 Techniques Development Laboratory
Computer Program NWS TDL CP 94-4

A UTILITY FOR EXAMINING THE CONTENTS OF DATAKEY0

Silver Spring, Md.
July 1994

U. S. DEPARTMENT OF COMMERCE / National Oceanic and Atmospheric Administration / National Weather Service

PREFACE

The Techniques Development Laboratory's (TDL's) computer program (CP) series is a subset of TDL's technical memorandum series. The CP series documents computer programs written at TDL primarily for the Automation of Field Operations and Services (AFOS) computers.

The format for the series follows that given in the AFOS Handbook 5, Reference Handbook, Volume 6: Applications Programs, Part 1: Policy and Procedures, published by the Office of Technical Services/AFOS Operations Division.

NOAA Techniques Development Laboratory
Computer Program NWS TDL

CP 83-1 Gross Sectional Analysis of Wind Speed and Richardson Number. Gilhousen, Kemper, and Vercelli, May 1983. (PB83-205062)
CP 83-2 Simulation of Spilled Oil Behavior in Bays and Coastal Waters. Hess, October 1983. (PB84-122597)
CP 83-3 AFOS-Era Forecast Verification. Heffernan, Newton, and Miller, October 1983. (PB84-129303)
CP 83-4 AFOS Monitoring of Terminal Forecasts. Vercelli, December 1983. (PB84-145697LL)
CP 83-5 Generalized Exponential Markov (GEM) Updating Procedure for AFOS. Herrmann, December 1983. (PB84-154822LL)
CP 84-1 AFOS Display of MDR Data on Local Map Background. Newton, July 1984. (PB84-220797)
CP 84-2 AFOS Surface Observation Decoding. Perrotti, September 1984. (PB85-137586)
CP 84-3 AFOS-Era Forecast Verification. Miller, Heffernan, and Ruth, September 1984. (PB86-148319LL)
CP 85-1 AFOS Monitoring of Terminal Forecasts. Vercelli and Norman, May 1985. (PB85-236388LL)
CP 85-2 AFOS Terminal Forecast Decoding. Vercelli, Norman, and Heffernan, October 1985. (PB86-147360LL)
CP 85-3 AFOS-Era Forecast Verification. Ruth, Miller, and Heffernan, October 1985. (PB86-148319LL)
CP 87-1 AFOS Terminal Aerodrome Forecast Formatting. Wantz and Eggers, July 1987. (PB88-10449LL)
CP 87-2 AFOS-Era Forecast Verification. Ruth and Alex, July 1987. (PB88-125570LL)
CP 87-3 Forecast Review. Wolf, July 1987. (PB88-125588LL)
CP 87-4 AFOS Monitoring of MDR Data Using Flash Flood Guidance. Norman and Newton, October 1987. (PB88-137450LL)
CP 87-5 AFOS Terminal Forecast Quality Control. Vercelli and Leaphart, December 1987. (PB88-169925LL)
CP 88-1 AFOS Terminal Forecast Decoding. Vercelli and Leaphart, August 1988. (PB89-101240LL)
CP 89-1 Structure Flow Diagram Generator. Adams, March 1989. (PB89-195978AS)
CP 89-2 String Search. Adams, March 1989. (PB89-195986AS)
CP 89-3 Extended Memory Library for AFOS Applications. Leaphart, June 1989. (PB92-216290)

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A UTILITY FOR EXAMINING THE CONTENTS OF DATAKEY0

Robert A. Beasley

1. INTRODUCTION

This program, DK0SEARCH, allows one to examine the contents of the National Weather Service's (NWS) Automation of Field Operations and Services (AFOS) (NWS 1987, 1989, and 1992) computer system database. This is accomplished through examination of the AFOS DATAKEY0 file, a Real Time Disk Operating System (RDOS) (Data General Corporation 1974 and 1978) file which is a key component of the AFOS database storage structure. DATAKEY0 contains a directory of information about all products stored in the AFOS database.

DK0SEARCH can be highly advantageous to AFOS database management operations and general forecast activities. It offers a user friendly menu driven approach to obtaining specific information about products in the database. Regardless of whether the intent is to analyze the existing database before an update/change (PILEDIT/EDITMERGE) or just to obtain general information, DK0SEARCH should be of valuable assistance to AFOS System Managers (ASM's) and forecasters alike.

DK0SEARCH provides the user with several different ways to examine the database. Options include: (1) the ability to search for products with a specific AFOS node (the CCC of the keyname CCCNNNXXX), (2) the ability to search for specific product categories (the NNN of the keyname CCCNNNXXX), (3) the ability to search for specific local product categories (the XXX of the keyname CCCNNNXXX), (4) the ability to list products in a particular database file (i.e., REMOTEDATA [0], LOCAL1DATA [1], LOCAL2DATA [2], or LOCALDATA [3]), (5) the ability to search for files with a specific purge parameter (both number and type), (6) the ability to obtain a list of all product categories available in the database, (7) the ability to save DATAKEY0 information as an RDOS ASCII file in column format, and (8) the ability to save DATAKEY0 information as an RDOS ASCII file in non-column delimited format for computer parsing.

