<td>AVAILABLE</td>
<td>HAS</td>
</tr>
<tr>
<td>BE</td>
<td>HAVE</td>
</tr>
<tr>
<td>BEEN</td>
<td>HOWEVER</td>
</tr>
<tr>
<td>BEING</td>
<td>IF</td>
</tr>
<tr>
<td>BETWEEN</td>
<td>IN</td>
</tr>
<tr>
<td>BOTH</td>
<td>INCLUDED</td>
</tr>
<tr>
<td>BUT</td>
<td>INTO</td>
</tr>
<tr>
<td>BY</td>
<td>INVESTIGATED</td>
</tr>
<tr>
<td>C</td>
<td>IS</td>
</tr>
<tr>
<td>CAN</td>
<td>IT</td>
</tr>
<tr>
<td>CFRD</td>
<td>ITS</td>
</tr>
<tr>
<td>CONDUCTED</td>
<td>MADE</td>
</tr>
<tr>
<td>CONSIDERED</td>
<td>MAY</td>
</tr>
<tr>
<td>COULD</td>
<td>MORE</td>
</tr>
<tr>
<td>CRD</td>
<td>MOST</td>
</tr>
<tr>
<td>DESCRIBED</td>
<td>NO</td>
</tr>
<tr>
<td>DESCRIBES</td>
<td>NOT</td>
</tr>
<tr>
<td>DESIGNED</td>
<td>OBTAINED</td>
</tr>
<tr>
<td>DETERMINE</td>
<td>OF</td>
</tr>
<tr>
<td>DETERMINED</td>
<td>ON</td>
</tr>
<tr>
<td>DIFFERENT</td>
<td>ONLY</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Example</th>
<th>Substitute</th>
</tr>
</thead>
<tbody>
<tr>
<td>A DISCUSSED</td>
<td>OR THE</td>
</tr>
<tr>
<td>AFTER DUE</td>
<td>OTHER THEIR</td>
</tr>
<tr>
<td>ALSO DURING OUT</td>
<td>THERE</td>
</tr>
<tr>
<td>AN EACH PERFORMANCE</td>
<td>THESE</td>
</tr>
<tr>
<td>AND FOR PERFORMED</td>
<td>THEY</td>
</tr>
<tr>
<td>ANY FOUND POSSIBLE</td>
<td>THIS</td>
</tr>
<tr>
<td>ARE FROM PRESENT</td>
<td>THOSE</td>
</tr>
<tr>
<td>AS FURTHER PRESENTED</td>
<td>THROUGH</td>
</tr>
<tr>
<td>AT GENERAL PRESENTS</td>
<td>TO</td>
</tr>
<tr>
<td>AUTHOR GIVEN PROVIDED TYPES</td>
<td>U</td>
</tr>
<tr>
<td>AVAILABLE HAS PROVIDED</td>
<td>U</td>
</tr>
<tr>
<td>BEHAVE PROVIDES</td>
<td>UNDER</td>
</tr>
<tr>
<td>BEEN HOWEVER RELATED</td>
<td>USE</td>
</tr>
<tr>
<td>BEING IF REPORT USE</td>
<td>U</td>
</tr>
<tr>
<td>BETWEEN IN REQUIRED</td>
<td>USED</td>
</tr>
<tr>
<td>BOTH INCLUDED RESULTS</td>
<td>USING</td>
</tr>
<tr>
<td>BUT INTO S</td>
<td>VARIOUS</td>
</tr>
<tr>
<td>BY INVESTIGATED SEE</td>
<td>VERY</td>
</tr>
<tr>
<td>C IS SELECTED WAS</td>
<td>WERE</td>
</tr>
<tr>
<td>CAN IT SEVERAL WELL</td>
<td>WERE</td>
</tr>
<tr>
<td>CFRD ITS SFRD WERE</td>
<td>WERE</td>
</tr>
<tr>
<td>CONDUCTED MADE SHOULD WHEN</td>
<td>WERE</td>
</tr>
<tr>
<td>CONSIDERED MAY SHOWN WHERE</td>
<td>WERE</td>
</tr>
<tr>
<td>COULD MORE SIGNIFICANT WHICH</td>
<td>WERE</td>
</tr>
<tr>
<td>CRD MOST SOME WHILE</td>
<td>WERE</td>
</tr>
<tr>
<td>DESCRIBED NO SPD</td>
<td>WILL</td>
</tr>
<tr>
<td>DESCRIBES NOT STUDIES WITH</td>
<td>WERE</td>
</tr>
<tr>
<td>DESIGNED OBTAINED SUCH WITHIN</td>
<td>WERE</td>
</tr>
<tr>
<td>DETERMINE OF TESTED WITHOUT</td>
<td>WERE</td>
</tr>
<tr>
<td>DETERMINED ON THAN WOULD</td>
<td>WERE</td>
</tr>
<tr>
<td>DIFFERENT ONLY THAT</td>
<td>WERE</td>
</tr>
</tbody>
</table>

**Table 4**

**?56 - First Five Words - Title**

Enter up to the first five words of the title and the computer system constructs the title key/algorithm before starting the search. The statistical page will display the algorithm that the computer constructed. The following information applies to searches using ?56.

- Include initial articles (a, an, the, etc.).
- There is a 60-character limit on the title field.
- Truncation Option (%) is not available.
- Only alphanumeric characters are used.
- All punctuation/special characters are treated as spaces.

2-13
Spaces are used between words in the title.
- STOP WORD LIST does not apply.

Example: @str@
   ?56analysis of the f 15
end

?55 - Search Key Algorithm

For each title, a key is extracted from the first five words. The key
consists of the first character of the first word, the first four characters
of the second word, the first three characters of the third word, and the
first two characters of the fourth and fifth words (i.e.,1,4,3,2,2). The
following information applies to searches made with ?55.
- There are no more than 12-characters to key.
- Use an asterisk if a word is too short or if fewer than five words
  are in the title.
- The truncation option ( % ) is available.
- Only alphanumeric characters are used.
- All punctuation/special characters are counted as spaces.
- All characters are packed together, no spaces.
- STOP WORD LIST is not used.

Example: @str@
   ?55aof**thef*15
end

REMEMBER: You can use the Truncation Option % with ?60 and
   ?55 and the title key; you cannot truncate using ?56 and the title.

Example: If you searched for all titles beginning with “Analysis of the
   F...”, your strategy would look like this:

Example: @str@
   ?55%aof**thef*
end

---
1 OF 2
---
AD NUMBER: P005125
---
UNCLASSIFIED TITLE: ANALYSIS OF THE F-16 FLOW FIELD
---
BY A BLOCK GRID RULER APPROACH.
NAME SEARCHING

?11 - Author Search

To search an author's name (i.e., JOHN R. BROWN), input the last name first, a space, then the author's initials. Hyphens are dropped; no periods or spaces are used with the initials.

Example: @str@  
?11brown jr  
end

You could use truncation and search with a single initial mask if you know the author as JOHN BROWN, or just BROWN.

Example: @str@  @str@  
?11%brown j  or  ?11%brown  
end  
end

NOTE: Searching on a truncated last name only will not only give you the last name BROWN, but all last names beginning with BROWN, such as BROWNELL. Adding the truncation symbol after the name will create a mandatory blank space after the root of the stem. Do not include titles, military rank, etc. as part of your search statement.

Example: @str@  
?11%brown%  
end

Another option would be to use the multiple search statement for variable spellings.

Example: @str@  
?11browne ja  
?11brown ja  
end

DATE SEARCHING

?24 - Report Date

Technical reports may be searched for a specific report date, year, or month and year. This search would usually be performed in combination with other search statements further characterizing the material desired. The basic search for a specific date requires the role code ?24, the year, month and day (YYMMDD). Truncation can be used to search less specific dates since some report dates may not include a specific month and/or, day or you may wish to retrieve reports written on any day of a specific month/year, etc.
To search for reports dated 5 OCT’90, your search strategy would look like this:

Example:  @str@
?24g01005
end

To search for reports in a given year and month such as OCT 90, the search strategy should appear as:

Example:  @str@
?24%9010
end

To search for all reports in a given year, use the following:

Example:  @str@
?24%90
end

The combination search is the most commonly used. Suppose you were interested in reports written in 1990 with STRATEGIC MATERIALS as a primary subject. Remember, the primary subjects are weighted by DTIC subject analysts so use the weighted term option with the term STRATEGIC MATERIALS. The strategy would look like this:

Example:  @str@
*strategic materials
and
?24%90
end

When building search strategies, think about the order of the statements. Why not put the date statement first? As far as your logical results are concerned it doesn’t matter, but think about what the computer is doing. First, it finds items that satisfy the first search level, then it looks through those to find items that satisfy the second level search and so on. If you put the truncated date statement first, the first level search will find reports dated 1990, then it will select from those, the ones with STRATEGIC MATERIALS as a primary subject. Such an approach takes more than 100 times as much computer time as starting with the weighted subject term. **GENERALLY, WHENEVER YOU PLAN A SEARCH, TRY TO USE AS THE FIRST STATEMENT THE ONE THAT WILL GIVE THE FEWEST RESULTS.** Truncated dates should be avoided as a first statement.
NOTE: A warning message may appear to remind you that masking 2 to 4 characters may result in too many finds. Press Y to continue or N to abort.

NUMBER SEARCHING

Searching for specific report numbers is somewhat more complicated than other number searches. The number you are looking for may have been entered as either a source series (report) number, or fragmented into a monitor series number and a monitor acronym. Thus, you may need to search both possibilities. Always truncate report number searches to allow for part and volume numbers, appendices, supplements, etc. Also remove all hyphens, spaces, etc. The three role codes used to perform these searches follow.

?54 - Subject Fields of Interest - (Fields & Groups)

There are many scientific and technical information fields of interest available in DTIC's databases. Limiting search results to only these fields of interest can be accomplished by using the numeric code assigned to each field. (See Appendix 12) To search a subject field, use role code ?54 and the corresponding number for that field. You must enter 6 numerics, adding zeroes after the assigned code, if it is less than 6 numbers (all numbers are packed). Suppose you want to know what documents were available under the subject area of Aerodynamics, for which the code is 01-01. Your search should appear as follows:

Example: @str@
?54010100
end

NOTE: This Role Code option is effective for TRs added to the database since January 1990.

?51 - Source Series

Suppose the Naval Post Graduate School, Monterey, CA. (NPS) published a document with the report number NPS-61-089-012. To search by the source series, your strategy should look like this:

Example: @str@
?51%nps61089012
end
NOTE: The truncation is used for all report numbers in the requested series.

?03 - Monitor Acronym

The TR database may be searched for a monitoring agency by searching the monitor acronym such as Wright Research and Development Center (WRDC). The *Directory of Organizational Technical Report Acronym Codes (DOTRAC)* would be useful to help you identify these acronyms. A simple acronym search of the entire TR database would not be advisable since it would probably yield too many items. However, combination searches of acronyms with accession number cut-off options or with specific subject terms may be more successful. To search for the reports of work monitored by WRDC that were accessioned by DTIC within the last five years, use the following strategy:

Example: 
```
@str@
?03wrdc
(5)
end
```

?53 - Monitor Series Number

To search for a monitor report number, combine two search statements: a search of the monitor acronym role code ?03; and a search of the monitor series number role code ?53 with the Boolean connector AND. To search the number WRDC-TR-89-8046-VOL-2-PT-2, your search strategy should look like:

Example: 
```
@str@
?03wrdc
and
?53%tr898046
end
```

To determine whether there is a document in a database with a particular report number, try two different searches. Search for the source series (report) number in the first search; and use a coordinated search for the monitor acronym and monitor series in the second. However, it is more expedient to conduct a report number combination search for either the source report number or monitor report number, because you may not know whether the report number is the performing organization or monitor organization. The following is an example of this:
Search TR Database

Example: @str@
?51%wrdctr898046
?03wrdc
and
?51%wrdctr898046
?53%tr898046
end

This search used the document number as the complete source series number on two levels with the monitor acronym statement on one level and the monitor series number on the other level. Redundancy searching for the same term on more than one level can be a very useful technique when you have a search pattern involving a single term and a combination of terms.

NOTE: More than one report number may be included in data fields 18 and 19.

?51 - Patent Number

Patent numbers and/or patent applications may be searched as a source series number.

Examples:
Patent-5 097 477
@str@
?51%patappl696819
end

?16 - Contract Number

This is one of the most common searches in the TR database. Type in the complete contract number eliminating all punctuation and spaces.

Example: To search contract F19628-85-C-0002 your strategy should look like this:

Example:
?str@
?16f1962885C0002
end

?21 - Project Number

Project numbers are used to provide RDT&E funding information. The numbers can also be used to identify a particular endeavor. Project numbers are retrievable and provide reference to information in the WUIS and IR&D databases, as well as, related documents in the TR database.
Tasks are smaller segments of a project into which exploratory development efforts may be divided for purposes of local administration. Tasks encompass exploratory development efforts directed toward a specific objective.

Example:  @str@  
?20mf51524002  
end  

NOTE: In each case, eliminate all punctuation and spaces.

?52 - Serial Number

Serial number searching is somewhat limited and is usually done in connection with other searching. The following are the one-character abbreviations used when searching with role code ?52:

F = Final  1 = 1st Volume, Issue or Part
S = Summary  2 = 2nd Volume, Issue or Part
A = Annual  3 = 3rd Volume, Issue or Part etc.

The following are examples of contract searching in combination with serial number searching.

For the final report  For the annual reports  For the summary report
on a Contract  on a Contract  on a Contract
@str@  @str@  @str@
?16afosr880009  ?16afosr880009  ?16afosr880040
and  and  and
?52f  ?52a  ?52s
end  end  end  

?02 - Source Code (Corporate Author)

When searching for a particular corporate author, your first step is to find the organization source code in the DTIC Source Header List, or DTIC Source Hierarchy List. Suppose you are interested in reports prepared by the Ohio State University Research Foundation, Columbus (OSURFC). Locate the source code in the Source Header List. The code number for OSURFC is 267360. Your strategy should look like this:

Example:  @str@  
?02267360  
end
Suppose you want to search for everything from OSURFC and its laboratories. To avoid searching on each individual source code, you can use the hierarchy option with the source code of the highest organizational entity. Organization source codes are ranked in hierarchical order in the Source Hierarchy List. In this case, the Cryogenic Laboratory and others are listed below OSURFC. To retrieve citations sponsored by OSURFC to include all of its laboratories, search using the OSURFC code and the hierarchy option:

Example:  
?02$267360
(all)
end

NOTE: An entry in either the Source Header List or the Source Hierarchy List for a corporate author means that DTIC has, at some time, received material which was accessioned into any one of the DTIC databases (TR, WU, IR&D).

?30  Geopolitical Code

If the corporate author is located in the U.S., it is assigned a geopolitical code which identifies the state and congressional district it is located in. Otherwise the geopolitical code identifies the country. The following is an example of a location search to find reports issued from Ohio’s 10th Congressional District. (See Appendix 8, Geopolitical Codes). The code for Ohio is 39, so the strategy should look like this:

Example:  
?303910
end

SITE HOLDING SYMBOL SEARCHING

?59  Site Holding Symbol

An individual contributor can display their site symbol. This can be searched either in its entirety, or by the first three characters only. For example, the site holding symbol for the Institute for the Defense Analyses (IDA) is IDAH 041714. The search strategy should be:

Examples:  
?59idah041714 or ?59ida
end

end
MULTIMEDIA PRODUCTS AVAILABLE ON DROLS

DTIC announced nonprint products currently include videorecordings, magnetic tapes, diskettes, and CD-ROM, and are searchable in the Technical Report database. Their accession numbers are prefixed with ADM (e.g. ADM200002, ADM200024, ADM200030).

Nonprint products are searchable by employing role code 06 and the single alpha character which represents the media code, or by entering one or more of the nonprint subject terms in the search strategy. Examples of role code and subject term searching are cited below.
Search TR Database

**Role Code Search**

Example 1a for ½ Inch VHS
 sit
 infrared signatures
 and
 706j
 end

Example 2a for Magnetic Tape
 sit
 infrared signatures
 and
 706k
 end

Example 3a for Computer Diskette
 sit
 infrared signatures
 and
 706l
 706m
 706n
 706p
 706q
 706r
 end

Example 4a for CD-ROM
 sit
 snow
 and
 706s
 end

**Subject Search**

Example 1b
 sit
 infrared signatures
 and
 multimedia(videorecording)
 end

Example 2b
 sit
 infrared signatures
 and
 multimedia(magtape)
 end

Example 3b
 sit
 infrared signatures
 and
 multimedia(computer diskette)
 end

Example 4b
 sit
 snow
 and
 multimedia(cd-rom)
 end

**Multimedia Codes**

<table>
<thead>
<tr>
<th>Code</th>
<th>Item</th>
<th>Density</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>J</td>
<td>½ Inch Video Tape</td>
<td></td>
<td>VHS</td>
</tr>
<tr>
<td>K</td>
<td>Magnetic Tape</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>5 ½ Inch Diskette</td>
<td>Low Density</td>
<td>IBM</td>
</tr>
<tr>
<td>M</td>
<td>3 ½ Inch Diskette</td>
<td>Low Density</td>
<td>IBM</td>
</tr>
<tr>
<td>N</td>
<td>3 ½ Inch Diskette</td>
<td>Low Density</td>
<td>MAC</td>
</tr>
<tr>
<td>P</td>
<td>5 ¼ Inch Diskette</td>
<td>High Density</td>
<td>IBM</td>
</tr>
<tr>
<td>Q</td>
<td>3 ¼ Inch Diskette</td>
<td>High Density</td>
<td>IBM</td>
</tr>
<tr>
<td>R</td>
<td>3 ½ Inch Diskette</td>
<td>High Density</td>
<td>MAC</td>
</tr>
<tr>
<td>S</td>
<td>CD-ROM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 5**

2-23
From the examples above you can see there are nine media codes which can be searched with role code 706. The media codes are designated with an alpha character (e.g., J, K, L, M, N, P, Q, R, S). If you choose to search with a descriptor (subject term), you have the following four choices: multimedia (videorecording); multimedia (magnet tape); multimedia (computer diskette); and multimedia (cd-rom). There is not a separate descriptor for each type, size, or density of diskette.

When displaying nonprint citations, the media code (J-S) will appear in field --4, along with the media type (in English) and the accession number for the supporting material. Following the unclassified title in field --6, the media type (i.e., computer diskette) will appear in parentheses. In the pagination field --12, the number of media items and the media cost will be displayed. Accession numbers for accompanying documentation will be repeated in the supplementary note field --21. The abstract field --27, will contain the physical description of the multimedia product (i.e., the number, type, and size of the items and any system requirements such as DOS versions, IBM or MAC computability, etc.). The following example is a citation for a nonprint product with accompanying documentation.

Example:

```
-- 1 OF 1
-- AD NUMBER: M000024
-- FIELDS AND GROUPS: 5/3, 5/9
-- MEDICAL CODE/DOCUMENTATION: L, (COMPUTER DISKETTE), A231629
-- UNCLASSIFIED TITLE: PERSONAL STATEMENT OF
-- MILITARY COMPENSATION (COMPUTER DISKETTE).   
-- REPORT DATE: JUN 14, 1990
-- PAGINATION: 1 MEDIA COST: $ 20.00
-- MONITOR ACRONYM: XN
-- MONITOR SERIES: CWO
-- REPORT CLASSIFICATION: UNCLASSIFIED
-- SUPPLEMENTARY NOTE: INCLUDES DOCUMENTATION, AD-A231 629.
-- ABSTRACT: FILE CHARACTERISTICS: COMPUTER PROGRAM.
-- PHYSICAL DESCRIPTION: A COMPUTER DISK, 5 1/4 IN. SYSTEM
-- REQUIREMENTS: IBM PC COMPATIBLE; 360K; DOS 2.1; DOT MATRIX
-- PRINTED SOFTWARE TO ISSUE MATERIALS FOR LOCAL PRODUCTION
-- OF THE NEW PERSONAL STATEMENT OF MILITARY COMPENSATION
-- OF M.E. (PSMC)
-- INITIAL INVENTORY: 1
-- LIMITATION CODES: 1
-- SOURCE CODE: 264850
-- END   << ENTER NEXT COMMAND >>  END --
```
INFORMATION ANALYSIS CENTER (IAC) RECORDS

The DTIC administratively manages and funds several of DoD’s contractor operated Information Analysis Centers (IACs). The IACs are basically similar in operation, but dissimilar in subject matter. There may be charges for their services. You can search the TR database for the unique items that have been entered by the following IACs:

- **CBIAC** Chemical Warfare/Chemical Biological Defense Information Analysis Center
- **CSERIAC** Crew System Ergonomics Information Analysis Center
- **CIAC** Ceramics Information Analysis Center
- **CPIA** Chemical Propulsion Information Agency
- **GACIAC** Guidance and Control Information Analysis Center
- **HTMIAC** High Temperature Materials Information Analysis Center
- **IRIA** Infrared Information Analysis Center
- **MIAC** Metals Information Analysis Center
- **MMCIAC** Metal Matrix Composites Information Analysis Center
- **MTIAC** Manufacturing Technology Information Analysis Center
- **NTIAC** Nondestructive Testing Information Analysis Center
- **PLASTEC** Plastics Technical Evaluation Center
- **SURVIAC** Survivability/Vulnerability Information Analysis Center
- **TWSTIAC** Tactical Warfare Simulation and Technology Information Analysis Center

The strategy for IAC searching is similar to other searches performed on the online system; the same Boolean Logic applies and each search is terminated with END.

In non-indexed term searching, that is searching by titles, authors, dates, etc., the DTIC accession number assigned to the unique IAC document will automatically be included in your search results. Documents accessioned under these IAC-assigned AD number ranges are not available from DTIC. The DTIC accession numbers assigned to each IAC are:

2-25
The IACs have a unique accession number assigned to their documents. The display and sort fields for the IACs appear at the end of a display. You can request these fields when designing your own display format.

NOTE: The hyphen is required in this search strategy.

Example:  @str@
          ?04nt-45560
          end

NOTE: Many IAC indexed documents are also available from DTIC as AD-A, B, and C documents and both will be listed in the search results.

?45 - IAC Document Type Code

The IAC Document Type Code is a single character used for searching that is assigned by each IAC to identify the type as well as the classification limitations, if any of a document. This search would be used in combination with another search strategy.
IAC Document Type Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hard Copy</td>
</tr>
<tr>
<td>2</td>
<td>Microfiche</td>
</tr>
<tr>
<td>3</td>
<td>Microfilm</td>
</tr>
<tr>
<td>4</td>
<td>Journal Articles</td>
</tr>
<tr>
<td>5</td>
<td>Official Use Only</td>
</tr>
<tr>
<td>6</td>
<td>Proprietary</td>
</tr>
<tr>
<td>7</td>
<td>Confidential</td>
</tr>
<tr>
<td>8</td>
<td>Secret</td>
</tr>
<tr>
<td>A</td>
<td>Hard Copy - Secret</td>
</tr>
<tr>
<td>B</td>
<td>Microfiche - Secret</td>
</tr>
<tr>
<td>C</td>
<td>Hard Copy - Confidential</td>
</tr>
<tr>
<td>D</td>
<td>Microfiche - Confidential</td>
</tr>
<tr>
<td>E</td>
<td>Hard Copy - Proprietary</td>
</tr>
<tr>
<td>F</td>
<td>Microfiche - Proprietary</td>
</tr>
</tbody>
</table>

Example: `@str@` nondestructive and `?451` end

IAC Subject Searching

The publication, *Subject Term Frequency Counts for the DoD IACs*, DTICH 4185.9, contains the subject terms used by the IACs. To conduct a subject search for IAC citations, precede the IAC subject term by that IAC's role code or alpha designation.
The following examples illustrate how to limit a search of the term NON-DESTRUCTIVE TESTING to NTIAC finds only.

**Examples:**

```
?47nondestructive testing or n--nondestructive testing
?47nondestructive testings n--nondestructive testings
?47non-destructive testing n--non-destructive testing
```

The only option available when using the IAC subject terms is truncation %.

If you use the role code ?47 and truncation, your search pattern should be:

**Example:**

```
?47%nondestructive
```

If you use the letter designation N and truncation, your search pattern should be:

**Example:**

```
%n--nondestructive
```

To receive both TR and IAC documents, enter subject terms spelled as they appear in the publication, *Subject Term Frequency Counts for the DoD IACs*, DTICH 4185.9. Your search pattern should be:

**Example:**

```
nondestructive testing
%n--nondestructive
```
Global Searching of IAC Terms

IAC global searching provides the capability to enter a search key that will expand a single search term to terms with the unique IAC subject prefixes. Command formats are:

IACS= search term or IACS= %search term.

The IACS= %search term format provides truncation capability for each generated IAC prefixed term.

Examples: @str@ or @str@

iacs=radar iacs=%radar
end end

CURRENT FILE TECHNICAL REPORT DATABASE

The Current File (CF) is a holding file for items being processed by DTIC for addition to the TR database. This file contains records that are added daily and cumulated over a two week period. Since these records are still in processing, they do not have complete cataloging data, (i.e., subject terms and abstracts). Therefore, searching by index terms and ordering are not available.

There are circumstances when searching the CF database may be useful. For example, you may want to check for the most recent material processed on a particular contract or authored by a particular organization. The search command for “Search Current File” is @SCF@. All searches made in the current file are constructed the same as searches performed in the TR file. However, there are fewer field identification codes used in the CF. (See Appendix 3 for the search fields applicable to this database.)
WORK UNIT DATABASE

The Work Unit (WU) database is a collection of technically oriented summaries describing DoD research and technology efforts at the work unit level. NASA efforts are also included. This database includes information concerning the what, where, when, how, at what costs, by whom, and under what sponsorship research is being or has been performed.

System functions in the WU database are: Search, Display, Recall, Transfer, List, Sort, Order and Qualify. The search command for "Search Work Unit" is @SWU@. All searches are constructed basically the same as in the TR database. However, the accession date automatic default is for all years. See Table 1. In addition, there are more field identification codes used in the WU database and many differ from those in the TR database. Use Appendix 3 to assist in developing strategies.

WU DATABASE - MNEMONIC OPTION

Unlike the TR database, which uses role codes, mnemonics are used to search the WU database. Each mnemonic identifies and searches a specific data field. (See Appendix 3 for the mnemonic assignments.) Identify this field with the proper mnemonic, followed by the appropriate data.

