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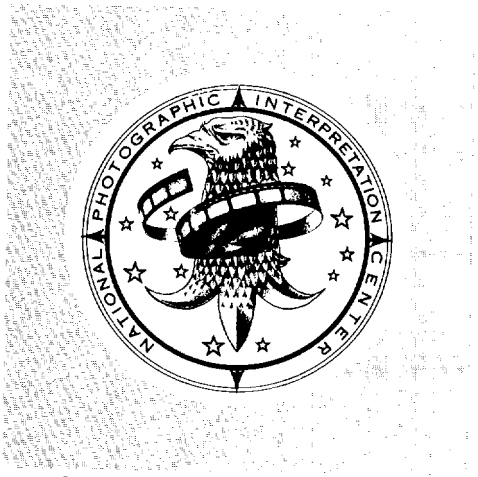

NATIONAL PHOTOGRAPHIC
INTERPRETATION CENTER

USER'S MANUAL FOR THE PIRL QUERY LANGUAGE

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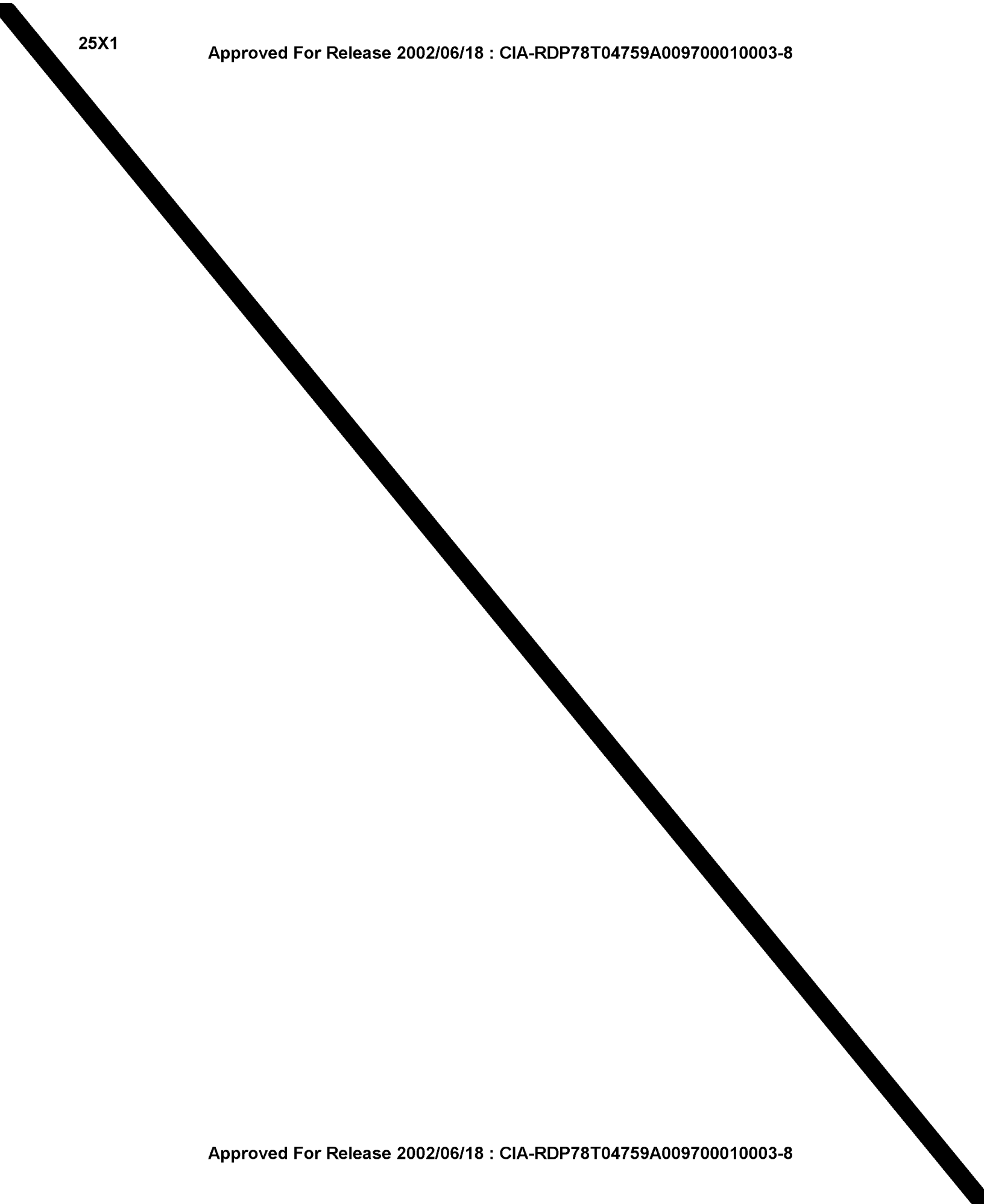

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USER'S MANUAL

FOR THE

PIRL QUERY LANGUAGE

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TO THE USERS

Whenever necessary, revisions and/or addenda to this manual will be issued by the Automated Information Division, Production Services Group. If you need additional information on this query language or assistance in using it, contact the Chief/AID/PSG.

I

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CHAPTER I. THE PIRL QUERY LANGUAGE

PIRL is an acronym for Photo Interpretation Retrieval Language, an English-like language that will enable you to retrieve information from the Installations Data File (IDF). This language rather than English is used because it can be "understood" by a computer. To put it another way, you can use PIRL to "query" the IDF. With this language you can formulate "queries," i.e., statements that direct the computer to

* select from the file one or more records that meet your specifications and output a part of each record

* count the number of installations having identical features and output the total

The "words" that comprise the vocabulary of the PIRL language are mnemonics, that is, combinations of letters or of letters and symbols. Three of these mnemonics are the commands GET, INTER, and ALSO. Each introduces a different type of query which will direct the computer to perform the operations summarized above. Other mnemonics include the names of sectors, fields, and items in the Installations Data File. All can be used with certain values to construct queries.

You will transmit queries to the UNIVAC 494 computer system via on-line equipment located in your work areas. "Answers" to your queries will be transmitted to remote stations shortly after you have submitted your queries.

ON-LINE EQUIPMENT

You will transmit queries to the computer and receive your output via the on-line equipment listed below.

* Sanders Tabular Displays, i.e., cathode-ray tube (CRT) devices (Model 920-102)

* Kleinschmidt Electronic Data Printers (Model 311)

* ASR Teletypes (Model 35)

* KSR Teletypes (Model 35)

* UNIVAC Data Communications Terminals (DCT) 2000

An explanation of this type of computer processing and of the equipment involved is presented in Introduction to the Remote Access Computer Service published by AID. Copies of this publication are available from the Chief, AID upon request. In order to use PIRL it is assumed that you know how to operate this equipment.

Answers to queries will be transmitted to on-line equipment in your work areas shortly after you have submitted your queries. How to submit queries on these devices is explained in CHAPTERS VI and VII in this manual.

THE INSTALLATIONS DATA FILE: A SUMMARY

The Installations Data File (IDF) contains information derived from imagery and compiled by organizations responsible for imagery interpretation. This information concerns targets designated by NPIC and COMIREX. The file is an outgrowth of the Target Brief File and of DIA's UPIR File. In the IDF all information on a single target (installation) is stored in one record. At present, there are about 30,000 records in this file. Each is identified by a machine reference number (MRN).

This number is assigned to each record by the computer and will never be changed or be assigned to another record. With the exception of MRN 1, the format -- not the contents -- of each record in the IDF is identical. Mission highlights are recorded in MRN 1 and only in MRN 1. No other information is stored in this record.

A record consists of 13 sectors, each of which contains a specific type of information about an installation. All sectors are divided into fields, i.e., categories of data. Some, but not all, fields are divided into items, the smallest units of information in the IDF. Thus, the format of each record is this:

largest unit ⟶ sector
field
smallest unit ⟶ item

The name of each sector, field, and item is a mnemonic. For example, in each record the name of the status sector is the mnemonic, ISTAT. In the ISTAT sector the name of the field in which the status of a target is recorded is the mnemonic, STA:. One of the items comprising the STA: field is AGEN, which contains an entry that identifies the agency that produced the status writeup. It is mnemonics such as these that comprise part of the vocabulary of the PIRL Query Language.

Some fields in each record contain a single entry (or value). Some contain several entries or values. In other fields values are allowed to accumulate, that is, each new entry is simply added to the existing entries; the format of the new entry is identical to that of the entries already recorded in the field.

The PIRL Query Language gives you the capability of retrieving information stored in all records in the IDF. To use this language effectively it is assumed that you are familiar with the IDF, its contents, format, and nomenclature.

II

CHAPTER II. GET QUERIES

THEIR FUNCTION

Each time you transmit a GET query you direct the computer to do two things: (1) to select from the IDF one or more records that meet your specifications and (2) to output a sector or part of a sector of each selected record. You will specify which record or records are to be selected in the first line of the query. In the second line of the query you will specify which sector or part of a sector of each selected record you want displayed or printed. Both lines are transmitted to the computer at the same time.

In line 1 the first word is always the command, GET, followed by the file mnemonic, IDF, and one or more mnemonics indicating which record or records are to be selected. In line 2 the first word is the command, DISPLAY or PRINT, followed by the mnemonic of the sector you want output. This line directs the computer to display your output on a CRT or to print it on a teletypewriter or DCT 2000. Paraphrased in English, the sentence structure of a GET query is this:

Select this record or records that meet my specifications.
Display or print this part of each selected record.

If a record does not meet all your specifications, it will not be selected.

All the mnemonics you will need for the two lines of a GET query are listed in APPENDIX A. How to use them is explained on the following pages.