The user is also afforded several different output options. Output may be sent to: (1) a lineprinter or Printer Plotter Module (PPM), (2) an RDOS file, (3) both a lineprinter or PPM and an RDOS file, (4) the Dasher, and (5) stored as an AFOS product.

2. METHODOLOGY AND SOFTWARE STRUCTURE

DK0SEARCH works exclusively with the AFOS database file DATAKEY0. DATAKEY0 is the principal component of the AFOS database storage system. Fig. 1 shows the hierarchy of the AFOS database system and the role of DATAKEY0. DATAKEY0 contains a key record for each product (key) for which space is allocated in the AFOS database. The key record holds such information as the product name, file storage location and address, communications priority, purge parameter and type, creation date/time, alarm/alert characteristics, number of versions currently stored, and other key specific information. As noted in Fig. 2,

there are 68 keys for each logical record in DATAKEY0. For each key in these logical records, there are 30 bytes of file storage information as shown in Fig. 3, except for the last key which contains 38 bytes, where bytes 31 through 38 are null values.

Regardless of the task chosen for DK0SEARCH to perform, the program must open and read the AFOS database file DATAKEY0. The AFOS database is organized into three areas, the main area, the wish list area, and the overflow area as shown in Fig. 2. All products which are a part of the regular database (i.e., have been PILEDITED/EDITMERGED [NWS 1987]) are in the main area. Products which have been added to the wish list are placed in the wish list area. Those products which have been requested and are not a part of the main or wish list areas of the database are placed in the overflow area. The main area of the database is spread throughout the four database storage files (see Fig. 1) according to the file storage specifications established during PILEDIT's. The LOCALDATA file or file 3 also holds the wish list and overflow keys.

As each key is read in from DATAKEY0, the keyname, file location, and purge parameter are obtained. The action taken at this point depends on the option chosen from the main menu as defined in the introduction. If any of the options 1 through 5 have been chosen, the current key information is compared against that which the user has requested to see if there is a match. If so, the date/time of the current version of the product and the actual number of versions stored is also obtained. If the actual number of versions stored is zero, then the key is denoted as purged. At this point, the keyname, file location, purge parameter, date/time of the product, actual number of versions stored, purge status, communications priority, and alarm/alert status may be sent to the printer, written to an RDOS file, sent to the Dasher, or both sent to the printer and written to an RDOS file. The action taken depends on the option selected from the print menu.

When option 6 is chosen, all different product categories (NNN of CCCNNNXXX) are obtained and ordered alphabetically and then passed to the requested output medium. Option 7 and 8 allow one to dump the product parameters of every product in the database to the printer, Dasher, or to an RDOS file. Output for option 7 is formatted in easily readable columns, while option 8 results in a non-column yet delimited parsable format.

While all of the options require examination of the entire database to determine whether or not the key in question is that desired, only specific keys are actually sent to the output device for Options 1 through 5. Option 7 and 8, however, must write every input key to one or even two output mediums. For this reason, these are among the slowest options of the program. Option 6 tends to require even more execution time as it must search through the entire database to obtain all of the different product categories and then sort these alphabetically before it can send the information to the output device. Option 7 and 8 write specific key information (each parameter denoted by an asterick in Fig. 3) for each product in the database to paper or disk and as such will produce a considerable amount of output. Hence, they will require additional execution time.

Fig. 4 displays a sample of the output which can be obtained from the DK0SEARCH program.

3. PROCEDURES

DK0SEARCH is a menu driven RDOS program and as such should be executed only from the Dasher. The program is initiated at the Dasher simply by typing "DK0SEARCH". The user is then presented with the following menu:

```
          ***** AFOS DATABASE EXAMINATION PROGRAM *****

    SELECT FROM THE OPTIONS BELOW:
    1.  SEARCH FOR A SPECIFIC CCC.
    2.  SEARCH FOR A SPECIFIC NNN.
    3.  SEARCH FOR A SPECIFIC XXX.
    4.  LIST ALL PRODUCTS IN A SPECIFIC FILE.
    5.  LIST ALL PRODUCTS WITH A SPECIFIC PURGE PARAMETER.
    6.  OBTAIN A SORTED LIST OF ALL DIFFERENT NNN'S IN DATABASE.
    7.  LIST ALL PRODUCTS IN THE DATAKEY0 FILE IN COLUMN FORMAT.
    8.  LIST ALL PRODUCTS IN THE DATAKEY0 FILE IN NON-COLUMN FORMAT.
    9.  EXIT DK0SEARCH.
    ENTER YOUR SELECTION --->
```

Option 1 allows one to obtain a listing of all keys in the database that have the user designated AFOS node (CCC of the AFOS keyname CCCNNNXXX). Option 2 allows users to obtain a listing of all keys with a specific product category (NNN of CCCNNNXXX). Option 3 allows one to obtain a listing of all keys with a specific local category (XXX of CCCNNNXXX). Option 4 allows one to obtain a listing of all products in one of the four database storage files. Option 5 allows one to search for and list all products with a specific version purge or hour purge. In addition, Option 5 also allows the user to list all time purged products in the database. The selection of Option 6 produces an alphabetical listing of all different product categories (NNN's) in the database, while Option 7 and 8 result in a listing of all keys in the local AFOS database in column format and non-column delimited format, respectively. When the task is complete, DK0SEARCH returns to the main menu to await further instructions. You may exit DK0SEARCH by selecting option 9.