SE - Status of Effort

There are two basic groups of WU records; active and inactive. Active records consist of ongoing research where the summary is either New, Changed, or Planned. Inactive records consist of research where the summary is Terminated or Completed. The alpha codes for status of effort are:

<table>
<thead>
<tr>
<th>Active</th>
<th>Inactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>N - New</td>
<td>C - Completed</td>
</tr>
<tr>
<td>D - Changed</td>
<td>T - Terminated</td>
</tr>
<tr>
<td>P - Planned</td>
<td></td>
</tr>
</tbody>
</table>

AND - Agency Digraph

This is a designator that identifies the agency responsible for the work unit effort. Among the searchable codes that are frequently used are those for the name of the agency submitting the work unit record. Suppose you are interested in identifying the WU records submitted by a particular agency. The mnemonic to search the Agency Digraph is AND. The agency search statement consists of the mnemonic AND and the digraph identifying the agency (See Table 7, page 2-31 and Table 8 on page 2-32).
### Defense Agencies Digraph

<table>
<thead>
<tr>
<th>Digraph</th>
<th>Dept/Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>Department of the Army (DA)</td>
</tr>
<tr>
<td>DB</td>
<td>Defense Mapping Agency (DMA)</td>
</tr>
<tr>
<td>DD</td>
<td>Department of Defense - Office of the Secretary of Defense (OSD), Offices of the Under Secretaries of Defense (OUSD), and Offices of the Assistant Secretaries of Defense (OASD)</td>
</tr>
<tr>
<td>DE</td>
<td>Advanced Research Project Agency (ARPA)</td>
</tr>
<tr>
<td>DF</td>
<td>Department of the Air Force (DAF)</td>
</tr>
<tr>
<td>DG</td>
<td>National Security Agency (NSA)/Central Security Service (CSS)</td>
</tr>
<tr>
<td>DH</td>
<td>Defense Nuclear Agency (DNA)</td>
</tr>
<tr>
<td>DJ</td>
<td>Joint Chiefs of Staff (JCS), including the Joint Staff, Unified or Specified Commands, and Joint Service Schools</td>
</tr>
<tr>
<td>DK</td>
<td>Defense Information Systems Agency (DISA)</td>
</tr>
<tr>
<td>DL</td>
<td>Defense Intelligence Agency (DIA)</td>
</tr>
<tr>
<td>DM</td>
<td>United States Marine Corps (USMC)</td>
</tr>
<tr>
<td>DN</td>
<td>Department of the Navy (DN)</td>
</tr>
<tr>
<td>DP</td>
<td>United States Coast Guard</td>
</tr>
<tr>
<td>DR</td>
<td>Defense Contract Audit Agency (DCAA)</td>
</tr>
<tr>
<td>DS</td>
<td>Defense Logistics Agency (DLA)</td>
</tr>
<tr>
<td>DT</td>
<td>Defense Security Assistance Agency (DSAA)</td>
</tr>
<tr>
<td>DU</td>
<td>Defense Audit Service (DAS)</td>
</tr>
<tr>
<td>DV</td>
<td>Defense Investigative Service (DIS)</td>
</tr>
<tr>
<td>DW</td>
<td>Uniformed Services University of the Health Sciences (USUHS)</td>
</tr>
</tbody>
</table>

Table 7
**Other Federal Agencies Digraph**

<table>
<thead>
<tr>
<th>Digraph</th>
<th>Dept/Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>AX</td>
<td>Department of Agriculture</td>
</tr>
<tr>
<td>CX</td>
<td>Department of Commerce</td>
</tr>
<tr>
<td>WA</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>WC</td>
<td>Federal Emergency Management Agency</td>
</tr>
<tr>
<td>TG</td>
<td>General Services Administration</td>
</tr>
<tr>
<td>ZX</td>
<td>Department of Health and Human Services</td>
</tr>
<tr>
<td>MX</td>
<td>Department of Housing and Urban Development</td>
</tr>
<tr>
<td>KX</td>
<td>Department of Interior</td>
</tr>
<tr>
<td>FX</td>
<td>Department of Justice</td>
</tr>
<tr>
<td>BX</td>
<td>Department of LaLor</td>
</tr>
<tr>
<td>VN</td>
<td>National Aeronautics and Space Administration</td>
</tr>
<tr>
<td>WS</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>XX</td>
<td>U.S. Postal Service</td>
</tr>
<tr>
<td>SX</td>
<td>Department of State</td>
</tr>
<tr>
<td>GX</td>
<td>Department of Transportation</td>
</tr>
<tr>
<td>QX</td>
<td>Department of Treasury</td>
</tr>
<tr>
<td>VA</td>
<td>Veteran's Administration</td>
</tr>
</tbody>
</table>

*Table 8*

To search for work units that were submitted by DoD agencies, the following strategy would be used:

Example: `@swu@`

```plaintext
se=n
se=d
se=p
and
and=dd
end
```

**PM - Performance Method**

To identify whether the work will be performed in-house, by grant, by contract, etc. a 1-alpha code that identifies the performance method must be included with the mnemonic. The entry must be one of the following codes:
In-house Work performed within a DoD activity.

Contract Work performed by contract for a DoD activity.

Grant Work performed by grant for a DoD activity.

Transfer Work performed by a U.S. Government Agency other than DoD, i.e., Department of Energy.

Unfunded Studies Unfunded work performed by a potential contractor to a DoD activity.

Foreign Development Work performed with a foreign company.

To find out how many new records are grants, the following strategy would be used:

Example: `@swu@`  
`se=n  
and  
`pm=g  
end`

SI - Performance Type

This field is used to identify basic kinds of records; i.e., those with different input requirements and various edit criteria. The following values must be used.

S - Small Business Innovative Research (SBIR)  
M - In-House Management Analyses and Studies (IMAS)  
R - RDT&E Work Unit (RDTE)  
C - Contracted Studies, Analysis and Evaluations (CSAE)  
T - Cooperative R&D Agreements (CRDA)  
U - University Research Initiative (URI)  
I - Interagency Cost Reimbursement Order (IACRO)  
P - Military Interdepartmental Procurement/Purchase Request (MIPR)  
J - Project Order (PJO)

To find work units on LASER WEAPONS that reflect In-house Management Analyses and Studies (IMAS), the following strategy would be used.
Example: @swu@
    laser weapons
    and
    si=m
end

RD - Date of Summary

The WU database may be searched for the date of summary using the standard format YYMM (YY=year; MM=month) and the mnemonic RD. These searches are performed in conjunction with other search statements to further focus your search results. To find work units on INFRARED EQUIPMENT that were issued with a summary date of June 1981, the following strategy would be used:

Example: @swu@
    $infrared equipment
    and
    rd=8106
end

It is also possible to incorporate summary date range limits in the search statement. When the date range option is used, a search term is generated for each month in the range. Thus, each month counts toward the 300/525 term search limit. For example: to search from June 1989 through June of 1990, the strategy would appear as follows:

Example: @swu@
    $infrared equipment
    and
    rd=8906-9006
end

It is also possible to perform a truncation by an individual year. For example to search for all report dates of 1993 the following strategy would be used.

Example: @swu@
    $infrared equipment
    and
    rd=%93
end

NOTE: Date span searches must include the hyphen (-) between the lower and upper end of the range.
PRD - Date of Preceding Summary

Searching the date of the original record that is now undergoing modification may be performed by using the standard format YYMM (YY=Year; MM=Month) and the mnemonic PRD. This type of search should be performed in conjunction with additional search statements to refine your search results.

To locate preceding summaries performed under a local control (work unit) number, the strategy is as follows.

Example:  @swu@
   lcn=617
   and
   prd=8703
   end

SDT - Start Date of Effort

To search for the planned or actual start date of a work unit, use YYMM (YY=Year; MM=Month).

To locate summaries indexed on the term phrase RADAR BACKSCATTER where the start date of the effort is May 1979, the strategy is:

Example:  @swu@
   radar backscatter
   and
   sdt=7905
   end

NOTE: If Status of Effort is P (PLANNED), this element will show the date that the work unit effort is projected to be established.

If Status of Effort is N (NEW) or D (CHANGED):

a) And the Performance Method is I (IN-HOUSE), this element will show the date that the performing activity initiated action on the effort.

b) And the Performance Method is C (CONTRACT), G (GRANT), U (UNFUNDED), or F (FOREIGN CO-DEVELOPMENT) this element will show the date that the effort started.

c) And the Performance Method is T (TRANSFER), this element will show the effective date of the fund-transfer document.
EDT - End Date

When searching for the planned or actual ending date of a work unit effort the search method is similar to the one used for searching the start date SDT.

NOTE: If Status of Effort is P (PLANNED), this element will show the date that the effort is projected to be completed.

If Status of Effort is N (NEW) or D (CHANGED):

a) And the Performance Method is I (IN-HOUSE), this element will show the date that the performing activity contemplates completing the effort.

b) And the Performance Method is (CONTRACT), G (GRANT), U (UNFUNDED), or F (FOREIGN CO-DEVELOPMENT) this element will show the completion date of effort.

c) And the Performance Method is T (TRANSFER), this element will show the end date of the fund-transfer document.

To locate summaries indexed on the term phrase AIRCRAFT WEAPONS where the end date of the effort is March 1970, the strategy is:

Example: @swu@
aircraft weapons
and
edt=7003
end

ECC - Effort Security Classification - Code

Each work unit is assigned one alpha code that pertains to the overall security classification of the work described in the record. Valid entries are:

T - Top Secret
S - Secret
C - Confidential
U - Unclassified

To search for new and changed work units indexed on the term phrase CIRCUIT BOARDS that are coded unclassified, the following strategy is used.
DROL Handbook

Example:  @swu@
circuit boards
and
se=n
se=d
and
ecc=u
end

ECA - Effort Security Classification - Additional Notice

This is a notation describing warning notices carried in addition to the overall classification of the work described in the record.

In addition searching security classifications, you may limit your search by use of the additional security category by the Atomic Energy Act. The two 2 alpha codes are:

- RD - Restricted Data
- FRD - Formerly Restricted Data

Example:  @swu@
atomic
and
eca=frd
end

RCC - Record Security Classification - Code

This identifies the classification of data in the record and denotes the highest classification code of the classified elements (Objective, Approach, Progress, and Product Title). On any search of the WU database, you may limit your search to certain security classifications. These should be used in conjunction with another search term and should never be the first level of the search strategy. A valid entry shall consist of one of the following codes:

- S - Secret
- C - Confidential
- U - Unclassified

Examples of classified and unclassified searches of new Army summaries are:
**Examples:**

```
Classified
@swu@
and=da
and
se=n
and
rcc=s
rcc=c
end

Unclassified
@swu@
and=da
and
se=n
and
rcc=s
rcc=c
end
```

**RCA - Record Security Classification - Additional Notice**

In addition to searching security classifications, you may limit your search by use of the additional security category imposed by the *Atomic Energy Act*. There are two alpha codes for additional security restrictions. They are:

- **RD** - Restricted Data
- **FRD** - Formerly Restricted Data

To locate summaries on **ELECTROMAGNETIC PULSES** that contain formerly restricted data, the strategy is:

Example: `@swu@ electromagnetic pulses and rca=frd end`

**RGC - Regrading Code**

If a work unit is classified secret or confidential, a 1-alpha code is required that notes the guidance or regulation for regrading the record. Valid entries are:

- **D** - Record with downgrading date or event
- **E** - Record with a declassification date or event
- **F** - Foreign Source
- **O** - Record with Originating Agency’s Determination Required
- **R** - Restricted Data (RD) record or Formerly Restricted Data record (FRD) (Atomic Energy Act)

To locate terminated Air Force summaries that reflect a declassification date or event, the strategy is:
Example: @swu@
    and=df
    and
    se=t
    and
    rgc=e
    end

RGD - Regrading Date

Certain work units are classified secret or confidential. The mnemonic RGD, (Regrading Date) identifies the date that a secret record will be downgraded to confidential, or the date a confidential record will become declassified. Use YYMM (YY=Year; MM=Month) to search this field.

To locate summaries on RADAR JAMMING where the descriptor classification is confidential and the regrading date was set for December 1990, the strategy is:

Example: @swu@
    radar jamming
    and
    dec=c
    and
    rgd=9012
    end

RE - Regrading Event

This identifies the event that will occur when the secret information in the record will become confidential, or identifies the event that will occur when the confidential information in the record will become declassified. For those summaries lacking a specific date/event, OADR - Originating Agency's Determination Required may be used instead.

To locate summaries submitted by the NAVAL SEA SYSTEM COMMAND, Washington, DC, that were generated February 1992 where the regrading event will be determined by the originating agency, the strategy is:

Example: @swu@
    rsc=391345
    and
    rd=9202
    and
    re=oadr
    end
DC - Distribution Code

To limit a search to summaries with specific distribution statements, use the 1 alpha code assigned for distribution limitation. The entry must be one of the following codes:

- A - Distribution Unlimited
- B - U.S. Government Agencies only
- C - U.S. Government Agencies and their Contractors
- D - DoD and U.S. DoD Contractors Only
- E - DoD only

To retrieve only those new Air Force WU summaries that are available to DoD agencies and their contractors, use the following search statement.

Example: @swu@ and=df and se=n and dc=d end

DR - Distribution Reason

This is the code that corresponds to the justification for restricting availability and distribution of the work unit record. Valid entries are:

- FG - Foreign Government Information
- PI - Proprietary Information
- CL - Critical Technology (Export Controlled)
- TE - Test and Evaluation
- CN - Contractor Performance Evaluation
- PD - Premature Dissemination (to protect patentable data)
- AD - Administrative or Operational Use data
- SW - Software Documentation
- SA - Specific Authority (Reason other than above)
- DM - Direct Military Support (Export Controlled)
- PB - Public Release

To find active work units pertaining to COMBAT where availability is restricted to foreign governments, the strategy would be:
Example:  @swu@
  combat
  and
  se=n
  se=d
  se=p
  and
  dr=fg
  end

**TI - Title (Unclassified)**
**T15 - Title (Unclassified)**
**TIA - Title (Unclassified)**

The title searching feature provides access three ways; Free Text searching **TI**, First Five Words of a Title **T15**, or you may use the Search Key Algorithm **TIA** which is constructed from the first five words of the title. See Search Key Algorithm on page 2-14. The strategies used to search the WU database for titles are the same as in the TR database; however, mnemonics are used in place of role codes.

Example: Free Text
  @swu@
  ti=minor
  and
  ti=munitions
  and
  ti=study
  end

**NOTE:** When using free text method only single terms may be used.

**T15 - First Five Words of Title**

Example:  @swu@
  ti5= minor caliber munitions effectiveness study
  end

**TIA - Search Key Algorithm**

Example:  @swu@
  tia=mcalimunefst
  end

**SRI - Subordinate Record Indicator**

This identifies the work unit as a part of a larger contract or grant effort. This search is usually performed in conjunction with other search statements further clarifying the search results. Use the subordinate record code **S** with the mnemonic **SRI**.

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To locate summaries on AIRCRAFT that are subordinate components of another work unit the strategy is:

Example: `@swu@`  
`aircraft`  
`and`  
`sri=s`  
`end`

**LAN - Linking Accession Number**

When looking for a subordinate work unit record, the Linking Accession Number identifies the agency accession number of the work unit(s) to which this record is subordinate or a component. If the subordinate record indicator is S, an entry in this field is required.

Example: `@swu@`  
`lan=da307243`  
`end`

**LCN - Local Control (Work Unit) Number**

This is an additional number assigned by a DoD facility to provide local control or documentation of the work unit effort. The work unit number is searched as follows:

Example: `@swu@`  
`lcn=139064`  
`end`

**SCH - Search Data**

Those work unit efforts that require a preliminary literature search will have the search control number and date assigned to the inquiry SCH field. N/A is entered by the contributor if the work unit does not require a DROLS literature search. This element is searchable if its value is not equal to N/A. It also creates a searchable field of Y when a value other than N/A is present.

Example: `@swu@`  
`sch=bnn21j`  
`end`

**FG, FG1 - DoD Subject Categories**

Another way to describe the subject of a work unit, is by its DoD subject category code. Each subject category code entry is a four or six digit number which consists of a two digit field and two or three two-digit subcategories. These are listed in Appendix 10. You may search
these codes alone or in combination with other information. An example of a search by the subject category code for ATMOSPHERIC PHYSICS is:

Example: @swu@
fg=0401
end

To search active Navy work units that are in the scientific area STRESS PHYSIOLOGY, the strategy would be:

Example: @swu@
fg=0610
and
and=dn
and
se=n
se=d
se=p
end

Think about the order of this statement. Why not put the mnemonics AND and SE statements first? As far as the logical results are concerned, it doesn't matter. But think about what the computer is doing. First it looks through the Inverted File to find items that satisfy the first level. Then it looks to find items that satisfy the second level as well, and so on. If the mnemonic AND statement is first, the first level search will find all Navy work units; if the mnemonic SE is next, it will pick out the active records and look for those items indexed on stress physiology code. Such an approach takes more time than starting with the stress physiology search statement. Whenever you plan a search strategy, enter statements on the first level that are likely to give the fewest results.

MC, MC1 - Mission Area Code

This code corresponds to the mission area definition for the work unit record. This element is also searchable by primary occurrence. MC displays MC1, MC2, and MC3 data. MC1 displays MC1 data, etc.

NOTE: Decimal points are required. (See Appendix 11).

Example: @swu@
mc=1.1
end
FC, FC1 - Function Code

This code corresponds to a function area definition for the work unit record. This element is also searchable by primary occurrence. FC displays FC1, FC2, and FC3 data. FC1 displays FC1 data, etc.

NOTE: Decimal points are required. (See Appendix II.)

Example: @swu@
  fc=11.2
  end

TE, TE1 - Technology Code

This code corresponds to a technology definition for the work unit record. The basis for the code is the Military Critical Technology List (MCTL). This element is also searchable by primary occurrence. TE displays TE1, TE2, and TE3 data. TE1 displays TE1 data, etc.

NOTE: Decimal points are required. (See Appendix II.)

Example: @swu@
  te=2.4.1
  end

RSC - Responsible Organization - Source Code

All organization names are coded for economical storage and retrieval. To search for a particular organization, the first step would be to look up that organization's source code in the Source Header List. For example, the source header code for the ARMY ELECTRONICS COMMAND, Fort Monmouth, NJ is 037620. This code is used with the mnemonic as follows:

Example: @swu@
  rsc=037620
  end

It is also possible to search whole families of organizations. You can search all subsets of any source name in the hierarchy by using the hierarchy option symbol $ immediately in front of the source code. This hierarchical search pattern is equivalent to searching the individual source codes of the family.

Example: @swu@
  rsc=$037620
  end
RLC - Responsible Organization - Location - City

This field is generated by the WU based on the responsible organization - source code. The city name is part of the source name. It can also be found in the Source Header List.

Example: @swu@
         rlc=orlando
         end

RLS - Responsible Organization - Location - State/Country

Each state and country is assigned a two character code that pertains to the performing organizations location. State codes consists of two numeric characters. Foreign country codes consist of two alpha characters. This field is generated by the WU based on the responsible organization - source code.

Example: @swu@
         rls=fl
         end

RLG - Responsible Organization - Location - Geopolitical Code

This field is generated by the WU based on the responsible organization - source code. (See Appendix 8, also found in the Source Header List.) For domestic institutions, this is the Congressional District.

NOTE: When searching for Performing Organization or Responsible Organization the same method is used.

Example: @swu@
         rlg=2407
         end

RLZ - Responsible Organization - Location - Zip Code

This field is generated by the WU based on the responsible organization - source code. (See Appendix 8, also found in the Source Header List.)

NOTE: When searching with the full 9-digit zip code, eliminate the hyphen and pack the number.

Examples: @swu@
          rlz=223046145
          end

          or

          @swu@
          rlz=%22304
          end
PERSONAL NAME SEARCHES

AU - Performing Organization - Principal Investigator Name
P2N - Performing Organization - Associate Investigator Name
RIN - Responsible Organization - Responsible Individual Name

Searching for individual names in the WU database is complicated by the fact that all names have not been entered in a standard format. All possible variations on the standard format, with and without initials, can be found. You can use a single search statement, truncating the individual's last name, or a combination of first initial truncation statements to narrow the field.

<table>
<thead>
<tr>
<th>Standard Format</th>
<th>Last name Truncation</th>
<th>Combination Truncation</th>
</tr>
</thead>
<tbody>
<tr>
<td>@swu@ au=harmom, j w</td>
<td>@swu@ au=%harmom</td>
<td>@swu@ au=%harmom, j</td>
</tr>
<tr>
<td>end</td>
<td>end</td>
<td>end</td>
</tr>
</tbody>
</table>

Last name truncation results in hits not only on the identified last name, but also on all last names beginning with these letters.

RIO - Responsible Organization - Responsible Individual Office Symbol/Code

This field is generated by the WU database based on the office symbol of the responsible individual within the responsible DoD organizations office symbol or code. To locate work units where the responsible organization is NAVAL SEA SYSTEMS COMMAND (NSEA) DIR OCN ENGRG/SUPERV OF SALVAGE the office symbol is NSEA-OOC.

Example: @swu@ rio=nsea-ooc

NOTE: This field requires the inclusion of all special characters, such as hyphens (-) and slashes (/).

SC - Performing Organization - Source Code

Searching for a performing organization follows exactly the same pattern as searching for a responsible organization, only the mnemonic is different. The hierarchy option can also be used with this mnemonic. If you were looking for LITTON SYSTEMS, INC., Minneapolis, MN, for which the code is 209360, the strategy would appear as:
Examples: @swu@ sc=209360 or sc=$209360 end

NOTE: Consult the DTIC Source Header List for available source codes.

PLC - Performing Organization - Location - City

Searching on the city where the performing organization is located is possible by using the PLC mnemonic combined with the complete spelling of the city. This field is generated by WU based on performing organization - source code.

Example: @swu@ plc=bethesda end

SCC - Performing Organization - Location - State/Country

Each state and country is assigned a two character code that pertains to the performing organizations location. State codes consist of two numeric characters. Foreign country codes consist of two alpha characters.

To locate summaries generated between January 1989 and June 1991 where the performing organizations location is Maryland, the strategy is:

Examples: @swu@ scc=24 and rd=8901-9106 end

NOTE: When date range searching in the WU database the hyphen is required.

PLZ - Performing Organization - Location - Zip Code

This field is generated by WU based on Performing Organization - Source Code.

NOTE: When searching with the full 9-digit zip code, eliminate the hyphen and pack the number.

Examples: @swu@ plz=208504311 or plz=%20850 end
GC - Performing Organization - Location - Geopolitical Code

Information in this field is generated by WU based on performing organization - source code. For domestic institutions, this is the Congressional District.

Example: @swu@
gc=2405
end

OT - Performing Organization - Type Code

This is a one alpha code that identifies the performing organization type. This type of search is usually combined with other search statements to clarify the desired search results.

Performing Organization Type Codes

U.S. Organizations

A - Army
B - Labor
C - Commerce
D - DoD (Departmental Offices)
E - Environmental Protection Agency
F - Air Force
G - Agriculture
H - Health, Education, and Welfare
I - Interior
J - Justice
K - Department of Energy
L - Federal Legislative Branch
M - Department of Education
N - Navy and Marine Corps
P - Post Office
Q - Quasi-Federal (NRC)
R - Treasury
S - State
T - Transportation
U - Housing and Urban Development
V - State/Municipal Government
W - Not-for-Profit/Non-Academic
X - Executive
Y - DoD Agencies
Z - Independent Federal Agencies

Table 9

2-48
Performing Organization Type Codes

Foreign Organizations

0 - Public or State Academic Educational Institutions
1 - Private Academic Educational Institutions
2 - Federal Contract Research Centers
3 - Other Academic Institutions and Institutes
4 - Industrial/Commercial
5 - Miscellaneous
6 - Academic and Nonprofit
7 - Industrial/Commercial
8 - Government
9 - International

<table>
<thead>
<tr>
<th>Symbol/Code</th>
<th>Search on the performing organization - principal investigator office symbol/code can be accomplished by using the mnemonic PIO combined with the appropriate entry. Office symbol or code must not exceed 12-alpha/numeric characters.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
<td>@swu@ ot=e end</td>
</tr>
<tr>
<td></td>
<td>PIO - Performing Organization - Principal Investigator Office Symbol/Code</td>
</tr>
</tbody>
</table>

PE - Primary Funding Data - PE Number

PEP - Primary Funding Data - Primary PE Number

Identifies the primary program element number, assigned by the organization providing the largest amount of funding for a given fiscal year. Program element numbers can be searched by the full eight character number or by the second and fourth characters. The following search is for active records on a specific program element number.

<table>
<thead>
<tr>
<th>Example:</th>
<th>@swu@ pe=0603721n and se=n or se=d or se=p end</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PE = Primary Funding Data - PE Number</td>
</tr>
<tr>
<td></td>
<td>PEP = Primary Funding Data - Primary PE Number</td>
</tr>
</tbody>
</table>

2-49
NOTE: PE will search all occurrences of a program element number, PJ will search all occurrences of a project number, and TN will search all occurrences of a task number.

**PJ - Primary Funding Data - Project Number**

*PJP* - Primary Funding Data - Primary Project Number

Identifies the primary project number corresponding to the program element number providing the largest funding data in the given fiscal year. If DoD Program 6 (RDT&E) funding, enter the next most complete program identifier assigned by the funding activity. Normally, this will be the project number or an equivalent number depending upon the program. Along with the program element, this number should completely identify the program source of funds. If it is another DoD appropriation, the acronym of the sponsoring DoD component may be entered. If it is non-DoD funding source, the activity acronym may be entered.

Example: `@swu@`  
`pj=sf35388`  
 end

**TN - Primary Funding Data - Task Number**

*TNP* - Primary Funding Data - Primary Task Number

You may search on task numbers that provide the largest amount of funding data in the fiscal year. Eliminate all punctuation and pack the number.

**FFY FF1 - Primary Funding Data - Fiscal Year**

The fiscal year designation for in-house activities is the program fiscal year (or fiscal year in which obligational authority is granted to the in-house program) and for contracting activities, the appropriation fiscal year for the funds that are applied to the contract/grant.

