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## COVER Book Cover

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**DFSORT/VSE****Messages, Codes and Diagnosis Guide**

Version 3 Release 4

Document Number SC26-7132-01

Program Number  
5746-SM3

## NOTICES Notices

**Note!**

Before using this information and the product it supports, be sure to read the general information under ["Notices" in topic FRONT 1](#).

## EDITION Edition Notice

**Second Edition (May 1998)**

This edition replaces and makes obsolete the previous edition, SC26-7132-00. The technical changes for this edition are summarized under "Summary of Changes," and are indicated by a vertical bar to the left of a change. A vertical bar to the left of a figure caption indicates that the figure has changed. Editorial changes that have no technical significance are not noted.

This edition applies to Version 3 Release 4 of DFSORT/VSE, Program Number 5746-SM3, and to any subsequent releases until otherwise indicated in new editions or technical newsletters. Make sure you are using the correct edition for the level of the product.

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Subtopics:

- [FRONT\\_1.1 Programming Interface Information](#)
- [FRONT\\_1.2 Trademarks](#)

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## FRONT\_1.1 Programming Interface Information

This book primarily documents information that is NOT intended to be used as a Programming Interface of DFSORT/VSE.

This book also documents intended Programming Interfaces that allow the customer to write programs to obtain the services of DFSORT/VSE. This information is identified where it occurs, either by an introductory statement to a chapter or section or by the following marking:

```
----- Programming Interface information -----
```

```
|----- End of Programming Interface information -----|
```

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DFSORT	IBMLink
ECKD	Language Environment
IBM	VSE/ESA

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## PREFACE Preface

This book is intended to help you:

- Interpret the informational and error messages issued by DFSORT/VSE. [Part 1, "Messages and Codes" in topic 2.0](#) contains the messages returned from the program, explains their meanings, and suggests appropriate responses.
- Diagnose a program failure that you suspect is caused by DFSORT/VSE. [Part 2, "Diagnosis Guide" in topic 3.0](#) is a step-by-step guide that will assist you in searching for a solution and, if necessary, reporting the problem to the IBM Support Center.

Subtopics:

- [PREFACE.1 Messages, Codes and Diagnosis Guide](#)
  - [PREFACE.2 DFSORT/VSE Publications](#)
  - [PREFACE.3 DFSORT/VSE on the World Wide Web](#)
  - [PREFACE.4 Referenced Publications](#)
- 

### PREFACE.1 Messages, Codes and Diagnosis Guide

This book is designed to help you solve problems you encounter when running DFSORT/VSE. To use the information in this book most efficiently, first determine whether the problem is caused by:

- *A user error*: Read [Chapter 1, "Eliminating Common Sources of Error" in topic 1.0](#), for solutions to some of the most common errors users encounter when running DFSORT/VSE.

- *A program error.* Use the numbered steps listed in [Chapter 6, "Resolving Failures in DFSORT/VSE" in topic 3.1](#), to describe the problem and to find out if corrections for it are already available.

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## PREFACE.2 DFSORT/VSE Publications

*DFSORT/VSE Messages, Codes and Diagnosis Guide* is a part of a more extensive DFSORT/VSE library. These books can help you work with DFSORT/VSE more effectively.

The additional books in the library are listed below.

Task	Publication	Order Number
Application programming	<i>DFSORT/VSE Application Programming Guide</i>	SC26-7040
Quick reference	<i>DFSORT/VSE Reference Summary</i>	SX26-6008
Evaluating DFSORT/VSE	<i>DFSORT/VSE General Information</i>	GC26-7039
Planning for, installing, customizing, and tuning DFSORT/VSE	<i>DFSORT/VSE Installation and Tuning Guide</i>	SC26-7041
Learning to use DFSORT/VSE	<i>Getting Started with DFSORT/VSE</i>	SC26-7101

You can order a complete set of DFSORT/VSE publications with the order number SBOF-6130, except for *DFSORT/VSE Licensed Program Specifications* (GC26-7038), which must be ordered separately.

If you want help in running a benchmark, contact your System Engineer for the *DFSORT/VSE Benchmark Guide*.

Subtopics:

- [PREFACE.2.1 DFSORT/VSE Library Softcopy Information](#)

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### PREFACE.2.1 DFSORT/VSE Library Softcopy Information

A softcopy version of the DFSORT/VSE library is available on the CD-ROM shown in the table that follows. The *IBM Online Library VSE Collection* contains all of the DFSORT/VSE books for Releases 2, 3 and 4, with the exception of the *DFSORT/VSE Reference Summary*, and books from other VSE libraries.

