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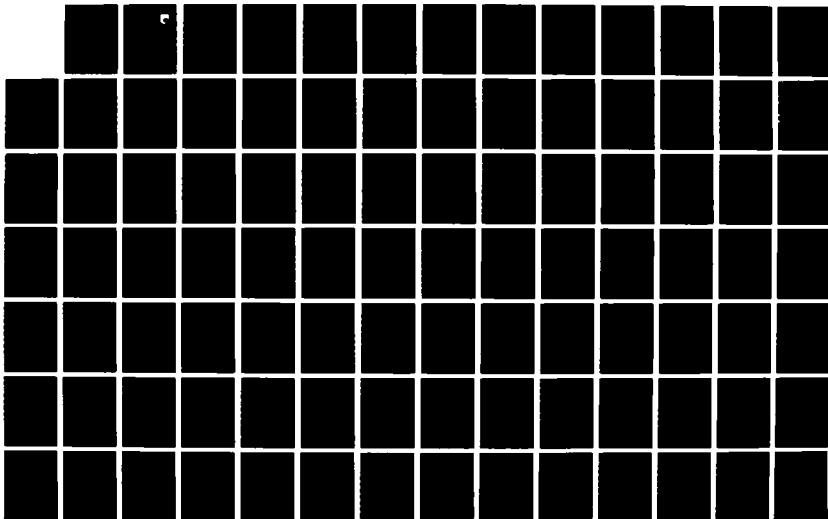
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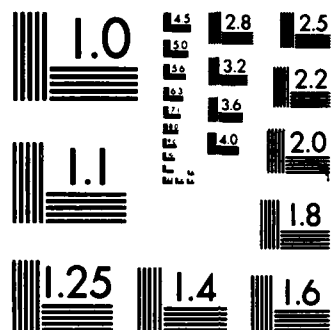
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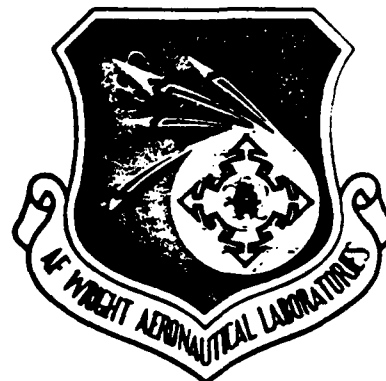


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Volume VIII
Part 18

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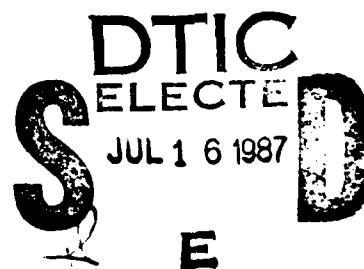
INTEGRATED INFORMATION
SUPPORT SYSTEM (IISS)
Volume VIII - User Interface Subsystem
Part 18 - Forms Driven Form Editor Product Specification

General Electric Company
Production Resources Consulting
One River Road
Schenectady, New York 12345

Final Report for Period 22 September 1980 - 31 July 1985
November 1985

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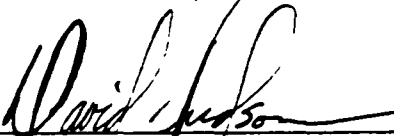
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This technical report has been reviewed and is approved for publication.


DAVID L. JUDSON, PROJECT MANAGER
AFWAL/MLTC
WRIGHT PATTERSON AFB OH 45433

5 Aug 1986
DATE

FOR THE COMMANDER:


GERALD C. SHUMAKER, BRANCH CHIEF
AFWAL/MLTC
WRIGHT PATTERSON AFB OH 45433

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19 ABSTRACT (Continue on reverse if necessary and identify by block number)			
This specification establishes the detailed design of a computer program identified as the Forms Driven Form Editor (FDFE). The FDFE is a software tool for creating and initializing form definitions. The FDFE displays a series of screens which request information from the user and visually show the form under construction. Once a form has been completed, the FDFE stores the form definition constructs needed to recreate the form. The stored form can be selected and modified.			
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Integrated Information Support System (IISS)
Vol VIII - User Interface Subsystem
Part 18 - Forms Driven Form Editor Product Specification

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PREFACE

This product specification covers the work performed under Air Force Contract F33615-80-C-5155 (ICAM Project 6201). This contract is sponsored by the Materials Laboratory, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Gerald C. Shumaker, ICAM Program Manager, Manufacturing Technology Division, through Project Manager, Mr. David Judson. The Prime Contractor was Production Resources Consulting of the General Electric Company, Schenectady, New York, under the direction of Mr. Alan Rubenstein. The General Electric Project Manager was Mr. Myron Hurlbut of Industrial Automation Systems Department, Albany, New York.

Certain work aimed at improving Test Bed Technology has been performed by other contracts with Project 6201 performing integrating functions. This work consisted of enhancements to Test Bed software and establishment and operation of Test Bed hardware and communications for developers and other users. Documentation relating to the Test Bed from all of these contractors and projects have been integrated under Project 6201 for publication and treatment as an integrated set of documents. The particular contributors to each document are noted on the Report Documentation Page (DD1473). A listing and description of the entire project documentation system and how they are related is contained in document FTR620100001, Project Overview.

The subcontractors and their contributing activities were as follows:

TASK 4.2

<u>Subcontractors</u>	<u>Role</u>
Boeing Military Aircraft Company (BMAC)	Reviewer
D. Appleton Company (DACOM)	Responsible for IDEF support, state-of-the-art literature search
General Dynamics/ Ft. Worth	Responsible for factory view function and information models

<u>Subcontractors</u>	<u>Role</u>
Illinois Institute of Technology	Responsible for factory view function research (IITRI) and information models of small and medium-size business
North American Rockwell	Reviewer
Northrop Corporation	Responsible for factory view function and information models
Pritsker and Associates	Responsible for IDEF2 support
SofTech	Responsible for IDEFO support

TASKS 4.3 - 4.9 (TEST BED)

<u>Subcontractors</u>	<u>Role</u>
Boeing Military Aircraft Company (BMAC)	Responsible for consultation on applications of the technology and on IBM computer technology.
Computer Technology Associates (CTA)	Assisted in the areas of communications systems, system design and integration methodology, and design of the Network Transaction Manager.
Control Data Corporation (CDC)	Responsible for the Common Data Model (CDM) implementation and part of the CDM design (shared with DACOM).
D. Appleton Company (DACOM)	Responsible for the overall CDM Subsystem design integration and test plan, as well as part of the design of the CDM (shared with CDC). DACOM also developed the Integration Methodology and did the schema mappings for the Application Subsystems.

<u>Subcontractors</u>	<u>Role</u>
Digital Equipment Corporation (DEC)	Consulting and support of the performance testing and on DEC software and computer systems operation.
McDonnell Douglas Automation Company (McAuto)	Responsible for the support and enhancements to the Network Transaction Manager Subsystem during 1984/1985 period.
On-Line Software International (OSI)	Responsible for programming the Communications Subsystem on the IBM and for consulting on the IBM.
Rath and Strong Systems Products (RSSP) (In 1985 became McCormack & Dodge)	Responsible for assistance in the implementation and use of the MRP II package (PIOS) that they supplied.
SofTech, Inc.	Responsible for the design and implementation of the Network Transaction Manager (NTM) in 1981/1984 period.
Software Performance Engineering (SPE)	Responsible for directing the work on performance evaluation and analysis.
Structural Dynamics Research Corporation (SDRC)	Responsible for the User Interface and Virtual Terminal Interface Subsystems.

Prime contractors under other projects who have contributed to Test Bed Technology, their contributing activities and responsible projects are as follows:

<u>Contractors</u>	<u>ICAM Project</u>	<u>Contributing Activities</u>
Boeing Military Aircraft Company (BMAC)	1701, 2201, 2202	Enhancements for IBM node use. Technology Transfer to Integrated Sheet Metal Center (ISMC)

PS 620144402
1 November 1985

<u>Contractors</u>	<u>ICAM Project</u>	<u>Contributing Activities</u>
Control Data Corporation (CDC)	1502, 1701	IISS enhancements to Common Data Model Processor (CDMP)
D. Appleton Company (DACOM)	1502	IISS enhancements to Integration Methodology
General Electric	1502	Operation of the Test Bed and communications equipment.
Hughes Aircraft Company (HAC)	1701	Test Bed enhancements
Structural Dynamics Research Corporation (SDRC)	1502, 1701, 1703	IISS enhancements to User Interface/Virtual Terminal Interface (UI/VTI)
Systran	1502	Test Bed enhancements. Operation of Test Bed.

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SECTION 1

SCOPE

1.1 Identification

This specification establishes the detailed design of a computer program identified as the Forms Driven Form Editor, hereinafter referred to as FDFE. The FDFE is one configuration item of the Integrated Information Support System (IISS) User Interface (UI).

1.2 Functional Summary

The FDFE is a software tool for creating and initializing form definitions. The FDFE displays a series of screens which request information from the user and visually show the form under construction. Once a form has been completed, the FDFE stores the form definition constructs needed to recreate the form. The stored form can be selected and modified.

The runtime UI or UIMS views the FDFE, which is part of the UIDS, as an application program which uses the Form Processor. Data to be selected or stored comes from or is passed to the Common Data Model (CDM) in the integrated implementation; otherwise, a file system is used. The FDFE also interacts with the Forms Language Compiler (FLAN) to translate between the forms language source and the compiled form definition.

The FDFE is a C program which makes extensive use of form language sources and compiled forms, performs interactive user input/output via the Form Processor (FP), and uses the FP to manage the compiled forms. The internal form data structure is the same as that used by the Form Processor.

SECTION 2

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2.2 Terms and Abbreviations

American Standard Code for Information Interchange: (ASCII), the character set defined by ANSI X3.4 and used by most computer vendors.

Application Interface: (AI), subset of the IISS User Interface that consists of the callable routines that are linked with applications that use the Form Processor or Virtual Terminal. The AI enables applications to be hosted on computers other than the host of the User Interface.

Application Process: (AP), a cohesive unit of software that can be initiated as a unit to perform some function or functions.

Attribute: field characteristic such as blinking, highlighted, black, etc. and various other combinations. Background attributes are defined for forms or windows only. Foreground attributes are defined for items. Attributes may be permanent, i.e., they remain the same unless changed by the application program, or they may be temporary, i.e., they remain in effect until the window is redisplayed.

Device Drivers: (DD), software modules written to handle I/O for a specific kind of terminal. The modules map terminal specific commands and data to a neutral format. Device Drivers are part of the UI Virtual Terminal.

Display List: is similar to the open list, except that it contains only those forms that have been added to the screen and are currently displayed on the screen.

Extended Binary Coded Decimal Interchange Code: (EBCDIC), the character set used by a few computer vendors (notably IBM) instead of ASCII.

Field: two dimensional space on a terminal screen.

Form: structured view which may be imposed on windows or other forms. A form is composed of fields. These fields may be defined as forms, items, and windows.

Form Definition: (FD), forms definition language after compilation. It is read at runtime by the Form Processor.

Forms Definition Language: (FDL), the language in which electronic forms are defined.

Forms Driven Form Editor: (FDFE), subset of the FE which consists of a forms driven application used to create Form Definition files interactively.

Form Editor: (FE), subset of the IISS User Interface that is used to create definitions of forms. The FE consists of the Forms Driven Form Editor and the Forms Language Compiler.

Form Hierarchy: a graphic representation of the way in which forms, items and windows are related to their parent form.

Forms Language Compiler: (FLAN), subset of the FE that consists of a batch process that accepts a series of forms definition language statements and produces form definition files as output.

Form Processor: (FP), subset of the IISS User Interface that consists of a set of callable execution time routines available to an application program for form processing.

Form Processor Text Editor: (FPTE), subset of the Form Processor that consists of software modules that provide text editing capabilities to all users of applications that use the Form Processor.

IISS Function Screen: the first screen that is displayed after logon. It allows the user to specify the function he wants to access and the device type and device name on which he is working.

Integrated Information Support System: (IISS), a test computing environment used to investigate, demonstrate and test the concepts of information management and information integration in the context of Aerospace Manufacturing. The IISS addresses the problems of integration of data resident on heterogeneous data bases supported by heterogeneous computers interconnected via a Local Area Network.

Item: non-decomposable area of a form in which hard-coded descriptive text may be placed and the only defined areas where user data may be input/output.

Message: descriptive text which may be returned in the standard message line on the terminal screen. They are used to warn of errors or provide other user information.

Message Line: a line on the terminal screen that is used to display messages.

Network Transaction Manager: (NTM), IISS subsystem that performs the coordination, communication and housekeeping functions required to integrate the Application Processes and System Services resident on the various hosts into a cohesive system.

Open List: a list of all the forms that have been and are currently open for an application process.

Operating System: (OS), software supplied with a computer which allows it to supervise its own operations and manage access to hardware facilities such as memory and peripherals.

Page: instance of forms in windows that are created whenever a form is added to a window.

Paging and Scrolling: a method which allows a form to contain more data than can be displayed with provisions for viewing any portion of the data buffer.

Physical Device: a hardware terminal.

Qualified Name: the name of a form, item or window preceded by the hierarchy path so that it is uniquely identified.

Subform: a form that is used within another form.

User Data: data which is either input by the user or output by the application programs to items.

User Interface: (UI), IISS subsystem that controls the user's terminal and interfaces with the rest of the system. The UI consists of two major subsystems: the User Interface Development System (UIDS) and the User Interface Management System (UIMS).

User Interface Development System: (UIDS), collection of IISS User Interface subsystems that are used by applications programmers as they develop IISS applications. The UIDS includes the Form Editor and the Application Generator.

User Interface Management System: (UIMS), the runtime UI. It consists of the Form Processor, Virtual Terminal, Application Interface, the User Interface Services and the Text Editor.

User Interface Monitor: (UIM), part of the Form Processor that handles messaging between the NTM and the UI. It also provides authorization checks and initiates applications.

User Interface Services: (UIS), subset of the IISS User Interface that consists of a package of routines that aid users in controlling their environment. It includes message management, change password, and application definition services.

User Interface/Virtual Terminal Interface: (UI/VTI), another name for the User Interface.

Virtual Terminal: (VT), subset of the IISS User Interface that performs the interfacing between different terminals and the UI. This is done by defining a specific set of terminal features and protocols which must be supported by the UI software which constitutes the virtual terminal definition. Specific terminals are then mapped against the virtual terminal software by specific software modules written for each type of real terminal supported.

Window: dynamic area of a terminal screen on which predefined forms may be placed at run time.

Window Manager: a facility which allows the following to be manipulated: size and location of windows, the device on which an application is running, the position of a form within a window. It is part of the Form Processor.

SECTION 3

REQUIREMENTS

3.1 Structural Description

The general approach is to view the FDFE as a hierarchy of modules. The FDFE screens presented in the appendix are associated with only certain modules in the hierarchy based on the functionality being performed by the module.

3.1.1 Module Hierarchy

The following hierarchy chart shows the organization of the FDFE:

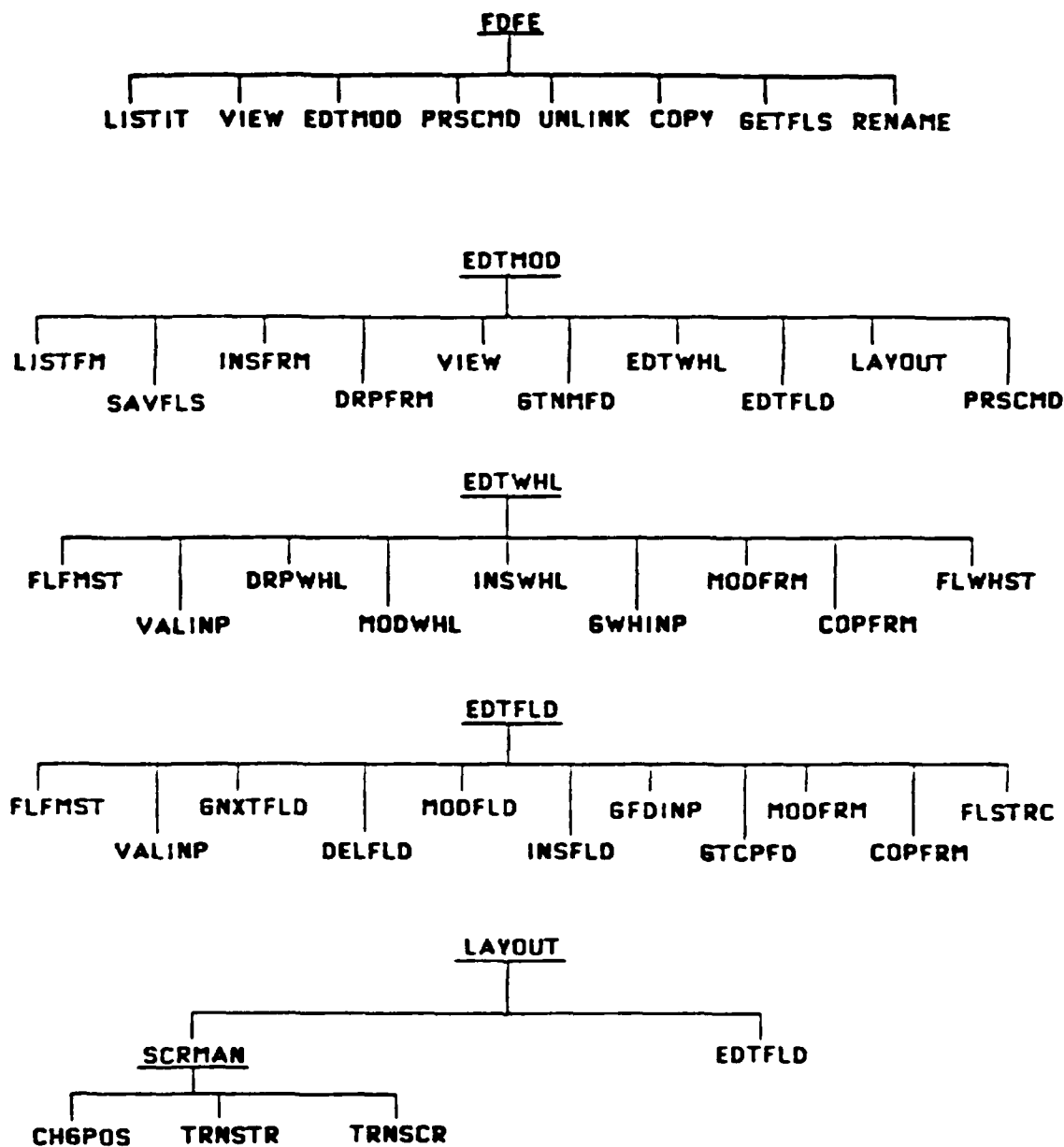


Figure 3-1 FDFE Hierarchy Charts

3.1.2 Module Descriptions

The following paragraphs describe the modules associated with each of the major sections of the FDFE.

3.1.2.1 FDFE:

This module is the main driver. It allows the user to choose among several file management options or to proceed to the edit task level. It controls the WRKTASK screen.

Input Parameters:

None

Output Parameters:

None

3.1.2.2 PRSCMD:

This module parses the command line for both the WRKTASK and EDTTASK screens to determine which other modules are to be called and what parameters are to be passed.

Input Parameters:

Pointer to command line

Array of parameter counts

Array of pointers to valid commands

Output Parameters:

Option chosen

Pointer to parameters to be passed to the module which will execute the option.

Number of parameters found in command line

3.1.2.3 LISTIT:

This module lists all of the Forms Definition Object or Forms Language Source in the user's specified forms language source or definition object libraries.

Input Parameters:

Pointer to "FDL" or "FD" string

Output Parameters:

Returns any error code or a NULL pointer if successful

3.1.2.4 VIEW:

This module displays a form just as it would appear on the screen when used by a program.

Input Parameters:

Pointer to name of form to view

Output Parameters:

Returns any error code or a NULL pointer if successful

3.1.2.5 FORMS LANGUAGE SOURCE ACCESS MODULES:

o **UNLINK:**

This module drops a particular Forms Language Source.

Input Parameters:

Name of Forms Language Source

Output Parameters:

Returns any error code or a NULL pointer if successful

o **COPY:**

This module copies a particular Forms Language Source to another Forms Language Source of specified name.

Input Parameters:

Name of existing "from" Forms Language Source

Name of new or "to" Forms Language Source

Output Parameters:

Returns any error code or a NULL pointer if successful

o **RENAME:**

This module renames a particular Forms Language Source to a specified name.

Input Parameters:

Name of existing Forms Language Source

New name of Forms Language Source

Output Parameters:

Returns any error code or a NULL pointer if successful

o GETFLS:

This module retrieves a particular Forms Language Source and translates it into the internal data structure.

Input Parameters:

Name of existing Forms Language Source

Output Parameters:

Pointer to the "opened" form, the internal Forms Processor data structure

o SAVFLS:

This module saves a particular Forms Language Source (fdl file) and a Forms Definition Object (fd file) after it translates the internal data structure into forms language syntax.

Input Parameters:

Name of the form to be saved under flag indicating to write or not to write out the fd file

Pointer to list of forms to be written out

Output Parameters:

Returns any error code or a NULL pointer if successful

3.1.2.6 EDTMOD:

This module is the control module for all edit tasks. It controls the EDTTASK screen.

Input Parameters:

New/old form flag

Change/retrieve only flag

Output Parameters:

Returns any error code or a NULL pointer if successful

3.1.2.7 LISTFM:

This module lists all forms in the Forms Language Source on which work is being done.

Input Parameters:

None

Output Parameters:

Returns any error codes or NULL pointer if successful

3.1.2.8 INSFRM:

This module inserts a new form into the Forms Language Source on which work is being done.

Input Parameters:

name of form

Output Parameters:

Returns any error code or NULL pointer if successful

3.1.2.9 DRPFRM:

This module deletes a form from the Forms Language Source on which work is being done.

Input Parameters:

Name of form

Output Parameters:

Returns any error codes or NULL pointer if successful

3.1.2.10 EDTWHL:

This module allows the user to edit an entire form at once. It controls the presentation of the FORM EDIT screen.

Input Parameters:

Read-only flag

Name of form

Output Parameters:

Returns any error code or NULL pointer if successful

3.1.2.11 EDTFLD:

This module allows the user to edit all fields of a form one at a time. It controls the presentation of the FIELD EDIT screen. It is also called from LAYOUT.

Input Parameters:

Read-only flag

col cursor position if coming from layout mode

row cursor position if coming from layout mode

pointer to internal form structure

edit mode

Output Parameters:

Returns any error code or NULL pointer if successful

3.1.2.12 LAYOUT:

This module allows the user to edit an entire form as it would appear when used (with regards to the location and size of fields) on one screen. The other needed information is filled in on the LAYOUT DESCRIPTION screen.

Input Parameters:

Pointer to internal form structure
Read-only fla

Output Parameters:

Returns any error code or NULL pointer if successful

3.1.2.13 SCRMAN:

This module controls the first stage of layout edit mode - it manages the screen using the following three modules to translate internal structure to screen layout and vice versa.

Input Parameters:

Read-only flag
pointer to internal form structure

Output Parameters:

Row position returned from GETCUR
Col position returned from GETCUR

3.1.2.14 CHGPOS:

This module allows the user to change the location of a field in layout mode by indicating the "from" and "to" locations on the screen.

Input Parameters:

pointer to internal form structure

Output Parameters:

Returns any error code or NULL pointer if successful

3.1.2.15 TRNSCR:

This module translates the layout screen format to internal structure.

Input Parameters:

Pointer to internal form structure

Output Parameters:

Returns any error code or NULL pointer if successful

3.1.2.16 TRNSTR:

This module translates the internal structure to the layout screen format.

Input Parameters:
 Pointer to internal form structure
 Read only flag
Output Parameters:
 None

3.1.2.17 VALINP:

This module performs validation checks on fields. The objects to be validated are the values input on the FIELD EDIT and FORM EDIT screens.

Input Parameters:
 Pointer to form to be validated
 Pointer to field to be validated
 Flag indicating type of validation
Output Parameters:
 Returns TRUE if validation okay else returns FALSE

3.1.2.18 GTNMFd:

This module retrieves fields from the internal structure.

Input Parameters:
 Pointer to 1st field in internal structure
 Name of field to find
Output Parameters:
 Pointer to field in the internal structure or NULL if could not find field

3.1.2.19 MODFLD:

This module modifies a field in the internal structure.

Input Parameters:
 Pointer to parent of field
 Pointer to pointer of field being modified
 Pointer to screen changed information
 Pointer to screen help info

Pointer to screen value info
Pointer to screen item info
Output Parameters:
Returns any error code or NULL pointer if successful

3.1.2.20 DELFLD:

This module deletes a field from the internal structure.
This is the same function as that used by the Form Processor.

3.1.2.21 INSFLD:

This module inserts a field into the internal structure.

Input Parameters:

Address of pointer to field being inserted
Address where next field pointer will be inserted
Address where previous field pointer will be inserted
Pointer to parent of field
Pointer to screen field information
Pointer to screen help info
Pointer to screen value info
Pointer to screen item info
Recursion level

Output Parameters:

Returns any error code or NULL pointer if successful

3.1.2.22 COPFRM:

This module copies a Forms Language Source file into an alternate internal data structure and gets the pointer to the specified form.

Input Parameters:

Name of Forms Language Source file to copy from
Name of form to copy

Output Parameters:

Sets global variables:
Copyfls, name of Forms Language Source just copied
Copyfrm, name of form just copied
Altbuf, beginning of list containing all forms of
Forms Language Source
Altfrm, pointer to form user wishes to copy

3.1.2.23 MODFRM:

This module updates information about the form.

Input Parameters:

Pointer to form internal structure

Pointer to screen form information

Output Parameters:

Returns any error code or NULL pointer if successful

3.1.2.24 FLFMST:

This module translates an FPD field structure for a form into the screen information structure.

Input Parameters:

Pointer to screen structure

Pointer to fpd form field

Output Parameters:

None

3.1.2.25 FLSTRC:

This module translates the FPD field structure to screen information structure for items, windows, and forms.

Input Parameters:

Pointer to fpd field

Pointer to screen field structure

Pointer to screen item help structure

Pointer to screen item value structure

Pointer to screen field domain check structure

Output Parameters:

Fills appropriate screen area with field information

3.1.2.26 FLWHST:

This module fills in the output screen FORM EDIT, and associates each field line on the output screen with the field's internal structure.

Input Parameters:

Pointer to form internal structure on which editing is to occur.

Output Parameters:

Fills output screen FORM EDIT area with form and field info and creates an external array of pointers

3.1.2.27 GWHINP:

This module gets all input for the FORM EDIT screen for the fields on the form being edited.

Input Parameters:

Pointer to form internal structure

Output Parameters:

PF key provided by OISCR

Returns any error code or NULL pointer if successful

3.1.2.28 GTCPPFD:

This module gets the field at the located cursor position.

Input Parameters:

Pointer to form internal structure

Row cursor position

Col cursor position

Output Parameters:

Pointer to field at that location else

NULL if no field found

3.1.2.29 DRPWHL:

This module deletes all fields marked by the user on the FORM EDIT screen.

Input Parameters:

Pointer to internal form structure

Output Parameters:

PF key received by OISCR

3.1.2.30 MODWHL:

This module modifies existing fields as input by the user on the FORM EDIT screen.

Input Parameters:

Pointer to parent of field

Pointer to field being modified

Pointer to input screen structure

Pointer to help line on screen

Pointer to item value on screen
Pointer to item only info on screen
Output Parameters:
Returns any error code or NULL pointer if successful

3.1.2.31 INSWHL:

This module inserts all fields that have been entered on the FORM EDIT screen.

Input Parameters:
Pointer to form internal structure
Output Parameters:
Returns any error code or NULL pointer if successful

3.2 Functional Flow

Figure 3-2 is a data flow for the Forms Driven Form Editor.

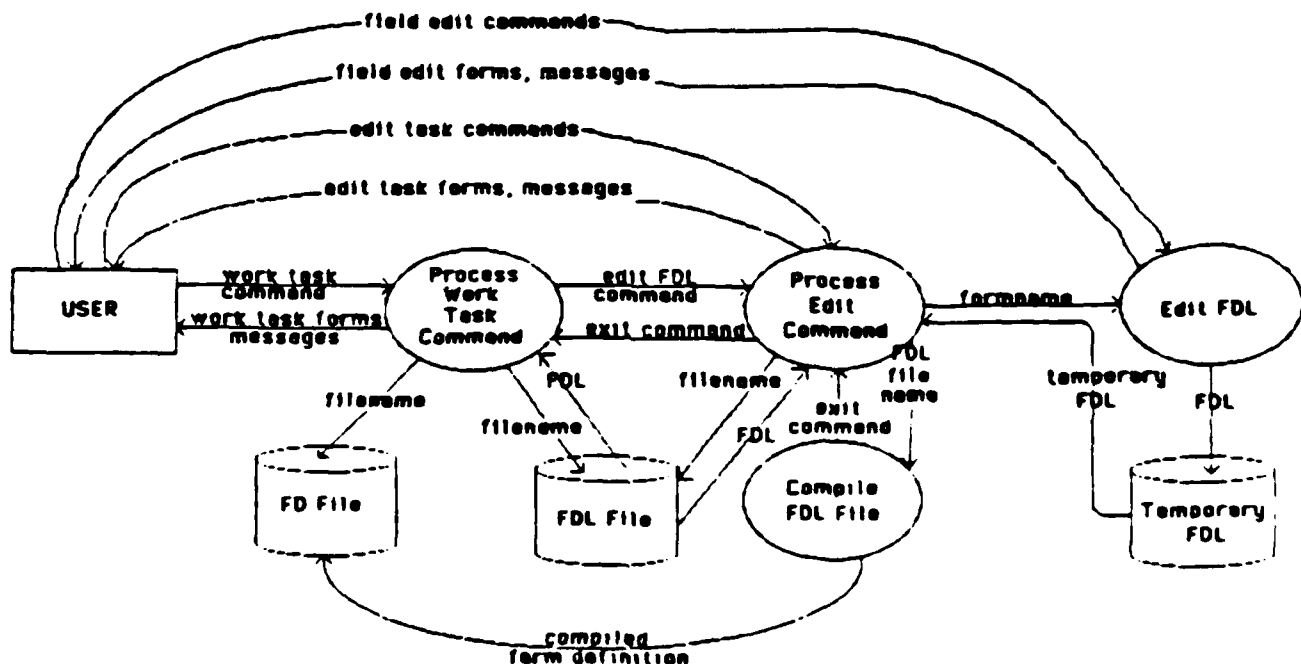


Figure 3-2 FD FE Data Flow

3.3 Interfaces

The FDFE interfaces directly with users as an IISS application. Physical terminals are assumed to have video display, a textual keyboard, four cursor positioning keys or key sequences, a help key or key sequence, an entry key, and four other keys to be used by the FDFE for special processing. The FDFE must interface with the AI, FLAN, and the operating system.

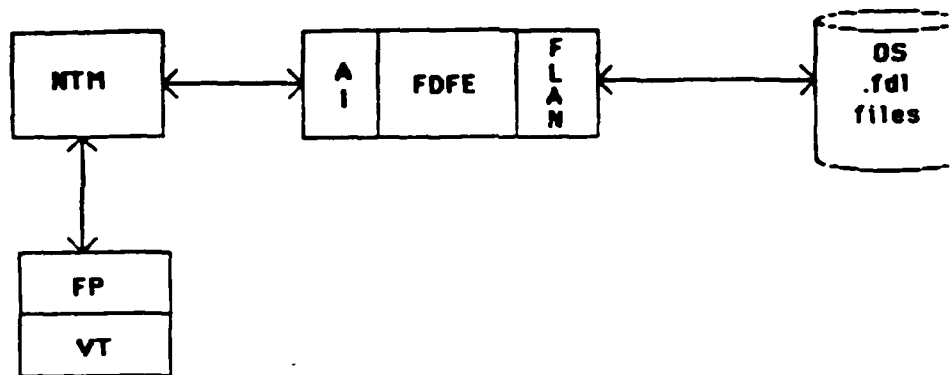


Figure 3-3 FDFE Interface Diagram

3.3.1 Application Interface

The FDFE interacts with users by calling appropriate routines of the Application Interface (AI). This interface creates messages which are sent to the Form Processor which moves information describing interactive terminal input and output and provides a link to users of the FDFE through the Virtual Terminal.

3.3.2 Forms Language Compiler

The FDFE uses the Forms Language Compiler (FLAN) to convert forms language source into the Form Processor internal forms

structure. The FDFE also invokes the FLAN when the form under construction is to be stored.

3.3.3 Operating System

The FDFE stores form language source files (fdl files on the VAX) and compiled form definitions (fd files on the VAX). Form language source files may subsequently be compiled and displayed. The storage of the fdl files and fd files is system dependent. The VAX implementation uses the logicals IISSSLIB (for fdl files) to store/retrieve the files in/from the appropriate directory.

3.4 Program Interrupts

This section does not apply to the detailed design of the Forms Driven Form Editor.