In the case of planned data sets, it shows the fiscal year in which funding is anticipated.

To locate summaries on ARMORED VEHICLES where the fiscal year funding was granted in 1989, the strategy is:

Example: `@swu@`  
`armored vehicles`  
`and`  
`ffy=%89`  
 end

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FRI - 2nd Contributing Funding Data - Rollup Indicator

This identifies if the second contributing funding data for the fiscal years represents multiple funding sources. A Yes or No indicator is applied to the second contributing funding data to represent multiple funding sources.

CT - Contract/Grant Transfer Number

This is the identifying number assigned to a contractual or fund-transfer instrument: a contract PIN number, a grant number, or an inter-agency fund-transfer document number. If the status of effort is P (PLANNED), the procurement request number may be used. This element is searchable by the first six characters as well as by the entire number.

Example: @swu@
ct=n0001479c0817
end

CED - Contract/Grant Effective Date

This element is searchable by YYMM or YY.

Examples: @swu@ @swu@
ced=7907 or ced=%79
end end

CEX - Contract/Grant Expiration Date

This element is searchable by YYMM or YY.

Examples: @swu@ @swu@
cex=7704 or cex=%77
end end

KW - Keywords

Keywords are contributor-supplied search terminology that assist the user to readily identify and retrieve pertinent information. Keywords may be a single word or a combination of words. The total length, including spaces, cannot exceed 60 characters.

NOTE: Keywords are not included in the DTIC Thesaurus.

Example: @swu@
kw=light armored vehicle air defense (lav-ad)
end
OBJ - Objective

The objective field provides a technical description of the objectives of the research. Normally, this statement should remain the same throughout the life of the work unit. If it changes significantly, this is usually an indication that the work unit should be completed or terminated and a new work unit originated.

*NOTE: Only single terms can be used when searching this field.*

Example:
```
@swu@
  obj=viking
  and
  obj=images
end
```

APP - Approach

The approach field provides a technical description of the approach of the research.

*NOTE: Only single terms can be used when searching this field.*

Example:
```
@swu@
  app=flight
  and
  app=test
end
```

PRG - Progress

The progress field contains a cumulative series of statements describing the progress made on the work unit effort.

*NOTE: Only single terms can be used when searching this field.*

Example:
```
@swu@
  prg=high
  and
  prg=energy
  and
  prg=missiles
end
```

PIT - Product ID Title

This field contains a brief title or description of product(s) resulting from the work unit effort. This element is searchable by word inversion.
NOTE: Only single terms may be used when searching this field.

Example:  
@swu@  
pit=product  
and  
pit=title  
and  
pit=4  
end

PIN - Product ID Report Number

This field contains the contributor’s identification code for the product; (i.e., a report number).

NOTE: At the time of this writing, there is no data in this field. The example below is hypothetical.

Example:  
@swu@  
pin=1191952  
end

PAN - Product AD Number

The AD number assigned to a published document. In addition to identifying products resulting from the work unit effort, this data element will be used to cross check against other files, such as DTIC’s document collection and bibliographic database to assist in acquisition of input to these collections.

NOTE: At the time of this writing, there is no data in this field. The example below is hypothetical.

Example:  
@swu@  
pan=ada1-56  
end

PI - Product Indicator

This field contains a Yes or No indicator showing that a technical report or other product was or will be submitted to DTIC.

To find Department of the Army summaries generated in 1992, where a technical report was or will be submitted to DTIC’s TR database, the strategy is:
Example:  @swu@
        and=da
        and
        rd=%92
        and
        pi=y
        end

**DTT - Domestic Technology Transfer (Civilian Applicability)**

The data in this field indicate whether the work unit effort is considered to have results which may be applicable to the civilian sector.

The entry must be one of the following:

- HI - High potential for civilian application
- LO - Low potential for civilian application
- NO - No potential for civilian application

To search for summaries on AIRCRAFT ENGINES that have high potential for civilian application, the strategy is:

Example:  @swu@
        aircraft engines
        and
        dtt=hi
        end

**SAC - Studies and Analysis Categories**

This is required only for studies and/or Committee on Academic Science and Engineering (CSAE) work units, where the performance type is C or M. Valid entries are:

1. Manpower and Personnel
2. Concepts and Plans
3. Operations and Force Structure
4. Installations and Logistics
5. Science, Technology, Systems and Equipment
6. Management
7. Intelligence
8. International Security
9. Social and Natural Science Studies

To locate summaries that reflect MILITARY PERSONNEL in the descriptor field and that also contain information on OPERATIONS and FORCE STRUCTURE, the strategy is:
Example:  @swu@
    de=military personnel
    and
    sac=3
end

**SSS - Special Study Subjects**

This element identifies models and code words, sensitive material and foreign area studies. Required only for studies and/or CSAE work units where the performance type is C or M. Valid entries are:

- **SM** - Models (Study develops or depends upon a major computer-operated model)
- **BC** - Identifies databases using code word or specifically sensitive material
- **SB** - Studies-related bibliographies, state-of-the-art surveys, etc.
- **SD** - Uses or develops databases
- **MA** - Develops study methods or approaches
- **OR** - Systems analysis, operations research analysis, policy analysis
- **CE** - Cost benefit or economic analysis
- **FS** - Force structure analysis
- **RA** - Resource allocation
- **TG** - Target selection analysis
- **CA** - Capability analysis
- **FE** - Feasibility analysis
- **TA** - Threat analysis
- **SF** - Foreign area social science research
- **SP** - Foreign area policy planning research
- **BF** - Identifies databases with data on foreign forces or equipment, whether or not these have been provided by the intelligence community

To locate summaries on WEAPONS SYSTEMS that reflect information pertaining to study methods or approaches, the strategy is:

Example:  @swu@
    weapons systems
    and
    sss=ma
end
ANA - Activity Code

A four digit code that identifies a responsible organization within a particular digraph. This element must be searched with the agency digraph preceding the four digit activity code.

Example:  @swu@
ana=daisni
end

PSN - Primary Project Serial Number

Searches the last three characters of the actual twelve character primary project number. Required only for Army-generated work units. The agency digraph is DA.

To locate summaries on WEAPONS SYSTEMS generated by the Department of the Army and performed under a specific project number, the strategy is:

Example:  @swu@ weapon systems and and=da and psn=h57 end

PD - Processing Date

This field contains the date that the record is processed into the WU database. This date appears on output. The element is searchable by YY and YYMM.

To locate summaries on SURFACE WARFARE that were input into the WU database on a particular date, the strategy is:

Example:  @swu@ surface warfare and or pd=90 pd=9008 end

RCD - Receipt Date

This is the date that DTIC receives the work unit tape or diskette from the contributor. This element is searchable by YYMM.

To locate the date that DTIC received a work unit summary from a contributor, the strategy is:
Examples:  @swu@  
sc=398612  
and  
rcd=9301  
end  

DEC - Descriptors - Classification Code Overall

This is the one alpha character that reflects the overall classification of the descriptors. Valid entries are:

- U - Unclassified
- C - Confidential
- S - Secret

Example:  @swu@  
laser weapons  
and  
dec=c  
end  

DE - Descriptors

Descriptors are terms or term phrases, taken from the DTIC Thesaurus, that expresses the major concepts for the technical effort being described.

Example:  @swu@  
de=reconnaissance aircraft  
end  

THR TH1 - Thrust Indicator

This field will indicate the technology thrust area for the work unit. This element is also searchable by primary occurrence.

NOTE: At the time of this writing, this field contains no data. Additionally, values have not been determined.

SUB - Descriptors, Keywords, Title

This mnemonic allows the user to search descriptors, keywords, and titles at one time.

Example:  @swu@  
sub=combat ready  
end
NAR - Title, Progress, Approach, Objective

This mnemonic allows the user to search all the narrative fields at one time, i.e., title, progress, approach, and objective by the term/terms entered.

**NOTE:** Single terms only may be used when searching with the NAR mnemonic.

Example: `@swu@`  
```
  nar=desert  
  and  
  nar=storm  
```

Citation Example:
```
--AM(1)  ACTIVITY CODES: DLA.  
--VT(2)  TRANSACTION TYPE: A  
--SH(3)  STATUS OF EFFORT: NEW  
--FM(4)  PERFORMANCE METHOD: IN-HOUSE  
--SI(5)  PERFORMANCE TYPE: ANAS  
--RD(6)  DATE OF Dunning: 6 MAR 93  
--NS(8)  START DATE OF EFFORT: To Nov 91.  
--ED(8)  END DATE: 0 DEC 92  
--SC(10)  REPORT SECURITY CLASSIFICATION CODE: UNCLASSIFIED  
--DC(12)  RECORD SECURITY CLASSIFICATION CODE: UNCLASSIFIED  
--DC(14)  DISTRIBUTION CODE: DISTRIBUTION UNLIMITED  
--DR(15)  DISTRIBUTION REASON: FB  
--TI(20)  TITLE (UNCLASSIFIED): INDUSTRIAL BASE PROGRAM ITEM SELECTION  
--IDN(25)  INDICATOR ANALYTICAL ENHANCEMENTS  
--LDN(29)  LOCAL CONTROL (WORK UNIT) NUMBER: DLA-93-200047  
--FG(24)  DOD SUBJECT CATEGORIES:  
--RG(27)  RESPONSIBLE ORG. SOURCE CODE: 410447  
--AM(31)  RESPONSIBLE ORG. ACTIVITY NAME: DEFENSE LOGISTICS AGENCY  
--AX(32)  RESPONSIBLE ORG. ACTIVITY NAME: NATIONAL RESEARCH COUNCIL  
--AX(33)  RESPONSIBLE ORG. ACTIVITY NAME: NATIONAL RESEARCH COUNCIL  
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--AX(98)  RESPONSIBLE ORG. ACTIVITY NAME: NATIONAL RESEARCH COUNCIL  
--AX(99)  RESPONSIBLE ORG. ACTIVITY NAME: NATIONAL RESEARCH COUNCIL  
```

OBJECTIVE: (U) THE PURPOSE OF THIS PRODUCT WAS TO ENHANCE THE ITEM SELECTION INDICATOR (ISI) MODEL AND ADAPT IT FOR USE ON SECTOR 1.

STUDIES:

- APPROACH (U) THE RESULTS IN A SECTOR INDICATOR MODEL
- WHICH BUILDS ON THE ISI MODEL
- PROGRESS CLASS CODE: UNCLASSIFIED

- PROGRESS: (C) THE BSI PRIORITIZES INDUSTRIAL SECTORS FOR FURTHER STUDY BASED ON AGGRAVATE THE VALUES, OPERATIONS DESERT STORM
- DEMAND DATA, BACKDERS, DEPTH OF VENDOR BASE, DEGREES OF FOREIGN DEPENDENCE, AND A NUMBER OF OTHER CRITICAL FACTORS. THE MODEL CAN BE USED TO PRIORITIZE FEDERAL SUPPLIES AT EACH DEFENSE LOGISTICS AGENCY SUPPLY CENTER FOR IN-DEPTH ANALYSIS.

- PRODUCT: YES
- PRODUCT INDICATOR: Y
- LOGISTICS TECHNOLOGY TRANSFER: NO
- PROCESSING DATE: 12 APR 93
- RECEIVED DATE: 12 APR 93
- DESCRIPTION CODE: UNCLASSIFIED

- MATERIALS: AGGRAVATE MRE; DEPTH;
- EXPENSE; INDUSTRIES; MODELS; PLANNING;
- SELECTION; SUPPLIES; UNITED STATES GOVERNMENT; VENDORS;

2-59
INDEPENDENT RESEARCH AND DEVELOPMENT (IR&D) DATABASE

The Independent Research and Development (IR&D) database contains information on research and technology projects not wholly funded by the DoD. A project is the smallest segment into which independent research and development efforts are divided for company administration purposes, usually involving at least one work-year of effort. Because IR&D projects are funded in part by private contractors, the data must be treated as proprietary information. Online access to IR&D is currently limited to DoD users with classified terminal sites.

System functions in the IR&D Database are Search, Display, Recall, List, Sort, Qualify, Transfer and Order (Bibliographies only). All searches are performed basically the same way as in the Work Unit (WU) database. However, the accession date automatic default is two years. See Table 1. You will also need to substitute the field identification codes used for the IR&D Database (Appendix 3). To obtain accurate results, it is essential to use the appropriate appendix when using the IR&D database. The command to search the IR&D is @SIR@. The search concepts are the same as those used to search the WU file. The time default is the current two years unless the ALL option is used in the search strategy.
SEARCH WITH PREVIOUS STRATEGY

This function allows you to reprocess the same search question against another database without having to redisplay or retype the strategy. This can only be used when no modifications are made to the original search strategy. When going from @SCF@ or @SWU@ to @STR@, note that the automatic default to the most recent 10 years of TR accessions occurs. The commands are:

@SCFWPS@ - Search Current File with Previous Strategy
@STRWPS@ - Search Technical Report with Previous Strategy
@SWUWPS@ - Search Work Units with Previous Strategy
@SIRWPS@ - Search Independent Research with Previous Strategy

Role codes/mnemonics used in the original search strategy will automatically be converted to the corresponding role codes/mnemonics for the new database to be searched. If role codes/mnemonics in the previous search cannot be converted, they will be dropped from the search. The following four charts show the conversions when searching with previous strategies.
Role Code/Mnemonic Conversions

Technical Report/Current File to Work Unit

<table>
<thead>
<tr>
<th>From: Tech Report/Current File</th>
<th>To: Work Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Code</td>
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<td>Entry/Effort Classification</td>
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<td>Report Classification</td>
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Table 11
## Work Unit to Technical Report/Current File

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<th>Role Code</th>
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<td>GC</td>
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*Table 12*
Technical Report/Current File to IR&D

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<th>Role Code</th>
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Work Units to IR&D

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</tr>
<tr>
<td>TE1</td>
<td>Technical Category Code1</td>
</tr>
<tr>
<td>PRG</td>
<td>Progress</td>
</tr>
<tr>
<td>APP</td>
<td>Approach</td>
</tr>
<tr>
<td>OBJ</td>
<td>Objective</td>
</tr>
<tr>
<td>RCD</td>
<td>Receipt Date</td>
</tr>
<tr>
<td>FPT</td>
<td>Responsible Organization Individual</td>
</tr>
<tr>
<td>ECC</td>
<td>Effort Security Classification Code</td>
</tr>
</tbody>
</table>

Table 14

2-65
## IR&D to Work Units

<table>
<thead>
<tr>
<th>From: IR&amp;D</th>
<th>To: Work Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mnemonics</td>
<td>Field Description</td>
</tr>
<tr>
<td>AU</td>
<td>Author Name</td>
</tr>
<tr>
<td>FG</td>
<td>Fields &amp; Groups</td>
</tr>
<tr>
<td>GC</td>
<td>Performing Organization State</td>
</tr>
<tr>
<td>NAR</td>
<td>Title, Progress, Approach, Objective</td>
</tr>
<tr>
<td>PJ</td>
<td>Project Number</td>
</tr>
<tr>
<td>RD</td>
<td>Report Date</td>
</tr>
<tr>
<td>SUB</td>
<td>Subject Terms/Title</td>
</tr>
<tr>
<td>TI</td>
<td>Unclassified Title</td>
</tr>
<tr>
<td>TI5</td>
<td>Title First 5 Words</td>
</tr>
<tr>
<td>TIA</td>
<td>Title Algorithm</td>
</tr>
<tr>
<td>MC</td>
<td>Mission Area Code</td>
</tr>
<tr>
<td>FC</td>
<td>Function Code</td>
</tr>
<tr>
<td>TE</td>
<td>Technology Code</td>
</tr>
<tr>
<td>TT</td>
<td>Transaction Type</td>
</tr>
<tr>
<td>SDT</td>
<td>Project Start Date</td>
</tr>
<tr>
<td>EDT</td>
<td>Estimated Completion Date</td>
</tr>
<tr>
<td>RCD</td>
<td>Summary Receipt Date</td>
</tr>
<tr>
<td>FG1</td>
<td>DoD Subject Category 1</td>
</tr>
<tr>
<td>MC1</td>
<td>Mission Area Code 1</td>
</tr>
<tr>
<td>FC1</td>
<td>Function Code 1</td>
</tr>
<tr>
<td>TE1</td>
<td>Technical Category Code 1</td>
</tr>
<tr>
<td>PRG</td>
<td>Progress</td>
</tr>
<tr>
<td>APP</td>
<td>Approach</td>
</tr>
<tr>
<td>OBJ</td>
<td>Objective</td>
</tr>
<tr>
<td>CRD</td>
<td>Record Creation Date</td>
</tr>
<tr>
<td>FPT</td>
<td>Plan Focal Point Phone</td>
</tr>
<tr>
<td>DSC</td>
<td>Project Sensitivity Code</td>
</tr>
</tbody>
</table>

*Table 15*
### IR&D to Technical Report/Current File

<table>
<thead>
<tr>
<th>From: IR&amp;D</th>
<th>To: Tech Report/Current File</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mnemonic</strong></td>
<td><strong>Field Description</strong></td>
</tr>
<tr>
<td>SC</td>
<td>Performing Organization Source Code</td>
</tr>
<tr>
<td>AU</td>
<td>Author Name</td>
</tr>
<tr>
<td>RD</td>
<td>Report Date</td>
</tr>
<tr>
<td>GC</td>
<td>Performing Organization State</td>
</tr>
<tr>
<td>FG</td>
<td>Fields &amp; Groups</td>
</tr>
<tr>
<td>PJ</td>
<td>Project Number</td>
</tr>
<tr>
<td>SUB</td>
<td>Subject Terms/Title</td>
</tr>
<tr>
<td>TI</td>
<td>Title Unclassified</td>
</tr>
<tr>
<td>TIA</td>
<td>Title Algorithm</td>
</tr>
<tr>
<td>TIA5</td>
<td>Title First 5 Words</td>
</tr>
<tr>
<td>ECC</td>
<td>Effort Security Classification</td>
</tr>
<tr>
<td>RCC</td>
<td>Record Classification</td>
</tr>
</tbody>
</table>

### STORE SEARCH

This procedure will allow you to store, display, list, delete, and execute indefinitely up to 10 searches per terminal. To store a search just executed, enter the command @SS@, the name of the search you want to store, and END. The name of the search is limited to 6 alphanumeric characters. An example follows:

Example:  
```plaintext
@ss@
super1
end
```

To store a search before executing it, enter the command followed by the search name, then type on the next line the 2 alpha characters specifying the file the stored search is to be run against. Valid file entries are:

2-67
TR - Technical Report
CF - Current File
WU - Work Unit
IR - Independent Research & Development
NA - New Accessions in TR file from latest update

An example follows:
Example: @ss@ superl tr
Place search strategy here.
end

The END terminator is not required for the remaining commands used with the Store Search capability. They are as follows:

@LSS@ - List Stored Searches
@DSS@ - Display Stored Search-(by stored name)
@XSS@ - Execute Stored Search-(by stored name)
@DELSS@ - Delete Stored Search-(by stored name).

It is also possible to overlay a stored search by storing another search under the same name. When overlaying you will be alerted that by so doing, your previous search stored under that name will be destroyed.

OTHER SEARCH COMMANDS

@DSR@ - Display Search Results .................................. 3-4
@LSR@ - List Search Results ..................................... 7-1
@OSR@ - Order Search Results ................................. 9-1
@QSR@ - Qualify Search Results .............................. 6-1
@QSRAB@ - Qualify Search Results by Abstracts ........... 6-3
@QSRTAB@ - Qualify Search Results by Title and Abstracts .................................................. 6-3
@QSRTI@ - Qualify Search Results by Titles ................. 6-3
@RSQ@ - Recall Search Question .............................. 8-1
@RSS@ - Recall Search Statistics ............................. 8-1
Search

- @SOSR@ or @SSR@ - Sort Search Results ........................................ 5-1
- @TAS@ or @TAS@ - Transfer All Search Results ................................. 4-2
- @TRSR@ - Transfer Range from Search Results ................................. 4-2
CHAPTER 3 - DISPLAY

Display commands are used for various purposes. Some are administrative such as displaying the information log, the available files, the order log, the security log, and various warning notices. Other commands pertain to searching or viewing the search results. It is not necessary to conclude certain display commands with END. Examples of each display command will indicate when it is necessary to use END.

@DIL@ - DISPLAY INFORMATION LOG

The most effective way of determining the system’s status is through the terminal. The terminal provides an online “newsletter” called the Information Log. It is a good idea to look at the Information Log before you begin using the system each day.

To view the Information Log, type the command @DIL@ and transmit. The system will respond with a display similar to the following:

```
-ATTENTION *** INFORMATION LOG *** ATTENTION

WEIGHT OF MAR 29 THRU APR 02 1993

- DIRECT AND INVERTED FILES LOADED FOR 93-11 ON MAR 29 93
- RANGES FOR INPUT CYCLE 93-11 ARE A260 560 - A261 214
- RANGES FOR INPUT CYCLE 93-11 ARE B170 543 - B171 075
- RANGES FOR INPUT CYCLE 93-11 ARE C050 233 - C050 284
- RANGES FOR INPUT CYCLE 93-11 ARE D015 652 - D015 659
- RANGES FOR INPUT CYCLE 93-11 ARE M000 188 - M000 188
- RANGES FOR INPUT CYCLE 93-11 ARE M200 140 - M200 140
- RANGES FOR INPUT CYCLE 93-11 ARE M200 144 - M200 145
- RANGES FOR INPUT CYCLE 93-11 ARE M200 144 - M200 145
- DUE TO THE MULTITUDE OF GAPS WITHIN THE RANGES.

-01 MAR 93 ATTENTION ATTENTION

- TWO COURSES ARE BEING OFFERED BY THE TACTICAL WEAPONS
- GUIDANCE AND CONTROL INFORMATION ANALYSIS CENTER (GACIA). 
- SMART WEAPONS SYSTEMS CURRENT AND FUTURE IS BEING OFFERED ON
- 03 - 25 MARCH AT THE IIIT RESEARCH INSTITUTE IN LANHAM,
- MARYLAND AND ON 20 - 22 APRIL AT IIIT RESEARCH INSTITUTE IN
- - <TRANSMIT FOR NEXT PAGE OR ENTER NEXT COMMAND>
```

Remember, this log is one way that DTIC can communicate notices of important changes in online operational procedures or changes in the time the online system will be available to the user. Check your Information Log each day.
@DAF@ - DISPLAY AVAILABLE FILES

The display of available files tells you which databases are available for use and the date on which those files were updated. Type the command @DAF@ and transmit. The system will respond with a display similar to:

```
- TECHNICAL REPORTS FILE AVAILABLE
- WORK UNIT INFORMATION FILE AVAILABLE
- CURRENT TECHNICAL REPORTS FILE APR 01,1993
- MLDB HIERARCHY FILE AVAILABLE
- SOURCE HIERARCHY FILE AVAILABLE
- REMOTE TERMINAL INPUT FILE AVAILABLE
- ORDER LOG APR 01,1993
- COMPOSITE INVENTED FILE AVAILABLE

END  << ENTER NEXT COMMAND >> END
```

NOTE: NLDB, Natural Language Database (Online Thesaurus).

@DOL@ - DISPLAY ORDER LOG

You may wish to review the orders placed on the preceding two business days. To display the order log type @DOL@ and transmit. The system will respond with a display similar to the following:

```
- TERM USER DATE DATA NUM OF NUM IN SEARCH
- ID. CODE PROC'D BASE ITEMS RANGE CTL NO.
-AAML 04741 033193 TR 1 AAF47L
-AARAD 00304 033193 TR 1 MAP10N
-AARL* 12485 040193 TR 9 XJ26K
-AARL* 12485 040193 TR 9 XJ26K
-AAGS 25776 033193 TR 1 WFM19I
-AAGS 25776 033193 TR 4 WFM23K
-AAGS 25776 033193 TR 3 WFM28K
-AACL 00298 033193 TR 84 FFM39I
-AACL 06986 040193 TR 9 FFP31I
-AACL 06986 040193 TR 1 FFP32I
-AACL 00298 033193 WU58 42 FFM42I
-AACL2 02986 040193 TR 94 48D EWM50I
-AFIT 25304 033193 TR 2 DKN55L
-AFIT 25304 033193 TR 1 DKN58J
-AFIT 25316 033193 TR 1 DKN59L
-AFIT 25316 033193 TR 1 DKN01L
-AFIT 25304 033193 TR 192 DKN11K
```

<<TRANSMIT FOR NEXT PAGE OR ENTER NEXT COMMAND>>
NOTE: C - Indicates a contract number error, U - Indicates a user code error, * - Indicates a change in date ordered. Not all errors appear on the order log (i.e., errors in deposit account numbers).

Orders for which the User Code is preceded by a C or U error indicator were not accepted and cannot be corrected. The orders must be re-entered correctly.

If no orders were placed on the previous 2 work days the following will be displayed:

- Your Site Shows No Orders for Previous Day.

Site operators may wish to print the order log each day for their own records.

**@DIF@ - DISPLAY INVERTED FILE**

If you cannot find a term in the DTIC Thesaurus, display the Inverted File. For example, if you were looking for reports indexed on RADAR ANGELS, you would not find this term in the Thesaurus. Use the following command to see if it is used as an indexed term.

Example: @dif@
  radar angels

The system will respond with a display similar to the following:

```
- SUBJECT TERM (D - DESCRIPTOR, I - IAC TERM) TR WUIS
- RADAR AND COMMUNICATION TECHNOLOGY ............................ X
- RADAR AND COMMUNICATIONS ........................................ X
- RADAR AND MISSILE SYSTEMS COST DATA BASES .................. X
- RADAR AND OPTICAL DATA ......................................... X
- RADAR AND PENETRATOR COMBINATION ............................. X
- RADAR AND RADIO FOR ANTIAIRCRAFT SYSTEMS ............ X
- RADAR AND RADIO FOR ANTICRAFT SYSTEMS ..................... X
- RADAR AND RADIO ELECTRONIC DIAGRAMS ....................... X
- RADAR AND RADIO TARGET DETECTION ............................ X
- RADAR AND SPHERICAL SYSTEM .................................. X
- RADAR ANCHORING CHAMBERS ...................................... X
- RADAR ANGLES .................................................... X
- RADAR ANGLES-G ................................................. I
- RADAR ANGLE CALIBRATORS ...................................... X
- RADAR ANGLE TRACKING .......................................... X
- RADAR ANGLES .................................................... X
- RADAR ANTENNA ................................................... X
- RADAR ANTENNA ANALYSIS ......................................... X
- RADAR ANTENNA PATHS .......................................... X
- RADAR ANTENNA PEDESTAL ......................................... X
- RADAR ANTENNA SIDELOBE ........................................ X

<<P TO SCROLL FORWARD>> OR <B TO SCROLL BACKWARD>>
```
A total of 21 terms per screen will be displayed in alphabetical sequence, including the 10 terms before and the 10 terms following the term being searched. Along with the display of terms, the right side of the screen will indicate with Xs whether terms have been indexed in the TR or WU database. The D indicates the term is in the Thesaurus. The I indicates that the term has been used by an IAC; the term's suffix indicates which IAC used the term (i.e., RADAR ANGELS--G was used by the Guidance and Control IAC - GACIAC).