After a valid selection has been entered, the user is then prompted with another menu as denoted below. This menu allows one to select the output media.

```
    SELECT THE OUTPUT MEDIUM:
    1.  LINEPRNTER/PPM COPY ONLY.
    2.  DISK FILE ONLY.
    3.  LINEPRINTER/PPM COPY AND DISK FILE.
    4.  DASHER COPY ONLY.
    5.  STORE AS THE AFOS PRODUCT CCCDK0DAT.
    ENTER YOUR SELECTION --->
```

Options allowed are: (1) print information only on the lineprinter or PPM, (2) write the requested information only to an RDOS file (named DK0SEARCH.00 - DK0SEARCH.10), (3) print information on the lineprinter or PPM and also write to an RDOS file, (4) list the requested information only on the Dasher, and (5) store the information in the AFOS product CCCDK0DAT, where CCC = the local node.

The next action of the program will depend on the option selected from the main menu. If option 1, 2, or 3 was selected, you will be asked to enter the CCC (option 1), NNN (option 2), or XXX (option 3) for which you wish to search. If option 4 is selected, you will be asked to enter the file storage location (0 through 3) that you wish to examine. When option 5 is selected, you will be asked to enter the purge parameter for which you wish to search or to denote that you wish to search for all time purged products. Specific purge parameters must be entered as "###V" or "###H", where "###" is a three-digit integer, "V" denotes version purge, and "H" denotes hour purge. If a listing of all time purged products is sought, then enter "999T" instead.

It may also be a desire of the user to transmit the output of the DK0SEARCH program asynchronously to a personal computer (PC) or similiar peripheral device. To accomplish this, the data output from DK0SEARCH must first be stored as an AFOS product. This may be accomplished by selecting option 5 from the output menu which stores the data in the AFOS product CCCDK0DAT. This may then be manually transmitted to a PC using the command "ACOMMS:XMIT # CCCDK0DAT". Automatic transmission of the product upon storage in the AFOS database may be accomplished by adding the product to the asynchronous scheduler (NWS 1987).

4. CAUTIONS

1. The AFOS system files SKEL and DATAKEY0 must be linked to the master partition.

2. Only run DK0SEARCH from the Dasher.

3. Dasher output created from option 4 of the output media menu is very slow and is only recommended when a small number of products are involved. In addition, the output format of this program requires 132 column paper.

4. Information output from DK0SEARCH to an RDOS file is saved in the filename DK0SEARCH.##, where "##" denotes an integer from 1 to 10. If DK0SEARCH.01 already exists, the next file would be named DK0SEARCH.02 and so on. To avoid file space exhaustion in the SYSZ partition, only 10 DK0SEARCH files may be saved at any one time. An attempt to create an eleventh file (DK0SEARCH.11) will result in an error and subsequent termination of the program. At this point, you must either delete or rename one or more of the files DK0SEARCH.01 through DK0SEARCH.10.

5. The RDOS files DK0SEARCH.01 through DK0SEARCH.10 saved by this program may be displayed at an ADM using the "DSP:" command. Because the output format of this program uses in excess of 80 columns, the lines will wrap around on the ADM. This is also true for the AFOS product version of the file CCCDK0DAT.

6. In order for option 5 from the main menu to function properly, the user must either add the AFOS product CCCDK0DAT to the WISH LIST or PILEDIT/EDITMERGE the product into the main area of the AFOS database.

7. Editing the AFOS product CCCDK0DAT produced using option 5 is not recommended because of the usually large size of these products. The product should first be transmitted asynchronously to a PC and then edited there.

8. Program run time will vary markedly from one option to another. Option 6, 7, and 8 will require the longest time to complete. A runtime of 5 minutes is not unusual for these options since they must input and output the contents of the entire DATAKEY0 file. For options 1 through 3, the runtime is also highly dependent upon the node, product category, or local category selected.

5. REFERENCES

Data General Corporation, 1974: RDOS/DOS User's Handbook, Ordering No. 093-000053, Data General Corporation, Southboro, Massachusetts, 235 pp.

_____, 1978: RDOS/DOS User's Handbook, Ordering No. 093-000105, Data General Corporation, Southboro, Massachusetts, 216 pp.