3.5 Timing and Sequencing Description

The data flow diagram in section 3.2 and the detail design description in section 3.10 contain the procedural information for sequencing and control logic.

3.6 Special Control Features

The detailed design of the FDFE does not include any special control features as defined in the ICAM Documentation Standards manual.

3.7 Storage Allocation

The Forms Driven Form Editor executable is 351 blocks.

3.7.1 Data Base Definition

3.7.1.1 File Descriptions

1. FILE NAME: name.FDL - Form Definition Language file.

PURPOSE: This file contains the language description of one or more forms. Compiling this file produces Form Definition files.

DECLARATION:

char line [132];

2. FILE NAME: name.TMP - Temporary FDL file.

PURPOSE: This file contains the language description of one or more forms. It is created during an editing session from the FDFE's internal data structure. If this file compiles successfully, it is renamed to an FDL file, otherwise it remains so that the user can correct errors and recompile it.

DECLARATION:

```
char line [132];
```

3. FILE NAME: formname.FD - Form Definition file. The name of this file is dependent upon the form it describes.

PURPOSE: This file contains information about the structure and attributes of a form that is used at run time by the Form Processor.

DECLARATION:

```
typedef struct      /* version number record */
{
    char rectyp;      /* '1' */
    int  vernum;      /* current version number (2) */
    char linefeed;
} VERREC;

typedef struct      /* form record */
{
    char form_name[10]; /* form name */
    char background[10]; /* background name */
    short row;          /* starting row */
    short col;          /* starting col */
    short width;        /* width */
    short depth;        /* depth */
    short n_txtflds;    /* number of text fields */
    short n_datflds;    /* number of data fields */
    short s_txtbuf;     /* size of the text buffer */
    short s_defbuf;     /* size of the default buffer */
    char linefeed;
} FRMREC;
```

```
typedef struct      /* text record */
{
    short row;      /* starting row */
    short col;      /* starting col */
    short len;      /* total length */
    char linefeed;
} TXTREC;

typedef struct      /* field record */
{
    char fld_name[10]; /* field name */
    char fld_type;     /* field type (F, I, W, A) */
    short row;         /* starting row */
    short col;         /* starting col */
    short width;       /* field width */
    short depth;       /* field depth */
    int min_value;     /* minimum value (if any) */
    int max_value;     /* maximum value (if any) */
    char helpline[80]; /* help text */
    char disp_att[10]; /* display attribute */
    short n_formats;   /* number of formats */
    char format[12][2]; /* format strings */
    short n_arydefs;   /* number of dimensions */
    struct            /* dimension specification */
    {
        char dir;     /* repeat direction (H, V) */
        short cnt;    /* actual repeat count */
        short sp;     /* number of spaces between
                        repetitions */
        short dsp_size; /* display repeat count */
    } array_def[3];
    char linefeed;
} FLDREC;
```

3.8 Object Code Creation

The FDFE routines were compiled using a C compiler developed by Interactive Software under VAX/VMS.

3.9 Adaptation Data

The C source modules for the FDFE can be compiled using any UNIX version 7 compatible C compiler. The files FPDINI.H and GETFLS.C contain file names for the Form Definition and Form Definition Language files which may not port to systems other than VAX/VMS.

3.10 Detailed Design Description

3.10.1 Main Program List

The following is a list of all "Main Programs" which are modules that are not called by any other module being documented here. These modules are either program entry points or, if they are hooked into another set of programs via subroutine calls, they are the points the external programs can call and therefore enter through. To differentiate between the two types of entry points, look at the individual Module Documentation (section 3.10.8) and look at Module Type for each of the Main Program modules listed. Note whether the routine is a Program, Subroutine, or Function. If it is a Program, it is truly a main program entry point. If not, then it is merely called by other programs not being documented here.

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FORMS DRIVEN FORM EDITOR Main Program List

Module Name -----	Purpose -----
CHKFLD	CHECK FIELD
CHKFRM	CHECK FORM
CSTASH	CHARACTER STASH
FDPE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)
MAKINT	MAKE EXPRESSION INTO AN INTEGER
MAKSTR	MAKE EXPRESSION INTO A STRING
MKPOS	MAKE POSITION NODE
VALINP/CCKVAL	CHECK VALUE

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3.10.2 Module List

The following is a list of all the modules being documented here along with their purpose. Each module has a unique name, no matter what language it was written in.

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FORMS DRIVEN FORM EDITOR Module List

Module Name -----	Purpose -----
ADDCHK	ADD POSITION TO CHECK LIST
ADDEXT	ADD EXTENSION TO FILE_NAME
CHKARY	CHECK ARRAY
CHKFLD	CHECK FIELD
CHKFRM	CHECK FORM
CHKPRM	CHECK PARAMETER
CPYFRM	COPY FORM
CSTASH	CHARACTER STASH
DRPFRM	DROP FORM
DRPWHL	DROP WHOLE
EDTFLD	EDIT FIELD
EDTMOD	EDIT MODE
EDTWHL	EDIT WHOLE
ERROR	ISSUE ERROR MESSAGE
EXPAND	EXPAND AN ARRAY
EXPAND/FIXFRM	FIX UP A FORM
FATAL	ISSUE FATAL ERROR MESSAGE
FDFE	FORMS DRIVEN FORM EDITOR
FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
FIFDST	FILL IN FIELD STRUCTURE

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FORMS DRIVEN FORM EDITOR Module List

Module Name -----	Purpose -----
FLANCI	FLAN CALLABLE INTERFACE
FLDTYP	FIELD TYPE
FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
FLSTRC	FIELD STRUCTURE TRANSLATION
FLWHST	FILL WHOLE STRUCTURE
FNDATT	FIND ATTRIBUTE
FREBUF	FREE BUFFER
GETFLS	GET FDL SOURCE FILE
GETFLS/TREEXP	TREE EXPRESSION
GETLEN	GET LENGTH
GFDINP	GET FIELD INPUT
GFLDPT	GET FIELD POINTER
GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
GNXTFD	GET NEXT FIELD
GNXTFD/NXTFLD	NEXT FIELD
GTCPPD	GET USING CURSOR POSITION FIELD
GTFDTX	GET FIELD TEXT
GTFDTX/GTXINF	GET TEXT INFORMATION
GTNMFD	GET NAMED FIELD
GWHINP	GET WHOLE INPUT
INSFLD	INSERT FIELD

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FORMS DRIVEN FORM EDITOR Module List

Module Name -----	Purpose -----
INSFRM	INSERT FORM
INSWHL	INSERT WHOLE
LAYOUT	LAYOUT MODE
LISTFM	LIST FORMS
LISTIT	LIST IT
MAKINT	MAKE EXPRESSION INTO AN INTEGER
MAKSTR	MAKE EXPRESSION INTO A STRING
MKPOS	MAKE POSITION NODE
MODFLD	MODIFY FIELD
MODFRM	MODIFY FORM
MODFRM/FRETXT	FREE TEXT
MODWHL	MODIFY WHOLE
MYALLOC	MY MALLOC
PRCFIL	PROCESS TEMPORARY FILE
PREC	PRECEDENCE
PRSCMD	PARSE COMMAND
PUTERR	PUT ERROR
SAVFLS	SAVE FDL SOURCE
SCRMAN	SCREEN MANAGER
SCRMAN/CHGPOS	CHANG POSITION
SCRMAN/GETROW	GET ROW

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FORMS DRIVEN FORM EDITOR Module List

Module Name -----	Purpose -----
TRNSCR	TRANSLATE SCREEN TO STRUCTURE
TRNSCR/FLCST	FILL LOCATION STRUCTURE
TRNSCR/FRLCST	FREE LOCATION STRUCTURES
TRNSCR/GTFMPMT	GET FORM PROMPT INFORMATION
TRNSCR/GTPINF	GET PROMPT INFORMATION
TRNSCR/LDPMINF	LOAD PROMPT INFORMATION
TRNSCR/MTCHPMT	MATCH PROMPT WITH FIELD
TRNSCR/PARSCRN	PARSE SCREEN DATA
TRNSCR/SPSYMB	SPECIAL SYMBOL CHECK
TRNSTR	TRANSLATE STRUCTURE TO SCREEN
TRNSTR/FLFLD	FILL FIELD
TRNSTR/FLPRMPT	FILL PROMPT
TRNSTR/GARINF	GET ARRAY INFORMATION
VALINP	VALIDATE INPUT
VALINP/CCKFLD	CHECK FIELD
VALINP/CCKFRM	CHECK FORM
VALINP/CCKHLP	CHECK HELP
VALINP/CCKITM	CHECK ITEM
VALINP/CCKNAM	CHECK NAME
VALINP/CCKPRM	CHECK PROMPT
VALINP/CCKRSV	CHECK FOR RESERVED WORD

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FORMS DRIVEN FORM EDITOR Module List

Module Name -----	Purpose -----
VALINP/CCKVAL	CHECK VALUE
VIEW	VIEW A FORM
WARNING	ISSUE WARNING MESSAGE
WRTEXP	WRITE EXPRESSION
WRTFDL	WRITE FDL FILE
WRTFDL/ARYREF	ARRAY REFERENCE

3.10.3 External Routines List

The following is a list of all routines or functions not documented here that are called by modules that are documented here. The first caller, in alphabetical order, is listed as well. The specification in which any module is documented may be found in the Module Documentation Index (Document Number CM 620100001). See section 3.10.6 for a list of the modules that call each of these external routines.

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FORMS DRIVEN FORM EDITOR External Routines List

Module Name	First User
-----	-----
ABORT	VALINP
ABS	SCRMAN/CHGPOS
ACCESS	FDFE
ADDFRM	FDFE
ATOI	VALINP/CCKITM
BLFN	WRTFDL
CLSFRM	VIEW
COPFLD	EXPAND
COPY	FDFE
DELFLD	EXPAND/FIXFRM
ESCPY	VALINP/CCKITM
FCLOSE	GETFLS
FEOF	LISTIT
FERROR	PRCFIL
FGETS	PRCFIL
FOPEN	SAVFLS
FPRINTF	WRTFDL
FREE	TRNSCR/FRLCST
GATDEF	FIFDST
GDATA	GWHINP
GETCUR	SCRMAN
GWINDO	VIEW
INITAL	FDFE/MAIN
INITFP	FDFE/MAIN
ISALPHA	VALINP/CCKFLD
ISSPACE	TRNSCR/GTPINF
MAKFLD	INSFLD
MALLOC	MYALLOC
MATOI	VALINP/CCKFLD
MAX	CHKFLD
MEMCMP	VALINP
MEMCPY	GWHINP
MEMDGT	GITMD
MEMSET	PRSCMD
MIN	VALINP/CCKFLD
MITOA	TRNSCR
MKTEMP	LISTIT
OISCR	SCRMAN
PDATA	LISTIT
PMSGLC	SCRMAN
PMSGLS	LISTFM

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FORMS DRIVEN FORM EDITOR External Routines List

Module Name -----	First User -----
PUTATT	EDTFLD
PUTCUR	PUTERR
RENAME	SAVFLS
REWIND	SAVFLS
RMVPAG	LISTIT
RSVATT	EXPAND/FIXFRM
SPRINTF	VALINP/CCKNAM
STRASN	CHKARY
STRCAT	SAVFLS
STRCHR	VALINP/CCKFRM
STRCMP	VALINP/CCKFLD
STRCPY	LISTIT
STRLEN	FDFE
STRNCMP	PRSCMD
STRNCPY	PRSCMD
STRRCHR	SCRMAN/GETROW
STRSPN	VALINP/CCKHLP
STRUPC	VALINP/CCKHLP
SYSMSG	VIEW
SYSTEM	LISTIT
TERMFP	FDFE/MAIN
TRMNAT	FDFE/MAIN
UNLINK	FDFE
WRTFRM	SAVFLS
YYPARSE	FLANGI

3.10.4 Include File List

The following is a list of all include files called in by modules being documented here. Each include file has a unique name regardless of the language being used. The purpose of each include file is listed as well. A more complete description of each include file is given in section 3.10.9. The purpose listed is the one that is in the source code of the include file.

A purpose of "**** PURPOSE NOT FOUND BY STRIPPER ****" indicates that a purpose statement was not written into the include file itself. The most common reason for this is that the include file comes from system libraries that were not developed by the project, such as 'C' libraries that are provided with the 'C' compiler.

See section 3.10.6 for a set of lists which show all the modules which call in each of these include files.

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FORMS DRIVEN FORM EDITOR Include File List

File Name	Purpose
-----	-----
CTYPE	**** PURPOSE NOT FOUND BY STRIPPER ****
FDFE	FDFE DATA STRUCTURES
FDFEFM	FDFE FORM DEFINITIONS
FDFEINI	FDFE INITIALIZATIONS
FPCODE	FORM PROCESSOR RETURN CODES
FPD	FORM PROCESSOR DATA
FPDINI	FPD INITIALIZATION
FPPARM	FORM PROCESSOR PARAMETERS
NTM	NTM INTERFACE INCLUDE FILE
RW	REPORT WRITER DEFINITIONS
STDIO	**** PURPOSE NOT FOUND BY STRIPPER ****
STDYTP	STANDARD TYPE DEFINITIONS

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3.10.5 Where Include File Used List

The following lists each include file from 3.10.4 and all the modules documented in this specification which include them. The purpose of each module is listed as well.

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose

CTYPE

EDTFLD	EDIT FIELD
GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
PUTERR	PUT ERROR
TRNSCR	TRANSLATE SCREEN TO STRUCTURE
TRNSCR/FL	FILL LOCATION STRUCTURE
TRNSCR/FR	FREE LOCATION STRUCTURES
TRNSCR/GT	GET FORM PROMPT INFORMATION
TRNSCR/GT	GET PROMPT INFORMATION
TRNSCR/LD	LOAD PROMPT INFORMATION
TRNSCR/MT	MATCH PROMPT WITH FIELD
TRNSCR/PA	PARSE SCREEN DATA
TRNSCR/SP	SPECIAL SYMBOL CHECK
VALINP	VALIDATE INPUT
VALINP/CC	CHECK FIELD
VALINP/CC	CHECK FORM
VALINP/CC	CHECK HELP
VALINP/CC	CHECK ITEM
VALINP/CC	CHECK NAME
VALINP/CC	CHECK PROMPT
VALINP/CC	CHECK FOR RESERVED WORD
VALINP/CC	CHECK VALUE

FDFE

ADDEXT	ADD EXTENSION TO FILE_NAME
CHKPRM	CHECK PARAMETER
CPYFRM	COPY FORM
DRPFRM	DROP FORM
DRPWHL	DROP WHOLE
EDTFLD	EDIT FIELD
EDTMOD	EDIT MODE
EDTWHL	EDIT WHOLE
FDFE	FORMS DRIVEN FORM EDITOR
FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
FLSTRC	FIELD STRUCTURE TRANSLATION

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
-----	-----	-----
	FLWHST	FILL WHOLE STRUCTURE
	FREBUF	FREE BUFFER
	GETFLS	GET FDL SOURCE FILE
	GETFLS/TR	TREE EXPRESSION
	GFDINP	GET FIELD INPUT
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GNXTFD	GET NEXT FIELD
	GNXTFD/NX	NEXT FIELD
	GTFDTX	GET FIELD TEXT
	GTFDTX/GT	GET TEXT INFORMATION
	GTNMFd	GET NAMED FIELD
	GWHINP	GET WHOLE INPUT
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MODFLD	MODIFY FIELD
	MODFRM	MODIFY FORM
	MODFRM/FR	FREE TEXT
	MODWHL	MODIFY WHOLE
	PRCFIL	PROCESS TEMPORARY FILE
	PRSCMD	PARSE COMMAND
	PUTERR	PUT ERROR
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA
	TRNSCR/SP	SPECIAL SYMBOL CHECK
	TRNSTR	TRANSLATE STRUCTURE TO SCREEN
	TRNSTR/FL	FILL FIELD
	TRNSTR/FL	FILL PROMPT

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
-----	-----	-----
	TRNSTR/GA	GET ARRAY INFORMATION
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM

FDFEFM

ADDEXT	ADD EXTENSION TO FILE_NAME
CHKPRM	CHECK PARAMETER
CPYFRM	COPY FORM
DRPFRM	DROP FORM
DRPWHL	DROP WHOLE
EDTFLD	EDIT FIELD
EDTHOD	EDIT MODE
EDTWHL	EDIT WHOLE
FDFE	FORMS DRIVEN FORM EDITOR
FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
FLSTRC	FIELD STRUCTURE TRANSLATION
FLWHST	FILL WHOLE STRUCTURE
FREBUF	FREE BUFFER
GETFLS	GET FDL SOURCE FILE
GETFLS/TR	TREE EXPRESSION
GFDINP	GET FIELD INPUT
GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
GNXTFD	GET NEXT FIELD
GNXTFD/NX	NEXT FIELD
GTFDTX	GET FIELD TEXT
GTFDTX/GT	GET TEXT INFORMATION
GTNMFd	GET NAMED FIELD

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
-----	-----	-----
	GWHINP	GET WHOLE INPUT
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MODFLD	MODIFY FIELD
	MODFRM	MODIFY FORM
	MODFRM/FR	FREE TEXT
	MODWHL	MODIFY WHOLE
	PRCFIL	PROCESS TEMPORARY FILE
	PRSCMD	PARSE COMMAND
	PUTERR	PUT ERROR
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA
	TRNSCR/SP	SPECIAL SYMBOL CHECK
	TRNSTR	TRANSLATE STRUCTURE TO SCREEN
	TRNSTR/FL	FILL FIELD
	TRNSTR/FL	FILL PROMPT
	TRNSTR/GA	GET ARRAY INFORMATION
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
-----	-----	-----

FDFEINI

FDFE	FORMS DRIVEN FORM EDITOR
FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FPCODE

ADDCHK	ADD POSITION TO CHECK LIST
CHKARY	CHECK ARRAY
CHKFLD	CHECK FIELD
CHKFRM	CHECK FORM
CPYFRM	COPY FORM
CSTASH	CHARACTER STASH
DRPFRM	DROP FORM
DRPWHL	DROP WHOLE
EDTFLD	EDIT FIELD
EDTMOD	EDIT MODE
EDTWHL	EDIT WHOLE
EXPAND	EXPAND AN ARRAY
EXPAND/FI	FIX UP A FORM
FDFE	FORMS DRIVEN FORM EDITOR
FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
FLANCI	FLAN CALLABLE INTERFACE
FLDTYP	FIELD TYPE
FNDATT	FIND ATTRIBUTE
GETFLS	GET FDL SOURCE FILE
GETFLS/TR	TREE EXPRESSION
GFDINP	GET FIELD INPUT
GFLDPT	GET FIELD POINTER
GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
GNXTFD	GET NEXT FIELD
GNXTFD/NX	NEXT FIELD
GTFDTX	GET FIELD TEXT

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
-----	-----	-----
	GTFDTX/GT	GET TEXT INFORMATION
	GWHINP	GET WHOLE INPUT
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MAKINT	MAKE EXPRESSION INTO AN INTEGER
	MAKSTR	MAKE EXPRESSION INTO A STRING
	MKPOS	MAKE POSITION NODE
	MODFLD	MODIFY FIELD
	MODFRM	MODIFY FORM
	MODFRM/FR	FREE TEXT
	MODWHL	MODIFY WHOLE
	MYALLOC	MY MALLOC
	PRCFIL	PROCESS TEMPORARY FILE
	PUTERR	PUT ERROR
	SAVFLS	SAVE FDL SOURCE
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA
	TRNSCR/SP	SPECIAL SYMBOL CHECK
	TRNSTR	TRANSLATE STRUCTURE TO SCREEN
	TRNSTR/FL	FILL FIELD
	TRNSTR/FL	FILL PROMPT
	TRNSTR/GA	GET ARRAY INFORMATION
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File -----	Module Name -----	Module Purpose -----
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM
	WRTEXP	WRITE EXPRESSION

FPD

ADDCHK	ADD POSITION TO CHECK LIST
ADDEXT	ADD EXTENSION TO FILE_NAME
CHKARY	CHECK ARRAY
CHKFLD	CHECK FIELD
CHKFRM	CHECK FORM
CHKPRM	CHECK PARAMETER
CPYFRM	COPY FORM
CSTASH	CHARACTER STASH
DRPFRM	DROP FORM
DRPWHL	DROP WHOLE
EDTFLD	EDIT FIELD
EDTMOD	EDIT MODE
EDTWHL	EDIT WHOLE
EXPAND	EXPAND AN ARRAY
EXPAND/FI	FIX UP A FORM
FDPE	FORMS DRIVEN FORM EDITOR
FDPE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)
FIFDST	FILL IN FIELD STRUCTURE
FLANCI	FLAN CALLABLE INTERFACE
FLDTYP	FIELD TYPE
FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
FLSTRC	FIELD STRUCTURE TRANSLATION
FLWHST	FILL WHOLE STRUCTURE
FNDATT	FIND ATTRIBUTE
FREBUF	FREE BUFFER
GETFLS	GET FDL SOURCE FILE
GETFLS/TR	TREE EXPRESSION
GFDINP	GET FIELD INPUT

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File -----	Module Name -----	Module Purpose -----
	GFLDPT	GET FIELD POINTER
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GNXTFD	GET NEXT FIELD
	GNXTFD/NX	NEXT FIELD
	GTCPPD	GET USING CURSOR POSITION FIELD
	GTFDTX	GET FIELD TEXT
	GTFDTX/GT	GET TEXT INFORMATION
	GTNMFD	GET NAMED FIELD
	GWHINP	GET WHOLE INPUT
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MAKINT	MAKE EXPRESSION INTO AN INTEGER
	MAKSTR	MAKE EXPRESSION INTO A STRING
	MKPOS	MAKE POSITION NODE
	MODFLD	MODIFY FIELD
	MODFRM	MODIFY FORM
	MODFRM/FR	FREE TEXT
	MODWHL	MODIFY WHOLE
	MYALLOC	MY MALLOC
	PRCFIL	PROCESS TEMPORARY FILE
	PREC	PRECEDENCE
	PRSCMD	PARSE COMMAND
	PUTERR	PUT ERROR
	SAVFLS	SAVE FDL SOURCE
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA
	TRNSCR/SP	SPECIAL SYMBOL CHECK

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FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
-----	-----	-----
	TRNSTR	TRANSLATE STRUCTURE TO SCREEN
	TRNSTR/FL	FILL FIELD
	TRNSTR/FL	FILL PROMPT
	TRNSTR/GA	GET ARRAY INFORMATION
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM
	WRTEXP	WRITE EXPRESSION
	WRTFDL	WRITE FDL FILE
	WRTFDL/AR	ARRAY REFERENCE
FPDINI	FD FE	FORMS DRIVEN FORM EDITOR
	FD FE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FD FE)
FPPARM	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	FD FE	FORMS DRIVEN FORM EDITOR
	FD FE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FD FE)
	GFDINP	GET FIELD INPUT
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GWHINP	GET WHOLE INPUT

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FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
-----	-----	-----
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	PUTERR	PUT ERROR
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA
	TRNSCR/SP	SPECIAL SYMBOL CHECK
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM

NTM

FD FE FORMS DRIVEN FORM EDITOR
FD FE/MAIN MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR
 (FD FE)

FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
-----	-----	-----

RW

ADDCHK	ADD POSITION TO CHECK LIST
CHKARY	CHECK ARRAY
CHKFLD	CHECK FIELD
CHKFRM	CHECK FORM
CSTASH	CHARACTER STASH
FLANCI	FLAN CALLABLE INTERFACE
FLDTYP	FIELD TYPE
FNDATT	FIND ATTRIBUTE
GFLDPT	GET FIELD POINTER
MAKINT	MAKE EXPRESSION INTO AN INTEGER
MAKSTR	MAKE EXPRESSION INTO A STRING
MKPOS	MAKE POSITION NODE
MYALLOC	MY MALLOC
WRTEXP	WRITE EXPRESSION

STDIO

ADDCHK	ADD POSITION TO CHECK LIST
CHKARY	CHECK ARRAY
CHKFLD	CHECK FIELD
CHKFRM	CHECK FORM
CSTASH	CHARACTER STASH
EDTFLD	EDIT FIELD
FLANCI	FLAN CALLABLE INTERFACE
FLDTYP	FIELD TYPE
FNDATT	FIND ATTRIBUTE
GETFLS	GET FDL SOURCE FILE
GETFLS/TR	TREE EXPRESSION
GFLDPT	GET FIELD POINTER
GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
LISTIT	LIST IT
MAKINT	MAKE EXPRESSION INTO AN INTEGER
MAKSTR	MAKE EXPRESSION INTO A STRING
MKPOS	MAKE POSITION NODE
MYALLOC	MY MALLOC
PRCFIL	PROCESS TEMPORARY FILE
PREC	PRECEDENCE

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FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File -----	Module Name -----	Module Purpose -----
	SAVFLS	SAVE FDL SOURCE
	WRTEXP	WRITE EXPRESSION
	WRTFDL	WRITE FDL FILE
	WRTFDL/AR	ARRAY REFERENCE

STDYTP

ADDCHK	ADD POSITION TO CHECK LIST
ADDEXT	ADD EXTENSION TO FILE_NAME
CHKARY	CHECK ARRAY
CHKFLD	CHECK FIELD
CHKFRM	CHECK FORM
CHKPRM	CHECK PARAMETER
CPYFRM	COPY FORM
CSTASH	CHARACTER STASH
DRPFRM	DROP FORM
DRPWHL	DROP WHOLE
EDTFLD	EDIT FIELD
EDTMOD	EDIT MODE
EDTWHL	EDIT WHOLE
ERROR	ISSUE ERROR MESSAGE
EXPAND	EXPAND AN ARRAY
EXPAND/FI	FIX UP A FORM
FATAL	ISSUE FATAL ERROR MESSAGE
FDPE	FORMS DRIVEN FORM EDITOR
FDPE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)
FIFDST	FILL IN FIELD STRUCTURE
FLANCI	FLAN CALLABLE INTERFACE
FLDTYP	FIELD TYPE
FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
FLSTRC	FIELD STRUCTURE TRANSLATION
FLWHST	FILL WHOLE STRUCTURE
FNDATT	FIND ATTRIBUTE
FREBUF	FREE BUFFER
GETFLS	GET FDL SOURCE FILE
GETFLS/TR	TREE EXPRESSION
GETLEN	GET LENGTH

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FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File	Module Name	Module Purpose
	GFDINP	GET FIELD INPUT
	GFLDPT	GET FIELD POINTER
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GNXTFD	GET NEXT FIELD
	GNXTFD/NX	NEXT FIELD
	GTCPPD	GET USING CURSOR POSITION FIELD
	GTFDTX	GET FIELD TEXT
	GTFDTX/GT	GET TEXT INFORMATION
	GTNMF	GET NAMED FIELD
	GWHINP	GET WHOLE INPUT
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MAKINT	MAKE EXPRESSION INTO AN INTEGER
	MAKSTR	MAKE EXPRESSION INTO A STRING
	MKPOS	MAKE POSITION NODE
	MODFLD	MODIFY FIELD
	MODFRM	MODIFY FORM
	MODFRM/FR	FREE TEXT
	MODWHL	MODIFY WHOLE
	MYALLOC	MY MALLOC
	PRCFIL	PROCESS TEMPORARY FILE
	PREC	PRECEDENCE
	PRSCMD	PARSE COMMAND
	PUTERR	PUT ERROR
	SAVFLS	SAVE FDL SOURCE
	SCRMAN	SCREEN MANAGER
	SCRMAN/CH	CHANG POSITION
	SCRMAN/GE	GET ROW
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSCR/FL	FILL LOCATION STRUCTURE
	TRNSCR/FR	FREE LOCATION STRUCTURES
	TRNSCR/GT	GET FORM PROMPT INFORMATION
	TRNSCR/GT	GET PROMPT INFORMATION
	TRNSCR/LD	LOAD PROMPT INFORMATION
	TRNSCR/MT	MATCH PROMPT WITH FIELD
	TRNSCR/PA	PARSE SCREEN DATA

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FORMS DRIVEN FORM EDITOR Where-include-file-used List

Include File -----	Module Name -----	Module Purpose -----
	TRNSCR/SP	SPECIAL SYMBOL CHECK
	TRNSTR	TRANSLATE STRUCTURE TO SCREEN
	TRNSTR/FL	FILL FIELD
	TRNSTR/FL	FILL PROMPT
	TRNSTR/GA	GET ARRAY INFORMATION
	VALINP	VALIDATE INPUT
	VALINP/CC	CHECK FIELD
	VALINP/CC	CHECK FORM
	VALINP/CC	CHECK HELP
	VALINP/CC	CHECK ITEM
	VALINP/CC	CHECK NAME
	VALINP/CC	CHECK PROMPT
	VALINP/CC	CHECK FOR RESERVED WORD
	VALINP/CC	CHECK VALUE
	VIEW	VIEW A FORM
	WARNING	ISSUE WARNING MESSAGE
	WRTEXP	WRITE EXPRESSION
	WRTFDL	WRITE FDL FILE
	WRTFDL/AR	ARRAY REFERENCE

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3.10.6 Where External Routine Used List

The following lists each external function or routine listed in 3.10.3 and all the documented modules which call it. The purpose of each module is listed as well.