On the bottom of the screen, you have the option of entering B if you want a display of the previous screen, or P if you want the next screen of terms. Enter any other command to exit the function.

If you transmit the @DIF@ command without a term, the computer will respond with:

---PLEASE ENTER COMMAND AND TERM---

@DSR@ - DISPLAY SEARCH RESULTS

This generic command enables you to display the records of items retrieved by your search. It is used the same way in all of the databases. Along with the display command, you must include a display format. There are six standard display formats available for the TR file, six for the WU file and only one for the CF file. Each format includes different fields. You may also create your own display format by entering the display field codes, one per line. A maximum of 21 display field codes may be used. These fields can be displayed in any order (Field 1, Accession Number, is automatically displayed). Refer to Appendix 4 for the display field codes and formats.

Examples:

<table>
<thead>
<tr>
<th>Technical Report</th>
<th>Work Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>@dsr@</td>
<td>@dsr@</td>
</tr>
<tr>
<td>1f</td>
<td>@dsr@</td>
</tr>
<tr>
<td>or</td>
<td>sc</td>
</tr>
<tr>
<td>5</td>
<td>ti</td>
</tr>
<tr>
<td>end</td>
<td>au</td>
</tr>
<tr>
<td>y</td>
<td>rd</td>
</tr>
<tr>
<td>10</td>
<td>end</td>
</tr>
<tr>
<td></td>
<td>y</td>
</tr>
</tbody>
</table>

**NOTE:** When you construct a display command, the system allows you to specify a display mode subcommand on the line following the terminator END. If the mode subcommand is omitted, this message will appear:
MODE SUBCOMMANDS

Y - Will display records one screen at a time in your choice of display format. By pressing Y again, you advance to the next item. You may skip forward a specified number of accessions by entering Y+N (where N is the number of accessions you wish to skip). You may also move backward by entering Y-N.

Example: @dsr@
         2f
         end
         y+3

C - Will display all of the information specified in your display format on a continuous basis. This display will consist of 23 lines of information followed by a pause, then 23 more lines, etc. This option can be aborted by depressing the BREAK or CANCEL key on your keyboard. For Dial-up users the BREAK or CANCEL keys may vary depending on the telecommunications software.

To view up to three specific items continuously in a chosen format, enter the three numbers in ascending sequence, separated by commas, and followed by the mode subcommand C.

Example: @dsr@
         2f
         end
         1,5,9c

Items 1, 5, and 9 will be displayed after which the following message will appear:

---END Y FOR NEXT ACCESSION END---

To view a specific range of items, specify the range separated by a hyphen, in ascending order.

Examples: @dsr@
          2f
          end
          1-5c
          (Display of items 1 to 5 continuously)
          or @dsr@
          2f
          end
          3-8c
          (Display of items 3 to 8 continuously)
To scan through the display, you can use the skip/limiting feature, where the skip factor can be 1-99 and the limiting factor (total number of citations to be displayed) can be 1-999. The following strategy will give a display of every third item until five have been displayed continuously.

Example:  @dsrc@
2f
end
3/5c

W - Will allow Dedicated sites to display and print all of the citations continuously. You can also display/print up to 3 items, a range of items, or a scan of items as discussed under the mode subcommand C. This option is not available for Dial-up users. However, all users can print a screen at a time using the Print Screen key.

X - Will allow continuous display while downloading the information to a floppy or hard disk, if so configured. Users should refer to their communications software manual for downloading procedures.

NOTE: Security measures for protecting classified information displayed on the computer screen are a user responsibility. All documents containing classified information must be safeguarded in accordance with the provisions of DoD 5200.1-R, Information Security Program Regulation, and DoD 5220.22M, Industrial Security Manual for Safeguarding Classified Information.

Other mode subcommands are:

P - Paging - will advance screen by one additional page.
B - Browse/Backward - will scroll the screen backward by one page. Use with @DIF@ command only.
Y - Yes response to computer
N - No response to computer
END - Terminator - lets the system know your command is completed. Must be followed on next line by mode subcommand (Y, C, W, or X) when using the display command.

After entering the display command, enter the specified display/print field identification codes that you want to see. These field identification codes may be obtained from Appendix 3. Terminate with END and a mode subcommand. This format will display the fields cited but not empty fields. If you need to see the field, even if it is empty, include the word ALL after the display command. Enter one field identification codes per line for a maximum of 21 fields.
### Examples

<table>
<thead>
<tr>
<th>Inclusion</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>@dsr@</td>
<td>or @dsr@</td>
</tr>
<tr>
<td>all</td>
<td>11</td>
</tr>
<tr>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>14</td>
<td>end</td>
</tr>
<tr>
<td>end</td>
<td>y</td>
</tr>
</tbody>
</table>

### SYSTEM MESSAGES DURING DISPLAY OF ACCESSIONED RECORDS

Occasionally, an accession cannot be displayed at your site. The system will alert you with the message “Unavailable for Display” along with the reason. Reasons for unavailability include:

- Field/Group doesn’t match your registration
- Classification doesn’t match your registration
- Distribution Limitation doesn’t match your registration
- Unannounceable Category
- Intelligence Category
- Database Error
- Site Ineligible for Data

### SECURE SITE DISPLAY OPTIONS

Secure online terminals may display unclassified versions of classified technical report citations by using ENDU in place of END. ENDU will work with technical report citations only. Your display command will be:

Example:  
```
@dsr@  
2f  
enda
  y
```

To include or exclude Restricted Data and/or Formerly Restricted reports in your display, enter the following codes on the line prior to the desired format in the display commands.

- RD - Restricted Data Only
- FRD - Formerly Restricted Data Only
- RFD - Restricted and/or Formerly Restricted Data Only
- NORD - No Restricted Data
- NOFRD - No Formerly Restricted Data
- NORFD - No Restricted and/or Formerly Restricted Data
Your display command will be:

**Examples:**

<table>
<thead>
<tr>
<th>Inclusion</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>@dsr@ rd</td>
<td>@dsr@ nord</td>
</tr>
<tr>
<td>4f</td>
<td>4f (all)</td>
</tr>
<tr>
<td>end</td>
<td>end</td>
</tr>
<tr>
<td>y</td>
<td>y</td>
</tr>
</tbody>
</table>

**REPEAT DISPLAY FORMAT**

Once you have established a display format, it is not necessary to retype it after each additional search. The computer will retain the same display format until you type a new one or change databases. This is especially convenient when using a customized display with several specific fields.

To use this feature type your initial search followed by your initial display command. After your next search, instead of typing the entire display format again, type @DSR@, END, and the mode subcommand. The system will display using the previous format.

**Examples**

<table>
<thead>
<tr>
<th>Initial Display Command</th>
<th>Additional Display Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>@dsr@ or @dsr@ 5 end</td>
<td>@dsr@ end</td>
</tr>
<tr>
<td>6 y 14 18 19 20 end</td>
<td>y</td>
</tr>
</tbody>
</table>

**NOTE:** The system will retain any of the display formats you use. However, if you perform a search in another database or logoff between searches it will cancel your initial display format.

**@DQR@ - DISPLAY QUALIFIED RESULTS**

This command is used to display the results of a qualification, a method of refining your search (see Chapter 6). The procedures to display are the same as those used with the @DSR@ command.
DISPLAY OF KNOWN ACCESSION NUMBER

This option is used when an accession number is already known. Only one TR, WU, or IR&D accession number can be displayed at a time with these commands. You must enter the display command, accession number, display format, and mode subcommand. Refer to Appendix 4 for applicable display formats. The commands are:

@DTR@ - DISPLAY TECHNICAL REPORT
@DCF@ - DISPLAY CURRENT FILE
@DWU@ - DISPLAY WORK UNIT
@DIR@ - DISPLAY INDEPENDENT RESEARCH & DEVELOPMENT

Examples: @dtr@  ada110123 1f  end  w
@DCF@  c:da123321 1f  end  w
@DWU@  dn923186 1f  end  w
@DIR@  90123456 1f  end  w

@DUF@ - DISPLAY USER FILE

After you have built and closed a user file (see Chapter 4) from either search results, direct entry or qualified results, you can display it. You may use a standard display format or design your own. You can display only one user file at a time. If you want to display your user file of technical reports by author, title, and report date, your format would look like:

Example: @duf@  10 6 14 end c

@DSL@ - DISPLAY SECURITY LOG (SECURE SITES)

The daily security log must be printed before terminating a secure site. This log tells you how many of the items displayed were from citations/summaries that are classified. Specific accession numbers are listed along with the time, classification, and search control number. In accordance with current security regulations, if any
portion of a citation/summary that is classified secret is printed, you must record it on the manual security log by entering either the accession number or the search control number SCN. Use the @DSL@ command with the W subcommand to automatically print the log plus additional pages. If you are unable to print the security log, call DASC-IO, ADP Security (703) 274-4684 to send you a log. Your command will look like:
Example:  @dsl@

The system will respond with a display similar to the following:

```
TOTAL  WUIs  TR  PS  RD
SECRET  3    0    3  0   0
CONFIDENTIAL 3    0    3  0   0
RESTRICTED  0   C    0  0   0
OTHER     0   C    0  0   0
TOTAL     6   C    6  0   0

---

ACCESSION  USER CODE  TIME  CL  SCN
ADD500000  025000  095454  S  CXX25B
ADD500001  025000  095455  C
ADD500002  025000  095457  C
ADD500003  025000  095510  C  CXF15J
ADD500004  025000  095511  S  CXF15J
ADD500005  025000  095511  S  CXF15J

----

@COMMNT@ - TRANSMIT A COMMENT

At times a user may wish to transmit comments or questions to DTIC. One screen of information (23 lines) can be entered at a time. Use a carriage return at the end of each line entered. No deletions or changes can be made once the comment has been transmitted. Be sure to include your name and telephone number. The comments are transmitted to the Network Services Branch the following business day for action. Their response will usually be by phone, with a follow-up by mail or phone as needed. To send DTIC a message, enter the comment command, your message, END and transmit.

3-10
Example: @commnt@
Author "Ting" on ada170546 should have a
middle initial of Y instead of W.
The author "Thornton" of ada201981
should be "Thornton".
Dolores Pieper, DTIC-BLNL - 10/18/92
end

@BANNER@ - DISPLAY BANNER

Some organizations use multiple computer systems to retrieve inform-
ation. This command will enable organizations to identify DROLS
as the source of retrieved results. A display mode subcommand needs
to be specified (Y, W, or X) after the command. The command and
display will be:
Example: @banner@

... 

@DITAR@ - DISPLAY EXPORT-CONTROL
INTERNATIONAL TRAFFIC-IN-ARMS
STATEMENT REGULATION

This option will display the Export Control International Traffic-in-
Arms Regulation (ITAR) statement. It may be useful for inclusion in
a bibliography to be printed at your terminal. You will have to perform
a Screen Print in order to print this message at your site. The command
and display will be:
Example: @ditar@

---IF YOU DISPLAY ENTRIES OF REPORTS WITH REFERENCES MARKED
-EXPORT CONTROL THE FOLLOWING WARNING APPLIES:
--------------------------------------------**WARNING**--------------------------------------------
-THIS DOCUMENT CONTAINS TECHNICAL DATA WHOSE EXPORT IS
-RESTRICTED BY THE ARMS EXPORT CONTROL ACT (TITLE 22, U.S.C.,
-SEC. 2751 ET SEQ.) OR EXECUTIVE ORDER 12492. VIOLATIONS OF
-THESE EXPORT LAWS ARE SUBJECT TO SEVERE CRIMINAL PENALTIES.
-DISTRIBUTION OF THIS DOCUMENT IS SUBJECT TO DOD 5230.75
-PROCEDURES
--------------------------------------------**WARNING**--------------------------------------------

1ND
<< ENTER NEXT COMMAND >> END

@NOSALE@ - DISPLAY NOSALE STATEMENT

This is a caution statement which appears when you sign on the
DROLS system. It is also available for display on command for
inclusion in a bibliography or other information retrieved from your
terminal. You will have to perform a Screen Print in order to print this
message at your site. The command and display appears as:

Example: @nosale@

--------------------------------------------**WARNING**--------------------------------------------

AS A CONDITION OF OBTAINING DTIC SERVICES, ALL INFORMATION
-RECEIVING FROM DTIC THAT IS NOT CLEARLY MARKED FOR PUBLIC
-RELEASE WILL BE USED ONLY TO BID OR PERFORM WORK UNDER A
-U.S. GOVERNMENT CONTRACT OR GRANT OR FOR PURPOSES
-SPECIFICALLY AUTHORIZED BY THE U.S. GOVERNMENT AGENCY THAT
-IS SPONSORING ACCESS. FURTHER, THIS INFORMATION WILL NOT BE
-PUBLISHED FOR PROFIT OR IN ANY MANNER OFFERED FOR SALE.
-NON-COMPLIANCE MAY RESULT IN TERMINATION OF ACCESS AND A
-REQUIREMENT TO RETURN ALL INFORMATION OBTAINED FROM DTIC.
--------------------------------------------**WARNING**--------------------------------------------

WORK UNIT AUTOMATICALLY EXPANDING
DISPLAYS

The following display mnemonics automatically display all of their
related fields.

Example: @dsr@
xx
(end

(display mnemonic)

3-12
The mnemonic FC will display the following fields:

- FC - Function Code
- FC1 - Function Code 1
- FC2 - Function Code 2
- FC3 - Function Code 3

The mnemonic FG will display the following fields:

- FG - DoD Subject Categories
- FG1 - DoD Subject Categories 1
- FG2 - DoD Subject Categories 2
- FG3 - DoD Subject Categories 3

The mnemonic MC will display the following fields:

- MC - Mission Area Code
- MC1 - Mission Area Code 1
- MC2 - Mission Area Code 2
- MC3 - Mission Area Code 3

The mnemonic TE will display the following fields:

- TE - Technology Code
- TE1 - Technology Code 1
- TE2 - Technology Code 2
- TE3 - Technology Code 3

The mnemonic TAC will display the following fields:

- FC - Function Code (FC, FC1, FC2, FC3)
- MC - Mission Area Code (MC, MC1, MC2, MC3)
- TE - Technology Code (TE, TE1, TE2, TE3)

The mnemonic THR will display the following fields:

- THR - Thrust Indicator
- TH1 - Thrust Indicator 1

The mnemonic RA will display the following fields:

- AN - Agency Accession Number
- RIN - Responsible Individual Name
- RIO - Responsible Individual Office Symbol
- RAN - Responsible Organization Activity Name
- RLC - Responsible Organization Location - City
- RLS - Responsible Organization Location - State/Country
- RLZ - Responsible Organization Location - Zip Code
- RLG - Responsible Organization Location - Geopolitical Code
The mnemonic PA will display the following related fields:

- **AN**: Agency Accession number
- **AU**: Performing Organization Principal Investigator Name
- **PIO**: Performing Organization Principal Investigator Office Symbol/Code
- **POA**: Performing Organization Activity Name
- **PLC**: Performing Organization Location - City
- **SCC**: Performing Organization Location - State/Country
- **PLZ**: Performing Organization Location - Zip Code
- **GC**: Performing Organization Location - Geopolitical Code
- **OT**: Performing Organization Type Code
- **ENT**: Entity Code (Data not yet available)
CHAPTER 4 - TRANSFER (USER FILE)

Transfer commands allow you to build a user file with multiple search results or selected accessions (or accession ranges). Using these commands, the terminal operator may transfer a single accession number, a range of numbers, the search results, and/or the qualification results.

Until the user file is closed, you may continue to add items from a single database up to the 25,000 limit. If you create a user file with AD numbers from the TR Database, you may not add accessions from the WU Database, etc. You may have only one user file at a time.

The user file may serve as a running record of accessions which can be accumulated periodically. Accessions can be transferred until the user file is closed, you wish to change databases, you log off the system, or the system terminates. Once the user file is closed, bibliographies or full text copies of the user file accessions may be ordered. If you attempt to transfer additional accessions to a closed user file, the existing user file will be deleted and a new user file will be created.

@TA@ - TRANSFER ACCESSION

You can build a user file by direct entry of known accession numbers or a list of accessions from search results, one per line; and/or by entering a range of accession numbers in parentheses. The number ranges must be in ascending order using only accessions from one database separated by one hyphen. You may enter no more than two ranges.

Example:  @ta@  
ad774653  
ad774575  
ad765562  
(adbo01900-adb002000)  
end

NOTE: This command is used when you want to order reports if you know the AD number(s) and have not done a search.
Each time you transfer accessions to the user file, the system will respond with the message saying "TO CLOSE USER FILE, TYPE END." Until you are ready to close the user file you should simply ignore this message. You may continue building the user file by executing the @TA@ command. Once you have closed the user file, any subsequent transfer commands will automatically start a new user file and wipe out the previous one. Once you close the user file you cannot reopen it, but you can work with it in the same manner you work with the Direct File. Thus, you may list, display, qualify, sort, and order the user file. You cannot delete records once they have been entered into a user file.

@TASR@ - TRANSFER ALL SEARCH RESULTS

This command will transfer your latest search finds into your user file.
Example:  @tasr@
end

System response:

-ENTIRE CONTENTS OF SEARCH FILE HAVE BEEN MOVED TO USER FILE. TO CLOSE USER FILE TYPE IN END

Until you are ready to close the user file, ignore the request to type in END. When the file is closed, the computer will respond by telling you the file is closed and how many items are contained in the file.

@TRSR@ - TRANSFER RANGE FROM SEARCH RESULTS

This command transfers only a specified range of accession numbers from the latest search results to the user file.
Example:  @trsr@
(ada000001-ada999999)
end

System response:

-TO CLOSE USER FILE TYPE IN END-

Ignore this response until you are ready to close the file.

NOTE: Only two ranges can be specified per command.
@TAQR@ - TRANSFER ALL QUALIFIED RESULTS

This is used to transfer all the latest qualified results to a user file. It combines the qualification results into a single file.

Example:  @taqr@

end

System response:

---ENTIRE CONTENTS OF QUALIFICATION FILE HAVE BEEN MOVED.
---TO USER FILE. TO CLOSE USER FILE TYPE IN END.

@TRQR@ - TRANSFER RANGE FROM QUALIFIED RESULTS

This is used to build a user file with a specified range from your qualified results. It combines the qualification results into a single file.

Example:  @TRQR@

(ada000001-ada999999)

end

System response:

---TO CLOSE USER FILE TYPE IN END.

Ignore this response until you are ready to close the file.

NOTE: Only two ranges can be specified per command.

Other commands used with the user file are:

@DUF@ - Display User File ........................................... 3-9
@LUF@ - List User File .................................................. 7-2
@OUF@ - Order User File .............................................. 9-6
@QUF@ - Qualify User File ............................................. 6-3
@QUFAB@ - Qualify User File by Abstract .......................... 6-3
@QUFTAB@ - Qualify User File by Title and Abstract .............. 6-3
@QUFTI@ - Qualify User File by Title ................................ 6-3
@SOUF@ - Sort User File ................................................ 5-2
CHAPTER 5 - SORT

Sorting rearranges the results of your search using the sortable data fields you specify in ascending AEND or descending DEND sequence. It also eliminates duplicates and non-displayable items. For sorting purposes, these two choices replace END. Sorting can be done in the TR, CF, WU, and IR&D databases. Each sort field must occupy one screen line. A maximum of three sort fields may be specified. Sorting is on the first 12 characters only, including punctuation, in whatever format has been entered.

@sosr@ - SORT SEARCH RESULTS

Appendix 3 lists the fields you may sort on. Enter one sort field per line (maximum of 3 lines). For example, to sort your results by personal author, the strategy would be:

Examples:

<table>
<thead>
<tr>
<th>TR File</th>
<th>Current File</th>
<th>Work Unit File</th>
</tr>
</thead>
<tbody>
<tr>
<td>@sosr@</td>
<td>@sosr@</td>
<td>@sosr@</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>au</td>
</tr>
<tr>
<td>aend</td>
<td>aend</td>
<td>aend</td>
</tr>
</tbody>
</table>

A status message will appear after every 100 items processed. The message will be:

- SORT IN PROCESS
- ITEMS PROCESSED: 100

At the end of the sort, you will receive a response similar to:

SORT STATISTICS

ITEMS SORTED 144

ITEMS FAILED

EXCEEDED VOLUME RESTRICTION 47

AGENCY FIELD OF INTEREST REGISTER 0

- END ENTER NEXT COMMAND END-

There are processing limitations associated with the sort function. For a single field sort a maximum of 4400 items may be sorted. If two fields are specified, the number of items that may be sorted drops to 2900. With three sort fields, only 2200 items may be sorted. Any items that exceed these limits will be dropped in the sort operation.
Sorting can be very time-consuming. If you find that a sort is taking too long, you may abort it by depressing the BREAK key or equivalent on your keyboard. Wait for the response:

COMMAND HAS BEEN ABORTED

The sort function applies to online display only. Sorting search results, qualification results, or the contents of a user file prior to ordering it will not impact the standard sequence in which citations are printed offline. After sorting use either a standard or customized display format to view the search results. The other sort commands are as follows:

@SOQR@ - SORT QUALIFIED RESULTS

This command is used to sort qualification results. The procedures are the same as the @SOSR@ command.

Example:  
```
@sqr
10
aend
```

@SOUF@ - SORT USER FILE

This command is used to sort the contents of the user file. The procedures are the same as the @SOSR@ command.

Example:  
```
@souf
10
dend
```
CHAPTER 6 - QUALIFY

Once you have completed a search or built a user file, you can further refine your results by a process known as Qualification. Essentially a comparison process, Qualification can be done on specified fields including text fields. To qualify against specific fields, use a qualification command, enter one or more qualification statements separated by using Boolean connectors and the terminator END. DROLS will not permit qualification of more than 500 items if the qualifying field is also a searchable field. For these cases, you will have to modify your search strategy and include the field and parameters there. The Qualification commands are:

@QSR@ - QUALIFY SEARCH RESULTS

This command is used to further refine the results of the last search by comparing values in certain fields.

The qualification statement consists of a specific data field to be qualified, a space, a two-letter comparison symbol, a space, and the data to be compared. Spacing must be exact. Qualification refinement is limited to one screen of information (23 lines) and includes the command, statement(s) with boolean connectors, and terminator.

The two letter comparison symbols are:

- EQ - Equal
- NE - Not Equal To
- LT - Less Than
- LE - Less Than or Equal To
- GT - Greater Than
- GE - Greater Than or Equal To

Qualification by field number is a similar process across all the databases with specific qualifiable fields shown in Appendix 3. Qualification against TR accessions is limited to three fields: Report Date, Distribution Limitation Code, and Organization Type Code. The WU and the IR&D databases have many qualification fields.

Suppose you searched the TR database for all reports written by J.R. Brown and found 109 reports, but then decided that you were only interested in the reports he wrote from 1978-1984. These could be found by qualifying your search results in terms of the report date. You would translate the dates into the year-month-day (YYMMDD,
YYMM, or YY) format required by the system (i.e. 780000 and 841231), and use the Greater Than or Equal To (GE) and Less Than or Equal To (LE) symbols. The command to qualify the search results looks like this:

Example: @qsr@ 11 ge 78 and 11 le 841231 end

A status message will appear for every 100 items processed.

System message will be similar to this:

```
SYSTEM MESSAGE
- ITEMS PROCESSED 100
- ITEMS QUALIFIED 9
- ITEMS REMAINING /2
- TIME STARTED 16:26:33
- PRESENT TIME 15:56:40
```

At the completion, the system responds with a page of qualification statistics.

