D 4

```
EEEEEEEEEEEEEEE  DDDDDDDDDDDD     FFFFFFFFFFFFFFF
EEEEEEEEEEEEEEE  DDDDDDDDDDDD     FFFFFFFFFFFFFFF
EEEEEEEEEEEEEEE  DDDDDDDDDDDD     FFFFFFFFFFFFFFF
EEE              DDD         DDD  FFF
EEE              DDD         DDD  FFF
EEE              DDD         DDD  FFF
EEE              DDD         DDD  FFF
EEE              DDD         DDD  FFF
EEE              DDD         DDD  FFF
EEEEEEEEEEEE     DDD         DDD  FFFFFFFFFFFF
EEEEEEEEEEEE     DDD         DDD  FFFFFFFFFFFF
EEEEEEEEEEEE     DDD         DDD  FFFFFFFFFFFF
EEE              DDD         DDD  FFF
EEE              DDD         DDD  FFF
EEE              DDD         DDD  FFF
EEE              DDD         DDD  FFF
EEE              DDD         DDD  FFF
EEE              DDD         DDD  FFF
EEEEEEEEEEEEEEE  DDDDDDDDDDDD     FFF
EEEEEEEEEEEEEEE  DDDDDDDDDDDD     FFF
EEEEEEEEEEEEEEE  DDDDDDDDDDDD     FFF
```

```
_$

Va
--
00
00
00
00
00
00
00
00
7F
7F
7F
7F
7F
7F
7F
7F
7F
7F
7F
```

FILEID**EDFFUNCS

```
EEEEEEEEEE  DDDDDDDD    FFFFFFFFFF  FFFFFFFFFF  UU      UU  NN      NN    CCCCCCCC    SSSSSSSS
EEEEEEEEEE  DDDDDDDD    FFFFFFFFFF  FFFFFFFFFF  UU      UU  NN      NN    CCCCCCCC    SSSSSSSS
EE          DD      DD  FF          FF          UU      UU  NN      NN  CC          SS
EE          DD      DD  FF          FF          UU      UU  NN      NN  CC          SS
EE          DD      DD  FF          FF          UU      UU  NNNN    NN  CC          SS
EE          DD      DD  FF          FF          UU      UU  NNNN    NN  CC          SS
EEEEEEEE    DD      DD  FFFFFFFF    FFFFFFFF    UU      UU  NN  NN  NN  CC            SSSSSS
EEEEEEEE    DD      DD  FFFFFFFF    FFFFFFFF    UU      UU  NN  NN  NN  CC            SSSSSS
EE          DD      DD  FF          FF          UU      UU  NN    NNNN  CC                  SS
EE          DD      DD  FF          FF          UU      UU  NN    NNNN  CC                  SS
EE          DD      DD  FF          FF          UU      UU  NN      NN  CC                  SS      ....
EE          DD      DD  FF          FF          UU      UU  NN      NN  CC                  SS      ....
EEEEEEEEEE  DDDDDDDD    FF          FF          UUUUUUUUUU  NN      NN    CCCCCCCC  SSSSSSSS        ....
EEEEEEEEEE  DDDDDDDD    FF          FF          UUUUUUUUUU  NN      NN    CCCCCCCC  SSSSSSSS        ....

LL            IIIIII      SSSSSSSS
LL            IIIIII      SSSSSSSS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II        SSSSSS
LL              II        SSSSSS
LL              II              SS
LL              II              SS
LL              II              SS
LL              II              SS
LLLLLLLLLL    IIIIII    SSSSSSSS
LLLLLLLLLL    IIIIII    SSSSSSSS
```

```
        [ IDENT ('V04-000'),
{ ++
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FACILITY:       VAX/VMS EDF (EDIT/FDL) UTILITY

ABSTRACT:       This facility is used to create, modify, and optimize
                FDL specification files.

ENVIRONMENT:    NATIVE/USER MODE

AUTHOR:         Ken F. Henderson Jr.

CREATION DATE:  27-Mar-1981

MODIFIED BY:
                V03-013 RRB0016         Rowland R. Bradley        6 Mar 1984
                        Signal error if insufficient information to do
                        analysis and disallow logging of file creation
                        if AUTO_TUNE (/NOINT)

                V03-012 RRB0006         Rowland R. Bradley       12 Jan 1984
                        Enable user to specify analysis filename within optimize
                        script.

                V03-011 KFH0011         Ken Henderson             8 Aug 1983
                        Changes for seperate compilation.

                V03-010 KFH0010         Ken Henderson            26 Apr 1983
                        Modified SET_PROC to set VISIBLE_QUESTION.
                        REDESIGN => TOUCHUP.

                V03-009 KFH0009         Ken Henderson            14 Apr 1983
```

```
                                Added SET_PROC.
                                Removed DESIGN_SCRIPT_PROC.

                        V03-008 KFH0008         Ken Henderson           20 Jan 1983
                                Removed references to DASH.

                        V03-007 KFH0007         Ken Henderson           11 Jan 1983
                                Modified CREATE_NEW_FDL to output
                                "Output not created" message on one
                                line, in reverse video, with bell

                        V03-006 KFH0006         Ken Henderson           15 Nov 1982
                                Added support for Pascal V2

                        V03-005 KFH0005         Ken Henderson           8 Sept 1982
                                Modified call to Script_option to
                                use new QUERY routine.

                        V03-004 KFH0004         Ken Henderson           31 March 1982
                                Modified CREATE_NEW_FDL to fix
                                FT2 QAR 967

                        V03-003 KFH0003         Ken Henderson           28 March 1982
                                Modified CREATE_NEW_FDL to not output
                                FDL file if the definition is empty.

                        V03-002 KFH0002         Ken Henderson           23-Mar-1982
                                Modified HELP_PROC to fix FT2 QAR 831

                        V03-001 KFH0001         Ken Henderson           17-Mar-1982
                                Modified a few routines to fix FT2
                                QARs 500,510

        -- }
```

```
ENVIRONMENT ('LIB$:EDFFUNCS'),

INHERIT (

'SYS$LIBRARY:STARLET',
'SHRLIB$:FDLPARDEF',
'LIB$:EDFSDLMSG',
'LIB$:EDFSTRUCT',
'LIB$:EDFCONST',
'LIB$:EDFTYPE',
'LIB$:EDFVAR',
'LIB$:EDFEXTERN',
'LIB$:EDFCHF',
'LIB$:EDFUTIL',
'LIB$:EDFASK',
'LIB$:EDFSHOW',
'LIB$:EDFDESIGN'

)]

MODULE EDFFUNCS (INPUT,OUTPUT);
```

```
{ ++

CREATE_NEW_FDL -- Routine to output a new FDL file.

This routine outputs the FDL file to the disk.

CALLING SEQUENCE:

CREATE_NEW_FDL;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

none

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

none

ROUTINES CALLED:

none

ROUTINE VALUE:

none

SIGNALS:

none

SIDE EFFECTS:

none

-- }
```

```
PROCEDURE CREATE_NEW_FDL;

VAR
    TEMP_STRING255                 : STRING255;
    FID_BLOCK                      : ARRAY [0..2] OF LONG;
    I                              : INTEGER;
    J                              : INTEGER;

BEGIN

    { +
    Only output the FDL file if the definition is not empty.
    - }
    IF DEF_HEAD = DEF_TAIL THEN

    BEGIN

        FILE_CREATED    := FALSE;

        WRITELN (CRLF,SHIFT,CONTROL_G,ANSI_REVERSE,
        'Output not created - Current FDL Definition empty.',ANSI_RESET);

    END         { IF TRUE DEF_HEAD = DEF_TAIL }

    ELSE

    BEGIN

        RES_OUTPUT_FILENAME_DESC                := NULL_STRING;
        NEW (RES_OUTPUT_FILENAME_DESC.DSC$A_POINTER);
        RES_OUTPUT_FILENAME_DESC.DSC$W_LENGTH   := 255;
        FLAGS.FDL$V_SIGNAL                      := TRUE;
        FLAGS.FDL$V_$CALLBACK                   := FALSE;

        ISTATUS                         := FDL$CREATE (
                                                    NL_DEV_DESC,
                                                    OUTPUT_FILENAME_DESC,
                                                    DEFAULT_FILENAME_DESC,
                                                    RES_OUTPUT_FILENAME_DESC,
                                                    FID_BLOCK,
                                                    FLAGS
                                                    );

        IF ODD (ISTATUS) THEN

        BEGIN

            { +
            Open his file and initialize it.
            - }
            DEST_IS_TERMINAL    := FALSE;

            WITH RES_OUTPUT_FILENAME_DESC DO

            BEGIN

                FOR I := 1 TO 255 DO
```

```

                    IF I > DSC$W_LENGTH THEN

                        TEMP_STRING255[I]       := ' '

                    ELSE

                        TEMP_STRING255[I]       := DSC$A_POINTER^[I];

            END;

            { +
            Clear out the terminal in case the terminal is the output.
            - }
            IF NOT AUTO_TUNE THEN

            BEGIN

                OPEN (FDL_DEST,SYS$OUTPUT_NAME,NEW,RECORD_LENGTH := 252);
                CLOSE (FD[_DEST);

            END;

            { +
            Now implement 'granularity'.
            - }
            IF ISAM_ORG THEN

                SHUFFLE_AREAS;

            { +
            Now open the 'real' FDL file.
            - }
            OPEN (FDL_DEST,TEMP_STRING255,OLD);
            REWRITE (FDL_DEST);

            { +
            Put the current definition out to the disk.
            - }
            GENERATE_FDL;

            { +
            We're done, close the file.
            - }
            CLOSE (FDL_DEST);

            { +
            Setup to show the created filename on exit.
            - }
            FILE_CREATED        := TRUE;

{           IF AUTO_TUNE THEN

                EDF$RESET_SCROLL;

}       END;    { IF ODD (ISTATUS) }

```

```
            END;         { IF FALSE DEF_HEAD = DEF_TAIL }

        END;    { CREATE_NEW_FDL }
```

```
{ ++

ADD_FDL_LINE -- Let user add a line_object to the Definition Linked List.

This routine prompts the user for his information and puts it into the
Deifinition.

CALLING SEQUENCE:

ADD_FDL_LINE;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

SYS$INPUT:

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

The Definition Linked List
DEF_CURRENT

ROUTINES CALLED:

none

ROUTINE VALUE:

none

SIGNALS:

none

SIDE EFFECTS:

none

-- }
```

```
PROCEDURE ADD_FDL_LINE;

VAR
    DEF_TEST             : ^LINE_OBJECT;
    SAVE_CURRENT         : ^LINE_OBJECT;
    SAVE                 : LINE_OBJECT;
    FOUND_PRI            : BOOLEAN;
    EXISTS               : BOOLEAN;
    PROCEED              : BOOLEAN;

BEGIN

    SAVE.STRING          := NULL_STRING;
    TEST.STRING          := NULL_STRING;

    FULL_CHOICE          := TRUE;
    QUERY (EDF$K_TEST_PRIMARY);

    FULL_CHOICE          := TRUE;
    ASK_TEST_SECONDARY;

    SAVE                 := TEST;

    { +
    Setup to display definition on the terminal.
    - }
    OPEN        (FDL_DEST,SYS$OUTPUT_NAME,NEW,RECORD_LENGTH := 252);
    REWRITE     (FDL_DEST);

    NEW (DEF_TEST);
    DEF_TEST^            := TEST;
    DEF_TEST^.FORE       := NIL;
    DEF_TEST^.BACK       := NIL;
    SAVE_CURRENT         := DEF_CURRENT;
    DEF_CURRENT          := DEF_TEST;

    SHOW_CUR_PRI_SEC (FALSE);

    DEF_CURRENT          := SAVE_CURRENT;
    DISPOSE (DEF_TEST);

    CLOSE       (FDL_DEST);

    EXISTS       :=  FIND_OBJECT (
    SAVE.OBJECT_TYPE,SAVE.PRIMARY,SAVE.PRINUM,SAVE.SECONDARY,SAVE.SECNUM);

    IF EXISTS THEN

        PROCEED          := QUERY (EDF$K_CONFIRM)

    ELSE

        PROCEED          := TRUE;

    IF PROCEED THEN

    BEGIN
```

```

        TEST    := SAVE;

        ASK_TEST_SECONDARY_VALUE;

        MAKE_SCRATCH;

        DEF_SCRATCH^ := TEST;

        IF DEF_SCRATCH^.PRIMARY = TITLE THEN

            DEF_SCRATCH^.OBJECT_TYPE    := PRI

        ELSE

            DEF_SCRATCH^.OBJECT_TYPE    := SEC;

    { **** SUPPORT END OF LINE COMMENTS !!! *** }

        INSERT_IN_ORDER (REPLACE_OBJ);

        IF TEST.PRIMARY <> TITLE THEN

        BEGIN

            { +
            If there wasn't one of these primaries, make one.
            - }
            DEF_CURRENT := DEF_HEAD;
            FOUND_PRI   := FALSE;

            REPEAT

                IF (
                (DEF_CURRENT^.OBJECT_TYPE = PRI)
                AND
                (DEF_CURRENT^.PRIMARY = SAVE.PRIMARY)
                AND
                (DEF_CURRENT^.PRINUM = SAVE.PRINUM)
                ) THEN

                    FOUND_PRI   := TRUE

                ELSE

                    INCR_CURRENT;

            UNTIL (FOUND_PRI OR (DEF_CURRENT = NIL));

            IF NOT FOUND_PRI THEN

            BEGIN

                TEST.OBJECT_TYPE       := PRI;
                TEST.PRIMARY           := SAVE.PRIMARY;
                TEST.PRINUM            := SAVE.PRINUM;
                TEST.SECONDARY         := DUMMY_SECONDARY$;
            TEST.SECNUM                  := 0;
            TEST.STRING                  := NULL_STRING;
            TEST.COMMENT                 := NULL_STRING;

            MAKE_SCRATCH;

            DEF_SCRATCH^                 := TEST;

            INSERT_IN_ORDER (REPLACE_OBJ);

         END;       { IF NOT FIND_OBJECT }

      END;    { IF TEST.PRIMARY <> TITLE }

      CLEAR (SCREEN);

      WRITELN (SHIFT,TAB,TAB,ANSI_REVERSE,
      ' Resulting Primary Section ',
      ANSI_RESET,CRLF);

      OPEN    (FDL_DEST,SYS$OUTPUT_NAME,NEW,RECORD_LENGTH := 252);
      REWRITE (FDL_DEST);

      SHOW_PRIMARY_SECTION (SAVE);

      CLOSE (FDL_DEST);

   END;        { IF TRUE PROCEED }

   TEST        := SAVE;

   QUERY (EDF$K_RETURN);

END;    { ADD_FDL_LINE }
```

```
{ ++

CHECK_DEFAULT -- See if the current default primary exists.

This routine searches the definition and checks to make sure that
the current default it OK.

CALLING SEQUENCE:

CHECK_DEFAULT;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:


OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:


ROUTINES CALLED:


ROUTINE VALUE:

none

SIGNALS:

none

SIDE EFFECTS:

none

-- }
```

```
PROCEDURE CHECK_DEFAULT;

VAR
    FOUND_PRIMARY        : BOOLEAN;

BEGIN

    IF DEF_HEAD <> DEF_TAIL THEN

    BEGIN

        { +
        Does the current default primary exist?
        - }
        DEF_CURRENT                  := DEF_HEAD;
        TEST.OBJECT_TYPE             := PRI;
        TEST.PRIMARY                 := DEFAULT_PRIMARY;
        TEST.PRINUM                  := DEFAULT_PRINUM;
        FOUND_PRIMARY                := FALSE;

        REPEAT

            IF CURRENT_EQ_TEST (TEST,FALSE) THEN

                FOUND_PRIMARY    := TRUE

            ELSE

                INCR_CURRENT;

        UNTIL (DEF_CURRENT = NIL) OR FOUND_PRIMARY;

        IF NOT FOUND_PRIMARY THEN

        BEGIN

            { +
            Find out what the 1st 'real' primary is.
            - }
            DEF_CURRENT          := DEF_HEAD;

            IF DEF_CURRENT^.PRIMARY = IDENT THEN

                INCR_CURRENT;

            { +
            Set the default up to be the first one that exists.
            - }
            DEFAULT_PRIMARY                  := DEF_CURRENT^.PRIMARY;
            DEFAULT_PRINUM                   := DEF_CURRENT^.PRINUM;
            INPUT_NUMBER                     := DEFAULT_PRINUM;

        END;

    END;

END;    { CHECK_DEFAULT }
```

```
{ ++

DELETE_FDL_LINE -- Get rid of a line_object.

This routine lets the user find and remove a line_object from the Definition
Linked List.

CALLING SEQUENCE:

DELETE_FDL_LINE;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

FULL_PROMPT
ANSI_REVERSE
TAB
DEF_HEAD
DEF_CURRENT
SYS$INPUT:

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

FDL_DEST
DEF_CURRENT
SYS$OUTPUT:

ROUTINES CALLED:

CLEAR
ASK_DELETE_OPTION
SHOW_CURRENT
INCR_CURRENT

ROUTINE VALUE:

none

SIGNALS:

none

SIDE EFFECTS:

none

-- }
```

```
PROCEDURE DELETE_FDL_LINE;

VAR
    SAVE                : LINE_OBJECT;
    DEF_REM_PRI         : ^LINE_OBJECT;
    REMAINING_PRI       : BOOLEAN;
    REMAINING_SEC       : BOOLEAN;
    NO_MORE_PRI         : BOOLEAN;
    FOUND_IT            : BOOLEAN;

BEGIN

    { +
    If the Definition Linked List is not empty, then do it, else skip it.
    - }
    IF DEF_HEAD <> DEF_TAIL THEN

    BEGIN

        SAVE.STRING                 := NULL_STRING;
        TEST.STRING                 := NULL_STRING;

        CHECK_DEFAULT;

        { +
        These routines will only return if an existing line_object has been given.
        If 'EXTANT_ONLY' is specified.
        - }
        FULL_CHOICE     := FALSE;
        QUERY (EDF$K_TEST_PRIMARY);

        NO_MORE_PRI     := FALSE;

        FULL_CHOICE     := FALSE;
        ASK_TEST_SECONDARY;

        { +
        Remember which primary it was.
        - }
        SAVE            := TEST;

        FOUND_IT        := FIND_OBJECT (
                                TEST.OBJECT_TYPE,TEST.PRIMARY,
                                TEST.PRINUM,TEST.SECONDARY,TEST.SECNUM
                                );

        { +
        Setup to display definition on the terminal.