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
ABORT	VALINP	VALIDATE INPUT
ABS	CHKARY	CHECK ARRAY
	CHKFRM	CHECK FORM
	CHKFRM	CHECK FORM
	EXPAND	EXPAND AN ARRAY
	SCRMAN/CHGCHANG	POSITION
	TRNSTR/GARGET	ARRAY INFORMATION
	WRTFDL/ARYARRAY	REFERENCE
ACCESS	FDFE	FORMS DRIVEN FORM EDITOR
ADDFRM	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	FDFE	FORMS DRIVEN FORM EDITOR
	GWHINP	GET WHOLE INPUT
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	SCRMAN	SCREEN MANAGER
	VIEW	VIEW A FORM
ATOI	VALINP/CCKCHECK	FIELD
	VALINP/CCKCHECK	ITEM

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
BLN	CHKFLD	CHECK FIELD
	FLSTRC	FIELD STRUCTURE TRANSLATION
	GETFLS	GET FDL SOURCE FILE
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	WRTFDL	WRITE FDL FILE
CLSFRM	VIEW	VIEW A FORM
COPFLD	EXPAND	EXPAND AN ARRAY
	EXPAND/FIXFIX	EXPAND/FIXFIX UP A FORM
COPY	FDPE	FORMS DRIVEN FORM EDITOR
DELFLD	DRPFRM	DROP FORM
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EXPAND/FIXFIX	EXPAND/FIXFIX UP A FORM
	FLANCI	FLAN CALLABLE INTERFACE
	FREBUF	FREE BUFFER
	MODFLD	MODIFY FIELD
	SAVFLS	SAVE FDL SOURCE
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
-----	-----	-----

ESCPY

ADDEXT	ADD EXTENSION TO FILE_NAME
CHKPRM	CHECK PARAMETER
CPYFRM	COPY FORM
FIFDST	FILL IN FIELD STRUCTURE
GETFLS	GET FDL SOURCE FILE
GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
GTFDTX	GET FIELD TEXT
GTNMFD	GET NAMED FIELD
INSFLD	INSERT FIELD
INSFRM	INSERT FORM
MODFRM	MODIFY FORM
SAVFLS	SAVE FDL SOURCE
SCRMAN/GETGET	ROW
VALINP/CCKCHECK	FIELD
VALINP/CCKCHECK	FORM
VALINP/CCKCHECK	HELP
VALINP/CCKCHECK	ITEM
VALINP/CCKCHECK	FOR RESERVED WORD
WRTFDL	WRITE FDL FILE

FCLOSE

FDPE	FORMS DRIVEN FORM EDITOR
GETFLS	GET FDL SOURCE FILE
LISTIT	LIST IT
SAVFLS	SAVE FDL SOURCE

FEOF

LISTIT	LIST IT

FERROR

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
-----	-----	-----
	PRCFIL	PROCESS TEMPORARY FILE
FGETS	PRCFIL	PROCESS TEMPORARY FILE
FOPEN	FDFE	FORMS DRIVEN FORM EDITOR
	GETFLS	GET FDL SOURCE FILE
	LISTIT	LIST IT
	SAVFLS	SAVE FDL SOURCE
FPRINTF	WRTFDL	WRITE FDL FILE
FREE	CHKFLD	CHECK FIELD
	CHKFRM	CHECK FORM
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GTFTDX	GET FIELD TEXT
	MODFLD	MODIFY FIELD
	MODFRM/FREFREE	TEXT
	TRNSCR/FRLFREE	LOCATION STRUCTURES
	WRTEXP	WRITE EXPRESSION
GATDEF	FIFDST	FILL IN FIELD STRUCTURE
	INSFLD	INSERT FIELD
	INSFRM	INSERT FORM

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
GDATA		
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	FDFE	FORMS DRIVEN FORM EDITOR
	GFDINP	GET FIELD INPUT
	GWHINP	GET WHOLE INPUT
	SCRMAN	SCREEN MANAGER
GETCUR		
	SCRMAN	SCREEN MANAGER
	SCRMAN/CHGCHANG	POSITION
GWINDO		
	VIEW	VIEW A FORM
INITAL		
	FDFE/MAIN MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)	
INITFP		
	FDFE/MAIN MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)	
ISALPHA		
	VALINP/CCKCHECK FIELD	

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
-----	-----	-----

VALINP/CCKCHECK HELP

ISSPACE

TRNSCR TRANSLATE SCREEN TO STRUCTURE
TRNSCR/GTPGET PROMPT INFORMATION
TRNSCR/PARPARSE SCREEN DATA

MAKFLD

INSFLD INSERT FIELD
INSFRM INSERT FORM

MALLOC

GETFLS GET FDL SOURCE FILE
GITMD GET ITEM DATA AND INSERT IN STRUCTURE
GTFDTX GET FIELD TEXT
MODFRM MODIFY FORM
MYALLOC MY MALLOC
TRNSCR/FLCFILL LOCATION STRUCTURE
TRNSCR/GTPGET PROMPT INFORMATION

MATOI

GITMD GET ITEM DATA AND INSERT IN STRUCTURE
GTFDTX/GTXGET TEXT INFORMATION
INSFLD INSERT FIELD
MODFLD MODIFY FIELD
MODFRM MODIFY FORM
SCRMAN/GETGET ROW
VALINP/CCKCHECK FIELD

MAX

FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
	CHKFLD	CHECK FIELD
	CHKFRM	CHECK FORM
	GETFLS	GET FDL SOURCE FILE
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	INSFLD	INSERT FIELD
	SCRMAN/CHGCHANG	POSITION
	TRNSCR/GTPGET	PROMPT INFORMATION
	TRNSCR/MTCMATCH	PROMPT WITH FIELD
	TRNSTR/FLFFILL	FIELD

MEMCMP

	CHKPRM	CHECK PARAMETER
	CPYFRM	COPY FORM
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	FDFE	FORMS DRIVEN FORM EDITOR
	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
	GFDINP	GET FIELD INPUT
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	GNXTFD	GET NEXT FIELD
	GWHINP	GET WHOLE INPUT
	INSWHL	INSERT WHOLE
	LAYOUT	LAYOUT MODE
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MODWHL	MODIFY WHOLE
	PRSCMD	PARSE COMMAND
	PUTERR	PUT ERROR
	SCRMAN	SCREEN MANAGER
	SCRMAN/CHGCHANG	POSITION
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	VALINP	VALIDATE INPUT
	VALINP/CCKCHECK	FIELD
	VALINP/CCKCHECK	FORM
	VALINP/CCKCHECK	HELP

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
-----	-----	-----
	VALINP/CCKCHECK	ITEM
	VALINP/CCKCHECK	NAME
	VALINP/CCKCHECK	PROMPT
	VIEW	VIEW A FORM

MEMCPY

CHKFLD	CHECK FIELD
CPYFRM	COPY FORM
EDTFLD	EDIT FIELD
EDTWHL	EDIT WHOLE
FD FE	FORMS DRIVEN FORM EDITOR
FLSTRC	FIELD STRUCTURE TRANSLATION
GETFLS	GET FDL SOURCE FILE
GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
GWHINP	GET WHOLE INPUT
LISTFM	LIST FORMS
TRNSCR	TRANSLATE SCREEN TO STRUCTURE
TRNSCR/LD	PLOAD PROMPT INFORMATION
WRTEXP	WRITE EXPRESSION

MEMDGT

GITMD	GET ITEM DATA AND INSERT IN STRUCTURE

MEMSET

CHKFLD	CHECK FIELD
DRPWHL	DROP WHOLE
EDTFLD	EDIT FIELD
EDTMOD	EDIT MODE
EDTWHL	EDIT WHOLE
FD FE	FORMS DRIVEN FORM EDITOR
FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
FLSTRC	FIELD STRUCTURE TRANSLATION
FLWHST	FILL WHOLE STRUCTURE
GETFLS	GET FDL SOURCE FILE

FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE
	LISTFM	LIST FORMS
	MODFLD	MODIFY FIELD
	PRCFIL	PROCESS TEMPORARY FILE
	PRSCMD	PARSE COMMAND
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSTR	TRANSLATE STRUCTURE TO SCREEN

MIN

GITMD GET ITEM DATA AND INSERT IN STRUCTURE
SCRMAN/CHGCHANG POSITION
TRNSCR/GTPGET PROMPT INFORMATION
TRNSCR/PARPARSE SCREEN DATA
TRNSTR/FLFFILL FIELD
TRNSTR/FLPFILL PROMPT
VALINP/CCKCHECK FIELD
VALINP/CCKCHECK FORM

MITOA

TRNSCR TRANSLATE SCREEN TO STRUCTURE
TRNSCR/GTFGET FORM PROMPT INFORMATION
TRNSCR/LDPLOAD PROMPT INFORMATION

MKTEMP

LISTIT LIST IT

OISCR

DRPWHL DROP WHOLE
EDTFLD EDIT FIELD
EDTMOD EDIT MODE
EDTWHL EDIT WHOLE
FD FE FORMS DRIVEN FORM EDITOR

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
	GFDINP	GET FIELD INPUT
	GWHINP	GET WHOLE INPUT
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	SCRMAN	SCREEN MANAGER
	VIEW	VIEW A FORM
 PDATA		
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	GFDINP	GET FIELD INPUT
	GWHINP	GET WHOLE INPUT
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	SCRMAN	SCREEN MANAGER
 PMSGLC		
	EDTFLD	EDIT FIELD
	EDTWHL	EDIT WHOLE
	PUTERR	PUT ERROR
	SCRMAN	SCREEN MANAGER
 PMSGLS		
	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	ERROR	ISSUE ERROR MESSAGE
	FATAL	ISSUE FATAL ERROR MESSAGE
	FD FE	FORMS DRIVEN FORM EDITOR
	INSFLD	INSERT FIELD
	INSWHL	INSERT WHOLE

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
-----	-----	-----
	LISTFM	LIST FORMS
	LISTIT	LIST IT
	MODFLD	MODIFY FIELD
	MODWHL	MODIFY WHOLE
	PUTERR	PUT ERROR
	SCRMAN	SCREEN MANAGER
	SCRMAN/CHGCHANG	POSITION
	TRNSTR/FLFFILL	FIELD
	VIEW	VIEW A FORM
	WARNING	ISSUE WARNING MESSAGE
PUTATT	DRPWHL	DROP WHOLE
	EDTFLD	EDIT FIELD
	EDTMOD	EDIT MODE
	EDTWHL	EDIT WHOLE
	FDPE	FORMS DRIVEN FORM EDITOR
	GWHINP	GET WHOLE INPUT
	PUTERR	PUT ERROR
PUTCUR	EDTFLD	EDIT FIELD
	GWHINP	GET WHOLE INPUT
	PUTERR	PUT ERROR
RENAME	FDPE	FORMS DRIVEN FORM EDITOR
	SAVFLS	SAVE FDL SOURCE
REWIND	SAVFLS	SAVE FDL SOURCE

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
-----	-----	-----

RMVPAG

DRPWHL	DROP WHOLE
EDTFLD	EDIT FIELD
EDTMOD	EDIT MODE
EDTWHL	EDIT WHOLE
FDFE	FORMS DRIVEN FORM EDITOR
GWHINP	GET WHOLE INPUT
LISTFM	LIST FORMS
LISTIT	LIST IT
SCRMAN	SCREEN MANAGER
VIEW	VIEW A FORM

RSVATT

EXPAND	EXPAND AN ARRAY
EXPAND/FIXFIX	UP A FORM

SPRINTF

ADDEXT	ADD EXTENSION TO FILE_NAME
DRPWHL	DROP WHOLE
EDTFLD	EDIT FIELD
EDTWHL	EDIT WHOLE
ERROR	ISSUE ERROR MESSAGE
FATAL	ISSUE FATAL ERROR MESSAGE
FDFE	FORMS DRIVEN FORM EDITOR
FLFMST	FIELD TO FORM STRUCTURE TRANSLATION
FLSTRC	FIELD STRUCTURE TRANSLATION
GETFLS	GET FDL SOURCE FILE
GETFLS/TRE	TREE EXPRESSION
GFDINP	GET FIELD INPUT
GWHINP	GET WHOLE INPUT
INSWHL	INSERT WHOLE
LISTIT	LIST IT
MODWHL	MODIFY WHOLE

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
	PRCFIL	PROCESS TEMPORARY FILE
	SAVFLS	SAVE FDL SOURCE
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	TRNSTR/FLFFILL	FIELD
	VALINP	VALIDATE INPUT
	VALINP/CCKCHECK	FIELD
	VALINP/CCKCHECK	FORM
	VALINP/CCKCHECK	NAME
	WARNING	ISSUE WARNING MESSAGE
	WRTEXP	WRITE EXPRESSION
	WRTFDL/ARYARRAY	REFERENCE

STRASN

CHKARY	CHECK ARRAY
CHKFRM	CHECK FORM

STRCAT

ADDEXT	ADD EXTENSION TO FILE_NAME
GETFLS	GET FDL SOURCE FILE
GETFLS/TRETREE	EXPRESSION
LISTIT	LIST IT
PUTERR	PUT ERROR
SAVFLS	SAVE FDL SOURCE
WRTFDL/ARYARRAY	REFERENCE

STRCHR

PRCFIL	PROCESS TEMPORARY FILE
VALINP/CCKCHECK	FIELD
VALINP/CCKCHECK	FORM
VALINP/CCKCHECK	HELP
VALINP/CCKCHECK	ITEM

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
-----	-----	-----
STRCMP	EXPAND/FIXFIX UP A FORM	
	FNDATT	FIND ATTRIBUTE
	GFLDPT	GET FIELD POINTER
	GTNMFD	GET NAMED FIELD
	VALINP/CCKCHECK FIELD	
	VALINP/CCKCHECK HELP	
	VALINP/CCKCHECK FOR RESERVED WORD	
	WRTFDL	WRITE FDL FILE
STRCPY	CSTASH	CHARACTER STASH
	FLSTRC	FIELD STRUCTURE TRANSLATION
	LISTIT	LIST IT
	PUTERR	PUT ERROR
	SAVFLS	SAVE FDL SOURCE
STRLEN	CHKFLD	CHECK FIELD
	CHKFRM	CHECK FORM
	CSTASH	CHARACTER STASH
	EDTFLD	EDIT FIELD
	EDTWHL	EDIT WHOLE
	ERROR	ISSUE ERROR MESSAGE
	FATAL	ISSUE FATAL ERROR MESSAGE
	FDFE	FORMS DRIVEN FORM EDITOR
	GETFLS	GET FDL SOURCE FILE
	GTNMFD	GET NAMED FIELD
	LISTFM	LIST FORMS
	PRSCMD	PARSE COMMAND
	SCRMAN/GETGET ROW	
	TRNSCR	TRANSLATE SCREEN TO STRUCTURE
	VALINP/CCKCHECK FIELD	
	VALINP/CCKCHECK HELP	
	WARNING	ISSUE WARNING MESSAGE
	WRTEXP	WRITE EXPRESSION

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
STRNCMP	CPYFRM	COPY FORM
	PRSCMD	PARSE COMMAND
	VALINP/CCKCHECK	HELP
	WRTFDL	WRITE FDL FILE
STRNCPY	PRSCMD	PARSE COMMAND
STRRCHR	ADDEXT	ADD EXTENSION TO FILE_NAME
	GETFLS	GET FDL SOURCE FILE
	PRCFIL	PROCESS TEMPORARY FILE
	SAVFLS	SAVE FDL SOURCE
	SCRMAN/GETGET	ROW
STRSPN	VALINP/CCKCHECK	FIELD
	VALINP/CCKCHECK	HELP
STRUPC	VALINP/CCKCHECK	HELP
SYSMSG	CHKFLD	CHECK FIELD
	GETFLS	GET FDL SOURCE FILE
	GITMD	GET ITEM DATA AND INSERT IN STRUCTURE

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module	Module Name	Module Purpose
-----	-----	-----
	GTFDTX	GET FIELD TEXT
	LISTIT	LIST IT
	MODFRM	MODIFY FORM
	SAVFLS	SAVE FDL SOURCE
	VIEW	VIEW A FORM
SYSTEM	LISTIT	LIST IT
TERMFP	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
TRMNAT	FDFE/MAIN	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
UNLINK	FDFE LISTIT	FORMS DRIVEN FORM EDITOR LIST IT
WRTFRM	SAVFLS	SAVE FDL SOURCE
YYPARSE	FLANCI	FLAN CALLABLE INTERFACE

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FORMS DRIVEN FORM EDITOR Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----

3.10.7 Main Program Parts List

The following lists each Main Program listed in 3.10.1 and all the modules which are called either by that module itself or by any of the documented modules which it calls. It is possible for a non-main module to be listed more than once if it is called by multiple modules. The called modules, in this case known as program parts, are marked as to whether they are documented here. If so, the phrase "well-defined module" appears by the module name, if not it is an "external routine". The Purpose of the Main Program module is listed as well.

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FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
CHKFLD	Purpose-->	CHECK FIELD
	BLEN	External routine
	ERROR	Well-defined module
	FATAL	Well-defined module
	FNDATT	Well-defined module
	FREE	External routine
	MALLOC	External routine
	MAX	External routine
	MEMCPY	External routine
	MEMSET	External routine
	MYALLOC	Well-defined module
	PMSGLS	External routine
	SPRINTF	External routine
	STRCMP	External routine
	STRLEN	External routine
	SYSMSG	External routine
	WRTEXP	Well-defined module

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FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
FDFE/MAIN	Purpose--	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
	ABORT	External routine
	ABS	External routine
	ACCESS	External routine
	ADDEXT	Well-defined module
	ADDFRM	External routine
	ATOI	External routine
	BLN	External routine
	CHKPRM	Well-defined module
	CLSFRM	External routine
	COPY	External routine
	CPYFRM	Well-defined module
	DELFLD	External routine
	DRPFRM	Well-defined module
	DRPWHL	Well-defined module
	EDTFLD	Well-defined module
	EDTMOD	Well-defined module
	EDTWHL	Well-defined module
	ESCPY	External routine
	FCLOSE	External routine
	FDFE	Well-defined module
	FEOF	External routine
	FERROR	External routine
	FGETS	External routine
	FIFDST	Well-defined module
	FLANCI	Well-defined module
	FLFMST	Well-defined module
	FLSTRC	Well-defined module
	FLWHST	Well-defined module
	FNDATT	Well-defined module
	FOPEN	External routine
	FPRINTF	External routine
	FREBUF	Well-defined module
	FREE	External routine
	GATDEF	External routine
	GDATA	External routine
	GETCUR	External routine
	GETFLS	Well-defined module
	GETFLS/TREEXP	Well-defined module

FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
	GETLEN	Well-defined module
	GFDINP	Well-defined module
	GITMD	Well-defined module
	GNXTFD	Well-defined module
	GNXTFD/NXTFLD	Well-defined module
	GTCPPFD	Well-defined module
	GTFDTX	Well-defined module
	GTFDTX/GTXINF	Well-defined module
	GTNMFD	Well-defined module
	GWHINP	Well-defined module
	GWINDO	External routine
	INITAL	External routine
	INITFP	External routine
	INSFLD	Well-defined module
	INSFRM	Well-defined module
	INSWHL	Well-defined module
	ISALPHA	External routine
	ISSPACE	External routine
	LAYOUT	Well-defined module
	LISTFM	Well-defined module
	LISTIT	Well-defined module
	MAKFLD	External routine
	MALLOC	External routine
	MATOI	External routine
	MAX	External routine
	MEMCMP	External routine
	MEMCPY	External routine
	MEMDGT	External routine
	MEMSET	External routine
	MIN	External routine
	MITOA	External routine
	MKTEMP	External routine
	MODFLD	Well-defined module
	MODFRM	Well-defined module
	MODFRM/FRETXT	Well-defined module
	MODWHL	Well-defined module
	OISCR	External routine
	PDATA	External routine
	PMSGLC	External routine
	PMSGLS	External routine

FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name	Module Name	Module Type
FDFE/MAIN	Purpose--	MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)
	ABORT	External routine
	ABS	External routine
	ACCESS	External routine
	ADDEXT	Well-defined module
	ADDFRM	External routine
	ATOI	External routine
	BLN	External routine
	CHKPRM	Well-defined module
	CLSFRM	External routine
	COPY	External routine
	CPYFRM	Well-defined module
	DELFLD	External routine
	DRPFRM	Well-defined module
	DRPWHL	Well-defined module
	EDTFLD	Well-defined module
	EDTMOD	Well-defined module
	EDTWHL	Well-defined module
	ESCPY	External routine
	FCLOSE	External routine
	FDFE	Well-defined module
	FEOF	External routine
	FERROR	External routine
	FGETS	External routine
	FIFDST	Well-defined module
	FLANCI	Well-defined module
	FLFMST	Well-defined module
	FLSTRC	Well-defined module
	FLWHST	Well-defined module
	FNDATT	Well-defined module
	FOPEN	External routine
	FPRINTF	External routine
	FREBUF	Well-defined module
	FREE	External routine
	GATDEF	External routine
	GDATA	External routine
	GETCUR	External routine
	GETFLS	Well-defined module
	GETFLS/TREEXP	Well-defined module

FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
	GETLEN	Well-defined module
	GFDINP	Well-defined module
	GITMD	Well-defined module
	GNXTFD	Well-defined module
	GNXTFD/NXTFLD	Well-defined module
	GTCPPD	Well-defined module
	GTFDTX	Well-defined module
	GTFDTX/GTXINF	Well-defined module
	GTNMFD	Well-defined module
	GWHINP	Well-defined module
	GWINDO	External routine
	INITAL	External routine
	INITFP	External routine
	INSFLD	Well-defined module
	INSFRM	Well-defined module
	INSWHL	Well-defined module
	ISALPHA	External routine
	ISSPACE	External routine
	LAYOUT	Well-defined module
	LISTFM	Well-defined module
	LISTIT	Well-defined module
	MAKFLD	External routine
	MALLOC	External routine
	MATOI	External routine
	MAX	External routine
	MEMCMP	External routine
	MEMCPY	External routine
	MEMDGT	External routine
	MEMSET	External routine
	MIN	External routine
	MITOA	External routine
	MKTEMP	External routine
	MODFLD	Well-defined module
	MODFRM	Well-defined module
	MODFRM/FRETXT	Well-defined module
	MODWHL	Well-defined module
	OISCR	External routine
	PDATA	External routine
	PMSGLC	External routine
	PMSGLS	External routine

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FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
	PRCFIL	Well-defined module
	PREC	Well-defined module
	PRSCMD	Well-defined module
	PUTATT	External routine
	PUTCUR	External routine
	PUTERR	Well-defined module
	RENAME	External routine
	REWIND	External routine
	RMVPAG	External routine
	SAVFLS	Well-defined module
	SCRMAN	Well-defined module
	SCRMAN/CHGPOS	Well-defined module
	SCRMAN/GETROW	Well-defined module
	SPRINTF	External routine
	STRCAT	External routine
	STRCHR	External routine
	STRCMP	External routine
	STRCPY	External routine
	STRLEN	External routine
	STRNCMP	External routine
	STRNCPY	External routine
	STRRCHR	External routine
	STRSPN	External routine
	STRUPC	External routine
	SYMSG	External routine
	SYSTEM	External routine
	TERMFP	External routine
	TRMNAT	External routine
	TRNSCR	Well-defined module
	TRNSCR/FLCST	Well-defined module
	TRNSCR/FRLCST	Well-defined module
	TRNSCR/GTFMPMT	Well-defined module
	TRNSCR/GTPINF	Well-defined module
	TRNSCR/LDPMINF	Well-defined module
	TRNSCR/MTCHPMT	Well-defined module
	TRNSCR/PARSCRN	Well-defined module
	TRNSCR/SPSYMB	Well-defined module
	TRNSTR	Well-defined module
	TRNSTR/FLFLD	Well-defined module
	TRNSTR/FLPRMPT	Well-defined module

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FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
	TRNSTR/GARINF	Well-defined module
	UNLINK	External routine
	VALINP	Well-defined module
	VALINP/CCKFLD	Well-defined module
	VALINP/CCKFRM	Well-defined module
	VALINP/CCKHLP	Well-defined module
	VALINP/CCKITM	Well-defined module
	VALINP/CCKNAM	Well-defined module
	VALINP/CCKPRM	Well-defined module
	VALINP/CCKRSV	Well-defined module
	VIEW	Well-defined module
	WRTFDL	Well-defined module
	WRTFDL/ARYREF	Well-defined module
	WRTFRM	External routine
	YYPARSE	External routine

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FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
MAKINT		Purpose--> MAKE EXPRESSION INTO AN INTEGER
	FATAL	Well-defined module
	MALLOC	External routine
	MYALLOC	Well-defined module
	PMSGLS	External routine
	SPRINTF	External routine
	STRLEN	External routine

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FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
MAKSTR		Purpose--> MAKE EXPRESSION INTO A STRING
	FATAL	Well-defined module
	MALLOC	External routine
	MYALLOC	Well-defined module
	PMSGLS	External routine
	SPRINTF	External routine
	STRLEN	External routine

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FORMS DRIVEN FORM EDITOR Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
MKPOS		Purpose--> MAKE POSITION NODE
	FATAL	Well-defined module
	MALLOC	External routine
	MYALLOC	Well-defined module
	PMSGLS	External routine
	SPRINTF	External routine
	STRLEN	External routine

3.10.8 Module Documentation

The following documentation describes information which is specific to each individual module being documented in this specification as listed in section 3.10.2. It provides a compact way of getting information that would be otherwise buried within each module's source code.

The specific items in this module documentation have the following meanings:

NAME:	Name of program Module.
PURPOSE:	Purpose of Module as detailed in the source code.
LANGUAGE:	Programming language source code is written in. The choices are: VAX-11 FORTRAN C (I/S-1 Workbench 'C') VAX-11 COBOL
MODULE TYPE:	Whether a Program, Subroutine, or Function.
SOURCE FILE:	Name of Source File from file specification.
SOURCE FILE TYPE:	Source File Extension from file specification.
HOST:	Whether this is a host-dependent routine (VAX or IBM) or blank if host-independent.
SUBSYSTEM:	IISS sub-system this file resides in.
SUBDIRECTORY:	Sub-directory of that subsystem in which this file resides.
DOCUMENTATION GROUP:	Name of documentation group of which this source file is a member.
DESCRIPTION:	A description of the module as obtained

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from the source code.

ARGUMENTS: The arguments with which this routine is called if it is a Subroutine or a Function.

INCLUDE FILES: A list of all the files that are included into this module as well as their purposes.

ROUTINES CALLED: Subroutines or Functions, either documented or external, called by this module, if any.

CALLED DIRECTLY BY: The documented routines which call this module, if any.

USED IN MAIN PROGRAM(S): The documented Main Programs which contain this module in their parts list according to the list in section 3.10.7.

The Module Documentation is arranged alphabetically according to Module Name.

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: ADDCHK
PURPOSE: ADD POSITION TO CHECK LIST
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

SYNOPSIS

```
VOID ADDCHK(POSPTR)
  POS *POSPTR;
```

DESCRIPTION

ADDS THE SPECIFIED POSITION TO THE OVERLAP CHECK LIST

ARGUMENTS:

POSPTR = POS *

INCLUDE FILES:

```
STD TYP      - STANDARD TYPE DEFINITIONS
STD IO       - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD          - FORM PROCESSOR DATA
RW           - REPORT WRITER DEFINITIONS
FPCODE      - FORM PROCESSOR RETURN CODES
```

ROUTINES CALLED:

```
FLD TYP      - FIELD TYPE
ERROR        - ISSUE ERROR MESSAGE
```

CALLED DIRECTLY BY:

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CHKFRM - CHECK FORM

USED IN MAIN PROGRAM(S):

CHKFRM - CHECK FORM

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: ADDEXT
PURPOSE: ADD EXTENSION TO FILE_NAME
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: ADDEXT
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
VOID ADDEXT(NAME, FLG, FILE_NAME)
    ENAME  NAME;
    INT    FLG;
    CHAR   FILE_NAME[];
```

INPUTS/OUTPUTS:

INPUTS:

ENAME NAME; NAME OF FILE WITHOUT EXTENSION.
INT FLG; TYPE OF EXTENSION AND DIRECTORY TO ADD.

OUTPUTS:

CHAR FILE_NAME[] NEW NAME WITH EXTENSION ADDED.

DESCRIPTION

CONCATENATES THE SPECIFIED EXTENSION ONTO THE NAME AND
RETURNS

IT IN FILE_NAME.

ARGUMENTS:

NAME = CHAR []
FLG = INT

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FILE_NAME = CHAR []

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

ESCPY
STRCHR
STRCAT
SPRINTF

CALLED DIRECTLY BY:

FDFF - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

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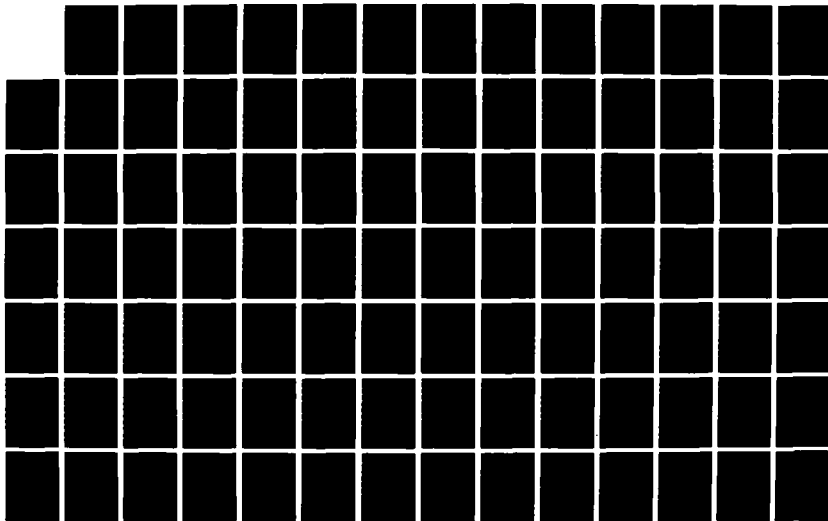
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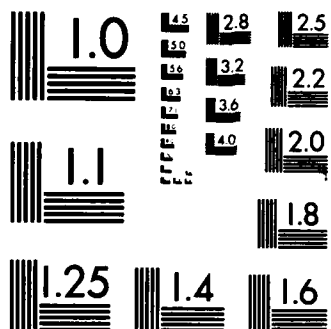
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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: CHKARY
PURPOSE: CHECK ARRAY
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * ()
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

----- SYNOPSIS

VOID CHKARY(ARYPTR)
FIELD *ARYPTR;

DESCRIPTION

GENERATES POSITIONS FOR EACH ELEMENT OF AN ARRAY FOR
OVERLAP CHECKING

ARGUMENTS:

ARYPTR = FIELD *

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

MYALLOC - MY MALLOC
ABS
STRASN

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CALLED DIRECTLY BY:

CHKFRM - CHECK FORM

USED IN MAIN PROGRAM(S):

CHKFRM - CHECK FORM

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: CHKFLD
PURPOSE: CHECK FIELD
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

SYNOPSIS
VOID CHKFLD()

DESCRIPTION
CHECKS THE CURRENT FIELD FOR COMPLETENESS AND CONSISTENCY

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

FNDATT - FIND ATTRIBUTE
ERROR - ISSUE ERROR MESSAGE
MEMSET
MAX
FREE
WRTEXP - WRITE EXPRESSION
BLEN
MEMCPY
SYSMSG
MYALLOC - MY MALLOC
STRLEN

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FORMS, DRIVEN FORM EDITOR Module Documentation

NAME: CHKFRM
PURPOSE: CHECK FORM
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

----- SYNOPSIS

VOID CHKFRM()

DESCRIPTION

CHECKS THE CURRENT FORM FOR COMPLETENESS AND CONSISTENCY

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

WARNING - ISSUE WARNING MESSAGE
ADDCHK - ADD POSITION TO CHECK LIST
CHKARY - CHECK ARRAY
ABS
STRLEN
FREE
FLDYTP - FIELD TYPE
ERROR - ISSUE ERROR MESSAGE
GFLDPT - GET FIELD POINTER
ABS
MAX

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STRASN
FNDATT - FIND ATTRIBUTE

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: CHKPRM
PURPOSE: CHECK PARAMETER
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: CHKPRM
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
BOOL CHKPRM(PARAMTR,PARSIZ,RTPARM)
  CHAR PARAMTR[];
  INT PARSIZ;
  CHAR RTPARM[];
```

INPUTS/OUTPUTS:

INPUTS:

PARAMTR - CHAR STING (NON NULL TERMINATED) CONTAINING
THE PARAMETER
BEING CHECKED FOR NOT BEING ENTERED.
PARSIZE - LENGTH OF CHARACTER STRING CONTAINING
PARAMETER

OUTPUTS:

RTPARM - NULL TERMINATED STRING CONTAINING PARAMETER
RETURNS A BOOL FALSE IF PARAMETER IS A BLANK

DESCRIPTION

CHECKS TO MAKE SURE THAT PARAMETER HAS BEEN ENTERED BY
USER AND COPYS
IT INTO A NULL TERMINATED STRING PROVIDED BY CALLER

ARGUMENTS:

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PARAMTR - CHAR []
PARSIZ - INT
RTPARM - CHAR []

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

MEMCMP
ESCPY

CALLED DIRECTLY BY:

EDTMOD - EDIT MODE
FDFF - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: CPYFRM
PURPOSE: COPY FORM
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: CPYFRM
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *CPYFRM(COPFLS,COPFRM)
    ENAME COPFLS;
    ENAME COPFRM;
```

INPUTS/OUTPUTS:

INPUTS:

COPFLS - NON NULL TERMINATED STRING CONTAINING THE NAME
 OF FLS FILE
 FROM WHICH USER WISHES TO COPY FORM.
COPFLS - NON NULL TERMINATED STRING CONTAINING THE NAME
 OF THE FORM.

OUTPUTS:

THIS ROUTINE FILLS (AND IS THE ONLY ROUTINE WHICH
WRITES TO THESE

VARIABLES) SEVERAL GLOBAL VARIABLES:

ALTBUF - BEINING OF LINK LIST CONTAINING ALL FORMS
 ETC. OF FLS.

ALTFRM - POINTER TO FORM WHICH THE USER WHISH TO
 COPY INTO THE
 SCREEN DATA AREA.

COPYFLS - NAME OF FLS JUST COPIED - USED TO SAVE ON
 CALLS TO
 GETFLS.

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COPYFRM - NAME OF FORM JUST COPIED - USED TO SAVE ON
CALLS TO
GTNMFD.

DESCRIPTION

THIS ROUTINE IS USED TO COPY AN FLS FILE INTO AN
ALTERNATE INTERNAL
DATA STRUCTURE AND GETS THE POINTER TO THE FORM
INTERESTED IN. IS
USED BY WHLEDT AND FLDEDT TO RETRIEVE DATA
CONCERNING A FIELD(S)
ON A FORM NOT NOW BEING WORKED ON IN AN FLS THAT IS
NOT BEING WORKED
ON, FOR POSSIBLE INSERTION BY THE USER.

ARGUMENTS:

COPFLS = ENAME
COPFRM = ENAME

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMCMP
STRNCMP
ESCPY
GETFLS - GET FDL SOURCE FILE
GTNMFD - GET NAMED FIELD
MEMCPY

CALLED DIRECTLY BY:

EDTFLD - EDIT FIELD
EDTWHL - EDIT WHOLE

USED IN MAIN PROGRAM(S):

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FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: CSTASH
PURPOSE: CHARACTER STASH
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

SYNOPSIS

CHAR *CSTASH(S)
CHAR *S;

DESCRIPTION

SAVES THE SPECIFIED CHARACTER STRING AND RETURNS A
POINTER TO IT

ARGUMENTS:

S = CHAR *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

STRCPY
STRLEN
MYALLOC - MY MALLOC

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: DRPFRM
PURPOSE: DROP FORM
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * ()
SOURCE FILE: DRPFRM
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *DRPFRM(FRMNAM)  
ENAME FRMNAM;
```

INPUTS/OUTPUTS:

INPUTS:

FRMNAM - NON NULL TERMINATED STRING CONTAINING THE NAME
OF FORM TO
BE DELETED.

OUTPUTS:

RETURNS A NULL IF FOUND THE FORM AND DELETED IT AND
RETURNS ERROR
CODE IF COULD NOT FIND FORM TO DELETE.

DESCRIPTION

DELETES A FORM NAMED BY USER FROM INTERNAL DATA
STRUCTURE - CALLS
DELFLD TO DO ACTUAL WORK OF DELETING.