```
QUALIFICATION STATISTICS - TR FILE
- ITEMS QUALIFIED 4
- ITEMS FAILED 84
- ITEMS NOT FOUND 1
- ITEMS IGNORED-INVALID DATA 0
- ITEMS CANCELLED OR REPLACED 0
```

Items Qualified are those citations meeting the qualification requirements. Items Failed are citations not meeting the qualification requirements and items with no data in the qualifying field. Items Not Found are citations not available online. Items Cancelled or Replaced are citations that have been cancelled or replaced by a later citation.

To interrupt a qualification, depress the BREAK key or the equivalent on your keyboard. Statistics will be displayed for an incomplete qualification.
@QUF@ - QUALIFY USER FILE

This command is used to further refine the accessions transferred into a user file. Suppose you want to locate all citations in your user file which were originated by a commercial organization. Remember TRs may be qualified only on three fields; organization type, report date, and distribution limitation. Your strategy would look like this:

Example:  @quf@
          41 eq 4
          end

FREE TEXT QUALIFICATION

After you have performed a search or built a user file, you can ask the online system to scan the title and/or abstract fields for a specific word or phrase. The free text qualification capability reads each title and or abstract for each record in the qualifying file and looks for any word, phrase, or alphanumeric combination that you want.

QUALIFICATION OF SEARCH RESULTS

There are three commands that you can use to perform a free text qualification against the search results. The commands are:

@QSRTI@ - QUALIFY SEARCH RESULTS BY TITLE

@QSRAB@ - QUALIFY SEARCH RESULTS BY ABSTRACT

@QSRTAB@ - QUALIFY SEARCH RESULTS BY TITLE AND ABSTRACT

QUALIFICATION OF USER FILE

The free text capability can also be used in qualifying the user file. The commands are:

@QUFTI@ - QUALIFY USER FILE BY TITLE

@QUFAB@ - QUALIFY USER FILE BY ABSTRACT

@QUFTAB@ - QUALIFY USER FILE BY TITLE AND ABSTRACT
There are seven rules applicable to free text qualifications.

1. Terms are limited to 60 characters (including spaces).
2. Allowable characters are letters of the alphabet, space, hyphen, and numbers.
3. All other punctuation is eliminated and packed.
4. Maximum of 15 lines may be entered per command.
5. Search options (%, $, *, ?) cannot be used.
6. Boolean logic (and, not) may be used.
7. Stop Word List is not used.

Suppose you are interested in reports about BEAGLES OR GERMAN SHEPHERD DOGS.

Perform this search:

Example: @str@
(all)
dogs
end

The search will result in approximately 2500 finds.

Now perform a free text qualification on titles and abstracts for the words BEAGLE, BEAGLES, GERMAN SHEPHERD, or GERMAN SHEPHERDS.

Example: @qsrtab@
beagle
beagles
german shepherd
german shepherd
end

FREE TEXT QUALIFICATION STATISTICS

During the execution of the free text qualification, a periodic display is generated, at 100-item intervals, showing the number of items processed, the number of items passed, the number of items remaining, and the time. The screen will be similar to:
When the process is completed, the final statistics will be displayed. Results will be similar to the following:

```
FREE TEXT QUALIFICATION IN PROGRESS
- 100 ITEMS PROCESSED
- 11 ITEMS PASSED
- 1779 ITEMS REMAINING
14:57:43 TIME STARTED
14:58:00 PRESENT TIME
```

Compare the statistics of the Inverted File search with those of the free text qualification.

To interrupt a text qualification, press the BREAK key or the equivalent on your keyboard. Statistics will be displayed for an incomplete free text qualification.

The qualification results/statistics/question are retained in the computer until it is displaced by another qualification command or until your terminal is shut down or terminated.

Other commands used to Qualify:

- @DQR@ - Display Qualified Results ...........................................3-8
- @LQR@ - List Qualified Results ...............................................7-2
- @OQR@ - Order Qualified Results ..............................................9-7
- @RQQ@ - Recall Qualified Question ..........................................8-2
- @RQS@ - Recall Qualified Statistics ............................................8-2
- @SOQR@ - Sort Qualified Results ..............................................5-2
- @TAQR@ - Transfer All Qualified Results ....................................4-3
- @TRQR@ - Transfer Range from Qualified Results ......................4-3

Page 6-5
CHAPTER 7 - LIST

There are several ways to list search results. The simplest, although not the most informative, is to list the accession numbers that were found. The commands are as follows:

@LSR@ - LIST SEARCH RESULTS

This command can be used in the TR, CF, WU and IR&D databases. It enables you to list the accession numbers of the citations identified in a search in descending order 4 columns across, 21 accessions per column. A maximum of 84 accession numbers are listed on each screen. An example of the list command with TR database results is shown below.

Example: @lsr@

System Response:

```
SEARCH LIST - TECHNICAL REPORTS FILE

-- ADA059134 AD903424 AD618142
-- ADA049299 AD903322 AD477131
-- ADA046322 AD876122 AD476776
-- ADA025500 AD843868 AD456528
-- ADA007487 AD843586 AD450274
-- ADA155044 AD860259 AD07059
-- ADA177909 AD858911
-- ADA109583 AD855181
-- ADA0103149 AD845860
-- ADA0951714 AD845638
-- ADA098128 AD839232
-- ADA066802 AD520587
-- ADA034897 AD508493
-- ADA026421 AD723054
-- ADA024222 AD722677
-- ADA021700 AD722498
-- ADA012489 AD699612
-- ADA003500 AD692665
-- ADA00299 AD662140
-- ADA03599 AD623687

-- END << ENTER NEXT COMMAND >> END --
```

NOTE: A specific page of a multi-page listing may be viewed by entering P (upper or lower case) followed by the page number you wish to view.

Example: P6
To view another page, reenter P followed by the page number you wish to view next. It is not necessary to include END prior to transmitting.

@LQR@ - LIST QUALIFIED RESULTS

This command can be performed only in the TR, WU and IR&D databases. It will give you a listing of the accession numbers resulting from your qualification, in descending order.

@LUF@ - LIST USER FILE

This command can be performed only in the TR, WU and IR&D databases. After building and closing a user file, you may want to list its contents. The accession numbers will be listed in the order you added the items to the file.
CHAPTER 8 - RECALL

This function permits you to redisplay the most recent strategy or the most recent search statistics.

NOTE: It is not necessary to type END after this command before transmitting.

@RSQ@ - RECALL SEARCH QUESTION

This command will display the last search question only, regardless of the database - but not the initial search command. This particular feature can be very convenient if you have a dedicated terminal and you want to modify or expand your search strategy. On the dedicated system, you can add terms, delete terms or add various search options without having to retype the complete strategy. Remember to re-enter the search command before you TRANSMIT. On the Dial-Up system you must retype the search strategy.

MULTIPLE SCREEN RECALLS

Dedicated

If your strategy consisted of multiple screens, use @STRRSQ@, @SWURSQ@, or @SCFRSQ@ to recall the query. The system will respond with the first page of your search query. To display the next page, place the cursor on the last line of the screen and transmit. Follow the same procedure to display succeeding pages, if any. If you choose to edit the search, do not re-enter the search command at the top of the first page, edit the first page as needed, move the cursor below the last term on the screen, and TRANSMIT. The next page of your search query will then appear. Repeat as necessary. Once editing is complete, END your search and TRANSMIT.

Examples:  Technical Report  Work Unit  Current File
            @STRRSQ@  @SWURSQ@  @SCFRSQ@

Dial-Up

To recall a multiple screen search on a dial-up system, use @RSQ@. The system will respond with:

FOR MORE OF SEARCH QUESTION KEY IN Y.
It is only possible to review the search strategy. To edit, you must retype the search strategy and TRANSMIT.

**@RSS@ - RECALL SEARCH STATISTICS**

This command will redisplay page one of your most recent search statistics. To view additional pages of statistics, you have the choices of P, C or W.

- P  - One page at a time.
- C  - All pages continuously.
- W  - All pages continuously, with simultaneous print

Example:  @rss@

**@RQQ@ - RECALL QUALIFIED QUESTION**

This command will redisplay the last qualification question from the search results, user file or free text.

Example:  @rqq@

**@RQS@ - RECALL QUALIFIED STATISTICS**

This command will redisplay the latest qualification statistics from the qualified search results or user file.

Example:  @rqs@
CHAPTER 9 - ORDER

You may use the terminal to order selected products of search results. From the TR database, you may order bibliographies, indexes, or bibliographies with indexes, as well as hard-copy, microfiche documents, or nonprint products. You can also order limited documents using an online version of the DTIC Form 55. Be sure the information requested on each order is correct before transmitting - DTIC DOES NOT CREDIT NTIS DEPOSIT ACCOUNTS FOR DOCUMENTS ORDERED IN ERROR. From the VIT and IR&D database, you may also order summaries, indexes, or a combination of both.

@OSR@ - ORDER SEARCH RESULTS

This command is used to place bibliography/summary, document, microfiche, or multimedia product orders of your search results. The format used indicates the type of product being ordered. See Appendix 6 for ordering formats.

BIBLIOGRAPHY ORDER

The format to order a bibliography from your TR search results is TR6000. Duplicate citations are automatically eliminated. The command appears like this:

Examples:  Technical Report  Work Unit  IR&D  
    @osr@  @osr@  @osr@  
    tr6000 a0002 i0001  
    end end end

If you request accession numbers which were accessioned more than ten years ago, a variant of the following message will be displayed.

-- NORMAL TECHNICAL REPORTS BIBLIOGRAPHY PROCESSING IS LIMITED  
-- TO LAST 10 YEARS.  
-- ACCESSIONS WITHIN 10 YEAR RANGE 10  
-- ACCESSIONS OUTSIDE 10 YEAR RANGE 18  
-- YOUR PROJECT ORDER WILL CONSIST OF ACCESSIONS WITHIN THE  
-- 10 YEAR RANGE UNLESS HELD FOR DEFERRED PROCESSING.  
-- ENTER Y TO HOLD FOR DEFERRED PROCESSING  
-- OR N FOR NORMAL PROCESSING.

Your response should be Y if you want to order all the citations, N if you want your bibliography to reflect just the citations within the 10 year range. Enter your selection and transmit. The system will respond with a request for further information about your order.
NOTE: The normal system limit per bibliography order is 200 items. Sites may request higher limits by writing DTIC-BCS (Registration), Cameron Station, Building 5, Alexandria, VA 22304-6145.

Dedicated Site: System response to bibliography order.

SEARCH CONTROL NUMBER:
USER CODE:
CONTRACT NUMBER: (LAST 6 CH.)
REQUESTER:
TITLE:
REFERRALS:
LIMITATIONS:
BIBLIOGRAPHY CLASS:
SORT BY CLASSIFICATION:
CLASSIFIED ACCESSIONS ONLY:
EXTRA TITLE PAGE:
REVIEW:

- ENTER REQUIRED DATA AND TRANSMIT ENTIRE PAGE

Dial-Up Site: System response to bibliography order.

SEARCH CONTROL NUMBER:
USER CODE:
CONTRACT NUMBER: (LAST 6 CH.)
REQUESTER:
TITLE:
REFERRALS:
LIMITATIONS:
MAXIMUM VOLUME:
BIBLIOGRAPHY CLASS:
SORT BY CLASS:
EXTRA TITLE PAGE:
REVIEW:

- ENTER REQUIRED DATA AND TERMINATOR *END* AND TRANSMIT

Screen displays may differ somewhat depending on your organization type. Appendix 5 (Order Parameters) contains a description of the responses for TR bibliography orders. The appendix indicates which responses are mandatory and which are optional, as well as the format for entering the data. The choices offered enable you to put some limitations on your output and to help your organization process the order after it has been received. We suggest you leave the Search Control Number blank and enter a name for requester and a title for the bibliography as a minimum.
Dedicated Sites

If you're operating a dedicated synchronous terminal, you may use the TAB key to move to each parameter field. Enter information for each required parameter, then move the cursor down below the last parameter line and transmit the entire page. Dedicated sites do not need to type END. If you do not transmit the entire page, or if you make a critical error or omission, the system will respond with:

```
--FIELD TITLES NOT TRANSMITTED
--PARAMETER PAGE WILL BE RE-DISPLAYED
--PLEASE RE-SUBMIT ALL PARAMETERS WITH TITLES
--ENTER Y IF YOU WISH TO CONTINUE
```

NOTE: To receive classified information, a contractor must enter the last six characters of a valid classified contract. To receive an unclassified bibliography all sites must enter BCL: 1 or the system will assume you want a classified bibliography (if classified reports are contained in your order).

To continue, enter Y, and transmit. If you do not wish to continue, enter N and transmit. The system will respond with a confirmation of your bibliography order similar to the following:

```
FINAL SYSTEM RESPONSE TO BIBLIOGRAPHY ORDER:

--PRODUCT ORDER COMPLETED
--SCN: NCM11L
--FILE NAME: ONLINE000458
--USER CODE: 12345
--NO. ITEMS: 28
--ACCESIONS: WITHIN 10 YEAR RANGE 10
--ACCESIONS: OUTSIDE 10 YEAR RANGE 18
--DATE: 061689
--TIME: 140110
```

We suggest you print each Product Order Completed message. If you should need to follow up or cancel an order, you must have the SCN (Search Control Number) and the File Name Online number. Orders must be cancelled before 1930 hours Eastern Standard/Eastern Daylight Time the same day they were placed. On the business day following your bibliography order, we recommend you check the order status by using the @DOL@ (Display Order Log) command to verify that your order was accepted.
Dial-up Sites

If you are operating a Dial-Up terminal, you must type the stubs and enter the information for the required parameter stubs line by line (See Appendix 5), the terminator END, and then transmit. To receive classified information, a contractor must enter the last six digits of a registered classified contract number: CNO: XXXXXX. To receive an unclassified bibliography, all sites must enter BCL: 1, or the system will assume you want a classified bibliography, if your order contains classified reports.

Bibliography Order with Index

You may also order indexes to the bibliography. Bibliography index formats are given in Appendix 6 (Order Formats). For example, you might want a bibliography with a personal author index. The format for personal author is TR 2025. Your request should look like this:

Example:  @osr@
tr6000
u2025
end

NOTE: Indexes may also be ordered without a bibliography.

Product Orders - TR Database

Hard Copy, Microfiche, or Nonprint

You may also order the actual documents either as hard copy or microfiche. For ordering purposes, hard copy and fiche are considered different formats. The hard copy and nonprint format is TR3061; the fiche format is TR3062. See also Appendix 6 (Order Formats).

Examples:  | Hard Copy | Microfiche | Nonprint |
-----------|------------|-----------|----------|
@osr@      | @osr@      | @osr@     |
tr3061     | tr3062     | tr3061    |
end        | end        | end       |

NOTE: The normal system limit per document and nonprint product order is 25 items. If your order exceeds the limit, the system will respond with a warning statement. Although the 25 item ceiling cannot be raised while you are online, it may be circumvented by use of transfer commands and user files. You may discuss these methods by contacting the Network Services Branch at (703) 274-7791 or DSN 284-7791, or contact the Registration Branch at (703) 274-7709 or DSN 284-7709 to discuss your site's need for a higher order limit.
A system response will indicate the cost of the document order. The response when ordering two or more documents will be similar to the following:

- DOCUMENTS ARE ORDERED IN YOUR DOCUMENT ORDER
- THE TOTAL COST FOR DOCUMENTS IS $XX.XX.
- ENTER Y TO CONTINUE OR N TO ABORT REQUEST

If you choose Y to continue, the system will respond with a request for further information about your order. Enter the required information and transmit. To receive classified products, a contractor must enter the last 6 characters of a registered classified contract. See Appendix 5 (Order Parameters) for additional information. Example of a Dedicated terminal site response is as follows:

SEARCH CONTROL NUMBER:
USER CODE:
CONTRACT NUMBER: (LAST 6 CH.)
REQUESTER:
DEPOSIT ACCOUNT:
- ENTER REQUIRED DATA AND TRANSMIT ENTIRE PAGE

The system will respond with a final message similar to the following example. This message gives certain information which identifies the order. We recommend you print this response.

- PRODUCT ORDER COMPLETED
  SCH: ASN235
  - FIRM NAME: ONLINE 900083
  - USER CODE: 26700
  - NO. ITEMS: 23
  DATE: 102288
  TIME: 142349

NOTE: To receive both hardcopy and microfiche for an order placed via the online system, the order command must be entered twice: once giving the format for hardcopy (TR3061) and once for microfiche (TR3062). Nonprint orders are transmitted in the same manner as hardcopy orders.
@OSR@ - ORDER SEARCH RESULTS

PRODUCT ORDERS (SUMMARIES) - WU AND IR&D DATABASE

You may order WU and IR&D summaries. The format number for a complete WU summary is A0002. The format number for a complete IR&D summary is F0001.

Example: Work Unit IR&D
@osr@ @osr@
a0002 f0001
end end

The system response (Display of Order Stubs) for WU and IR&D orders is the same.

Dedicated Site: System response to WU and IR&D orders.

Dial-UP Site: System response to WU and IR&D orders.

Screen displays may vary depending on your organization type. Appendix 5 (Order Parameters) contains a description of the responses to WU and IR&D orders. The appendix indicates which responses are mandatory and which are optional. We suggest you leave the Search Control Number blank and enter a name for the requestor and a title for the product.
NOTE: To receive classified information a contractor must enter the last six characters of a valid classified contract.

After entering the required/optional order stubs dial-up users must type END, then transmit your order request. The system will respond with a PRODUCT ORDER COMPLETE message similar to the following example. We recommend you print this response.

--PRODUCT ORDER COMPLETE
-- CM: 12345
-- FILE NAME: ONLINE000119
-- USER CODE: 12345
-- NO. ITEMS: 10
-- DATE: 053593
-- TIME: 111110
-- PLEASE ALLOW 10 WORKING DAYS FOR RECEIPT OF YOUR ORDER

@OOS@ - ORDER ORIGINAL SEARCH

This command may be used at unclassified terminal sites to obtain WU summaries of any classification to which the facility is entitled. The number of WU summaries generated by the @OOS@ command may greatly exceed the number of summaries identified in the search statistics. The display and responses are the same as ordering search results (@OSR@) in the TR database.

When the @OOS@ command is used with TR orders, the default search is to ALL or the entire database. It overrides all time limitations. If you executed a normal 10 year search in the TR database, the @OOS@ would order search results from the entire database, not just the past 10 years.

The @OOS@ command also allows you to exceed your maximum volume amount, which is normally set at 200 citations.

NOTE: The number of items in the Product Order Completed Statement will be blank. Since DTIC will process the order later (offline), a total will not be displayed at this time.

@OQR@ - ORDER QUALIFIED RESULTS

This command is used to order the results of a qualification. The display and responses are the same as ordering search results.
@OUF@ - ORDER USER FILE

This command is used to order documents or bibliographies of user file citations. The display and responses are the same as ordering search results.

NOTES: Document ordering online does not override the classification or distribution limitation. Refer to page 9-9 for ordering procedures for limited documents.

To receive multiple copies of the same document, you must enter the AD number as many times as you want copies, (i.e., if you need three copies, enter the AD number three times.) A common way of ordering paper or microfiche copies of documents is to build a user file using the @TA@ (Transfer Accession) command and then order the user file.

PRIORITY AND EXPRESS RUSH ORDERS

Only technical report documents, in either hard copy and non-print (TR3061) or microfiche (TR3062), may be ordered online as priority or express rush orders. There are additional charges for these services. For priority service (one day in-house processing, U.S. Postal Service 1st Class Mail), the fee is an additional $10.00 per document/product; and for express service (one day in-house processing, U.S. Postal Service Express Mail), the fee is an additional $20.00 per document/product. These prices apply to hard copy/nonprint, and microfiche. Be sure all orders are correct before transmitting. DTIC DOES NOT CREDIT NTIS DEPOSIT ACCOUNTS FOR DOCUMENTS ORDERED IN ERROR. If you want to place a rush order, use one of the following commands, enter the document format, END and then transmit.

Priority Service $10.00
@OSRPRI@ - Order Search Results Priority
@CUIPRI@ - Order User File Priority
@OQRPRI@ - Order Qualified Results Priority

Express Service $20.00
@OSREXP@ - Order Search Results Express
@OUFEXP@ - Order User File Express
@OQREXP@ - Order Qualified Results Express
E-MAIL ORDERING

DTIC products and services can be ordered through the e-mail address: msorders@dgis.dtic.dla.mil. Orders may also be placed through the Department of Defense Gateway Information System (DGIS) using the template provided in the communication option. Orders placed through this communication option are automatically sent to the msorder mailbox. Questions concerning how to order through e-mail should be directed to DTIC's Reference Services Branch (703) 274-7633 or DSN 284-7633.

@FORM55@ - ONLINE LIMITED DOCUMENT ORDERS

Hard Copy, Nonprint or Microfiche

Many technical reports have a distribution limitation statement that requires special release permission from the controlling organization before the document order can be filled by DTIC. Documents which have a limited distribution can generally be distinguished by the suffix L displayed following the accession number. An example of a limited document can be seen by displaying AD-B127 768. The command to display a technical report is shown below, followed by the results. Complete display information can be found in Chapter 3 - DISPLAY.

NOTE: Do not include the L in the display command or the order command. Form 55 orders may be ordered by original or FAXed copy of the Form 55.

Example: @dtr@
adb127768
7f
end
y

The display will appear similar to the following example. Note that this report is limited to government agencies only. Contractors, universities, and others cannot obtain this document without the permission of the controlling organization indicated in Field 22.
To order a limited document online enter the following command:

@ FORM55 @

System Responses:

--- SUBMIT DATA USING THE FOLLOWING DESIGNATORS:
--- AD NUMBER - 8 OR 9 CHARACTERS
--- USER CODE - 5 DIGITS
--- COPY TYPE - MP AND/OR HC
--- QTY
--- DQ
--- RQF:
--- REQ:
--- GOV:
--- CMN:
--- RTL:
--- PCL:
--- CNO:
--- CCL:
--- SBA:
--- REL:
--- IN POST OFFICE FORMAT
--- ENTER SBA: OR DAN: FIELDS, BUT NOT BOTH
--- ENTER DESIRED PARAMETERS, TERMINATE WITH END AND TRANSMIT.

To proceed: Enter only those parameters required, one per line, include the three character designator, followed by a colon, followed by the data. Terminate with END and transmit.
Mandatory parameters for all sites:

- ADN:
- UCO:
- CPY:
- QTY:
- RQF:
- REQ:
- REL:
- DAN:

Additional parameters required for contractors and grantees:

- FCL:
- GOV:
- CMO:
- CNO:
- CCL:

**NOTE:** Dial-Up users must enter order stubs with a colon (:) and order data. Then terminate with END, and transmit.

It is extremely important that the entire contract number including punctuation, and the releasing agency address be completed. Appendix 5 provides the information necessary to complete the parameters for an order.

Once you have keyed in all the required parameters and data elements for your site, we recommend that you print a copy of your entries, terminate with END, and transmit.

Your entry should be similar to the following:

Example: adn:adb127768  
uco: 12345  
cpy: mf, hc  
qty: 1, 1  
req: Wayman/DTIC-B  
rel: COMMANDER  
rel: NAVAL AIR SYSTEMS COMMAND  
rel: ATTN: AIR-954  
rel: WASHINGTON, DC 20361  
rqf: FOR IN-HOUSE TESTING PURPOSES ONLY!!!  
(This field will only hold 1100 characters; Please use a carriage return at the end of each line entered)  
dan: 54321  
end
NOTE: This is your Product Order Completed message.

DROLS will scan the data you submitted to ensure that entries have been made for the required fields, and that entries meet basic syntactical requirements for field length, character type, etc. If errors are detected, DROLS will respond with a message indicating the errors (see the following examples). Re-enter only the parameters in error.

NOTE: If the re-keyed line contains fewer characters than the original, the remaining characters will carry through and be printed on the Form 55. For example, if you initially enter the Government sponsor and address in 5 lines, and re-key the entry in 4 lines, the 5th line from the original keyed-in version will be transmitted. In situations where there is extensive re-keying involved or the potential to transmit residue, it is best to abort the original request and start over by keying:

@FORM55@

NOTES: To cancel a FORM 55 request, call DTIC's Registration Branch at (703) 274-6985 or DSN 284-6985. FORM 55 orders will not appear on the Order Log. Therefore, your copies, with dates of input, are important records to maintain.

ORDERING ADDITIONAL LIMITED DOCUMENTS

This feature allows you to enter multiple requests for limited documents without having to re-key those fields having duplicate data. The command to order additional limited documents online is:

@ADD55@
The system will again give you the list of parameters necessary to order a limited document. However, only one parameter is mandatory with this command, and that is the AD number (ADN:).

You may re-enter any other parameters if desired. All remaining data necessary will automatically be picked up from your previous Form 55 request. As before, terminate with END and transmit.

System response:

---ADDITIONAL FORM 55 COMPLETED

CAUTION: If the re-entered parameter contains fewer characters than the original, the remaining characters will be carried through and printed on the Form 55.

PROCESSING FORM 55 ORDERS

Form 55 orders placed through DROLS will be printed at DTIC that evening. Two copies of the Form 55 are produced for each order - one for internal DTIC control, and one for routing to the controlling organization.

Unlike unlimited TR orders, Form 55 orders cannot be displayed via the online Display Order Log command @DOL@. DTIC will notify you by phone or letter of any problems detected in your order.

If there are no problems with the information you furnished in your online Form 55 order, DTIC will forward the order to the releasing organization who will make the determination concerning your request. You can generally expect to receive either the requested document or a denial notification 3 weeks to 3 months from the date that your original order was placed. DTIC contacts releasing agencies that fail to respond to limited document orders after 45 days; however, if the releasing agency fails to respond after 90 days, your request will be cancelled. Questions regarding the status of Form 55 orders may be directed to the Registration Branch at (703) 274-6985 or DSN 284-6985.
@CO@ - CANCEL ORDER

The command to cancel a bibliography or a document/nonprint order is @CO@. Look at the final system response to your order and note the File Name and the Search Control Number (SCN). Be careful to read the numbers correctly, so zeros and Os aren’t misread. To cancel an order, enter the cancel command, the 6 digit file name and transmit.

Example: @CO@

The system will then ask for the last 6 characters of the SCN.