        - }
        OPEN    (FDL_DEST,SYS$OUTPUT_NAME,NEW,RECORD_LENGTH := 252);
        REWRITE (FDL_DEST);

        SHOW_CUR_PRI_SEC (TRUE);

        CLOSE   (FDL_DEST);

        QUERY (EDF$K_RETURN) ;
```

```

DELETE_CURRENT;

IF TEST.PRIMARY <> TITLE THEN

BEGIN

    { +
    Look through the list to see what remains of this primary.
    - }
    REMAINING_PRI           := FALSE;
    REMAINING_SEC           := FALSE;

    DEF_CURRENT := DEF_HEAD;

    REPEAT

        IF (
        (DEF_CURRENT^.PRIMARY = SAVE.PRIMARY)
        AND
        (DEF_CURRENT^.PRINUM = SAVE.PRINUM)
        ) THEN

        BEGIN

            IF DEF_CURRENT^.OBJECT_TYPE = PRI THEN

            BEGIN

                REMAINING_PRI   := TRUE;
                DEF_REM_PRI                 := DEF_CURRENT;

            END

            ELSE IF DEF_CURRENT^.OBJECT_TYPE = SEC THEN

                REMAINING_SEC   := TRUE;

        END;

        INCR_CURRENT;

    UNTIL (REMAINING_PRI AND REMAINING_SEC) OR (DEF_CURRENT = NIL);

    IF (
    (REMAINING_PRI)
    AND
    (NOT REMAINING_SEC)
    ) THEN

    BEGIN

        WRITELN (CRLF,SHIFT,ANSI_REVERSE,
        ' No more Secondaries with this Primary, deleting Primary. ',
        ANSI_RESET);

        DEF_CURRENT                 := DEF_REM_PRI;
    DELETE_CURRENT;
    NO_MORE_PRI            := TRUE;

    LIB$WAIT (3.0);

END

ELSE IF (
(NOT REMAINING_PRI)
AND
(REMAINING_SEC)
) THEN

    { NULL-STATEMENT }

ELSE IF (
(NOT REMAINING_PRI)
AND
(NOT REMAINING_SEC)
) THEN

BEGIN

    WRITELN (CRLF,SHIFT,ANSI_REVERSE,
    ' This Primary Section has now been entirely Deleted. ',
    ANSI_RESET);
    NO_MORE_PRI            := TRUE;

    LIB$WAIT (2.0);

END

ELSE IF (
(REMAINING_PRI)
AND
(REMAINING_SEC)
) THEN

BEGIN

    CLEAR (SCREEN);

    WRITELN (SHIFT,TAB,TAB,ANSI_REVERSE,
    ' Resulting Primary Section ',
    ANSI_RESET,CRLF);

    OPEN    (FDL_DEST,SYS$OUTPUT_NAME,NEW,
                RECORD_LENGTH := 252);
    REWRITE (FDL_DEST);

    SHOW_PRIMARY_SECTION (SAVE);

    CLOSE (FDL_DEST);

END;

TEST.PRIMARY        := SAVE.PRIMARY;
```

```
            TEST.PRINUM         := SAVE.PRINUM;

            IF NOT NO_MORE_PRI THEN

                QUERY (EDF$K_RETURN);

        END;    { IF TEST.PRIMARY <> TITLE }

    END         { IF TRUE DEF_HEAD <> DEF_TAIL }

    ELSE

    BEGIN

        WRITELN (
        SHIFT,ANSI_REVERSE,' The Current Definition is Empty. ',ANSI_RESET);

        LIB$WAIT (3.0);

    END;        { IF FALSE DEF_HEAD <> DEF_TAIL }

END;    { DELETE_FDL_LINE }
```

```
{ ++

MODIFY_FDL_LINE -- Modify an extant line_object.

This routine lets the user view and change the contents of a particular
line_object in the Definition Linked List.

CALLING SEQUENCE:

MODIFY_FDL_LINE;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

SYS$INPUT:
The Definition Linked List

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

SYS$OUTPUT:
The Definition Linked List

ROUTINES CALLED:

none

ROUTINE VALUE:

none

SIGNALS:

none

SIDE EFFECTS:

none

-- }
```

```
PROCEDURE MODIFY_FDL_LINE;

VAR
    SAVE                : LINE_OBJECT;
    FOUND_IT            : BOOLEAN;

BEGIN

    { +
    If the Definition Linked List is not empty, then do it, else skip it.
    - }
    IF DEF_HEAD <> DEF_TAIL THEN

    BEGIN

        SAVE.STRING             := NULL_STRING;
        SAVE.COMMENT            := NULL_STRING;
        TEST.STRING             := NULL_STRING;
        TEST.COMMENT            := NULL_STRING;

        CHECK_DEFAULT;

        { +
        These routines will only return if an existing line_object has been given.
        If 'EXTANT_ONLY' is specified.
        - }
        FULL_CHOICE     := FALSE;
        QUERY (EDF$K_TEST_PRIMARY);

        FULL_CHOICE     := FALSE;
        ASK_TEST_SECONDARY;

        FOUND_IT        := FIND_OBJECT (
                                    TEST.OBJECT_TYPE,TEST.PRIMARY,TEST.PRINUM,
                                    TEST.SECONDARY,TEST.SECNUM
                                    );

        SAVE            := DEF_CURRENT^;

        { +
        Setup to display definition on the terminal.
        - }
        OPEN    (FDL_DEST,SYS$OUTPUT_NAME,NEW,RECORD_LENGTH := 252);
        REWRITE (FDL_DEST);

        SHOW_CUR_PRI_SEC (TRUE);

        CLOSE   (FDL_DEST);

        TEST    := SAVE;

        ASK_TEST_SECONDARY_VALUE;

        MAKE_SCRATCH;

        DEF_SCRATCH^    := TEST;

        IF DEF_SCRATCH^.PRIMARY = T!TLE THEN

            DEF_SCRATCH^.OBJECT_TYPE    := PRI

        ELSE

            DEF_SCRATCH^.OBJECT_TYPE    := SEC;

        INSERT_IN_ORDER (REPLACE_OBJ);

        CLEAR (SCREEN);

        WRITELN (SHIFT,TAB,TAB,ANSI_REVERSE,
        ' Resulting Primary Section ',
        ANSI_RESET,CRLF);

        OPEN    (FDL_DEST,SYS$OUTPUT_NAME,NEW,RECORD_LENGTH := 252);
        REWRITE (FDL_DEST);

        SHOW_PRIMARY_SECTION (SAVE);

        CLOSE (FDL_DEST);

        TEST    := SAVE;

        QUERY (EDF$K_RETURN);

    END         { IF TRUE DEF_HEAD <> DEF_TAIL }

    ELSE

    BEGIN

        WRITELN (
        SHIFT,ANSI_REVERSE,' The Current Definition is Empty. ',ANSI_RESET);

        LIB$WAIT (3.0);

    END;        { IF FALSE DEF_HEAD <> DEF_TAIL }

END;    { MODIFY_FDL_LINE }
```

```
{ ++

HELP_PROC -- Prompt for help and process it.

This routine interfaces to the LBR$OUTPUT_HELP routine to access the
help library.

CALLING SEQUENCE:

HELP_PROC;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

The help library: SYS$LIBRARY:EDF.HLB

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

SYS$OUTPUT: (through lib$put_output)

ROUTINES CALLED:

LBR$OUTPUT_HELP

ROUTINE VALUE:

none

SIGNALS:

none

SIDE EFFECTS:

none

-- }
```

```
PROCEDURE HELP_PROC;

BEGIN

    { +
    Call the Librarian's help routine that will prompt the user for any
    additional information.
    - }
    ISTATUS     := LBR$OUTPUT_HELP (
                                        IADDRESS (LIB$PUT_OUTPUT),
                                        LINE_WIDTH,
                                        0,
                                        EDFHLP_STRING,
                                        0,
                                        IADDRESS (LIB$GET_INPUT)
                                        );

    { +
    Show what the problem is.
    - }
    IF NOT ODD (ISTATUS) THEN

        LIB$SIGNAL (ISTATUS,0,0,0);

END;    { HELP_PROC }
```

```
{ ++

VERIFY_ISAM_DEFINITION -- Check the linked list.

This routine verifies that the FDL definition is there and is indexed.

CALLING SEQUENCE:

boolean := VERIFY_ISAM_DEFINITION;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

none

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

none

ROUTINES CALLED:

none

ROUTINE VALUE:

true or false depending upon the checking

SIGNALS:

none

SIDE EFFECTS:

none

-- }
```

```
FUNCTION VERIFY_ISAM_DEFINITION : BOOLEAN;

VAR
    NON_EMPTY   : BOOLEAN;
    ISAM_FDL    : BOOLEAN;

BEGIN

    NON_EMPTY   := FALSE;
    ISAM_FDL    := FALSE;

    { +
    Check for a definition that has more than an Ident.
    - }
    IF (
    (DEF_HEAD <> DEF_TAIL)
    OR
    (DEF_HEAD^.PRIMARY <> IDENT)
    ) THEN

    BEGIN

        NON_EMPTY       := TRUE;

        { +
        See what type of file the definition is now.
        1st, find the line_object that tells that.
        - }
        IF FIND_OBJECT (SEC,FILE$,0,ORGANIZATION,0) THEN

        BEGIN

            IF DEF_CURRENT^.QUALIFIER = FDL$C_IDX THEN

                ISAM_FDL        := TRUE;

        END;    { IF TRUE FIND_OBJECT () }

        IF NOT ISAM_FDL THEN

        BEGIN

            WRITELN (SHIFT,ANSI_REVERSE,
            ' The current file organization is not Indexed. ',
            ANSI_RESET);

            LIB$WAIT (3.0);

        END;    { IF FALSE ISAM_FDL }

    END { IF TRUE (DEF_HEAD <> DEF_TAIL) OR (DEF_HEAD^.PRIMARY <> IDENT) }

    ELSE

    IF NOT AUTO_TUNE THEN
        BEGIN

```

```
            { +
            Slap the user's wrist.
            - }
            WRITELN (SHIFT,ANSI_REVERSE,
            ' The current FDL Definition is empty. ',
            ANSI_RESET);

            LIB$WAIT (3.0);

            END
        ELSE
            BEGIN
            LIB$SIGNAL (EDF$_INSFANL,0,0,0); {no definition like above}
            END;


        { +
        We must have something, and that something must be indexed.
        - }
        VERIFY_ISAM_DEFINITION      := (NON_EMPTY AND ISAM_FDL);

    END;    { VERIFY_ISAM_DEFINITION }
```

```
{ ++

REDESIGN_SCRIPT_PROC -- Redesign a definition.

This routine allows old definitions to done over.

CALLING SEQUENCE:

REDESIGN_SCRIPT_PROC;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

none

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

none

ROUTINES CALLED:

INDEXED_DESIGN

ROUTINE VALUE:

none

SIGNALS:

none

SIDE EFFECTS:

none

-- }
```

```
PROCEDURE REDESIGN_SCRIPT_PROC;

BEGIN

    IF VERIFY_ISAM_DEFINITION THEN

        INDEXED_DESIGN (TRUE,FALSE);

END;    { REDESIGN_SCRIPT_PROC }
```

```
{ ++

ADD_KEY_SCRIPT_PROC -- Define a new key.

This routine allows new keys to be added to the definition.

CALLING SEQUENCE:

ADD_KEY_SCRIPT_PROC;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

none

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

none

ROUTINES CALLED:

REDESIGN_FDL

ROUTINE VALUE:

none

SIGNALS:

none

SIDE EFFECTS:

none

-- }
```

```
PROCEDURE ADD_KEY_SCRIPT_PROC;

BEGIN

    IF VERIFY_ISAM_DEFINITION THEN

    BEGIN

        { +
        See what we have already.
        - }
        SCAN_DEFINITION (FALSE);

        { +
        Set the key that we have to redesign.
        - }
        IDATA[EDF$K_ACTIVE_KEY] := HIGH_KEY;

        IF FOUND_0 THEN

            IDATA[EDF$K_ACTIVE_KEY]     := IDATA[EDF$K_ACTIVE_KEY] + 1;

        { +
        Go model and select those parameters.
        - }
        INDEXED_DESIGN (TRUE,TRUE);

    END;        { IF TRUE VERIFY_ISAM_DEFINITION }

END;    { ADD_KEY_SCRIPT_PROC }
```

```
{ ++

DELETE_KEY_SCRIPT_PROC -- Remove a key definition from the Link List.

This routine allows key definitions to be removed - along with the
accompanying area proposals.

CALLING SEQUENCE:

DELETE_KEY_SCRIPT_PROC;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

none

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

none

ROUTINES CALLED:

INDEXED_DESIGN

ROUTINE VALUE:

none

SIGNALS:

none

SIDE EFFECTS:

none

-- }
```

```
PROCEDURE DELETE_KEY_SCRIPT_PROC;

    PROCEDURE DELETE_SECTION (SECTION : PRIMARY_TYPE; SECT_NUM : INTEGER);

        BEGIN

            IF FIND_OBJECT (PRI,SECTION,SECT_NUM,DUMMY_SECONDARY$,0) THEN

            BEGIN

                WRITELN (SHIFT,'Deleting ',
                SECTION:PRIMARY_WIDTH[SECTION],SECT_NUM:3,' primary section.');
                QUERY (EDF$K_RETURN);
                DELETE_PRIMARY_SECTION (SECTION,SECT_NUM);

            END;        { IF TRUE FIND_OBJECT () }

        END;    { DELETE_AREA }

VAR
    LO_AREA     : INTEGER;
    L1_AREA     : INTEGER;
    LX_AREA     : INTEGER;

BEGIN

    IF VERIFY_ISAM_DEFINITION THEN

    BEGIN

        { +
        See what we have.
        - }
        SCAN_DEFINITION (TRUE);

        IF HIGH_KEY <> 0 THEN

        BEGIN

            { +
            See which areas are used by this key.
            - }
            IF FIND_OBJECT (SEC,KEY,HIGH_KEY,DATA_AREA,0) THEN

                LO_AREA         := DEF_CURRENT^.NUMBER

            ELSE

                LO_AREA         := -1;

            IF FIND_OBJECT (SEC,KEY,HIGH_KEY,LEVEL1_INDEX_AREA,0) THEN

                L1_AREA         := DEF_CURRENT^.NUMBER

            ELSE

                L1_AREA         := -1;
```

```
IF FIND_OBJECT (SEC,KEY,HIGH_KEY,INDEX_AREA,0) THEN

    LX_AREA         := DEF_CURRENT^.NUMBER

ELSE

    LX_AREA         := -1;

{ +
Eliminate those areas that are also used by other keys.
- }
DEF_CURRENT         := DEF_HEAD;

WITH DEF_CURRENT^ DO

BEGIN

    REPEAT

        IF (
        (PRIMARY = KEY)
        AND
        (PRINUM <> HIGH_KEY)
        AND
        (SECONDARY = DATA_AREA)
        AND
        (NUMBER = L0_AREA)
        ) THEN

            L0_AREA := -1;

        IF (
        (PRIMARY = KEY)
        AND
        (PRINUM <> HIGH_KEY)
        AND
        (SECONDARY = LEVEL1_INDEX_AREA)
        AND
        (NUMBER = L1_AREA)
        ) THEN

            L1_AREA := -1;

        IF (
        (PRIMARY = KEY)
        AND
        (PRINUM <> HIGH_KEY)
        AND
        (SECONDARY = INDEX_AREA)
        AND
        (NUMBER = LX_AREA)
        ) THEN

            LX_AREA := -1;

        INCR_CURRENT;
```

```
                 UNTIL DEF_CURRENT = NIL;

             END;        { DO }

             { +
             Get rid of the key definition.
             - }
             DELETE_SECTION (KEY,HIGH_KEY);

             { +
             Get rid of any now obsolete area definitions.
             - }
             IF NOT (LO_AREA < 0) THEN

                 DELETE_SECTION (AREA,LO_AREA);

             IF NOT (L1_AREA < 0) THEN

                 DELETE_SECTION (AREA,L1_AREA);

             IF NOT (LX_AREA < 0) THEN

                 DELETE_SECTION (AREA,LX_AREA);

             WRITELN (SHIFT,'End of Delete_Key_Indexed Script.');
             QUERY (EDF$K_RETURN);

         END

         ELSE

         BEGIN

             WRITELN (SHIFT,ANSI_REVERSE,
             ' This script will not delete the Primary Key. ',
             ANSI_RESET);

             LIB$WAIT (3.0);

         END;

     END;        { IF TRUE VERIFY_ISAM_DEFINITION }

 END;    { DELETE_KEY_SCRIPT_PROC }
```

```
{ ++

OPTIMIZE_SCRIPT_PROC -- Optimize extant definitions.

This routine allows old definitions to modified and optimized.

CALLING SEQUENCE:

OPTIMIZE_SCRIPT_PROC;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

none

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

none

ROUTINES CALLED:

none

ROUTINE VALUE:

none

SIGNALS:

none

SIDE EFFECTS:

none

-- }
```

```
PROCEDURE OPTIMIZE_SCRIPT_PROC;

VAR
    AN_KEY_FOUND        : BOOLEAN;

BEGIN

    IF NOT ANALYSIS_SPECIFIED THEN

    BEGIN
        IF NOT (AUTO_TUNE) THEN
            WRITELN (SHIFT,
            'An Input Analysis File is necessary for Optimizing Keys.',
            CRLF_SHIFT)
        ELSE
        { + exit since nointerative and no analysis file
        - }
            LIB$STOP (EDF$_INSFANL,0,0,0);

        VISIBLE_QUESTION        := TRUE;

        QUERY (EDF$K_ANALYSIS);

        VISIBLE_QUESTION        := FALSE;

        ANALYSIS_SPECIFIED      := TRUE;

    END;

    INPUT_ANALYSIS_FILE;

    AN_KEY_FOUND        := FALSE;

    POINT_AT_ANALYSIS;

    DEF_CURRENT := DEF_HEAD;

    REPEAT

        IF DEF_CURRENT^.PRIMARY = ANALYSIS_OF_KEY THEN

            AN_KEY_FOUND        := TRUE;

        INCR_CURRENT;

    UNTIL (AN_KEY_FOUND = TRUE) OR (DEF_CURRENT = NIL);

    POINT_AT_DEFINITION;

    IF AN_KEY_FOUND THEN

    BEGIN

        OPTIMIZING      := TRUE;
        REDESIGN_SCRIPT_PROC;

    END
```

```

            ELSE

            BEGIN

            IF NOT (AUTO_TUNE) THEN
            BEGIN
                    WRITELN (SHIFT,
                    'The Analysis File must contain ANALYSIS_OF_KEY primary sections.');
                    WRITELN (SHIFT,
                    'The DCL command "ANALYZE/RMS_FILE/FDL" produces Analysis Files.');

                    CLEAR (PAUSE);
            END
            END;

            OPTIMIZING  := FALSE;

        END;    { OPTIMIZE_SCRIPT_PROC }
```

```
{ ++

INVOKE_SCRIPT -- Start up a series of questions.