SPECIFYING WHICH RECORDS
ARE TO BE SELECTED

Line 1 of a GET query will include all specifications that indicate to the computer which records you want selected. In the order in which they will appear in this line, these specifications consist of

1) one of eight mnemonics and a value which identify a target or group of targets; this specification is required;

2) those contents (i.e., values) you need in a field or item in each selected record and the corresponding mnemonics for each; these specifications are optional.

What you should specify will depend on what you know about an installation and what data you need.

To begin composing line 1 of a GET query specify the command, GET, then the file mnemonic, IDF. Place a comma after each. Note that no space is permitted between the two.

GET,IDF,

REQUIRED SPECIFICATION:
LINE 1

Immediately after the mnemonic, IDF, you must specify one of the eight mnemonics listed below and a corresponding value. The first four identify only one installation and the last four, several installations.

Mnemonic	Value	Mnemonic	Value
IBE$$	BE number	IMILI	Military district
ICOMI	COMIREX number	ICAT$	IDHS category code
INPIC	NPIC number	ICOUN	Country code
MRN	Machine reference number	IGEO$	Geographic area

For example:

GET,IDF,IBE$$ Ø169-12345.

Select from the IDF the record on the installation identified by BE number Ø169-12345.

GET,IDF,ICOMI 12A1234.

Select from the IDF the record on the installation identified by COMIREX number 12A1234.

GET,IDF,INPIC Ø169-1234-Q1.

Select from the IDF the record on the target identified by NPIC number Ø169-1234-Q1.

Note the punctuation and spacing observed in all the examples. The mnemonic and its value are separated by a single space. The number of character positions in each value is identical to that given in APPENDIX A; when applicable, spaces must be allowed for unused character positions. To differentiate a zero from the letter O in all examples given in this manual, a zero is always typed as ∅. The line must be closed with a period.

You can also specify a machine reference number since it identifies the record of a particular target. For example:

```
GET,IDF,MRN 6∅∅433.
```

Select from the IDF the record identified by machine reference number 6∅∅433.

In each of the examples cited below, the computer is directed to select several records from the file.

```
GET,IDF,ICOUN AL.
```

Select from the IDF the records on all targets in Albania.

```
GET,IDF,IMILI 321.
```

Select from the IDF the records on all targets in military district 321.

```
GET,IDF,ICAT$ 12345.
```

Select from the IDF all records on targets assigned IDHS category code 12345.

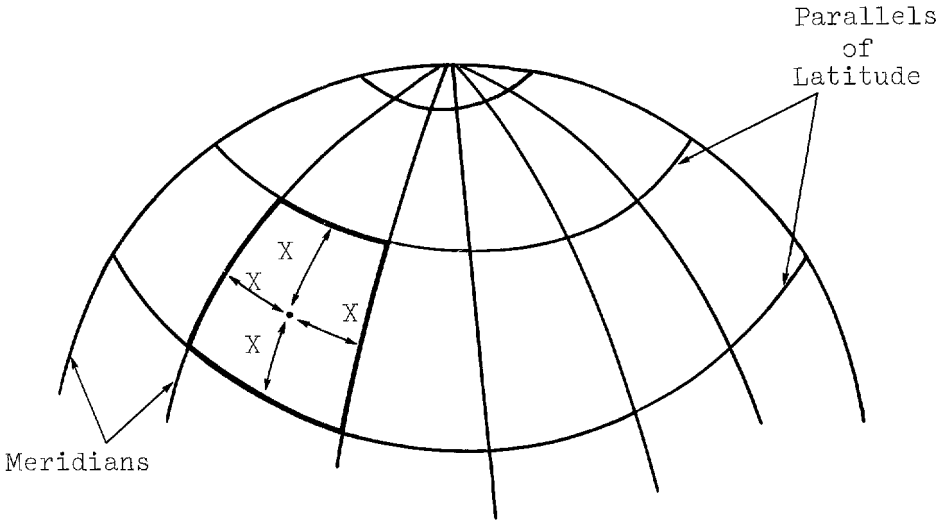
A word of caution about using a mnemonic that pertains to more than one installation. It may direct the computer to select a large volume of records. For example, assuming it is valid, the following construction in line 1 of a GET query would direct the computer to select about 11,000 records from the IDF:

```
GET,IDF,ICOUN UR.

Select from the IDF all
records on targets in
the USSR.
```

If you direct the computer to select over 5,000 records, you will receive an error message to this effect, and your query will not be processed.

A record or records can also be selected from the IDF on the basis of the physical location of one or more targets. You may direct the computer to select records on all installations located within an approximately square area on the earth's surface. This square must be bounded by two parallels of latitude -- one X nautical miles (nm) north and the other X nm south of the center point -- and by two meridians -- one X nm east and the other X nm west of the center point along a parallel of latitude passing through the center point. This square cannot include the north or south pole; X must be less than 999 nm.



To define such a square

1) determine the number of nm represented by one X; this number must be a whole number and be less than 999; if it is zero, the computer can select only one record (if there is one) -- that corresponding to the target located at the center point of the square;

2) express the geographic coordinates of the center point in degrees, minutes, seconds, and direction; measure latitude north and south from the equator and longitude east and west from Greenwich Meridian; if minutes and/or seconds are not known, you must specify zeros in the corresponding positions or the computer will not process your query; use leading zeros in latitude and longitude values.

Given these values, the computer will select the records for only those targets located inside the square you have defined. The mnemonic to be specified with these values is IGEO$.

When using the IGEO$ mnemonic, the general form of line 1 is this:

GET,IDF,IGEO$ X/Latitude/Longitude.

For example:

GET,IDF,IGEO$ 25/1Ø Ø4 53 N/14Ø 25 Ø7 E.

Select from the IDF all records on targets located in an area about 50 nm square, centered at the coordinates cited above.

GET,IDF,IGEO$ Ø/15 29 Ø3 S/Ø19 Ø6 51 W.

Select from the IDF the single record on the target located at the coordinates cited above.

In the last example cited, the computer is directed to select the record for a particular installation on the basis of coordinates only. Given only these coordinates, it is unlikely that the computer will perform the selection. To direct the computer to perform this operation you must know precisely what coordinates have been assigned to a target in an index to the IDF, not in the IDF itself.

Note the spacing and punctuation observed in the examples cited above. There must be a single space between IGEO$ and the nm value; between degrees and minutes; minutes and seconds; and seconds and direction in the latitude and longitude values. If applicable, use leading zeros with degrees, minutes, and seconds. Insert slashes (//) as indicated and close the line with a period.

With four of the mnemonics discussed so far, you may specify a set of values by truncating the number of characters usually specified in the value. Only some of the characters need be expressed. The rest can be represented by a single dollar sign, that is, $. If you choose to do this, the computer will select a set of records rather than a single record. The four mnemonics and the number of characters to be expressed with each are listed below.

Mnemonic	Values	What To Specify
IBE$$	BE numbers	First 4 characters (WAC) + $
INPIC	NPIC numbers	First 4 characters (WAC) + $
ICOMI	COMIREX numbers	First 3 characters + $
ICAT$	IDHS category codes	First 2 characters + $

For example, to direct the computer to select records on all installations assigned IDHS category codes beginning with 9Ø, write line 1 this way:

GET,IDF,ICAT$ 9Ø$.

Or, to direct the computer to select all records on installations located in WAC Ø123, write line 1 this way:

GET,IDF,INPIC Ø123$.

25X1

OPTIONAL SPECIFICATIONS:
LINE 1

So far we have discussed the selection of one or more records on the basis of these mnemonics and their corresponding values.

Mnemonic	Value
IBE$$	BE number
ICOMI	COMIREX number
INPIC	NPIC number
MRN	Machine reference number
IMILI	Military district number
ICAT$	IDHS category code
ICOUN	Country code
IGEO$	Geographic area

One of these mnemonics and a corresponding value must appear immediately after the file mnemonic in line 1 of each GET query.

In addition, you may elect to include additional specifications in line 1. Whether or not you choose to do this will depend upon what information you need. Optional specifications consist of the values (i.e., contents) you need in either one field or in one or more items from one field in each record to be selected. The values you wish to specify can pertain to a target (e.g., a BE number) or to the records themselves (e.g., mission number, date of information). You may specify a single field and its value or an item(s) and its value but not both. If you specify more than one item, all must appear in the same field and the same sector. Mnemonics for the fields and items you may specify and the formats of their respective values are listed in APPENDIX A. If a record does not meet all specifications given in line 1 of your query, it will not be selected from the IDF.

Specifying a Field

First, determine the field and value you need. Next, using APPENDIX A, determine the format of that value and the proper sector and field mnemonics to be specified with it. Then, to line 1 of your query add the following in the order listed:

```
. . . .,[Sector Mnemonic],[Field Mnemonic Field Value].
```

If this information does not appear in a given record, that record will not be selected.

For example, to indicate to the computer that in each record the ELEV field in the ILOCA sector should contain the value, 2,500 feet, the first line of your query would be this:

```
                Required      Optional
                    ↓      Sector  F i e l d
                    ↓         ↓       ↓
25X1  GET,IDF,[ICOUN  ],[ILOCA],[ELEV Ø25ØØ].
```

25X1 Select from the IDF all records on targets and situated at 2,500 feet above mean sea level.

In the example given below the value that should appear in the COMP field in the IHEAD sector of each record is the IEG component code, 42E.

```
                    Required          Optional
                        ↓          Sector   Field
                        ↓            ↓        ↓
GET,IDF,[IGEO$ 25/1Ø Ø4 53 N/14Ø 25 Ø7 E],[IHEAD],[COMP 42E].
```

From the IDF select the records on all installations
(1) located inside an area about 50 nm square;
(2) centered at the coordinates cited above; and
(3) for which IEG component 42E is responsible.