```
ENTER THE SCN NUMBER.
000233
```

The final response will be:

```
FILE 000083 WITH SEARCH CONTROL NUMBER A00233 HAS BEEN DELETED
```

NOTE: You must cancel an order during DROLS operational hours on the same day the order was placed. Check orders carefully. Portions of an order cannot be deleted. If you find there is part of an order you do not want, the entire order will have to be cancelled and the documents you want will have to be reordered. DTIC does not credit accounts for documents ordered in error via the terminal. Again, to cancel online Form 55 orders, call the Registration Section (703) 274-6985 or DSN 284-6985.

ATI AND TIP DOCUMENTS

DTIC’s collection of Air Technical Index (ATI) and Technical Information Pilot (TIP) documents consist of approximately 275,000 intrinsically valuable scientific and technical reports generated between 1946 and early 1953.

Since ATI and TIP documents are not accessible through DROLS, they must be manually searched and ordered by DTIC’s Reference Services Branch personnel.

Caution: certain ATI and TIP reports may no longer be available due to deteriorated or illegible master copies.
How To Order ATI and TIP Documents

Cite the ATI or TIP report number when available. If report numbers are not available, please provide all of the pertinent bibliographic information you can for each document you want to order.

For additional ordering information, please contact DTIC’s Reference Services Branch on (703) 274-7633 or DSN 284-7633.

PROBLEMS WITH ORDERS

If you have a problem with a document order, call our Complaints and Inquiries Processor (703) 274-0981 or DSN 284-0981 within 30 days of the original order date and have your DTIC User Code, NTIS deposit account number, the AD numbers in question, and any other information related to your order ready when you call.

If you have a problem with a TR bibliography, a WU, or IR&D summary you have ordered, please call the Registration Branch (703) 274-7709 or DSN 284-7709 for assistance.
APPENDIX 1 - GENERAL INFORMATION

IMPORTANT TELEPHONE NUMBERS

NETWORK SERVICES BRANCH ..................................274-7791
DROLS Training and Support
DROLS Problem Solving

TECHNICAL CONTROL OFFICE ..............................274-7251
Telecommunications Support (DROLS)
DROLS Connect Problems

VOICE RECORDING OF DROLS STATUS ...................274-7882

REFERENCE SERVICES ......................................274-7633
General Information
Document Identification
Document Ordering
Document Complaints & Inquiries ..........................274-0981

REGISTRATION & SERVICES .................................274-6871
User Codes & Deposit Accounts
Forms & Brochures
Changes to Registration Status
Requests for Limited Documents .........................274-6985
Defense RDT&E Online Service (DROLS)
Registration ......................................................274-7709

RETRIEVAL ANALYSIS BRANCH .............................274-6867
Search Strategy Assistance

ADP SECURITY (DASC-IO) .................................274-4684

Area Code (703)
If dialing DSN, use 284 as prefix.

\( \text{A I-1} \)
REFERENCE DOCUMENTS

Reference Documents aid system operators in using DROLS. The following is a list of reference documents used with this handbook.

**DTIC Thesaurus**

This document lists the controlled vocabulary currently used for subject indexing and retrieval of records in DTIC's database. The Thesaurus is divided into three sections: a list of posting terms together with broader and narrower terms when they exist; a display of the posting terms hierarchy; and a Keyword Out of Context (KWOC) listing of posting terms.

**Source Header List**

The Source Header List is a two volume listing of all source names arranged in alphabetical order. Each entry consists of:

- **Source Name.**
- **Source Code** - Unique six numeric characters used to represent source name.
- **Geopolitical Codes** - Four alphanumeric characters, assigned as follows: positions one and two represent country, area, or state where source is located; positions three and four (if present) represent Congressional district where source is located (Appendix-8).
- **Type Code** - One alphanumeric character, used to represent the type of contributing organization (Chapter 2, Table 9, page 48 and Table 10, page 49).

**Source Hierarchy List**

The Source Hierarchy List is an alphabetical arrangement of hierarchical linkages established for computer retrieval of source names used by DTIC. This is a companion to and not a replacement for Source Header List.
Directory of Organizational Technical Report Acronym Codes (DOTRAC)

DOTRAC is a guide to the technical report number acronyms used by the organizations who contribute technical reports and management information to DTIC. The listing contains entries for the Department of Defense (DoD), federal government, and foreign military organizations. (Formerly titled "Government Acronyms and Alphabetic Organizational Designations used in DTIC").

Subject Term Frequency Counts for the Department of Defense Information Analysis Centers (DTIC 4184.9)

This manual provides an alphabetic listing of the subject terms currently in use by the following Information Analysis Centers: Guidance and Control, Metals and Ceramics, Metal Matrix Composites, Non-Destructive Testing, and Plastics Technical Evaluation Center.

Research and Technology Work Unit Information System Regulation (DoD 3200.12-R-1, August 1983)

This regulation prescribes uniform procedures relevant to the control and reporting of technical and management data to a central database on ongoing research and technology efforts at the work unit level.
## APPENDIX 2 - TERMINAL USER CONDITION MESSAGES

<table>
<thead>
<tr>
<th>TERMINAL MESSAGE</th>
<th>DESCRIPTION</th>
<th>USER ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>*MSG ON1 SIGN-ON ACCEPTED</td>
<td>DROLS System has validated the user and allowed access</td>
<td>N/A</td>
</tr>
<tr>
<td>*MSG ON2 SIGN-ON REJECTED *NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System Error</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG ON3 SIGN-ON REJECTED *REVIEW SIGN-ON PROCEDURES</td>
<td>Sign-on Error</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG ON4 SIGN-ON REJECTED *NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System Error</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG ON5 THIS TERMINAL IS CURRENTLY ACTIVE WITH DROLS *PLEASE CONTINUE WITH NEXT DROLS COMMAND</td>
<td>Terminal is already active</td>
<td>Continue with next DROLS command.</td>
</tr>
<tr>
<td>*MSG ON6 SIGN-ON REJECTED *REVIEW SIGN-ON PROCEDURES</td>
<td>Illegal Terminal ID used</td>
<td>Check for data error. If correct, call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG ON7 SIGN-ON REJECTED *NOTIFY DTIC TECH CONTROL</td>
<td>Terminal has been disabled</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG ON8 USER TERMINAL NOT SIGNED ON TO DROLS SYSTEM PLEASE REFER TO SIGN-ON PROCEDURES</td>
<td>Sign-on error</td>
<td>Identify your terminal with DROLS sign-on command.</td>
</tr>
<tr>
<td>*MSG ON9 SIGN-ON REJECTED *NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System Error</td>
<td>Call DTIC Tech Control.</td>
</tr>
</tbody>
</table>

DTIC Tech Control telephone number (703) 274-7251 or DSN 284-7251
<table>
<thead>
<tr>
<th>Message Code</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>*MSG ON10</td>
<td>SIGN-ON DROLS System Error</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG ON11</td>
<td>INITIALIZATION ERROR: PLEASE SIGN-ON AGAIN</td>
<td>If continuous, call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG ON12</td>
<td>SIGN-ON DROLS System Error</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG ON13</td>
<td>SIGN-ON DROLS System Error</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG D11</td>
<td>USER TERMINATED</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG D12</td>
<td>USER TERMINATED</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG D13</td>
<td>USER TERMINATED</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG D14</td>
<td>DROLS PROCESSING *LAST INPUT IGNORED</td>
<td>Wait for data to return.</td>
</tr>
<tr>
<td>*MSG D15</td>
<td>USER TERMINATED</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG D16</td>
<td>USER TERMINATED</td>
<td>Call DTIC Tech Control.</td>
</tr>
<tr>
<td>*MSG D17</td>
<td>USER TERMINATED</td>
<td>Call DTIC Tech Control.</td>
</tr>
</tbody>
</table>

DTIC Tech Control telephone number (703) 274-7251 or DSN 284-7251

A 2-2
<table>
<thead>
<tr>
<th>Terminal Condition Messages</th>
<th>DROLS Handbook</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>MSG D18 USER TERMINATED</em>NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System Error</td>
</tr>
<tr>
<td><em>MSG D19 USER TERMINATED</em>NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System Error</td>
</tr>
<tr>
<td>*MSG D10 LAST INPUT NOT PROCESSED - PLEASE RETRANSMIT LAST MESSAGE</td>
<td>FEP or Communication Line Failure</td>
</tr>
<tr>
<td><strong>DO</strong></td>
<td><strong>DO</strong></td>
</tr>
<tr>
<td>*MSG D01 USER TERMINATED *NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System Error</td>
</tr>
<tr>
<td>*MSG D02 USER TERMINATED *NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System Error</td>
</tr>
<tr>
<td>*MSG D03 USER TERMINATED</td>
<td>DROLS System terminating this user</td>
</tr>
<tr>
<td>*MSG D04 USER TERMINATED *NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System terminating this user</td>
</tr>
<tr>
<td>*MSG D05 CANNOT INITIALIZE SITE *NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System will not allow this site to activate</td>
</tr>
<tr>
<td>*MSG D06 USER TERMINATED *NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System Error</td>
</tr>
<tr>
<td>*MSG D07 PLEASE SIGN OFF TERMINAL</td>
<td>Normal termination request</td>
</tr>
<tr>
<td>*MSG D08 USER TERMINATED *NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System Error</td>
</tr>
<tr>
<td>*MSG D09 USER TERMINATED *NOTIFY DTIC TECH CONTROL</td>
<td>DROLS System Error</td>
</tr>
</tbody>
</table>

DTIC Tech Control telephone number (703) 274-7251 or DSN 284-7251

A 2-3
## APPENDIX 3 - FIELD IDENTIFICATION CODES

### TECHNICAL REPORT FILE

<table>
<thead>
<tr>
<th>Element Name</th>
<th>Role Code</th>
<th>Qualify</th>
<th>Display</th>
<th>Sort</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AUTHORS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate - Code (6 n)</td>
<td>02</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Corporate - Name of Source</td>
<td></td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Personal (i.e., DOE JJ)</td>
<td>11</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td><strong>CONTRACT/GRA NT Information</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number (Max 35 a/n packed)</td>
<td>16</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>DATES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Period Covered</td>
<td></td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Report Date (YYMMDD)</td>
<td>24</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td><strong>DISTRIBUTION LIMITATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alpha Statements</td>
<td>22</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code (1-2 n)</td>
<td>33</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DOCUMENT (Physical Characteristics)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAC Document Type</td>
<td>45</td>
<td>43</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Pages</td>
<td></td>
<td>12</td>
<td>12</td>
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</tr>
<tr>
<td>Price</td>
<td></td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td><strong>LOCATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Document</td>
<td>36</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State &amp; Congressional District Code</td>
<td>30</td>
<td>40</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td><strong>NOTES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Descriptive Note</td>
<td></td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Supplementary Note</td>
<td></td>
<td>21</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td><strong>NUMBERS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTIC Assigned Accession (8/9 a/n)</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAC Assigned Accession (Max 12 a/n)</td>
<td>04</td>
<td>42</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Project Number (Max 35 a/n packed)</td>
<td>21</td>
<td>16</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Serial Number (F,S,A,1,2, etc.)</td>
<td>52</td>
<td>34</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Task Area Number (Max 35 a/n packed)</td>
<td>20</td>
<td>17</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td><strong>ORGANIZATION/AGENCY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitor Acronym</td>
<td>03</td>
<td>18</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Source Code (6 n)</td>
<td>02</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
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*A 3-1*
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A 3-4
## FIELD IDENTIFICATION CODES

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A 3-6
## FIELD IDENTIFICATION CODES

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# FIELD IDENTIFICATION CODES

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DROLS Handbook  
Field Identification Codes
# FIELD IDENTIFICATION CODES

## INDEPENDENT RESEARCH & DEVELOPMENT

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APPENDIX 4 - DISPLAY FORMATS
TECHNICAL REPORT

Format Number 1F

*3 - ENTRY CLASSIFICATION:
  1 - AD NUMBER:
48 - SBI SITE HOLDING SYMBOL:
  2 - FIELDS AND GROUPS:
3 - ENTRY CLASSIFICATION:
  5 - CORPORATE AUTHOR:
6 - UNCLASSIFIED TITLE:
  7 - CLASSIFIED TITLE:
8 - TITLE CLASSIFICATION:
  9 - DESCRIPTIVE NOTE:
10 - PERSONAL AUTHOR:
11 - REPORT DATE:
12 - PAGINATION: MEDIA COST:
14 - REPORT NUMBER:
15 - CONTRACT NUMBER:
16 - PROJECT NUMBER:
17 - TASK NUMBER:
18 - MONITOR ACRONYM:
19 - MONITOR SERIES:
20 - REPORT CLASSIFICATION:
21 - SUPPLEMENTARY NOTE:
22 - LIMITATIONS (ALPHA):
23 - DESCRIPTORS:
24 - DESCRIPTOR CLASSIFICATION:
25 - IDENTIFIERS:
26 - IDENTIFIER CLASSIFICATION:
27 - ABSTRACT:
28 - ABSTRACT CLASSIFICATION:
29 - INITIAL INVENTORY:
30 - ANNOTATION:
31 - SPECIAL INDICATOR:
32 - REGRADE CATEGORY:
33 - LIMITATION CODES:

*This field will always appear first if any classified field displayed

A 4-1
Format Number 1F continued

34 - SOURCE SERIES:
35 - SOURCE CODE:
36 - DOCUMENT LOCATION:
37 - CLASSIFICATION AUTHORITY:
38 - DECLASSIFICATION DATE:
39 - DOWNGRADING DATE:
40 - GEO POLITICAL CODE:
41 - TYPE CODE:
42 - IAC ACCESSION NUMBER:
43 - IAC DOCUMENT TYPE:
44 - IAC SUBJECT TERMS:
49 - AUTHORITY FOR CHANGE:

Format Number 2F

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  2 - FIELDS AND GROUPS:
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  9 - DESCRIPTIVE NOTE:
10 - PERSONAL AUTHOR:
11 - REPORT DATE:
12 - PAGINATION: MEDIA COST:
14 - REPORT NUMBER:
15 - CONTRACT NUMBER:
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19 - MONITOR SERIES:
20 - REPORT CLASSIFICATION:
21 - SUPPLEMENTARY NOTE:
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25 - IDENTIFIERS:
26 - IDENTIFIER CLASSIFICATION:

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A 4-2
Format Number 3F

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26 - IDENTIFIER CLASSIFICATION:
27 - ABSTRACT:
28 - ABSTRACT CLASSIFICATION:
31 - SPECIAL INDICATOR:
32 - REGRADE CATEGORY:
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36 - DOCUMENT LOCATION:
42 - IAC ACCESSION NUMBER:
43 - IAC DOCUMENT TYPE:
44 - IAC SUBJECT TERMS:

Format Number 4F

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22 - LIMITATIONS (ALPHA):
31 - SPECIAL INDICATOR:
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43 - IAC DOCUMENT TYPE:
44 - IAC SUBJECT TERMS:

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A 4-3
Format Number 6F

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Format Number 7F

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*This field will always appear first if any classified field displayed.
DISPLAY FORMAT
CURRENT TECHNICAL REPORT

Format Number 1F

1 - AD NUMBER:
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9 - DESCRIPTIVE NOTE:
10 - PERSONAL AUTHOR:
11 - REPORT DATE:
14 - REPORT NUMBER:
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19 - MONITOR SERIES:
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21 - SUPPLEMENTARY NOTE:
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33 - LIMITATION CODES:
34 - SOURCE SERIES:
35 - SOURCE CODE:
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--TE3(26.33) - THIRD TECHNOLOGY CODE
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--RAN(27.1) - RESPONSIBLE ORG. ACTIVITY NAME
--RCN(27.2) - RESP. ORG. SPECIFIC COMPONENT
--RLC(27.3A) - RESPONSIBLE ORGANIZATION CITY
--RLS(27.3B) - RESPONSIBLE ORGANIZATION STATE/COUNTRY
--RLZ(27.3C) - RESPONSIBLE ORGANIZATION ZIP CODE
--RLG(27.3D) - RESPONSIBLE ORGANIZATION GEOPOLITICAL CODE
--RIN(27.4) - RESP. INDIV
--RIO(27.5) - RESP. INDIV. OFFICE SYMBOL & CODE
--RIP(27.6) - RESP. ORG. PHONE NUMBER
--RIA(27.7) - RESP. INDIV. DSN NUMBER
--SC(28) - PERFORMING ORG. SOURCE CODE
--POA(28.1) - PERFORMING ORG. ACTIVITY NAME
--POC(28.2) - PERF. ORG. SPECIFIC COMPONENT
--PLC(28.3A) - PERFORMING ORGANIZATION CITY
--SCC(28.3B) - PERFORMING ORG. LOCATION - STATE/COUNTRY
--PLZ(28.3C) - PERFORMING ORG. LOCATION - ZIP CODE
--GC(28.3D) - PERFORMING ORG. LOCATION - GEOPOLITICAL CODE
--OT(28.3E) - PERFORMING ORGANIZATION - TYPE CODE
--ENT(28.3F) - ENTITY TYPE CODE
--AU(28.4) - PRIN. INVESTIGATOR
--PIO(28.5) - PRIN. INVEST. OFFICE SYMBOL
--PIP(28.6) - PRIN. INVEST. PHONE NUMBER
--PIA(28.7) - PRIN. INVEST. DSN NUMBER
--P2N(28.8) - ASSOCIATE INVESTIGATORS
--PEP(30) - PRIM PE NBR
--PJP(30A) - PRIM PROJ NBR
--TNP(30B) - PRIM TASK NBR
### Format Number 1F continued

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</tr>
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Format Number 1F continued

--FFY(32D1) - 2ND CONT FY2: 00
--FDA(32D2) - 2ND CONT AMOUNT 2
--FDW(32D3) - 2ND CONT WORK YRS 2
--FFY(32E1) - 2ND CONT FY3: 00
--FDA(32E2) - 2ND CONT AMOUNT 3
--FDW(32E3) - 2ND CONT WORK YRS 3
--FFY(32F1) - 2ND CONT FY4
--FDA(32F2) - 2ND CONT AMOUNT 4
--FDW(32F3) - 2ND CONT WORK YRS 4
--FFY(32G1) - 2ND CONT FY5
--FDA(32G2) - 2ND CONT AMOUNT 5
--FDW(32G3) - 2ND CONT WORK YRS 5
--FRI(33C) - FUNDING ROLLUP INDICATOR FY1
--FRI(33D) - FUNDING ROLLUP INDICATOR FY2
--FRI(33E) - FUNDING ROLLUP INDICATOR FY3
--FRI(33F) - FUNDING ROLLUP INDICATOR FY4
--FRI(33G) - FUNDING ROLLUP INDICATOR FY5
--CT(34) - CONTRACT/GRANT TRANSFER NUMBER
--CED(34.1) - CONTRACT/GRANT EFFECTIVE DATE
--CEX(34.2) - CONTRACT/GRANT EXPIRATION DATE
--CFV(34.3) - CONTRACT/GRANT FACE VALUE
--TOT(34.4) - CONTRACT/GRANT CUM TOTAL
--KW(35) - KEYWORDS
--OCC(36) - OBJECTIVE CLASSIFICATION CODE
--OBJ(36.1) - OBJECTIVE
--APC(37) - APPROACH CLASSIFICATION CODE
--APP(37.1) - APPROACH
--PGC(38) - PROGRESS CLASS CODE
--PRG(38.1) - PROGRESS
--PDN(39) - PRODUCTS
--PDN(39.1) - PRODUCT SET NUMBER
--PCC(39.1) - PRODUCT TITLE CLASSIFICATION CODE
--PIT(39.2) - PRODUCT TITLE
--PIN(39.3) - PRODUCT ID/RPT NO
--PAN(39.4) - PRODUCT AD NUMBER
--PI(39.5) - PRODUCT INDICATOR
--PDN(39) - PRODUCT SET NUMBER
--PCC(39.1) - PRODUCT TITLE CLASSIFICATION CODE
--PIT(39.2) - PRODUCT TITLE

A 4-9
Format Number 1F continued
--PIN(39.3) - PRODUCT ID/RPT NO
--PAN(39.4) - PRODUCT AD NUMBER
--PDN(39) - PRODUCT SET NUMBER
--PCC(39.1) - PRODUCT TITLE CLASSIFICATION CODE
--PIT(39.2) - PRODUCT TITLE
--PIN(39.3) - PRODUCT ID/RPT NO
--PAN(39.4) - PRODUCT AD NUMBER
--PDN(39) - PRODUCT SET NUMBER
--PCC(39.1) - PRODUCT TITLE CLASSIFICATION CODE
--PIT(39.2) - PRODUCT TITLE
--PIN(39.3) - PRODUCT ID/RPT NO
--PAN(39.4) - PRODUCT AD NUMBER
--PDN(39) - PRODUCT SET NUMBER
--PCC(39.1) - PRODUCT TITLE CLASSIFICATION CODE
--PIT(39.2) - PRODUCT TITLE
--PIN(39.3) - PRODUCT ID/RPT NO
--PAN(39.4) - PRODUCT AD NUMBER
--DDT(40) - DOMESTIC TECHNOLOGY TRANSFER
--SAC(41) - STUDIES AND ANALYSIS CATEGORIES
--SSS(42) - SPECIAL STUDY SUBJECTS
--PSN(44) - PRIMARY PROJECT SERIAL NUMBER
--FIC(45) - INTERNATIONAL SOURCES CONSIDERED
--PD(46) - PROCESSING DATE
--RCD(47) - RECEIPT DATE
--DEC(48) - DESCRIPTORS CLASS. CODE OVERALL
--DE(48.1) - DESCRIPTORS
--THR(49) - THRUST INDICATORS

Format Number 2F
--RCC(12) - RECORD SECURITY CLASSIFICATION CODE
--AN(1) - AGENCY ACCESSION NUMBER
--TI(20) - TITLE (UNCLASSIFIED)
--FG(25) - DOD SUBJECT CATEGORIES
--KW(35) - KEYWORDS
--DEC(48) - DESCRIPTORS CLASS. CODE OVERALL
--DE(48.1) - DESCRIPTORS

*This field will always appear first if any classified field displayed.

A 4-10
Display Formats

Format Number 3F

- *RCC(12) - RECORD SECURITY CLASSIFICATION CODE
- --AN(1) - AGENCY ACCESSION NUMBER
- --TI(20) - TITLE (UNCLASSIFIED)
- --SE(3) - STATUS OF EFFORT
- --TT(2) - TRANSACTION TYPE
- --PM(4) - PERFORMANCE METHOD
- --POA(28.1) - PERFORMING ORG. ACTIVITY NAME
- --OCC(36) - OBJECTIVE CLASSIFICATION CODE
- --OBJ(36.1) - OBJECTIVE
- --APC(37) - APPROACH CLASSIFICATION CODE
- --APP(37.1) - APPROACH
- --PGC(38) - PROGRESS CLASS CODE
- --PRG(38.1) - PROGRESS

Format Number 4F

- *RCC(12) - RECORD SECURITY CLASSIFICATION CODE
- --AN(1) - AGENCY ACCESSION NUMBER
- --TI(20) - TITLE (UNCLASSIFIED)
- --SE(3) - STATUS OF EFFORT
- --TT(2) - TRANSACTION TYPE
- --PM(4) - PERFORMANCE METHOD
- --RD(6) - DATE OF SUMMARY
- --SDT(8) - START DATE OF EFFORT
- --EDT(9) - END DATE
- --POA(28.1) - PERFORMING ORG. ACTIVITY NAME
- --RAN(27.1) - RESPONSIBLE ORG. ACTIVITY NAME
- --PEP(30) - PRIM PE NBR
- --PJN(30A) - PRIM PROJ NBR
- --TNP(30B) - PRIM TASK NBR
- --FFY(30C1) - PRIM FY1
- --FDA(30C2) - PRIM AMOUNT 1
- --FDW(30C3) - PRIM WORK YRS 1
- --FFY(30D1) - PRIM FY2
- --FDA(30D2) - PRIM AMOUNT 2
- --FDW(30D3) - PRIM WORK YRS 2

*This field will always appear first if any classified field displayed.

A 4-11
**Format Number 5F**

- **RCC(12)** - RECORD SECURITY CLASSIFICATION CODE
- **AN(1)** - AGENCY ACCESSION NUMBER
- **TI(20)** - TITLE (UNCLASSIFIED)
- **SE(3)** - STATUS OF EFFORT
- **TT(2)** - TRANSACTION TYPE
- **PM(4)** - PERFORMANCE METHOD
- **RD(6)** - DATE OF SUMMARY
- **SDT(8)** - START DATE OF EFFORT
- **EDT(9)** - END DATE
- **LCN(23)** - LOCAL CONTROL (WORK UNIT) NUMBER
- **ECC(10)** - EFFORT SECURITY CLASSIFICATION CODE
- **DC(18)** - DISTRIBUTION CODE
- **DR(19)** - DISTRIBUTION REASON
- **FG(25)** - DOD SUBJECT CATEGORIES
- **DTT(40)** - DOMESTIC TECHNOLOGY TRANSFER
- **SC(28)** - PERFORMING ORG. SOURCE CODE
- **GC(28.3D)** - PERFORMING ORG. LOCATION - GEOPOLITICAL CODE
- **PLC(28.3A)** - PERFORMING ORGANIZATION CITY
- **SCC(28.3B)** - PERFORMING ORG. LOCATION - STATE/COUNTRY
- **PLZ(28.3C)** - PERFORMING ORG. LOCATION - ZIP CODE
- **GC(28.3D)** - PERFORMING ORG. LOCATION - GEOPOLITICAL CODE
- **OT(28.3E)** - PERFORMING ORGANIZATION - TYPE CODE
- **AU(28.4)** - PRIN. INVESTIGATOR
- **RSC(27)** - RESPONSIBLE ORG. SOURCE CODE
- **RLG(27.3D)** - RESPONSIBLE ORGANIZATION - GEOPOLITICAL CODE
- **RLC(27.3A)** - RESPONSIBLE ORGANIZATION CITY
- **RLS(27.3B)** - RESPONSIBLE ORGANIZATION STATE/COUNTRY
- **RLG(27.3D)** - RESPONSIBLE ORGANIZATION - GEOPOLITICAL CODE
- **RIN(27.4)** - RESP. INDIV
- **PEP(30)** - PRIM PE NBR
- **PJF(30A)** - PRIM PROJ NBR

*This field will always appear first if any classified field displayed.*
**Display Formats**

**Format Number 5F continued**

--TNP(30B) - PRIM TASK NBR
--FFY(30C1) - PRIM FY1
--FDA(30C2) - PRIM AMOUNT 1
--FDW(30C3) - PRIM WORK YRS 1
--FFY(30D1) - PRIM FY2
--FDA(30D2) - PRIM AMOUNT 2
--FDW(30D3) - PRIM WORK YRS 2
--OBJ(36.1) - OBJECTIVE
--KW(35) - KEYWORDS
--DE(48.1) - DESCRIPTORS

**Format Number 6F**

- *RCC(12) - RECORD SECURITY CLASSIFICATION CODE
--AN(1) - AGENCY ACCESSION NUMBER
--TI(20) - TITLE (UNCLASSIFIED)
--FG(25) - DOD SUBJECT CATEGORIES
--KW(35) - KEYWORDS
--DE(48.1) - DESCRIPTORS
--OBJ(36.1) - OBJECTIVE
--PRG(38.1) - PROGRESS

*This field will always appear first if any classified field displayed*

A 4-13
DISPLAY FORMATS
INDEPENDENT RESEARCH AND DEVELOPMENT

IR&D DATA ARE PROPRIETARY
- FURTHER RELEASE IS PROHIBITED

Format Number 1F

--AC(A) - ACCESSION NUMBER
--TPY(1) - TECH PLAN FISCAL YEARS
--RD(2) - REPORT DATE
--RT(3) - REPORT TYPE
--PJ(4) - PROJECT NUMBER
--TI(5) - PROJECT TITLE
--OEM(6A1) - MAJOR CORP ENTITY
--OEI(6A2) - INTER CORP ENTITY
--OSA(6A4) - ORG STREET ADDRESS
--OSC(6A5) - ORG CITY
--OCS(6A5) - ORG STATE/COUNTRY
--OZP(6A6) - ORG ZIP CODE
--SC(6B) - ORG SOURCE CODE
--GC(6D) - GEOPOLITICAL CODE (4 CHARMS)
--FP(7A) - NAME OF TECH PLAN FOCAL POINT
--FPT(7B) - FOCAL POINT TELEPHONE NO.
--RCT(9) - CATEGORY
--FG1(10A) - SUBJECT FIELD/GROUP CODE 1
--FG2(10B) - SUBJECT FIELD/GROUP CODE 2