This routine dispatches to the script procedures.

CALLING SEQUENCE:

INVOKE_SCRIPT;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

IDATA[EDF$K_SCRIPT_OPTION]
SYS$INPUT_ERROR
SYS$INPUT:

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

SYS$INPUT_ERROR
TEMP_FULL_PROMPT

ROUTINES CALLED:

OPTIMIZE_SCRIPT_PROC
DESIGN_SCRIPT_PROC

ROUTINE VALUE:

none

SIGNALS:


SIDE EFFECTS:

none

-- }
```

```
PROCEDURE INVOKE_SCRIPT;

BEGIN

    { +
    Reset so 1st (DCL) script only gets done once.
    - }
    IDATA[EDF$K_FIRST_SCRIPT]    := EDF$K_ZERO_SCRIPT;

    { +
    Prompt for the desired script if we don't already have one. (from DCL)
    - }
    IF IDATA[EDF$K_SCRIPT_OPTION] = EDF$K_ZERO_SCRIPT THEN

    BEGIN

        { +
        See which script the user wants.
        - }
        QUERY (EDF$K_SCRIPT_OPTION);

    END         { IF TRUE IDATA[EDF$K_SCRIPT_OPTION] = EDF$K_ZERO_SCRIPT }

    ELSE

    BEGIN

        IF NOT AUTO_TUNE THEN

        BEGIN

            CLEAR (SCREEN);
            WRITE (SHIFT,TAB,TAB,ANSI_REVERSE);

            CASE IDATA[EDF$K_SCRIPT_OPTION] OF

                EDF$K_ADD_KEY_FDL :      WRITE (' Add_Key');
                EDF$K_DELETE_KEY_FDL :   WRITE (' Delete_Key');
                EDF$K_IDX_DESIGN_FDL :   WRITE (' Indexed');
                EDF$K_SEQ_DESIGN_FDL :   WRITE (' Sequential');
                EDF$K_REL_DESIGN_FDL :   WRITE (' Relative');
                EDF$K_OPTIMIZE_FDL :     WRITE (' Optimize');
                EDF$K_REDESIGN_FDL :     WRITE (' Touchup');

            OTHERWISE

                { NULL-STATEMENT } ;

            END;        { CASE }

            WRITELN (' Script ',ANSI_RESET,CRLF);

        END;    { IF NOT AUTO_TUNE }

    END;        { IF FALSE IDATA[EDF$K_SCRIPT_OPTION] = EDF$K_ZERO_SCRIPT }

    TAKE_DEFAULTS       := TRUE;

    CASE IDATA[EDF$K_SCRIPT_OPTION] OF

        EDF$K_IDX_DESIGN_FDL :

                                BEGIN

                                    WARN_OF_ERASE;
                                    INIT_DEF;
                                    INDEXED_DESIGN (FALSE,FALSE);

                                END;

        EDF$K_SEQ_DESIGN_FDL :

                                BEGIN

                                    WARN_OF_ERASE;
                                    INIT_DEF;
                                    SEQ_REL_WORK;
                                    SEQ_DEF;

                                END;

        EDF$K_REL_DESIGN_FDL :

                                BEGIN

                                    WARN_OF_ERASE;
                                    INIT_DEF;
                                    SEQ_REL_WORK;
                                    REL_DEF;

                                END;

        EDF$K_ADD_KEY_FDL :     ADD_KEY_SCRIPT_PROC;

        EDF$K_DELETE_KEY_FDL :  DELETE_KEY_SCRIPT_PROC;

        EDF$K_OPTIMIZE_FDL :    OPTIMIZE_SCRIPT_PROC;

        EDF$K_REDESIGN_FDL :    REDESIGN_SCRIPT_PROC;

    OTHERWISE

        { NULL-STATEMENT } ;

    END;        { CASE }

    TAKE_DEFAULTS       := FALSE;

END;    { INVOKE_SCRIPT }
```

```
{ ++

SET_PROC -- Set the characteristics of the FDL Editor.

This routine asks which characteristics are to be set and sets them.

CALLING SEQUENCE:

SET_PROC;

INPUT PARAMETERS:

none

IMPLICIT INPUTS:

SYS$INPUT_ERROR
SYS$INPUT

OUTPUT PARAMETERS:

none

IMPLICIT OUTPUTS:

SYS$INPUT_ERROR

ROUTINES CALLED:


ROUTINE VALUE:

none

SIGNALS:


SIDE EFFECTS:

none

-- }
```

```
PROCEDURE SET_PROC;

BEGIN

    VISIBLE_QUESTION    := TRUE;

    QUERY (EDF$K_SET_FUNCTION);

    CASE IDATA[EDF$K_SET_FUNCTION] OF

        EDF$K_SET_DISPLAY :     QUERY (EDF$K_SURFACE_OPTION);
        EDF$K_SET_EMPHASIS :    QUERY (EDF$K_BUCKET_WEIGHT);
        EDF$K_SET_GRANULARITY : QUERY (EDF$K_GRANULARITY);
        EDF$K_SET_RESPONSES :   QUERY (EDF$K_RESPONSES);
        EDF$K_SET_PROMPTING :   QUERY (EDF$K_PROMPTING);
        EDF$K_SET_ANALYSIS :    QUERY (EDF$K_ANALYSIS);
        EDF$K_SET_OUTPUT :      QUERY (EDF$K_OUTPUT);

        EDF$K_SET_NUMBER_KEYS :

        BEGIN

            QUERY (EDF$K_NUMBER_KEYS);
            NUMBER_KEYS_SET     := TRUE;

        END;

    OTHERWISE

        { NULL-STATEMENT } ;

    END;        { CASE }

    VISIBLE_QUESTION    := FALSE;

END;    { SET_PROC }

END.
    { End of file: SRC$:EDFFUNCS.PAS }
```

```
                                                                                   .TITLE  EDFFUNCS
                                                                                   .IDENT  \V04-000\

                                                                00000              .PSECT  $CODE,PIC,CON,REL,LCL,SHR,EXE,RD,NOWRT,2

65  72  63  20  74  6F  6E  20  74  75  70  74  75  4F          00000 C.AAA:       .ASCII  \Output not created - Current FDL Definit\-
74  6E  65  72  72  75  43  20  2D  20  64  65  74  61          0000E                      \ion empty.\<0><0>
6F  69  74  69  6E  69  66  65  44  20  4C  44  46  20          0001C
                00  00  2E  79  74  70  6D  65  20  6E          0002A
69  72  50  20  67  6E  69  74  6C  75  73  65  52  20          00034 C.AAB:       .ASCII  \ Resulting Primary Section \<0>
00  20  6E  6F  69  74  63  65  53  20  79  72  61  6D          00042
6E  6F  63  65  53  20  65  72  6F  6D  20  6F  4E  20          00050 C.AAC:       .ASCII  \ No more Secondaries with this Primary, \-
68  74  20  68  74  69  77  20  73  65  69  72  61  64          0005E                      \deleting Primary. \<0><0>
65  64  20  2C  79  72  61  6D  69  72  50  20  73  69          0006C
79  72  61  6D  69  72  50  20  67  6E  69  74  65  6C          0007A
                                        00  00  20  2E          00088
20  79  72  61  6D  69  72  50  20  73  69  68  54  20          0008C C.AAD:       .ASCII  \ This Primary Section has now been entir\-
6F  6E  20  73  61  68  20  6E  6F  69  74  63  65  53          0009A                      \ely Deleted. \<0><0><0>
6C  65  72  69  74  6E  65  20  6E  65  65  62  20  77          000A8
00  00  00  20  2E  64  65  74  65  6C  65  44  20  79          000B6
69  72  50  20  67  6E  69  74  6C  75  73  65  52  20          000C4 C.AAE:       .ASCII  \ Resulting Primary Section \<0>
00  20  6E  6F  69  74  63  65  53  20  79  72  61  6D          000D2
44  20  74  6E  65  72  72  75  43  20  65  68  54  20          000E0 C.AAF:       .ASCII  \ The Current Definition is Empty. \<0><0>
45  20  73  69  20  6E  6F  69  74  69  6E  69  66  65          000EE
                        00  00  20  2E  79  74  70  6D          000FC
69  72  50  20  67  6E  69  74  6C  75  73  65  52  20          00104 C.AAG:       .ASCII  \ Resulting Primary Section \<0>
00  20  6E  6F  69  74  63  65  53  20  79  72  61  6D          00112
44  20  74  6E  65  72  72  75  43  20  65  68  54  20          00120 C.AAH:       .ASCII  \ The Current Definition is Empty. \<0><0>
45  20  73  69  20  6E  6F  69  74  69  6E  69  66  65          0012E
                        00  00  20  2E  79  74  70  6D          0013C
66  20  74  6E  65  72  72  75  63  20  65  68  54  20          00144 C.AAI:       .ASCII  \ The current file organization is not In\-
69  74  61  7A  69  6E  61  67  72  6F  20  65  6C  69          00152                      \dexed. \<0>
65  64  6E  49  20  74  6F  6E  20  73  69  20  6E  6F          00160
                                00  20  2E  64  65  78          0016E
46  20  74  6E  65  72  72  75  63  20  65  68  54  20          00174 C.AAJ:       .ASCII  \ The current FDL Definition is empty. \-
20  6E  6F  69  74  69  6E  69  66  65  44  20  4C  44          00182                      <0><0>
        00  00  20  2E  79  74  70  6D  65  20  73  69          00190
5F  65  74  65  6C  65  44  20  66  6F  20  64  6E  45          0019C C.AAK:       .ASCII  \End of Delete_Key_Indexed Script.\<0>-
63  53  20  64  65  78  65  64  6E  49  5F  79  65  4B          001AA                      <0><0>
                        00  00  00  2E  74  70  69  72          001B8
77  20  74  70  69  72  63  73  20  73  69  68  54  20          001C0 C.AAL:       .ASCII  \ This script will not delete the Primary\-
65  74  65  6C  65  64  20  74  6F  6E  20  6C  6C  69          001CE                      \ Key. \<0><0>
4B  20  79  72  61  6D  69  72  50  20  65  68  74  20          001DC
                                00  00  20  2E  79  65          001EA
        00  00  00  20  67  6E  69  74  65  6C  65  44          001F0 C.AAM:       .ASCII  \Deleting \<0><0><0>
    0000006B   00000064   00000055   00000010   00000048        001FC C.AAN:       .LONG   72,16,85,100,107,111,128,144,149,157,162,-
    0000009D   00000095   00000090   00000080   0000006F        00210                      168,174,182,186,194,202,209
    000000BA   000000B6   000000AE   000000AB   000000A2        00224
                          000000D1   000000CA   000000C2        00238
    45  50  59  54  5F  59  52  41  4D  49  52  50  0C          00244              .ASCII  <12>\PRIMARY_TYPE\
59  52  41  4D  49  52  50  5F  59  4D  4D  55  44  0E          00251              .ASCII  <14>\DUMMY_PRIMARY$\
                                                    24          0025F
                            53  53  45  43  43  41  06          00260              .ASCII  <6>\ACCESS\
                                            4C  43  41  03          00267              .ASCII  <3>\ACL\
41  5F  46  4F  5F  53  49  53  59  4C  41  4E  41  10          0026B              .ASCII  <16>\ANALYSIS_OF_AREA\
                                            41  45  52          00279
4B  5F  46  4F  5F  53  49  53  59  4C  41  4E  41  0F          0027C              .ASCII  <15>\ANALYSIS_OF_KEY\
                                                59  45   0028A
                                    41  45  52  41  04   0028C           .ASCII  <4>\AREA\
                        54  43  45  4E  4E  4F  43  07   00291           .ASCII  <7>\CONNECT\
                                    45  54  41  44  04   00299           .ASCII  <4>\DATE\
                                24  45  4C  49  46  05   0029E           .ASCII  <5>\FILE$\
                                54  4E  45  44  49  05   002A4           .ASCII  <5>\IDENT\
                        4C  41  4E  52  55  4F  4A  07   002AA           .ASCII  <7>\JOURNAL\
                                        59  45  4B  03   002B2           .ASCII  <3>\KEY\
                        24  44  52  4F  43  45  52  07   002B6           .ASCII  <7>\RECORD$\
                        47  4E  49  52  41  48  53  07   002BE           .ASCII  <7>\SHARING\
                            4D  45  54  53  59  53  06   002C6           .ASCII  <6>\SYSTEM\
                            00  45  4C  54  49  54  05   002CD           .ASCII  <5>\TITLE\<0>
69  74  63  65  73  20  79  72  61  6D  69  72  70  20   002D4 C.AAO:    .ASCII  \ primary section.\<0><0><0>
                                00  00  00  2E  6E  6F   002E2
79  6C  61  6E  41  20  74  75  70  6E  49  20  6E  41   002E8 C.AAP:    .ASCII  \An Input Analysis File is necessary for \-
65  6E  20  73  69  20  65  6C  69  46  20  73  69  73   002F6                   \Optimizing Keys.\
70  4F  20  72  6F  66  20  79  72  61  73  73  65  63   00304
2E  73  79  65  4B  20  67  6E  69  7A  69  6D  69  74   00312
46  20  73  69  73  79  6C  61  6E  41  20  65  68  54   00320 C.AAQ:    .ASCII  \The Analysis File must contain ANALYSIS_\-
61  74  6E  6F  63  20  74  73  75  6D  20  65  6C  69   0032E                   \OF_KEY primary sections.\
46  4F  5F  53  49  53  59  4C  41  4E  41  20  6E  69   0033C
73  20  79  72  61  6D  69  72  70  20  59  45  4B  5F   0034A
                        2E  73  6E  6F  69  74  63  65   00358
6E  61  6D  6D  6F  63  20  4C  43  44  20  65  68  54   00360 C.AAR:    .ASCII  \The DCL command "ANALYZE/RMS_FILE/FDL" p\-
53  4D  52  2F  45  5A  59  4C  41  4E  41  22  20  64   0036E                   \roduces Analysis Files.\<0>
6F  72  70  20  22  4C  44  46  2F  45  4C  49  46  5F   0037C
73  69  73  79  6C  61  6E  41  20  73  65  63  75  64   0038A
                        00  2E  73  65  6C  69  46  20   00398
                        79  65  4B  5F  64  64  41  20   003A0 C.AAS:    .ASCII  \ Add_Key\
        00  79  65  4B  5F  65  74  65  6C  65  44  20   003A8 C.AAT:    .ASCII  \ Delete_Key\<0>
                        64  65  78  65  64  6E  49  20   003B4 C.AAU:    .ASCII  \ Indexed\
        00  6C  61  69  74  6E  65  75  71  65  53  20   003BC C.AAV:    .ASCII  \ Sequential\<0>
        00  00  00  65  76  69  74  61  6C  65  52  20   003C8 C.AAW:    .ASCII  \ Relative\<0><0><0>
        00  00  00  65  7A  69  6D  69  74  70  4F  20   003D4 C.AAX:    .ASCII  \ Optimize\<0><0><0>
                        70  75  68  63  75  6F  54  20   003E0 C.AAY:    .ASCII  \ Touchup\
                        20  74  70  69  72  63  53  20   003E8 C.AAZ:    .ASCII  \ Script \

                                                         00000 CREATE_NEW_FDL:                                               ; 0159
                                                    0000 00000           .WORD   ^M<>
                                 5E        FEF0  CE   9E 00002           MOVAB   -272(SP),SP
                        00000000G  EF 00000000G  EF   D1 00007           CMPL    DEF_HEAD,DEF_TAIL                           ; 0172
                                                 03   13 00012           BEQL    .+3
                                               0000V  31 00014           BRW     2$
                                      00000000G  EF   94 00017           CLRB    FILE_CREATED                                ; 0176
                                      00000000G  EF   9F 0001D           PUSHAB  CRLF                                        ; 0178
                                                 02   DD 00023           PUSHL   #2
                                      00000000G  EF   9F 00025           PUSHAB  PAS$FV_OUTPUT
                        00000000G  EF            03   FB 0002B           CALLS   #3,PAS$WRITE_STRING
                                      00000000G  EF   9F 00032           PUSHAB  SHIFT
                                                 04   DD 00038           PUSHL   #4
                                      00000000G  EF   9F 0003A           PUSHAB  PAS$FV_OUTPUT
                        00000000G  EF            03   FB 00040           CALLS   #3,PAS$WRITE_STRING
                                                 01   DD 00047           PUSHL   #1
                                   7E 00000000G  EF   9A 00049           MOVZBL  CONTROL_G,-(SP)
                                      00000000G  EF   9F 00050           PUSHAB  PAS$FV_OUTPUT
                        00000000G  EF            03   FB 00056           CALLS   #3,PAS$WRITE_CHAR
                                      00000000G  EF   9F 0005D           PUSHAB  ANSI_REVERSE
```

```
                                                      04    DD 00063        PUSHL   #4
                                           00000000G  EF    9F 00065        PUSHAB  PAS$FV_OUTPUT
                             00000000G  EF            03    FB 0006B        CALLS   #3,PAS$WRITE_STRING
                                           FFFFFB98   EF    9F 00072        PUSHAB  C.AAA
                                                      32    DD 00078        PUSHL   #50
                                           00000000G  EF    9F 0007A        PUSHAB  PAS$FV_OUTPUT
                             00000000G  EF            03    FB 00080        CALLS   #3,PAS$WRITE_STRING
                                           00000000G  EF    9F 00087        PUSHAB  ANSI_RESET
                                                      04    DD 0008D        PUSHL   #4
                                           00000000G  EF    9F 0008F        PUSHAB  PAS$FV_OUTPUT
                             00000000G  EF            03    FB 00095        CALLS   #3,PAS$WRITE_STRING
                                           00000000G  EF    9F 0009C        PUSHAB  PAS$FV_OUTPUT
                             00000000G  EF            01    FB 000A2        CALLS   #1,PAS$WRITELN2
                                                    0000V   31 000A9        BRW     13$
                             00000000G  EF 00000000G  EF    7D 000AC  2$:   MOVQ    NULL_STRING,RES_OUTPUT_FILENAME_DESC            ; 0187
                                           000000FF   8F    DD 000B7        PUSHL   #255                                            ; 0188
                             00000000G  EF            01    FB 000BD        CALLS   #1,PAS$NEW2
                             00000004G  EF            50    D0 000C4        MOVL    R0,RES_OUTPUT_FILENAME_DESC+4
                             00000000G  EF        FF  8F    9B 000CB        MOVZBW  #255,RES_OUTPUT_FILENAME_DESC                   ; 0189
00000000G  EF             01                      00  01    F0 000D3        INSV    #1,#0,#1,FLAGS                                  ; 0190
00000000G  EF             01                      04  00    F0 000DC        INSV    #0,#4,#1,FLAGS                                  ; 0191
                                           00000000G  EF    9F 000E5        PUSHAB  FLAGS                                           ; 0193
                                                  F0  AD    9F 000EB        PUSHAB  FID_BLOCK
                                           00000000G  EF    9F 000EE        PUSHAB  RES_OUTPUT_FILENAME_DESC
                                           00000000G  EF    9F 000F4        PUSHAB  DEFAULT_FILENAME_DESC
                                           00000000G  EF    9F 000FA        PUSHAB  OUTPUT_FILENAME_DESC
                                           00000000G  EF    9F 00100        PUSHAB  NL_DEV_DESC
                             00000000G  EF            06    FB 00106        CALLS   #6,FDL$CREATE
                             00000000G  EF            50    D0 0010D        MOVL    R0,ISTATUS
                                        03 00000000G  EF    E8 00114        BLBS    ISTATUS,.+3                                     ; 0202
                                                    0000V   31 0011B        BRW     13$
                                           00000000G  EF    94 0011E        CLRB    DEST_IS_TERMINAL                                ; 0209
                                        50            01    D0 00124        MOVL    #1,R0                                           ; 0215
                                        51            50    D0 00127  4$:   MOVL    R0,I
           51 00000000G  EF             10            00    ED 0012A        CMPZV   #0,#16,RES_OUTPUT_FILENAME_DESC,I               ; 0217
                                                      00V   18 00133        BGEQ    6$
                                 FEFO CD41            20    90 00135        MOVB    #32,TEMP_STRING255-1[I]                         ; 0219
                                                      00V   11 0013B        BRB     7$
                                        5C 00000004G  EF    D0 0013D  6$:   MOVL    RES_OUTPUT_FILENAME_DESC+4,R12                  ; 0223
                                 FEFO CD41        FF AC41   90 00144        MOVB    -1(R12)[I],TEMP_STRING255-1[I]
                          D3            50 000000FF   8F    F3 0014C  7$:   AOBLEQ  #255,R0,4$
                          00V00000000G  EF            00    E0 00154        BBS     #0,AUTO_TUNE,9$                                 ; 0230
                                           000000FC   8F    DD 0015C        PUSHL   #252                                            ; 0234
                                                      07    DD 00162        PUSHL   #7
                                                      04    DD 00164        PUSHL   #4
                                           00000000G  EF    9F 00166        PUSHAB  SYS$OUTPUT_NAME
                                                      0B    DD 0016C        PUSHL   #11