ARGUMENTS:

FRMNAM = ENAME

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INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDPEFh - FDPE FORM DEFINITIONS
FDPE - FDPE DATA STRUCTURES

ROUTINES CALLED:

GTNMFD - GET NAMED FIELD
DELFLD

CALLED DIRECTLY BY:

EDTMOD - EDIT MODE

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: DRPWHL
PURPOSE: DROP WHOLE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: DRPWHL
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *DRPWHL(FRMPNT, PFKEY)
FIELD *FRMPNT;
INT *PFKEY;

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM FROM WHICH FIELDS MARKED WILL
BE DROPPED

OUTPUTS:

PFKEY - RETURNS TO CALL THE PFKEY RECEIVED FROM OISCR.

DESCRIPTION

DROPS ALL FEILDS MARKED BY USER

ARGUMENTS:

FRMPNT = FIELD *
PFKEY = INT *

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS

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FPCODE	- FORM PROCESSOR RETURN CODES
FPPARM	- FORM PROCESSOR PARAMETERS
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

ADDFRM	
MEMCMP	
DELFLD	
GDATA	
PMSGLS	
RMVPAG	
OISCR	
MEMSET	
FLSTRC	- FIELD STRUCTURE TRANSLATION
SPRINTF	
PDATA	
PUTATT	

CALLED DIRECTLY BY:

EDTWHL	- EDIT WHOLE

USED IN MAIN PROGRAM(S):

FDFE/MAIN	- MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: EDTFLD
PURPOSE: EDIT FIELD
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: EDTFLD
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *EDTFLD(FRMPNT, RDONLY, MODE, ROW, COL)

FIELD	*FRMPNT;
BOOL	RDONLY;
BOOL	MODE;
INT	ROW;
INT	COL;

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM WORKING ON
RDONLY - FLAG INDICATING WHETHER READ ONLY IS ALLOWED
OR NOT
MODE - FLAG INDICATING WHICH MODE NOW IN(LAYOUT OR
EDIT FIELD)
ROW - CURSOR POSITION COMING FROM LAYOUT (WILL BOTH
BE 0 IF
COL IN FIELD EDIT MODE.

OUTPUTS:

IN EDIT FIELD MODE:
RETURNS A NULL IF QUITTING
RETURNS AN ERROR CODE IF ABNORMALLY TERMINATED
IN LAYOUT MODE:
RETURNS A NULL IF GOING TO LAYOUT AGAIN

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RETURNS A EXITFDFE IF QUITTING
RETURNS AN ERROR CODE IF ABNORMALLY TERMINATED

DESCRIPTION

THIS IS THE DRIVER MODULE FOR FIELD EDIT MODE AND THE
DETAILED EDIT
MODE FOR LAYOUT. IT ALLOWS USER TO INSERT, MODIFY AND
DELETE FIELDS
ONE AT A TIME AS WELL AS MODIFYING FORM INFORMATION
(PROMPT AND
BACKGROUND INFORMATION) AND TO COPY FIELD DATA FROM
ANOTHER FORM IN
ANOTHER FLS FILE INTO SCREEN DATA AREA.

ARGUMENTS:

FRMPNT - FIELD
RONLY - BOOL
MODE - BOOL
ROW - INT
COL - INT

INCLUDE FILES:

STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
STDYTP - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

ADDFRM
MEMCMP
RMVPAG
GDATA
PMSGLS
VALINP - VALIDATE INPUT
PMSGLC
CPYFRM - COPY FORM
GNXTFD - GET NEXT FIELD
GFDINP - GET FIELD INPUT
MODFLD - MODIFY FIELD

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INSFLD	- INSERT FIELD
MODFRM	- MODIFY FORM
PUTCUR	
OISCR	
PUTATT	
SPRINTF	
MEMSET	
MEMCPY	
STRLEN	
FLSTRC	- FIELD STRUCTURE TRANSLATION
DELFLD	
PDATA	
GTCPPD	- GET USING CURSOR POSITION FIELD
FLFMST	- FIELD TO FORM STRUCTURE TRANSLATION

CALLED DIRECTLY BY:

EDTHOD - EDIT MODE
LAYOUT - LAYOUT MODE

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: EDTHMOD
PURPOSE: EDIT MODE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: EDTHMOD
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *EDTHMOD(NEWOLD, EDTFLAG)  
    BOOL  NEWOLD;  
    INT   EDTFLAG;
```

INPUTS/OUTPUTS:

INPUTS:

NEWOLD - FLAG INDICATING WHETHER FORM IS NEW OR AN OLD
FORM
EDTFLAG - FLAG INDICATING TYPE OF EDITING CHANGE/SELECT

OUTPUTS:

RETURNS NULL IF QUIT KEY PRESSED
RETURNS EXITFDFE IF EXIT OPTION CHOSE.
RETURNS ERROR CODE IF ABNOMALLY TERMINATED

DESCRIPTION

MAIN DRIVER MODULE FOR EDIT MODE. IN ADDITION TO
ALLOWING
USER TO CHOOSE EDIT MODE(WHOLE, FIELD, LAYOUT). USER CAN
VIEW
FORM. GET LIST OF FORMS IN FLS AND SAVE (AND COMPILE)
SOURCE

ARGUMENTS:

NEWOLD - BOOL
EDTFLAG - INT

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

ADDFRM
MEMCMP
FREBUF - FREE BUFFER
PRSCMD - PARSE COMMAND
CHKPRM - CHECK PARAMETER
MEMSET
GDATA
PMSGLS
RMVPAG
SAVFLS - SAVE FDL SOURCE
DRPFRM - DROP FORM
INSFRM - INSERT FORM
LAYOUT - LAYOUT MODE
EDTFLD - EDIT FIELD
EDTWHL - EDIT WHOLE
GTMMFD - GET NAMED FIELD
LISTFM - LIST FORMS
OISCR
PUTATT
PDATA

CALLED DIRECTLY BY:

FDFF - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: EDTWHL
PURPOSE: EDIT WHOLE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: EDTWHL
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *EDTWHL(FRMPNT, RDONLY)
FIELD *FRMPNT;
BOOL RDONLY;

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTS TO FORM WORKING ON
RDONLY - FLAG INDICATING WHETHER OR NOT IN READ ONLY
MODE

OUTPUTS:

RETURNS A ERROR CODE IF EXIT ABNORMALLY
RETURNS A NULL IF EXIT NORMALLY

DESCRIPTION

THIS MODULE IS THE MAIN DRIVER MODULE FOR WHOLE EDT MODE

ARGUMENTS:

FRMPNT - FIELD *
RDONLY - BOOL

INCLUDE FILES:

STD TYP - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FD FEFM - FD FE FORM DEFINITIONS
FD FE - FD FE DATA STRUCTURES

ROUTINES CALLED:

MEMSET
CPYFRM - COPY FORM
FLWHST - FILL WHOLE STRUCTURE
DRPWHL - DROP WHOLE
ADDFRM
MEMCMP
GDATA
PMSGLS
RMVPAG
GWHINP - GET WHOLE INPUT
PMSGLC
MODFRM - MODIFY FORM
MODWHL - MODIFY WHOLE
INSWHL - INSERT WHOLE
VALINP - VALIDATE INPUT
OISCR
PUTATT
SPRINTF
MEMCPY
STRLEN
FLFMST - FIELD TO FORM STRUCTURE TRANSLATION
PDATA

CALLED DIRECTLY BY:

EDTMOD - EDIT MODE

USED IN MAIN PROGRAM(S):

FD FE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FD FE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: ERROR
PURPOSE: ISSUE ERROR MESSAGE
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: FLANERR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

----- SYNOPSIS

VOID ERROR(S, A, B, C, D, E, F)
CHAR *S, *A, *B, *C, *D, *E, *F;

DESCRIPTION

PRINTS AN ERROR MESSAGE ON STDERR AND INCREMENTS THE
NUMBER OF ERRORS

ARGUMENTS:

S - CHAR *
A - CHAR *
B - CHAR *
C - CHAR *
D - CHAR *
E - CHAR *
F - CHAR *

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS

ROUTINES CALLED:

PMSGLS
STRLEN
SPRINTF

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CALLED DIRECTLY BY:

CHKFLD - CHECK FIELD
CHKFRM - CHECK FORM
ADDCHK - ADD POSITION TO CHECK LIST

USED IN MAIN PROGRAM(S):

CHKFLD - CHECK FIELD
CHKFRM - CHECK FORM

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: EXPAND
PURPOSE: EXPAND AN ARRAY
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: EXPAND
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *EXPAND(FDP, USELST)
FIELD *FDP;
FIELD **USELST;

INPUTS:

FIELD *FDP; ** THE FORM YOU WISH EXPANDED **
FIELD **USELST; ** WHERE TO LOOK FOR EXPANDING
SUBFORMS

DESCRIPTION

THIS GUY IS RESPONSIBLE FOR EXPANDING AN ARRAY WHICH WAS
PARTIALLY
CONSTRUCTED BY FLAN. IT TAKES A POINTER TO THE FORM TO
BE EXPANDED
AND A POINTER TO THE POINTER TO THE LIST FROM WHICH
SUBFORMS MAY BE
TAKEN. IF A SUBFORM IS NOT FOUND THE FIELD'S DISPLAY
ATTRIBUTE IS
SET TO INPUT. THE CASE WHERE BOTH A FIELD AND THE
SUBFORM HAVE
PROMPTS IS RESOLVED BY CREATING A SPECIAL FIELD TO HOLD
THE FIELD'S
PROMPTS. USELST MUST BE A POINTER TO A POINTER BECAUSE
DELFLD IS USED
AND THAT'S WHAT IT NEEDS.

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ARGUMENTS:

FDP = FIELD *
USELST = FIELD **

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

RSVATT
FNDATT - FIND ATTRIBUTE
ABS
COPFLD
EXPAND/FIXFRM - FIX UP A FORM

CALLED DIRECTLY BY:

EXPAND/FIXFRM - FIX UP A FORM

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: EXPAND/FIXFRM
PURPOSE: FIX UP A FORM
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: EXPAND
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

FIXES A SUBFORM BY LOCATING IT AND ATTACHING IT IN PLACE AND
EXPANDING IT IF REQUIRED.

NOTE: FIELDS WITH PROMPTS AND SUBFORMS WITH PROMPTS CAUSE A
SPECIAL FIELD TO BE CREATED.

ARGUMENTS:

NDP = FIELD **
USELST = FIELD **

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

EXPAND - EXPAND AN ARRAY
DELFLD
RSVATT
FNDATT - FIND ATTRIBUTE
COPFLD
STRCMP

CALLED DIRECTLY BY:

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EXPAND - EXPAND AN ARRAY

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: FATAL
PURPOSE: ISSUE FATAL ERROR MESSAGE
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: FLANERR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

----- SYNOPSIS

VOID FATAL(S, A, B, C, D, E, F)
CHAR *S, *A, *B, *C, *D, *E, *F;

DESCRIPTION

PRINTS A FATAL MESSAGE ON STDERR AND EXITS

ARGUMENTS:

S = CHAR *
A = CHAR *
B = CHAR *
C = CHAR *
D = CHAR *
E = CHAR *
F = CHAR *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS

ROUTINES CALLED:

SPRINTF
STRLEN
PMSGSL

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CALLED DIRECTLY BY:

MYALLOC - MY MALLOC

USED IN MAIN PROGRAM(S):

CHKFLD - CHECK FIELD
CHKFRM - CHECK FORM
CSTASH - CHARACTER STASH
MAKINT - MAKE EXPRESSION INTO AN INTEGER
MAKSTR - MAKE EXPRESSION INTO A STRING
MKPOS - MAKE POSITION NODE

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: FDFE
PURPOSE: FORMS DRIVEN FORM EDITOR
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: FDFE
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

LANGUAGE: C

DESCRIPTION:

DESCRIPTION
MAIN INCLUDE FILE FOR FDFE

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES
FDFEINI - FDFE INITIALIZATIONS
FPDINI - FPD INITIALIZATION
NTM - NTM INTERFACE INCLUDE FILE

ROUTINES CALLED:

RMVPAG
VIEW - VIEW A FORM
RENAME
COPY
GETFLS - GET FDL SOURCE FILE

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EDTHOD	- EDIT MODE
UNLINK	
FCLOSE	
FOPEN	
STRLEN	
MEMCPY	
ACCESS	
ADDEXT	- ADD EXTENSION TO FILE_NAME
LISTIT	- LIST IT
SPRINTF	
CHKPRM	- CHECK PARAMETER
PRSCMD	- PARSE COMMAND
GDATA	
OISCR	
PMSGLS	
PUTATT	
MEMCMP	
ADDFRM	
MEMSET	

CALLED DIRECTLY BY:

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: FDFE/MAIN
PURPOSE: MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR
(FDFE)
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: INT ()
SOURCE FILE: FDFE
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS
FDFE()

INPUTS/OUTPUTS:
NONE

INPUTS:

OUTPUTS:

DESCRIPTION

MAIN DRIVER MODULE FOR THE FORMS DRIVEN FORMS EDITOR.
IT ALLOWS
USER TO CHOOSE AMONG SEVERAL FILE MANAGEMENT OPTIONS
AS WELL AS
EDIT MODES.

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA

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FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES
FDFEINI	- FDFE INITIALIZATIONS
FPDINI	- FPD INITIALIZATION
NTM	- NTM INTERFACE INCLUDE FILE

ROUTINES CALLED:

INITAL	
MEMCMP	
INITFP	
FDFE	- FORMS DRIVEN FORM EDITOR
TERMFP	
TRMNAT	

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: FIFDST
PURPOSE: FILL IN FIELD STRUCTURE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: FIFDST
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *FIFDST(FLDPNT,FLDNAM,ROW,COL,WIDTH,DPTH,FLDTYP,ATTNAM)
        FIELD *FLDPNT;
        ENAME FLDNAM;
        INT   ROW;
        INT   COL;
        INT   WIDTH;
        INT   DPTH;
        CHAR  FLDTYP[1];
        ENAME ATTNAM;
```

INPUTS/OUTPUTS:

INPUTS:

FLDNAM - NAME OF FIELD CONCERNED
ROW - ROW OF FIELD CONCERNED
COL - COL OF FIELD CONCERNED
WIDTH - WIDTH OF FIELD CONCERNED
DPTH - DEPTH OF FIELD CONCERNED
FLDTYP - TYPE OF FIELD CONCERNED
ATTNAM - ATTRIBUTE NAME OF FIELD CONCERNED

OUTPUTS:

NONE - BUT MODIFIES INTERNAL DATA STRUCTURE.

DESCRIPTION

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THIS MODULE FILL IN THE FILD INFORMATION PASSED IT BY
CALLER.

ARGUMENTS:

FLDPNT - FIELD *
FLDNAM - ENAME
ROW - INT
COL - INT
WDTH - INT
DPTH - INT
FLDTYP - CHAR [1]
ATTNAM - ENAME

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA

ROUTINES CALLED:

ESCPY
GATDEF

CALLED DIRECTLY BY:

MODFLD - MODIFY FIELD
MODFRM - MODIFY FORM

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: FLANCI
PURPOSE: FLAN CALLABLE INTERFACE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

SYNOPSIS

CHAR *FLANCI(FPTR)
FILE *FPTR;

INPUTS:

FPTR - FILE TO BE COMPILED

DESCRIPTION

COMPILES THE SPECIFIED FILE INTO THE LOCAL OPEN LIST.

ARGUMENTS:

FPTR = FILE *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

YYPARSE
DELFLD

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CALLLED DIRECTLY BY:

GETFLS - GET FDL SOURCE FILE
SAVFLS - SAVE FDL SOURCE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: FLDTYP
PURPOSE: FIELD TYPE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: FLANSF
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

SYNOPSIS

CHAR *FLDTYP(C)
CHAR C;

DESCRIPTION

RETURNS A STRING OF THE SPECIFIED FIELD TYPE

ARGUMENTS:

C = CHAR

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

CALLED DIRECTLY BY:

CHKFRM - CHECK FORM
ADDCHK - ADD POSITION TO CHECK LIST

USED IN MAIN PROGRAM(S):

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CHKFRM - CHECK FORM

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: FLFMST
PURPOSE: FIELD TO FORM STRUCTURE TRANSLATION
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: FLFMST
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
VOID FLFMST(DP, FP)
    FIELD *DP;
    STRUCT FRMINFO *FP;
```

INPUTS:

```
FIELD *DP; ** INPUT FPD FORM FIELD **
STRUCT FRMINFO *FP; ** OUTPUT DISPLAY FORM **
```

DESCRIPTION

TRANSLATE FPD FIELD (DP) TO A FRMINFO (FP).

ARGUMENTS:

```
DP = FIELD *
FP = STRUCT FRMINFO *
```

INCLUDE FILES:

```
STDTP - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES
```

ROUTINES CALLED:

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SPRINTF
MEMSET

CALLED DIRECTLY BY:

EDTFLD - EDIT FIELD
EDTWHL - EDIT WHOLE
TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: FLSTRC
PURPOSE: FIELD STRUCTURE TRANSLATION
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: FLSTRC
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
VOID FLSTRC(DP, COM, HELP, VAL, CHKS)
    FIELD *DP;
    STRUCT COMINFO *COM;
    STRUCT ITMHELP *HELP;
    STRUCT ITMVAL *VAL;
    STRUCT ITMCHKS *CHKS;
```

INPUTS:

```
FIELD *DP; ** INPUT FIELD TO BE TRANSLATED **
STRUCT COMINFO *COM; ** OUTPUT COMINFO/FLDINFO **
STRUCT ITMHELP *HELP; ** OUTPUT ITMHELP **
STRUCT ITMVAL *VAL; ** OUTPUT ITMVAL **
STRUCT ITMCHKS *CHKS; ** OUTPUT ITMCHKS **
```

DESCRIPTION

TRANSLATES AN FPD FIELD TO COMINFO/FLDINFO(COM)
STRUCTURE, ITMHELP(HELP)
STRUCTURE, ITMVAL(VAL) STRUCTURE, AND ITMCHKS(CHKS)
STRUCTURE.

ARGUMENTS:

DP =	FIELD *
COM =	STRUCT COMINFO *
HELP =	STRUCT ITMHELP *
VAL =	STRUCT ITMVAL *
CHKS =	STRUCT ITMCHKS *

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INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

SPRINTF
MEMSET
MEMCPY
BLEN
STRCPY

CALLED DIRECTLY BY:

DRPWL - DROP WHOLE
EDTFLD - EDIT FIELD
FLWHST - FILL WHOLE STRUCTURE
TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: FLWHST
PURPOSE: FILL WHOLE STRUCTURE
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: FLWHST
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

VOID FLWHST(FRMPNT)
FIELD *FRMPNT;

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM FROM WHICH INFORMATION WILL
RETIEVED AND
AND PUT IN SCREEN DATA AREA.

OUTPUTS:

NONE - BUT DOES FILL EXTERNAL SCREEN DATA AREA AND
EXTERNAL ARAY OF
POINTERS.

DESCRIPTION

THIS MODULE CALLS FLSTRC FOR EACH FIELD IN FORM AND
STORES POINTER TO
FIELD IN PNTARY WHICH IS A GLOBAL ARRAY USEDED TO
ASSOCIATE EACH FIELD
ON SCREEN WITH ITS INTERNAL STRUCTURE.

ARGUMENTS:

FRMPNT - FIELD *

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INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

MEMSET
FLSTRC - FIELD STRUCTURE TRANSLATION

CALLED DIRECTLY BY:

EDTWHL - EDIT WHOLE

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: FNDATT
PURPOSE: FIND ATTRIBUTE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: ATTMAP * (
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

SYNOPSIS

ATTMAP *FNDATT(S)
CHAR *S;

DESCRIPTION

RETURNS A POINTER TO THE SPECIFIED ATTRIBUTE IN THE
ATTRIBUTE MAP

ARGUMENTS:

S = CHAR *

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

STRCMP

CALLED DIRECTLY BY:

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EXPAND/FIXFRM - FIX UP A FORM
EXPAND - EXPAND AN ARRAY
VALINP/CCKFRM - CHECK FORM
VALINP/CCKFLD - CHECK FIELD
CHKFLD - CHECK FIELD
CHKFRM - CHECK FORM

USED IN MAIN PROGRAM(S):

CHKFLD - CHECK FIELD
CHKFRM - CHECK FORM
FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: FREBUF
PURPOSE: FREE BUFFER
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: FREBUF
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

VOID FREBUF(BUFPNT)
FIELD **BUFPNT;

INPUTS/OUTPUTS:

INPUTS:

BUFPNT - ADDRESS OF BUFFER TO BE DELETED

OUTPUTS:

NONE

DESCRIPTION

THIS MODULE CALLS DELFLD FOR ALL FIELDS IN A
BUFFER(ALTBUF
OR WRKBUF).

ARGUMENTS:

BUFPNT - FIELD **

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA

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FDFEPM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

DELFLD

CALLED DIRECTLY BY:

EDTMOD - EDIT MODE
GETFLS - GET FDL SOURCE FILE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GETFLS
PURPOSE: GET FDL SOURCE FILE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: GETFLS
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *GETFLS(FRMNAM, PDP)
CHAR FRMNAM[];
FIELD **PDP;

INPUTS:

CHAR FRMNAM[]; ** THE NAME OF THE FILE CONTAINING THE
FDL SOURCE
THERE IS NO FILE EXTENSION **

OUTPUTS:

FIELD **PDP; ** A POINTER WHICH IS TO BE SET TO THE
'OPENED' FORMS

DESCRIPTION

GIVEN A FORM NAME OPENS THE FDL SOURCE FILE AND CALLS
FLANCI TO CREATE
AN FPD STRUCTURE.

ARGUMENTS:

FRMNAM = CHAR []
PDP = FIELD **

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS

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STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES
FDPEFM - FDPE FORM DEFINITIONS
FDPE - FDPE DATA STRUCTURES

ROUTINES CALLED:

FREBUF - FREE BUFFER
ESCPY
SPRINTF
STRCHR
STRCAT
FOPEN
SYSMSG
BLEN
MEMSET
MEMCPY
FLANCI - FLAN CALLABLE INTERFACE
FCLOSE
GETFLS/TREEXP - TREE EXPRESSION
MAX
STRLEN
MALLOC

CALLED DIRECTLY BY:

CPYFRM - COPY FORM
FDPE - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GETFLS/TREEXP
PURPOSE: TREE EXPRESSION
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: GETFLS
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

STATIC VOID TREEXP(STR, EP)
CHAR STR[];
ENODE *EP;

CREATES AN ALGEBRAIC EXPRESSION GIVEN ITS SYNTATIC TREE
REPRESENTATION.

THIS PROCEDURE IS ALSO USED BY GETFLS WHEN FETCHING SOURCE
FORMS.

ARGUMENTS:

STR = CHAR []
EP = ENODE *

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

PREC - PRECEDENCE
SPRINTF

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GETFLS/TREEXP - TREE EXPRESSION
STRCAT

CALLED DIRECTLY BY:

GETFLS/TREEXP - TREE EXPRESSION
GETFLS - GET FDL SOURCE FILE

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GETLEN
PURPOSE: GET LENGTH
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: INT ()
SOURCE FILE: GETLEN
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
INT GETLEN(BUF,BUFLEN)
    CHAR    BUF[];
    REGISTER INT BUFLEN;
```

INPUTS/OUTPUTS:

INPUTS:

BUF - NON NULL TERMINATED STRING THE 'NON BLANK'
LENGTH OF WHICH
IS RETURNED

BUFLEN - ACTUAL LENGTH OF BUFFER

OUTPUTS:

LENGTH (NON BLANK) OF STRING IS RETURNED

DESCRIPTION

THIS MODULE RETURNS THE "NON BLANK" LENGTH OF A NON
NULL TERMINATED
STRING.

ARGUMENTS:

```
BUF - CHAR []
BUFLEN - INT
```

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INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS

CALLED DIRECTLY BY:

GITMD - GET ITEM DATA AND INSERT IN STRUCTURE
GTFDTX/GTXINF - GET TEXT INFORMATION
MODFRM - MODIFY FORM

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GFDINP
PURPOSE: GET FIELD INPUT
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * ()
SOURCE FILE: GFDINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDPE
DOCUMENTATION GROUP: FDPE

DESCRIPTION:

SYNOPSIS

```
CHAR *GFDINP(PFKEY, FRMPNT, FLDPNT)
    FIELD      *FRMPNT;
    FIELD      *FLDPNT;
    INT        *PFKEY;
```

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - FORM WORKING ON
FLDPNT - FIELD WORKING ON

OUTPUTS:

PFKEY - RETURN TO CALLER PFKE RECEIVED FROM OISCR
RETRUNS NULL IF NOMALLY TERMINATED AND AN ERROR CODE IF
ABNORMALLY TERMINATED

DESCRIPTION

THIS MODULE GETS INPUT UPPERCASES FIELDS WHICH MUST BE
UPPER CASE
AND CALLS VALINP IF PFKEY IS ENTER AND IF TASK = INSERT
OR MODIFY.

ARGUMENTS:

PFKEY = INT *

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FRMPNT = FIELD *
FLDPNT = FIELD *

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

PDATA
MEMCMP
VALINP - VALIDATE INPUT
GDATA
OISCR
SPRINTF

CALLED DIRECTLY BY:

EDTFD - EDIT FIELD

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GFLDPT
PURPOSE: GET FIELD POINTER
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: FIELD * (
SOURCE FILE: FLANSF
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

----- SYNOPSIS

FIELD *GFLDPT(FLDPTR, S)
FIELD *FLDPTR;
CHAR *S;

DESCRIPTION

RETURN A POINTER TO THE NAMED FIELD ON THE SPECIFIED FORM.

ARGUMENTS:

FLDPTR = FIELD *
S = CHAR *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

STRCMP

CALLED DIRECTLY BY:

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CHKFRM - CHECK FORM

USED IN MAIN PROGRAM(S):

CHKFRM - CHECK FORM

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GITMD
PURPOSE: GET ITEM DATA AND INSERT IN STRUCTURE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * ()
SOURCE FILE: GITMD
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDPE
DOCUMENTATION GROUP: FDPE

DESCRIPTION:

SYNOPSIS

```
CHAR *GITMD (FLDPNT, ITMHLP, ITMVAL, ITMCHKS)
    FIELD      *FLDPNT;
    CHAR       *ITMHLP;
    CHAR       *ITMVAL;
    STRUCT ITMCHKS *ITMCHKS;
```

INPUTS/OUTPUTS:

INPUTS:

FLDPNT - FIELD IN WHICH PUTTING INFORMATION RECIEVED
FROM USER
ITMHLP - HELP LINE INPUT BY USER
ITMVAL - ITEM DEFAULT VALUE INPUT BY USER
ITMCHKS - CHECKING DESIRED BY USER

OUTPUTS:

RETURNS ERROR CODE IF ABNORMAL TERMINATION
RETURNS NULL IF NORMAL TERMINATION

DESCRIPTION

THIS MODULE INSERTS DESIRED CHANGES INTO ITEM DATA
STRUCTURE OF
INTERNAL DATA STRUCTURE

ARGUMENTS:

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FLDPNT = FIELD *
ITMHLP = CHAR *
ITMVAL = CHAR *
ITMCHKS = STRUCT ITMCHKS *

INCLUDE FILES:

STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
STDYTP - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

FREE
MAX
GETLEN - GET LENGTH
MALLOC
SYSMSG
ESCPY
MEMDGT
MATOI
BLEN
MEMSET
MEMCPY
MIN
MEMCMP

CALLED DIRECTLY BY:

INSFLD - INSERT FIELD
MODFLD - MODIFY FIELD

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GNXTFD
PURPOSE: GET NEXT FIELD
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: FIELD * (
SOURCE FILE: GNXTFD
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
FIELD *GNXTFD(FRMPNT,FLDPNT,PFKEY)
    FIELD *FRMPNT;
    FIELD *FLDPNT;
    INT PFKEY;
```

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM WORKING ON
FLDPNT - CURRENT FIELD POINTER
PFKEY - PFKEY PASSED BY CALLER FROM OISCR

OUTPUTS:

RETURNS - POINTER TO NEXT FIELD IF FOUND
RETURNS - NULL IF NO FIELD FOUND

DESCRIPTION

THIS MODULE GETS THE NEXT FIELD TO BE VIEWED OR WORKED
ON
USING USER INPUT

ARGUMENTS:

FRMPNT = FIELD *
FLDPNT = FIELD *

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PFKEY - INT

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMCMP
GTNMF - GET NAMED FIELD
GNXTFD/NXTFLD - NEXT FIELD

CALLED DIRECTLY BY:

EDTFLD - EDIT FIELD

USED IN MAIN PROGRAM(S):

FD/FE/M - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FD/FE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GNXTFD/NXTFLD
PURPOSE: NEXT FIELD
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: FIELD * (
SOURCE FILE: GNXTFD
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

----- SYNOPSIS

STATIC FIELD *NXTFLD(FLDPNT, TYP, DRCTN)
FIELD *FLDPNT;
CHAR TYP;
CHAR DRCTN;

INPUTS/OUTPUTS:

INPUTS:

FLDPNT - CURRENT FIELD POINTER
TYP - TYPE OF FIELD INTERESTED IN
DRCTN - DIRECTION WANT TO SEARCH

OUTPUTS:

RETURNS - POINTER TO NEXT FIELD IF FOUND
RETURNS - NULL IF NO FIELD FOUND

DESCRIPTION

THIS MODULE GETS THE NEXT FIELD OF A SPECIFIED TYPE
SEARCHING IN A
SPECIFIED DIRECTION TO BE VIEWED OR WORKED ON.

ARGUMENTS:

FLDPNT = FIELD *
TYP = CHAR
DRCTN = CHAR

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INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

GNXTFD/NXTFLD - NEXT FIELD

CALLED DIRECTLY BY:

GNXTFD/NXTFLD - NEXT FIELD
GNXTFD - GET NEXT FIELD

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GTCPPD
PURPOSE: GET USING CURSOR POSITION FIELD
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: FIELD * (
SOURCE FILE: GTCPPD
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
FIELD *GTCPPD(FRMPNT,ROW,COL)
    FIELD *FRMPNT;
    INT    ROW;
    INT    COL;
```

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM WORKING ON
ROW - CURSOR POSITION OF DESIRED FIELD
COL

OUTPUTS:

RETURNS A POINTER TO FIELD AT INDICATED LOCATION IF ONE
RETURNS A NULL IF NO FIELD FOUND

DESCRIPTION

THIS MODULE RETURNS A POINTER TO FIELD AT ROW AND COL
GIVEN BY CALLER

ARGUMENTS:

FRMPNT = FIELD *
ROW = INT
COL = INT

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INCLUDE FILES:

STD TYP - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA

CALLED DIRECTLY BY:

EDTFLD - EDIT FIELD
SCRMAN/CHGPOS - CHANG POSITION
TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GTFDTX
PURPOSE: GET FIELD TEXT
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: GTFDTX
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *GTFDTX(FLDPNT,COMINFO)
FIELD *FLDPNT;
STRUCT COMINFO *COMINFO;

INPUTS/OUTPUTS:

INPUTS:

FLDPNT - POINTER TO FIELD WORKING ON
COMINFO - POINTER TO STRUCTURE CONTAINING USER INPUT

OUTPUTS:

RETURNS NULL IF TERNIMATED NORMALLY
RETURNS ERROR CODE IF TERMINATED ABNORMALLY

DESCRIPTION

THIS MODULE GETS TEXT FIELDS AND INSERTS THEM INTO
INTERNAL STRUCTRUE
OF FIELD CONCERNED.

ARGUMENTS:

FLDPNT = FIELD *
COMINFO = STRUCT COMINFO *

INCLUDE FILES:

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STD TYP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FD FEFM - FD FE FORM DEFINITIONS
FD FE - FD FE DATA STRUCTURES

ROUTINES CALLED:

FREE
GTFDTX/GTXINF - GET TEXT INFORMATION
MALLOC
SYSMSG
ESCPY

CALLED DIRECTLY BY:

INSFLD - INSERT FIELD
MODFLD - MODIFY FIELD

USED IN MAIN PROGRAM(S):

FD FE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FD FE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GTFDTX/GTXINF
PURPOSE: GET TEXT INFORMATION
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: GTFDTX
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
STATIC VOID GTXINF(COMINFO,PROW,PCOL,PLNGTH)
    STRUCT COMINFO *COMINFO;
    INT             *PROW, *PCOL, *PLNGTH;
```

INPUTS/OUTPUTS:

INPUTS:

COMINFO - POINTER TO STRUCTURE CONTAINING USER INPUT

OUTPUTS:

PROW - PROMPT (OR TEXT) ROW

PCOL - PROMPT (OR TEXT) COL

PLNGTH - PROMPT (OR TEXT) LENGTH

DESCRIPTION

THIS MODULE GETS TEXT FIELD INFORMATION AND PASSES IT
BACK TO CALLER

ARGUMENTS:

COMINFO = STRUCT COMINFO *
PROW = INT *
PCOL = INT *
PLNGTH = INT *

INCLUDE FILES:

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STDTyp - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

GETLEN - GET LENGTH
MATOI

CALLED DIRECTLY BY:

GTFDTX - GET FIELD TEXT

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GTNMFD
PURPOSE: GET NAMED FIELD
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: FIELD * ()
SOURCE FILE: GTNMFD
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
FIELD *GTNMFD(FLDPNT,FLDNAM)
FIELD *FLDPNT;
ENAME FLDNAM;
```

INPUTS/OUTPUTS:

INPUTS:

FLDPNT - POINTER TO FIRST FIELD IN LIST
FLDNAM - NON NULL TERMINATED STRING WITH FIELD NAME
WANTED

OUTPUTS:

RETURNS A POINTER TO FIELD WITH NAME GIVEN IF FOUND
RETURNS NULL IF NO FIELD FOUND WITH NAME GIVEN

DESCRIPTION

THIS MODULE RETURNS A POINTER TO FIELD STRUCTURE WITH
GIVEN NAME
OR A NULL IF COULD NOT FIND SUCH A FIELD.

ARGUMENTS:

FLDPNT = FIELD *
FLDNAM = ENAME

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INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

ESCPY
STRLEN
STRCMP

CALLED DIRECTLY BY:

CPYFRM - COPY FORM
DRPFRM - DROP FORM
EDTHOD - EDIT MODE
GNXTFD - GET NEXT FIELD
INSFRM - INSERT FORM

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: GWHINP
PURPOSE: GET WHOLE INPUT
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * ()
SOURCE FILE: GWHINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *GWHINP(FRMPNT, PFKEY)
    FIELD      *FRMPNT;
    INT        *PFKEY;
```

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM BEING WORKED ON

OUTPUTS:

PFKEY - PFKEY PASSED BACK TO CALLER FROM OISCR
RETURNS NULL IF NORMAL TERMINATION
RETURNS ERROR CODE IF ABNORMAL TERMINATION

DESCRIPTION

THIS MODULE GETS ALL INPUT FOR ALL SCREENS CALLING VALINP
AND FLWHST FOR ALL SCREENS.