<u>Specifying Items</u>

Determine the item and value you need. Then, determine the format of that value and the sector, field, and item mnemonics to be specified with it. If you choose to specify more than one item, remember that all must appear in the same field and sector. To line 1 of your query add the following in the order listed:

```
   [ Sector  ] [ Field   ] [ Item     Item ] [ Item     Item ]
...,[Mnemonic],[Mnemonic],[Mnemonic Value],[Mnemonic Value],etc.
```

If this information does not appear in a given record, that record will not be selected. For example:

```
                 Required      O p t i o n a l
                           Sector Field      Items
GET,IDF,[ICAT$ ØØ4Ø3],[IBRIE],[BRI:],[DATE 7ØØ115,PHAS 3].
```

Select from the IDF records on all installations in IDHS category 403 provided that each record contains a brief report dated 15 January 1970 and produced during third-phase exploitation.

```
              Required  O p t i o n a l
                         Sector Field Item
GET,IDF,[ICOUN PK],[ISTAT],[STA:],[PHAS 1].
```

Select from the IDF all records on targets in Pakistan provided that the status of each target has been reported during first-phase exploitation.

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THE MRNLIST
MNEMONIC

Each time you transmit a query of any kind and receive an answer or the message, NULL SEARCH, a list of the machine reference numbers for the records pertaining to your answer is produced and stored temporarily in the computer. This list will remain in the computer only until you transmit another query; then it will be destroyed. It will also be destroyed when your communications with the computer are terminated.

If you wish, you may refer to this list in a subsequent GET query, provided that query is the next to be transmitted. The mnemonic for such a list is MRNLIST. When specified in line 1 of a GET query, MRNLIST directs the computer to select only the record or records pertaining to your preceding query. Use MRNLIST instead of the required mnemonic and value usually placed after IDF. No corresponding value is needed. For example:

```
GET,IDF,MRNLIST,IHEAD,COMP 21E.

From those records pertaining to
my preceding query, select only those
on targets that are the responsi-
bility of IEG component 21E.
```

In your next query you may use MRNLIST to refer to the list of machine reference numbers produced by the query cited above. Thus, because MRNLIST always refers to your preceding query, you may add optional specifications to line 1 without repeating your previous query. For example:

```
GET,IDF,MRNLIST,IHEAD,MILI 123.

From those records pertaining to
my preceding query, select only those
on targets located in military
district 123.
```

In your next query you may also use MRNLIST to refer to the query cited above.

SPECIFYING YOUR
OUTPUT: LINE 2

Line 1 of a GET query specifies which record or records are to be selected from the IDF. Line 2 directs the computer to output a sector or part of a sector of each selected record. This is the answer to your query. Paraphrased in English, the sentence structure of line 2 is this:

Output this sector of each selected record.

You can transmit GET queries to the UNIVAC 494 computer system via a CRT or a teletypewriter. You can receive your answers on a CRT, teletypewriter, or DCT 2000. Before writing line 2 of your query, decide which device will display or print your answer; this decision could affect the construction of line 2.

The first word in line 2 is always one of two commands: DISPLAY or PRINT. DISPLAY directs the computer to display your answer on a CRT screen. PRINT directs the computer to print your answer on a teletypewriter or DCT 2000. Which sector is to be displayed or printed is indicated by the mnemonic for that sector. This mnemonic is placed immediately after DISPLAY or PRINT. Your answer can be any one of the 13 sectors comprising each file record or the IHIGH sector in MRN 1. Mnemonics for all these sectors are listed in APPENDIX A. The sector you want output need not be identical to that specified in line 1 of a GET query, if a sector has been specified in line 1 of a GET query, if a sector has been specified.

The general form of line 2 is this:

DISPLAY, [Sector / Mnemonic].

or

PRINT, [Sector / Mnemonic].

To receive your answer on a CRT, specify DISPLAY, then the mnemonic of the sector you want displayed. For example:

DISPLAY,IHEAD.

Display the IHEAD sector of each selected record on a CRT.

DISPLAY,ILOCA.

Display the ILOCA sector of each selected record on a CRT.

If you transmit a GET query on a CRT or teletypewriter and want your answer printed on a teletypewriter or DCT 2000, specify PRINT and then the mnemonic of the sector you want printed. For example:

PRINT,IHEAD.

Print the IHEAD sector of each selected record.

PRINT,ILOCA.

Print the ILOCA sector of each selected record.

Note the punctuation observed in each example. DISPLAY and PRINT are always followed by a comma, and the line is closed with a period. No spacing is permitted between the command and the sector mnemonic.

You will indicate to the computer which device is to display or print your answer by means of a logical equipment number (LEN). The LEN for each on-line device is displayed on the front of that device, e.g., on a console or control panel. Which LEN to use and when to transmit it is explained elsewhere in this manual.

25X1

GETTING A PARTIAL
SECTOR AS OUTPUT

The answer to a GET query will be a partial sector if

* you specify in line 1 the mnemonic for a field containing cumulative values

* and in line 2 you direct the computer to output the sector in which that field is located

Given these conditions, your answer will consist of a partial sector of each selected record, that is, only those values specified in line 1 of your query. For example:

```
GET,IDF,ICOUN PK,IPHOT,PHO:,MISS [redacted]                    25X1
DISPLAY,IPHOT.

Select from the IDF the records on all targets
(1) located in Pakistan and
(2) observed on photography from mission [redacted]            25X1
    pass [redacted]
Display on a CRT only the entries derived from
mission [redacted] and recorded in the
PHO:  field.
```

25X1

25X1

25X1

The PHO: field contains cumulative entries or values, possibly some from other missions and/or passes; however, the answer to this query will consist of only those values specified in line 1 of the query.

25X1

GETTING MISSION
HIGHLIGHTS

25X1

In the IDF mission highlights are recorded only in the IHIGH sector of the record identified by machine reference number 1. This information does not appear in the record on each installation. Entries consisting of mission highlights are stored in the HIGH field in the IHIGH sector. To direct the computer to select this record and to output only those entries in which you are interested, specify (1) MRN ØØØØØ1, (2) the IHIGH mnemonic, (3) the HIGH mnemonic, and (4) one or more items in line 1. In line 2 specify the sector mnemonic, IHIGH. For example:

```
                                        Item with Range
                              Sector Field   of Values
                                   ↓    ↓        ↓
GET,IDF,MRN ØØØØØ1,IHIGH,HIGH,DATE 691212/691231.
DISPLAY,IHIGH.

Select from the IDF record 1.
Display only those entries
dated 12-31 December 1969, inclusive.
```

25X1

SUMMARY OF
GET QUERIES

QUERY	ANSWER
REQUIRED SPECIFICATION GET,IDF,[Mnemonic Value]. DISPLAY, or [Sector] PRINT,[Mnemonic].	
GET,IDF,IBE$$ ∅169-12345. DISPLAY,IHEAD.	IHEAD sector of single record on installation identified by BE number ∅169-12345
REQUIRED SPECIFICATION GET,IDF,[Mnemonic Values]. DISPLAY, or [Sector] PRINT,[Mnemonic].	
GET,IDF,IBE$$ ∅123$. DISPLAY,ISTAT.	ISTAT sectors of records on all targets whose first 4 BE numbers are ∅123

25X1

QUERY	ANSWER
REQUIRED SPECIFICATION	
GET,IDF,[IGEO$ X/Latitude/Longitude]. DISPLAY, or [Sector] PRINT,[Mnemonic].	
GET,IDF,IGEO$ 25/1Ø Ø4 53 N/14Ø 25 Ø7 E. PRINT,IBRIE.	IBRIE sectors of all records on targets located in an area 50 nm square, centered at coordinates cited in line 1

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II-19

25X1 25X1A 25X1

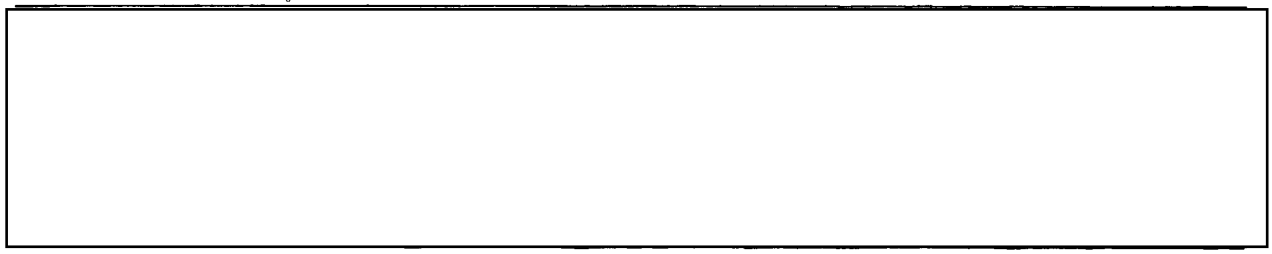
25X1

TOP SECRET

25X1A

25X1

QUERY ANSWER



GET,IDF,[Mnemonic & Value],[Sector Mnemonic],[Field Mnemonic],[Item Mnemonic Value],[Item Mnemonic Value], etc.
DISPLAY,
or [Sector Mnemonic].
PRINT,

GET,IDF,ICAT$ ØØ4Ø3,IBRIE,BRI:,DATE 7ØØ115,PHAS 3.
DISPLAY,IBRIE.

From records on all targets assigned IDHS category code 403, IBRIE sectors containing brief reports dated 15 Jan 70 & produced during 3rd-phase exploitation

GET,IDF,IMILI 11Ø,IBRIE,BRI:,DATE 69Ø6Ø1/6912Ø1.
DISPLAY,IBRIE.