Order Number	Title
SK2T-0060	<i>IBM Online Library VSE Collection</i>

## PREFACE.3 DFSORT/VSE on the World Wide Web

For news, tips, and examples, visit the DFSORT/VSE home page at URL:

<http://www.ibm.com/storage/dfsorvtvse/>

## PREFACE.4 Referenced Publications

Within the text references are made to the following publications:

Short Title	Publication Title	Order Number
Application Programming	<i>DFSORT/VSE Application Programming Guide</i>	SC26-7040
Installation and Tuning	<i>DFSORT/VSE Installation and Tuning Guide</i>	SC26-7041
JCL Reference	<i>VSE/ESA System Control Statements (for VSE/ESA Version 1 Release 3)</i>	SC33-6513
	<i>VSE/ESA System Control Statements (for VSE/ESA Version 2)</i>	SC33-6613
Messages and Codes	<i>VSE/ESA Messages and Codes (for VSE/ESA Version 1 Release 3)</i>	SC33-6507
	<i>VSE/ESA Messages and Codes (for VSE/ESA Version 2)</i>	SC33-6607
Solving Problems	<i>VSE/ESA Guide for Solving Problems (for VSE/ESA Version 1 Release 3)</i>	SC33-6510
	<i>VSE/ESA Guide for Solving Problems (for VSE/ESA Version 2)</i>	SC33-6610
Diagnosis Tools	<i>VSE/ESA Diagnosis Tools (for VSE/ESA Version 1 Release 3)</i>	SC33-6514
	<i>VSE/ESA Diagnosis Tools (for VSE/ESA Version 2)</i>	SC33-6614
System Macros	<i>VSE/ESA System Macros User's Guide (for VSE/ESA Version 1 Release 3)</i>	SC33-6515
	<i>VSE/ESA System Macros User's Guide (for VSE/ESA Version 2)</i>	SC33-6615
	<i>VSE/ESA System Macros Reference (for VSE/ESA Version 1 Release 3)</i>	SC33-6516
	<i>VSE/ESA System Macros Reference (for VSE/ESA Version 2)</i>	SC33-6616
System Functions	<i>VSE/ESA Guide to System Functions (for VSE/ESA Version 1 Release 3)</i>	SC33-6511
	<i>VSE/ESA Guide to System Functions (for VSE/ESA Version 2)</i>	SC33-6611
LE/VSE Library	<i>IBM Language Environment for VSE/ESA Debugging Guide and Run-Time Messages Release 4</i>	SC33-6681
VSE/VSAM Messages and Codes	<i>VSE/VSAM Messages and Codes (for VSE/ESA Version 1 Release 3)</i>	SC24-5146

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## FRONT\_2 Summary of Changes

Subtopics:

- [FRONT\\_2.1 Second Edition \(May 1998\)](#)
- 

### FRONT\_2.1 Second Edition (May 1998)

Subtopics:

- [FRONT\\_2.1.1 New Programming Support for Release 4](#)
- 

#### FRONT\_2.1.1 New Programming Support for Release 4

DFSORT/VSE Version 3 Release 4 continues the strategy of providing performance improvements and productivity features. These improvements and features are described in more detail in the subsections that follow.

Subtopics:

- [FRONT\\_2.1.1.1 Performance](#)
  - [FRONT\\_2.1.1.2 Productivity](#)
  - [FRONT\\_2.1.1.3 Additional Enhancements](#)
- 

##### FRONT\_2.1.1.1 Performance

Performance enhancements for DFSORT/VSE Version 3 Release 4 include the following:

- Improved data processing methods for:
  - Dataspace and getvis sorting applications using work space
  - Merge and copy applications
- Improved input/output processing techniques for:
  - SAM output files
  - Non-VSAM input and output files
  - VSAM (and SAM ESDS accessed as VSAM) input and output files
  - Work files
- Improved ECKD disk device support for input, output, and work files by using the ECKD command set.

- New VSAMBSP installation option which allows users to control the number of buffers DFSORT/VSE can use for VSAM (or SAM ESDS accessed as VSAM) input and output file processing.
  
  - Improved work file processing:
    - All work files are now closed at the end of an application.
  
    - Additional work file extents can now be used, if available, when end of extent is encountered regardless of whether STXIT is in effect.
  
    - All extents of an SD work file can now be used instead of only the first extent.
- 

### **FRONT\_2.1.1.2 Productivity**

*Additional Year 2000 Formats:* New formats give users more flexibility in sorting, merging, or transforming two-digit year dates:

- Y2S interprets two-digit character year data according to the century window and allows special handling of indicators X'00' (binary zeros), X'40' (EBCDIC blanks), X'20' (ASCII blanks) and X'FF' (binary ones) in the year field.
  
- Y2B interprets two-digit binary year data according to the century window.

*OUTREC Enhancements:* The OUTREC control statement supports the following new features:

- Sophisticated editing capabilities such as hexadecimal display and control of the way numeric fields are presented with respect to length, leading or suppressed zeros, symbols (for example, the thousands separator and decimal point), leading and trailing positive and negative signs, and so on. Twenty-six pre-defined editing masks are available for commonly used numeric editing patterns, encompassing many of the numeric notations used throughout the world. In addition, a virtually unlimited number of numeric editing patterns are available via user-defined editing masks.
  
- Selection of a character or hexadecimal string for output from a lookup table, based on a character, hexadecimal, or bit string as input (that is, lookup and change).

*INCLUDE/OMIT Enhancements:* The following INCLUDE/OMIT enhancements are supported:

- DFSORT/VSE can now handle a significantly larger number of INCLUDE and OMIT conditions.
  
- ALL and NONE allow users to include or omit all records.

*ZDPRINT Option:* With the new ZDPRINT installation and run-time options, users can choose to have summed (totalled) positive zoned decimal fields converted to printable numbers.



*Online Message Explanations Support:* New Online Message Explanations (OME) allow users to request an explanation of a DFSORT/VSE message. The message explanation is displayed on the console.