ARGUMENTS:

PFKEY - INT *
FRMPNT - FIELD *

INCLUDE FILES:

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STDTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

ADDFRM
MEMCMP
MEMCPY
RMVPAG
VALINP - VALIDATE INPUT
PUTCUR
OISCR
SPRINTF
GDATA
PUTATT
PDATA

CALLED DIRECTLY BY:

EDTWHL - EDIT WHOLE

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: INSFLD
PURPOSE: INSERT FIELD
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: INSFLD
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS CHAR

*INSFLD(FLDPNT,NXTFLD,PRVFLD,PARPNT,COMINFO,ITMHLP,ITMVAL,ITMCHK
S,LEVE

FIELD	**FLDPNT;
FIELD	**NXTFLD;
FIELD	**PRVFLD;
FIELD	*PARPNT;
STRUCT COMINFO	*COMINFO;
CHAR	*ITMHLP;
CHAR	*ITMVAL;
STRUCT ITMCHKS	*ITMCHKS;
INT	LEVEL;

INPUTS/OUTPUTS:

INPUTS:

FLDPNT - ADDRESS OF POINTER TO FIELD BEING INSERTED
PRVFLD - ADDRESS WHERE PREVIOUS FIELD POINTER WILL BE
INSERTED
NXTFLD - ADDRESS WHERE NEXT FIELD POINTER WILL BE
INSERTED
PARPNT - POINTER TO PARENT OF FIELD
COMINFO - POINTER TO STRUCTURE CONTAINING INPUT FOR
GENERAL FIELD
INFORMATION OBTAINED FROM USER

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ITMHLP - POINTER TO CHAR STRING CONTAINING HELP LINE
ITMVAL - POINTER TO CHAR STRING CONTAINING DEFAULT
 VALUE FOR ITEM
ITMCHKS - POINTER TO STRUCTURE CONTAINING USER INPUT
 FOR ITM CHECKS
LEVEL - LEVEL OF OF RECURSION

OUTPUTS:

RETURNS NULL IF NORMAL TERMINATION
RETURNS ERROR CODE IF ABNORMAL TERMINATION

DESCRIPTION

THIS MODULE INSERTS FIELD INTO DATA STRUCTURE - CALLS
 MAKFLD TO
MAKE THE ACTUAL INSERTION THEN INSERTING PARTICULAR
 INFORMATION
FOR FIELD(WINDOW,ITEM,FORM,OR ARRAY)

ARGUMENTS:

FLDPNT - FIELD **
NXTFLD - FIELD **
PRVFLD - FIELD **
PARPNT - FIELD *
COMINFO - STRUCT COMINFO *
ITMHLP - CHAR *
ITMVAL - CHAR *
ITMCHKS - STRUCT ITMCHKS *
LEVEL - INT

INCLUDE FILES:

STD TYP - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FD FEFM - FD FEF FORM DEFINITIONS
FD FEF - FD FEF DATA STRUCTURES

ROUTINES CALLED

MATOI
INSFLD - INSERT FIELD
PMSGLS
ESCPY

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GATDEF
MAKFLD
MAX
GTFDTX - GET FIELD TEXT
GITMD - GET ITEM DATA AND INSERT IN STRUCTURE

CALLED DIRECTLY BY:

EDTFLD - EDIT FIELD
INSFLD - INSERT FIELD
INSWHL - INSERT WHOLE
MODFLD - MODIFY FIELD
TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: INSFRM
PURPOSE: INSERT FORM
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: INSFRM
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: PDFE
DOCUMENTATION GROUP: PDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *INSFRM(FRMNAM)  
ENAME FRMNAM;
```

INPUTS/OUTPUTS:

INPUTS:

FRMNAM - NON NULL TERMINATED STRING CONTAINING NAME OF
FRM TO BE
INSERTED.

OUTPUTS:

RETURNS A NULL IF SUCCESSFUL
RETURNS AN ERROR CODE IF FORM ALREADY EXIST OR
ABNORMALLY TERMINATED.

DESCRIPTION

THIS MODULE INSERTS TOP LEVEL FORM FILLING IN DEFAULT
VALUES

ARGUMENTS:

FRMNAM = ENAME

INCLUDE FILES:

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STDTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

GTNMF - GET NAMED FIELD
ESCPY
GATDEF
MAKFLD

CALLED DIRECTLY BY:

EDTMD - EDIT MODE

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: INSWHL
PURPOSE: INSERT WHOLE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: INSWHL
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *INSWHL(FRMPNT)
FIELD *FRMPNT;

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM WORKING ON

OUTPUTS:

RETURNS NULL IF NORMAL TERMINATION
RETURNS ERROR CODE IF ABNORMALLY TERMINATED

DESCRIPTION

THIS MODUL INSERTS ALL FIELDS USER ENTERED ON WHOLE
EDIT.
IT USES THE GLOBAL DATA AREA.

ARGUMENTS:

FRMPNT = FIELD *

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS

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FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMCMP
SPRINTF
PMSGLS
INSFLD - INSERT FIELD

CALLED DIRECTLY BY:

EDTWHL - EDIT WHOLE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: LAYOUT
PURPOSE: LAYOUT MODE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * ()
SOURCE FILE: LAYOUT
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *LAYOUT(FRMPNT, RDONLY)
FIELD *FRMPNT;
BOOL RDONLY;

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM BEING WORKED ON
RDONLY - FLAG INDICATING WHETHER IN READ ONLY MODE OR NOT

OUTPUTS:

RETURNS NULL IF NORMAL TERMINATION
RETURNS ERROR CODE IF ABNORMAL TERMINATION

DESCRIPTION

THIS MODULE IS THE MAIN SWITCHER FOR LAYOUT MODE
BETWEEN ACTUAL
LAYOUT

ARGUMENTS:

FRMPNT = FIELD *
RDONLY = BOOL

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INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

SCRMAN - SCREEN MANAGER
MEMCMP
EDTFLD - EDIT FIELD

CALLED DIRECTLY BY:

EDTMOD - EDIT MODE

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: LISTFM
PURPOSE: LIST FORMS
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: LISTFM
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *LISTFM()

INPUTS/OUTPUTS:

INPUTS:

NONE

OUTPUTS:

RETURNS NULL IF NORMAL TERMINATION

RETURNS ERROR CODE IF ABNORMAL TERMINATION

DESCRIPTION

THIS MODULE LIST ALL FORMS IN CURRENT FLS FILE ON SCREEN

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

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ROUTINES CALLED:

MEMSET
MEMCPY
ADDFRM
MEMCMP
RMVPAG
PMSGLS
OISCR
PDATA
STRLEN

CALLED DIRECTLY BY:

EDTMOD - EDIT MODE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: LISTIT
PURPOSE: LIST IT
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: LISTIT
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *LISTIT(TYPE)
BOOL TYPE;

INPUTS/OUTPUTS:

INPUTS:

CHAR *TYPE POINTER TO THE CHARACTER STRING "FDL"
OR "FD"

OUTPUTS:

RETURNS SYSERR IF THE SYSTEM FUNCTION FAILS
OTHERWISE RETURNS A
NULL POINTER.

DESCRIPTION

USES THE SYSTEM FUNCTION TO DO A DIRECTORY COMMAND FOR
*.FDL OR *.FD
FILES AND REDIRECTS THE OUTPUT INTO A TEMPORARY FILE.
THEN CALLS PRCFIL
TO READ THE FILE AND FILL IN THE FILENAMES ON THE
SCREEN.

ARGUMENTS:

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TYPE = BOOL

INCLUDE FILES:

STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
STDTYPE - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

MKTEMP
STRCPY
STRCAT
SPRINTF
SYSMSG
PRCFIL - PROCESS TEMPORARY FILE
PDATA
ADDFRM
MEMCMP
FEOF
FCLOSE
UNLINK
RMVPAG
PMSGLS
OISCR
FOPEN
SYSTEM

CALLED DIRECTLY BY:

FDFF - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: MAKINT
PURPOSE: MAKE EXPRESSION INTO AN INTEGER
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: ENODE * (
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

----- SYNOPSIS

ENODE *MAKINT(EP)
ENODE *EP;

DESCRIPTION

CONVERT THE SPECIFIED EXPRESSION TO INTEGER AND RETURN
POINTER TO NEW
EXPRESSION.

ARGUMENTS:

EP = ENODE *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

MYALLOC - MY MALLOC

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: MAKSTR
PURPOSE: MAKE EXPRESSION INTO A STRING
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: ENODE * (
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

----- SYNOPSIS

ENODE *MAKSTR(EP)
ENODE *EP;

DESCRIPTION

CONVERT THE SPECIFIED EXPRESSION TO STRING AND RETURN
POINTER TO NEW
EXPRESSION.

ARGUMENTS:

EP = ENODE *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

MYALLOC - MY MALLOC

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: MKPOS
PURPOSE: MAKE POSITION NODE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: POS * (
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

----- SYNOPSIS

```
POS *MKPOS(HPOS, HMIN, HLOC, HREF, VPOS, VMIN, VLOC, VREF)  
  INT HPOS, HMIN, HLOC;  
  CHAR *HREF;  
  INT VPOS, VMIN, VLOC;  
  CHAR *VREF;
```

DESCRIPTION

CREATES THE SPECIFIED POSITION NODE AND ADDS IT TO THE
LIST. HPOS AND
VPOS ARE THE REFERENCE POINTS ON THE CURRENT FIELD. HMIN
AND VMIN ARE THE
LOCATION RELATIVE TO THE REFERENCE FIELD. HLOC AND VLOC
ARE THE REFERENCE
POINTS ON THE REFERENCE FIELD, AND HREF AND VREF ARE THE
REFERENCE
FIELDS.

ARGUMENTS:

HPOS = INT
HMIN = INT
HLOC = INT
HREF = CHAR *
VPOS = INT
VMIN = INT
VLOC = INT
VREF = CHAR *

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INCLUDE FILES:

STD TYP - STANDARD TYPE DEFINITIONS
STD IO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

MYALLOC - MY MALLOC

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: MODFLD
PURPOSE: MODIFY FIELD
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: MODFLD
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *MODFLD(PARPNT,FLDPNT,COMINFO,ITMHLP,ITMVAL,ITMCHKS)
FIELD          *PARPNT;
FIELD          **FLDPNT;
STRUCT COMINFO *COMINFO;
CHAR           *ITMHLP;
CHAR           *ITMVAL;
STRUCT ITMCHKS *ITMCHKS;
```

INPUTS/OUTPUTS:

INPUTS:

PARPNT - POINTER TO PARENT FIELD
FLDPNT - ADDRESS OF POINNTER TO FIELD TO BE MODIFIED
COMINFO - POINTER TO STRUCTURE CONTAINING USER INPUT
 FOR GENERAL
 FIELD INFORMATION
ITMHLP - POINTER TO CHAR STRING CONTAINING HELP LINE
 INPUT BY USER
ITMVAL - POINTER TO DEFAULT VALUE FOR ITEMS INPUT BY
 USER
ITMCHKS - POINTER TO STRUCTURE CONTAINING ITEM
 VALIDATION CHECKS
 INPUT BY USER

OUTPUTS:

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RETURNS NULL IF NORMAL TERMINATION
RETURNS ERROR CODE IF ABNORMAL TERMINATION

DESCRIPTION

THIS MODULE MODIFIES EXISTING FIELD IN ACCORDENCE WITH
USER INPUT

ARGUMENTS:

PARPNT = FIELD *
FLDPNT = FIELD **
COMINFO = STRUCT COMINFO *
ITMHLP = CHAR *
ITMVAL = CHAR *
ITMCHKS = STRUCT ITMCHKS *

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

PMSGLS
DELFLD
INSFLD - INSERT FIELD
FREE
MATOI
FIFDST - FILL IN FIELD STRUCTURE
GTFDTX - GET FIELD TEXT
GITMD - GET ITEM DATA AND INSERT IN STRUCTURE
MEMSET

CALLED DIRECTLY BY:

EDTFLD EDIT FIELD
MODWHL - MODIFY WHOLE
TRNSCR TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S).

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FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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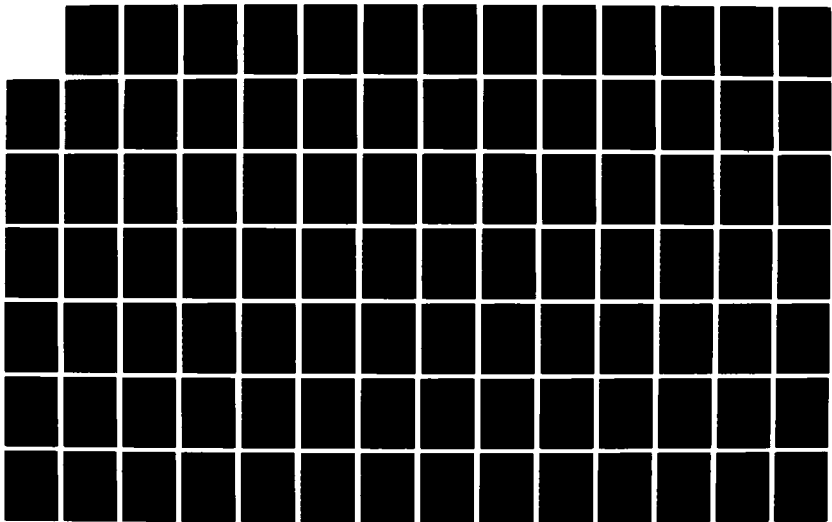
SCHENECTADY NY PRODUCTION RESOURCES CONSU.

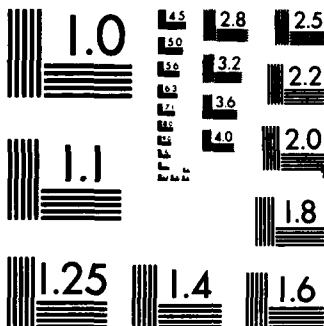
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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: MODFRM
PURPOSE: MODIFY FORM
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: MODFRM
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *MODFRM(FRMPNT,FRMINFO)
FIELD *FRMPNT;
STRUCT FRMINFO *FRMINFO;

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM'S INTERNAL STRUCTURE
FRMINFO - ADDRESS OF USER INPUT

OUTPUTS:

RETURNS A NULL IF SUCCESS AND POINTER TO ERROR CODE
STRING IF ERROR

DESCRIPTION

THIS MODULE MODIFIES INTERNAL STRUCTURE FOR FORM
POINTED TO BY FRMPNT
USING USER INPUT POINTED TO BY FRMINFO.

ARGUMENTS:

FRMPNT - FIELD *
FRMINFO - STRUCT FRMINFO *

INCLUDE FILES:

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STDTP	- STANDARD TYPE DEFINITIONS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

MATOI
FIFDST - FILL IN FIELD STRUCTURE
MODFRM/FRETX - FREE TEXT
SYMSG
ESCPY
GETLEN - GET LENGTH
MALLOC

CALLED DIRECTLY BY:

EDTFD - EDIT FIELD
EDTWHL - EDIT WHOLE
TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: MODFRM/FRETXT
PURPOSE: FREE TEXT
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: MODFRM
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

STATIC VOID FRETXT(FLDPNT)
FIELD *FLDPNT;

INPUTS/OUTPUTS:

INPUTS:
FLDPNT - POINTER TO FIELD'S INTERNAL STRUCTURE
OUTPUTS:
NONE

DESCRIPTION

THIS MODULE FREES UP TEXT BUFFER'S FOR THE FIELD
POINTED TO BY FLDPNT.

ARGUMENTS:

FLDPNT - FIELD *

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

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ROUTINES CALLED:

FREE

CALLED DIRECTLY BY:

MODFRM - MODIFY FORM

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: MODWHL
PURPOSE: MODIFY WHOLE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: MODWHL
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *MODWHL(FRMPNT)
FIELD *FRMPNT;

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM BEING WORKED ON

OUTPUTS:

RETURNS A NULL IF NORMAL TERMINATION
RETURNS A ERROR CODE IF ABNORMAL TERMINATION

DESCRIPTION

THIS MODULE MODIFIES ALL FIELDS ON A FORM BY CALLING
MODFLD FOR EACH
FIELD ON FORM

ARGUMENTS:

FRMPNT - FIELD *

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS

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FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MODFLD - MODIFY FIELD
MEMCMP
SPRINTF
PMSGLS

CALLED DIRECTLY BY:

EDTWHL - EDIT WHOLE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: MYALLOC
PURPOSE: MY MALLOC
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

SYNOPSIS

CHAR *MYALLOC(SIZE)
UNSIGNED SIZE;

DESCRIPTION

ALLOCATE THE SPECIFIED MEMORY IF POSSIBLE, ELSE ISSUE
FATAL ERROR

ARGUMENTS:

SIZE - UNSIGNED

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

FATAL - ISSUE FATAL ERROR MESSAGE
MALLOC

CALLED DIRECTLY BY:

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CHKFLD - CHECK FIELD
CHKARY - CHECK ARRAY
CSTASH - CHARACTER STASH
WRTEXP - WRITE EXPRESSION
MKPOS - MAKE POSITION NODE
MAKINT - MAKE EXPRESSION INTO AN INTEGER
MAKSTR - MAKE EXPRESSION INTO A STRING

USED IN MAIN PROGRAM(S):

CHKFLD - CHECK FIELD
CHKFRM - CHECK FORM
CSTASH - CHARACTER STASH
MAKINT - MAKE EXPRESSION INTO AN INTEGER
MAKSTR - MAKE EXPRESSION INTO A STRING
MKPOS - MAKE POSITION NODE

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: PRCFIL
PURPOSE: PROCESS TEMPORARY FILE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: PRCFIL
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *PRCFIL(FILE_PTR)  
FILE *FILE_PTR;
```

INPUTS/OUTPUTS:

INPUTS:

FILE *FILE_PTR FILE POINTER TO THE TEMPORARY FILE
CONTAINING THE
DIRECTORY LIST.

OUTPUTS:

DESCRIPTION

PROCESSES THE TEMPORARY FILE FINDING ALL THE FILE NAMES
AND PLACES EACH
ONE INTO THE SCREEN.

ARGUMENTS:

FILE_PTR = FILE *

INCLUDE FILES:

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STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
STDYTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

STRCHR
FGETS
STRRCHR
SPRINTF
MEMSET
FERROR

CALLED DIRECTLY BY:

LISTIT - LIST IT

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: PREC
PURPOSE: PRECEDENCE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: INT ()
SOURCE FILE: WRTFDL
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

INT PREC(EP)
ENODE *EP;

RETURNS THE PRECEDENCE OF AN EXPRESSION. THIS ROUTINE IS
USED IN
TREEXP TO DETERMINE IF AN EXPRESSION REQUIRES PARENTHESIS.

ARGUMENTS:

EP = ENODE *

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA

ROUTINES CALLED:

PREC - PRECEDENCE

CALLED DIRECTLY BY:

GETFLS/TREEXP - TREE EXPRESSION
PREC - PRECEDENCE

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USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: PRSCMD
PURPOSE: PARSE COMMAND
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: INT ()
SOURCE FILE: PRSCMD
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
INT PRSCMD(CMD, PARSIZ, CMDNAM, PARAMTR, NUMPARM)
CHAR      CMD[];
INT       PARSIZ[MAXPARM];
CHAR      *CMDNAM[];
CHAR      *PARAMTR[MAXPARM];
INT       *NUMPARM;
```

INPUTS/OUTPUTS:

INPUTS:

CMD - COMMAND LINE
PARSIZ - ARRAY OF PARAMETER SIZES
CMDNAM - ARRAY OF CHAR POINTERS TO LEGITIMATE COMMANDS

OUTPUTS:

PARAMTR - PARAMETERS ARE RETURN TO THIS ARRAY
NUMPARM - NUMBER OF PARAMETERS FOUND
RETURNS INT VALUE CORRESPONDING TO OPTION CHOSEN

DESCRIPTION

THIS MODULE PARSES THE COMMAND LINE AND RETURNS INT NUM
CORRESPONDING TO
OPTION AND PUTS IN 'NUMPARM' THE NUMBER OF PARAMETERS
FOUND AND IN
PARAMTR THE ACTUAL PARAMETERS FOUND.

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ARGUMENTS:

CMD = CHAR []
PARSIZ = INT [MAXPARM]
CMDNAM = CHAR * []
PARAMTR = CHAR * [MAXPARM]
NUMPARM = INT *

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

STRNCPY
MEMCMP
MEMSET
STRNCMP
STRLEN

CALLED DIRECTLY BY:

EDTHMOD - EDIT MODE
FDFE - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: PUTERR
PURPOSE: PUT ERROR
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: VALINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

BOOL PUTERR(PATH, EXT, STR)
CHAR PATH[], EXT[], STR[];

SET THE ERROR ATTRIBUTE FOR THE INVALID FIELD AND PUT THE
CURSOR THERE.
PUTERR(PATH, EXTENSION, EXPLANATION)

ARGUMENTS:

PATH = CHAR []
EXT = CHAR []
STR = CHAR []

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

STRCPY
STRCAT

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PUTATT
MEMCMP
PMSGLC
PMSGLS
PUTCUR

CALLED DIRECTLY BY:

VALINP/CCKFRM - CHECK FORM
VALINP/CCKFLD - CHECK FIELD
VALINP/CCKHLP - CHECK HELP
VALINP/CCKITH - CHECK ITEM
VALINP/CCKNAM - CHECK NAME

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: SAVFLS
PURPOSE: SAVE FDL SOURCE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * ()
SOURCE FILE: SAVFLS
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDPE
DOCUMENTATION GROUP: FDPE

DESCRIPTION:

SYNOPSIS

```
CHAR *SAVFLS(FRMNAM, SAVFD, DP)
CHAR FRMNAM[];
BOOL SAVFD;
FIELD *DP;
```

INPUTS:

```
CHAR FRMNAM[]; ** THE NAME THE FORM IS THE BE SAVED
UNDER
BOOL SAVFD; ** IF TRUE THE .FD FILES ARE ALSO WRITTEN **
FIELD *DP; ** POINTER TO LIST OF FORMS TO BE WRITTEN
OUT
```

DESCRIPTION

A LIST OF FORMS POINTED TO BY DP IS TO BE WRITTEN OUT AS
.FDL SOURCE.
THE FORMS ARE FIRST WRITTEN TO A TEMPORARY FILE WHICH IS
FLANED TO
CHECK FOR ERRORS IN VALUE EXPRESSIONS AND OVERLAPPING
FIELDS. IF
THERE ARE NO ERRORS THE FILE IS RENAMED. IF THE SAVFD FLAG
IS TRUE
THE .FD FILES ARE ALSO WRITTEN.

ARGUMENTS:

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FRMNAM - CHAR []
SAVFD - BOOL
DP - FIELD *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES

ROUTINES CALLED:

ESCPY
SPRINTF
STRCPY
STRCHR
STRCAT
FOPEN
SYSMSG
FLANCI - FLAN CALLABLE INTERFACE
WRTFDL - WRITE FDL FILE
REWIND
FCLOSE
RENAME
WRTFRM
DELFLD

CALLED DIRECTLY BY:

EDTHOD - EDIT MODE

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: SCRMAN
PURPOSE: SCREEN MANAGER
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: SCRMAN
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *SCRMAN(FRMPNT, RDONLY, ROW, COL)
    FIELD *FRMPNT;
    BOOL   RDONLY;
    INT    *ROW;
    INT    *COL;
```

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM WORKING ON
RDOLNY - FLAG INDICATING WHETHER IN READ ONLY MODE OR
NOT

OUTPUTS:

ROW - ROW RECEIVED FROM GETCUR ROUTINE
COL - COL RECEIVED FROM GETCUR ROUTINE

DESCRIPTION

THIS MODUE MANAGES THE SCREEN LAYOUT MODE: CALLING
ROUTINES TO
TRANSLATE INTERNAL STRUCTURE TO SCREEN LAYOUT FORMAT
AND VICE VERSA
HANLING ALL INPUT THROUGH AN OISCR CHECKING THE VALUE
OF PFKEY RETURNED

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BY OISCR AND ERORR CODES RETURNED BY TRANLATE ROUTINES
TO DETERMINE
WHAT ACTION SHOULD BE TAKEN.

ARGUMENTS:

FRMPNT - FIELD *
RONLY - BOOL
ROW - INT *
COL - INT *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

SCRMAN/CHGPOS - CHANG POSITION
SCRMAN/GETROW - GET ROW
TRNSCR - TRANSLATE SCREEN TO STRUCTURE
ADDFRM
MEMCMP
RMVPAG
GETCUR
GDATA
OISCR
TRNSTR - TRANSLATE STRUCTURE TO SCREEN
PMSGLS
PMSGLC
PDATA

CALLED DIRECTLY BY:

LAYOUT - LAYOUT MODE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: SCRMAN/CHGPOS
PURPOSE: CHANG POSITION
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: SCRMAN
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

----- SYNOPSIS

STATIC CHAR *CHGPOS(FRMPNT)
FIELD *FRMPNT;

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM WORKING ON

OUTPUTS:

STANDARD FORM PROCESSOR RETURN CODE

DESCRIPTION

THIS MODUE ALTERS THE INTERNAL DATA STRUCTURE OF FIELD
MARKED SO THAT
ITS NEW ROW = ROW OBTAINED FROM GETCUR AND THE COL =
COL OBTAINED
FROM GETCUR + 1. IT SENDS THE USER APPROPRIATE ERROR
MESSAGES IF HE/SHE
MAKES AN ERROR (NOT MARKING A FIELD TO B MOVED, FOR
EXAMPLE).

ARGUMENTS:

FRMPNT - FIELD *

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INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDPEFM - FDPE FORM DEFINITIONS
FDPE - FDPE DATA STRUCTURES

ROUTINES CALLED:

SCRMAN/GETROW - GET ROW
GTCPPD - GET USING CURSOR POSITION FIELD
MAX
MIN
ABS
TRNSTR - TRANSLATE STRUCTURE TO SCREEN
PMSGLS
GETCUR
MEMCMP

CALLED DIRECTLY BY:

SCRMAN - SCREEN MANAGER

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: SCRMAN/GETROW
PURPOSE: GET ROW
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: INT ()
SOURCE FILE: SCRMAN
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

----- SYNOPSIS

STATIC INT GETROW(FQ_NAM)
PATH FQ_NAM;

INPUTS/OUTPUTS:

INPUTS:

FQ-NAM - FULLY QUALIFIED NAME RETURNED FROM GETCUR

OUTPUTS:

RETURNS ROW OR 0 IF NOT ARRAY

DESCRIPTION

THIS MODULE RETURNS ROW BASED ON ARRAY INDEX

ARGUMENTS:

FQ_NAM - PATH

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
FPPARM - FORM PROCESSOR PARAMETERS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS

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FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

ESCPY
STRCHR
MATOI
STRLEN

CALLED DIRECTLY BY:

SCRMAN - SCREEN MANAGER
SCRMAN/CHGPOS - CHANG POSITION

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSCR
PURPOSE: TRANSLATE SCREEN TO STRUCTURE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: TRNSCR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

CHAR *TRNSCR(FRMPNT)
FIELD *FRMPNT;

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM BEING WORKED ON

OUTPUTS:

RETURN NULL IF NO ERRORS
RETURN ERROR CODE IF NO EITHER USER(OVERLAP) ERRORS OR
SYSTEM ERRORS

DESCRIPTION

THIS MODULE VALIDATES AND TRANSLATES USER INPUT AT LAYOUT
MODE TO
INTERNAL DATA STRUCTURE.

ARGUMENTS:

FRMPNT - FIELD *

INCLUDE FILES:

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STDTYPE	- STANDARD TYPE DEFINITIONS
CTYPE	- **** PURPOSE NOT FOUND BY STRIPPER ****
FPCODE	- FORM PROCESSOR RETURN CODES
FPPARM	- FORM PROCESSOR PARAMETERS
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMSET	
TRNSCR/LDPMINF	- LOAD PROMPT INFORMATION
INSFLD	- INSERT FIELD
MODFLD	- MODIFY FIELD
TRNSCR/FLCST	- FILL LOCATION STRUCTURE
TRNSCR/PARSCRN	- PARSE SCREEN DATA
MEMCMP	
ISSPACE	
TRNSCR/SPSYMB	- SPECIAL SYMBOL CHECK
TRNSCR/GTFMPMT	- GET FORM PROMPT INFORMATION
TRNSCR/GTPINF	- GET PROMPT INFORMATION
TRNSCR/MTCHPMT	- MATCH PROMPT WITH FIELD
TRNSCR/FRLCST	- FREE LOCATION STRUCTURES
MODFRM	- MODIFY FORM
DELFLD	
GTCPPFD	- GET USING CURSOR POSITION FIELD
FLSTRC	- FIELD STRUCTURE TRANSLATION
MITOA	
SPRINTF	
MEMCPY	
STRLEN	
FLFMST	- FIELD TO FORM STRUCTURE TRANSLATION

CALLED DIRECTLY BY:

SCRMAN	- SCREEN MANAGER

USED IN MAIN PROGRAM(S):

FDFE/MAIN	- MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSCR/FLCST
PURPOSE: FILL LOCATION STRUCTURE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: TRNSCR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

STATIC CHAR *FLCST(ROW,COL,DPTH,WDTH)
REGISTER INT ROW,COL,DPTH,WDTH;

INPUTS/OUTPUTS:

INPUTS:

ROW - ROW WHERE FIELD IS LOCATED
COL - COL WHERE FIELD IS LOCATED
DPTH - DEPTH OF FIELD LOCATED
WDTH - DEPTH OF FIELD LOCATED

OUTPUTS:

RETURN NULL IF NO ALLOCATION ERRORS
RETURN ALCERR IF ALOCATION ERROR.

DESCRIPTION

THIS MODULE CREATES AND FILLS FIELD LOCATION STRUCTURE.

ARGUMENTS:

ROW = INT
COL = INT
DPTH = INT
WDTH = INT

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INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

MALLOC

CALLED DIRECTLY BY:

TRNSCR/PARSCRN - PARSE SCREEN DATA
TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSCR/FRLCST
PURPOSE: FREE LOCATION STRUCTURES
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: TRNSCR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

----- SYNOPSIS

STATIC VOID FRLCST()

INPUTS/OUTPUTS:

INPUTS:
NONE

OUTPUTS:
NONE

DESCRIPTION

THIS MODULE FREES UP ALL DATA LOCATION STRUCTURES
ALLOCATED BY TRNSCR
AND ITS DEPENDENT STATIC SUB MODULES (ALL FLDLOC AND
PMTLOC STRUCTURES).

INCLUDE FILES:

STDTYPE - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

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ROUTINES CALLED:

FREE

CALLED DIRECTLY BY:

TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSCR/GTFHPMT
PURPOSE: GET FORM PROMPT INFORMATION
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * ()
SOURCE FILE: TRNSCR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
STATIC CHAR *GTFHPMT(ROW,COL,N)  
REGISTER INT ROW,COL,N;
```

INPUTS/OUTPUTS:

INPUTS:

ROW - ROW OF PROMPT ASSOCIATED WITH FORM (ON SCREEN
ARRAY)
COL - COL OF PROMPT ASSOCIATED WITH FORM (ON SCREEN
ARRAY)
N - NUMBER OF THE PROMPT ASSOCIATED WITH FORM

OUTPUTS:
NONE

DESCRIPTION

THIS MODUE GETS FORM PROMPT INFO FOR PROMPT AND PUTS IT
INTO COMMON
DATA STRUCTURE WHICH INSFRM AND MODFRM USE

ARGUMENTS:

```
ROW - INT  
COL - INT  
N - INT
```

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INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MITCA

CALLED DIRECTLY BY:

TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSCR/GTPINF
PURPOSE: GET PROMPT INFORMATION
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: TRNSCR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
STATIC CHAR *GTPINF(ROW,COL,DIRFLG,RCOL,FSTFLG,ERRFLG)
REGISTER INT ROW,COL,DIRFLG;
INT          *RCOL;
BOOL         *FSTFLG,*ERRFLG;
```

INPUTS/OUTPUTS:

INPUTS:

ROW - ROW WHERE PROMPT SYMBOL WAS FOUND
COL - COL WHERE PROMPT SYMBOL WAS FOUND
DIRFLG - TYPE OF PROMPT (DIRECTION OF ASSOCIATION)
FSTFLG - FIRST PROMPT IN COL FLAG

OUTPUTS:

RCOL - LOCATION TO RESUME SEARCH THOUGH SCREEN ARRAY.
FSTFLG - FIRST PROMPT IN COL FLAG
ERRFLG - SET TO TRUE IF PROMPT IS OPEN ENDED

DESCRIPTION

THIS MODULE DETERMINES LOCATION OF PROMPT IF IT CAN AND
CREATE A
PROMPT LOCATION STRUCTURE WITH LOCATION AND CONTENT OF
PROMPT.

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ARGUMENTS:

ROW - INT
COL - INT
DIRFLG - INT
RCOL - INT *
FSTFLG - BOOL *
ERRFLG - BOOL *

INCLUDE FILES:

STDYTP -- STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FPD - FORM PROCESSOR DATA
FDPEFM - FDPE FORM DEFINITIONS
FDPE - FDPE DATA STRUCTURES

ROUTINES CALLED:

MAX
MIN
MALLOC
ISSPACE
TRNSCR/SPSYMB - SPECIAL SYMBOL CHECK

CALLED DIRECTLY BY:

TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSCR/LDPHINF
PURPOSE: LOAD PROMPT INFORMATION
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: TRNSCR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

----- SYNOPSIS

STATIC VOID LDPHINF(FLCPNT)
STRUCT FLDLOC *FLCPNT;

INPUTS/OUTPUTS:

INPUTS:

FLCPNT - POINTER TO FIELD LOCATION STRUCTURE WHOSE
PROMPT IS
BEING WORKED ON

OUTPUTS:

DESCRIPTION

THIS MODULE LOADS PROMPT INFO OF LAYOUT FIELD INTO COMMON
DATA
STRUCTURE USED BY AND PASSED TO INSFLD(MODFLD) FIELD ETC.

ARGUMENTS:

FLCPNT - STRUCT FLDLOC *

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPCODE - FORM PROCESSOR RETURN CODES

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FPPARM	- FORM PROCESSOR PARAMETERS
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMCPY
MITOA

CALLED DIRECTLY BY:

TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSCR/MTCHPMT
PURPOSE: MATCH PROMPT WITH FIELD
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: TRNSCR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

STATIC BOOL MTCHPMT()

INPUTS/OUTPUTS:

INPUTS:
NONE

OUTPUTS:
RETURNS MATCHED/NOT_MATCHED FLAG

DESCRIPTION

THIS MODULE MATCHES PROMPTS WITH FIELDS. IF PROMPT IS
UNMATCHED OR
AMBIGUOUSLY MATCHED RETURN FAILURE ELSE PUT POINTER TO
PROMPT LOCATION
FIELD INTO FIELD LOCATION FIELD PROMT POINTER.

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
CTypE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FPD - FORM PROCESSOR DATA
FDFFM - FDFE FORM DEFINITIONS

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FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MAX

CALLED DIRECTLY BY:

TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSCR/PARSCRN
PURPOSE: PARSE SCREEN DATA
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: TRNSCR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
STATIC CHAR *PARSCRN(ROW,COL,MAXCOL)  
REGISTER INT ROW,COL,MAXCOL;
```

INPUTS/OUTPUTS:

INPUTS:

ROW - ROW IN WHICH BEGINNING FIELD SYMBOL OCCURED
COL - COL IN WHICH BEGINNING FIELD SYMBOL OCCURED
MAXCOL - MAX COL IN WHICH ENDING FIELD SYMBOL CA BE
FOUND WITHOUT
AN OVERLAP ERROR OCCURING.