From records on all military district 110, IBRIE sectors containing brief reports produced between 1 Jun 69 & 1 Dec 69

TOP SECRET

II-8

25X1

25X1

TOP SECRET

25X1

25X1

QUERY	ANSWER
GET,IDF,MRNLIST,IHEAD,COMP 21E. PRINT,IHEAD.	From records pertaining to preceding query, IHEAD sectors produced by IEG component 21E
GET,IDF,MRN ØØØØØ1,IHIGH,HIGH,DATE 691215/691231. DISPLAY,IHIGH.	Mission highlights dated 15-31 Dec 69

TOP SECRET

II-

25X1

TOP SECRET

25X1

25X1

III

CHAPTER III. INTER QUERIES

An INTER query totals the number of records on installations that can be identified by two or more features which you will specify. In other words, this query "asks" how many installations have this feature and this feature and this feature and so on. An INTER query does not output a sector or sectors of one or more records. Rather, the answer to this type of query is in this form:

NNNN UNIT RECORD(S) APPLY

Like a GET query, an INTER query also produces a list of machine reference numbers for the records pertaining to your answer. This list, which will be stored temporarily in the computer, gives you the capability of obtaining a sector from each record if you want it. If the answer to your INTER query is that zero unit records apply, you will receive this message:

NULL SEARCH

SPECIFYING RECORDS
TO BE COUNTED

An INTER query consists of two or more lines. In each you will indicate to the computer which records are to be counted by specifying the mnemonic for one of seven features and a related value which will identify a target or group of targets. You can specify only these features:

Features	
Mnemonic	Value
IMILI	Military district
ICAT$	IDHS category code
ICOUN	Country code
IGEO$	Geographic area
- - - - - - - - - - - - - - -	
ICOMI	COMIREX number
IBE$$	BE number
INPIC	NPIC number

However, to take advantage of the capability of this query, it is usually better to use those listed above the dotted line. An INTER query directs the computer to determine how many installations can be identified by all specified features. A COMIREX, BE, or NPIC number can identify only one installation. Therefore, if one of these features is specified in an INTER query, the answer to that query can only be this:

1 UNIT RECORD(S) APPLY

Or this: NULL SEARCH

If you use the IGEO$ mnemonic, remember that it must be followed by not one but three values that define a square. (See CHAPTER II.)

With four of the mnemonics listed above you can specify a truncated value. These four are IBE$$, INPIC, ICOMI, and ICAT$. How to truncate the values for each is explained in CHAPTER II. If you choose to do this, the computer will count several records rather than a single record. That is, it will determine how many targets identified by a set of features can also be identified by the other features specified in your query.

In an INTER query you must specify at least two features but no more than twenty. The mnemonic and value for each are placed on a separate line. Formats for all values are given in APPENDIX A.

FORMAT OF AN
INTER QUERY

The format of an INTER query is this:

First Feature	INTER,IDF,[Mnemonic Value];
Second Feature	[Mnemonic Value];
	.
	.
	.
Last Feature	[Mnemonic Value].

Note the punctuation and spacing. Each line except the last is closed with a semicolon; the last line is closed with a period. Each mnemonic and its value is separated by one space. For example:

INTER,IDF,ICAT$ [redacted] 25X1
IBE$$ 2Ø15$.

How many installations have been
assigned IDHS category code
25X1 [redacted]
and have BE numbers beginning
with 2015.

INTER,IDF,IMILI 331;
IGEO$ 25/1Ø Ø4 36 N/11Ø 25 14 W;
25X1 ICAT$ [redacted]

How many targets are in military
district 331;
and in an area 50 nm square, cen-
tered at the coordinates cited
above;
and are assigned IDHS category code
25X1 [redacted]

THE MRNLIST
MNEMONIC

Each time you transmit a query to the computer and receive an answer, a list of the machine reference numbers for the records pertaining to your answer is produced and stored temporarily in the computer. This list will remain in the computer only until you submit another query; then it will be destroyed. It will also be destroyed when your communications with the computer system are terminated. If you wish, you may refer to this list in a subsequent INTER query, provided that query is the next you transmit. See also CHAPTER II, THE MRNLIST MNEMONIC.

To refer to such a list in an INTER query, specify the mnemonic, MRNLIST, instead of the usual feature. When specified in an INTER query, MRNLIST directs the computer to determine how many installations represented in that list have the other features specified in your query. For example:

```
INTER,IDF,ICAT$ [redacted]                                    25X1
ICOUN PK;
MRNLIST.

How many targets are assigned
    IDHS category code [redacted]                             25X1
and are located in Pakistan
and are represented in a list of machine
    reference numbers produced
    by my preceding query.
```

In your next query you may also reference the list of machine reference numbers produced by the query cited above. For instance, if you want a sector of each record pertaining to the answer of the query cited above, specify the MRNLIST mnemonic in a GET query. Or specify MRNLIST in another INTER query. Transmit the query after you have received the answer to the query cited above.

IV

CHAPTER IV. ALSO QUERIES

In content, format, and output ALSO queries are similar to INTER queries. While an INTER query "asks" how many targets can be identified by this feature and this feature and this feature, an ALSO query "asks" how many targets identified by one of several features can also be identified by a second feature. That is, this type of query will total the number of records on installations that have this feature or this feature or this feature and this feature. An ALSO query does not output a record sector or sectors. Rather, the answer to an ALSO query is in this form:

NNNN UNIT RECORD(S) APPLY

Like GET and INTER queries, an ALSO query produces a list of machine reference numbers for the records corresponding to your answer. This list, which will be stored temporarily in the computer, gives you the capability of obtainiing a sector from each record if you want it. If the answer to an ALSO query is that zero unit records apply, you will receive this message:

NULL SEARCH

SPECIFYING RECORDS
TO BE COUNTED

An ALSO query consists of two or more lines. In each you will indicate to the computer which records are to be counted by specifying the mnemonic for one of seven features and a related value which will identify a target or group of targets. You can specify only these features:

Features	
Mnemonic	Value
IMILI	Military district
ICAT$	IDHS category code
ICOUN	Country code
IGEO$	Geographic area
- - - - - - - - - - - - - - -	
ICOMI	COMIREX number
IBE$$	BE number
INPIC	NPIC number

An ALSO query directs the computer to determine how many installations identified by one of several features can also be identified by a second feature. The second feature is specified in the last line of your query. The others appear in the preceding lines. Thus, to take advantage of the capability of an ALSO query, you should usually limit your choice of a second feature to those listed above the dotted line in the table. If you specify a BE, COMIREX, or NPIC numbers as a second feature in the last line of your query, the answer to that query could only be this:

1 UNIT RECORD(S) APPLY

Or this:

NULL SEARCH

If you use the IGEO$ mnemonic, remember that it must be followed by not one but three values that define a square. (See CHAPTER II.)

With four of the mnemonics listed above you can specify a truncated value. These four are IBE$$, INPIC, ICOMI, and ICAT$. How to truncate the values for each is explained in CHAPTER II. If you choose to do this, the computer will count several records rather than a single record.

In an ALSO query you must specify at least three features but no more than twenty. The mnemonic and value for each are placed on a separate line. Formats for all values are given in APPENDIX A.

FORMAT OF AN
ALSO QUERY

The format of an ALSO query is this:

Set of Features	Line 1	ALSO,IDF,[Mnemonic Value];
	Line 2	[Mnemonic Value];
	Line 3	[Mnemonic Value];
	.	.
	.	.
	.	.
Second Feature	Last line	[Mnemonic Value].

Note the punctuation and spacing. Each line except the last is closed with a semicolon; the last line is closed with a period. Each mnemonic and its value is separated by one space. For example:

```
ALSO,IDF,ICOUN PK;
IMILI Ø15;
ICAT$ [redacted]
```

25X1

How many targets are in Pakistan;
or in military district 15;
and are assigned IDHS category
code [redacted]

25X1

Expressed another way, this query "asks" how many targets

are in Pakistan and are assigned IDHS category code [redacted] 25X1

or

are in military district 15 and are assigned IDHS category
code [redacted]

25X1

```
ALSO,IDF,IMILI 1Ø9;
IMILI 11Ø;
ICAT$ [redacted]
IGEO$ 65Ø/31 17 18 N/15Ø 11 Ø8 W.
```

25X1

How many installations
are in military district 109 and in the geographic square defined in the last line;
or, are in military district 110 and in the geographic square defined in the last line;
or, are assigned IDHS category code [redacted] and in the geographic square defined in the last line.

25X1

```
ALSO,IDF,IMILI 1Ø9;
IMILI 11Ø;
ICOMI 12A$;
ICAT$ 33$;
IGEO$ 25/31 17 18 N/15Ø 16 Ø8 W.
```

How many installations
are in military district 109 and in the geographic square defined in the last line;
or, in military district 110 and in the geographic square defined in the last line;
or, have COMIREX numbers beginning with 12A and are located in the geographic square defined in the last line;
or, are assigned IDHS category codes beginning with 33 and are located in the geographic square defined in the last line.

THE MRNLIST
MNEMONIC

Each time you transmit a query to the computer and receive an answer, a list of the machine reference numbers for the records pertaining to your answer is produced and stored temporarily in the computer. This list will remain in the computer only until you submit another query; then it will be destroyed. It will also be destroyed when your communications with the computer system are terminated. If you wish, you may refer to this list in a subsequent ALSO query, provided that query is the next you transmit. See also CHAPTERS II and III, THE MRNLIST MNEMONIC.

To refer to such a list in an ALSO query, specify the mnemonic, MRNLIST, instead of the usual feature. When specified in any line of an ALSO query, this mnemonic performs the same function as the feature it replaces. For example:

```
ALSO,IDF,ICOUN PK;
ICOUN CZ;
MRNLIST.
```

How many installations
are in Pakistan and in a list of machine
reference numbers produced by my
preceding query;
or, in Czechoslovakia and in a list of machine
reference numbers produced by my preceding
query.