                                                      01    DD 0016E        PUSHL   #1
                                           00000000G  EF    9F 00170        PUSHAB  FDL_DEST
                             00000000G  EF            07    FB 00176        CALLS   #7,PAS$OPEN2
                                           00000000G  EF    9F 0017D        PUSHAB  FDL_DEST                                        ; 0235
                             00000000G  EF            01    FB 00183        CALLS   #1,PAS$CLOSE2
                          00V00000000G  EF            00    E1 0018A  9$:   BBC     #0,ISAM_ORG,11$                                 ; 0242
                             00000000G  EF            00    FB 00192        CALLS   #0,SHUFFLE_AREAS                                ; 0244
                                                      03    DD 00199  11$:  PUSHL   #3                                              ; 0249
                                                FEF1  CD    9F 0019B        PUSHAB  TEMP_STRING255
                                           000000FF   8F    DD 0019F        PUSHL   #255
```

```
                                                      01   DD 001A5         PUSHL   #1
                                           00000000G  EF   9F 001A7         PUSHAB  FDL_DEST
                             00000000G  EF            05   FB 001AD         CALLS   #5,PAS$OPEN2
                                           00000000G  EF   9F 001B4         PUSHAB  FDL_DEST                                    ; 0250
                             00000000G  EF            01   FB 001BA         CALLS   #1,PAS$REWRITE2
                             00000000G  EF            00   FB 001C1         CALLS   #0,GENERATE_FDL                             ; 0255
                                           00000000G  EF   9F 001C8         PUSHAB  FDL_DEST                                    ; 0260
                             00000000G  EF            01   FB 001CE         CALLS   #1,PAS$CLOSE2
                             00000000G  EF            01   90 001D5         MOVB    #1,FILE_CREATED                             ; 0265
                                                           04 001DC 13$:    RET                                                 ; 0275

; Routine Size: 477 bytes,    Routine Base: $CODE + 003F0

                                                              00000 ADD_FDL_LINE:                                               ; 0323
                                                         003C 00000         .WORD   ^M<R2,R3,R4,R5>
                                        5E       80   AE   9E 00002         MOVAB   -128(SP),SP
                                   D1   AD 00000000G  EF   7D 00006         MOVQ    NULL_STRING,SAVE+17                         ; 0335
                             00000011G  EF 00000000G  EF   7D 0000E         MOVQ    NULL_STRING,TEST+17                         ; 0336
                             00000000G  EF            01   90 00019         MOVB    #1,FULL_CHOICE                              ; 0338
                                           00000047   8F   DF 00020         PUSHAL  #71                                         ; 0339
                             00000000G  EF            01   FB 00026         CALLS   #1,QUERY
                             00000000G  EF            01   90 0002D         MOVB    #1,FULL_CHOICE                              ; 0341
                             00000000G  EF            00   FB 00034         CALLS   #0,ASK_TEST_SECONDARY                       ; 0342
                    CO    AD 00000000G  EF     0040   8F   28 0003B         MOVC3   #64,TEST,SAVE                               ; 0344
                                           000000FC   8F   DD 00046         PUSHL   #252                                        ; 0349
                                                      07   DD 0004C         PUSHL   #7
                                                      04   DD 0004E         PUSHL   #4
                                           00000000G  EF   9F 00050         PUSHAB  SYS$OUTPUT_NAME
                                                      0B   DD 00056         PUSHL   #11
                                                      01   DD 00058         PUSHL   #1
                                           00000000G  EF   9F 0005A         PUSHAB  FDL_DEST
                             00000000G  EF            07   FB 00060         CALLS   #7,PAS$OPEN2
                                           00000000G  EF   9F 00067         PUSHAB  FDL_DEST                                    ; 0350
                             00000000G  EF            01   FB 0006D         CALLS   #1,PAS$REWRITE2
                                           00000040   8F   DD 00074         PUSHL   #64                                         ; 0352
                             00000000G  EF            01   FB 0007A         CALLS   #1,PAS$NEW2
                                        5C            50   D0 00081         MOVL    R0,DEF_TEST
                          6C 00000000G  EF     0040   8F   28 00084         MOVC3   #64,TEST,(DEF_TEST)                         ; 0353
                                                 01   AC   D4 0008E         CLRL    1(DEF_TEST)                                 ; 0354
                                                 05   AC   D4 00091         CLRL    5(DEF_TEST)                                 ; 0355
                                        52 00000000G  EF   D0 00094         MOVL    DEF_CURRENT,SAVE_CURRENT                    ; 0356
                             00000000G  EF            5C   D0 0009B         MOVL    DEF_TEST,DEF_CURRENT                        ; 0357
                                                 00   8F   9F 000A2         PUSHAB  #0                                          ; 0359
                             00000000G  EF            01   FB 000A5         CALLS   #1,SHOW_CUR_PRI_SEC
                             00000000G  EF            52   D0 000AC         MOVL    SAVE_CURRENT,DEF_CURRENT                    ; 0361
                                                      5C   DD 000B3         PUSHL   DEF_TEST                                    ; 0362
                             00000000G  EF            01   FB 000B5         CALLS   #1,PAS$DISPOSE2
                                           00000000G  EF   9F 000BC         PUSHAB  FDL_DEST                                    ; 0364
                             00000000G  EF            01   FB 000C2         CALLS   #1,PAS$CLOSE2
                                                 DF   AD   9F 000C9         PUSHAB  SAVE+31                                     ; 0366
                                                 DE   AD   9F 000CC         PUSHAB  SAVE+30
                                                 DA   AD   9F 000CF         PUSHAB  SAVE+26
                                                 D9   AD   9F 000D2         PUSHAB  SAVE+25
                                                 CO   AD   9F 000D5         PUSHAB  SAVE
                             00000000G  EF            05   FB 000D8         CALLS   #5,FIND_OBJECT
                                        00V           50   E9 000DF         BLBC    EXISTS,3$                                   ; 0369
                                           00000019   8F   DF 000E2         PUSHAL  #25                                         ; 0371
```

```
             00000000G EF              01  FB 000E8         CALLS   #1,QUERY
                                      00V  11 000EF         BRB     4$
                       50              01  90 000F1 3$:    MOVB    #1,PROCEED                       ; 0375
                       03              50  E8 000F4 4$:    BLBS    PROCEED,.+3                      ; 0377
                                    0000V  31 000F7         BRW     21$
00000000G EF        C0 AD      0040    8F  28 000FA         MOVC3   #64,SAVE,TEST                    ; 0381
             00000000G EF              00  FB 00105         CALLS   #0,ASK_TEST_SECONDARY_VALUE      ; 0383
             00000000G EF              00  FB 0010C         CALLS   #0,MAKE_SCRATCH                  ; 0385
                    80 AD 00000000G    EF  D0 00113         MOVL    DEF_SCRATCH,-128(FP)             ; 0387
     80   BD 00000000G EF      0040    8F  28 0011B         MOVC3   #64,TEST,@-128(FP)
                       50 00000000G    EF  D0 00126         MOVL    DEF_SCRATCH,R0                   ; 0389
                       0F        19    A0  91 0012D         CMPB    25(R0),#15
                                      00V  12 00131         BNEQ    7$
                       50 00000000G    EF  D0 00133         MOVL    DEF_SCRATCH,R0                   ; 0391
                                       60  94 0013A         CLRB    (R0)
                                      00V  11 0013C         BRB     8$
                       50 00000000G    EF  D0 0013E 7$:    MOVL    DEF_SCRATCH,R0                   ; 0395
                       60              01  90 00145         MOVB    #1,(R0)
                           00000000    8F  DF 00148 8$:    PUSHAL  #0                               ; 0399
             00000000G EF              01  FB 0014E         CALLS   #1,INSERT_IN_ORDER
                       0F 00000019G    EF  91 00155         CMPB    TEST+25,#15                      ; 0401
                                       03  12 0015C         BNEQ    .+3
                                    0000V  31 0015E         BRW     20$
             00000000G EF 00000000G    EF  D0 00161         MOVL    DEF_HEAD,DEF_CURRENT             ; 0408
                                       5C  94 0016C         CLRB    FOUND_PRI                        ; 0409
                       50 00000000G    EF  D0 0016E 10$:   MOVL    DEF_CURRENT,R0                   ; 0413
                    DA AD        1A    A0  D1 00175         CMPL    26(R0),SAVE+26
                                      00V  12 0017A         BNEQ    14$
                       50 00000000G    EF  D0 0017C         MOVL    DEF_CURRENT,R0
                                       60  95 00183         TSTB    (R0)
                                      00V  12 00185         BNEQ    14$
                       50 00000000G    EF  D0 00187         MOVL    DEF_CURRENT,R0
                    D9 AD        19    A0  91 0018E         CMPB    25(R0),SAVE+25
                                      00V  12 00193         BNEQ    14$
                       5C              01  90 00195         MOVB    #1,FOUND_PRI                     ; 0421
                                      00V  11 00198         BRB     15$
             00000000G EF              00  FB 0019A 14$:   CALLS   #0,INCR_CURRENT                  ; 0425
                       00V             5C  E8 001A1 15$:   BLBS    FOUND_PRI,17$
                          00000000G    EF  D5 001A4         TSTL    DEF_CURRENT
                                       C2  12 001AA         BNEQ    10$
                       00V             5C  E8 001AC 17$:   BLBS    FOUND_PRI,20$                    ; 0429
                          00000000G    EF  94 001AF         CLRB    TEST                             ; 0433
             00000019G EF        D9    AD  90 001B5         MOVB    SAVE+25,TEST+25                  ; 0434
             0000001AG EF        DA    AD  D0 001BD         MOVL    SAVE+26,TEST+26                  ; 0435
                          0000001EG    EF  94 001C5         CLRB    TEST+30                          ; 0436
                          0000001FG    EF  D4 001CB         CLRL    TEST+31                          ; 0437
             00000011G EF 00000000G    EF  7D 001D1         MOVQ    NULL_STRING,TEST+17              ; 0438
             00000009G EF 00000000G    EF  7D 001DC         MOVQ    NULL_STRING,TEST+9               ; 0439
             00000000G EF              00  FB 001E7         CALLS   #0,MAKE_SCRATCH                  ; 0441
                    80 AD 00000000G    EF  D0 001EE         MOVL    DEF_SCRATCH,-128(FP)             ; 0443
     80   BD 00000000G EF      0040    8F  28 001F6         MOVC3   #64,TEST,@-128(FP)
                           00000000    8F  DF 00201         PUSHAL  #0                               ; 0445
             00000000G EF              01  FB 00207         CALLS   #1,INSERT_IN_ORDER
                           00000003    8F  DF 0020E 20$:   PUSHAL  #3                               ; 0451
             00000000G EF              01  FB 00214         CALLS   #1,CLEAR
                          00000000G    EF  9F 0021B         PUSHAB  SHIFT                            ; 0453
                                       04  DD 00221         PUSHL   #4
```

```
                              00000000G  EF  9F 00223         PUSHAB  PAS$FV_OUTPUT
                00000000G  EF            03  FB 00229         CALLS   #3,PAS$WRITE_STRING
                                         01  DD 00230         PUSHL   #1
                           7E 00000000G  EF  9A 00232         MOVZBL  TAB,-(SP)
                              00000000G  EF  9F 00239         PUSHAB  PAS$FV_OUTPUT
                00000000G  EF            03  FB 0023F         CALLS   #3,PAS$WRITE_CHAR
                                         01  DD 00246         PUSHL   #1
                           7E 00000000G  EF  9A 00248         MOVZBL  TAB,-(SP)
                              00000000G  EF  9F 0024F         PUSHAB  PAS$FV_OUTPUT
                00000000G  EF            03  FB 00255         CALLS   #3,PAS$WRITE_CHAR
                              00000000G  EF  9F 0025C         PUSHAB  ANSI_REVERSE
                                         04  DD 00262         PUSHL   #4
                              00000000G  EF  9F 00264         PUSHAB  PAS$FV_OUTPUT
                00000000G  EF            03  FB 0026A         CALLS   #3,PAS$WRITE_STRING
                              FFFFF7F0   EF  9F 00271         PUSHAB  C.AAB
                                         1B  DD 00277         PUSHL   #27
                              00000000G  EF  9F 00279         PUSHAB  PAS$FV_OUTPUT
                00000000G  EF            03  FB 0027F         CALLS   #3,PAS$WRITE_STRING
                              00000000G  EF  9F 00286         PUSHAB  ANSI_RESET
                                         04  DD 0028C         PUSHL   #4
                              00000000G  EF  9F 0028E         PUSHAB  PAS$FV_OUTPUT
                00000000G  EF            03  FB 00294         CALLS   #3,PAS$WRITE_STRING
                              00000000G  EF  9F 0029B         PUSHAB  CRLF
                                         02  DD 002A1         PUSHL   #2
                              00000000G  EF  9F 002A3         PUSHAB  PAS$FV_OUTPUT
                00000000G  EF            03  FB 002A9         CALLS   #3,PAS$WRITE_STRING
                              00000000G  EF  9F 002B0         PUSHAB  PAS$FV_OUTPUT
                00000000G  EF            01  FB 002B6         CALLS   #1,PAS$WRITELN2
                              000000FC   8F  DD 002BD         PUSHL   #252                                     ; 0457
                                         07  DD 002C3         PUSHL   #7
                                         04  DD 002C5         PUSHL   #4
                              00000000G  EF  9F 002C7         PUSHAB  SYS$OUTPUT_NAME
                                         0B  DD 002CD         PUSHL   #11
                                         01  DD 002CF         PUSHL   #1
                              00000000G  EF  9F 002D1         PUSHAB  FDL_DEST
                00000000G  EF            07  FB 002D7         CALLS   #7,PAS$OPEN2
                              00000000G  EF  9F 002DE         PUSHAB  FDL_DEST                                 ; 0458
                00000000G  EF            01  FB 002E4         CALLS   #1,PAS$REWRITE2
                                     C0  AD  9F 002EB         PUSHAB  SAVE                                     ; 0460
                00000000G  EF            01  FB 002EE         CALLS   #1,SHOW_PRIMARY_SECTION
                              00000000G  EF  9F 002F5         PUSHAB  FDL_DEST                                 ; 0462
                00000000G  EF            01  FB 002FB         CALLS   #1,PAS$CLOSE2
00000000G  EF          C0  AD      0040  8F  28 00302 21$:    MOVC3   #64,SAVE,TEST                            ; 0466
                              0000001F   8F  DF 0030D         PUSHAL  #31                                      ; 0468
                00000000G  EF            01  FB 00313         CALLS   #1,QUERY
                                             04 0031A         RET                                              ; 0470

; Routine Size: 795 bytes,    Routine Base: $CODE + 005CD

                                                00000 CHECK_DEFAULT:                                           ; 0514
                                          0000 00000          .WORD   ^M<>
                00000000G  EF 00000000G  EF  D1 00002         CMPL    DEF_HEAD,DEF_TAIL                        ; 0521
                                         03  12 0000D         BNEQ    .+3
                                     0000V   31 0000F         BRW     12$
                00000000G  EF 00000000G  EF  D0 00012         MOVL    DEF_HEAD,DEF_CURRENT                     ; 0528
                              00000000G  EF  94 0001D         CLRB    TEST                                     ; 0529
                00000019G  EF 00000000G  EF  90 00023         MOVB    DEFAULT_PRIMARY,TEST+25                  ; 0530
                0000001AG EF  00000000G   EF   D0 0002E          MOVL     DEFAULT_PRINUM,TEST+26                        ; 0531
                                          5C   94 00039          CLRB     FOUND_PRIMARY                                 ; 0532
                                     00   8F   9F 0003B 2$:      PUSHAB   #0                                            ; 0536
                              00000000G   EF   9F 0003E          PUSHAB   TEST
                00000000G EF              02   FB 00044          CALLS    #2,CURRENT_EQ_TEST
                          00V             50   E9 0004B          BLBC     R0,4$
                          5C              01   90 0004E          MOVB     #1,FOUND_PRIMARY                              ; 0538
                                          00V  11 00051          BRB      5$
                00000000G EF              00   FB 00053 4$:      CALLS    #0,INCR_CURRENT                               ; 0542
                              00000000G   EF   D5 0005A 5$:      TSTL     DEF_CURRENT
                                          00V  13 00060          BEQL     7$
                          D6              5C   E9 00062          BLBC     FOUND_PRIMARY,2$
                          00V             5C   E8 00065 7$:      BLBS     FOUND_PRIMARY,12$                             ; 0546
                00000000G EF  00000000G   EF   D0 00068          MOVL     DEF_HEAD,DEF_CURRENT                          ; 0553
                          5C  00000000G   EF   D0 00073          MOVL     DEF_CURRENT,R12                               ; 0555
                          09         19   AC   91 0007A          CMPB     25(R12),#9
                                          00V  12 0007E          BNEQ     10$
                00000000G EF              00   FB 00080          CALLS    #0,INCR_CURRENT                               ; 0557
                          50  00000000G   EF   D0 00087 10$:     MOVL     DEF_CURRENT,R0                                ; 0562
                00000000G EF         19   A0   90 0008E          MOVB     25(R0),DEFAULT_PRIMARY
                          50  00000000G   EF   D0 00096          MOVL     DEF_CURRENT,R0                                ; 0563
                00000000G EF         1A   A0   D0 0009D          MOVL     26(R0),DEFAULT_PRINUM
                00000000G EF  00000000G   EF   D0 000A5          MOVL     DEFAULT_PRINUM,INPUT_NUMBER                   ; 0564