OUTPUTS:

RETURN NULL IF NO ERRORS
RETURN ERROR CODE IF EITHER OVERLAP ERRORS OR SYSTEM
ERRORS

DESCRIPTION

THIS MODULE PARSES SCREEN TO DETERMINE THE LOCATION OF
FIELDS
WHILE CHECKING FOR OVERLAPPING OF OTHER FIELDS OR PROMPTS.

ARGUMENTS:

ROW - INT
COL - INT

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MAXCOL = INT

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDfE - FDFE DATA STRUCTURES

ROUTINES CALLED:

TRNSCR/SPSYMB - SPECIAL SYMBOL CHECK
ISSPACE
TRNSCR/PARSCRN - PARSE SCREEN DATA
TRNSCR/FLCST - FILL LOCATION STRUCTURE
MIN

CALLED DIRECTLY BY:

TRNSCR/PARSCRN - PARSE SCREEN DATA
TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDfE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDfE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSCR/SPSYMB
PURPOSE: SPECIAL SYMBOL CHECK
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: TRNSCR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

----- SYNOPSIS

STATIC BOOL SPSYMB(SCRCHR)
CHAR SCRCHR;

INPUTS/OUTPUTS:

INPUTS:

SCRCHR - CHARACTER TO BE CHECKED

OUTPUTS:

RETURNS TRUE/FALSE FLAG

DESCRIPTION

THIS MODULE RETURNS TRUE IF CHAR A SPECIAL SYMBOL ELSE
RETURNS FALSE

ARGUMENTS:

SCRCHR - CHAR

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS

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FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

CALLED DIRECTLY BY:

TRNSCR/GTPINF - GET PROMPT INFORMATION
TRNSCR/PARSCRN - PARSE SCREEN DATA
TRNSCR - TRANSLATE SCREEN TO STRUCTURE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSTR
PURPOSE: TRANSLATE STRUCTURE TO SCREEN
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: TRNSTR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
VOID TRNSTR(FRMPNT,FLDPNT,RDONLY)
    FIELD *FRMPNT;
    FIELD *FLDPNT;
    BOOL  RDONLY;
```

INPUTS/OUTPUTS:

INPUTS:

FRMPNT - POINTER TO FORM BEING WORKED ON
FLDPNT - POINTER TO FIELD BEING WORKED ON IF NULL DO
 ENTIRE FORM
RDONLY - FLAG INDICATING WHETHER IN READ ONLY MODE OR
 NOT

OUTPUTS:

NONE

DESCRIPTION

THIS MODULE TRANSLATES INTERNAL DATA STRUCTURE INTO
SCREEN LAYOUT
FORMAT.

ARGUMENTS:

FRMPNT = FIELD *

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FLDPNT - FIELD *
RONLY - BOOL

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMSET
TRNSTR/FLPRMPT - FILL PROMPT
TRNSTR/FLFLD - FILL FIELD

CALLED DIRECTLY BY:

SCRMAN - SCREEN MANAGER
SCRMAN/CHGPOS - CHANG POSITION

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSTR/FLFLD
PURPOSE: FILL FIELD
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: TRNSTR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

----- SYNOPSIS

STATIC VOID FLFLD(FLDPNT, RDONLY)
FIELD *FLDPNT;
BOOL RDONLY;

INPUTS/OUTPUTS:

INPUTS:

FLDPNT - POINTER TO FIELD BEING WORKED ON
RDONLY - FLAG INDICATING WHETHER IN READ ONLY MODE OR
NOT

OUTPUTS:

NONE

DESCRIPTION

THIS MODULE TRANSLATES INTERNAL DATA STRUCTURE OF ONE
FIELD INTO SCREEN
LAYOUT FORMAT.

ARGUMENTS:

FLDPNT - FIELD *
RDONLY - BOOL

INCLUDE FILES:

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STDYTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDPEFM - FDPE FORM DEFINITIONS
FDPE - FDPE DATA STRUCTURES

ROUTINES CALLED:

TRNSTR/FLPRMPT - FILL PROMPT
PMSGLS
SPRINTF
MIN
MAX
TRNSTR/GARINF - GET ARRAY INFORMATION

CALLED DIRECTLY BY:

TRNSTR - TRANSLATE STRUCTURE TO SCREEN

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSTR/FLPRMPT
PURPOSE: FILL PROMPT
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: TRNSTR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

----- SYNOPSIS

STATIC VOID FLPRMPT(FLFPNT,TXTPNT,PRMSYM)

FIELD *FLDPNT;
TEXT *TXTPNT;
CHAR PRMSYM;

INPUTS/OUTPUTS:

INPUTS:

FLDPNT - POINTER TO FIELD ON WHICH IS FOUND TEXT
(PROMPT)

TXTPNT - POINTER TO TEXT (PROMPT) BEING WORKED ON

PRMSYM - PROMT SYMBOL (LAYOUT PROMPT SYMBOLS)

OUTPUTS:

NONE

DESCRIPTION

THIS MODULE FILLS SCREEN STRUCTURE WIHT PROMPT STING
FROM TEXT

STRUCTURE AT THE APPROPRIATE ROW AND COL WITH THE
APPROPRIATE SYMBOL

PASSED DOWN IN PRMSYM.

ARGUMENTS:

FLDPNT - FIELD *
TXTPNT - TEXT *
PRMSYM - CHAR

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INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MIN

CALLED DIRECTLY BY:

TRNSTR/FLFLD - FILL FIELD
TRNSTR - TRANSLATE STRUCTURE TO SCREEN

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: TRNSTR/GARINF
PURPOSE: GET ARRAY INFORMATION
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: TRNSTR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDPE
DOCUMENTATION GROUP: FDPE

DESCRIPTION:

SYNOPSIS

STATIC VOID GARINF(FLDPNT, WIDTH, DPTH, ARWIDTH, ARDPTH)
FIELD *FLDPNT;
INT *WIDTH, *DPTH, *ARWIDTH, *ARDPTH;

INPUTS/OUTPUTS:

INPUTS:

FLDPNT - POINTER TO ARRAY BEING WORKED ON
RONLY - FLAG INDICATING WHETHER IN READ ONLY MODE OR
NOT

OUTPUTS:

WIDTH - WIDTH OF FIRST MEMBER OF ARRAY
DPTH - DEPTH OF FIRST MEMBER OF ARRAY
ARWIDTH - WIDTH OF WHOLE OF ARRAY
ARDPTH - DEPTH OF WHOLE OF ARRAY

DESCRIPTION

THIS MODULE OBTAINS ROW, COL, WIDTH, DEPTH, OF FIRST
MEMBER OF ARRAY
AND THE WIDTH AND DEPTH OF ENTIRE ARRAY AND RETURNS
THEM TO CALLER

ARGUMENTS:

FLDPNT = FIELD *

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WDTH - INT *
DPTH - INT *
ARWDTH - INT *
ARDPTH - INT *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES
FPD - FORM PROCESSOR DATA
FDFFM - FDFF FORM DEFINITIONS
FDFF - FDFF DATA STRUCTURES

ROUTINES CALLED:

ABS

CALLED DIRECTLY BY:

TRNSTR/FLFLD - FILL FIELD

USED IN MAIN PROGRAM(S):

FDFF/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFF)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: VALINP
PURPOSE: VALIDATE INPUT
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: VALINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
BOOL VALINP(FDP, DP, EDTTYP, BLNKSTOP)
    FIELD *FDP;
    FIELD *DP;
    INT    EDTTYP;
    BOOL   BLNKSTOP;
```

INPUTS:

```
FIELD *FDP; ** POINTER TO FORM CONTAINING FIELD TO BE
              VALIDATED
FIELD *DP;   ** POINTER TO FIELD TO BE VALIDATED **
INT    EDTTYP; ** INDICATES THE COMBINATION OF THINGS TO
              VALIDATE
BOOL   BLNKSTOP; ** TRUE IF CHECKING IS TO STOP ON THE
              FIRST BLANK FIELD
```

DESCRIPTION

PERFORMS VALIDATION CHECKS ON FIELDS. FDP AND DP INDICATE
THE FORM
AND FIELD TO BE VALIDATED. EDTTYP INDICATES THE
COMBINATION OF THINGS
TO BE VALIDATED. THE OBJECTS TO BE VALIDATED ARE CONTAINED
IN GLOBAL
DATA. IF THE OBJECTS PASS THE VALIDATION CHECKS VALINP
RETURNS A TRUE.

ARGUMENTS:

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FDP - FIELD *
DP - FIELD *
EDTTYP - INT
BLNKSTOP - BOOL

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FDFEFM - FDFE FORM DEFINITIONS
FDPE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMCMP
SPRINTF
VALINP/CCKITH - CHECK ITEM
ABORT
VALINP/CCKFRM - CHECK FORM
VALINP/CCKHLP - CHECK HELP
VALINP/CCKFLD - CHECK FIELD
VALINP/CCKNAM - CHECK NAME

CALLED DIRECTLY BY:

EDTFLD - EDIT FIELD
EDTWHL - EDIT WHOLE
GFDINP - GET FIELD INPUT
GWHINP - GET WHOLE INPUT

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: VALINP/CCKFLD
PURPOSE: CHECK FIELD
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: VALINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

STATIC BOOL CCKFLD(PATH, ARPATH, FLDPTR, DP, FDP)
 PATH PATH[], ARPATH[];
 STRUCT COMINFO *FLDPTR;
 FIELD *DP, *FDP;

VALIDATE A FIELD.

CCKFLD (FIELD PATH, ARRAY PATH, POINTER TO DISPLAY, POINTER
 TO FPD FIELD)

ARGUMENTS:

PATH = PATH []
ARPATH = PATH []
FLDPTR = STRUCT COMINFO *
DP = FIELD *
FDP = FIELD *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

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ROUTINES CALLED:

MATOI
VALINP/CCKPRM - CHECK PROMPT
MIN
ATOI
SPRINTF
MEMCMP
FNDATT - FIND ATTRIBUTE
STRCHR
STRCMP
VALINP/CCKRSV - CHECK FOR RESERVED WORD
STRLEN
STRSPN
PUTERR - PUT ERROR
ISALPHA
ESCPY

CALLED DIRECTLY BY:

VALINP - VALIDATE INPUT

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: VALINP/CCKFRM
PURPOSE: CHECK FORM
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: VALINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

STATIC BOOL CCKFRM(PATH, FRMPTR)
CHAR PATH[];
STRUCT FRMINFO *FRMPTR;

VALIDATE A FORM.
CCKFRM (PATH TO FORM, POINTER TO DISPLAY FORM)

ARGUMENTS:

PATH = CHAR []
FRMPTR = STRUCT FRMINFO *

INCLUDE FILES:

STDTYPE - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

SPRINTF
STRCHR
MIN

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MEMCMP
PUTERR - PUT ERROR
FNDATT - FIND ATTRIBUTE
ESCPY

CALLED DIRECTLY BY:

VALINP - VALIDATE INPUT

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: VALINP/CCKHLP
PURPOSE: CHECK HELP
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: VALINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

STATIC BOOL CCKHLP(PATH, HLPPTR)
PATH PATH;
STRUCT ITMHELP *HLPPTR;

VALIDATE HELP.
CCKHLP(PATH TO FIELD, POINTER TO DISPLAY FOR HELP)

ARGUMENTS:

PATH = PATH
HLPPTR = STRUCT ITMHELP *

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

STRCMP
STRSPN
ISALPHA

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STRNCMP
PUTERR - PUT ERROR
STRLEN
STRUPC
ESCPY
MEMCMP
STRCHR

CALLED DIRECTLY BY:

VALINP - VALIDATE INPUT

USED IN MAIN PROGRAM(S):

FDPE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDPE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: VALINP/CCKITM
PURPOSE: CHECK ITEM
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: VALINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

STATIC BOOL CCKITM(PATH, ITMPTR)
 PATH PATH;
 STRUCT ITMCHCK *ITMPTR;

VALIDATE ITEM DOMAIN TYPE STUFF.
CCKITM(FIELD PATH, POINTER TO DISPLAY)

ARGUMENTS:

PATH = PATH
ITMPTR = STRUCT ITMCHCK *

INCLUDE FILES:

STD TYP - STANDARD TYPE DEFINITIONS
C TYP E - **** PURPOSE NOT FOUND BY STRIPPER ****
F P D - FORM PROCESSOR DATA
F P C O D E - FORM PROCESSOR RETURN CODES
F P P A R M - FORM PROCESSOR PARAMETERS
F D F E F M - FDFE FORM DEFINITIONS
F D F E - FDFE DATA STRUCTURES

ROUTINES CALLED:

ATOI
ESCPY
MEMCMP

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PUTERR - PUT ERROR
STRCHR

CALLED DIRECTLY BY:

VALINP - VALIDATE INPUT

USED IN MAIN PROGRAM(S):

FD FE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FD FE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: VALINP/CCKNAM
PURPOSE: CHECK NAME
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: VALINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

STATIC BOOL CCKNAM(FDP, BLNKSTOP)
FIELD *FDP;
BOOL BLNKSTOP;

CHECK FOR DUPLICATE NAMES ON WHLEDT

ARGUMENTS:

FDP = FIELD *
BLNKSTOP = BOOL

INCLUDE FILES:

STD TYP - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMCMP
PUTERR - PUT ERROR
SPRINTF

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CALLED DIRECTLY BY:

VALINP - VALIDATE INPUT

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: VALINP/CCKPRM
PURPOSE: CHECK PROMPT
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: VALINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

STATIC BOOL CCKPRM(POS)
CHAR POS[];

CHECK THE FIELD PROMPT LOCATION FOR A LEGAL POSITION.
CCKPRM(String)

ARGUMENTS:

POS = CHAR []

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

MEMCMP

CALLED DIRECTLY BY:

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VALINP/CCKFLD - CHECK FIELD

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: VALINP/CCKRSV
PURPOSE: CHECK FOR RESERVED WORD
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: VALINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

STATIC BOOL CCKRSV(FLDNAM)
CHAR FLDNAM[];

CHECK THE FIELD NAME AGAINST THE RESERVED WORD LIST.
CCKRSV(STRING)

ARGUMENTS:

FLDNAM = CHAR []

INCLUDE FILES:

STDTyp - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FDFFEM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

ROUTINES CALLED:

ESCPY
STRCMP

CALLED DIRECTLY BY:

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VALINP/CCKFLD - CHECK FIELD

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: VALINP/CCKVAL
PURPOSE: CHECK VALUE
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: BOOL ()
SOURCE FILE: VALINP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

STATIC BOOL CCKVAL(PATH, VALPTR)
PATH PATH;
STRUCT ITMVAL *VALPTR;

VALIDATE AN EXPRESSION (ACTUALLY DONE BY FLAN).
CCKVAL(FIELD TO PATH, POINTER TO DISPLAY FOR VALUE)

ARGUMENTS:

PATH = PATH
VALPTR = STRUCT ITMVAL *

INCLUDE FILES:

STDTPP - STANDARD TYPE DEFINITIONS
CTYPE - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
FPCODE - FORM PROCESSOR RETURN CODES
FPPARM - FORM PROCESSOR PARAMETERS
FDFEFM - FDFE FORM DEFINITIONS
FDFE - FDFE DATA STRUCTURES

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: VIEW
PURPOSE: VIEW A FORM
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: VIEW
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

```
CHAR *VIEW(FORMNAME)  
NAME FORMNAME;
```

INPUTS/OUTPUTS:

INPUTS:

NAME FORMNAME NAME OF THE FORM TO BE VIEWED.

OUTPUTS:

DESCRIPTION

RETURNS STANDARD FORM PROCESSOR ERROR STRINGS OR IF
SUCCESSFUL, A NULL
POINTER.

ARGUMENTS:

FORMNAME - NAME

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS

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FPPARM	- FORM PROCESSOR PARAMETERS
FPCODE	- FORM PROCESSOR RETURN CODES
FPD	- FORM PROCESSOR DATA
FDFEFM	- FDFE FORM DEFINITIONS
FDFE	- FDFE DATA STRUCTURES

ROUTINES CALLED:

ADDFRM
MEMCMP
SYSMSG
CLSFRM
RMVPAG
GWINDO
PMSGLS
OISCR

CALLED DIRECTLY BY:

FDFE - FORMS DRIVEN FORM EDITOR

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: WARNING
PURPOSE: ISSUE WARNING MESSAGE
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: FLANERR
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

----- SYNOPSIS

VOID WARNING(S, A, B, C, D, E, F)
CHAR *S, *A, *B, *C, *D, *E, *F;

DESCRIPTION

PRINTS A WARNING MESSAGE ON STDERR

ARGUMENTS:

S = CHAR *
A = CHAR *
B = CHAR *
C = CHAR *
D = CHAR *
E = CHAR *
F = CHAR *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS

ROUTINES CALLED:

PMSGLS
STRLEN
SPRINTF

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CALLED DIRECTLY BY:

CHKFRM - CHECK FORM

USED IN MAIN PROGRAM(S):

CHKFRM - CHECK FORM

FORMS DRIVEN FORM EDITOR Module Documentation

NAME: WRTEXP
PURPOSE: WRITE EXPRESSION
LANGUAGE: C
MODULE TYPE: FUNCTION
FUNCTION TYPE: CHAR * (
SOURCE FILE: FLANSP
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FE
DOCUMENTATION GROUP: FDFE/FLAN

DESCRIPTION:

SYNOPSIS

CHAR *WRTEXP(EP)
ENODE *EP;

INPUTS:

EP - EXPRESSION TO WRITE

OUTPUTS:

RETURNS A POINTER TO THE WRITTEN EXPRESSION OR NULL
FOR ERRORS

DESCRIPTION

RETURNS A POINTER TO THE CHARACTER STRING REPRESENTING
THE GIVEN
EXPRESSION, OR NULL IF AN ERROR IS DETECTED.

ARGUMENTS:

EP = ENODE *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA
RW - REPORT WRITER DEFINITIONS
FPCODE - FORM PROCESSOR RETURN CODES

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ROUTINES CALLED:

FREE
WRTEXP - WRITE EXPRESSION
MEMCPY
MYALLOC - MY MALLOC
STRLEN
SPRINTF

CALLED DIRECTLY BY:

CHKFLD - CHECK FIELD
WRTEXP - WRITE EXPRESSION

USED IN MAIN PROGRAM(S):

CHKFLD - CHECK FIELD

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: WRTFDL
PURPOSE: WRITE FDL FILE
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: WRTFDL
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

SYNOPSIS

VOID WRTFDL(FRMPTR, FILPTR)
FIELD *FRMPTR;
FILE *FILPTR;

INPUTS:

FIELD *FRMPTR; ** THE LIST OF FORMS FOR WHICH .FDL IS
TO BE WRITTEN
FILE *FILPTR; ** THE FILE TO WHICH THE FORMS ARE TO BE
WRITTEN

DESCRIPTION

GIVEN A POINTER TO A LIST OF FORMS (FRMPTR) AND A FILE
POINTER (FILPTR),
THE SOURCE LANGUAGE REPRESENTATION OF THE FPD LIST IS
CREATED.

ARGUMENTS:

FRMPTR - FIELD *
FILPTR - FILE *

INCLUDE FILES:

STDYTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA

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ROUTINES CALLED:

FPRINTF
BLEN
ESCPY
STRCMP
STRNCMP
WRTFDL/ARYREF - ARRAY REFERENCE

CALLED DIRECTLY BY:

SAVFLS - SAVE FDL SOURCE

USED IN MAIN PROGRAM(S):

FD FE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FD FE)

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FORMS DRIVEN FORM EDITOR Module Documentation

NAME: WRTFDL/ARYREF
PURPOSE: ARRAY REFERENCE
LANGUAGE: C
MODULE TYPE: SUBROUTINE
FUNCTION TYPE: VOID ()
SOURCE FILE: WRTFDL
SOURCE FILE TYPE: .C
HOST:
SUBSYSTEM: UI
SUBDIRECTORY: FDFE
DOCUMENTATION GROUP: FDFE

DESCRIPTION:

STATIC VOID ARYREF(ARYDEF, DP)
CHAR ARYDEF[];
FIELD *DP;

CREATES THE FORMS LANGUAGE REPRESENTATION OF AN ARRAY
SPECIFICATION
FROM THE UID.CURFPD-,

ARGUMENTS:

ARYDEF = CHAR []
DP = FIELD *

INCLUDE FILES:

STDTP - STANDARD TYPE DEFINITIONS
STDIO - **** PURPOSE NOT FOUND BY STRIPPER ****
FPD - FORM PROCESSOR DATA

ROUTINES CALLED:

ABS
SPRINTF
STRCAT

CALLED DIRECTLY BY:

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WRTFDL - WRITE FDL FILE

USED IN MAIN PROGRAM(S):

FDFE/MAIN - MAIN MODULE FOR FORMS DRIVEN FORMS EDITOR (FDFE)

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3.10.9 Include File Descriptions

The following list contains a purpose and description of each include file listed in 3.10.4 as specified in the source code. The language it is written in is also given.

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FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FDFE
PURPOSE: FDFE DATA STRUCTURES
LANGUAGE: C

DESCRIPTION:

DESCRIPTION
MAIN INCLUDE FILE FOR FDFE

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FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FDFEFM
PURPOSE: FDFE FORM DEFINITIONS
LANGUAGE: C

DESCRIPTION:

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FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FDPEINI
PURPOSE: FDPE INITIALIZATIONS
LANGUAGE: C

DESCRIPTION:

DESCRIPTION
INITIALIZING INCLUDE FILE FOR FDPE

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FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FFFV2
PURPOSE: FORM FILE FORMAT - VERSION 2
LANGUAGE: C

DESCRIPTION:

DESCRIPTION
RECORD LAYOUTS FOR THE BINARY FORM DEFINITION FILE

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FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FLAN
PURPOSE: FLAN INTERNAL STRUCTURES
LANGUAGE: C

DESCRIPTION:

DESCRIPTION
AUXILIARY DATA STRUCTURES USED BY FLAN.

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FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FPCODE
PURPOSE: FORM PROCESSOR RETURN CODES
LANGUAGE: C

DESCRIPTION:

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FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FPD
PURPOSE: FORM PROCESSOR DATA
LANGUAGE: C

DESCRIPTION:

DESCRIPTION
DATA DEFINITIONS FOR ALL FORM PROCESSOR (INCLUDING
MONITER)DATA.

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1 November 1985

FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FPDINI
PURPOSE: FPD INITIALIZATION
LANGUAGE: C

DESCRIPTION:

DESCRIPTION
INITIALIZED VERSION OF UID FOR INCLUSION IN MAIN PROGRAM.

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FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: FPPARM
PURPOSE: FORM PROCESSOR PARAMETERS
LANGUAGE: C

DESCRIPTION:

DESCRIPTION: THESE DATA DEFINITIONS ARE USED
IN THE FORM PROCESSOR ROUTINES.

PS 620144402
1 November 1985

FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: NTM
PURPOSE: NTM INTERFACE INCLUDE FILE
LANGUAGE: C

DESCRIPTION:

DESCRIPTION
INCLUDE FILE FOR NTM INTERFACE

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FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: RW
PURPOSE: REPORT WRITER DEFINITIONS
LANGUAGE: C

DESCRIPTION:

DESCRIPTION

FORMS DRIVEN FORM EDITOR Include File Description

FILE NAME: STDTP
PURPOSE: STANDARD TYPE DEFINITIONS
LANGUAGE: C

DESCRIPTION:

DESCRIPTION

THIS FILE ENSURES THAT THE FOLLOWING STANDARD TYPES ARE
AVAILABLE:

FLOAT	- SINGLE PRECISION FLOAT
DOUBLE	- DOUBLE PRECISION FLOAT
LONG	- 32 BIT (OR LARGER) SIGNED INTEGER
LBITS	- 32 BITS (OR MORE) FOR BIT MANIPULATION
INT	- NATURAL SIZE SIGNED INTEGER
UNSIGNED	- NATURAL SIZE UNSIGNED INTEGER
BOOL	- NATURAL SIZE LOGICAL (ZERO / NON-ZERO ONLY)
SHORT	- 16 BIT (OR LARGER) SIGNED INTEGER
USHORT	- 16 BIT (OR LARGER) UNSIGNED INTEGER
BITS	- 16 BITS (OR MORE) FOR BIT MANIPULATION
CHAR	- SINGLE MACHINE CHARACTER (REAL CHARACTERS ALWAYS POSITIVE)
TINY	- 8 BIT (OR LARGER) SIGNED INTEGER
UTINY	- 8 BIT (OR LARGER) UNSIGNED INTEGER
TBITS	- 8 BITS (OR MORE) FOR BIT MANIPULATION
TBOOL	- 8 BIT (OR LARGER) LOGICAL (ZERO / NON-ZERO ONLY)
METACHAR	- 16 BIT (OR LARGER) AUGMENTED CHARACTER (SIGNED)
VOID	- FUNCTION THAT RETURNS NO VALUE
FORTTRAN	- STORAGE CLASS FOR FOREIGN (NON-C) ROUTINES OR C ROUTINES WHICH ARE CALLABLE FROM FOREIGN ROUTINES

SINCE NOT ALL COMPILERS SUPPORT USHORT, TINY, AND UTINY,
THE FUNCTIONS

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USHORT(), TINY(), AND UTINY() SHOULD BE USED WHENEVER
REFERENCING THEM.

IN ADDITION, THE FOLLOWING UTILITY MACROS ARE DEFINED:

LURSHIFT(N, B) - UNSIGNED LONG RIGHT SHIFT
MAX(A, B) - MAXIMUM OF A AND B
MIN(A, B) - MINIMUM OF A AND B

FORMS DRIVEN FORM EDITOR Include File Description

ABS(A)	- ABSOLUTE VALUE OF A
STRASN(A, B)	- TRANSPORTABLE A = B FOR STRUCTURES
NULL	- NULL POINTER VALUE (0)
TRUE	- 1
FALSE	- 0
SUCCESS	- EXIT(SUCCESS) INDICATES SUCCESSFUL COMPLETION
FAILURE	- EXIT(FAILURE) INDICATES ERRORS

THE FOLLOWING SYMBOLS SHOULD BE DEFINED BASED ON THE
COMPILER BEING USED:

USHORT	- COMPILER SUPPORTS UNSIGNED SHORT
TINY	- COMPILER TREATS CHAR AS SIGNED
UTINY	- CHAR IS SIGNED AND COMPILER SUPPORTS UNSIGNED CHAR
VOID	- COMPILER SUPPORTS VOID
FORTTRAN	- COMPILER SUPPORTS FORTRAN
STRASN	- DEFINE APPROPRIATE MACRO
SUCCESS	- DEFINE APPROPRIATE VALUE IF NOT 0
FAILURE	- DEFINE APPROPRIATE VALUE IF NOT 1

3.10.10 Hierarchy Chart

The following hierarchy charts show the relationships between all of the modules mentioned in the above documentation. A module may call a subroutine several times within its code, but the call will only be shown once as a single relationship on this hierarchy chart. All modules shown at the top of the first page are considered Main Programs as described in section 3.10.1 above.

There is an internal paging scheme as marked by the numbers in the upper right corner of each page. An index after the last page of the chart shows where a routine and its calls are first defined. If a routine has no page reference, it either makes no calls or is an external routine. A continuation box on the end of a tree limb shows where that the tree continues on the page numbered mentioned. A number in a box with a routine name points to the page where the routine is further defined within the hierarchy tree. If there is no number in a box, the routine either makes no calls or is an external routine.