---

### FRONT\_2.1.1.3 Additional Enhancements

The following additional enhancements are supported:

- The IBM-supplied default has been changed from STXIT=YES to STXIT=MIN. The STXIT=MIN installation option and the MINSTXIT run-time option allow users to specify that DFSORT/VSE should use its STXIT routine for abend recovery processing, **not** restoring its STXIT every time control is returned from a user exit routine. Unlike STXIT=YES (or STXIT), STXIT=MIN (or MINSTXIT) does not degrade performance when COBOL or PL/I programs invoke DFSORT/VSE and use E15/E35 user exit routines to process records.
  - The DIAGINF installation option provides a new DFSORT/VSE capability that allows users to request diagnostic information (diagnostic messages and a dump), regardless of the options in effect at run time.
  - The new NRECOU installation and run-time option allows users to specify the action DFSORT/VSE should perform when it does not write any records to the output file. This gives users control over the action (continue or terminate), type of message (informational or error), and return code (0,4 or 16) when no records are written to the output file.
- 

## 1.0 Chapter 1. Eliminating Common Sources of Error

Some problems in running DFSORT/VSE are not caused by DFSORT/VSE failures, and using the information in this section can save you time. This section explains how to get messages and dumps as well as how to identify and eliminate problems caused by errors in your installation of DFSORT/VSE, your calling programs, or your user exit routines. The section also discusses other common errors.

Subtopics:

- [1.1 Getting Messages](#)
  - [1.2 Getting a Dump](#)
  - [1.3 Eliminating Your Invoking Program as a Source of Error](#)
  - [1.4 Eliminating Your User Exit Routines as a Source of Error](#)
- 

### 1.1 Getting Messages

To direct all DFSORT/VSE messages to the SYSLST file, specify PRINT=ALL and ROUTE=LST options in the OPTION control statement.

To obtain diagnostic messages, specify the DIAG option in the OPTION control statement.

| To obtain all messages when you cannot override DFSORT/VSE run-time  
| options, specify the DIAGINF=jobname or DIAGINF=ALL installation option.  
| DIAGINF=jobname and DIAGINF=ALL should be used only when necessary to  
| obtain diagnostic information.

---

## 1.2 Getting a Dump

To get a dump of virtual storage at an abend, use the DUMP option of the OPTION control statement. DFSORT/VSE will receive control on all types of abends if DFSORT/VSE's STXIT is in effect.

| To obtain a dump when you cannot override DFSORT/VSE run-time options,  
| specify the DIAGINF=jobname or DIAGINF=ALL installation option.  
| DIAGINF=jobname and DIAGINF=ALL should be used only when necessary to  
| obtain diagnostic information.

To store a dump in the system dump library, specify the SYSDUMP option on the VSE/ESA OPTION job control statement.

Stored dumps can be analyzed later for problem determination with the Information/Analysis program. For more information about this program see *Solving Problems*. One dump sublibrary is available for each static partition. The partition identifier is used as the sublibrary name, for example: SYSDUMP.BG, SYSDUMP.F1, SYSDUMP.F2, and so on. Only one sublibrary is reserved for dynamic partitions: SYSDUMP.DYN.

SYSDUMP sublibraries should be used for dumps only.

If you use dataspace sorting, specify the DSPDUMP option on the VSE/ESA OPTION job control statement to obtain a dump of a data space.

For more information see *Diagnosis Tools*, *Solving Problems*, and *JCL Reference*.

---

## 1.3 Eliminating Your Invoking Program as a Source of Error

Virtual storage space can be a problem when you invoke DFSORT/VSE from another program, especially if you invoke an E15 or E35 user exit (or, from COBOL, using an input or output procedure).

If you invoked DFSORT/VSE from another program, and particularly if you opened a file in your user exit routine, check that you specified a sufficiently large amount of reserved storage.

For more detailed information on virtual storage, see *Application Programming*.

---

## 1.4 Eliminating Your User Exit Routines as a Source of Error

To eliminate your own user exit routines or programs as a possible source of error, check the use of registers, the virtual storage space allocated to the routines, and input and output record contents.

Subtopics:

- [1.4.1 Errors in Using Registers](#)
- [1.4.2 Error in Using Virtual Storage](#)
- [1.4.3 Errors in Record Contents](#)

- [1.4.4 Errors in Using Secondary Allocation](#)
- 

### 1.4.1 Errors in Using Registers

To eliminate errors when using registers, make sure your user exit routines or programs save and restore the appropriate registers. If user exit routines return to DFSORT/VSE with, for example, a different value in register 12, the outcome will probably be an abend of some type.

Ensure that registers you use for loading or storing are not accidentally overlaying DFSORT/VSE code or work areas.

For more detailed information on register usage, see *Application Programming*.

---

### 1.4.2 Error in Using Virtual Storage

To eliminate errors when using virtual storage, check whether your user exit routines need more virtual storage space than you have allocated. Also, check to see whether you have increased the length of your user exit routines without increasing the corresponding exit length on your MODS control statement. A change in the length of your user exit routines can lead to an abend in your own user exit routine, or it can lead to insufficient virtual storage space for DFSORT/VSE.