                                               04 000B0 12$:     RET                                                    ; 0570

; Routine Size: 177 bytes,     Routine Base: $CODE + 008E8

                                                  00000 DELETE_FDL_LINE:                                                ; 0627
                                             003C 00000          .WORD    ^M<R2,R3,R4,R5>
                              5E     C0   AE   9E 00002          MOVAB    -64(SP),SP
                00000000G EF  00000000G   EF   D1 00006          CMPL     DEF_HEAD,DEF_TAIL                             ; 0642
                                          03   12 00011          BNEQ     .+3
                                        0000V  31 00013          BRW      36$
                       D1 AD  00000000G   EF   7D 00016          MOVQ     NULL_STRING,SAVE+17                           ; 0646
                00000011G EF  00000000G   EF   7D 0001E          MOVQ     NULL_STRING,TEST+17                           ; 0647
                     08E8 CF              00   FB 00029          CALLS    #0,CHECK_DEFAULT                              ; 0649
                              00000000G   EF   94 0002E          CLRB     FULL_CHOICE                                   ; 0655
                              00000047    8F   DF 00034          PUSHAL   #71                                           ; 0656
                00000000G EF              01   FB 0003A          CALLS    #1,QUERY
                                          5C   94 00041          CLRB     NO_MORE_PRI                                   ; 0658
                              00000000G   EF   94 00043          CLRB     FULL_CHOICE                                   ; 0660
                00000000G EF              00   FB 00049          CALLS    #0,ASK_TEST_SECONDARY                         ; 0661
       C0    AD 00000000G EF       0040   8F   28 00050          MOVC3    #64,TEST,SAVE                                 ; 0666
                              0000001FG   EF   9F 0005B          PUSHAB   TEST+31                                       ; 0668
                              0000001EG   EF   9F 00061          PUSHAB   TEST+30
                              0000001AG   EF   9F 00067          PUSHAB   TEST+26
                              00000019G   EF   9F 0006D          PUSHAB   TEST+25
                              00000000G   EF   9F 00073          PUSHAB   TEST
                00000000G EF              05   FB 00079          CALLS    #5,FIND_OBJECT
                              000000FC    8F   DD 00080          PUSHL    #252                                          ; 0676
                                          07   DD 00086          PUSHL    #7
                                          04   DD 00088          PUSHL    #4
                              00000000G   EF   9F 0008A          PUSHAB   SYS$OUTPUT_NAME
                                          0B   DD 00090          PUSHL    #11
                                          01   DD 00092          PUSHL    #1
                              00000000G   EF   9F 00094          PUSHAB   FDL_DEST
                00000000G EF              07   FB 0009A          CALLS    #7,PAS$OPEN2
```

```
               00000000G    EF  9F 000A1          PUSHAB   FDL_DEST                          ; 0677
00000000G  EF               01  FB 000A7          CALLS    #1,PAS$REWRITE2
                      01    8F  9F 000AE          PUSHAB   #1                                ; 0679
00000000G  EF               01  FB 000B1          CALLS    #1,SHOW_CUR_PRI_SEC
               00000000G    EF  9F 000B8          PUSHAB   FDL_DEST                          ; 0681
00000000G  EF               01  FB 000BE          CALLS    #1,PAS$CLOSE2
                0000001F    8F  DF 000C5          PUSHAL   #31                               ; 0683
00000000G  EF               01  FB 000CB          CALLS    #1,QUERY
00000000G  EF               00  FB 000D2          CALLS    #0,DELETE_CURRENT                 ; 0685
           0F  00000019G    EF  91 000D9          CMPB     TEST+25,#15                       ; 0687
                            03  12 000E0          BNEQ     .+3
                         0000V  31 000E2          BRW      35$
                            52  94 000E5          CLRB     REMAINING_PRI                     ; 0694
                            53  94 000E7          CLRB     REMAINING_SEC                     ; 0695
00000000G  EF  00000000G    EF  D0 000E9          MOVL     DEF_HEAD,DEF_CURRENT              ; 0697
           50  00000000G    EF  D0 000F4 5$:      MOVL     DEF_CURRENT,R0                    ; 0701
       DA  AD         1A    A0  D1 000FB          CMPL     26(R0),SAVE+26
                           00V  12 00100          BNEQ     13$
           50  00000000G    EF  D0 00102          MOVL     DEF_CURRENT,R0
       D9  AD         19    A0  91 00109          CMPB     25(R0),SAVE+25
                           00V  12 0010E          BNEQ     13$
           50  00000000G    EF  D0 00110          MOVL     DEF_CURRENT,R0                    ; 0709
                            60  95 00117          TSTB     (R0)
                           00V  12 00119          BNEQ     9$
           52               01  90 0011B          MOVB     #1,REMAINING_PRI                  ; 0713
           54  00000000G    EF  D0 0011E          MOVL     DEF_CURRENT,DEF_REM_PRI           ; 0714
                           00V  11 00125          BRB      13$
           50  00000000G    EF  D0 00127 9$:      MOVL     DEF_CURRENT,R0                    ; 0718
           01               60  91 0012E          CMPB     (R0),#1
                           00V  12 00131          BNEQ     13$
           53               01  90 00133          MOVB     #1,REMAINING_SEC                  ; 0720
00000000G  EF               00  FB 00136 13$:     CALLS    #0,INCR_CURRENT                   ; 0724
           00V              52  E9 0013D          BLBC     REMAINING_PRI,15$
           00V              53  E8 00140          BLBS     REMAINING_SEC,16$
               00000000G    EF  D5 00143 15$:     TSTL     DEF_CURRENT
                            A9  12 00149          BNEQ     5$
           03               52  E8 0014B 16$:     BLBS     REMAINING_PRI,.+3                 ; 0728
                         0000V  31 0014E          BRW      19$
           03               53  E9 00151          BLBC     REMAINING_SEC,.+3
                         0000V  31 00154          BRW      19$
               00000000G    EF  9F 00157          PUSHAB   CRLF                              ; 0736
                            02  DD 0015D          PUSHL    #2
               00000000G    EF  9F 0015F          PUSHAB   PAS$FV_OUTPUT
00000000G  EF               03  FB 00165          CALLS    #3,PAS$WRITE_STRING
               00000000G    EF  9F 0016C          PUSHAB   SHIFT
                            04  DD 00172          PUSHL    #4
               00000000G    EF  9F 00174          PUSHAB   PAS$FV_OUTPUT
00000000G  EF               03  FB 0017A          CALLS    #3,PAS$WRITE_STRING
               00000000G    EF  9F 00181          PUSHAB   ANSI_REVERSE
                            04  DD 00187          PUSHL    #4
               00000000G    EF  9F 00189          PUSHAB   PAS$FV_OUTPUT
00000000G  EF               03  FB 0018F          CALLS    #3,PAS$WRITE_STRING
                FFFFF51B    EF  9F 00196          PUSHAB   C.AAC
                            3A  DD 0019C          PUSHL    #58
               00000000G    EF  9F 0019E          PUSHAB   PAS$FV_OUTPUT
00000000G  EF               03  FB 001A4          CALLS    #3,PAS$WRITE_STRING
               00000000G    EF  9F 001AB          PUSHAB   ANSI_RESET
```

```
                                   04  DD 001B1         PUSHL   #4
                       00000000G   EF  9F 001B3         PUSHAB  PAS$FV_OUTPUT
            00000000G  EF          03  FB 001B9         CALLS   #3,PAS$WRITE_STRING
                       00000000G   EF  9F 001C0         PUSHAB  PAS$FV_OUTPUT
            00000000G  EF          01  FB 001C6         CALLS   #1,PAS$WRITELN2
            00000000G  EF          54  D0 001CD         MOVL    DEF_REM_PRI,DEF_CURRENT              ; 0740
            00000000G  EF          00  FB 001D4         CALLS   #0,DELETE_CURRENT                    ; 0741
                       5C          01  90 001DB         MOVB    #1,NO_MORE_PRI                       ; 0742
                       00004140    8F  DF 001DE         PUSHAF  #^F3.0                               ; 0744
            00000000G  EF          01  FB 001E4         CALLS   #1,LIB$WAIT
                                0000V  31 001EB         BRW     31$
                       00V         52  E8 001EE  19$:   BLBS    REMAINING_PRI,22$                    ; 0748
                       03          53  E9 001F1         BLBC    REMAINING_SEC,.+3
                                0000V  31 001F4         BRW     31$
                       03          52  E9 001F7  22$:   BLBC    REMAINING_PRI,.+3                    ; 0756
                                0000V  31 001FA         BRW     25$
                       03          53  E9 001FD         BLBC    REMAINING_SEC,.+3
                                0000V  31 00200         BRW     25$
                       00000000G   EF  9F 00203         PUSHAB  CRLF                                 ; 0764
                                   02  DD 00209         PUSHL   #2
                       00000000G   EF  9F 0020B         PUSHAB  PAS$FV_OUTPUT
            00000000G  EF          03  FB 00211         CALLS   #3,PAS$WRITE_STRING
                       00000000G   EF  9F 00218         PUSHAB  SHIFT
                                   04  DD 0021E         PUSHL   #4
                       00000000G   EF  9F 00220         PUSHAB  PAS$FV_OUTPUT
            00000000G  EF          03  FB 00226         CALLS   #3,PAS$WRITE_STRING
                       00000000G   EF  9F 0022D         PUSHAB  ANSI_REVERSE
                                   04  DD 00233         PUSHL   #4
                       00000000G   EF  9F 00235         PUSHAB  PAS$FV_OUTPUT
            00000000G  EF          03  FB 0023B         CALLS   #3,PAS$WRITE_STRING
                       FFFFF4AB    EF  9F 00242         PUSHAB  C.AAD
                                   35  DD 00248         PUSHL   #53
                       00000000G   EF  9F 0024A         PUSHAB  PAS$FV_OUTPUT
            00000000G  EF          03  FB 00250         CALLS   #3,PAS$WRITE_STRING
                       00000000G   EF  9F 00257         PUSHAB  ANSI_RESET
                                   04  DD 0025D         PUSHL   #4
                       00000000G   EF  9F 0025F         PUSHAB  PAS$FV_OUTPUT
            00000000G  EF          03  FB 00265         CALLS   #3,PAS$WRITE_STRING
                       00000000G   EF  9F 0026C         PUSHAB  PAS$FV_OUTPUT
            00000000G  EF          01  FB 00272         CALLS   #1,PAS$WRITELN2
                       5C          01  90 00279         MOVB    #1,NO_MORE_PRI                       ; 0767
                       00004100    8F  DF 0027C         PUSHAF  #^F2.0                               ; 0769
            00000000G  EF          01  FB 00282         CALLS   #1,LIB$WAIT
                                0000V  31 00289         BRW     31$
                       03          52  E8 0028C  25$:   BLBS    REMAINING_PRI,.+3                    ; 0773
                                0000V  31 0028F         BRW     31$
                       03          53  E8 00292         BLBS    REMAINING_SEC,.+3
                                0000V  31 00295         BRW     31$
                       00000003    8F  DF 00298         PUSHAL  #3                                   ; 0781
            00000000G  EF          01  FB 0029E         CALLS   #1,CLEAR
                       00000000G   EF  9F 002A5         PUSHAB  SHIFT                                ; 0783
                                   04  DD 002AB         PUSHL   #4
                       00000000G   EF  9F 002AD         PUSHAB  PAS$FV_OUTPUT
            00000000G  EF          03  FB 002B3         CALLS   #3,PAS$WRITE_STRING
                                   01  DD 002BA         PUSHL   #1
                    7E 00000000G   EF  9A 002BC         MOVZBL  TAB,-(SP)
                       00000000G   EF  9F 002C3         PUSHAB  PAS$FV_OUTPUT
```

```
 00000000G  EF               03    FB 002C9         CALLS    #3,PAS$WRITE_CHAR
                             01    DD 002D0         PUSHL    #1
               7E 00000000G  EF    9A 002D2         MOVZBL   TAB,-(SP)
                  00000000G  EF    9F 002D9         PUSHAB   PAS$FV_OUTPUT
 00000000G  EF               03    FB 002DF         CALLS    #3,PAS$WRITE_CHAR
                  00000000G  EF    9F 002E6         PUSHAB   ANSI_REVERSE
                             04    DD 002EC         PUSHL    #4
                  00000000G  EF    9F 002EE         PUSHAB   PAS$FV_OUTPUT
 00000000G  EF               03    FB 002F4         CALLS    #3,PAS$WRITE_STRING
                  FFFFF42A   EF    9F 002FB         PUSHAB   C.AAE
                             1B    DD 00301         PUSHL    #27
                  00000000G  EF    9F 00303         PUSHAB   PAS$FV_OUTPUT
 00000000G  EF               03    FB 00309         CALLS    #3,PAS$WRITE_STRING
                  00000000G  EF    9F 00310         PUSHAB   ANSI_RESET
                             04    DD 00316         PUSHL    #4
                  00000000G  EF    9F 00318         PUSHAB   PAS$FV_OUTPUT
 00000000G  EF               03    FB 0031E         CALLS    #3,PAS$WRITE_STRING
                  00000000G  EF    9F 00325         PUSHAB   CRLF
                             02    DD 0032B         PUSHL    #2
                  00000000G  EF    9F 0032D         PUSHAB   PAS$FV_OUTPUT
 00000000G  EF               03    FB 00333         CALLS    #3,PAS$WRITE_STRING
                  00000000G  EF    9F 0033A         PUSHAB   PAS$FV_OUTPUT
 00000000G  EF               01    FB 00340         CALLS    #1,PAS$WRITELN2
                  000000FC   8F    DD 00347         PUSHL    #252                                   ; 0787
                             07    DD 0034D         PUSHL    #7
                             04    DD 0034F         PUSHL    #4
                  00000000G  EF    9F 00351         PUSHAB   SYS$OUTPUT_NAME
                             0B    DD 00357         PUSHL    #11
                             01    DD 00359         PUSHL    #1
                  00000000G  EF    9F 0035B         PUSHAB   FDL_DEST
 00000000G  EF               07    FB 00361         CALLS    #7,PAS$OPEN2
                  00000000G  EF    9F 00368         PUSHAB   FDL_DEST                               ; 0789
 00000000G  EF               01    FB 0036E         CALLS    #1,PAS$REWRITE2
                         C0  AD    9F 00375         PUSHAB   SAVE                                   ; 0791
 00000000G  EF               01    FB 00378         CALLS    #1,SHOW_PRIMARY_SECTION
                  00000000G  EF    9F 0037F         PUSHAB   FDL_DEST                               ; 0793
 00000000G  EF               01    FB 00385         CALLS    #1,PAS$CLOSE2
 00000019G  EF           D9  AD    90 0038C  31$:   MOVB     SAVE+25,TEST+25                        ; 0797
 0000001AG  EF           DA  AD    D0 00394         MOVL     SAVE+26,TEST+26                        ; 0798
           00V               5C    E8 0039C         BLBS     NO_MORE_PRI,35$                        ; 0800
                  0000001F   8F    DF 0039F         PUSHAL   #3T                                    ; 0802
 00000000G  EF               01    FB 003A5         CALLS    #1,QUERY
                            00V    11 003AC  35$:   BRB      37$
                  00000000G  EF    9F 003AE  36$:   PUSHAB   SHIFT                                  ; 0812
                             04    DD 003B4         PUSHL    #4
                  00000000G  EF    9F 003B6         PUSHAB   PAS$FV_OUTPUT
 00000000G  EF               03    FB 003BC         CALLS    #3,PAS$WRITE_STRING
                  00000000G  EF    9F 003C3         PUSHAB   ANSI_REVERSE
                             04    DD 003C9         PUSHL    #4
                  00000000G  EF    9F 003CB         PUSHAB   PAS$FV_OUTPUT
 00000000G  EF               03    FB 003D1         CALLS    #3,PAS$WRITE_STRING
                  FFFFF369   EF    9F 003D8         PUSHAB   C.AAF
                             22    DD 003DE         PUSHL    #34
                  00000000G  EF    9F 003E0         PUSHAB   PAS$FV_OUTPUT
 00000000G  EF               03    FB 003E6         CALLS    #3,PAS$WRITE_STRING
                  00000000G  EF    9F 003ED         PUSHAB   ANSI_RESET
                             04    DD 003F3         PUSHL    #4
```

```
                                          00000000G  EF    9F 003F5         PUSHAB  PAS$FV_OUTPUT
                            00000000G  EF            03    FB 003FB         CALLS   #3,PAS$WRITE_STRING
                                          00000000G  EF    9F 00402         PUSHAB  PAS$FV_OUTPUT
                            00000000G  EF            01    FB 00408         CALLS   #1,PAS$WRITELN2
                                           00004140  8F    DF 0040F         PUSHAF  #^F3.0                                     ; 0815
                            00000000G  EF            01    FB 00415         CALLS   #1,LIB$WAIT
                                                           04 0041C 37$:    RET                                                ; 0819

; Routine Size: 1053 bytes,    Routine Base: $CODE + 00999

                                                              00000 MODIFY_FDL_LINE:                                           ; 0868
                                                        003C 00000          .WORD   ^M<R2,R3,R4,R5>
                                       5E        80  AE    9E 00002         MOVAB   -128(SP),SP
                            00000000G  EF 00000000G  EF    D1 00006         CMPL    DEF_HEAD,DEF_TAIL                          ; 0879
                                                     03    12 00011         BNEQ    .+3
                                                    0000V  31 00013         BRW     7$
                                   D1  AD 00000000G  EF    7D 00016         MOVQ    NULL_STRING,SAVE+17                        ; 0883
                                   C9  AD 00000000G  EF    7D 0001E         MOVQ    NULL_STRING,SAVE+9                         ; 0884
                            00000011G  EF 00000000G  EF    7D 00026         MOVQ    NULL_STRING,TEST+17                        ; 0885
                            00000009G  EF 00000000G  EF    7D 00031         MOVQ    NULL_STRING,TEST+9                         ; 0886
                                 08E8  CF            00    FB 0003C         CALLS   #0,CHECK_DEFAULT                           ; 0888
                                          00000000G  EF    94 00041         CLRB    FULL_CHOICE                                ; 0894
                                           00000047  8F    DF 00047         PUSHAL  #71                                        ; 0895
                            00000000G  EF            01    FB 0004D         CALLS   #1,QUERY
                                          00000000G  EF    94 00054         CLRB    FULL_CHOICE                                ; 0897
                            00000000G  EF            00    FB 0005A         CALLS   #0,ASK_TEST_SECONDARY                      ; 0898
                                          0000001FG  EF    9F 00061         PUSHAB  TEST+31                                    ; 0900
                                          0000001EG  EF    9F 00067         PUSHAB  TEST+30
                                          0000001AG  EF    9F 0006D         PUSHAB  TEST+26
                                          00000019G  EF    9F 00073         PUSHAB  TEST+25
                                          00000000G  EF    9F 00079         PUSHAB  TEST