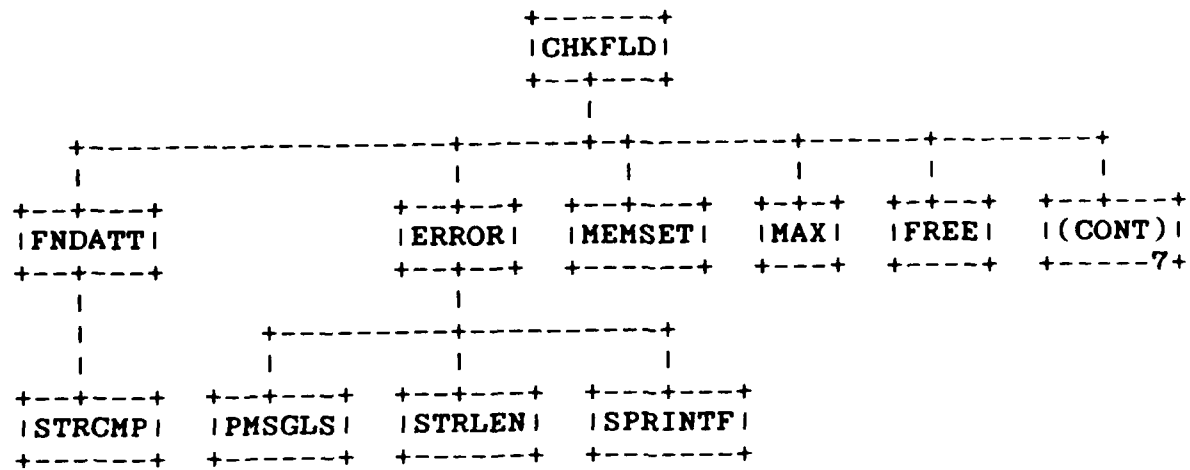
PS 620144402
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1

+-----+	+-----+	+-----+	+-----+	+-----+
CHKFLD	CHKFRM	CSTASH	FDFE/MAIN	(CONT)
+-----2+	+-----3+	+-----4+	+-----5+	+-----6+

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2



PS 620144402
1 November 1985

3

```

+-----+
|CHKFRM|
+-----+
|
+-----+-----+-----+-----+-----+
|         |         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|WARNING| |ADDCHK| |CHKARY| |ABS| |STRLEN| |(CONT)|
+-----8+ +-----+ +-----9+ +-----+ +-----+ +-----10+
|
+-----+-----+
|         |         |
+-----+ +-----+
|FLDTYP| |ERROR|
+-----+ +-----2+

```

AO-A182 506

INTEGRATED INFORMATION SUPPORT SYSTEM (IIS) VOLUME 8

4/5

USER INTERFACE SUBS. (U) GENERAL ELECTRIC CO

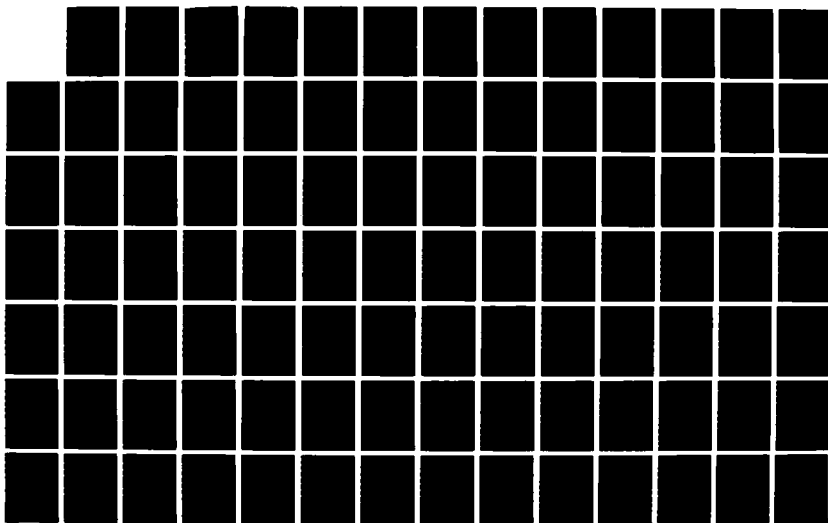
SCHENECTADY NY PRODUCTION RESOURCES CONSU.

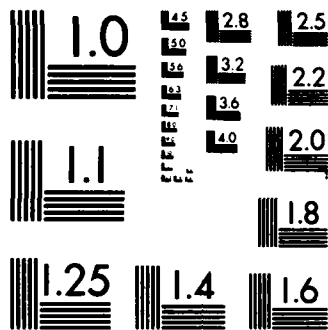
UNCLASSIFIED

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F/G 12/5

NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

PS 620144402
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4

```
      +-----+  
      |CSTASH|  
      +-----+  
      |  
+-----+-----+  
|         |         |  
+---+---+ +---+---+ +---+---+  
|STRCPY| |STRLEN| |MYALLOC|  
+---+---+ +---+---+ +---+---+16+
```

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5

```

+-----+
|FDFE/MAIN|
+-----+
|
+-----+
|
|
|
|
|
|
+-----+
|INITAL| |MEMCMP| |INITFP| |FDFE| |TERMFP| |TRMNAT|
+-----+
|
|
+-----+
|
|
|
|
|
|
+-----+
|RMVPAG| |VIEW| |RENAME| |COPY| |GETFLS| |((CONT)|
+-----+
+-----11+ +-----12+ +-----13+
```

PS 620144402
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6

+-----+ (CONT) +-----1+	+-----+ MAKINT +-----+ +-----+ MYALLOC +-----16+	+-----+ MAKSTR +-----+ +-----+ MYALLOC +-----16+	+-----+ MKPOS +-----+ +-----+ MYALLOC +-----16+	+-----+ EXPAND +-----14+

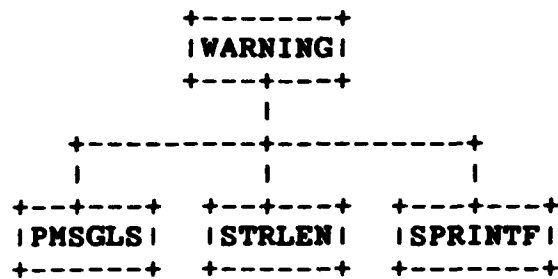
PS 620144402
1 November 1985

7

```
      +-----+  
      |CHKFLD|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|      |      |      |      |      |      |  
+-----+-----+-----+-----+-----+  
| (CONT) | WRTEXP | BLEN | MEMCPY | SYSMSG | (CONT) |  
+-----+-----+-----+-----+-----+  
|      -2+ |    -15+ |      + |      + |      + |    -16+ |
```


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8



PS 620144402
1 November 1985

9

```

+-----+
|CHKARY|
+-----+
|
+-----+
|         |         |
+-----+ +-----+ +-----+
|MYALLOC| |ABS| |STRASN|
+-----16+ +-----+ +-----+

```

PS 620144402
1 November 1985

10

```
      +-----+  
      |CHKFRM|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|         |         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| (CONT) | |FREE|  |FLDTYP| |ERROR|  |GFLDPT| | (CONT) |  
+-----3+ +-----+ +-----+ +-----2+ +-----+ +-----17+  
|  
|  
|  
+-----+  
|STRCMP|  
+-----+
```

PS 620144402
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11

+---+
 |VIEW|
 +---+
 |

```

+-----+-----+-----+-----+-----+-----+
| ADDFRM | MEMCMP | SYMSG | CLSFRM | RMVPAG | (CONT) |
+-----+-----+-----+-----+-----+-----+

```

PS 620144402
1 November 1985

12

```

+-----+
|GETFLS|
+-----+
|
+-----+-----+-----+-----+-----+-----+
|         |         |         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|FREBUF| |ESCPY| |SPRINTF| |STRCHR| |STRCAT| |(CONT)|
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|         |         |         |         |         |         |
|         |         |         |         |         |         |
+-----+
|DELFLD|
+-----+

```

PS 620144402
1 November 1985

13

```
      +-----+  
      |FDFE|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|         |         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| (CONT) | |EDTMOD| |UNLINK| |FCLOSE| |FOPEN| | (CONT) |  
+-----5+ +-----20+ +-----+ +-----+ +-----+ +-----21+
```

PS 620144402
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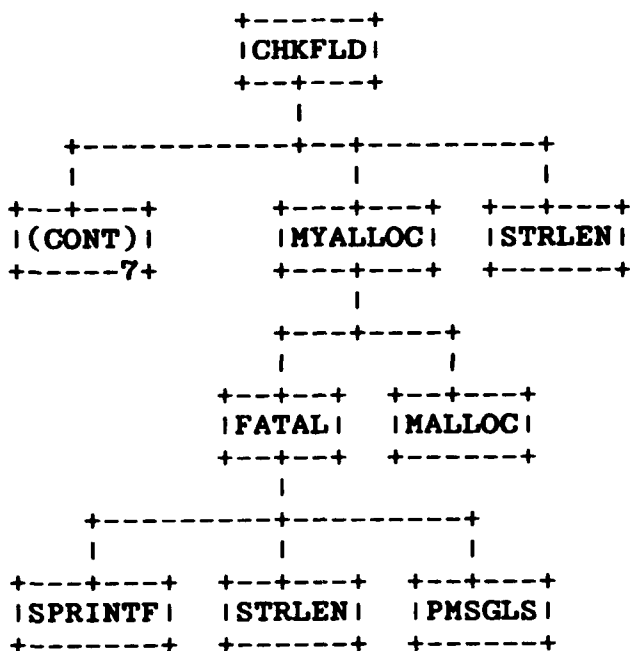
14

```
      +-----+  
      |EXPAND|  
      +---+---+  
      |  
+-----+  
|         |         |         |         |  
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+  
|RSVATT| |FNDATT| |ABS| |COPFLD| |EXPAND/FIXFRM|  
+---+---+ +---+---2+ +---+---+ +---+---+ +---+---22+
```

PS 620144402
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15

```
      +-----+  
      |WRTEXP|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
| | | | | |  
+---+ +---+ +---+ +---+ +---+ +---+  
|FREE| |WRTEXP| |MEMCPY| |MYALLOC| |STRLEN| |SPRINTF|  
+---+ +---15+ +---+ +---16+ +---+ +---+
```

PS 620144402
1 November 1985

17

```
      +-----+
      |CHKFRM|
      +-----+
        |
+-----+-----+-----+-----+
|         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+
| (CONT) | |ABS|   | |MAX|   | |STRASN| | |FNDATT|
+-----10+ +-----+ +-----+ +-----+ +-----2+
```

PS 620144402
1 November 1985

18

```
+-----+  
|VIEW|  
+-----+  
|  
+-----+  
| | | |  
+-----+ +-----+ +-----+ +-----+  
| (CONT) | | GWINDO | | PMSGLS | | OISCR |  
+-----+ +-----+ +-----+ +-----+  
+-----11+ +-----+ +-----+ +-----+
```

PS 620144402
1 November 1985

19

```
      +-----+  
      |GETFLS|  
      +-----+  
      |  
+-----+  
|         |         |         |         |         |  
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+  
|(CONT)| |FOPEN| |SYMSG| |BLEN| |MEMSET| |(CONT)|  
+---12+ +---+ +---+ +---+ +---+ +---23+
```

PS 620144402
1 November 1985

20

```
      +-----+  
      |EDTMOD|  
      +-----+  
      |  
+-----+  
| | | | | |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
|ADDFRM| |MEMCMP| |FREBUF| |PRSCMD| |CHKPRM| |(CONT)|  
+-----+ +-----+ +-----12+ +-----30+ +-----26+ +-----24+
```

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21

```
      +-----+  
      | FDFE |  
      +-----+  
      |  
+-----+-----+-----+-----+-----+-----+  
|         |         |         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| (CONT) | | STRLEN | | MEMCPY | | ACCESS | | ADDEXT | | (CONT) |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
|      13 | |      25 | |      26 |
```

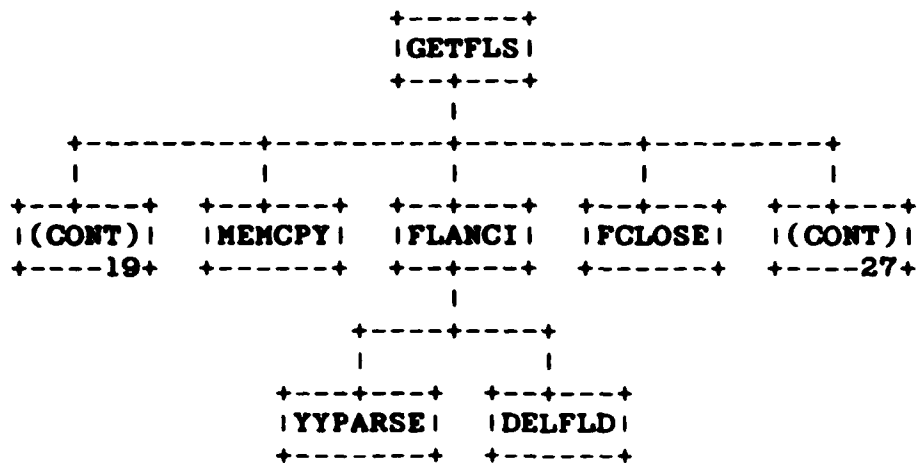
PS 620144402
1 November 1985

22

```

+-----+
|EXPAND/FIXFRM|
+-----+
|
+-----+
|EXPAND| |DELFLD| |RSVATT| |FNDATT| |COPFLD| |STRCMP|
+-----14+ +-----+ +-----+ +-----2+ +-----+ +-----+

```



PS 620144402
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24

```
      +-----+  
      |EDTMOD|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|         |         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| (CONT) | | MEMSET | | GDATA | | PMSGLS | | RMVPAG | | (CONT) |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| -20+   | |         | |         | |         | |         | | -28+   |
```

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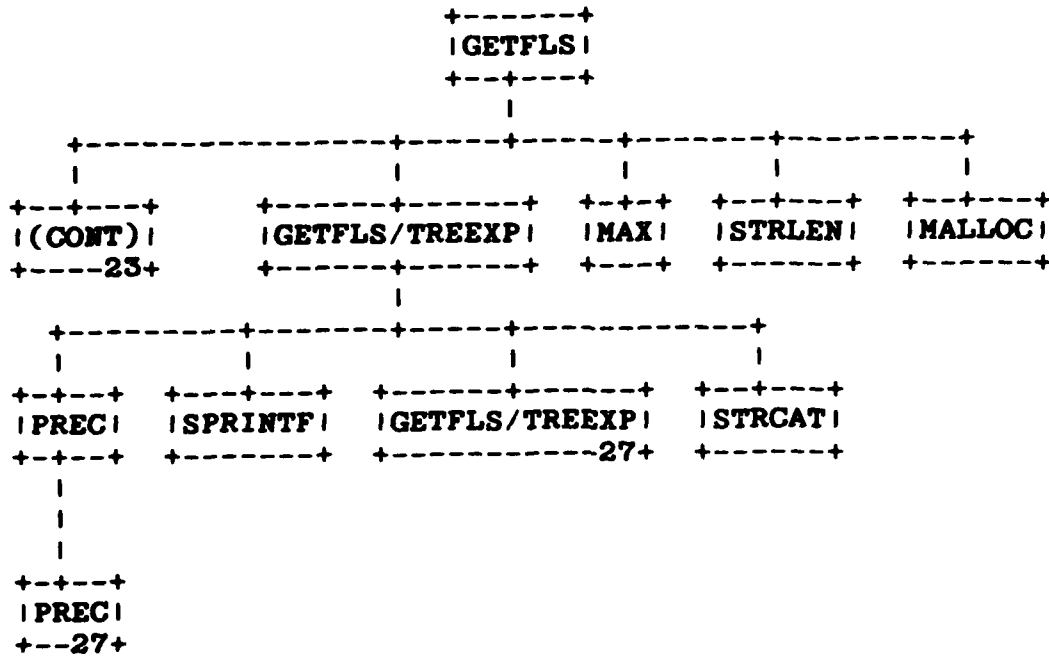
25

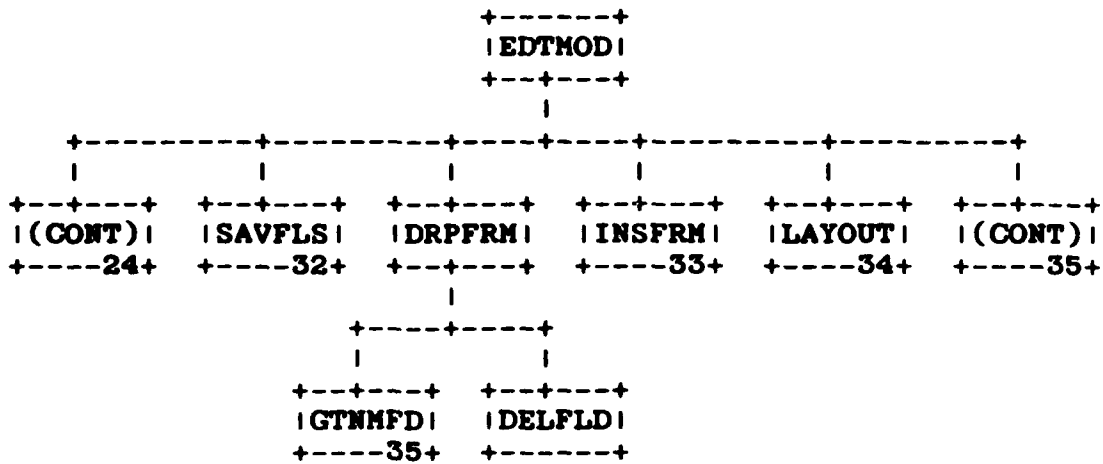
```
      +-----+  
      |ADDEXT|  
      +-----+  
      |  
+-----+  
|         |  
+-----+ +-----+ +-----+ +-----+  
|ESCPY| |STRCHR| |STRCAT| |PRINTF|  
+-----+ +-----+ +-----+ +-----+
```

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26

```
      +-----+  
      |FDFE|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|      |      |      |      |      |      |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
|(CONT)| |LISTIT| |SPRINTF| |CHKPRM| |PRSCMD| |(CONT)|  
+-----21+ +-----29+ +-----+ +-----+ +-----30+ +-----31+  
      |  
      +-----+  
      |      |  
+-----+ +-----+  
|MEMCMP| |ESCPY|  
+-----+ +-----+
```





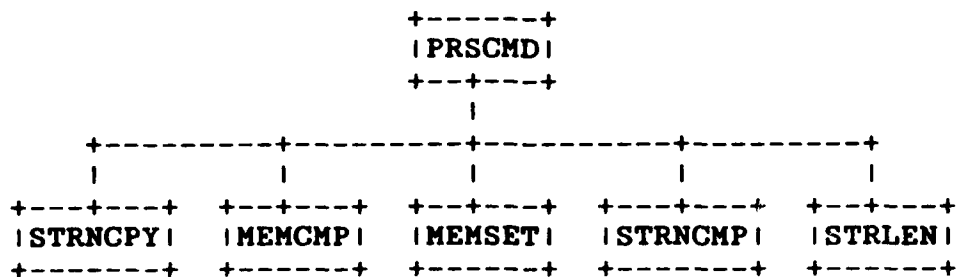
PS 620144402
1 November 1985

29

```
      +-----+  
      |LISTIT|  
      +-----+  
      |  
+-----+  
| | | | | | |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
|MKTEMP| |STRCPY| |STRCAT| |SPRINTF| |SYSMSG| |(CONT)|  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
                                         +-----36+
```

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30



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31

```
      +-----+  
      | FDFE |  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|         |         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| (CONT) | | GDATA | | OISCR | | PMSGLS | | PUTATT | | (CONT) |  
+-----26+ +-----+ +-----+ +-----+ +-----+ +-----37+
```


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32

```

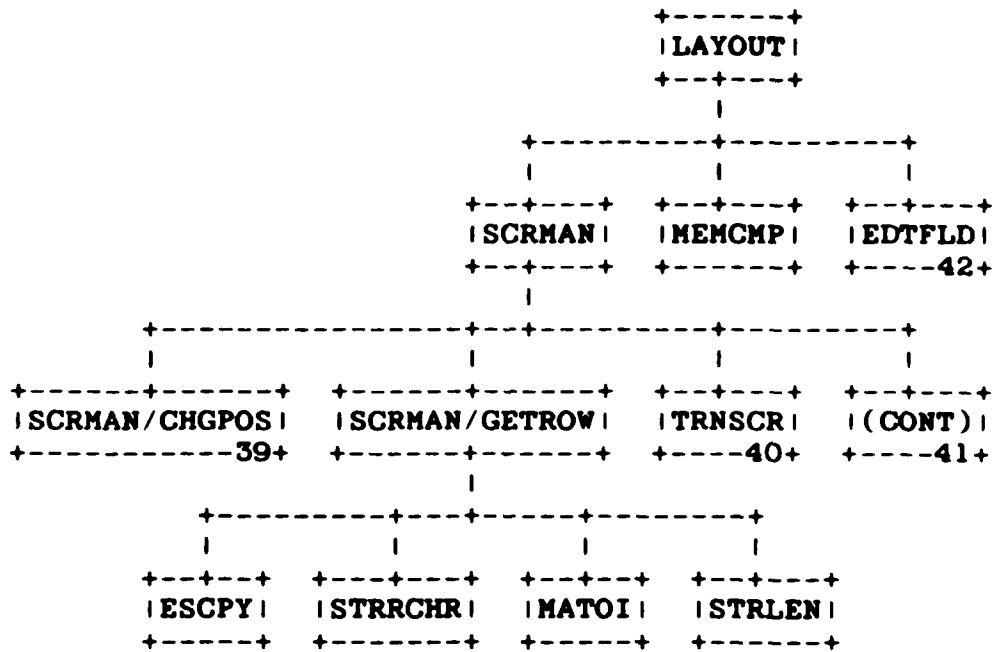
+-----+
| SAVFLS |
+-----+
|
+-----+-----+-----+-----+-----+-----+
|           |           |           |           |           |           |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
| ESCPY | | SPRINTF | | STRCPY | | STRCHR | | STRCAT | | (CONT) |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+

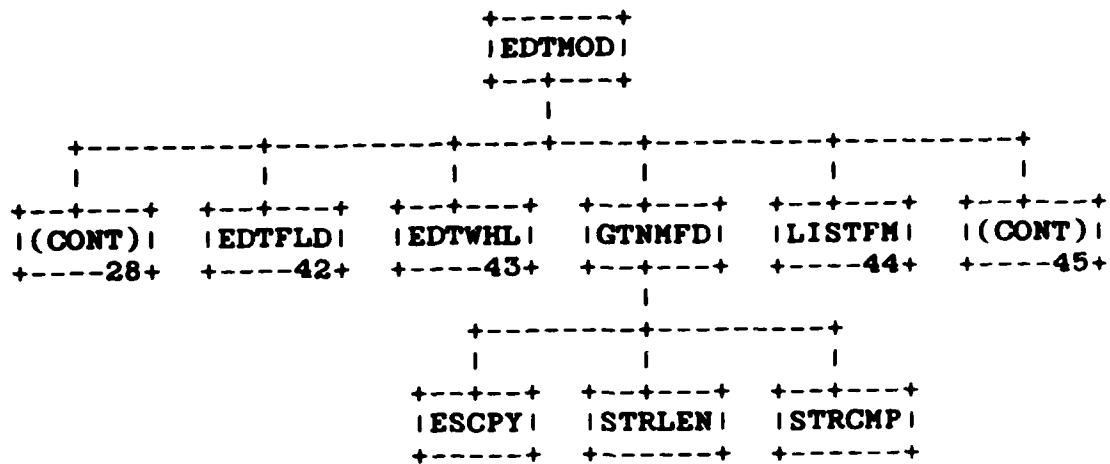
```

PS 620144402
1 November 1985

33

```
      +-----+  
      |INSFRM|  
      +-----+  
      |  
+-----+-----+-----+-----+  
|      |      |      |      |  
+-----+-----+-----+-----+  
|GTNMFD| |ESCPY| |GATDEF| |MAKFLD|  
+-----+-----+-----+-----+  
+-----35+-----+-----+-----+
```





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36

+-----+					
LISTIT					
+-----+					
+-----+					
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
(CONT)	PRCFIL	PDATA	ADDFRM	MEMCMP	(CONT)
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
-29+	-46+				-47+

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37

```
      +-----+  
      | FDFE |  
      +-----+  
      |  
+-----+-----+-----+-----+  
|         |         |         |         |  
+-----+ +-----+ +-----+ +-----+  
| (CONT) | | MEMCMP | | ADDFRM | | MEMSET |  
+-----+ +-----+ +-----+ +-----+  
| 31     | |         | |         | |         |  
+-----+ +-----+ +-----+ +-----+
```

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38

```

+-----+
| SAVFLS |
+-----+
|
+-----+
|         |         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
| (CONT) | | FOPEN | | SYMSG | | FLANCI | | WRTFDL | | (CONT) |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|   32   | |       | |       | |   23   | |   48   | |   49   |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+

```

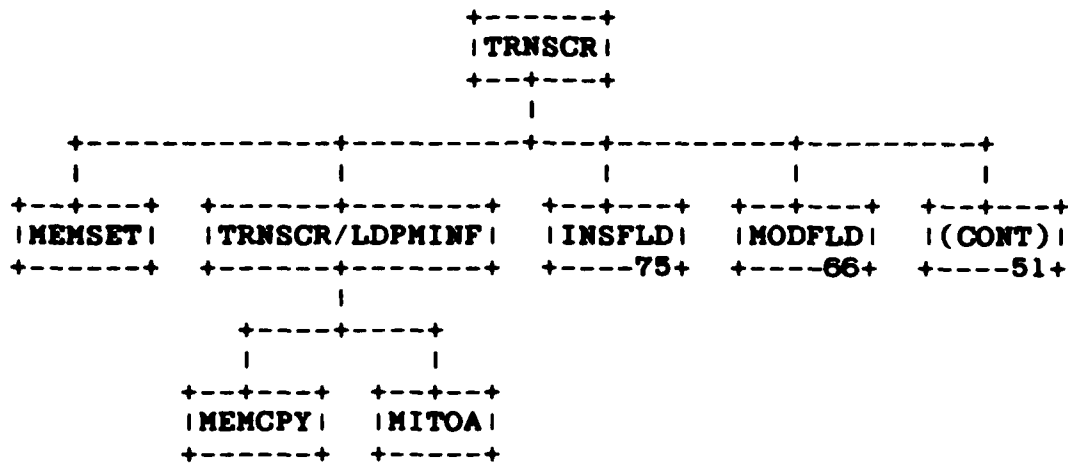
PS 620144402
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39

```

+-----+
| SCRMAN / CHGPOS |
+-----+
      |
+-----+-----+-----+-----+-----+
|           |           |           |           |           |
|           |           |           |           |           |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
| SCRMAN / GETROW | | GTCPPD | | MAX | | MIN | | ABS | | (CONT) |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
          -34-          -50-

```

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41

```
      +-----+  
      |SCRMAN|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|      |      |      |      |      |      |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
|(CONT)| |ADDFRM| |MEMCMP| |RMVPAG| |GETCUR| |(CONT)|  
+-----34+ +-----+ +-----+ +-----+ +-----+ +-----52+
```

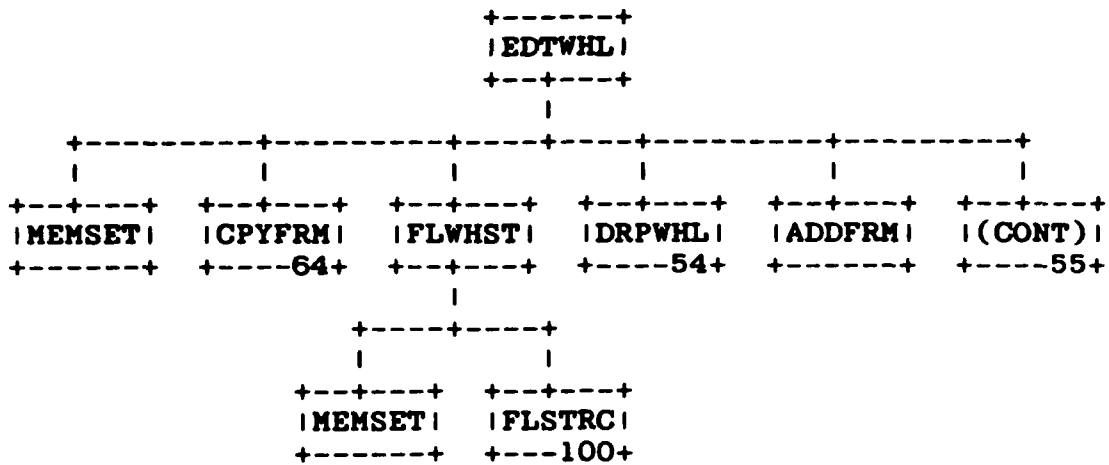
PS 620144402
1 November 1985

42

```
      +-----+  
      |EDTFLD|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|      |      |      |      |      |      |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
|ADDFRM| |MEMCMP| |RMVPAG| |GDATA| |PMSGLS| |(CONT)|  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
                                         +-----53+
```

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43



PS 620144402
1 November 1985

44

```
+-----+  
|LISTFM|  
+---+---+  
|  
+-----+  
|      |      |      |      |      |      |  
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+  
|MEMSET| |MEMCPY| |ADDFRM| |MEMCMP| |RMVPAG| |(CONT)|  
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+  
+-----+-----56+
```

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45

```
      +-----+
      |EDTMOD|
      +-----+
        |
+-----+-----+-----+-----+
|         |         |         |         |
+-----+ +-----+ +-----+ +-----+
| (CONT) | |OISCR| |PUTATT| |PDATA|
+-----+ +-----+ +-----+ +-----+
| -35+   |         |         |         |
```

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46

```
      +-----+  
      |PRCFIL|  
      +-----+  
      |  
+-----+  
|         |         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
|STRCHR| |FGETS| |STRCHR| |SPRINTF| |MEMSET| |FERROR|  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
```

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1 November 1985

47

```

+-----+
|LISTIT|
+-----+
|
+-----+
|          |          |          |          |          |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
| (CONT) | | FEOF | | FCLOSE | | UNLINK | | RMVPAG | | (CONT) |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
| -36 | | | | | | | | | -57 |

```



```

+-----+
|WRTFDL|
+-----+
|
+-----+-----+-----+-----+-----+-----+
|
|
|
|
|
|
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|FPRINTF| |BLEN| |ESCPY| |STRCMP| |STRNCMP| |(CONT)|
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
                                         +-----58+

```

PS 620144402
1 November 1985

49

```
      +-----+  
      |SAVFLS|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+-----+  
|         |         |         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
|(CONT)| |REWIND| |FCLOSE| |RENAME| |WRTFRM| |DELFLD|  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
+-----38+ +-----+ +-----+ +-----+ +-----+ +-----+
```

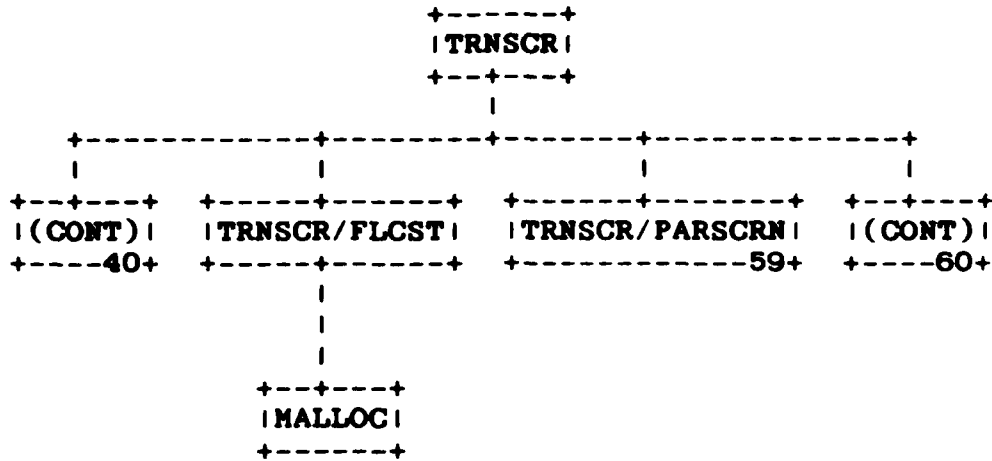
PS 620144402
1 November 1985

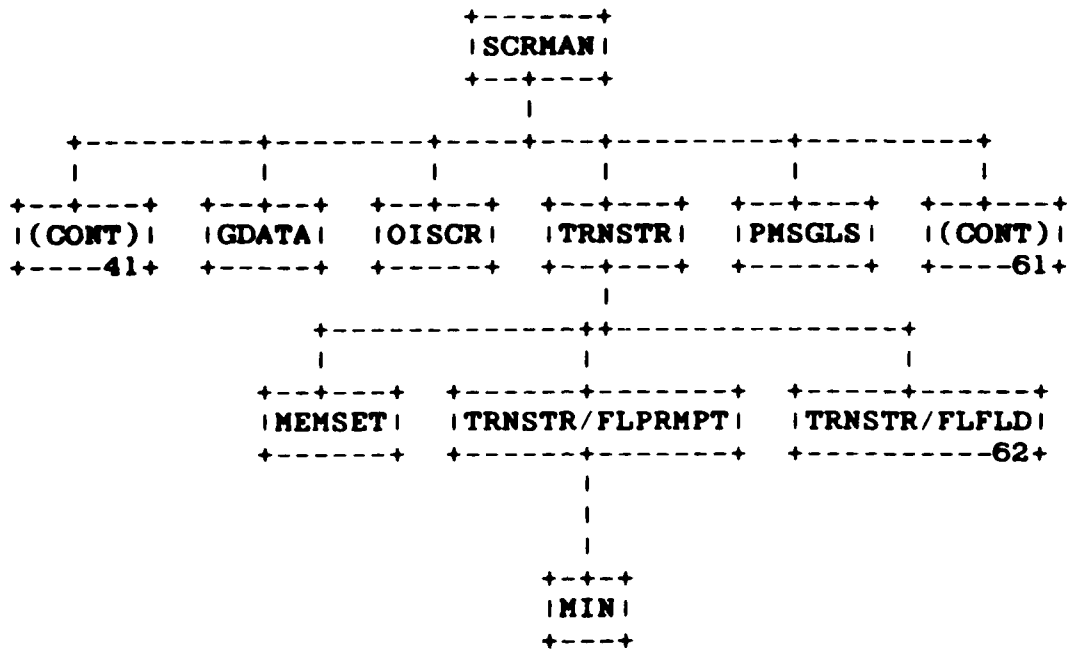
50

```

+-----+
|SCRMAN/CHGPOS|
+-----+
|
+-----+
|          |          |          |          |
+-----+ +-----+ +-----+ +-----+ +-----+
| (CONT) | |TRNSTR| |MSGLS| |GETCUR| |MEMCMP|
+-----+ +-----+ +-----+ +-----+ +-----+
| 39+    | | 52+    | |      | |      | |      |