---

### 1.4.3 Errors in Record Contents

If the output records do not appear to contain the same data as the input records, and an E15 or E35 user exit has been used, check that your routine is handling register 1 correctly; especially, check that it is correct on return to DFSORT/VSE. If, for example, you first load register 1 and then restore all registers (including register 1), register 1 will probably have the wrong contents.

Also, if you first restore all registers and then try to load register 1 from a changed base register, you may pass the wrong information to DFSORT/VSE.

---

### 1.4.4 Errors in Using Secondary Allocation

Sorting may fail with VSE/ESA message 0S07I or 0S08I if VSAM cannot allocate primary or secondary extents of a work file (see *Messages and Codes*). If there is insufficient space in VSAM data space, try to clean up VSAM data space by deleting unused files, use another volume with more space, or redefine the work files and change the values for primary and secondary allocation.

---

## 2.0 Part 1. Messages and Codes

Subtopics:

- [2.1 Chapter 2. Message Considerations](#)
  - [2.2 Chapter 3. Informational and Error Messages](#)
  - [2.3 Chapter 4. Service Messages](#)
  - [2.4 Chapter 5. Return Codes](#)
-

## 2.1 Chapter 2. Message Considerations

| This section discusses the types of messages DFSORT/VSE produces and  
| explains how to print messages and control statements, write messages to  
| the system console, display message explanations on the console, and find control statement coding errors.

DFSORT/VSE produces three types of messages:

- **Critical error** messages, which report and describe problems requiring programmer action to correct (explained in [Chapter 3, "Informational and Error Messages" in topic 2.2](#)).
- **Informational** messages, which provide information only and usually require no programmer action (explained in [Chapter 3, "Informational and Error Messages" in topic 2.2](#)).
- **Service** messages, which provide diagnostic information useful in debugging and tuning (explained in [Chapter 4, "Service Messages" in topic 2.3](#)).

See *Installation and Tuning* for information on the ILUINST installation options.

Subtopics:

- [2.1.1 Printing Messages and Control Statements](#)
- [2.1.2 Displaying Message Explanations on the Console](#)
- [2.1.3 Finding DFSORT/VSE Control Statement Coding Errors](#)

---

### 2.1.1 Printing Messages and Control Statements

The standard default is that all messages except service messages are printed on SYSLST. In addition, critical messages are routed to system console, as is the 'SORT COMPLETE' message.

These defaults can be changed at any time after DFSORT/VSE has been installed, as described in *Installation and Tuning*. You can also change them at execution time with the OPTION control statement; see [Table 1](#).

Table 1. How to Change Defaults at Execution Time	
Required action	What to specify
Route all messages to the system console	ROUTE=LOG
Issue diagnostic messages	DIAG
Issue only critical messages	PRINT=CRITICAL*
Suppress all messages	PRINT=NONE*
Route all messages to a device you select (can only be used when DFSORT/VSE is program invoked)	ROUTE=xxx
<b>Note:</b> * Will also suppress diagnostic messages, even if the DIAG operand of the OPTION control statement is specified.	

If you include the CALC operand of the ANALYZE control statement, the effect will be the same as if you had specified:

```
OPTION DIAG,NODUMP,ROUTE=LST (or ROUTE=xxx),PRINT=ALL
```

You can select the type of messages you want to print during installation or at run time.

**Note:** ICETOOL utility uses SYSLST or the printer associated with logical unit SYSxxx for its messages.

---

## | 2.1.2 Displaying Message Explanations on the Console

| When operating the VSE/ESA interactive console dialog, you can display  
| online the DFSORT/VSE message descriptions shown in [Chapter 3](#),  
| "[Informational and Error Messages](#)" in [topic 2.2](#) by doing either of the  
| following:

- | 1. Move your cursor under the message number on the console display  
| and press PF9 (the EXPLAIN key), or
- | 2. Type in the message number in the command field (==>), then press  
| PF9 (the EXPLAIN key).

| **Note:** If you enter the message number in the command field, be sure that  
| you entered a valid message number before taking any action recommended by  
| the message description. If the number you entered is not valid, VSE/ESA  
| issues the following message:

```
| NO EXPLAIN/HELP DATA FOUND
```

---

## 2.1.3 Finding DFSORT/VSE Control Statement Coding Errors

DFSORT/VSE scans each control statement for errors, prints the control statement, and prints an error message for the error detected. If a syntax error is detected, a dollar sign (\$) is printed under or near the parameter in error. (A dollar sign (\$) is not printed for an INCLUDE or OMIT statement error.)

As explained in "[Printing Messages and Control Statements](#)" in [topic 2.1.1](#) DFSORT/VSE writes messages and control statements as requested by the ROUTE, DIAG, and PRINT operands of the OPTION control statement. The following paragraphs assume that messages and control statements are to be printed.

DFSORT/VSE scans each control statement for errors, and prints an error message for the error detected.

A serious statement error does not immediately stop program execution. Each subsequent statement is checked; if a critical error is found, the rest of the statement is skipped. Usually, any continuation statement is skipped. And usually, any continuation statements are written with the word 'FLUSHED' in columns 74 to 80. The next statement is then scanned.