                            00000000G  EF            05    FB 0007F         CALLS   #5,FIND_OBJECT
                                       50 00000000G  EF    D0 00086         MOVL    DEF_CURRENT,R0                             ; 0905
                    C0   AD            60      0040  8F    28 0008D         MOVC3   #64,(R0),SAVE
                                           000000FC  8F    DD 00094         PUSHL   #252                                       ; 0910
                                                     07    DD 0009A         PUSHL   #7
                                                     04    DD 0009C         PUSHL   #4
                                          00000000G  EF    9F 0009E         PUSHAB  SYS$OUTPUT_NAME
                                                     0B    DD 000A4         PUSHL   #11
                                                     01    DD 000A6         PUSHL   #1
                                          00000000G  EF    9F 000A8         PUSHAB  FDL_DEST
                            00000000G  EF            07    FB 000AE         CALLS   #7,PAS$OPEN2
                                          00000000G  EF    9F 000B5         PUSHAB  FDL_DEST                                   ; 0911
                            00000000G  EF            01    FB 000BB         CALLS   #1,PAS$REWRITE2
                                                 01  8F    9F 000C2         PUSHAB  #1                                         ; 0913
                            00000000G  EF            01    FB 000C5         CALLS   #1,SHOW_CUR_PRI_SEC
                                          00000000G  EF    9F 000CC         PUSHAB  FDL_DEST                                   ; 0915
                            00000000G  EF            01    FB 000D2         CALLS   #1,PAS$CLOSE2
              00000000G  EF        C0  AD      0040  8F    28 000D9         MOVC3   #64,SAVE,TEST                              ; 0917
                            00000000G  EF            00    FB 000E4         CALLS   #0,ASK_TEST_SECONDARY_VALUE                ; 0919
                            00000000G  EF            00    FB 000EB         CALLS   #0,MAKE_SCRATCH                            ; 0921
                                   80  AD 00000000G  EF    D0 000F2         MOVL    DEF_SCRATCH,-128(FP)                       ; 0923
                    80   BD 00000000G  EF      0040  8F    28 000FA         MOVC3   #64,TEST,@-128(FP)
                                       50 00000000G  EF    D0 00105         MOVL    DEF_SCRATCH,R0                             ; 0925
                                       0F        19  A0    91 0010C         CMPB    25(R0),#15
                                                     00V   12 00110         BNEQ    4$
                                       50 00000000G  EF    D0 00112         MOVL    DEF_SCRATCH,R0                             ; 0927
```

```
                                          60   94 00119           CLRB    (R0)
                                         00V   11 0011B           BRB     5$
                           50 00000000G   EF   D0 0011D 4$:       MOVL    DEF_SCRATCH,R0                    ; 0931
                           60             01   90 00124           MOVB    #1,(R0)
                              00000000    8F   DF 00127 5$:       PUSHAL  #0                                ; 0933
                 00000000G  EF            01   FB 0012D           CALLS   #1,INSERT_IN_ORDER
                              00000003    8F   DF 00134           PUSHAL  #3                                ; 0935
                 00000000G  EF            01   FB 0013A           CALLS   #1,CLEAR
                              00000000G   EF   9F 00141           PUSHAB  SHIFT                             ; 0937
                                          04   DD 00147           PUSHL   #4
                              00000000G   EF   9F 00149           PUSHAB  PAS$FV_OUTPUT
                 00000000G  EF            03   FB 0014F           CALLS   #3,PAS$WRITE_STRING
                                          01   DD 00156           PUSHL   #1
                           7E 00000000G   EF   9A 00158           MOVZBL  TAB,-(SP)
                              00000000G   EF   9F 0015F           PUSHAB  PAS$FV_OUTPUT
                 00000000G  EF            03   FB 00165           CALLS   #3,PAS$WRITE_CHAR
                                          01   DD 0016C           PUSHL   #1
                           7E 00000000G   EF   9A 0016E           MOVZBL  TAB,-(SP)
                              00000000G   EF   9F 00175           PUSHAB  PAS$FV_OUTPUT
                 00000000G  EF            03   FB 0017B           CALLS   #3,PAS$WRITE_CHAR
                              00000000G   EF   9F 00182           PUSHAB  ANSI_REVERSE
                                          04   DD 00188           PUSHL   #4
                              00000000G   EF   9F 0018A           PUSHAB  PAS$FV_OUTPUT
                 00000000G  EF            03   FB 00190           CALLS   #3,PAS$WRITE_STRING
                              FFFFF1B1    EF   9F 00197           PUSHAB  C.AAG
                                          1B   DD 0019D           PUSHL   #27
                              00000000G   EF   9F 0019F           PUSHAB  PAS$FV_OUTPUT
                 00000000G  EF            03   FB 001A5           CALLS   #3,PAS$WRITE_STRING
                              00000000G   EF   9F 001AC           PUSHAB  ANSI_RESET
                                          04   DD 001B2           PUSHL   #4
                              00000000G   EF   9F 001B4           PUSHAB  PAS$FV_OUTPUT
                 00000000G  EF            03   FB 001BA           CALLS   #3,PAS$WRITE_STRING
                              00000000G   EF   9F 001C1           PUSHAB  CRLF
                                          02   DD 001C7           PUSHL   #2
                              00000000G   EF   9F 001C9           PUSHAB  PAS$FV_OUTPUT
                 00000000G  EF            03   FB 001CF           CALLS   #3,PAS$WRITE_STRING
                              00000000G   EF   9F 001D6           PUSHAB  PAS$FV_OUTPUT
                 00000000G  EF            01   FB 001DC           CALLS   #1,PAS$WRITELN2
                              000000FC    8F   DD 001E3           PUSHL   #252                              ; 0941
                                          07   DD 001E9           PUSHL   #7
                                          04   DD 001EB           PUSHL   #4
                              00000000G   EF   9F 001ED           PUSHAB  SYS$OUTPUT_NAME
                                          0B   DD 001F3           PUSHL   #11
                                          01   DD 001F5           PUSHL   #1
                              00000000G   EF   9F 001F7           PUSHAB  FDL_DEST
                 00000000G  EF            07   FB 001FD           CALLS   #7,PAS$OPEN2
                              00000000G   EF   9F 00204           PUSHAB  FDL_DEST                          ; 0942
                 00000000G  EF            01   FB 0020A           CALLS   #1,PAS$REWRITE2
                                    C0    AD   9F 00211           PUSHAB  SAVE                              ; 0944
                 00000000G  EF            01   FB 00214           CALLS   #1,SHOW_PRIMARY_SECTION
                              00000000G   EF   9F 0021B           PUSHAB  FDL_DEST                          ; 0946
                 00000000G  EF            01   FB 00221           CALLS   #1,PAS$CLOSE2
 00000000G  EF       C0     AD      0040  8F   28 00228           MOVC3   #64,SAVE,TEST                     ; 0948
                              0000001F    8F   DF 00233           PUSHAL  #31                               ; 0950
                 00000000G  EF            01   FB 00239           CALLS   #1,QUERY
                                         00V   11 00240           BRB     8$
                              00000000G   EF   9F 00242 7$:       PUSHAB  SHIFT                             ; 0958
```

```
                                                      04    DD 00248              PUSHL    #4
                                           00000000G  EF    9F 0024A              PUSHAB   PAS$FV_OUTPUT
                             00000000G  EF            03    FB 00250              CALLS    #3,PAS$WRITE_STRING
                                           00000000G  EF    9F 00257              PUSHAB   ANSI_REVERSE
                                                      04    DD 0025D              PUSHL    #4
                                           00000000G  EF    9F 0025F              PUSHAB   PAS$FV_OUTPUT
                             00000000G  EF            03    FB 00265              CALLS    #3,PAS$WRITE_STRING
                                           FFFFF0F8   EF    9F 0026C              PUSHAB   C.AAH
                                                      22    DD 00272              PUSHL    #34
                                           00000000G  EF    9F 00274              PUSHAB   PAS$FV_OUTPUT
                             00000000G  EF            03    FB 0027A              CALLS    #3,PAS$WRITE_STRING
                                           00000000G  EF    9F 00281              PUSHAB   ANSI_RESET
                                                      04    DD 00287              PUSHL    #4
                                           00000000G  EF    9F 00289              PUSHAB   PAS$FV_OUTPUT
                             00000000G  EF            03    FB 0028F              CALLS    #3,PAS$WRITE_STRING
                                           00000000G  EF    9F 00296              PUSHAB   PAS$FV_OUTPUT
                             00000000G  EF            01    FB 0029C              CALLS    #1,PAS$WRITELN2
                                           00004140   8F    DF 002A3              PUSHAF   #^F3.0                                ; 0961
                             00000000G  EF            01    FB 002A9              CALLS    #1,LIB$WAIT
                                                               04 002B0 8$:       RET                                            ; 0965

; Routine Size: 689 bytes,    Routine Base: $CODE + 00DB6

                                                                  00000 HELP_PROC:                                               ; 1012
                                                         0000 00000               .WORD    ^M<>
                                        5E            08    C2 00002              SUBL2    #8,SP
                                           00000000G  EF    9F 00005              PUSHAB   LIB$GET_INPUT                         ; 1020
                                                      00    DD 0000B              PUSHL    #0
                                    F8  AD 010E0006   8F    D0 0000D              MOVL     #17694726,-8(FP)
                                    FC  AD 00000000G  EF    9E 00015              MOVAB    EDFHLP_STRING,-4(FP)
                                                   F8 AD    9F 0001D              PUSHAB   -8(FP)
                                                      00    DD 00020              PUSHL    #0
                                           00000000G  EF    9F 00022              PUSHAB   LINE_WIDTH
                                           00000000G  EF    9F 00028              PUSHAB   LIB$PUT_OUTPUT
                             00000000G  EF            06    FB 0002E              CALLS    #6,LBR$OUTPUT_HELP
                             00000000G  EF            50    D0 00035              MOVL     R0,ISTATUS
                                        00V00000000G  EF    E8 0003C              BLBS     ISTATUS,2$                            ; 1032
                                                      00    DD 00043              PUSHL    #0                                    ; 1034
                                                      00    DD 00045              PUSHL    #0
                                                      00    DD 00047              PUSHL    #0
                                           00000000G  EF    DD 00049              PUSHL    ISTATUS
                             00000000G  EF            04    FB 0004F              CALLS    #4,LIB$SIGNAL
                                                               04 00056 2$:       RET                                            ; 1036

; Routine Size: 87 bytes,    Routine Base: $CODE + 01067

                                                                  00000 VERIFY_ISAM_DEFINITION:                                  ; 1082
                                                         0004 00000               .WORD    ^M<R2>
                                                      5C    94 00002              CLRB     NON_EMPTY                             ; 1090
                                                      52    94 00004              CLRB     ISAM_FDL                              ; 1091
                             00000000G  EF 00000000G  EF    D1 00006              CMPL     DEF_HEAD,DEF_TAIL                     ; 1096
                                                      00V   12 00011              BNEQ     2$
                                        50 00000000G  EF    D0 00013              MOVL     DEF_HEAD,R0
                                        09        19  A0    91 0001A              CMPB     25(R0),#9
                                                      03    12 0001E              BNEQ     .+3
                                                    0000V   31 00020              BRW      9$
                                        5C            01    90 00023 2$:          MOVB     #1,NON_EMPTY                          ; 1104
```

```
                    00000000  8F   DF 00026        PUSHAL   #0                              ; 1110
                          62  8F   9F 0002C        PUSHAB   #98
                    00000000  8F   DF 0002F        PUSHAL   #0
                          08  8F   9F 00035        PUSHAB   #8
                          01  8F   9F 00038        PUSHAB   #1
   00000000G   EF             05   FB 0003B        CALLS    #5,FIND_OBJECT
               00V            50   E9 00042        BLBC     R0,6$
               50  00000000G  EF   D0 00045        MOVL     DEF_CURRENT,R0                  ; 1114
               1F         23  A0   D1 0004C        CMPL     35(R0),#31
                              00V  12 00050        BNEQ     6$
               52             01   90 00052        MOVB     #1,ISAM_FDL                     ; 1116
               03             52   E9 00055 6$:    BLBC     ISAM_FD[,.+3                    ; 1120
                            0000V  31 00058        BRW      13$
                   00000000G  EF   9F 0005B        PUSHAB   SHIFT                           ; 1124
                              04   DD 00061        PUSHL    #4
                   00000000G  EF   9F 00063        PUSHAB   PAS$FV_OUTPUT
   00000000G   EF             03   FB 00069        CALLS    #3,PAS$WRITE_STRING
                   00000000G  EF   9F 00070        PUSHAB   ANSI_REVERSE
                              04   DD 00076        PUSHL    #4
                   00000000G  EF   9F 00078        PUSHAB   PAS$FV_OUTPUT
   00000000G   EF             03   FB 0007E        CALLS    #3,PAS$WRITE_STRING
                    FFFFEFFB  EF   9F 00085        PUSHAB   C.AAI
                              2F   DD 0008B        PUSHL    #47
                   00000000G  EF   9F 0008D        PUSHAB   PAS$FV_OUTPUT
   00000000G   EF             03   FB 00093        CALLS    #3,PAS$WRITE_STRING
                   00000000G  EF   9F 0009A        PUSHAB   ANSI_RESET
                              04   DD 000A0        PUSHL    #4
                   00000000G  EF   9F 000A2        PUSHAB   PAS$FV_OUTPUT
   00000000G   EF             03   FB 000A8        CALLS    #3,PAS$WRITE_STRING
                   00000000G  EF   9F 000AF        PUSHAB   PAS$FV_OUTPUT
   00000000G   EF             01   FB 000B5        CALLS    #1,PAS$WRITELN2
                    00004140  8F   DF 000BC        PUSHAF   #^F3.0                          ; 1128
   00000000G   EF             01   FB 000C2        CALLS    #1,LIB$WAIT
                            0000V  31 000C9        BRW      13$
00V00000000G   EF             00   E0 000CC 9$:    BBS      #0,AUTO_TUNE,11$                ; 1136
                   00000000G  EF   9F 000D4        PUSHAB   SHIFT                           ; 1142
                              04   DD 000DA        PUSHL    #4
                   00000000G  EF   9F 000DC        PUSHAB   PAS$FV_OUTPUT
   00000000G   EF             03   FB 000E2        CALLS    #3,PAS$WRITE_STRING
                   00000000G  EF   9F 000E9        PUSHAB   ANSI_REVERSE
                              04   DD 000EF        PUSHL    #4
                   00000000G  EF   9F 000F1        PUSHAB   PAS$FV_OUTPUT
   00000000G   EF             03   FB 000F7        CALLS    #3,PAS$WRITE_STRING
                    FFFFEFB2  EF   9F 000FE        PUSHAB   C.AAJ
                              26   DD 00104        PUSHL    #38
                   00000000G  EF   9F 00106        PUSHAB   PAS$FV_OUTPUT
   00000000G   EF             03   FB 0010C        CALLS    #3,PAS$WRITE_STRING
                   00000000G  EF   9F 00113        PUSHAB   ANSI_RESET
                              04   DD 00119        PUSHL    #4
                   00000000G  EF   9F 0011B        PUSHAB   PAS$FV_OUTPUT
   00000000G   EF             03   FB 00121        CALLS    #3,PAS$WRITE_STRING
                   00000000G  EF   9F 00128        PUSHAB   PAS$FV_OUTPUT
   00000000G   EF             01   FB 0012E        CALLS    #1,PAS$WRITELN2
                    00004140  8F   DF 00135        PUSHAF   #^F3.0                          ; 1146
   00000000G   EF             01   FB 0013B        CALLS    #1,LIB$WAIT
                              00V  11 00142        BRB      13$
                              00   DD 00144 11$:   PUSHL    #0                              ; 1151
```

```
                                                       00    DD 00146                PUSHL    #0
                                                       00    DD 00148                PUSHL    #0
                                           00B3801C    8F    DD 0014A                PUSHL    #11763740
                             00000000G  EF             04    FB 00150                CALLS    #4,LIB$SIGNAL
                                    52                 52    92 00157 13$:           MCOMB    ISAM_FDL,R2                           ; 1158
                                    5C                 52    8A 0015A                BICB2    R2,NON_EMPTY
                                    50                 5C    90 0015D                MOVB     VERIFY_ISAM_DEFINITION,R0             ; 1160
                                                             04 00160                RET

; Routine Size: 353 bytes,    Routine Base: $CODE + 010BE

                                                                00000 REDESIGN_SCRIPT_PROC:                                          ; 1206
                                                           0000 00000                .WORD    ^M<>
                                  10BE  CF             00    FB 00002                CALLS    #0,VERIFY_ISAM_DEFINITION              ; 1210
                                        00V            50    E9 00007                BLBC     R0,2$
                                                 00    8F    9F 0000A                PUSHAB   #0                                     ; 1212
                                                 01    8F    9F 0000D                PUSHAB   #1
                             00000000G  EF             02    FB 00010                CALLS    #2,INDEXED_DESIGN
                                                             04 00017 2$:            RET                                             ; 1214

; Routine Size: 24 bytes,    Routine Base: $CODE + 0121F