```





PS 620144402
1 November 1985

53

```
      +-----+  
      |EDTFLD|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|         |         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| (CONT) | | VALINP | | PMSGLC | | CPYFRM | | GNXTFD | | (CONT) |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| 42 | | 63 | | 64 | | 65 | | 66 |
```

PS 620144402
1 November 1985

54

```
      +-----+  
      |DRPWHL|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
| | | | | |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
|ADDFRM| |MEMCMP| |DELFLD| |GDATA| |PMSGLS| |(CONT)|  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
                                         -67+
```

PS 620144402
1 November 1985

55

```
      +-----+  
      | EDTWHL |  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|         |         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| (CONT) | | MEMCMP | | GDATA | | PMSGLS | | RMVPAG | | (CONT) |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| -43+   | |         | |         | |         | |         | | -68+   |
```


PS 620144402
1 November 1985

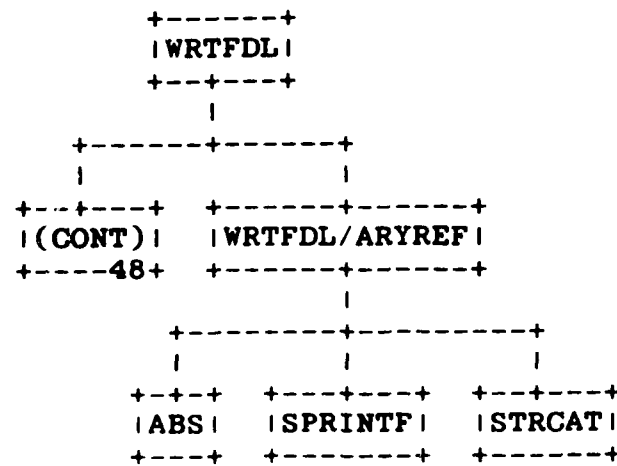
56

```
      +-----+  
      |LISTFM|  
      +-----+  
      |  
+-----+-----+-----+-----+  
|      |      |      |      |  
+-----+-----+-----+-----+  
|(CONT)| |PMSGLS| |OISCR| |PDATA| |STRLEN|  
+-----44+ +-----+ +-----+ +-----+ +-----+
```

PS 620144402
1 November 1985

57

```
      +-----+  
      |LISTIT|  
      +---+---+  
      |  
+-----+-----+-----+-----+  
|         |         |         |         |  
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+  
|(CONT)| |PMSGLS| |OISCR| |FOPEN| |SYSTEM|  
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+  
+---47+ +---+---+ +---+---+ +---+---+ +---+---+
```



PS 620144402
1 November 1985

59

```

      +-----+
      |TRNSCR/PARSCRN|
      +-----+
          |
+-----+-----+-----+-----+
|         |         |         |
+-----+ +-----+ +-----+ +-----+
|TRNSCR/SPSYMB| |ISSPACE| |TRNSCR/PARSCRN| |(CONT)|
+-----+ +-----+ +-----+ +-----+
                                     59+
                                     69+

```

PS 620144402
1 November 1985

60

```

+-----+
|TRNSCR|
+-----+
|
+-----+-----+-----+-----+
|         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+
| (CONT) | |MEMCMP| |ISSPACE| |TRNSCR/SPSYMB| | (CONT) |
+-----51+ +-----+ +-----+ +-----+ +-----70+

```

PS 620144402
1 November 1985

61

```
      +-----+
      |SCRMAN|
      +-----+
        |
  +-----+-----+
  |         |         |
+---+---+ +---+---+ +---+---+
| (CONT) | |PMSGLC| |PDATA|
+---52+  +-----+ +-----+
```

PS 620144402
1 November 1985

62

```

+-----+
|TRNSTR/FLFLD|
+-----+
|
+-----+-----+-----+-----+-----+
|
|
|
|
|
|
+-----+-----+-----+-----+-----+
|TRNSTR/FLPRMPT| |PMSGLS| |SPRINTF| |MIN| |MAX| |(CONT)|
+-----52+ +-----+ +-----+ +-----+ +-----71+

```

PS 620144402
1 November 1985

63

```
      +-----+  
      | VALINP |  
      +-----+  
      |  
+-----+-----+-----+-----+  
|      |      |      |      |  
+-----+-----+-----+-----+  
| MEMCMP | | SPRINTF | | VALINP/CCKITH | | ABORT | | (CONT) |  
+-----+-----+-----+-----+  
                        72+      73+
```

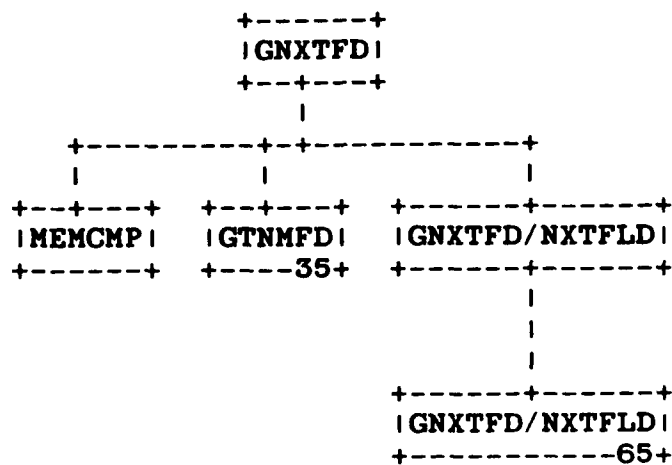

PS 620144402
1 November 1985

64

```
      +-----+
      |CPYFRM|
      +-----+
      |
+-----+-----+-----+-----+-----+
|         |         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|MEMCMP| |STRNCMP| |ESCPY| |GETFLS| |GTNMGD| |MEMCPY|
+-----+ +-----+ +-----+ +-----12+ +-----35+ +-----+
```

PS 620144402
1 November 1985

65



PS 620144402
1 November 1985

66

```

+-----+
|EDTFLD|
+-----+
|
+-----+-----+-----+-----+-----+
|         |         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
| (CONT) | |GFDINP| |MODFLD| |INSFLD| |MODFRM| | (CONT) |
+-----53+ +-----74+ +-----75+ +-----76+ +-----77+
|
+-----+-----+-----+-----+-----+
|         |         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+
|PMSGLS| |DELFLD| |INSFLD| |FREE| |MATOI| | (CONT) |
+-----+ +-----+ +-----75+ +-----+ +-----+ +-----78+

```

PS 620144402
1 November 1985

67

```

+-----+
|DRPWHL|
+-----+
|
+-----+
|          |          |          |          |          |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
| (CONT) | |RMVPAG| |OISCR| |MEMSET| |FLSTRC| | (CONT) |
+-----54+ +-----+ +-----+ +-----+ +-----100+ +-----79+

```

PS 620144402
1 November 1985

68

```
      +-----+  
      | EDTWHL |  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|      |      |      |      |      |      |  
+-----+-----+-----+-----+-----+  
| (CONT) | GWHINP | PMSGLC | MODFRM | MODWHL | (CONT) |  
+-----+-----+-----+-----+-----+  
| 55    | 80    |      | 76    | 81    | 82    |
```

PS 620144402
1 November 1985

69

```
      +-----+
      |TRNSCR/PARSCRN|
      +-----+
        |
      +-----+
      |          |
+---+---+ +---+---+ +---+
| (CONT) | |TRNSCR/FLCST| |MIN|
+---59+ +---51+ +---+
```

```

+-----+
|TRNSCR|
+-----+
|
+-----+-----+-----+-----+
|
+-----+-----+-----+-----+
| (CONT) | |TRNSCR/GTFMPMT| |TRNSCR/GTPINF| | (CONT) |
+-----60+ +-----+-----+-----83+ +-----84+
|
|
+-----+
|MITOA|
+-----+

```

PS 620144402
1 November 1985

71

```
+-----+
|TRNSTR/FLFLD|
+-----+
|
+-----+
|
+-----+
|
+---+---+ +-----+
| (CONT) | |TRNSTR/GARINF|
+---62+ +-----+
|
|
|
+---+
|ABS|
+---+
```



```

+-----+
|VALINP/CCKITM|
+-----+
|
+-----+
|         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+
|ATOI|  |ESCPY|  |MEMCMP|  |PUTERR|  |STRCHR|
+-----+ +-----+ +-----+ +-----+ +-----+
|
+-----+
|         |         |         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|STRCPY|  |STRCAT|  |PUTATT|  |MEMCMP|  |PMSGLC|  |(CONT)|
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
-85-

```

```

+-----+
| VALINP |
+-----+
|
+-----+-----+-----+-----+
| | | | |
+-----+ +-----+ +-----+ +-----+
| (CONT) | | VALINP/CCKFRM | | VALINP/CCKHLP | | (CONT) |
+-----63+ +-----86+ +-----87+
|
+-----+-----+-----+-----+
| | | | |
+-----+ +-----+ +-----+ +-----+ +-----+
| STRCMP | | STRSPN | | ISALPHA | | STRNCMP | | (CONT) |
+-----+ +-----+ +-----+ +-----+ +-----88+

```

PS 620144402
1 November 1985

74

```
      +-----+
      |GFDINP|
      +---+---+
          |
+-----+-----+-----+-----+-----+-----+
|         |         |         |         |         |
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+
|PDATA| |MEMCMP| |VALINP| |GDATA| |OISCR| |SPRINTF|
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+
                        -63+
```

PS 620144402
1 November 1985

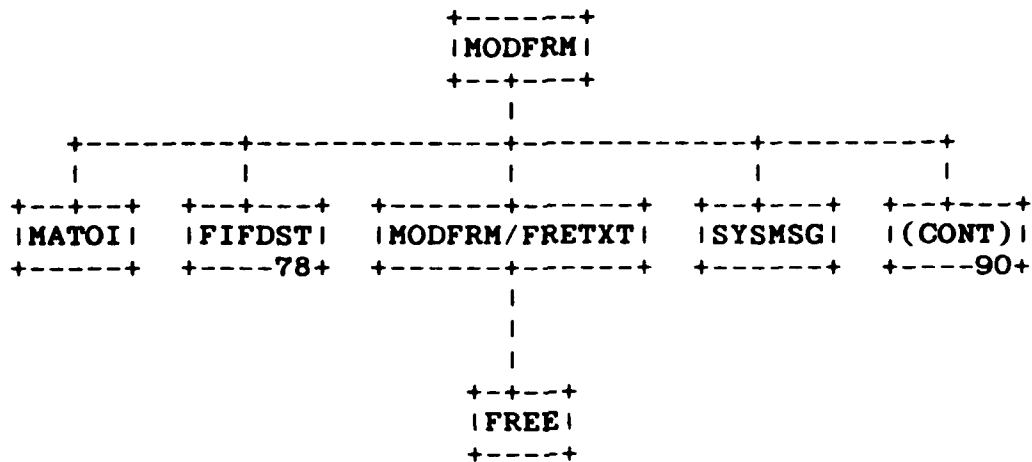
75

```

+-----+
|INSFLD|
+---+---+
|
+-----+-----+-----+-----+-----+-----+
|         |         |         |         |         |         |
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+
|MATOI| |INSFLD| |PMSGSL| |ESCPY| |GATDEF| |(CONT)|
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+
|         |         |         |         |         |         |
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+

```

76



PS 620144402
1 November 1985

77

```
      +-----+  
      | EDTFLD |  
      +---+---+  
      |  
+-----+-----+-----+-----+-----+-----+  
|         |         |         |         |         |         |  
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+  
| (CONT) | | PUTCUR | | OISCR | | PUTATT | | SPRINTF | | (CONT) |  
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+  
| -66 | | | | | | | | -91 |
```

PS 620144402
1 November 1985

78

```

+-----+
|MODFLD|
+-----+
|
+-----+-----+-----+-----+
|               |               |               |               |
+-----+-----+-----+-----+-----+
|(CONT)|  |FIFDST|  |GTFDTX|  |GITMD|  |MEMSET|
+-----66+  +-----+  +-----92+  +-----93+  +-----+
|
+-----+-----+
|               |               |
+-----+-----+-----+-----+
|ESCPY|  |GATDEF|
+-----+-----+

```

PS 620144402
1 November 1985

79

```
      +-----+  
      |DRPWHL|  
      +-----+  
      |  
+-----+-----+-----+-----+  
|         |         |         |         |  
+-----+ +-----+ +-----+ +-----+  
|(CONT)| |SPRINTF| |PDATA| |PUTATT|  
+-----+ +-----+ +-----+ +-----+  
+-----67+ +-----+ +-----+ +-----+
```

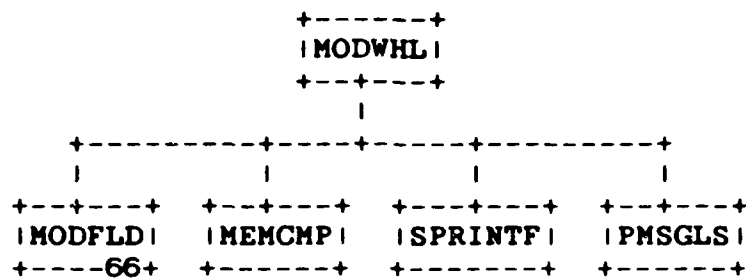

PS 620144402
1 November 1985

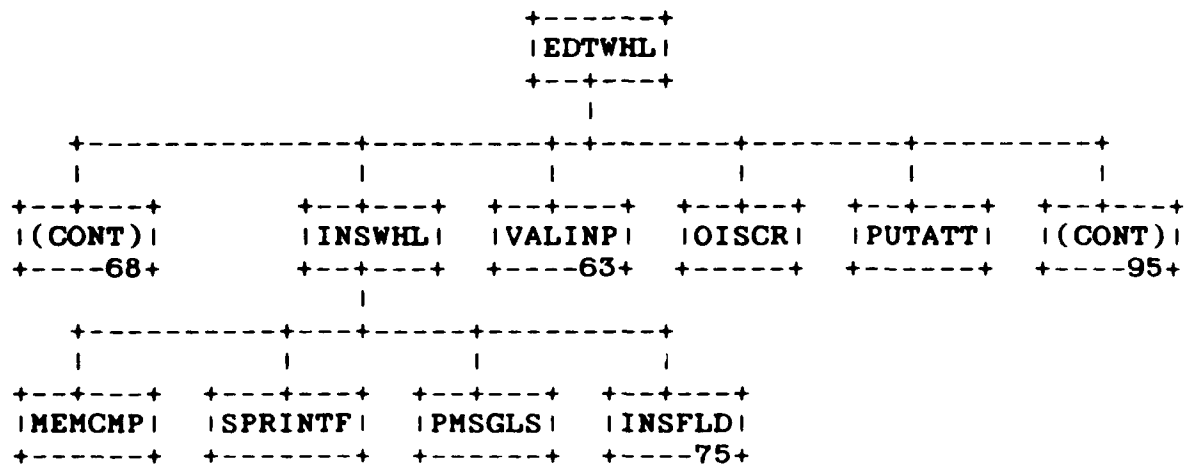
80

```
      +-----+  
      |GWHINP|  
      +-----+  
      |  
+-----+-----+-----+-----+-----+  
|         |         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
|ADDFRM| |MEMCMP| |MEMCPY| |RMVPAG| |VALINP| |(CONT)|  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
                                     +-----63+ +-----94+
```

PS 620144402
1 November 1985

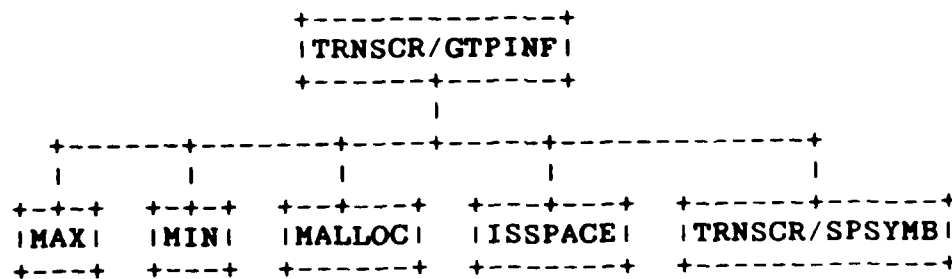
81

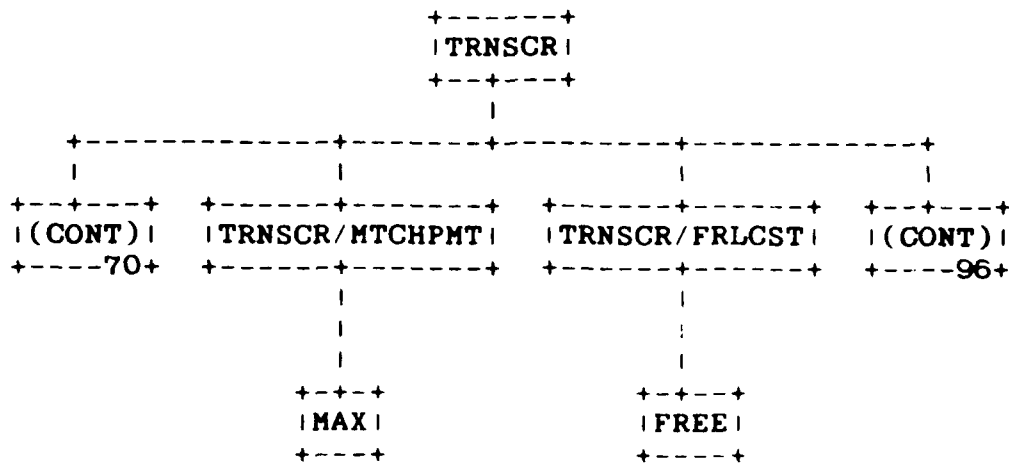




PS 620144402
1 November 1985

83





PS 620144402
1 November 1985

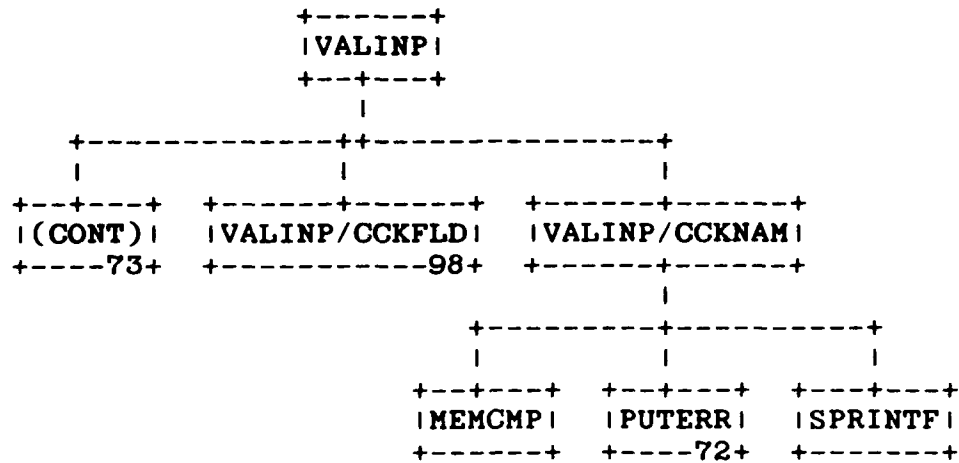
85

```
      +-----+
      | PUTERR |
      +-----+
        |
+-----+-----+
|         |         |
+-----+ +-----+ +-----+
| (CONT) | | PMSGLS | | PUTCUR |
+-----+ +-----+ +-----+
| 72     | |         | |         |
+-----+ +-----+ +-----+
```

PS 620144402
1 November 1985

86

```
+-----+  
|VALINP/CCKFRM|  
+-----+  
|  
+-----+  
| | | | | |  
+---+ +---+ +---+ +---+ +---+ +---+  
|SPRINTF| |STRCHR| |MIN| |MEMCMP| |PUTERR| |(CONT)|  
+---+ +---+ +---+ +---+ +---+ +---+  
+---72+ +---97+
```



PS 620144402
1 November 1985

88

```

+-----+
|VALINP/CCKHLP|
+-----+
|
+-----+-----+-----+-----+-----+
|         |         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
| (CONT) | |PUTERR| |STRLEN| |STRUPC| |ESCPY| | (CONT) |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|   -73  | |   -72  | |         | |         | |         | |   -99  |

```

PS 620144402
1 November 1985

89

```
      +-----+  
      |INSFLD|  
      +-----+  
      |  
+-----+-----+-----+-----+  
|         |         |         |         |  
+-----+ +-----+ +---+ +-----+ +-----+  
|(CONT)| |MAKFLD| |MAX| |GTFDTX| |GITMD|  
+-----75+ +-----+ +---+ +-----92+ +-----93+
```

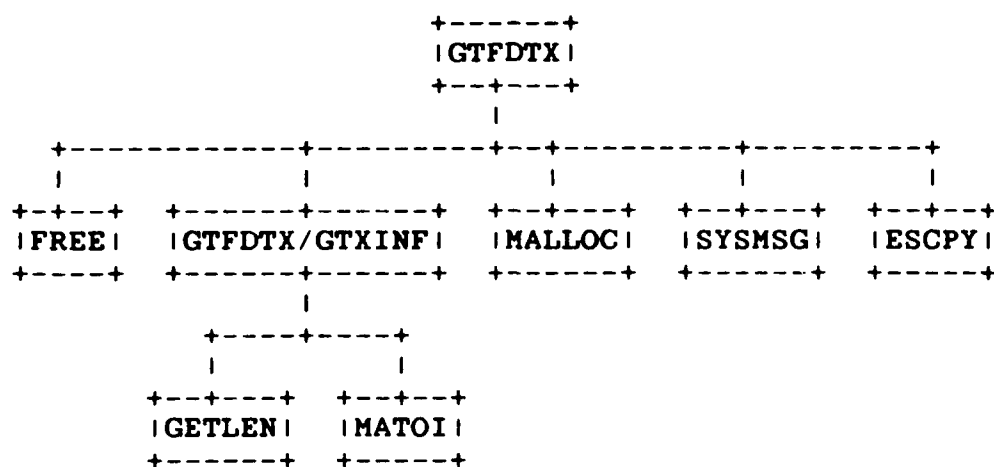
PS 620144402
1 November 1985

90

```
      +-----+  
      |MODFRM|  
      +-----+  
      |  
+-----+-----+-----+-----+  
|         |         |         |         |  
+---+---+ +---+---+ +---+---+ +---+---+  
| (CONT) | |ESCPY| |GETLEN| |MALLOC|  
+---+---+ +---+---+ +---+---+ +---+---+  
|-----76+ |         |         |         |
```

91

+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
(CONT)	MEMSET	MEMCPY	STRLEN	FLSTRC	(CONT)
+---77+	+-----+	+-----+	+-----+	+---100+	+---101+



PS 620144402
1 November 1985

93

```
      +-----+
      |GITMD|
      +-----+
      |
+-----+-----+-----+-----+-----+
|         |         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|FREE|  |MAX|  |GETLEN| |MALLOC| |SYSMSG| |(CONT)|
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
                                     +---102+
```

PS 620144402
1 November 1985

94

```
      +-----+
      |GWHINP|
      +-----+
      |
+-----+-----+-----+-----+-----+
|         |         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
| (CONT) | |PUTCUR| |OISCR| |SPRINTF| |GDATA| |(CONT)|
+-----80+ +-----+ +-----+ +-----+ +-----+ +-----103+
```

PS 620144402
1 November 1985

95

```
      +-----+  
      |EDTWHL|  
      +---+---+  
      |  
+-----+  
|         |         |         |         |         |  
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+  
|(CONT)| |SPRINTF| |MEMCPY| |STRLEN| |FLFMST| |PDATA|  
+---82+ +---+---+ +---+---+ +---+---+ +---101+ +---+---+
```


PS 620144402
1 November 1985

96

```
      +-----+  
      |TRNSCR|  
      +-----+  
      |  
+-----+  
|         |         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| (CONT) | |MODFRM| |DELFLD| |GTCPPD| |FLSTRC| | (CONT) |  
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+  
| 84+    | | 76+    | |      | |      | | 100+   | | 104+   |
```

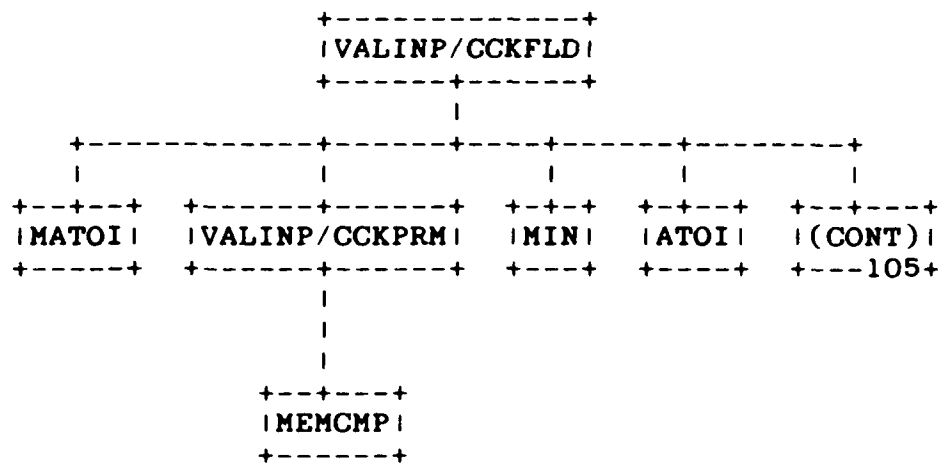
PS 620144402
1 November 1985

97

```

+-----+
| VALINP/CCKFRM |
+-----+
|
+-----+
|           |           |
+-----+ +-----+ +-----+
| (CONT) | | FNDATT | | ESCPY |
+-----86+ +-----2+ +-----+

```



PS 620144402
1 November 1985

99

```
+-----+
|VALINP/CCKHLP|
+-----+
|
+-----+
|          |          |
+-----+ +-----+ +-----+
| (CONT) | |MEMCMP| |STRCHR|
+-----+ +-----+ +-----+
|      88      |          |          |
+-----+ +-----+ +-----+
```

AD-A182 586

INTEGRATED INFORMATION SUPPORT SYSTEM (IISS) VOLUME 8

5/5

USER INTERFACE SUBS. (U) GENERAL ELECTRIC CO

SCHEMECTADY NY PRODUCTION RESOURCES CONSU.

C MORENC ET AL. 01 NOV 85 P5-620144482

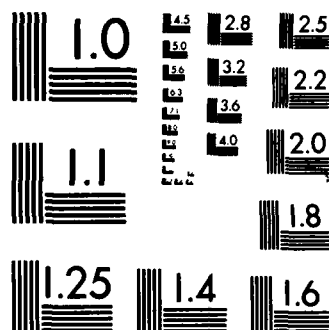
F/G 12/5

NL

UNCLASSIFIED



END
8-87
DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

PS 620144402
1 November 1985

100

```
      +-----+  
      |FLSTRC|  
      +-----+  
      |  
+-----+-----+-----+-----+  
|         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+  
|SPRINTF| |MEMSET| |MEMCPY| |BLEN| |STRCPY|  
+-----+ +-----+ +-----+ +-----+ +-----+
```

PS 620144402
1 November 1985

101

```
      +-----+
      |EDTFLD|
      +-----+
      |
+-----+-----+-----+-----+
|         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+
| (CONT) | |DELFLD| |PDATA| |GTCPPD| |FLFMST|
+-----+ +-----+ +-----+ +-----+ +-----+
| -91 |
+-----+
                                     +-----+
                                     |         |
                                     +-----+ +-----+
                                     |SPRINTF| |MEMSET|
                                     +-----+ +-----+
```


PS 620144402
1 November 1985

102

```
      +-----+  
      |GITMD|  
      +---+---+  
      |  
+-----+-----+-----+-----+-----+  
|      |      |      |      |      |      |  
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+ +---+---+  
|(CONT)| |ESCPY| |MEMDGT| |MATOI| |BLEN| |(CONT)|  
+---93+ +---+---+ +---+---+ +---+---+ +---+---+ +---106+
```

PS 620144402
1 November 1985

103

```
      +-----+
      |GWHINP|
      +-----+
        |
    +-----+-----+
    |         |         |
    +-----+ +-----+ +-----+
    |(CONT)| |PUTATT| |PDATA|
    +-----+ +-----+ +-----+
    +-----94+ +-----+ +-----+
```

PS 620144402
1 November 1985

104

```

+-----+
|TRNSCR|
+-----+
|
+-----+-----+-----+-----+-----+
|         |         |         |         |         |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|(CONT)| |MITOA| |SPRINTF| |MEMCPY| |STRLEN| |FLFMST|
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|96|    |    |    |    |    |    |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|101|
+-----+

```

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```

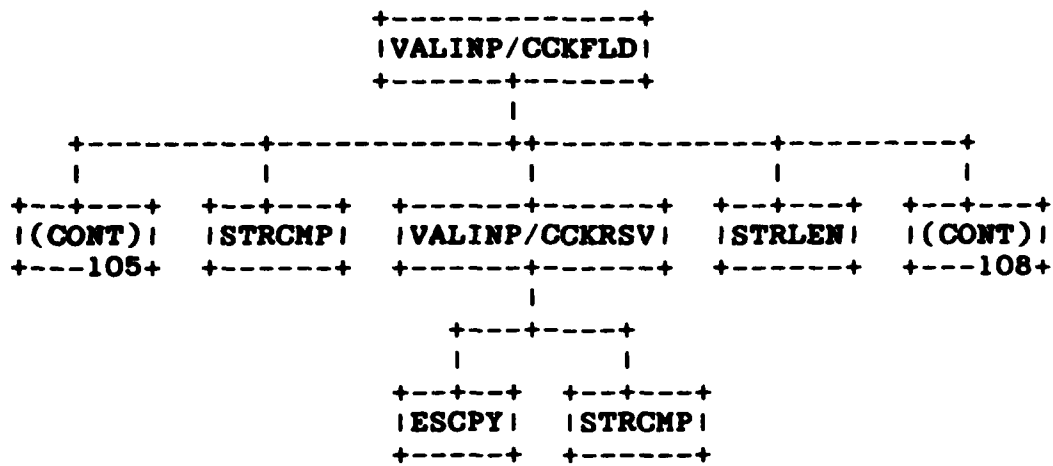
+-----+
|VALINP/CCKFLD|
+-----+
|
+-----+
|          |          |          |          |          |          |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
| (CONT) | |SPRINTF| |HEHCMP| |FNDATT| |STRCHR| |(CONT)|
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+
|    98  | |          | |          | |    2  | |          | |   107 |
+-----+ +-----+ +-----+ +-----+ +-----+ +-----+

```

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```
      +-----+  
      |GITMD|  
      +-----+  
      |  
+-----+-----+-----+-----+  
|         |         |         |         |  
+-----+ +-----+ +-----+ +-----+ +-----+  
|(CONT)| |MEMSET| |MEMCPY| |MIN| |MEMCMP|  
+-----+ +-----+ +-----+ +-----+ +-----+  
+---102+
```



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```
+-----+  
|VALINP/CCKFLD|  
+-----+  
|  
+-----+  
|         |         |         |         |  
+---+---+ +---+---+ +---+---+ +---+---+ +---+---+  
|(CONT)| |STRSPN| |PUTERR| |ISALPHA| |ESCPY|  
+---107+ +-----+ +---72+ +-----+ +-----+
```

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3.11 Program Listings Comments

This information is contained in the Module Descriptions in section 3.10.

SECTION 4

QUALITY ASSURANCE PROVISIONS

4.1 Introduction and Definitions

"Testing" is a systematic process that may be preplanned and explicitly stated. Test techniques and procedures may be defined in advance, and a sequence of test steps may be specified. "Debugging" is the process of isolation and correction of the cause of an error.

"Antibugging" is defined as the philosophy of writing programs in such a way as to make bugs less likely to occur and when they do occur, to make them more noticeable to the programmer and the user. In other words, as much error checking as is practical and possible in each routine should be performed.

4.2 Computer Programming Test and Evaluation

The quality assurance provisions for test consists of the normal testing techniques that are accomplished during the construction process. They consist of design and code walk-throughs, unit testing, and integration testing. These tests are performed by the design team. Structured design, design walk-through and the incorporation of "antibugging" facilitate this testing by exposing and addressing problem areas before they become coded "bugs."

END

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