---

## 2.2 Chapter 3. Informational and Error Messages

DFSORT/VSE messages can appear within your output or on the system console. The formats are:

```
_____ For printed messages _____  
| ILUnnns ik text |  
| _____ |  
| _____ |
```

```
_____ For console messages _____  
| ILUnnns ik jjjjjjjj text |  
| _____ |  
| _____ |
```

### Where Represents

- nnn**  
Message number.
- s**  
Severity code. Values for **s** are:
- A**  
Critical error message; requires programmer action.
  - I**  
Informational message; usually requires no programmer action.
- ik**  
Diagnostic trace characters. These characters are usually not needed, but might be requested by your IBM representative for diagnostic purposes.
- jjjjjjj**  
Job name.
- text**  
Message text.

---

```
| ILU000I --- CONTROL STATEMENTS/MESSAGES --- DFSORT/VSE 5746-SM3 RELEASE  
| 4.0 DATE mm/dd/yyyy
```

**Explanation:** This heading is printed before all other messages if PRINT=ALL is in effect. This indicates the DFSORT/VSE release level and the date for the run. If PRINT=CRITICAL is specified, the heading is printed only if a critical message is produced.

**System Action:** None.

**Programmer Response:** None.

---

```
ILU001A INSUFFICIENT STORAGE
```

**Explanation:** Critical. This message was issued for one of the following reasons:

1. Virtual storage available to DFSORT/VSE is less than 32 KB.
2. STORAGE parameter in the OPTION statement is less than 32K.
3. Too many INCLUDE or OMIT conditions specified.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Do one of the following:

1. Rearrange user exit and return locations in the calling program to allow at least 32 KB for DFSORT/VSE.
2. Check the STORAGE parameter in OPTION statements for a value less than 32K.
3. Either increase the STORAGE parameter in the OPTION statement or the SIZE parameter in the EXEC statement (or both), or decrease the number of INCLUDE or OMIT conditions specified.

---

```
ILU002A xxxxxxxx HAS WRONG SVA STATUS
```

**Explanation:** Critical. The module xxxxxxxx must reside in the same place as module ILUSOPT.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Store the module in the same place as ILUSOPT, either both in or both out of the shared virtual area (SVA).

---

```
ILU010A INSUFFICIENT STORAGE, ADD 4K
```

**Explanation:** Critical. DFSORT/VSE needs more partition program area for execution. The value given in the text is the amount of extra storage needed.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Increase the amount of partition program area available to DFSORT/VSE by doing the following:

- Increase the value of the SIZE parameter on the EXEC job control statement.
- Increase the value of the SIZE job control command.
- Increase the STORAGE operand of the OPTION control statement.
- Increase the partition size.
- Install the SVA eligible DFSORT/VSE modules into the SVA.

---

**ILU011A INSUFFICIENT STORAGE, xK AVAILABLE, ADD xK, MODULES ARE NOT IN SVA**

**Explanation:** Critical. DFSORT/VSE needs more partition program area for execution. Add the value given in the text to your partition size or, if DFSORT/VSE is subtasked, add the value to the STORAGE operand value. The DFSORT/VSE modules are assumed to be in the partition program area.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Increase the amount of partition program area available to DFSORT/VSE by doing the following:

- Increase the value of the SIZE parameter on the EXEC job control statement.
- Increase the value of the SIZE job control command.
- Increase the STORAGE operand of the OPTION control statement.
- Increase the partition size.
- Install the SVA-eligible DFSORT/VSE modules into the SVA.

---

**| ILU012I MODULE STATUS: PARTITION (POSSIBLE PERFORMANCE DEGRADATION)**

**Explanation:** ILUSOPT and the rest of the SVA-eligible modules are not in the SVA. For best performance, these modules should be placed in the SVA.

**System Action:** None.



**Programmer Response:** If appropriate, install the SVA-eligible DFSORT/VSE modules into the SVA.

---

ILU013A RECORD LENGTH INVALID FOR xxxx

**Explanation:** Critical. The intermediate record created by DFSORT/VSE was too large for the assigned work file device xxxx.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Change the work device to one with a larger track capacity.

---

ILU020I STORAGE USED = x BYTES

**Explanation:** x is the number of bytes of virtual storage used by DFSORT/VSE.

**System Action:** None.

**Programmer Response:** None.

---

ILU021I FIXABLE STORAGE = x BYTES

**Explanation:** x is the number of bytes of fixable storage available to DFSORT/VSE.

**System Action:** None.

**Programmer Response:** None.

---

ILU025A TOO MANY FIELDS

**Explanation:** Critical. Too many fields are specified in the SORT, MERGE, INREC, or OUTREC statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Decrease the number of fields in the SORT, MERGE, INREC, or OUTREC statement without increasing the length of the remaining fields.

---

ILU029A ANALYZE END

**Explanation:** Critical. An ANALYZE statement has been supplied.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** None.

---

ILU030A INSUFFICIENT STORAGE, xK AVAILABLE, ADD xK, MODULES ARE IN SVA

**Explanation:** Critical. DFSORT/VSE needs more partition program area for execution. Add the value indicated to your partition size or, if DFSORT/VSE is subtasked, add the value indicated to the STORAGE operand value. The DFSORT/VSE modules are assumed to be in the SVA.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Increase the partition program area available to DFSORT/VSE by increasing either the EXEC SIZE parameter value, the OPTION STORAGE value, or the partition size.