--FG3(10C) - SUBJECT FIELD/GROUP CODE 3
--SDT(11) - PROJECT START DATE
--EDT(12) - COMPLETION DATE
Display Formats

Format Number 1F continued

--EX2(13B) - PROJECT EXPENDITURE PRIOR YEAR 2
--EX1(13A) - PROJECT EXPENDITURE PRIOR YEAR 1
--EX3(13C) - PROJECT EXPENDITURE CURRENT YEARS
--EX4(13D) - PROJECT EXPENDITURE NEXT YEAR
--DSC(14) - PROJECT SENSITIVITY CODE
--MC1(15A1) - MISSION AREA CODE (1)
--MC2(15A2) - MISSION AREA CODE (2)
--MC3(15A3) - MISSION AREA CODE (3)
--FC1(15B1) - FUNCTION CODE (1)
--FC2(15B2) - FUNCTION CODE (2)
--FC3(15B3) - FUNCTION CODE (3)
--TE1(15C1) - TECHNOLOGY CATEGORIES CODE (1)
--TE2(15C2) - TECHNOLOGY CATEGORIES CODE (2)
--TE3(15C3) - TECHNOLOGY CATEGORIES CODE (3)
--AU(16A) - TECHNICAL CONTRACT
--TCT(16B) - TECH CONTACT TELEPHONE
--PC1(17A) - RELATED PROJECT (1) C-F-Y
--PC2(17B) - RELATED PROJECT (2) C-F-Y
--KW(19) - KEYWORDS
--RED(20A) - RELATED DOCUMENTS
--REQ(20B) - RELATED DoD ORGANIZATIONS
--NED(21) - NEED
--OBJ(22) - OBJECTIVE
--APP(23) - APPROACH
--PRG(24) - PROGRESS
--DE(25) - INDEX TERMS
--CRD(30) - INITIAL RECORD CREATION DATE
--PD(31) - PROCESSING DATE

Format Number 2F

--AC(A) - ACCESsION NUMBER
--TI(5) - PROJECT TITLE
--FG1(10A) - SUBJECT FIELD/GROUP CODE 1
--FG2(10B) - SUBJECT FIELD/GROUP CODE 2
--FG3(10C) - SUBJECT FIELD/GROUP CODE 3
--KW(19) - KEYWORDS
--DE(25) - INDEX TERMS

A 4-15
Format Number 3F

--AC(A) - ACCESSION NUMBER
--TI(5) - PROJECT TITLE
--FG1(10A) - SUBJECT FIELD/GROUP CODE 1
--FG2(10B) - SUBJECT FIELD/GROUP CODE 2
--FG3(10C) - SUBJECT FIELD/GROUP CODE 3
--NED(21) - NEED
--OBJ(22) - OBJECTIVE
--APP(23) - APPROACH
--PRG(24) - PROGRESS

Format Number 4F

--AC(A) - ACCESSION NUMBER
--EX2(13B) - PROJECT EXPENDITURE PRIOR YEAR 1
--EX1(13A) - PROJECT EXPENDITURE PRIOR YEAR 2
--EX3(13C) - PROJECT EXPENDITURE CURRENT YEARS
--EX4(13D) - PROJECT EXPENDITURE NEXT YEAR

Format Number 6F

--AC(A) - ACCESSION NUMBER
--FG1(10A) - SUBJECT FIELD/GROUP CODE 1
--FG2(10B) - SUBJECT FIELD/GROUP CODE 2
--FG3(10C) - SUBJECT FIELD/GROUP CODE 3
--TI(5) - PROJECT TITLE
--KW(19) - KEYWORDS
--NED(21) - NEED
--OBJ(22) - OBJECTIVE
--APP(23) - APPROACH
--PRG(24) - PROGRESS

DESIGN YOUR OWN DISPLAY

If the selected formats displayed are unsuitable, selected data elements can be combined to create a special display. Key in the desired display field numbers, one per line, maximum of 21 fields. Terminate with END, one of the print mode subcommands (y, c, w, or x) and Transmit.
**APPENDIX 5 - ORDER PARAMETERS**

**TECHNICAL REPORT**

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<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
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<tbody>
<tr>
<td>Search Control Number</td>
<td>SCN: 6 alphanumeric characters; generated automatically if left blank.</td>
</tr>
<tr>
<td>*User Code</td>
<td>UCO: 5-digits; terminal user code assigned if blank. Not displayed if user code is fixed for the site.</td>
</tr>
<tr>
<td>Contract Number</td>
<td>CNO: Last 6 characters of active contract number.</td>
</tr>
<tr>
<td>Requester</td>
<td>REQ: 18-character Maximum; enter as desired, Requester's name.</td>
</tr>
<tr>
<td>Deposit Account</td>
<td>DAN: 5-digit number.</td>
</tr>
<tr>
<td>Override Code</td>
<td>Enter Y.</td>
</tr>
</tbody>
</table>

* Any valid DTIC user code may be entered; the order will then be sent directly to the site corresponding to the code used.

**NOTE:** Dedicated sites use the tab key to move through the stubs when inputting the required data. Print, then transmit the entire screen after the necessary information has been entered. For Dial-Up sites, retype the stubs before entering the required data. On the line after your last stub entry, type END, and transmit. (Recommend that sites print and maintain a record of orders placed and system response/confirmations.)

**LIMITED DOCUMENT**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
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<tbody>
<tr>
<td>Accession Number</td>
<td>ADN: 8 or 9 alphanumeric characters, packed; only 1 accession number for each order.</td>
</tr>
<tr>
<td>User Code</td>
<td>UCO: 5 numeric digits; precede with zeros when necessary.</td>
</tr>
</tbody>
</table>

*A 5-1*
### Limited Document Continued

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<tr>
<th>Parameter</th>
<th>Description</th>
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<tbody>
<tr>
<td>Copy Type</td>
<td><strong>CPY:</strong> Enter HC for hardcopy (paper); MF for microfiche; or both, separated by a comma and packed (i.e., HC,MF).</td>
</tr>
<tr>
<td>Quantity of Copies</td>
<td><strong>QTY:</strong> Enter 1-99. Maximum desired order quantity is 99. If both hard copy and fiche are requested, enter two quantities separated by a comma and packed (i.e., 3,5).</td>
</tr>
<tr>
<td>Required for (Justification)</td>
<td><strong>RQF:</strong> Maximum of 1100 characters, including spaces and punctuation. Your justification statement will be used to determine whether the document will be released to you.</td>
</tr>
<tr>
<td>Requester Name</td>
<td><strong>REQ:</strong> Maximum of 34 alphanumeric characters. It is helpful to include both the name and the phone number of the requester. This enables DTIC or the releasing agency to contact the requester directly, if necessary.</td>
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<tr>
<td>Releasing Agency Address</td>
<td><strong>REL:</strong> Maximum of 7 lines, 54 characters per line. Use post office format.</td>
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<td>Deposit Account Number</td>
<td><strong>DAN:</strong> 5 numeric digits.</td>
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LIMITED DOCUMENT Continued

Facility Clearance  FCL: Enter your site’s highest level of clearance.
TS - Top Secret
S - Secret
C - Confidential
U - Unclassified

Government Sponsor and Address  GOV: Maximum of 5 lines, 54 characters per line. Use post office format.

Contract Monitor Name and Phone  CMO: Maximum of 1 line, 54 characters.

Registered Contract Number  CNO: Maximum of 27 characters.

Contract Clearance  CCL: Enter the clearance level of the contract cited.
TS - Top Secret
S - Secret
C - Confidential
U - Unclassified

User Control  UCN: Maximum of 18 characters. This information is used to route the document within your organization.

Requester’s Title  RTL: Maximum of 34 characters.

NOTE: For all sites, retype the stubs before entering the required data. On the line after your last stub entry, type END and transmit. (We recommend that sites print and maintain a record of orders placed and system response/confirmations.)

BIBLIOGRAPHIES/SUMMARIES

Search Control Number (Optional)  SCN: 6 alphanumeric characters; generated automatically if left blank.
BIBLIOGRAPHIES/SUMMARIES Continued

User Code* (Optional) UCO: 5-digits; terminal user code assigned if left blank. Not displayed if user code is fixed for the site.

Contract Number (Required for Classified) CNO: Last 6 alphanumeric characters of contract number. Only required for classified descriptions of documents requested by contractors.

Requester REQ: 36-character maximum: enter as desired e.g., Requester’s Name. Displays on cover page.

Title (Optional) TTL: 48-character maximum; enter desired title of bibliography. Displays on cover page.

Referrals** REF: Leave blank to receive only bibliographic entries. Enter A - to receive referrals only. Enter B - to receive both bibliographic entries and referrals.

Limitations (Optional) LMT: Enter codes to limit data from the final output. Use no punctuation and pack.

To Exclude Reports
A - Restricted Data
B - Formerly Restricted Data

To Restrict Reports
F - DoD Only (User will receive a TAB-style printout) - Inhouse only.
G - Controlled (User will
BIBLIOGRAPHIES/SUMMARIES Continued

receive a TAB-style printout) -Inhouse only.
H -Category 3:
Unannounced documents
(In-house Only)
I -Critical Nuclear Weapons Design Information (CNWDI)
J -Unannounced and Critical Nuclear Weapons Design Information (In-House only)
P -Patent documents only
T -Patent documents and routine bibliographic information

To Limit Reports To
1 -Classified only
2 -Unclassified Unlimited only
3 -Unclassified Limited only

Maximum Volume MAX: Up to 4 numeric characters

Bibliography Class BCL: 1-digit code for highest bibliography classification of this order. If left blank, it is the equivalent to No. 4:
1 -Unclassified
2 -Restricted
3 -Confidential
4 -Secret

NOTE: Code 1 must be entered in BIBLIOGRAPHY CLASS for all unclassified bibliographies.
BIBLIOGRAPHIES/SUMMARIES Continued

Sort by Classification (Optional)

SCL: 1-digit code for security sort of order. If left blank, it is the equivalent to No. 1:
1 - Secret, Confidential, Unclassified
2 - Classified, Unclassified
3 - AD number sequence

Classified Accessions Only (Optional)

CAO: Enter Y to receive classified reports only.

Extra Title Page (Optional)

ETP: Enter Y to receive an extra unclassified title page.

Review (In-House Only) (Optional)

REV: Enter Y to review.

* Any valid DTIC user code may be entered; the order will then be sent directly to the site corresponding to the code used.

** If you are interested in specialized scientific and technical information sources available to the Defense community that relate to your search request, you may request that Referrals be included in your order.

NOTE: Dedicated sites use the tab key to move through the stubs when inputting the required data. Print, then transmit the entire screen after the necessary information has been entered. For Dial-Up sites, retype the stubs before entering the required data. On the line after your last stub entry, type END and transmit. (We recommend that sites print and maintain a record of orders placed and system response/confirmations.)

WORK UNIT

Sort Code (Optional)

SCO: Up to 4 direct file sort field codes, separated by commas. Major sequence is by first sort code. Sequenced by accession no. if left blank.
WORK UNIT Continued

Requester (Optional)  
REQ: 48-character maximum, e.g., name and room or telephone no.

Title (Optional)  
TTL: 48-character maximum, enter desired title of bibliography.

User Code (Optional)  
UCO: 5-digit; terminal user code assigned if left blank.* Not displayed if only one user code is allowed for the site.

Contract Number (Required for contractor)  
CNO: Last 6 characters of active contract number.

Bypass Code  
BCO: (DTIC-In-house use)

Search Control Number (Optional)  
SCN: 6 characters; generated automatically if left blank.

Classification Code (Optional)  
CCO: 1-digit code for security sort of order. If left blank, sort order is the same as 1: 1 - Secret, Confidential, Unclassified 2 - Classified, Unclassified 3 - Accession No. sequence

Maximum Volume (Optional)  
MAX: 4-digit code to limit output to a specific number of citations.

* Any valid DTIC user code may be entered; the order will then be sent directly to the site corresponding to the code used.

NOTE: Dedicated sites use the tab key to move through the stubs when inputting the required data. Print, then transmit the entire screen after the necessary information has been entered. For Dial-Up sites, retype the stubs before entering the required data. On the line after your last stub entry, type END and transmit. (We recommend that sites print and maintain a record of orders placed and system response/confirmations.)

A 5-7
## INDEPENDENT RESEARCH & DEVELOPMENT

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# APPENDIX 6 - ORDER FORMATS

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*Note: No more than 6 unique format numbers may be included in one order.*
## WORK UNIT

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## INDEPENDENT RESEARCH & DEVELOPMENT

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- B964 121 - B966 002 b1
- C043 214 - C045 032 c
- C955 854 - C956 742 c1
- D013 850 - D014 207 d
- P005 771 - P005 800 a3

#### 1990

- A212 173 - A226 683 a
- A955 663 - A955 969 a1
- B136 110 - B147 954 b
- B966 003 - B966 812 b1
- C045 033 - C046 887 c
- C956 743 - C957 905 c1
- D014 208 - D014 641 d
- P005 301 - P006 044 a3
- P200 354 - P200 838

#### 1991

- A226 684 - A240 789 a
- A955 970 - A959 026 a1
- B147 955 - B158 169 b
- B968 613 - B969 463 b1
- C046 888 - C048 632 c
- C957 906 - C958 669 c1
- D014 642 - D014 986 d
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- M200 000 - M200 063
- M400 000 - M400 013
- P006 045 - P006 325 a3

#### 1992

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- B969 464 - B970 089 b1
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- C958 670 - C959 580 c1
- D014 987 - D015 393 d
- M000 077 - M000 154
- M200 064 - M200 133
- M400 014 - M400 025
- P006 326 - P008 018 a3
- P200 839 - P200 973

#### 1993

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- C959 581 - C959 873 c1
- D015 394 - D015 695 d
- M000 155 - M000 187
- M200 134 - M200 145
- P008 019 - P008 592 a3

#### Remote Contributors: IACs

- CBIA
  - D750 000 - D799 999
- CSERIA
  - D900 000 - D949 999
- CIAC
  - D250 000 - D299 999
- CPIA
  - D600 000 - D699 999
- GACIA
  - D500 000 - D599 999
- HTMIAC
  - D850 000 - D899 999
- IRIA
  - D950 000 - D999 999

#### Remote Contributors: Uncl/Patents/IAC

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- D900 000 - D949 999
- D250 000 - D299 999
- D600 000 - D699 999
- D500 000 - D599 999
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#### DOE Data Exchange

**AD-R range**

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- PROPIN
- NO CONTRACT
- NOFORN
- CNWDI
- WNIINTEL
- ORCON
- LIMDIS
- EXPORT CONTROL

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*A 9-1*
APPENDIX 10 - SUBJECT FIELD AND GROUP STRUCTURE

01 AVIATION TECHNOLOGY
  01 Aerodynamics
  02 Military Aircraft Operations
  03 Aircraft
     03.01 Helicopters
     03.02 Bombers
     03.03 Attack and Fighter Aircraft
     03.04 Patrol and Reconnaissance Aircraft
     03.05 Transport Aircraft
     03.06 Training Aircraft
     03.07 V/STOL
     03.08 Gliders and Parachutes
     03.09 Civilian Aircraft
     03.10 Pilotless Aircraft
     03.11 Lighter-than-Air Aircraft
     03.12 Research and Experimental Aircraft
  04 Flight Control and Instrumentation
  05 Terminal Flight Facilities
  06 Commercial and General Aviation

02 AGRICULTURE
  01 Agricultural Chemistry
  02 Agricultural Economics
  03 Agricultural Engineering
  04 Agronomy, Horticulture and Aquiculture
  05 Animal Husbandry and Veterinary Medicine
  06 Forestry

03 ASTRONOMY AND ASTROPHYSICS
  01 Astronomy
  02 Astrophysics
  03 Celestial Mechanics

04 ATMOSPHERIC SCIENCES
  01 Atmospheric Physics
  02 Meteorology
### 05 Behavioral and Social Sciences
- Administration and Management (01)
- Information Science (02)
- Economics and Cost Analysis (03)
- Government and Political Science (04)
- Sociology and Law (05)
- Humanities and History (06)
- Linguistics (07)
- Psychology (08)
- Personnel Management and Labor Relations (09)

### 06 Biological and Medical Sciences
- Biochemistry (01)
- Genetic Engineering and Molecular Biology (02)
- Biology (03)
- Anatomy and Physiology (04)
- Medicine and Medical Research (05)
- Ecology (06)
- Radiobiology (07)
- Food, Food Service and Nutrition (08)
- Hygiene and Sanitation (09)
- Stress Physiology (10)
- Toxicology (11)
- Medical Facilities, Equipment and Supplies (12)
- Microbiology (13)
- Weapons Effects (Biological) (14)
- Pharmacology (15)

### 07 Chemistry
- Industrial Chemistry and Chemical Processing (01)
- Inorganic Chemistry (02)
- Organic Chemistry (03)
- Physical Chemistry (04)
- Radiation and Nuclear Chemistry (05)
- Polymer Chemistry (06)

### 08 Earth Sciences and Oceanography
- Biological Oceanography (01)
- Cartography and Aerial Photography (02)
- Physical and Dynamic Oceanography (03)
- Geomagnetism (04)
- Geodesy (05)

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*A 10-2*
08 EARTH SCIENCES AND OCEANOGRAPHY
  continued
  06 Geography
  07 Geology, Geochemistry and Mineralogy
  08 Hydrology, Limnology and Potamology
  09 Mining Engineering
  10 Soil Mechanics
  11 Seismology
  12 Snow, Ice and Permafrost

09 ELECTROTECHNOLOGY AND FLUIDICS
  01 Electrical and Electronic Equipment
  02 Fluidics and Fluercics
  03 Lasers and Masers
  04 Line, Surface and Bulk Acoustic Wave Devices
  05 Electrooptical and Optoelectronic Devices
  06 Acoustooptic and Optoacoustic Devices
  07 Electromagnetic Shielding

10 POWER PROPULSION AND ENERGY CONVERSION (Nonpropulsive)
  01 Non-Electrical Energy Conversion
  02 Electric Power Production and Distribution
  03 Electrochemical Energy Storage
  04 Energy Storage

11 MATERIALS
  01 Adhesives, Seals and Binders
  02 Ceramics, Refractories and Glass
  02.3 Refractory Fibers
  03 Coatings, Colorants and Finishes
  04 Laminates and Composite Materials
  05 Textiles
  06 Metallurgy and Metallography
  06.01 Properties of Metals and Alloys
  06.02 Fabrication Metallurgy
  07 Miscellaneous Materials
  08 Lubricants and Hydraulic Fluids
  09 Plastics
  10 Elastomers and Rubber
  11 Solvents, Cleaners and Abrasives
  12 Wood, Paper and Related Forestry Products

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DROLS Handbook

Subject Field and Group Structure

12  MATHEMATICAL AND COMPUTER SCIENCES
   01  Numerical Mathematics
   02  Theoretical Mathematics
   03  Statistics and Probability
   04  Operations Research
   05  Computer Programming and Software
   06  Computer Hardware
   07  Computer Systems
   08  Computer Systems Management and Standards
   09  Cybernetics

13  MECHANICAL, INDUSTRIAL, CIVIL AND MARINE ENGINEERING
   01  Air Conditioning, Heating, Lighting and Ventilating
   02  Civil Engineering
   03  Construction Equipment, Materials and Supplies
   04  Containers and Packaging
   05  Couplers, Fasteners and Joints
   06  Surface Transportation and Equipment
   06.01 Surface Effect Vehicles and Amphibious Vehicles
   07  Hydraulic and Pneumatic Equipment
   08  Manufacturing and Industrial Engineering and Control of Production Systems
   09  Machinery and Tools
   10  Marine Engineering
   10.01 Submarine Engineering
   11  Pumps, Filters, Pipes, Tubing, Fittings and Valves
   12  Safety Engineering
   13  Structural Engineering and Building Technology

14  TEST EQUIPMENT, RESEARCH FACILITIES AND REPROGRAPHY
   01  Holography
   02  Test Facilities, Equipment and Methods
   03  Recording and Playback Devices
   04  Photography
   05  Printing and Graphic Arts

15  MILITARY SCIENCES
   01  Military Forces and Organizations
   02  Civil Defense
   03  Defense Systems

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15  MILITARY SCIENCES continued  
03.01 Antimissile Defense Systems  
03.02 Antiaircraft Defense Systems  
03.03 Antisatellite Defense Systems  
04   Military Intelligence  
05   Logistics, Military Facilities and Supplies  
06   Military Operations, Strategy and Tactics  
06.01 Naval Surface Warfare  
06.02 Undersea and Antisubmarine Warfare  
06.03 Chemical, Biological and Radiological Warfare  
06.04 Nuclear Warfare  
06.05 Space Warfare  
06.06 Land Mine Warfare  
06.07 Unconventional Warfare  

16  GUIDED MISSILE TECHNOLOGY  
01   Guided Missile Launching and Basing Support  
02   Guided Missile Trajectories, Accuracy and Ballistics  
02.01 Guided Missile Dynamics, Configurations and Control Surfaces  
03   Guided Missile Warheads and Fuzes  
04   Guided Missiles  
04.01 Air- and Space-Launched Guided Missiles  
04.02 Surface-Launched Guided Missiles  
04.03 Underwater-Launched Guided Missiles  
05   Guided Missile Reentry Vehicles  

17  NAVIGATION, DETECTION AND COUNTERMEASURES  
01   Acoustic Detection and Detectors  
02   Non-Acoustic and Non-Magnetic Submarine Detection  
03   Direction Finding  
04   Countermeasures  
04.01 Radio Countermeasures  
04.02 Acoustic Countermeasures  
04.03 Radar Countermeasures  
04.04 Optical Countermeasures  
05   Optical Detection and Detectors  
05.01 Infrared Detection and Detectors  
05.02 Ultraviolet Detection and Detectors  
06   Magnetic and Electric Field Detection and Detectors
17 NAVIGATION, DETECTION AND COUNTERMEASURES continued
07 Navigation and Guidance
  07.01 Land and Riverine Navigation and Guidance
  07.02 Underwater and Marine Navigation and Guidance
  07.03 Air Navigation and Guidance
  07.04 Space Navigation and Guidance
08 Miscellaneous Detection and Detectors
09 Active and Passive Radar Detection and Equipment
10 Seismic Detection and Detectors
11 Target Direction, Range and Position Finding

18 NUCLEAR SCIENCE AND TECHNOLOGY
01 Fusion Devices (Thermonuclear)
02 Isotopes
03 Nuclear Explosions and Devices (Non-Military)
04 Nuclear Instrumentation
05 Nuclear Power Plants and Fission Reactor Engineering
  05.01 Nuclear Fission Reactors (Power)
  05.02 Nuclear Fission Reactors (Non-Power)
06 Nuclear Radiation Shielding, Protection and Safety
07 Radioactivity, Radioactive Wastes and Fission Products
08 SNAP (Systems for Nuclear Auxiliary Power) Technology
09 Fission Reactor Physics
10 Fission Reactor Materials

19 ORDNANCE
01 Ammunition and Explosives
  01.01 Pyrotechnics
02 Aerial Bombs
03 Combat Vehicles
04 Armor
05 Fire Control and Bombing Systems
06 Guns
07 Rockets
08 Underwater Ordnance
  08.01 Torpedoes
09 Explosions
10 Ballistics
11 Nuclear Weapons
19  ORDNANCE continued
   12  Directed Energy Weapons
   13  Guided Munitions

20  PHYSICS
   01  Acoustics
   02  Crystallography
   03  Electricity and Magnetism
   04  Fluid Mechanics
   05  Atomic and Molecular Physics and Spectroscopy
   06  Optics
   06.01 Fiber Optics and Integrated Optics
   07  Particle Accelerators
   08  Nuclear Physics and Elementary Particle Physics
   09  Plasma Physics and Magnetohydrodynamics
   10  Quantum Theory and Relativity
   11  Mechanics
   12  Solid State Physics
   13  Thermodynamics
   14  Radiofrequency Wave Propagation
   15  Electromagnetic Pulses

21  PROPULSION, ENGINES AND FUELS
   01  Air Breathing Engines (Unconventional)
   02  Combustion and Ignition
   03  Electric and Ion Propulsion
   04  Fuels
   05  Jet and Gas Turbine Engines
   06  Nuclear Propulsion
   07  Reciprocating and Rotating Engines
   08  Rocket Engines
   08.01 Liquid Propellant Rocket Engines
   08.02 Solid Propellant Rocket Engines
   09  Rocket Propellants
   09.01 Liquid Rocket Propellants
   09.02 Solid Rocket Propellants

22  SPACE TECHNOLOGY
   01  Astronautics
   02  Unmanned Spacecraft
   03  Spacecraft Trajectories and Reentry
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APPENDIX 11 - MISSION, FUNCTION, AND TECHNOLOGY CODES

MISSION CODES

WARFARE MISSION AREAS
1.1 Antiair Warfare
1.2 Antisubmarine Warfare
1.3 Naval Antisurface Ship Warfare
1.4 Amphibious Warfare
1.5 Chemical Warfare
1.6 Biological and Radiological Defense
1.7 Land Warfare
1.8 Special Warfare
1.9 Strategic Warfare
1.10 Tactical Air Warfare
1.11 Electronic Warfare
1.12 Strategic Defense Initiative

MOBILITY MISSION AREAS
2.1 Air Mobility
2.2 Land Mobility
2.3 Sea-Surface Mobility
2.4 Undersea Mobility
2.5 Space Mobility

COMMUNICATIONS, COMMAND AND CONTROL/INTELLIGENCE MISSION AREAS
3.1 Communications, Command and Control
3.2 Intelligence, Including Reconnaissance

MINE AND OBSTACLE MISSION AREAS
4.1 Land Mine/Obstacle/Countermeasures
4.2 Sea Mine/Countermine

MISSION AND SYSTEM SUPPORT MISSION AREAS
5.1 Logistics
5.2 Manpower, Personnel and Training
5.3 Mission/System Support
FUNCTION CODES

WEAPONS SYSTEMS FUNCTIONS
1.1 Target Acquisition/Search/Detect
1.2 Threat Evaluation
1.3 Target Tracking
1.4 Weapon Assignment
1.5 Fire Control Acquisition and Designation
1.6 Launch
1.7 Propulsion
1.8 Control
1.9 Conventional Munitions/Weapons
1.10 Directed Energy Weapons
1.11 Hard Target Kill/Anti-Armor
1.12 Fuzing
1.13 Chemical Warfare (Offense)

DEFENSIVE SYSTEMS FUNCTIONS
2.1 Hit Avoidance
2.2 Signature Control/Suppression Reduction
2.3 Armor, Infantry and Crew Protection
2.4 EMP Hardening/Survivability from Nuclear Weapons
2.5 Damage Control
2.6 Chemical/Biological Defense
2.7 Deterrence

MINE FUNCTIONS
3.1 Mine Mooring
3.2 Mine Neutralization/Destruction

C31 FUNCTIONS
4.1 Information Management
4.2 Communication
4.3 Guidance/Navigation/Position Location
4.4 Avionics/Vetronics/Display Systems
ELECTRONIC WARFARE FUNCTIONS
5.1 Electronic Countermeasures
5.1.1 Jamming
5.1.2 Deception
5.1.3 Cryptography
5.2 Electronic Counter Countermeasures
5.2.1 Low Probability
5.2.2 Electromagnetic Signal Measurement/Intelligence
5.2.3 Jam Resistance

ASSESSMENT/ANALYSIS FUNCTIONS
6.1 Simulation
6.2 Weapons and Munitions Effects/Target Kill Assessment
6.3 Vulnerability Analysis

RDT&E FUNCTIONS
7.1 Energetic Materials
7.2 Manufacturing Technology
7.2.1 Electronics
7.2.2 Other than Electronics
7.3 Materials Development
7.3.1 Metals, Ceramics, Organics and Composites
7.3.2 Electronics
7.4 Test Equipment/Technology
7.4.1 Structural
7.4.2 Electronics
7.5 Reliability
7.6 Maintainability