National Weather Service, 1987: AFOS Handbook No. 5, Vol. 6 Part 2, Appendix B, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

_____, 1989: AFOS Handbook No. 2, Vol. 1, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

_____, 1992: Guide to AFOS System Z, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

6. PROGRAM INFORMATION AND PROCEDURES FOR INSTALLATION AND EXECUTION

PART A: PROGRAM INFORMATION and INSTALLATION PROCEDURE

PROGRAM NAME: DK0SEARCH

AAL ID: DBC086
Revision No.: 3.00

FUNCTION: Allows examination of the contents of the AFOS database through the DATAKEY0 file. Options allowed are (1) search for specific CCC's, (2) search for specific NNN's, (3) search for specific XXX's, (4) list all products in a specific file, (5) list all products with a specific purge parameter, (6) obtain a sorted list of all different product categories (NNN's) in the AFOS database, and (7) list all products in the DATAKEY0 file. Output is to the lineprinter or PPM, RDOS file, both lineprinter/PPM and RDOS file, to the Dasher, or to the AFOS product CCCDK0DAT.

PROGRAM INFORMATION:

Development Programmer(s):

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Location: Techniques Development Laboratory

Phone: 301-713-0056

Maintenance Programmer(s):

Robert A. Beasley

Location: Techniques Development Laboratory

Phone: 301-713-0056

Language: FORTRAN IV/Rev 5.57
MAC Assembler/Rev 6.30

Save file creation dates: DK0SEARCH.SV

Revision 1.00	-	November 1992
Revision 1.10	-	March 1993
Original release/revision 2.00	-	May 1994
Revision 3.00	-	May 1994

Running time:
Varies with option chosen and product selected. In general, 2 minutes is required for options 1 through 3 and 5 in the main menu, and 2-10 minutes for options 4, and 6 through 8.

Disk space:

Program files:

DK0SEARCH.SV	-	43 RDOS blocks

Data files:

DATAKEY0	-	384 RDOS blocks
DK0SEARCH.##	-	1 RDOS block per key

PROGRAM REQUIREMENTS

Program files:

NAME

DK0SEARCH.SV

Data files:

NAME	Disk location	READ/WRITE	COMMENTS
DATAKEY0	SYSA	R	Mandatory part of AFOS Operating System
DK0SEARCH.##	Master directory	W	"##" ranges from 01 to 10.

AFOS products:

CCCDK0DAT

LOAD LINE

```
RLDR/P/E DK0SEARCH DK0SRCHREV GETKEY PRTKEY CRTIME DCMPR ^
INITAR CCAT ICEQALO IPANDEC BCONVRT WMOV ^
<BG UTIL SYS FORT AFOSE>.LB DK0SEARCH.LM/L
```

PROGRAM INSTALLATION

1. Move the executable module DK0SEARCH.SV to the master partition or to an applications partition with links to the master partition.

2. Make sure the system files SKEL and DATAKEY0 are linked to the master partition.

3. Add the product CCCDK0DAT (where CCC = your local AFOS node) to the AFOS database if option 5 from the main menu is to be used. Either PILEDIT/EDITMERGE the product into the main area or add to the WISH LIST.

PART B: PROGRAM EXECUTION and ERROR CONDITIONS

PROGRAM NAME: DK0SEARCH

AAL ID: DBC086
Revision No.: 3.00

PROGRAM EXECUTION

1. Run DK0SEARCH only from the Dasher by typing "DK0SEARCH" at the "R" prompt. The following menu will be displayed :

```
          ***** AFOS DATABASE EXAMINATION PROGRAM *****

     SELECT FROM THE OPTIONS BELOW:
     1.  SEARCH FOR A SPECIFIC CCC.
     2.  SEARCH FOR A SPECIFIC NNN.
     3.  SEARCH FOR A SPECIFIC XXX.
     4.  LIST ALL PRODUCTS IN A SPECIFIC FILE.
     5.  LIST ALL PRODUCTS WITH A SPECIFIC PURGE PARAMETER.
     6.  OBTAIN A SORTED LIST OF ALL DIFFERENT NNN'S IN DATABASE.
     7.  LIST ALL PRODUCTS IN THE DATAKEY0 FILE IN COLUMN FORMAT.
     8.  LIST ALL PRODUCTS IN THE DATAKEY0 FILE IN NON-COLUMN FORMAT.
     9.  EXIT DK0SEARCH.
     ENTER YOUR SELECTION --->
```

Enter an integer from 1 through 8 to execute one of the options above or the integer 9 to terminate the program.

The options listed above have the following meaning:

Option 1 - search for all keys in the AFOS database (CCCNNNXXX's) which have the specified CCC or AFOS node.

Option 2 - search for all keys in the AFOS database which have the specified XXX or product category.

Option 3 - search for all keys in the AFOS database which have the specified NNN or local product category.

Option 4 - list all keys in the specified AFOS database storage file. Valid entries are 0 - REMOTEDATA, 1 - LOCAL1DATA, 2 - LOCAL2DATA, and 3 - LOCALDATA.

Option 5 - list all keys with a specific hour purge or time purge specification. Valid entries are ###V or ###H where ### is a three-digit integer, "V" denotes version purge, and "H" denotes hour or time purge. In addition, all time purged products may be listed by entering the characters "999T" for this option.