Or:

```
ALSO,IDF,MRNLIST;
ICOUN PK;
ICOUN CZ.
```

How many installations
are represented in a list of machine reference
numbers produced by my preceding query and
are located in Czechoslovakia;
or, are located in Pakistan and in Czechoslo-
vakia.

In your next query you may also reference the list of machine reference numbers produced by the query cited above. For instance, if you want a sector of each record pertaining to the answer for that query, specify the MRNLIST mnemonic in a GET query. Or specify MRNLIST in a subsequent INTER or ALSO query. Transmit the query after you have received the answer to the query cited above.

V

CHAPTER V. SIMPLIFIED PIRL QUERIES

You can also use a simplified PIRL query. This type of query directs the computer to select one record from the IDF and display or print one sector of that record. The query consists of only one line. First, specify the machine reference number of the record containing the sector you want and then the mnemonic for that sector. All sector mnemonics are listed under GET QUERIES: SECTOR MNEMONICS FOR LINE 2 in APPENDIX A.

The general form of a simplified PIRL query is this:

MRN,[Sector Mnemonic].

For example:

551114,IHEAD.

Select record 551114 from the IDF; display or print the header sector on the device being used.

551114,ILOCA.

Select record 551114 from the IDF; display or print the ILOCA sector on the device being used.

The answer to a simplified query will always be returned to the device used for transmitting the query. The LEN of this device is specified when you set up communications with the computer system. (See CHAPTERS VI and VII.)

VI

CHAPTER VI. SUBMITTING QUERIES AND RECEIVING ANSWERS ON A CRT

Before using a CRT, be sure that you have constructed each query according to the instructions given in the preceding chapters. You may transmit as many queries as you wish during one sitting. To make the most of this opportunity it is recommended that you list your queries on paper before using a CRT. After each query has been transmitted, you will receive an answer within a short time. Then submit your next query, if any. A teletypewriter will always be associated with the CRT you use; some messages from the computer system will be transmitted to it rather than to the CRT. Initialization and turnoff procedures for CRTs are explained in Introduction to the Remote Access Computer Service.

SETTING UP COMMUNICATIONS
WITH THE COMPUTER SYSTEM

To set up communications with the UNIVAC 494 computer system follow these steps in the order listed.

STEP 1 Press [TYPE] control switch, then

[ERASE PAGE] control switch

STEP 2 Type PIRL,LEN (of CRT you are using)

Press (CR) then (LF) keys

Type a comma after PIRL.
LEN = logical equipment number.
Pressing the LF key will move the cursor to character position 1 in the next line.

STEP 3 Type Your Component Code,Name,Extension

Press (EOM) key

[XMIT PAGE] in second row of control switches

Pressing XMIT PAGE will transmit this data to the computer.

If communications with the computer have been properly established, the ACK MSG status lamp will go on almost immediately. You will then receive a message on the teletype associated with the CRT you are using. The message will include this data: PIRL, the first ten characters you type in line 2, and a job number (JNR) assigned by the computer system.

25X1

Although other information will also appear in the message, you need not be concerned with it. For example:

```
PIRL, JOHN DOE, IE          SMT=1128      494P JOB
JNR=1234567896     PRI=Ø    PTS=Ø   MCQ=2          X
```

Wait for the UNSOL MSG switch (top row of function switches) to go on, then continue with STEP 4.

STEP 4 Press [UNSOL MSG] to turn it off. Wait for this message to appear on the screen:

WELCOME TO PIRL
PLEASE CLEAR SCREEN BEFORE STARTING QUERY

STEP 5 Press [ERASE PAGE] control switch to clear screen.

You are now ready to type your first query.

Once you have properly established communications with the computer system, you must respond to any message received from that system within five minutes. You can respond by

* either submitting a query
* or pressing a function switch

If you do not respond, you will receive a message stating that communications are about to be terminated. Immediately after you receive such a message, communications will automatically be terminated.

25X1

If communications with the computer system have not been properly established, that is, the ACK MSG lamp does not go on, follow the procedures given below.

* If there is no message on the screen and the REPEAT ACTION status lamp is on, repeat STEPS 2, 3, and 4 cited above.

* If there is no message on the screen and the REPEAT ACTION status lamp is not on, contact the Chief, Systems Programming Branch, AID for assistance.

* If EOT is displayed anywhere on the screen,

  press [ERASE PAGE]

  repeat STEPS 2, 3, and 4 cited above

* If a message that does not include EOT appears on the screen,

  press [TERM] function switch

  If still another message appears,

  press [ERASE PAGE]

  type KILLTHEJOB

  Type these words exactly as given; do not separate them with spaces. Then,

  press [XMIT PAGE]

  Wait until EOT appears on the screen. When it does,

  press [ERASE PAGE]

  repeat STEPS 2, 3, and 4 cited previously.

TRANSMITTING
QUERIES

To type one or more queries and transmit them to the computer follow the steps listed below. Remember that there are no lower-case letters on a CRT. Thus, the L key cannot be used to type the numeral 1.

Type — Your first query. As you do, it will appear on the screen.

Press (LF) at the end of each line except the last.

Do not press this key until you have typed the required punctuation at the end of each line.

Press (EOM) key at the end of the last line.

XMIT PAGE control switch

Pressing this switch transmits your query to the computer.

Wait for your answer to appear on the screen.

Shortly after you have transmitted your query to the computer, your answer (if any) will appear on the screen. After reading your answer, you may submit additional queries.

* Press the ERASE PAGE control switch if

- the last query transmitted was an INTER or an ALSO query
- you received NULL SEARCH in answer to a GET or simplified query

25X1

* Press the PIRL MODE function switch if

- the last query transmitted was a GET or simplified PIRL query
- and you received an answer

Now submit your next query.

Correcting Errors

At any time while you are typing a query on a CRT keyboard, you can correct errors by replacing, deleting, and inserting characters.

To replace a character or characters in a query, place the cursor under the character to be replaced. Type the correct character. For example,

Before:	TIPE
After striking the Y key:	TYPE

To delete a character place the cursor under the character to be deleted. Press the DELETE control switch, then the space bar. For example,

Before:	DELEETE
After striking space bar:	DELETE

Then press the TYPE control switch and continue to type your query.

To insert a character move the cursor to the position in which the character is to be inserted. Press the INSERT control switch. Then type the desired character. For example,

Before:	INERT
After striking the S key:	INSERT

Press the TYPE control switch and continue to type your query.

If you are typing a query and for any reason wish to retype it, press the ERASE PAGE control switch, retype your query, and transmit it to the computer.

Transmitting a LEN for Printed Answers

If you submit a GET query and PRINT is specified in line 2, you will receive this message:

TO WHICH LEN DO YOU WISH OUTPUT SENT? ---.

Type — LEN of the teletypewriter or DCT 2000 to which you want your answer sent. Type the LEN over the three dashes at the end of the message.

Press (EOM) key

Place the cursor under the first digit of the LEN.

Press [XMIT BLOCK] control switch

You will receive this message which will usually appear shortly after you have pressed this switch:

FUNCTION COMPLETE

Do not use the keyboard until this message appears on the screen.

The message, FUNCTION COMPLETE, indicates that the computer has processed your request. However, no printing has begun. How soon you will receive a printed copy of your answer will depend on the number of requests that must be serviced at the time.

While FUNCTION COMPLETE is displayed on the screen, you may

* either resume reading the answer to your current query by pressing the NEXT PAGE function switch
* or press ERASE PAGE and enter another query
* or terminate your communications with the computer by pressing the TERM function switch

RECEIVING ANSWERS TO GET AND SIMPLIFIED QUERIES

Shortly after you have transmitted either a GET or simplified query to the computer, the first "page" of your answer will appear on the CRT screen. A "page" is the amount of data that can be displayed on the screen at one time, namely, about 400 words. If the entire answer to your query cannot be displayed on the screen at one time, press the NEXT PAGE function switch as often as necessary. Each time you press this switch, the next page of your answer will appear on the screen. If you want to recall a previously displayed page, press the PREV PAGE function switch.

If you receive an obviously incorrect or garbled page, press the RE-XMIT function switch to correct this problem. If the page continues to be illegible, press ERASE PAGE and resubmit your query.

If there are no IDF records that meet all specifications expressed in your GET query, this message will appear on the screen:

NULL SEARCH

Over 20 Records

For any given GET query, no more than 20 of the records selected from the file will be used to answer the query. If more than 20 records are required to answer the query, this kind of message will appear at the bottom of the screen of the CRT you are using:

TOO MANY RECORDS IN ANSWER. NNNN UNIT RECORD(S) APPLY.

NNNN represents the number of records needed to answer your query. In some instances you will really need only a portion of the records that you directed the computer to select. To receive only the data you need, submit another GET query. Use the MRNLIST mnemonic and additional specifications so that the computer will reduce the number of records to be selected and output only what you need. (See CHAPTER II.)

On the other hand, if you need all records selected by your previous GET query, use the Batch Query Language (BQL) to compose the query and submit it via a CRT keyboard. How and when to do this is explained in USING THE BATCH QUERY LANGUAGE TO RETRIEVE OVER 20 RECORDS at the end of this chapter.

Over 20 Pages

If the answer to your GET query consists of more than 20 pages of displayed data, this message will appear on the screen of the CRT you are using:

OUTPUT PAGE FILE FULL. YOU MAY EXAMINE OUTPUT GENERATED

When you receive this message, you can do one of two things:

1. either read the 20 pages of information already transmitted to the CRT you are using by pressing the NEXT PAGE and PREV PAGE function switches, as appropriate;

2. or submit a new GET query that includes the MRNLIST mnemonic and other appropriate specifications so that you get only part of the data.