                                                                00000 ADD_KEY_SCRIPT_PROC:                                           ; 1260
                                                           0000 00000                .WORD    ^M<>
                                  10BE  CF             00    FB 00002                CALLS    #0,VERIFY_ISAM_DEFINITION              ; 1264
                                        00V            50    E9 00007                BLBC     R0,4$
                                                 00    8F    9F 0000A                PUSHAB   #0                                     ; 1271
                             00000000G  EF             01    FB 0000D                CALLS    #1,SCAN_DEFINITION
                             00000084G  EF 00000000G   EF    D0 00014                MOVL     HIGH_KEY,IDATA+132                     ; 1276
                          00V00000000G  EF             00    E1 0001F                BBC      #0,FOUND_0,3$                          ; 1278
                                           00000084G   EF    D6 00027                INCL     IDATA+132                              ; 1280
                                                 01    8F    9F 0002D 3$:            PUSHAB   #1                                     ; 1285
                                                 01    8F    9F 00030                PUSHAB   #1
                             00000000G  EF             02    FB 00033                CALLS    #2,INDEXED_DESIGN
                                                             04 0003A 4$:            RET                                             ; 1289

; Routine Size: 59 bytes,    Routine Base: $CODE + 01237

                                                                00000 DELETE_KEY_SCRIPT_PROC:                                        ; 1336
                                                           001C 00000                .WORD    ^M<R2,R3,R4>
                                        5E             04    C2 00002                SUBL2    #4,SP
                                  10BE  CF             00    FB 00005                CALLS    #0,VERIFY_ISAM_DEFINITION              ; 1362
                                        03             50    E8 0000A                BLBS     R0,.+3
                                                    0000V    31 0000D                BRW      39$
                                                 01    8F    9F 00010                PUSHAB   #1                                     ; 1369
                             00000000G  EF             01    FB 00013                CALLS    #1,SCAN_DEFINITION
                                           00000000G   EF    D5 0001A                TSTL     HIGH_KEY                               ; 1371
                                                       03    12 00020                BNEQ     .+3
                                                    0000V    31 00022                BRW      37$
                                           00000000    8F    DF 00025                PUSHAL   #0                                     ; 1378
                                                 78    8F    9F 0002B                PUSHAB   #120
                                           00000000G   EF    9F 0002E                PUSHAB   HIGH_KEY
                                                 0B    8F    9F 00034                PUSHAB   #11
                                                 01    8F    9F 00037                PUSHAB   #1
                             00000000G  EF             05    FB 0003A                CALLS    #5,FIND_OBJECT
                                        00V            50    E9 00041                BLBC     R0,4$
                                        50 00000000G   EF    D0 00044                MOVL     DEF_CURRENT,R0                         ; 1380
```

```
          5C          27  A0   D0 0004B        MOVL     39(R0),L0_AREA
                          00V  11 0004F        BRB      5$
          5C              00   D2 00051 4$:    MCOML    #0,L0_AREA                      ; 1384
                00000000  8F   DF 00054 5$:    PUSHAL   #0                              ; 1386
                      80  8F   9F 0005A        PUSHAB   #-128
               00000000G  EF   9F 0005D        PUSHAB   HIGH_KEY
                      0B  8F   9F 00063        PUSHAB   #11
                      01  8F   9F 00066        PUSHAB   #1
00000000G EF              05   FB 00069        CALLS    #5,FIND_OBJECT
          00V             50   E9 00070        BLBC     R0,7$
          50   00000000G  EF   D0 00073        MOVL     DEF_CURRENT,R0                  ; 1388
          52          27  A0   D0 0007A        MOVL     39(R0),L1_AREA
                          00V  11 0007E        BRB      8$
          52              00   D2 00080 7$:    MCOML    #0,L1_AREA                      ; 1392
                00000000  8F   DF 00083 8$:    PUSHAL   #0                              ; 1394
                      7D  8F   9F 00089        PUSHAB   #125
               00000000G  EF   9F 0008C        PUSHAB   HIGH_KEY
                      0B  8F   9F 00092        PUSHAB   #11
                      01  8F   9F 00095        PUSHAB   #1
00000000G EF              05   FB 00098        CALLS    #5,FIND_OBJECT
          00V             50   E9 0009F        BLBC     R0,10$
          50   00000000G  EF   D0 000A2        MOVL     DEF_CURRENT,R0                  ; 1396
          53          27  A0   D0 000A9        MOVL     39(R0),LX_AREA
                          00V  11 000AD        BRB      11$
          53              00   D2 000AF 10$:   MCOML    #0,LX_AREA                      ; 1400
00000000G EF   00000000G  EF   D0 000B2 11$:   MOVL     DEF_HEAD,DEF_CURRENT            ; 1405
          54   00000000G  EF   D0 000BD        MOVL     DEF_CURRENT,R4                  ; 1407
          5C          27  A4   D1 000C4 13$:   CMPL     39(R4),L0_AREA                  ; 1413
                          00V  12 000C8        BNEQ     18$
       78 8F          1E  A4   91 000CA        CMPB     30(R4),#120
                          00V  12 000CF        BNEQ     18$
          0B          19  A4   91 000D1        CMPB     25(R4),#11
                          00V  12 000D5        BNEQ     18$
00000000G EF          1A  A4   D1 000D7        CMPL     26(R4),HIGH_KEY
                          00V  13 000DF        BEQL     18$
          5C              00   D2 000E1        MCOML    #0,L0_AREA                      ; 1423
          52          27  A4   D1 000E4 18$:   CMPL     39(R4),L1_AREA                  ; 1425
                          00V  12 000E8        BNEQ     23$
       80 8F          1E  A4   91 000EA        CMPB     30(R4),#-128
                          00V  12 000EF        BNEQ     23$
          0B          19  A4   91 000F1        CMPB     25(R4),#11
                          00V  12 000F5        BNEQ     23$
00000000G EF          1A  A4   D1 000F7        CMPL     26(R4),HIGH_KEY
                          00V  13 000FF        BEQL     23$
          52              00   D2 00101        MCOML    #0,L1_AREA                      ; 1435
          53          27  A4   D1 00104 23$:   CMPL     39(R4),LX_AREA                  ; 1437
                          00V  12 00108        BNEQ     28$
       7D 8F          1E  A4   91 0010A        CMPB     30(R4),#125
                          00V  12 0010F        BNEQ     28$
          0B          19  A4   91 00111        CMPB     25(R4),#11
                          00V  12 00115        BNEQ     28$
00000000G EF          1A  A4   D1 00117        CMPL     26(R4),HIGH_KEY
                          00V  13 0011F        BEQL     28$
          53              00   D2 00121        MCOML    #0,LX_AREA                      ; 1447
00000000G EF              00   FB 00124 28$:   CALLS    #0,INCR_CURRENT                 ; 1449
               00000000G  EF   D5 0012B        TSTL     DEF_CURRENT
                          91   12 00131        BNEQ     13$
```

```
                    00000000G  EF   9F 00133        PUSHAB  HIGH_KEY                       ; 1458
                           0B  8F   9F 00139        PUSHAB  #11
         0000V  CF             02   FB 0013C        CALLS   #2,DELETE_SECTION
                               5C   D5 00141        TSTL    L0_AREA                        ; 1463
                              00V   19 00143        BLSS    31$
            FC  AD             5C   D0 00145        MOVL    L0_AREA,-4(FP)                 ; 1465
                           FC  AD   9F 00149        PUSHAB  -4(FP)
                           05  8F   9F 0014C        PUSHAB  #5
         0000V  CF             02   FB 0014F        CALLS   #2,DELETE_SECTION
                               52   D5 00154 31$:   TSTL    L1_AREA                        ; 1467
                              00V   19 00156        BLSS    33$
            FC  AD             52   D0 00158        MOVL    L1_AREA,-4(FP)                 ; 1469
                           FC  AD   9F 0015C        PUSHAB  -4(FP)
                           05  8F   9F 0015F        PUSHAB  #5
         0000V  CF             02   FB 00162        CALLS   #2,DELETE_SECTION
                               53   D5 00167 33$:   TSTL    LX_AREA                        ; 1471
                              00V   19 00169        BLSS    35$
            FC  AD             53   D0 0016B        MOVL    LX_AREA,-4(FP)                 ; 1473
                           FC  AD   9F 0016F        PUSHAB  -4(FP)
                           05  8F   9F 00172        PUSHAB  #5
         0000V  CF             02   FB 00175        CALLS   #2,DELETE_SECTION
                    00000000G  EF   9F 0017A 35$:   PUSHAB  SHIFT                          ; 1475
                               04   DD 00180        PUSHL   #4
                    00000000G  EF   9F 00182        PUSHAB  PAS$FV_OUTPUT
     00000000G  EF             03   FB 00188        CALLS   #3,PAS$WRITE_STRING
                    FFFFED95   EF   9F 0018F        PUSHAB  C.AAK
                               21   DD 00195        PUSHL   #33
                    00000000G  EF   9F 00197        PUSHAB  PAS$FV_OUTPUT
     00000000G  EF             03   FB 0019D        CALLS   #3,PAS$WRITE_STRING
                    00000000G  EF   9F 001A4        PUSHAB  PAS$FV_OUTPUT
     00000000G  EF             01   FB 001AA        CALLS   #1,PAS$WRITELN2
                    0000001F   8F   DF 001B1        PUSHAL  #31                            ; 1476
     00000000G  EF             01   FB 001B7        CALLS   #1,QUERY
                              00V   11 001BE        BRB     38$
                    00000000G  EF   9F 001C0 37$:   PUSHAB  SHIFT                          ; 1484
                               04   DD 001C6        PUSHL   #4
                    00000000G  EF   9F 001C8        PUSHAB  PAS$FV_OUTPUT
     00000000G  EF             03   FB 001CE        CALLS   #3,PAS$WRITE_STRING
                    00000000G  EF   9F 001D5        PUSHAB  ANSI_REVERSE
                               04   DD 001DB        PUSHL   #4
                    00000000G  EF   9F 001DD        PUSHAB  PAS$FV_OUTPUT
     00000000G  EF             03   FB 001E3        CALLS   #3,PAS$WRITE_STRING
                    FFFFED5E   EF   9F 001EA        PUSHAB  C.AAL
                               2E   DD 001F0        PUSHL   #46
                    00000000G  EF   9F 001F2        PUSHAB  PAS$FV_OUTPUT
     00000000G  EF             03   FB 001F8        CALLS   #3,PAS$WRITE_STRING
                    00000000G  EF   9F 001FF        PUSHAB  ANSI_RESET
                               04   DD 00205        PUSHL   #4
                    00000000G  EF   9F 00207        PUSHAB  PAS$FV_OUTPUT
     00000000G  EF             03   FB 0020D        CALLS   #3,PAS$WRITE_STRING
                    00000000G  EF   9F 00214        PUSHAB  PAS$FV_OUTPUT
     00000000G  EF             01   FB 0021A        CALLS   #1,PAS$WRITELN2
                    00004140   8F   DF 00221        PUSHAF  #^F3.0                         ; 1488
     00000000G  EF             01   FB 00227        CALLS   #1,LIB$WAIT
                                       0022E 38$:
                                    04 0022E 39$:   RET                                    ; 1494
```

```
; Routine Size: 559 bytes,    Routine Base: $CODE + 01272

                                                              00000 DELETE_SECTION:                                           ; 1338
                                                         0004 00000         .WORD  ^M<R2>
                                        5E            08   C2 00002         SUBL2  #8,SP
                                        52       04   BC   90 00005         MOVB   @4(R12),SECTION
                                        5C       08   BC   D0 00009         MOVL   @8(R12),SECT_NUM
                                           00000000   8F   DF 0000D         PUSHAL #0                                        ; 1342
                                                 00   8F   9F 00013         PUSHAB #0
                                   FC   AD            5C   D0 00016         MOVL   SECT_NUM,-4(FP)
                                                 FC   AD   9F 0001A         PUSHAB -4(FP)
                                   F8   AD            52   90 0001D         MOVB   SECTION,-8(FP)
                                                 F8   AD   9F 00021         PUSHAB -8(FP)
                                                 00   8F   9F 00024         PUSHAB #0
                             00000000G  EF            05   FB 00027         CALLS  #5,FIND_OBJECT
                                        03            50   E8 0002E         BLBS   R0,.+3
                                                   0000V   31 00031         BRW    3$
                                           00000000G  EF   9F 00034         PUSHAB SHIFT                                     ; 1346
                                                      04   DD 0003A         PUSHL  #4
                                           00000000G  EF   9F 0003C         PUSHAB PAS$FV_OUTPUT
                             00000000G  EF            03   FB 00042         CALLS  #3,PAS$WRITE_STRING
                                           FFFFED00   EF   9F 00049         PUSHAB C.AAM
                                                      09   DD 0004F         PUSHL  #9
                                           00000000G  EF   9F 00051         PUSHAB PAS$FV_OUTPUT
                             00000000G  EF            03   FB 00057         CALLS  #3,PAS$WRITE_STRING
                                        50            52   9A 0005E         MOVZBL SECTION,R0
                                        7E 00000000GEF40   9A 00061         MOVZBL PRIMARY_WIDTH[R0],-(SP)
                                        7E            52   9A 00069         MOVZBL SECTION,-(SP)
                                           FFFFECE9   EF   9F 0006C         PUSHAB C.AAN
                                           00000000G  EF   9F 00072         PUSHAB PAS$FV_OUTPUT
                             00000000G  EF            04   FB 00078         CALLS  #4,PAS$WRITE_ENUMERATED
                                                      03   DD 0007F         PUSHL  #3
                                                      5C   DD 00081         PUSHL  SECT_NUM
                                           00000000G  EF   9F 00083         PUSHAB PAS$FV_OUTPUT
                             00000000G  EF            03   FB 00089         CALLS  #3,PAS$WRITE_INTEGER
                                           FFFFED9D   EF   9F 00090         PUSHAB C.AAO
                                                      11   DD 00096         PUSHL  #17
                                           00000000G  EF   9F 00098         PUSHAB PAS$FV_OUTPUT
                             00000000G  EF            03   FB 0009E         CALLS  #3,PAS$WRITE_STRING
                                           00000000G  EF   9F 000A5         PUSHAB PAS$FV_OUTPUT
                             00000000G  EF            01   FB 000AB         CALLS  #1,PAS$WRITELN2
                                           0000001F   8F   DF 000B2         PUSHAL #31                                       ; 1348
                             00000000G  EF            01   FB 000B8         CALLS  #1,QUERY
                                   FC   AD            5C   D0 000BF         MOVL   SECT_NUM,-4(FP)                           ; 1349
                                                 FC   AD   9F 000C3         PUSHAB -4(FP)
                                   F8   AD            52   90 000C6         MOVB   SECTION,-8(FP)
                                                 F8   AD   9F 000CA         PUSHAB -8(FP)
                             00000000G  EF            02   FB 000CD         CALLS  #2,DELETE_PRIMARY_SECTION
                                                           04 000D4 3$:     RET                                              ; 1353

; Routine Size: 213 bytes,    Routine Base: $CODE + 014A1

                                                              00000 OPTIMIZE_SCRIPT_PROC:                                    ; 1540
                                                         0000 00000         .WORD  ^M<>
                          03 00000000G  EF            00   E1 00002         BBC    #0,ANALYSIS_SPECIFIED,.+3                 ; 1547
                                                   0000V   31 0000A         BRW    6$
                          00v00000000G  EF            00   E0 0000D         BBS    #0,AUTO_TUNE,3$                           ; 1550
```

```
                  00000000G  EF    9F 00015        PUSHAB  SHIFT                               ; 1551
                             04    DD 0001B        PUSHL   #4
                  00000000G  EF    9F 0001D        PUSHAB  PAS$FV_OUTPUT
   00000000G  EF             03    FB 00023        CALLS   #3,PAS$WRITE_STRING
                   FFFFED42  EF    9F 0002A        PUSHAB  C.AAP
                             38    DD 00030        PUSHL   #56
                  00000000G  EF    9F 00032        PUSHAB  PAS$FV_OUTPUT
   00000000G  EF             03    FB 00038        CALLS   #3,PAS$WRITE_STRING
                  00000000G  EF    9F 0003F        PUSHAB  CRLF_SHIFT
                             06    DD 00045        PUSHL   #6
                  00000000G  EF    9F 00047        PUSHAB  PAS$FV_OUTPUT
   00000000G  EF             03    FB 0004D        CALLS   #3,PAS$WRITE_STRING
                  00000000G  EF    9F 00054        PUSHAB  PAS$FV_OUTPUT
   00000000G  EF             01    FB 0005A        CALLS   #1,PAS$WRITELN2
                             00V   11 00061        BRB     4$
                             00    DD 00063 3$:    PUSHL   #0                                  ; 1557
                             00    DD 00065        PUSHL   #0
                             00    DD 00067        PUSHL   #0
                   00B3801C  8F    DD 00069        PUSHL   #11763740
   00000000G  EF             04    FB 0006F        CALLS   #4,LIB$STOP
   00000000G  EF             01    90 00076 4$:    MOVB    #1,VISIBLE_QUESTION                 ; 1559
                   0000000E  8F    DF 0007D        PUSHAL  #14                                 ; 1561
   00000000G  EF             01    FB 00083        CALLS   #1,QUERY
                  00000000G  EF    94 0008A        CLRB    VISIBLE_QUESTION                    ; 1563
   00000000G  EF             01    90 00090        MOVB    #1,ANALYSIS_SPECIFIED               ; 1565
   00000000G  EF             00    FB 00097 6$:    CALLS   #0,INPUT_ANALYSIS_FILE              ; 1569
              5C             5C    94 0009E        CLRB    AN_KEY_FOUND                        ; 1571
   00000000G  EF             00    FB 000A0        CALLS   #0,POINT_AT_ANALYSIS                ; 1573
   00000000G  EF  00000000G  EF    D0 000A7        MOVL    DEF_HEAD,DEF_CURRENT                ; 1575
              50  00000000G  EF    D0 000B2 7$:    MOVL    DEF_CURRENT,R0                      ; 1579