Option 6 - obtain all different product categories (NNN's) in the local AFOS database and sort the list alphabetically. (Can require up to 5 minutes for execution).

Option 7 - write all key entries in the AFOS database to the specified output media in readable column format. (Can require up to 5 minutes for execution).

Option 8 - write all key entries in the AFOS database to the specified output media in computer parsable delimited format. (Can require up to 5 minutes for execution).

For all of the options listed above the output consists of the full keyname, file storage location, purge parameter, creation date/time of the current or most recent version stored, the actual number of versions currently stored, and the purge status (yes/no), the communications priority, and the alarm/alert status.

2. Select the output media upon presentation of the next menu as follows:

```
SELECT THE OUTPUT MEDIUM:
1.  LINEPRNTER/PPM COPY ONLY.
2.  DISK FILE ONLY.
3.  LINEPRINTER/PPM COPY AND DISK FILE.
4.  DASHER COPY ONLY.
5.  STORE AS THE AFOS PRODUCT CCCDK0DAT.
ENTER YOUR SELECTION --->
```

Enter an integer from 1 through 5 to select an appropriate output media.

The options listed above have the following meaning:

Option 1 - output will be sent only to the Printer Plotter Module (PPM) or to a lineprinter if available.

Option 2 - output will be sent only to a disk file entitled DK0SEARCH.##, where ## is an integer from 01 to 10.

Option 3 - output will be sent to both a PPM or lineprinter and to a disk file entitled DK0SEARCH.##.

Option 4 - output will be sent only to the Dasher.

Option 5 - output will be stored only as the AFOS product CCCDK0DAT.

PROGRAM ERROR CONDITIONS

"MORE THAN 10 DK0SEARCH.## FILES ALREADY EXIST."	The maximum number of DK0SEARCH data files that can be stored is 10. You must either rename or delete some of the RDOS files named DK0SEARCH.01 through DK0SEARCH.10.