GETTING PRINTED COPIES OF ANSWERS
TO GET AND SIMPLIFIED QUERIES

Even though you may not have specified PRINT in line 2 of a GET query, you can still obtain a printed copy of the answer to that query. You may also obtain a printed copy of the answer to a simplified PIRL query. However, you must decide whether you want a printed copy of your answer before you submit another query, or, if you do not intend to submit another query, before you terminate communications with the computer system.

To obtain a printed copy of one page display the page you want printed. Then,

Press [PRINT PAGE] function switch

You will then receive this message:

TO WHICH LEN DO YOU WISH OUTPUT SENT? ---.

Type the LEN of the teletype or DCT 2000 to which you want your output sent. Type this LEN over the three dashes at the end of the message.

Press (EOM) key

Place the cursor under the first digit of the LEN.

Press [XMIT BLOCK] control switch

You will receive this message which will usually appear shortly after you have pressed the control switch:

FUNCTION COMPLETE

Do not use the keyboard until this message appears on the screen.

To obtain a printed copy of more than one page press the PRINT REPORT function switch. Then follow the procedures given above for obtaining a printed copy of one page.

RECEIVING ANSWERS TO INTER AND ALSO QUERIES

The answers to INTER and ALSO queries will always be displayed in this form:

NNNN UNIT RECORD(S) APPLY

NNNN represents the number of records that answer your query. If no records meet the conditions specified in your query, this message will appear on the screen of the CRT you are using:

NULL SEARCH

To retrieve the records represented by the total count submit a GET query that specifies the MRNLIST mnemonic. (See CHAPTER II.)

GETTING MACHINE REFERENCE NUMBERS

Remember that each time you transmit a query and receive an answer, a list of machine reference numbers for the records pertaining to your answer is produced and stored temporarily in the computer. You can display this list at any time while your answer appears on the screen. To display this list press the DISP MRNS function switch. If the list consists of more than 180 machine reference numbers, only the first 180 will be displayed on the CRT screen. If you need the entire list, obtain a printed copy of the list. To do this follow the procedures given in GETTING PRINTED COPIES OF ANSWERS TO GET AND SIMPLIFIED QUERIES with one exception: begin the sequence of procedures by pressing the PRINT MRNS function switch, not the PRINT PAGE switch.

DISPLAYING QUERIES
DURING OUTPUT

At any time you can interrupt the display of output in order to reread the query that produced that output. To display such a query press the LAST QUERY function switch. In the case of GET and simplified queries, the answer being displayed on the CRT screen will be replaced by the query that produced that answer. This will in no way affect the answer. In the case of INTER and ALSO queries, the answer (a statistic) will remain on the screen; the pertinent query will appear at the top of the screen.

To remove a displayed query and, when pertinent, redisplay an answer, press the NEXT PAGE function switch.

USING THE BATCH QUERY
LANGUAGE TO RETRIEVE
OVER 20 RECORDS

If more than 20 records are required to answer your previous GET query and you need all these records, you can receive them by using the Batch Query Language (BQL) rather than the PIRL Query Language to compose your query. How to do this and how to transmit such a query via a CRT is explained in the procedures given below. If you are notified that your communications with the computer are to be terminated while you are recomposing your query, press the RE-XMIT function switch. Pressing this switch will extend communications with the computer for another five minutes.

Press [BQL MODE] function switch

You will then receive this message:

YOU ARE NOW IN BQL MODE. CLEAR SCREEN BEFORE ENTERING BQL STATEMENTS.

Press [ERASE PAGE] control switch

The screen will be cleared; the cursor will return to home position. You are now ready to enter a BQL query.

Composing a BQL query can be done in one of two ways. Which method to use will depend upon what you specified in line 1 of your previous GET query. If you specified a field containing several entries (cumulative values), the format of your previous GET query was this:

REQUIRED	O P T I O N A L				
GET,IDF,	[Mnemonic & Value],	[Sector Mnemonic],	[Field Mnemonic],	[I t e m 1 Mnemonic Value],	[I t e m 2 Mnemonic Value] . . .

Therefore, use this BQL format and reconstruct your query:

```
FOR FILE IDF;                                    LF

REPORT [Sector Mnemonic] ON [LEN];               LF

WHEN [Sector Mnemonic],[Field Mnemonic],[Item 1 Mnemonic] EQ [Value 1];   LF
     [Item 2 Mnemonic] EQ [Value 2];             LF
                .
                .
                .
     [Last Item Mnemonic] EQ [Last Value].
```

Please note the margins, spacing, and punctuation to be observed when composing a query in this query language. Begin typing the statements that start with FOR, REPORT, and WHEN at the left margin. Indent five (5) spaces from the left margin before typing all other statements. Note that a single space appears before and after the letters EQ. All other spacing to be observed is indicated in the format. The LEN you specify in line 2 must be that of a teletypewriter, DCT 2000, or high-speed printer -- not that of a CRT. For example:

```
FOR FILE IDF;
REPORT IHEAD ON Ø25;
WHEN IOBJE,OBJE,DATE EQ 69Ø415;
```

25X1

If, however, in line 1 of your previous GET query you did not specify a field in which entries are cumulative and you want all records required to answer that query, use this BQL format and reconstruct your query:

FOR FILE IDF; (LF)

REPORT [Sector / Mnemonic] ON [LEN].

The LEN you specify in line 2 must be that of a teletypewriter, DCT 2000, or high-speed printer -- not that of a CRT. Then,

Press (EOM) at the end of the last line

[XMIT / PAGE] control switch

You will receive this message on the screen:

PIRL TO BQL COMPLETE

You may now continue to submit PIRL queries or terminate your communications with the computer. Before submitting additional PIRL queries, press the PIRL MODE function switch. To terminate communications with the computer press the TERM function switch.

25X1

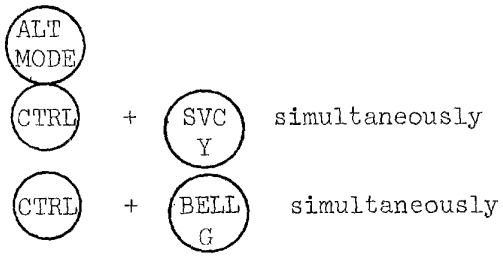
VII

CHAPTER VII. SUBMITTING QUERIES AND RECEIVING ANSWERS ON TELETYPEWRITERS

The teletypewriters you can use to transmit PIRL queries are the ASR and KSR Model 35 Teletypes and the Kleinschmidt Model 311 Electronic Data Printer. These devices are located in remote stations throughout the building and are on line with the UNIVAC 494 computer system. Two types of Kleinschmidt printers will be available. One can be used to transmit queries and to receive output. The other will only print output and will have no keyboard. You can submit up to two queries in one transmission. It is recommended that you list your query or queries on paper before using a teletypewriter. The procedures for transmitting queries via all these devices are identical. How to initialize a teletypewriter is explained in Introduction to the Remote Access Computer Service.

TRANSMITTING
QUERIES

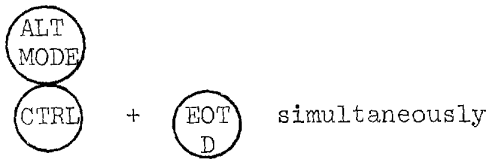
Before transmitting a query on a teletypewriter, be sure that the computer system is available for use by pressing these keys in the order listed:



If the system is available, you will receive this kind of message on the teletype you are using:

1Ø2	Ø94Ø	A RYE READY	QØØØØ2
(LEN)	(Time)		(Number of Programs in the Queue)

If such a message does not appear, press



A so-called RYE READY message will then be printed. If it is not, contact the Chief, Systems Programming Branch, AID for assistance. You will receive no other messages from the computer system before you transmit a query.

25X1 [redacted] TOP SECRET [redacted] [redacted] 25X1

To transmit a query via a teletypewriter follow these procedures in the order listed.

Press (ALT MODE)

(CTRL) + (SMK A) simultaneously

Type PIRL,LEN (R/L)

Your Component Code,Name,Extension (R/L)

Press (ALT MODE)

(CTRL) + (SOS Q) simultaneously

Type Line 1 of first query (R/L)

Line 2 of first query (if any) (R/L)

Last line of first query. (R/L)

Repeat this typing sequence for second query, if any.

Press (ALT MODE)

(CTRL) + (EOT D) simultaneously

The LEN or logical equipment number you specify here must be that of the teletypewriter, DCT 2000, or other on-line printer to which your answer will be transmitted. This device may or may not be the one you are using. R/L is an abbreviation for the RETURN and LINE FEED keys. If the first query to be transmitted is invalid, the computer will not accept the second query (if any) submitted in the same transmission. Correct all errors and resubmit both queries.

If you submit two queries in one transmission, you should submit them in one of the following combinations listed below. The sequence given in each combination must also be observed.

1 INTER query
1 INTER query

1 ALSO query
1 ALSO query

1 INTER query
1 ALSO query

1 INTER query
1 GET query

1 ALSO query
1 GET query

1 ALSO query
1 INTER query

Two GET or two simplified queries require separate transmissions.

TRANSMITTING QUERIES ON PAPER TAPE

If you wish, you can use the ASR paper tape punch and reader unit to punch and transmit queries. Recording queries on paper tape is a time-saving measure since you can transmit frequently used queries without using the keyboard each time.

Punching Queries on Paper Tape

The paper tape punch and reader unit is located on the left side of the ASR teletype. Before punching a tape, you must convert the teletype to a so-called local mode, that is, to an off-line status.

Instructions for doing this appear on the control panel. After the conversion is complete, you will receive this teletype message indicating that the ASR is in a local mode:

LR

Then,

1. Press these keys in the order listed:

   ALT MODE
   CTRL + SVC simultaneously
   L

2. Turn the PUNCH button to ON.

3. Feed about six inches of tape through the tape gate by pressing and simultaneously holding these keys:

   CTRL, SHIFT, REPT, P

   Hold all these keys down until the desired amount of paper tape has been fed through the tape gate.