---

ILU031A OVERLAPPING WORK EXTENTS ON SYS (x) AND SYS (y)

**Explanation:** Critical. Two work extents that overlap each other have been specified.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Redefine the named work extents. Check all other work files for overlapping extents. If there are several overlapping extents, you will only get a message for the first one detected.

---

ILU032A FBA SORT WORK AREA IS LARGER THAN 2000 MB

**Explanation:** Critical. Work space has been defined on the FBA devices and is larger than 2000 MB, the maximum that DFSORT/VSE can handle.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Reduce the work space assignment, if possible. Alternatively, if this amount of work space is necessary, allocate some or all of it on CKD devices.

---

ILU033I FBA SORT WORK EXTENT IGNORED, SMALLER THAN 32KB

**Explanation:** A work space extent has been defined on an FBA device that is smaller than 32 KB, the minimum that can be used by DFSORT/VSE.

**System Action:** DFSORT/VSE continues trying to sort in the space available to it, ignoring the extent that is too small.

**Programmer Response:** If DFSORT/VSE subsequently terminates for lack of work space, allocate more and rerun.

---

ILU034I MODAL RECORD LENGTH ASSUMED = x BYTES

**Explanation:** x is the L5 value from the RECORD statement LENGTH parameter, if supplied, or the value for modal length calculated by DFSORT/VSE (the

average of L2 and L4).

**System Action:** None.

**Programmer Response:** None.

---

| ILU037I INSUFFICIENT PARTITION PROGRAM AREA: *n*K AVAILABLE, ADD *m*K

| **Explanation:** There was not enough partition program area available for  
| DFSORT/VSE to run.

**System Action:** DFSORT/VSE continues and terminates with an ILU039A or ILU040A.

| **Programmer Response:** The message gives an estimate of how much more  
| partition program area is needed. Add at least that amount (*m* KB) to the partition program area already available to DFSORT/VSE (*n* KB) by doing one of  
| the following:

- Recode the STORAGE option
- Recode the SIZE parameter of the EXEC job control statement
- Recode the SIZE job control command
- Use a larger partition.

---

ILU038I INSUFFICIENT {GETVIS AREA|DATA SPACE}: *n*K AVAILABLE, ADD *m*K

**Explanation:** This message was issued for one of the following reasons:

1. For getvis sorting:

There was not enough partition GETVIS area available for DFSORT/VSE to use getvis sorting.

2. For dataspace sorting:

There was not enough data space available for DFSORT/VSE to use dataspace sorting.

**System Action:** DFSORT/VSE continues and terminates with an ILU039A or ILU040A.

**Programmer Response:**

1. For getvis sorting:

The message gives an estimate of how much more partition GETVIS area is needed. Add at least that amount (*m* KB) to the GETVIS area already available to DFSORT/VSE (*n* KB) by doing one of the following:

- Recode the GVSIZ option
- Recode the SIZE parameter of the EXEC job control statement
- Recode the SIZE job control command
- Use a larger partition.

2. For dataspace sorting:

The message gives an estimate of how much more data space is needed. Add at least that amount (*m* KB) to the data space already available to DFSORT/VSE (*n* KB) by doing one of the following:

- Recode the DSPSIZE option
- Recode the SYSDEF job control statement or command.

---

**ILU039A DFSORT/VSE MODULES ARE NOT IN SVA**

**Explanation:** Critical. DFSORT/VSE modules are placed in the partition program area. This message is issued together with message ILU037I or ILU038I.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** See messages ILU037I and ILU038I.

---

**ILU040A DFSORT/VSE MODULES ARE IN SVA**

**Explanation:** Critical. DFSORT/VSE modules are placed in the SVA. This message is issued together with message ILU037I or ILU038I.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** See messages ILU037I and ILU038I.

---

**| ILU041A INSUFFICIENT GETVIS AREA**

| **Explanation:** Critical. There was not enough partition GETVIS area  
| available for DFSORT/VSE to run. This message can appear if DFSORT/VSE  
| modules are not in SVA.

| **System Action:** DFSORT/VSE terminates.

| **Programmer Response:** Load DFSORT/VSE modules in SVA or add at least 8 KB  
| to the GETVIS partition area already available to DFSORT/VSE by doing one  
| of the following:

- | Reduce the SIZE parameter of the EXEC job control statement
- | Reduce the SIZE job control command
- | Use a larger partition.

---

#### ILU101A SUM FIELD *n*, *xxxxxxx* INVALID

**Explanation:** Critical. *xxxxxxx* will be replaced by LENGTH or POSITION. The length (m) or position (p) of the *n*-th field defined on the SUM control statement is invalid.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the FIELDS operand of the SUM control statement for an invalid length or position value.

---

#### ILU102A FIELD VALUE EXCEEDS MAXIMUM ALLOWABLE CHARACTERS - *xxxxxxx*

**Explanation:** Critical. A specified parameter value (in the *xxxxxxx* control statement) is too long. Most parameter values have a maximum length of eight characters, but some can have a longer or shorter maximum length.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the specified control statement for a parameter value that is too long. Refer to the description of each parameter to verify the maximum length for its values.

---

#### ILU103A MULTIPLY DEFINED EXIT *Enn*

**Explanation:** Critical. No user exit number can be defined more than once on the MODS control statement. *Enn* user exit has been defined more than once.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the MODS statement for duplicate *Enn* user exits.