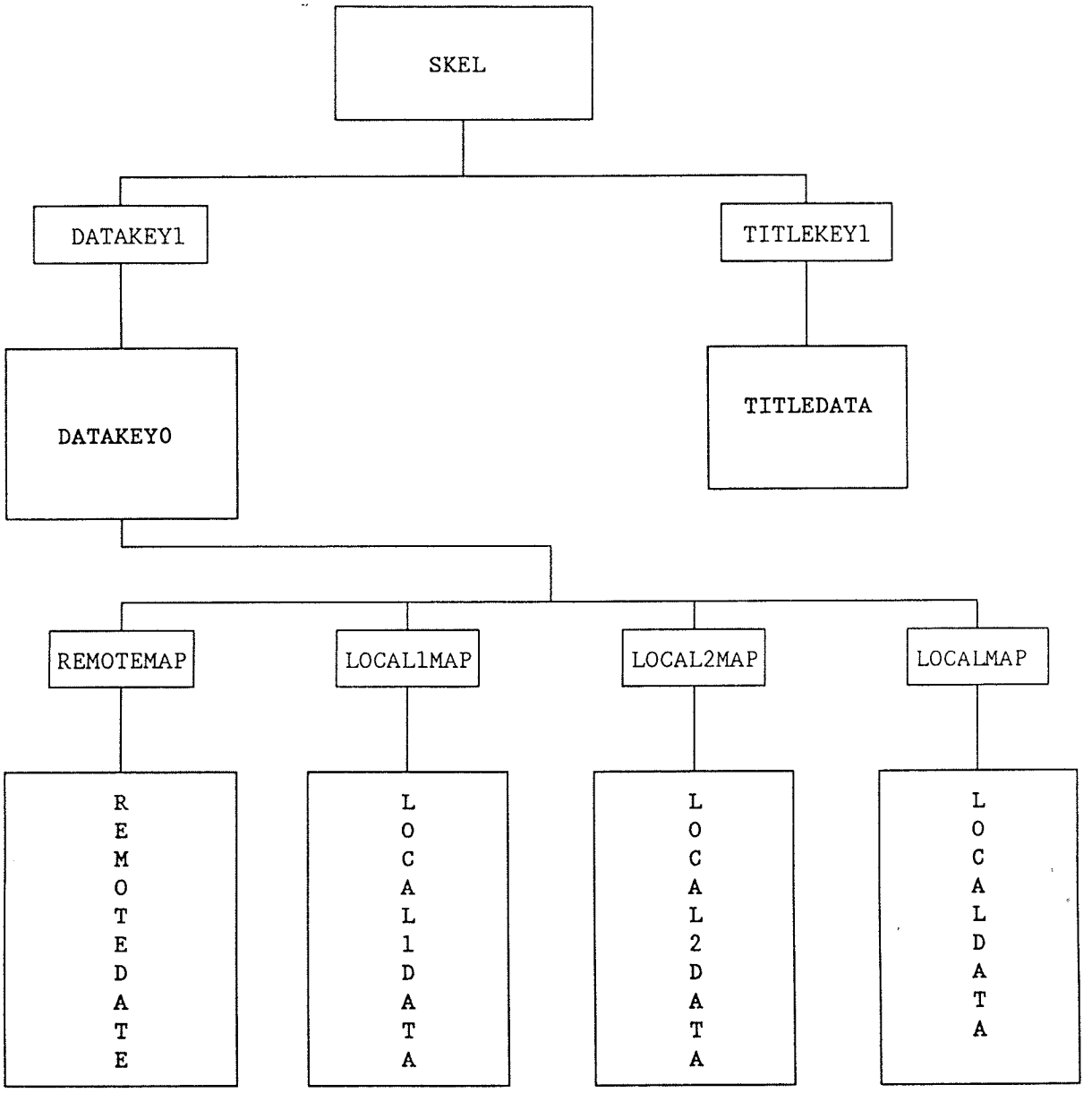

Figure 1. Diagram of AFOS database structure showing the role of DATAKEY0 as the directory to the four AFOS database storage files.

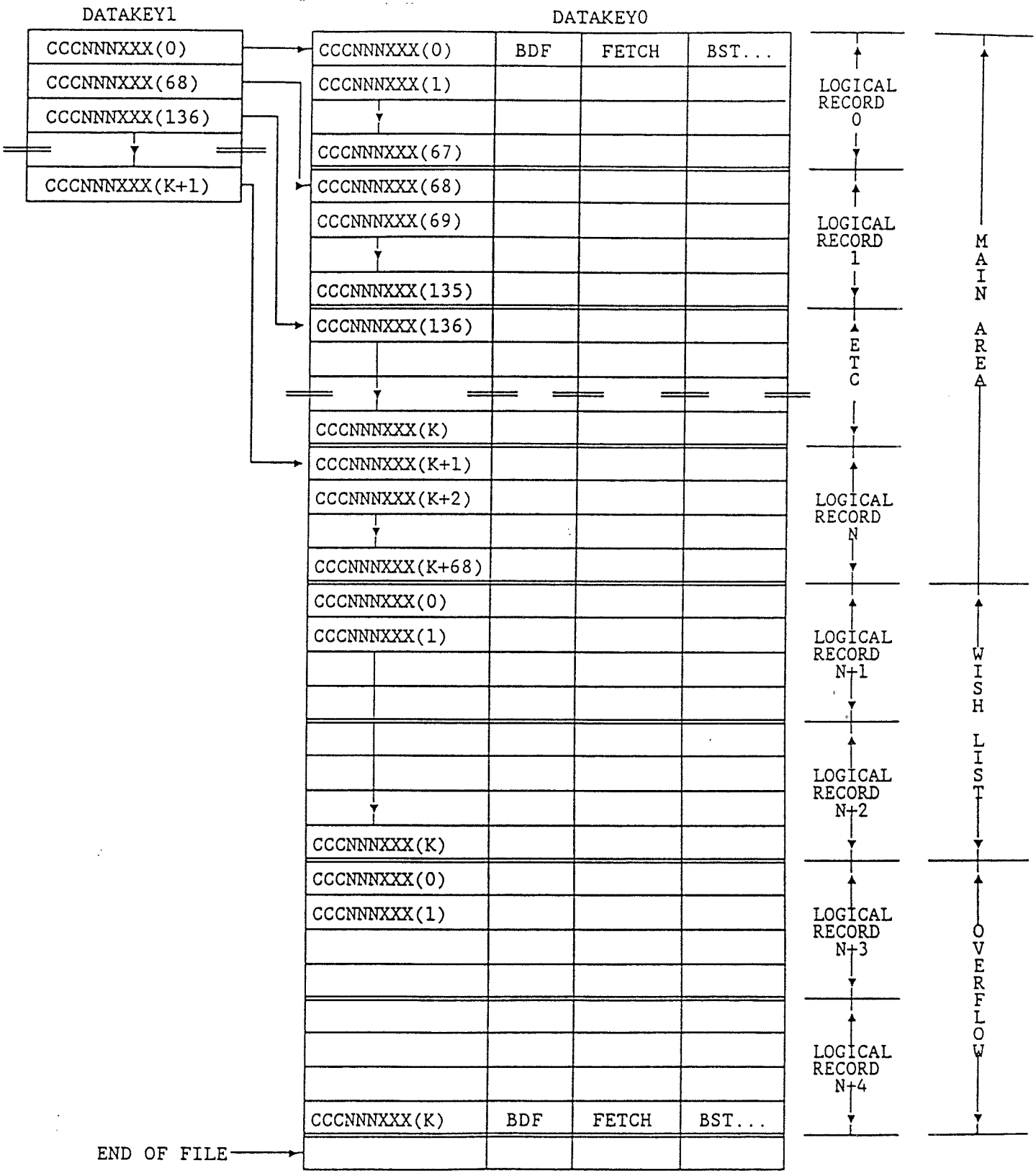

Figure 2. The relationship between DATAKEY1 and DATAKEY0. The diagram also shows the main, wish list, and overflow areas of the AFOS database.