4. Follow the instructions given in the TRANSMITTING QUERIES section in this chapter. A copy of your input will be printed by the teletype you are using.

5. Tear off the punched paper tape. To identify your tape it is recommended that you place a label and date in a conspicuous place at the beginning of the tape.

6. Press the RESET button to return the teletype to on-line status. Turn the PUNCH button to OFF.

You are now ready to transmit your query via the ASR paper tape reader.

Transmitting Queries
Punched on Paper Tape

Be sure that the ASR teletype is on line. To transmit your query via the paper tape reader follow these procedures:

1. Press the square red button under the tape gate to release the gate.

2. Place the tape over the feed holes on the tape feed wheel; the narrower, unperforated margin must face the tape reader, not you.

3. Place the code holes of the first character to be read slightly behind the sensing pins.

4. Close and lock the tape gate by pushing it down. Press the READER ON button.

The tape will stop when the last punched character has been read. Press the square red button to release the tape.

RECEIVING
ANSWERS

Shortly after you have transmitted a query or queries to the computer system, the answer(s) will be printed by the teletypewriter, DCT 2000, or other on-line printer you have specified via a LEN. The answer to a GET query will be a sector or partial sector. Answers to INTER and ALSO queries will always be printed in this form:

NNNN UNIT RECORD(S) APPLY

NNNN represents the number of records that answer your query.

If there are no records in the IDF that meet all your specifications, you will receive this message on the teletypewriter you are using:

NULL SEARCH

To retrieve sectors from the records represented by the answer to an INTER or ALSO query, submit a GET query that specifies the MRNLIST mnemonic. Type the GET query immediately after your INTER or ALSO query; transmit both to the computer at the same time. If both are not transmitted at the same time, the next transmission will destroy the list of machine reference numbers produced by your INTER or ALSO query.

OUTPUT LIMITATIONS:
GET QUERIES

For any given GET query, no more than 10 of the records selected from the file will be used to answer the query. If more than 10 records are required to answer the query, this kind of message will be printed by the teletypewriter you are using:

TOO MANY RECORDS IN ANSWER. NNNN UNIT RECORD(S) APPLY

NNNN represents the number of records needed to answer your query. In some instances you will need only a portion of the records you directed the computer to select. To receive only the data you need, submit another GET query; use the MRNLIST mnemonic and additional specifications so that the computer will reduce the number of records to be selected and output only what you need. (See CHAPTER II.)

If you need all records selected by your previous GET query, use the Batch Query Language (BQL) to compose your query. (See User's Manual for the Batch Query Language.)

GETTING MACHINE
REFERENCE NUMBERS

Each time you transmit an INTER or an ALSO query and receive an answer, a list of machine reference numbers for the records pertaining to your answer is produced and stored temporarily in the computer. If you wish, you can get a copy of this list. However, directing the computer to print the list of machine reference numbers produced by an INTER or ALSO query precludes submitting two queries in the same transmission.

To get a copy of the list type only one query and the word PRINT immediately after the last line of the query; then transmit this data to the computer.

```
Line 1 of query;      R/L
Line 2 of query;      R/L
Last line of query.
PRINT.
```

The list of machine reference numbers will be printed by the same device that will print your answer.

VIII

CHAPTER VIII. SUMMARY OF PIRL QUERIES

GET QUERIES

Function	Select one or more records that meet your specifications and output a sector or partial sector of each.
Restrictions	Required specification: one of eight mnemonics and a related value which identify a target or group of targets; placed immediately after the file mnemonic.
	Optional specifications: values you need in one field or in one or more items in the same field in each selected record.
	Will not select more than 5,000 records from the IDF on the basis of one of the required mnemonics and a value.
	Truncating values: limited to values expressed with the IBE$$, INPIC, ICOMI, and ICAT$ mnemonics; only a certain number of characters can be truncated.
	Range of values: can be expressed only with field and item mnemonics.
	Transmitting GET queries via a teletypewriter: in one transmission, only one GET query can be submitted with an INTER or ALSO query; two GET queries require separate transmissions.

For answers displayed on a CRT screen:
- no more than 20 records are selected
- no more than 20 pages are displayed
- no more than 180 machine reference numbers can be displayed at one time

For answers printed by a teletypewriter: no more than 10 records are selected.

INTER QUERIES

Function — Total the number of installations identified by all features specified and output this total.

Restrictions — Choice of mnemonics for features is limited to seven.

At least two but no more than twenty features are to be specified in each query.

Truncating values: limited to the values expressed with the IBE$$, INPIC, ICOMI, and ICAT$ mnemonics; only a certain number of characters can be truncated.

Transmitting INTER queries via a teletypewriter: no more than two INTER queries can be submitted in the same transmission; only one can be transmitted with an ALSO or GET query.

ALSO QUERIES

Function — Total the number of installations identified by one of several features and by a second feature; output is this total.

Restrictions — Choice of mnemonics for features is limited to seven.

At least three but no more than twenty features are to be specified in each query.

Truncating values: limited to the values expressed with the IBE$$, INPIC, ICOMI, and ICAT$ mnemonics; only a certain number of characters can be truncated.

Transmitting ALSO queries via a teletypewriter: no more than two ALSO queries can be submitted in the same transmission; only one can be transmitted with an INTER or GET query.

SIMPLIFIED QUERIES

Function — Based on a machine reference number, select one record from the IDF and print or display one sector of that record.

Restrictions — When transmitted via a teletypewriter, two simplified queries require separate transmissions.

Answer is always returned to the on-line device used for transmitting the query.

CHAPTER IX. ERROR MESSAGES

If you have transmitted an invalid query to the computer, you will receive an error message. Each error message will appear immediately after the invalid query. All error messages, what they mean, and what to do about each is explained on the following pages.

ERROR MESSAGES
(Messages are listed in alphabetical order)

Error Message	Error	What To Do
HARDWARE ERROR FROM EFC	- - -	Resubmit query; if error recurs, contact Chief, Information Systems Branch, AID
ILL DELIM - NOT A BLANK	Required blank omitted	Correct spacing & resubmit query
ILL DELIM - NOT A COMMA	Required comma omitted	Correct punctuation & resubmit query
ILL DELIM - NOT SEMICOL	Required semicolon omitted	Correct punctuation & resubmit query
ILL DELIM - NOT SLASH	Required slash omitted	Correct punctuation & resubmit query
ILLEGAL FIELD NAME	Invalid field mnemonic for specified sector	Correct field mnemonic; resubmit query
ILLEGAL FILE NAME	Invalid file mnemonic used in query	Use IDF & resubmit query

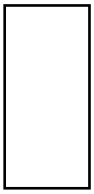
ERROR MESSAGES (CONTINUED)

Error Message	Error	What To Do
ILLEGAL GEO INDEX TERMS	X value specified with IGEO$ to define geographic square is over 999 nm	Reduce value to less than 999 nm; resubmit query
ILLEGAL INDEX NAME	Invalid mnemonic in required specification in GET query; or invalid mnemonic in INTER or ALSO query	Correct mnemonic; resubmit query; see APPENDIX A
ILLEGAL INDEX VALUE	Range of values used in required specification in line 1 of GET query or with mnemonic in INTER or ALSO query	Range of values cannot be used; replace range of values with 1 value; resubmit query
ILLEGAL ITEM NAME	Invalid item mnemonic for specified field & sector	Correct item mnemonic; resubmit query; see APPENDIX A
ILLEGAL KEYBOARD MSG	Invalid function switch pressed on CRT control panel	Press correct function switch & submit new query or press TERM function switch

ERROR MESSAGES (CONTINUED)

Error Message	Error	What To Do
ILLEGAL LAT-LONG	Latitude &/or longitude specified with IGEO$ unrealistic or does not conform to required convention	Correct values & resubmit query; see APPENDIX A
ILLEGAL LEN	LEN of on-line device not authorized to receive output or number is incorrect	Specify valid LEN & resubmit query
ILLEGAL QUERY COMMAND	Invalid command (first word in query)	Type GET, INTER, or ALSO; resubmit query
ILLEGAL RFT IDENT	Invalid sector mnemonic in line 2 of GET query	Correct sector mnemonic & resubmit query; see APPENDIX A
ILLEGAL SEARCH TERM IN QUERY	Invalid feature specified in INTER or ALSO query; or invalid value expressed in required specification in line 1 of GET query	See APPENDIX A for correct features & values; resubmit query

25X1



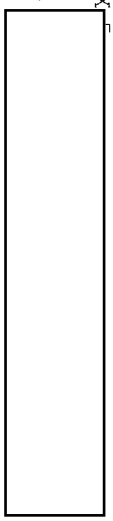
ERROR MESSAGES (CONTINUED)

Error Message	Error	What To Do
ILLEGAL SECTOR NAME	Invalid sector mnemonic	Correct sector mnemonic; resubmit query
ILLEGAL VALUE FOR DATE	Value for DATE item is invalid	Must be YYMMDD YY = year, last 2 digits MM = month, NN DD = day, NN Resubmit query
INTER, ALSO LS 2 COND	INTER query must consist of at least 2 features; ALSO query must consist of at least 3	Submit corrected query
INVALID MRN	MRN value is invalid	Correct MRN; resubmit query
LAST QUERY NOT RECEIVED	LAST QUERY function switch on CRT pressed but last query not received by computer	Enter new query
MRN LIST NOT SAVED	BQL MODE function switch on CRT pressed but no MRN list exists	Press PIRL MODE function switch & enter new PIRL query

TOP SECRET

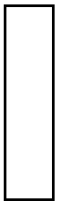
TX

25X1

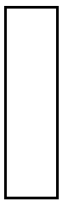


TOP SECRET

25X1



25X1



ERROR MESSAGES (CONTINUED)