---

#### ILU104A NO *xxxxxxx* STATEMENT

**Explanation:** Critical. An essential control statement has been omitted: either SORT or MERGE (not both), or RECORD. xxxxxx will be replaced by the statement definer.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Supply the missing statement.

---

**ILU105A STATEMENT DEFINER ERROR**

**Explanation:** Critical. A valid statement definer has not been found between columns 2 and 70. The first field (or second field if a label is present) of a statement that is not a continuation line must be one of the following valid statement definers: SORT, MERGE, RECORD, MODS, INPFIL, OUTFIL, INCLUDE, OMIT, ALTSEQ, SUM, INREC, OUTREC, ANALYZE, OPTION, or END.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the statement for incorrect, misplaced, or misspelled operation definers. This message can be triggered by an INCLUDE or OMIT continuation line, if analysis of the previous line was left incomplete after an error was detected, because DFSORT/VSE may not then be aware that the line is a continuation line of a statement.

---

**ILU106A DUPLICATE xxxxxxxx STATEMENT**

**Explanation:** Critical. A statement definer represented by xxxxxxxx has been specified more than once.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check for duplicate statement types. Note that SORT and MERGE count as the same type, as do INCLUDE and OMIT.

---

**ILU107A COLUMN 1 OR 1-15 NOT BLANK**

**Explanation:** Critical. This message was issued for one of the following reasons:

- Column 1 of a continuation line must be blank.
- A continuation line which follows a first line of a control statement with nonblank characters in columns 71 and 72 must be blank in columns 1 through 15.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check for nonblank characters in columns 1, or 1 through 15 of continuation lines.

---

**ILU108A COLUMN 2-16 BLANK IN CONTINUATION STATEMENT**

**Explanation:** Critical. A continuation line of a statement did not appear where expected.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check for a syntax error, or an overflow of parameters into column 72.

---

**ILU110A TOO MANY xxxxxxxx VALUES**

**Explanation:** Critical. The number of values assigned to the parameter represented by xxxxxxxx exceeds the maximum allowed, as shown below.

- SORT or MERGE
  - FIELDS -  $4 \times 64 = 256$  (unless the FORMAT keyword is used, then it is  $3 \times 64 = 192$ )
- INPFIL
  - VOLUME - value assigned to the FILES operand on the SORT or MERGE statement
- OPTION
  - LABEL - 10,
  - SORTOUT - 1,
  - SORTIN - 9,
  - SORTWK - 9,
  - FILNM - 11

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the specified keyword operand.

---

**ILU111A INVALID xxxxxxxx KEYWORD**

**Explanation:** Critical. A keyword not recognized by DFSORT/VSE, or a duplicate or contradictory keyword has been detected in the control statement represented by xxxxxxxx.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the appropriate control statement for invalid, duplicate, or contradictory keyword operands.

---

**ILU112A INVALID FORMAT**

**Explanation:** Critical. An invalid format value was specified in the FIELDS or FORMAT parameter of the SORT or MERGE statement, or "bytes.bits" notation was used in the position or length of a control field for which the BI format was not specified.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the format values in the FIELDS or FORMAT parameter of the SORT or MERGE control statement.

---

**ILU113A CONTROL FIELD × DISPLACEMENT INVALID**

**Explanation:** Critical. An invalid displacement (position) was specified in a control field of the SORT or MERGE statement. The byte position must be a positive decimal number, and the bit position (if present) must be a decimal number between 0 and 7. The "bytes.bits" notation is only allowed for BI format fields. The control field number is represented by *x*.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the displacement value specified in the SORT or MERGE control statement.

---

**ILU114A CONTROL FIELD × LENGTH INVALID**

**Explanation:** Critical. An invalid or zero length was specified in a control field of the SORT or MERGE statement. The number of bytes must be a nonnegative decimal number, which is allowed for the specified format, and the number of bits (if present) must be a decimal number between 0 and 7. The "bytes.bits" notation is only allowed for BI format fields. The control field number is represented by *x*.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check length values specified in the SORT or MERGE control statement.

---

**ILU115A UNIT ASSIGN ERROR xxxxxxxx SYS(y)**

**Explanation:** Critical. DFSORT/VSE file xxxxxxxx with logical unit number *y*, as calculated by DFSORT/VSE is assigned to a device type not supported in this role by DFSORT/VSE.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Reassign SYS(*y*) to a device type supported by DFSORT/VSE. Check logical unit numbers on the ASSGN and EXTENT statements and the SORTIN and SORTOUT operands of the OPTION statement. If defaults have been used, check that those are valid for your installation.

---

**ILU116A CONTROL FIELD × SEQUENCE INVALID**

**Explanation:** Critical. The value assigned to *s* in the FIELDS operand of the SORT or MERGE statement must be either A or D. The control field number is represented by *x*.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the sequence values specified in the SORT or MERGE control statement for a syntax error.

---



ILU117A BOTH SORT AND MERGE DEFINED

**Explanation:** Critical. Both SORT and MERGE statements have been found in the same DFSORT/VSE application.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Remove one of the conflicting statements.

---

ILU118A xxxxxx yyyyyy OPERAND MISSING OR INVALID

**Explanation:** Critical. An operand which must be specified, and for which there is no default, has been omitted or is invalid. xxxxxx represents the statement, and yyyyyy the operand.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the appropriate control statement for the missing operand.