DECIMAL BYTE NUMBER	KEY RECORD		DESCRIPTION
1*	B K Y	C	9-CHARACTER ASCII PRODUCT KEY (IDENTIFIER)
2*		C	
3*		C	
4*		N	
5*		N	
6*		N	
7*		X	
8*		X	
9*		X	
10*	BDF		COMMS PRIORITY (BIT 10-12), FILE DESIGNATOR (BIT 13-15)
11	FETCH		16-BIT FETCH POINTER
12			
13	B S T		6-BIT STATE DESIGNATORS
14			
15			
16			
17	BPM		3-BIT GRAPHICS PRODUCTION MODEL
18*	BPP		PURGE PARAMETER
19*	B T E		POLYNOMIAL CREATION AND EXPIRATION OR VALID TIME OF MOST RECENT VERSION IN MINUTES
20*			
21*			
22*			
23*			
24	B T L	BMX or STR	FOR TIME PURGED PRODUCTS: BTL = POLYNOMIAL CREATION OF THE OLDEST PRODUCT IN JULIAN MINUTES. FOR VERSION PURGED PRODUCTS: BMX = MAP BACKGROUND. STORE = STORE POINTER.
25			
26			
27	BVN		ORIGINATOR'S VERSION NUMBER
28*	BNS		NUMBER OF VERSION STORED
29	BSP		SPECIAL PROCESS FLAGS (NATIONAL, ASYNC, BG...)
30*	BAL		ALARM/ALERT CONTROL

Figure 3. The record format for DATAKEY0. Astericks denote word locations read by the DK0SEARCH program.