Error Message	Error	What To Do
NO DATA PAGES TO PRINT	PRINT PAGE or PRINT REPORT on CRT pressed but no data is available for printing	Press ERASE PAGE control switch & enter new PIRL query
NO INDEX VALUE GIVEN	Mnemonic in required specification in GET query specified without value	Insert value in line 1 & resubmit query
NO MRNLIST BUILT	MRNLIST mnemonic specified but list of MRNs unavailable	Enter new query that excludes MRNLIST mnemonic
NO MRN LIST TO PRINT	PRINT MRNS function switch on CRT pressed but no machine reference numbers are available for printing	Press ERASE PAGE control switch & enter new PIRL
NO PREVIOUS PAGE	PREV PAGE switch on CRT pressed but no previous page exists	Press NEXT PAGE or press PIRL MODE function switch & enter new query

ERROR MESSAGES (CONTINUED)

Error Message	Error	What To Do
NO RFT SPECIFIED	Sector mnemonic not specified in line 2 of GET query	Specify sector mnemonic in line 2; resubmit query
NO STATEMENT TERMINATOR	Last line of query not closed with period	Insert period at end of line & resubmit query
NOTHING TO RETRANSMIT	RE-XMIT function switch on CRT pressed but there is no data to retransmit	Enter new PIRL query
QUERY INCOMPLETE	Line 2 of GET query is missing	Enter both lines
QUERY TOO BIG	Too many features specified in INTER or ALSO query	Delete excess features & resubmit query; maximum is 20
RANGE VALUES INCOMPAT	First & last values in range are either not alphabetic, not numeric, or not in correct alphanumeric sequence	See APPENDIX A or B for correct formats; specify either all alpha or all numeric characters or correct sequence of alphanumeric characters in 1st & last values in range; resubmit query

ERROR MESSAGES (CONTINUED)

Error Messages	Error	What To Do
RANGE VALUES REVERSED	First value in range is larger than last	Reverse values & resubmit query; see APPENDIX B
UNRECOGNIZABLE STATUS nn FROM EFC	- - -	Call Chief, Information Systems Branch, AID
VALUE GR 40 CHAR	Value specified with field or item mnemonic is over 40 characters	Verify format & length of value by checking APPENDIX A; be sure field & item can be specified; correct value & resubmit query

APPENDIX A

APPENDIX A. VOCABULARY FOR THE PIRL QUERY LANGUAGE

One or more of the mnemonics listed below must be used in all GET, INTER, and ALSO queries. For INTER and ALSO queries the vocabulary is limited to these mnemonics. Optional mnemonics for GET queries are listed elsewhere in this appendix.

MNEMONICS USED IN GET, INTER, AND ALSO QUERIES
(N = number; A = letter; b = blank)

Mnemonic	Related Value	Format of Value	Remarks
ICOMI	COMIREX number	9 characters NNANNNNAA or NANNNNbb	Left justify; leave unused positions blank
IBE$$	BE number	10 characters NNNN-NNNNN NNNNANNNNN NNNNNNNNNN	If necessary, use leading zero as first character
INPIC	NPIC number	12 characters NNNN-NNNN-AN	Leave unused positions blank; left justify
ICOUN	Country code	2 characters AA	None

APPENDIX A. VOCABULARY FOR THE PIRL QUERY LANGUAGE (CONTINUED)

Mnemonic	Related Value	Format of Value	Remarks
IMILI	Military district number	3 characters NNN	Right justify; insert leading zeros
ICAT$	IDHS category code	5 characters NNNNN	None
MRN	Machine reference number	1-6 characters NNNNNN	Right justify; insert leading zeros if necessary
IGEO$	Nm & coordinates defining given geographic square	Nm/latitude/longitude N-NNN/N N N A/N N N A or N-NNN/NN NN NN A/NN-NNN NN NN A	A = direction If minutes & seconds are unknown, insert zeros Leading zeros for unused positions must be inserted in latitude & longitude values

APPENDIX A. VOCABULARY FOR THE PIRL QUERY LANGUAGE (CONTINUED)

Optional mnemonics for GET queries are listed below. A brief description of the entries for sectors, fields, and items in the IDF and the format of these entries can be found in the Format and Mnemonics for Records in the Installations Data File. Copies of this publication are available in AID/PSG.

GET QUERIES: MNEMONICS FOR LINE 1

Sector	Field	Item
IBRIE	BRI:	AGEN
		CLAS
		DATE
		MISS
		PHAS
	DIR:	AGEN
		CLAS
		DATE
ICNTR	CNTR	AREA
		COVR
		CREQ
		DATE
		FLAG
		FRM:
		MISS
		MODE
		OTHR

 [redacted] 25X1

APPENDIX A. VOCABULARY FOR THE PIRL QUERY LANGUAGE (CONTINUED)

Sector	Field	Item
ICNTR	CNTR	PART
		QUAL
		PHAS
		TIME
		URG:
		WETH
ICOLL	COLL	CLAS
		DATE
		FLAG
IDESC	DES:	AGEN
		CLAS
		DATE
		FLAG
		MISS
		PHAS
		TRIN
IDETE	DET:	AGEN
		CLAS
		DATE
		MISS
		PHAS
IHEAD	AGEN	
	BE$$	
	CAT$	
	COMI	
	COMP	
	CORV	
	COUN	
	CPRI	
	DELE	
	GEO$	
	INDI	

APPENDIX A. VOCABULARY FOR THE PIRL QUERY LANGUAGE (CONTINUED)

Sector	Field	Item
IHEAD	MILI	
	MRN$	
	NAME	
	NAMV	
	NCAT	
	NPIC	
	NTPC	
	SRAD	
	TSTA	
	XPRI	
IHIGH	HIGH	AGEN
		CLAS
		DATE
		FLAG
		MISS
		PHAS
ILOCA	IDC:	
	IDH:	
	ELEV	
	UTM:	
	WAGC	
INEGA	NSEC	AGEN
		CLAS
		DATE
		MISS
		PHAS
	NSTA	AGEN
		CLAS
		DATE
		MISS
		PHAS

APPENDIX A. VOCABULARY FOR THE PIRL QUERY LANGUAGE (CONTINUED)

Sector	Field	Item
IOBJE	OBJE	AGEN
		CLAS
		DATE
		FLAG
		MISS
		OCLA
		OCNT
		ONAM
		ONUM
		OVAL
		PHAS
		TYPE
IPHOT	PHO:	ACMR
		AGEN
		BEST
		CLAS
		CMRA
		COVR
		CREQ
		DATE
		FCOR
		FLAG
		INDC
		MISS
		MODE
		OTHR
		PASS
		QUAL
		WETH

APPENDIX A. VOCABULARY FOR THE PIRL QUERY LANGUAGE (CONTINUED)

Sector	Field	Item
ISECU	DFC:	AGEN
		CLAS
		DATE
		FLAG
		MISS
		PHAS
ISTAT	STA:	AGEN
		CLAS
		DATE
		FLAG
		MISS
		PHAS

GET QUERIES: MNEMONICS FOR LINE 2

All sector mnemonics listed above
and the following sector mnemonics:

INOTE
IREAD

APPENDIX B

APPENDIX B. CHARACTER SEQUENCE FOR A RANGE OF VALUES

See also CHAPTER II, Specifying a Range of Values.

Character or Symbol	Character or Symbol	Character or Symbol
Blank	P	(
A	Q	:
B	R	,
C	S	0 zero
D	T	1
E	U	2
F	V	3
G	W	4
H	X	5
I	Y	6
J	Z	7
K	)	8
L	-	9
M	& ampersand	;
N	*	. period
O		

APPENDIX C

APPENDIX C. GLOSSARY OF TERMS

CHARACTER	A single letter, number, or symbol.
CRT	Cathode-ray tube; in this manual, synonymous with Sanders Tabular Display device.
FEATURE	In INTER and ALSO queries, that which identifies an installation or group of installations; expressed by means of a mnemonic and a related value; in the PIRL Query Language only seven features are used.
FIELD	In a record sector, an assigned area or location in which a particular category of data is recorded; may or may not be divided into items; in the IDF the name of each field is expressed in terms of a mnemonic.
FORMAT	The arrangement of data in a record, sector, field, or item; also refers to the arrangement of data that is input or output.
HOME POSITION	Character position 1, line 1 on a CRT screen.
IDF	Installations Data File.
ITEM	In a field, an assigned area or location in which a particular unit of information is recorded; the name of each item is expressed in terms of a mnemonic.

APPENDIX C. GLOSSARY OF TERMS (CONTINUED)

MNEMONICS	Combinations of letters or of letters and symbols used in the PIRL Query Language; similar to abbreviations; also used as names of sectors, fields, and items in the IDF.
MRN	Machine reference number assigned by the computer to each record in the IDF for identification purposes; will not be changed or transferred to another file record.
ON LINE	The status of equipment located in remote stations, that is, connected to the UNIVAC 494 computer system.
QUERY	One or more statements directing the computer to perform certain operations, e.g., to select records from the IDF, total the number of installations identified by certain features, output data.
RECORD	In the IDF a group of related facts on one target; divided into sectors, fields, and items.
SECTOR	In an IDF record, an assigned area or location in which a particular category of information is recorded; always divided into fields; each IDF record is comprised of 13 sectors; the name of each sector is expressed in terms of a mnemonic.
UNIT RECORD	See RECORD.

APPENDIX C. GLOSSARY OF TERMS (CONTINUED)

VALUE

Synonymous with entry, contents, data.

(1) The data that must be expressed with each of eight mnemonics immediately after IDF in line 1 of a GET query.

(2) The data expressed with each of seven mnemonics in INTER and ALSO queries.

(3) The contents of a given sector, field, or item in each IDF record.

TOP SECRET

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