7.7 Structures, including Design and Manufacture
7.7.1 Missile
7.7.2 Aircraft
7.7.3 Hull
7.7.4 Body/Chassis

MISCELLANEOUS FUNCTIONS
8.1 Multi-Function Applications
8.2 Robotics
8.3 Human Factors/Human Engineering
8.4 Artificial Intelligence/Adaptive Systems
8.5 Basic Scientific Research/University Interactions
SUPPLY/SUPPORT/CONSTRUCTION FUNCTIONS

9.1 Material Distribution and Payload Handling/Supply Systems
9.2 Training
9.3 Field Services (Water, Food, Tents, etc.)
9.4 Bridging/Obstacles
9.5 Support and Auxiliary Equipment
9.6 Habitation
9.7 Environmental Effects
9.8 Facility Construction

MANAGEMENT/PERSOONEL FUNCTIONS

10.1 RDT&F Management
10.2 Acquisition Management
10.3 Financial Management
10.4 Medical/Casualty Care
10.5 Performance Appraisal
TECHNOLOGY CODES

This category is organized to enable the coding of advanced technology products as well as systems studies, development, and engineering efforts. The basis for the code is the Military Critical Technology List (MCTL), which though not intended, serves that end reasonably well. Sections 30.0 through 40.0 have been added to the MCTL listings to provide a home for those efforts which are conceptual, developmental, or engineering in nature and don't fit comfortably in the technical categories of sections 1 through 20. In many examples, though, a project can be categorized both in the technical arena and the system engineering arena.

Overlap of categories in the sections numbered 30.0 through 40.0 and those numbered 1.0 through 20.0 is intentional. This provides additional keys to project identity and offers a better chance of technology capture for searches.

In general, each project should be defined at its most specific level. In some cases this may be only the second or third level and in others it may be the fifth or sixth level - it all depends upon how uniquely specific the project is and the level of detail to which the list differentiates that technical area.

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<td>Information Processing Technology</td>
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<td>Data Acquisition and Conversion Technology</td>
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<td>Image Processing Systems Technology</td>
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<td>Speech Processing Systems Technology</td>
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<td>Signal Processing Technology</td>
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<td>1.3</td>
<td>Decision Support Systems Technology</td>
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<tr>
<td>1.3.1</td>
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<td>1.3.2</td>
<td>Man/Machine Integration Technology</td>
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<td>1.3.3</td>
<td>Artificial Intelligence Technology</td>
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<td>Computer Network Technology</td>
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2.1.2 Computer Hardware Production Technology
2.1.3 Computer Packaging Technology
2.2 Digital Computer System Utilization Technology
   2.2.1 Computer-Aided Servicing (CAS) Technology
   2.2.2 Computer System Configuration Management Technology
   2.2.3 Digital Computer Security Technology
2.3 Logic and High-Speed Memory Assembly Technology
   2.3.1 High-Speed Logic and Memory Assemblies Technology
   2.3.2 Microprocessor
   2.3.3 Magnetic Core Memory
   2.3.4 Thin-Film Memory Device
   2.3.5 Magnetic Bubble Memory
   2.3.6 Plated Wire
   2.3.7 Cross-Tie Memory
2.4 Storage Technology
   2.4.1 Magnetic Storage
   2.4.2 Magnetic Storage Read/Write Head
   2.4.3 Magnetic Storage Recording Media
   2.4.4 Magnetic Storage Electro-Mechanical Technology
   2.4.5 Optical Disk Digital Storage
   2.4.6 Optical Disk Read/Write Transducer Assembly
   2.4.7 Optical Disk Recording Media
   2.4.8 Optical Disk Electronics
   2.4.9 Optical Disk Mechanics
2.5 Digital Computer Display and Workstation Technology, and Peripheral Technology
   2.5.1 Alphanumeric and Graphic Display Device Technology
   2.5.2 Peripherals Technology
2.6 Hybrid Computer Technology
3.0 COMPUTER SOFTWARE TECHNOLOGY
3.1 Software Life-Cycle Technology
   3.1.1 Software Life-Cycle Management Technology
   3.1.2 Software Life-Cycle Library Technology
   3.1.3 Software Life-Cycle Tools Technology
3.2 Systems and Applications Software Technology
   3.2.1 Systems Simulation and Modeling Technology
3.0 COMPUTER SOFTWARE TECHNOLOGY
   continued
3.2.2 Operating Systems Software Technology
3.2.3 Logistics Support Software Technology
3.4 Microprogrammable Device Software Technology
3.5 Trusted Computer Base (B3 Level Or Higher) Technology

4.0 AUTOMATED CONTROL OF INDUSTRIAL SYSTEMS (ACIS) TECHNOLOGY
4.1 Facility Integration Technology
4.2 Manufacturing Level Integration Technology
4.2.2 Manufacturing Cell Control Technology
4.3 Enterprise Integration Technology
4.4 CAD/CAM/CAI/CAT/CAS - Element Control Technology
   4.4.1 Computer-Aided Design Technology
   4.4.2 Computer-Aided Manufacturing, Inspection and Testing Technology
   4.4.3 Computer-Aided Servicing (CAS) and Automated Maintenance Technology

5.0 MATERIALS AND PRODUCTION TECHNOLOGY
5.1 Metals and Alloys Technology
   5.1.1 Magnetic and Amorphous Metals Technology
   5.1.2 Nickel-Based and Cobalt-Based Alloys Technology
   5.1.5 Molybdenum Alloys Technology
   5.1.6 Tungsten Technology
   5.1.7 Intricate Superalloy Shapes Casting Technology
   5.1.8 Plasma Spraying Technology
   5.1.9 Advanced Powder Metallurgy Technology
   5.1.10 Superplastic Forming/Diffusion Bonding (SPF/DB) Technology
   5.1.11 Titanium, Nickel and Iron Aluminides Technology
   5.1.12 Superconducting Materials Technology
   5.1.13 Pressure Pipe and Fittings Technology
   5.1.16 High Yield Strength Steel Technology
   5.1.19 Ingot Aluminum-Lithium Technology
   5.1.20 Depleted Uranium Alloys
   5.1.21 Beryllium Alloys
5.0 MATERIALS AND PRODUCTION TECHNOLOGY continued

5.2 Advanced Composites and Ceramics Technology
5.2.1 Fibers and Filamentary Material Technology
5.2.2 Filament Winding, Tape-Laying and Interlacing Equipment Technology
5.2.3 Organic Matrix Composites Technology
5.2.4 Ceramics Technology
5.2.5 Metal-Matrix Composites Technology
5.2.6 Ceramic Matrix Composites Technology
5.2.7 Carbon-Carbon Composites Technology
5.2.8 Reinforcement Materials for Composites

5.3 Metalworking and Production Technology
5.3.1 Isostatic Pressing Technology
5.3.2 High-Temperature Press Technology
5.3.3 Isothermal Shape Rolling Technology
5.3.4 Isothermal Metalworking Technology
5.3.5 High-Temperature Furnace Technology
5.3.6 Numerically-Controlled Machine Technology
5.3.7 Precision Turning Machine Technology
5.3.8 Spin- and Flow-Forming Machines Technology
5.3.9 High Vacuum Technology
5.3.10 Laser Processing Technology
5.3.11 High Performance Welding Technology
5.3.12 Failure/Fracture Analysis and Nondestructive Evaluation (NDE) Technology
5.3.13 Test Equipment for Integrated Structural Testing Technology
5.3.14 Robot Technology
5.3.15 Direct-Acting Hydraulic Pressing Technology

5.4 Coatings and Surface Modification Technology
5.4.1 Metallic and Metal Matrix Composites Substrates Coatings
5.4.2 Ceramics, Ceramic Matrix Composites, and Carbon-Carbon Composites Coatings Technology
5.4.3 Optical Coatings Technology
5.4.4 Seal Coatings Technology
5.4.5 Coatings Deposition Technology

5.5 Bearings and Bearing Manufacturing Technology
5.5.1 High DN Rolling Element and Precision Bearing
5.0 MATERIALS AND PRODUCTION TECHNOLOGY continued

5.5.2 Hostile Environment Rolling Element Bearing
5.5.3 Fluid-Film Bearing
5.5.4 Low Torque Antifriction Bearing
5.5.5 Quiet Ball Bearing
5.5.6 Extreme Precision Antifriction Bearing
5.5.7 Active Magnetic Bearing
5.5.8 Fabric Lined Sliding Bearing

5.6 Dimensional Metrology Technology
5.6.1 Rotary Axis
5.6.2 Laser Location Measuring
5.6.3 Solid Model Fitting
5.6.4 High Accuracy Dimensional Measuring Machines
5.6.5 Photogrammetry Measuring Techniques
5.6.6 Rotary Contour Gage
5.6.7 Probe
5.6.8 Electronic Autocollimator

6.0 DIRECTED ENERGY AND KINETIC ENERGY SYSTEMS TECHNOLOGY

6.1 High-Energy Laser (HEL) Systems, Subsystems, Components and Devices Technology
6.1.1 High-Energy Laser Device Technology
6.1.2 HEL Mirror and Optical Component Technology
6.1.3 HEL Beam-Pointing and Control Technology
6.1.4 HEL Beam Propagation Technology
6.1.5 HEL Beam-Target Coupling Technology
6.1.6 HEL Target Effects and Countermeasures Technology

6.2 High-Power Radio-Frequency Energy Systems Technology
6.2.1 High-Power Radio-Frequency Systems Technology
6.2.2 High-Power Radio-Frequency Transmission Technology
6.2.3 High-Power Radio-Frequency Material Interaction Technology
6.2.4 High-Power Radio-Frequency Target Effects and Countermeasures Technology

6.3 Particle Beam Systems Technology
6.3.1 Electron Beam Systems Technology
6.3.2 Neutral Particle Beam Systems Technology
6.0 DIRECTED ENERGY AND KINETIC ENERGY SYSTEMS TECHNOLOGY continued

6.4 Kinetic Energy Systems Technology
6.4.1 Propulsion Systems Technology
6.4.2 Kinetic Energy Projectiles Technology
6.4.3 Kinetic Energy Target Effects and Countermeasures Technology
6.4.4 Kinetic Energy Platform Management

6.5 Nonnuclear Electromagnetic Pulse Systems Technology

6.6 Directed Energy and Kinetic Energy Systems Test Targets and Models Technology

7.0 SEMICONDUCTOR AND ELECTRONIC COMPONENT TECHNOLOGY

7.1 Microcircuit Technology
7.1.1 Wafer Preparation Technology
7.1.2 Epitaxy Process Technology
7.1.3 Oxidation Processes Technology
7.1.4 Maskmaking Technology
7.1.5 Lithographic Technology
7.1.6 Selective Removal Technology
7.1.7 Diffusion/Implantation Technology
7.1.8 Thin-Film Deposition Technology
7.1.9 Microcircuit Assembly Technology
7.1.10 Microcircuit Testing Technology
7.1.11 Microcircuit Production Facilities Technology
7.1.12 IC Design Technology
7.1.13 Hybrid Microcircuits Technology
7.1.14 Microwave Integrated Circuits Technology
7.1.15 Microcircuit Packaging Technology

7.2 Discrete Solid State Device Technology
7.2.1 Discrete Transistor Technology
7.2.2 Semiconductor Diode Technology
7.2.3 Thyristor Technology
7.2.4 Semiconductor Technology

7.3 Detector, Tube, Intensifier and Cooler Technology
7.3.1 Semiconductor Detector Technology
7.3.2 Photomultiplier Tube Technology
7.3.3 Image Intensifier Technology
7.3.4 Thermoelectric Cooler Technology

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7.0 SEMICONDUCTOR AND ELECTRONIC COMPONENT TECHNOLOGY continued

7.4 Acoustic Wave Device Technology

7.5 Thin-Film Memory Device Technology
7.5.1 Magnetic Bubble Memory Technology
7.5.2 Plated Wire Memory Technology
7.5.3 Cross-Tie Memory Technology

7.6 Passive Component Technology
7.6.1 Ferrite Material and Device Technology
7.6.2 Strontium Titanate Monolithic Ceramic Capacitor Technology
7.6.3 High Energy Density Capacitor Technology
7.6.4 Quartz Crystal Technology
7.6.5 Printed Circuit Board Technology

7.7 Superconducting and Cryogenic Component Technology
7.7.1 Superconducting Digital Component Technology
7.7.2 Cryogenic Cooling Technology

7.8 Electronic Material Technology
7.8.1 Preparation, Purification and Compounding of Electronic, Electrooptic and Optical Materials Technology
7.8.2 Bulk and Epitaxial Crystal Growth Technology

8.0 INSTRUMENTATION TECHNOLOGY

8.1 Time-Domain Measurement Technology
8.1.1 Oscilloscope Technology
8.1.2 Electronic Time Interval Measurement Technology
8.1.3 Electronic Streak Camera Technology

8.2 Frequency-Domain Measurement Technology
8.2.1 Radio Spectrum Analyzer Technology
8.2.2 Panoramic and Digital Receiver Technology
8.2.3 Real-Time Spectrum Analyzer Technology
8.2.4 Frequency Counter Technology

8.3 Frequency Standards and Signal Source Technology
8.3.1 Frequency Standard Technology
8.3.2 Frequency Synthesizer Technology
8.3.3 Signal Generator Technology
8.0 INSTRUMENTATION TECHNOLOGY continued

8.4 Electrical Parameter and Digital Measuring Technology
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8.4.3 Microwave Power Measurement Technology
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8.5.2 Microprocessor and Bit Slice Development System Technology
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8.5.4 Automatic Test Equipment Technology
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8.5.6 Digital Storage Oscilloscope and Digitizer Technology

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8.7 Photographic and Optical Measurement Technology
8.7.2 Laser Interferometric Measurement Technology
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8.7.4 High Speed Recording Camera Technology
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9.2.2 Message Switching Technology
9.2.3 Packet Switching Technology
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10.0 COMMUNICATION, NAVIGATION, GUIDANCE, CONTROL AND IDENTIFICATION TECHNOLOGY continued

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10.3 Cooperative Systems for Radio Navigation and Radio Communication Technology

10.3.1 Techniques for Platform Cooperative Radio-Navigation and Radio Direction Finding Technology

10.3.2 Cooperative Radio Communication Technology

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11.1.3 Microwave Tube Assembly Technology

11.2 Solid-State Microwave Device and Circuit Technology

11.3 High Power Microwave Control Component Technology

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12.1.3 Computer-Aided Design and Manufacture (CAD/CAM) Technology

12.1.4 Integrated Sensory Subsystems Technology

12.1.5 Control Configured Vehicles Technology

12.1.6 Aircraft Flight Management Systems Technology

12.1.7 Electromagnetic Hardening Technology

12.1.8 Lightweight, High Contact Ratio, Double-Helical (Herringbone) Gears Technology

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12.0 VEHICULAR TECHNOLOGY continued
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12.4 Aeronautical Vehicles Gas-Turbine Propulsion Technology
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12.4.3 Centrifugal Flow Compressor Aerodynamics Technology
12.4.4 Axial Flow Fan and Compressor Aerodynamics Technology
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12.4.6 Cooled Turbine Technology
12.4.7 Rotating Propulsion System Structures Technology
12.4.8 High DN Rolling Element and Tolerance Bearing Technology
12.4.9 Gas-Film Bearing Technology
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12.4.17 Frames, Ducts, and Cases Technology
12.4.18 Propulsion System Integration Technology
12.4.19 Electronic Control and Diagnostics Technology
12.4.20 Sensors, Actuators, Interfaces and Interconnections for Advanced Engine-Control Systems Technology
12.4.21 Electrical Power Generation Technology
12.4.22 Inlet Technology
12.4.23 Nozzles, Thrust Vectoring and Thrust Reversing Technology
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12.9.3 Military Land Vehicle Track and Suspension Systems Technology
12.10 **Vehicular Survivability Technology**
12.10.1 Survivability Analysis/Threat Characterization Technology
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12.11 **Ramjet, Scramjet and Combined Cycle Propulsion Technology**
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13.1.2 Fiber-Optic Cable Technology
13.1.3 Source and Detector Technology
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13.2 **Integrated Optics (IO) and Optoelectronics Technology**
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17.1.6 Laser Isotope Separation Technology
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17.2.1 Tritium Production and Processing Technology
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18.2 Blast and Shock Effects Survivability
18.3 Thermal Radiation Effects Survivability
18.4 Transient Nuclear Radiation Effects In Electronics (TREE) Survivability
18.5 System-Generated Electromagnetic Pulse (SGEMP) Effects Survivability
18.6 Nuclear Radiation Fallout Effects Survivability
18.7 Nuclear Weapon High Altitude Electromagnetic Pulse (HEMP)-Early Intermediate, and Late-Time Effects, Including Dispersed EMP (DEMP)
18.8 Source Region Electromagnetic Pulse Environments (Surface or Near Surface Burst)
18.9 Pulsed-Power Driven Nuclear Weapons Effects Simulation Sources
18.9.1 Vacuum Power Flow for X-Ray Simulators
18.9.2 Bremsstrahlung Radiation Sources
18.9.3 Plasma Radiation Sources
18.9.4 Particle Beams
18.9.5 Electromagnetic Pulse (EMP) Simulators
18.10 Nonnuclear Electromagnetic Pulse (NNEMP) Systems Technology
18.11 Nuclear Effects On Signal Propagation

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19.1 Electrochemical Energy Conversion Technology
19.1.1 Special Primary and Reserve Battery Technology
19.1.2 Lithium Primary Battery Technology
19.1.3 Aerospace-Qualified Nickel-Cadmium and Nickel-Hydrogen Battery Technology
19.1.4 Lithium Secondary Battery Technology
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19.1.6 Fuel Cells Technology
19.1.7 Pulsed Battery Technology
19.2 Electrochemical Energy Conversion Technology
19.2.1 Electrochemical Machinery Technology
19.2.2 Magnetohydrodynamics Technology
19.2.3 Electrohydrodynamics Technology
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19.3 Direct Conversion Technology
19.3.1 Photovoltaic (PV) Cell Technology
19.3.2 Thermoelectric Conversion Technology
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19.4 Power Conditioning and Control Technology
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19.6.1 System Design and Integration Technology
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20.1.1 Metal Fuels, Metal Alkyls and Carbonates Production Technology
20.1.2 Special Salts Production Technology
20.1.3 Nitramines and Nitro Compounds Production Technology
20.1.4 Organic Nitrates Production Technology
20.1.5 Energetic Binder (Polymers and Monomers) and Plasticizers Production Technology
20.1.6 Miscellaneous Additives and Precursors Production Technology
20.2 Energetic Materials Formulation Technology
20.3 Energetic Material Fabrication and Loading Technology
20.4 Energetic Materials and Components Test Technology
20.5 Technology for Munitions/Weapons Systems and Components
20.5.1 Warhead Components and Systems
20.5.2 Gun Propulsion Systems and Components
20.5.3 Homing Kinetic-Energy Weapons Chemical Propulsion
20.5.4 Cartridge- and Propellant-Actuated Device
20.5.5 Demolition Systems and Components
20.5.6 Safing and Arming, Fuzes, Detonators, and Related Components
20.5.7 Reactive Armor and Warhead Defeat Systems
20.5.8 Fuel-Air Explosives
20.5.9 Control of Mass-Reaction or Vulnerability of Stowed/ Stored Munitions

30.0 SYSTEMS/SUBSYSTEMS ENGINEERING
This category includes the trade studies, analyses, development, and engineering effort conducted to define operational concepts, system/subsystem requirements, interfaces, integration parameters, human factors, and environmental considerations relevant to system/subsystem development, production, operation, and logistical support. It includes simulation, modeling, prototyping, and testing activities that address system/subsystem design, configuration performance, cost, schedule, and logistic objectives.

30.1 Aircraft
30.1.1 Mission Requirements, Analysis, Trade Studies
30.1.2 System Requirements, Analysis, Validation, Design
30.1.3 Subsystem Requirements, Analysis, Validation, Design
30.1.4 Integration and Test
30.1.5 Training/Simulators

30.2 Helicopters
30.2.1 Mission Requirements, Analysis, Trade Studies
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30.2.3 Subsystem Requirements, Analysis, Validation, Design
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30.2.5 Training

30.3 Aerospace Vehicles
30.3.1 Mission Requirements, Analysis, Trade Studies
30.3.2 System Requirements, Analysis, Validation, Design
30.3.3 Subsystem Requirements, Analysis, Validation, Design
30.3.4 Integration and Test
30.3.5 Operational Factors

30.4 Spacecraft
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30.8.7 Operations and Mission Planning
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30.10 Deep Submergence Vehicles
30.11 Ground Vehicles
30.12 Ordnance
30.13 Command/Operations Centers
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30.13.3 System Design
30.13.4 Data Management and Processing
30.13.5 Communications Interface
30.13.6 Facilities
30.13.7 Operational Factors
31.0 Propulsion Systems/Subsystems
This category includes the study, development, system/subsystem engineering, integration, and testing of propulsive systems (and subsystems) for DoD vehicles and ordnance intended for operation in the water, on the ground, in the air, or in space, and NASA vehicles operating in these environments.
31.1 Air-Breathing Propulsion Systems
31.1.1 Aircraft
31.1.2 Naval Vessels
31.1.3 Ground Vehicles
31.2 Ballistic Missile Propulsion
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32.0 Geophysical Studies/Projects
    Research in this category includes studies, analyses, or projects that investigate the environment in which a DoD/NASA system may operate, changes which may occur to that environment caused by operation of the system, changes which may have to be made to the environment to enable satisfactory system operation, the societal or military impact resulting from any of the above.

32.1 Space Physics
32.2 Atmospheric and Meteorological
32.3 Ionospheric
32.4 Earth Sciences
32.5 Marine Sciences

33.0 Logistics-Weapon System Support Readiness
    This category includes those R&D activities conducted primarily to meet a stated logistic need (LN) defined in a service's logistics requirement document or those efforts that support an LN even though the activity may be formally identified with other technology or systems engineering categories.

34.0 Man-Machine Interface

40.0 SPECIAL PURPOSE STUDIES
    Activities not reconcilable with any of the foregoing technology or engineering areas or for which, for security purposes, should not be associated with a specific technology area(s).
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- Qualify Search Results ......................................................... @QSR@
- Qualify User File .............................................................. @QUF@
- Free Text Qualification of Abstracts in Search Results .......... @QSKAB@
- Free Text Qualification of Titles in Search Results .............. @QSTI@
- Free Text Qualification of Titles and Abstracts in Search Results.. @QSTAB@
- Free Text Qualification of Abstracts in User File .................. @QUFAB@
- Free Text Qualification of Titles in User File ....................... @QUFTI@
- Free Text Qualification of Titles and Abstracts in User File .... @QUFTAB@

**Store**
- Store Search ........................................................................... @SS@
- Delete Stored Search .......................................................... @DELSS@
- Display Stored Search ......................................................... @DSS@
- Execute Stored Search ....................................................... @XSS@
- List Stored Searches .......................................................... @LSS@

**Subcommands**
- Browse Backward ................................................................. B
- Continuous Display ............................................................. C
- Item-By-Item Display ........................................................... Y
- No Response .......................................................................... N
- Paging .................................................................................. P
- Terminator ................................................................. END
- Yes Response ........................................................................ Y

**Important Telephone Numbers**
- Network Services Branch ...................................................(703) 274-7791
- Technical Control Office ....................................................(703) 274-7251
- Voice Recording of DROLS Status .......................................(703) 274-7882
- Reference Services ..............................................................(703) 274-7633
- Document Complaints & Inquiries ....................................(703) 274-0981
- DTIC Registration ...............................................................(703) 274-6871
- DROLS Registration .............................................................(703) 274-7709
- Requests for Limited Documents ........................................(703) 274-6985
- Retrieval Analysis ...............................................................(703) 274-6867
- ADP Security (DASC-IO) .....................................................(703) 274-4684

If dialing DSN, drop area code and use 284 as prefix.

## Not available in the Current File of the TR database.