LISTING OF ALL KEYS OF THE FORM CCCZFPXXX

KEY	FILE	PURGE NO.	PURGE TYPE	PRODUCT DATE/TIME	NO. VERSIONS STORED	PURGE STATUS	COMMS PRIORITY	ALARM/ALERT
ABQZFPNM	LOCALDATA	2	VERSIONS	06/23/94 10:33Z	2		3	
ALBZFPNY	LOCALDATA	4	VERSIONS	06/23/94 07:57Z	4		3	
ALBZFPVT	LOCALDATA	4	VERSIONS	06/23/94 07:57Z	4		3	
ARBZFPMI	LOCALDATA	4	VERSIONS	06/23/94 12:58Z	4		3	
ATLZFPGA	LOCALDATA	4	VERSIONS	06/23/94 09:08Z	4		3	
BHMZFPAL	LOCALDATA	4	VERSIONS	06/23/94 09:27Z	4		3	
BISZFPND	LOCALDATA	2	VERSIONS	06/23/94 09:11Z	2		3	
BOIZFPID	LOCALDATA	2	VERSIONS	06/23/94 10:10Z	2		3	
BOSZFPCT	LOCALDATA	4	VERSIONS	06/23/94 08:06Z	4		3	
BOSZFPMA	LOCALDATA	4	VERSIONS	06/23/94 08:03Z	4		3	
BUFZFPNY	LOCALDATA	4	VERSIONS	06/23/94 08:16Z	4		3	
CAEZFPSC	LOCALDATA	4	VERSIONS	06/23/94 07:39Z	4		3	
CHIZFPIL	LOCALDATA	4	VERSIONS	06/23/94 12:34Z	4		3	
CLEZFPOH	LOCALDATA	4	VERSIONS	06/23/94 08:01Z	4		3	
CRWZFPCVA	LOCALDATA	2	VERSIONS	01/05/94 21:43Z	1		3	
CRWZFPCWV	LOCALDATA	2	VERSIONS	01/05/94 21:43Z	1		3	
CRWZFPVA	LOCALDATA	4	VERSIONS	06/23/94 10:42Z	4		3	
CRWZFPWV	LOCALDATA	4	VERSIONS	06/23/94 10:41Z	4		3	
CYSZFPWY	LOCALDATA	2	VERSIONS	06/23/94 10:32Z	2		3	
DENZFPCO	LOCALDATA	4	VERSIONS	06/23/94 11:51Z	4		3	
DSMZFPIA	LOCALDATA	4	VERSIONS	06/23/94 11:36Z	4		3	
FSDZFPSD	LOCALDATA	2	VERSIONS	06/23/94 08:57Z	2		3	
FTWZFPTX	LOCALDATA	4	VERSIONS	06/23/94 08:45Z	4		3	
GTFZFPMT	LOCALDATA	2	VERSIONS	06/23/94 09:44Z	2		3	
INDZFPIN	LOCALDATA	4	VERSIONS	06/23/94 09:29Z	4		3	
JANZFPMS	LOCALDATA	4	VERSIONS	06/23/94 09:19Z	4		3	
LAXZFPCA	LOCALDATA	2	VERSIONS	06/23/94 12:44Z	2		3	
LBBZFPAMA	LOCALDATA	4	VERSIONS	**/**/** **:**Z	0	PURGED	3	
LBBZFPTX	LOCALDATA	4	VERSIONS	06/23/94 12:29Z	4		3	
LITZFPAR	LOCALDATA	4	VERSIONS	06/23/94 08:48Z	4		3	
MEMZFPTN	LOCALDATA	4	VERSIONS	06/23/94 08:49Z	4		3	
MIAZFPFL	LOCALDATA	4	VERSIONS	06/23/94 09:17Z	4		3	
MKEZFPWI	LOCALDATA	4	VERSIONS	06/23/94 09:36Z	4		3	
MSPZFPMN	LOCALDATA	4	VERSIONS	06/23/94 09:11Z	4		3	
NEWZFPLA	LOCALDATA	4	VERSIONS	06/23/94 09:30Z	4		3	
NYCZFPNJ	LOCALDATA	4	VERSIONS	06/23/94 07:57Z	4		3	
NYCZFPNY	LOCALDATA	4	VERSIONS	06/23/94 07:56Z	4		3	
OKCZFPOKC	LOCALDATA	4	VERSIONS	06/23/94 09:36Z	4		3	C!
OKCZFPTUL	LOCALDATA	4	VERSIONS	06/23/94 09:32Z	4		3	
OMAZFPNE	LOCALDATA	4	VERSIONS	06/23/94 09:29Z	4		3	
PDXZFPOR	LOCALDATA	2	VERSIONS	06/23/94 11:20Z	2		3	
PHLZFPNJ	LOCALDATA	4	VERSIONS	06/23/94 08:24Z	4		3	
PHLZFPPA	LOCALDATA	4	VERSIONS	06/23/94 08:08Z	4		3	
PHXZFPAZ	LOCALDATA	2	VERSIONS	06/23/94 12:06Z	2		3	
PITZFPPA	LOCALDATA	4	VERSIONS	06/23/94 07:43Z	4		3	
PITZFPWV	LOCALDATA	4	VERSIONS	06/23/94 07:43Z	4		3	
PWMZFPME	LOCALDATA	4	VERSIONS	06/23/94 07:14Z	4		3	
PWMZFPNH	LOCALDATA	4	VERSIONS	06/23/94 07:15Z	4		3	
RDUZFPNC	LOCALDATA	4	VERSIONS	06/23/94 07:33Z	4		3	
RNOZFPNV	LOCALDATA	2	VERSIONS	06/23/94 10:24Z	2		3	
SATZFPTX	LOCALDATA	4	VERSIONS	06/23/94 09:25Z	4		3	
SDFZFPKY	LOCALDATA	4	VERSIONS	06/23/94 08:32Z	4		3	
SEAZFPWA	LOCALDATA	2	VERSIONS	06/23/94 11:54Z	2		3	
SFOZFPCA	LOCALDATA	2	VERSIONS	06/23/94 09:47Z	2		3	
SJUZFPPR	LOCALDATA	1	VERSIONS	06/23/94 09:05Z	1		3	
SLCZFPUT	LOCALDATA	2	VERSIONS	06/23/94 10:41Z	2		3	
STLZFPMO	LOCALDATA	4	VERSIONS	06/23/94 12:14Z	4		3	
TOPZFPKS	LOCALDATA	4	VERSIONS	06/23/94 12:11Z	4		3	
WBCZFPDE	LOCALDATA	4	VERSIONS	06/23/94 08:01Z	4		3	
WBCZFPMD	LOCALDATA	4	VERSIONS	06/23/94 09:52Z	4		3	
WBCZFPVA	LOCALDATA	4	VERSIONS	06/23/94 08:00Z	4		3	
WBCZFPWV	LOCALDATA	4	VERSIONS	06/23/94 08:02Z	4		3	

TOTAL NUMBER OF KEYS FOUND= 62

Figure 4. Sample output produced from DKOSEARCH. Option 2 from the main menu was used here with a search for the product category "ZFP".

(Continued from inside front cover)

Computer Program NWS TDL

CP 92-1 Separating Individual Synoptics from within Synoptic Collectives. Beasley, August 1992. (PB92-232313)

CP 93-1 AFOS Profiler Software System. Battel, Leaphart, Moeller, and Petrie, August 1993. (PB94-112711)

CP 93-2 AFOS Surface Observation Decoding. Beasley, September 1993. (PB94-112042)

CP 93-3 Decoding Satellite Cloud Products. Beasley, October 1993. (PB94-116845)

CP 93-4 Decoding Nested Grid Model Statistical Forecasts. Beasley, October 1993. (PB94-129210)

CP 93-5 Retrieving Alphanumeric and Graphic Products from the AFOS Database through the Background Partition. Beasley, November 1993. (PB94-143245)

CP 93-6 NOAA Weather Radio Climatological Data Reports. Calkins and Battel, December 1993. (PB94-143252)

CP 94-1 NOAA Weather Radio Hourly Weather Roundup Formatter. Battel, Kokolis, and Calkins, March 1994. (PB94-164126)

CP 94-2 Miscellaneous Disk Utility Application Programs for the AFOS Background Partition. Beasley, April 1994. (PB94-181328)

CP 94-3 AFOS Terminal Aerodrome Forecast Encoding. Wantz, June 1994.