              04         19  A0    91 000B9        CMPB    25(R0),#4
                             00V   12 000BD        BNEQ    9$
              5C             01    90 000BF        MOVB    #1,AN_KEY_FOUND                     ; 1581
   00000000G  EF             00    FB 000C2 9$:    CALLS   #0,INCR_CURRENT                     ; 1583
              00V            5C    E8 000C9        BLBS    AN_KEY_FOUND,11$
                  00000000G  EF    D5 000CC        TSTL    DEF_CURRENT
                             DE    12 000D2        BNEQ    7$
   00000000G  EF             00    FB 000D4 11$:   CALLS   #0,POINT_AT_DEFINITION              ; 1587
              00V            5C    E9 000DB        BLBC    AN_KEY_FOUND,13$                    ; 1589
   00000000G  EF             01    90 000DE        MOVB    #1,OPTIMIZING                       ; 1593
        121F  CF             00    FB 000E5        CALLS   #0,REDESIGN_SCRIPT_PROC             ; 1594
                           0000V   31 000EA        BRW     16$
00V00000000G  EF             00    E0 000ED 13$:   BBS     #0,AUTO_TUNE,16$                    ; 1602
                  00000000G  EF    9F 000F5        PUSHAB  SHIFT                               ; 1604
                             04    DD 000FB        PUSHL   #4
                  00000000G  EF    9F 000FD        PUSHAB  PAS$FV_OUTPUT
   00000000G  EF             03    FB 00103        CALLS   #3,PAS$WRITE_STRING
                   FFFFEC9A  EF    9F 0010A        PUSHAB  C.AAQ
                   00000040  8F    DD 00110        PUSHL   #64
                  00000000G  EF    9F 00116        PUSHAB  PAS$FV_OUTPUT
   00000000G  EF             03    FB 0011C        CALLS   #3,PAS$WRITE_STRING
                  00000000G  EF    9F 00123        PUSHAB  PAS$FV_OUTPUT
   00000000G  EF             01    FB 00129        CALLS   #1,PAS$WRITELN2
                  00000000G  EF    9F 00130        PUSHAB  SHIFT                               ; 1606
                             04    DD 00136        PUSHL   #4
                  00000000G  EF    9F 00138        PUSHAB  PAS$FV_OUTPUT
   00000000G  EF             03    FB 0013E        CALLS   #3,PAS$WRITE_STRING
```

```
                                            FFFFEC9F   EF   9F 00145         PUSHAB  C.AAR
                                                       3F   DD 0014B         PUSHL   #63
                                            00000000G  EF   9F 0014D         PUSHAB  PAS$FV_OUTPUT
                              00000000G  EF            03   FB 00153         CALLS   #3,PAS$WRITE_STRING
                                            00000000G  EF   9F 0015A         PUSHAB  PAS$FV_OUTPUT
                              00000000G  EF            01   FB 00160         CALLS   #1,PAS$WRITELN2
                                            00000002   8F   DF 00167         PUSHAL  #2                                          ; 1609
                              00000000G  EF            01   FB 0016D         CALLS   #1,CLEAR
                                            00000000G  EF   94 00174 16$:    CLRB    OPTIMIZING                                  ; 1613
                                                            04 0017A         RET                                                 ; 1615

; Routine Size: 379 bytes,     Routine Base: $CODE + 01576

                                                               00000 INVOKE_SCRIPT:                                              ; 1664
                                                          0000 00000         .WORD   ^M<>
                              00000008G  EF            07   D0 00002         MOVL    #7,IDATA+8                                  ; 1671
                                         07 00000108G  EF   D1 00009         CMPL    IDATA+264,#7                                ; 1676
                                                      00V   12 00010         BNEQ    3$
                                            00000042   8F   DF 00012         PUSHAL  #66                                         ; 1683
                              00000000G  EF            01   FB 00018         CALLS   #1,QUERY
                                                    0000V   31 0001F         BRW     15$
                           03 00000000G  EF            00   E1 00022 3$:     BBC     #0,AUTO_TUNE,.+3                            ; 1691
                                                    0000V   31 0002A         BRW     15$
                                            00000003   8F   DF 0002D         PUSHAL  #3                                          ; 1695
                              00000000G  EF            01   FB 00033         CALLS   #1,CLEAR
                                            00000000G  EF   9F 0003A         PUSHAB  SHIFT                                       ; 1696
                                                       04   DD 00040         PUSHL   #4
                                            00000000G  EF   9F 00042         PUSHAB  PAS$FV_OUTPUT
                              00000000G  EF            03   FB 00048         CALLS   #3,PAS$WRITE_STRING
                                                       01   DD 0004F         PUSHL   #1
                                         7E 00000000G  EF   9A 00051         MOVZBL  TAB,-(SP)
                                            00000000G  EF   9F 00058         PUSHAB  PAS$FV_OUTPUT
                              00000000G  EF            03   FB 0005E         CALLS   #3,PAS$WRITE_CHAR
                                                       01   DD 00065         PUSHL   #1
                                         7E 00000000G  EF   9A 00067         MOVZBL  TAB,-(SP)
                                            00000000G  EF   9F 0006E         PUSHAB  PAS$FV_OUTPUT
                              00000000G  EF            03   FB 00074         CALLS   #3,PAS$WRITE_CHAR
                                            00000000G  EF   9F 0007B         PUSHAB  ANSI_REVERSE
                                                       04   DD 00081         PUSHL   #4
                                            00000000G  EF   9F 00083         PUSHAB  PAS$FV_OUTPUT
                              00000000G  EF            03   FB 00089         CALLS   #3,PAS$WRITE_STRING
                           06            00 00000108G  EF   CF 00090         CASEL   IDATA+264,#0,#6                             ; 1698
                                                    0000V      00098         .DISPL  5$
                                                    0000V      0009A         .DISPL  6$
                                                    0000V      0009C         .DISPL  7$
                                                    0000V      0009E         .DISPL  9$
                                                    0000V      000A0         .DISPL  8$
                                                    0000V      000A2         .DISPL  10$
                                                    0000V      000A4         .DISPL  11$
                                                    0000V   31 000A6         BRW     12$
                                            FFFFEC00   EF   9F 000A9 5$:     PUSHAB  C.AAS                                       ; 1700
                                                       08   DD 000AF         PUSHL   #8
                                            00000000G  EF   9F 000B1         PUSHAB  PAS$FV_OUTPUT
                              00000000G  EF            03   FB 000B7         CALLS   #3,PAS$WRITE_STRING
                                                    0000V   31 000BE         BRW     13$
                                            FFFFEBF0   EF   9F 000C1 6$:     PUSHAB  C.AAT                                       ; 1701
                                                       0B   DD 000C7         PUSHL   #11
```

```
               00000000G  EF   9F 000C9         PUSHAB  PAS$FV_OUTPUT
  00000000G  EF           03   FB 000CF         CALLS   #3,PAS$WRITE_STRING
                          00V  11 000D6         BRB     13$
               FFFFEBE5   EF   9F 000D8 7$:     PUSHAB  C.AAU                   ; 1702
                          08   DD 000DE         PUSHL   #8
               00000000G  EF   9F 000E0         PUSHAB  PAS$FV_OUTPUT
  00000000G  EF           03   FB 000E6         CALLS   #3,PAS$WRITE_STRING
                          00V  11 000ED         BRB     13$
               FFFFEBD6   EF   9F 000EF 8$:     PUSHAB  C.AAV                   ; 1703
                          0B   DD 000F5         PUSHL   #11
               00000000G  EF   9F 000F7         PUSHAB  PAS$FV_OUTPUT
  00000000G  EF           03   FB 000FD         CALLS   #3,PAS$WRITE_STRING
                          00V  11 00104         BRB     13$
               FFFFEBCB   EF   9F 00106 9$:     PUSHAB  C.AAW                   ; 1704
                          09   DD 0010C         PUSHL   #9
               00000000G  EF   9F 0010E         PUSHAB  PAS$FV_OUTPUT
  00000000G  EF           03   FB 00114         CALLS   #3,PAS$WRITE_STRING
                          00V  11 0011B         BRB     13$
               FFFFEBC0   EF   9F 0011D 10$:    PUSHAB  C.AAX                   ; 1705
                          09   DD 00123         PUSHL   #9
               00000000G  EF   9F 00125         PUSHAB  PAS$FV_OUTPUT
  00000000G  EF           03   FB 0012B         CALLS   #3,PAS$WRITE_STRING
                          00V  11 00132         BRB     13$
               FFFFEBB5   EF   9F 00134 11$:    PUSHAB  C.AAY                   ; 1706
                          08   DD 0013A         PUSHL   #8
               00000000G  EF   9F 0013C         PUSHAB  PAS$FV_OUTPUT
  00000000G  EF           03   FB 00142         CALLS   #3,PAS$WRITE_STRING
                          00V  11 00149         BRB     13$
                                  0014B 12$:
               FFFFEBA6   EF   9F 0014B 13$:    PUSHAB  C.AAZ                   ; 1714
                          08   DD 00151         PUSHL   #8
               00000000G  EF   9F 00153         PUSHAB  PAS$FV_OUTPUT
  00000000G  EF           03   FB 00159         CALLS   #3,PAS$WRITE_STRING
               00000000G  EF   9F 00160         PUSHAB  ANSI_RESET
                          04   DD 00166         PUSHL   #4
               00000000G  EF   9F 00168         PUSHAB  PAS$FV_OUTPUT
  00000000G  EF           03   FB 0016E         CALLS   #3,PAS$WRITE_STRING
               00000000G  EF   9F 00175         PUSHAB  CRLF
                          02   DD 0017B         PUSHL   #2
               00000000G  EF   9F 0017D         PUSHAB  PAS$FV_OUTPUT
  00000000G  EF           03   FB 00183         CALLS   #3,PAS$WRITE_STRING
               00000000G  EF   9F 0018A         PUSHAB  PAS$FV_OUTPUT
  00000000G  EF           01   FB 00190         CALLS   #1,PAS$WRITELN2
  00000000G  EF           01   90 00197 15$:    MOVB    #1,TAKE_DEFAULTS        ; 1720
06           00 00000108G EF   CF 0019E         CASEL   IDATA+264,#0,#6         ; 1722
                       0000V     001A6         .DISPL  19$
                       0000V     001A8         .DISPL  20$
                       0000V     001AA         .DISPL  16$
                       0000V     001AC         .DISPL  18$
                       0000V     001AE         .DISPL  17$
                       0000V     001B0         .DISPL  21$
                       0000V     001B2         .DISPL  22$
                       0000V  31 001B4         BRW     23$
  00000000G  EF           00   FB 001B7 16$:    CALLS   #0,WARN_OF_ERASE        ; 1728
  00000000G  EF           00   FB 001BE         CALLS   #0,INIT_DEF             ; 1729
                     00   8F   9F 001C5         PUSHAB  #0                      ; 1730
                     00   8F   9F 001C8         PUSHAB  #0
```

```
                    00000000G  EF             02   FB 001CB           CALLS    #2,INDEXED_DESIGN
                                              00V  11 001D2           BRB      24$
                    00000000G  EF             00   FB 001D4 17$:      CALLS    #0,WARN_OF_ERASE           ; 1738
                    00000000G  EF             00   FB 001DB           CALLS    #0,INIT_DEF                ; 1739
                    00000000G  EF             00   FB 001E2           CALLS    #0,SEQ_REL_WORK            ; 1740
                    00000000G  EF             00   FB 001E9           CALLS    #0,SEQ_DEF                 ; 1741
                                              00V  11 001F0           BR3      24$
                    00000000G  EF             00   FB 001F2 18$:      CALLS    #0,WARN_OF_ERASE           ; 1749
                    00000000G  EF             00   FB 001F9           CALLS    #0,INIT_DEF                ; 1750
                    00000000G  EF             00   FB 00200           CALLS    #0,SEQ_REL_WORK            ; 1751
                    00000000G  EF             00   FB 00207           CALLS    #0,REL_DEF                 ; 1752
                                              00V  11 0020E           BRB      24$
                         1237  CF             00   FB 00210 19$:      CALLS    #0,ADD_KEY_SCRIPT_PROC     ; 1756
                                              00V  11 00215           BRB      24$
                         1272  CF             00   F3 00217 20$:      CALLS    #0,DELETE_KEY_SCRIPT_PROC  ; 1758
                                              00V  11 0021C           BRB      24$
                         1576  CF             00   FB 0021E 21$:      CALLS    #0,OPTIMIZE_SCRIPT_PROC    ; 1760
                                              00V  11 00223           BRB      24$
                         121F  CF             00   FB 00225 22$:      CALLS    #0,REDESIGN_SCRIPT_PROC    ; 1762
                                              00V  11 0022A           BRB      24$
                                                      0022C 23$:
                                    00000000G EF   94 0022C 24$:      CLRB     TAKE_DEFAULTS              ; 1770
                                                   04 00232           RET                                 ; 1772

; Routine Size: 563 bytes,    Routine Base: $CODE + 016F1

                                                      00000 SET_PROC:                                     ; 1817
                                                 0000 00000           .WORD    ^M<>
                    00000000G  EF             01   90 00002           MOVB     #1,VISIBLE_QUESTION        ; 1821
                                    00000043  8F   DF 00009           PUSHAL   #67                        ; 1823
                    00000000G  EF             01   FB 0000F           CALLS    #1,QUERY
            07                   00 0000010CG EF   CF 00016           CASEL    IDATA+268,#0,#7            ; 1825
                                            0000V     0001E           .DISPL   12$
                                            0000V     00020           .DISPL   2$
                                            0000V     00022           .DISPL   4$
                                            0000V     00024           .DISPL   6$
                                            0000V     00026           .DISPL   16$
                                            0000V     00028           .DISPL   14$
                                            0000V     0002A           .DISPL   10$
                                            0000V     0002C           .DISPL   8$
                                            0000V  31 0002E           BRW      18$
                                    00000046  8F   DF 00031 2$:       PUSHAL   #70                        ; 1827
                    00000000G  EF             01   FB 00037           CALLS    #1,QUERY
                                              00V  11 0003E           BRB      19$
                                    00000026  8F   DF 00040 4$:       PUSHAL   #38                        ; 1828
                    00000000G  EF             01   FB 00046           CALLS    #1,QUERY
                                              00V  11 0004D           BRB      19$
                                    0000002F  8F   DF 0004F 6$:       PUSHAL   #47                        ; 1829
                    00000000G  EF             01   FB 00055           CALLS    #1,QUERY
                                              00V  11 0005C           BRB      19$
                                    00000041  8F   DF 0005E 8$:       PUSHAL   #65                        ; 1830
                    00000000G  EF             01   FB 00064           CALLS    #1,QUERY
                                              00V  11 0006B           BRB      19$
                                    0000003F  8F   DF 0006D 10$:      PUSHAL   #63                        ; 1831
                    00000000G  EF             01   FB 00073           CALLS    #1,QUERY
                                              00V  11 0007A           BRB      19$
                                    0000000E  8F   DF 0007C 12$:      PUSHAL   #14                        ; 1832
```

```
               00000000G  EF           01   FB 00082         CALLS   #1,QUERY
                                       00V  11 00089         BRB     19$
                          0000000F     8F   DF 0008B 14$:    PUSHAL  #15                                    ; 1833
               00000000G  EF           01   FB 00091         CALLS   #1,QUERY
                                       00V  11 00098         BRB     19$
                          0000003C     8F   DF 0009A 16$:    PUSHAL  #60                                    ; 1839
               00000000G  EF           01   FB 000A0         CALLS   #1,QUERY
               00000000G  EF           01   90 000A7         MOVB    #1,NUMBER_KEYS_SET                     ; 1840
                                       00V  11 000AE         BRB     19$
                                           000B0 18$:
                          00000000G  EF     94 000B0 19$:    CLRB    VISIBLE_QUESTION                       ; 1850
                                            04 000B6         RET                                            ; 1852

; Routine Size: 183 bytes,    Routine Base: $CODE + 01924

                                              019DB          .END
```

```
COMMAND QUALIFIERS

  PASCAL/MACHINE/NODEBUG/NOCHECK/LIS=LIS$:EDFFUNCS/OBJ=OBJ$:EDFFUNCS MSRC$:EDFFUNCS

  /CHECK=(NOBOUNDS,NOCASE_SELECTORS,NOOVERFLOW,NOPOINTERS,NOSUBRANGE)
  /DEBUG=(NOSYMBOLS,NOTRACEBACK)
  /ENVIRONMENT= $255$DUA28:[EDF.OBJ]EDFFUNCS.PEN;1
  /LIST= $255$DUA28:[EDF.LIS]EDFFUNCS.LIS;1
  /OBJECT= $255$DUA28:[EDF.OBJ]EDFFUNCS.OBJ;1
  /NOCROSS_REFERENCE /ERROR_LIMIT=30 /NOG_FLOATING /MACHINE_CODE /NOOLD_VERSION /OPTIMIZE /NOSTANDARD /WARNINGS

COMPILER INTERNAL TIMING

  Phase                    Faults        CPU Time       Elapsed Time
  Initialization               85        00:00.4           00:02.7
  Source Analysis            1093        00:19.1           04:40.7
  Source Listing               81        00:02.3           00:07.1
  Tree Construction           236        00:01.1           00:02.6
  Flow Analysis                24        00:00.5           00:01.0
  Profit Analysis              41        00:00.7           00:02.2
  Context Analysis            222        00:06.5           00:12.4
  Name Packing                  2        00:00.3           00:00.7
  Code Selection               19        00:01.4           00:03.5
  Final                       217        00:05.8           00:16.1
  TOTAL                      2026        00:38.1           05:29.0

COMPILATION STATISTICS

  CPU Time:         00:38.1            (2921 Lines/Minute)
  Elapsed Time:     05:29.0
  Page Faults:      2026
  Compilation Complete
```

0126 AH-BT13A-SE
VAX/VMS V4.0

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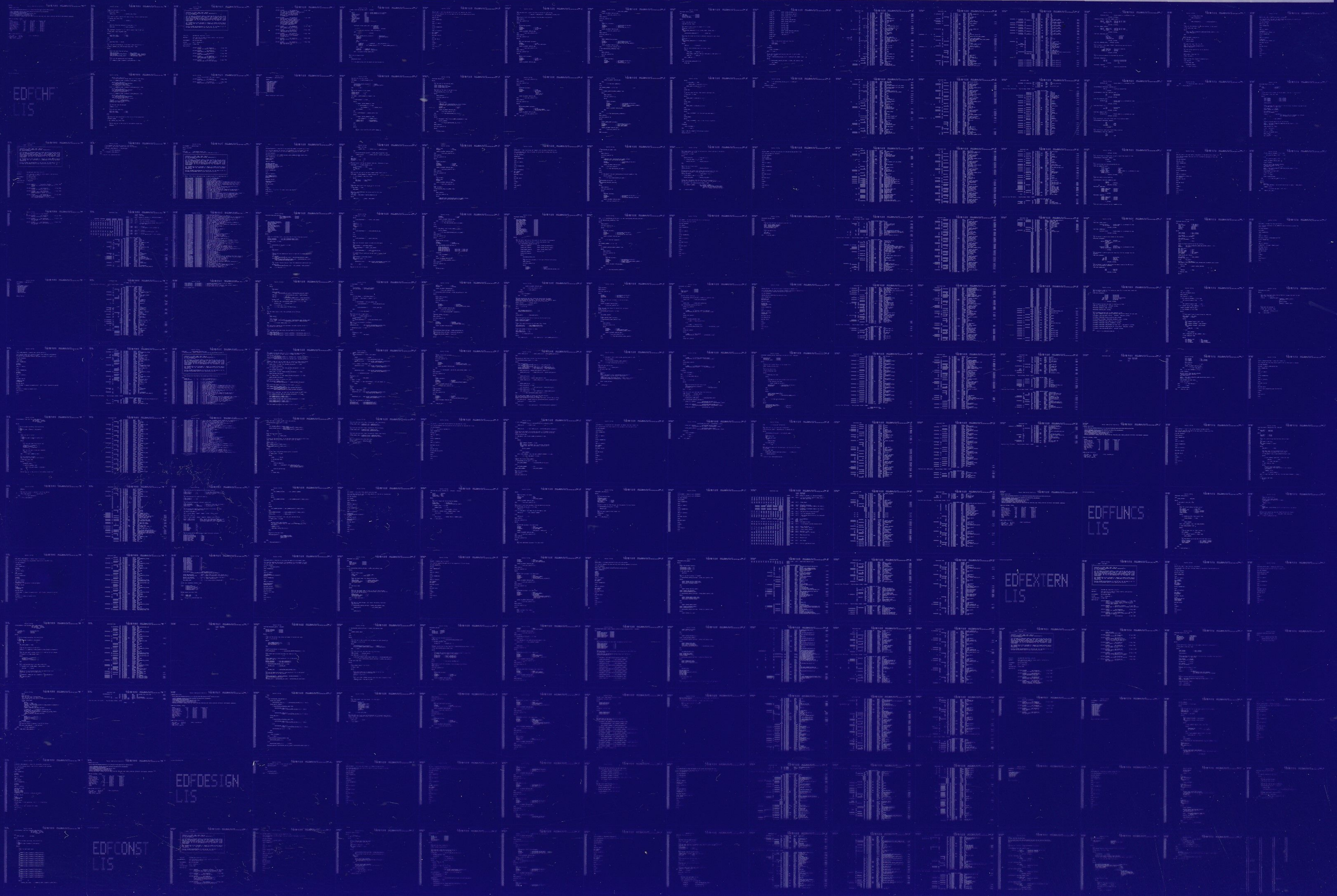

EDFCHF
LIS

EDFFUNCS
LIS

EDFEXTERN
LIS

EDFDESIGN
LIS

EDFCONST
LIS

0127 AH-BT13A-SE
VAX/VMS V4.0

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