---

ILU119I BLANK STATEMENT OR NO OPERAND ENCOUNTERED

**Explanation:** A completely blank statement, a statement with no operands, or a statement with only a label was found in the control statements. The statement is ignored.

**System Action:** DFSORT/VSE continues normal processing.

**Programmer Response:** Remove the blank statement from the input stream for the next run.

---

ILU120A GIVEN FILE SIZE INVALID

**Explanation:** Critical. The value assigned to the SIZE parameter of a SORT statement must be a numeral.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** The SIZE operand is processed by DFSORT/VSE for compatibility reasons only. Remove it from the SORT control statement.

---

ILU121A FILES VALUE INVALID

**Explanation:** Critical. The value assigned to the FILES operand of a SORT or MERGE statement must be in the range 1 through 9.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the SORT or MERGE statement for an invalid FILES value.

---

**ILU122A xxxxxxxx OPTION HAS INVALID PARAMETER**

**Explanation:** Critical. xxxxxxxx represents one of the following OPTION operands: DSPSIZE, FILNM, GVSIZE, GVSRANY, GVSRLow, LABEL, SORTIN, SORTOUT, SORTWK, STORAGE, WORKNM, or Y2PAST. This message was issued for one of the following reasons:

- If DSPSIZE, an incorrect parameter value was specified.
- If FILNM, the file name specified has more than 7 characters (4 characters for work files) or does not begin with an alphabetic character.
- If GVSIZE, an incorrect parameter value was specified.
- If GVSRANY, an incorrect parameter value was specified.
- If GVSRLow, an incorrect parameter value was specified.
- If LABEL, a character other than U, N, or S was found between two successive commas in the LABEL parameter.
- If SORTIN, SORTOUT, or SORTWK, an integer with a value outside the range 1 through 221 was used for the indicated parameter.
- If STORAGE, an incorrect parameter value was specified.
- If WORKNM, the file name specified is not 4 characters long, or does not begin with an alphabetic character.
- If Y2PAST, a value outside the range 0 through 100 or 1000 through 3000 was specified.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Ensure that the OPTION control statement contains the correct DSPSIZE, FILNM, GVSIZE, GVSRANY, GVSRLow, LABEL, SORTIN, SORTOUT, SORTWK, STORAGE, WORKNM, or Y2PAST operand value.

---

**ILU123A SORT WORK VALUE INVALID**

**Explanation:** Critical. The WORK parameter in the SORT statement has been assigned a value not recognized by DFSORT/VSE. Permissible values are 1 through 9 for disk work files when SD is specified or defaulted on the DLBL statement, and DA for a disk work file when DA is specified on the DLBL statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the SORT statement for an invalid WORK operand value.

---

**ILU124A INVALID DATA TYPE**

**Explanation:** Critical. The parameter for the DATA operand on the INPFIL statement is neither E nor A.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the DATA operand to E (EBCDIC) or A (ISCII/ASCII).

---

```
ILU125I xxxxxxxx OPERAND IGNORED
```

**Explanation:** This message was issued for one of the following reasons:

1. To be compatible with other IBM sort/merge programs, the operand represented by `xxxxxxx` is accepted as valid but ignored by this program. The operands in question are:
  - SIZE for the SORT statement
  - ALTKW, CALCAREA, FREEOUT, KEYLEN, PRESEQ, RESTART, SKIPBYTE, and TP for the OPTION statement
  - CKPT, CHKPT, SIZE, and WORK for the MERGE statement
  - BYPASS for the OUTFIL statement.
2. If EXIT is specified in an INPFIL statement, any operand other than DATA that follows EXIT will be ignored and is represented by `xxxxxxx` in the message.
3. If EXIT is specified in an OUTFIL statement, any operand that follows EXIT will be ignored and is represented by `xxxxxxx` in the message.
4. DSPSIZE for OPTION statement is ignored when DFSORT/VSE is not running in an ESA environment.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** None.

---

```
ILU126A INVALID PHx NAME
```

**Explanation:** Critical. The user exit name specified in a MODS statement must be a valid VSE/ESA name (1 through 8 alphanumeric characters: A through Z, 0 through 9, ., #, @, \$). The `x` represents the DFSORT/VSE phase number as specified in the MODS statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the MODS statement for an invalid phase name.

---

**ILU127A INVALID MODS ADDRESS OR LENGTH FIELD**

**Explanation:** Critical. The address or length specified in a MODS statement must be a valid number. If the length is given, the number must be preceded by the character L.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the MODS statement for an invalid address or length.

---

**ILU128A INVALID PHX EXIT**

**Explanation:** Critical. A user exit not recognized by DFSORT/VSE has been specified in a MODS statement. The valid user exits are listed in *Application Programming*. *x* represents the phase number.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the MODS statement for a syntax error or other error resulting in the specification of an invalid user exit number.

---

**ILU129A ERROR IN LENGTH VALUE**

**Explanation:** Critical. This message was issued for one of the following reasons:

1. An error has been detected in either the BUFOFF or BLKSIZE operand. BUFOFF can be 0 through 99 for ISCI/ASCII input, but only 0 or 4 for output.
2. A length parameter has been specified as 0 in the RECORD statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Do one of the following:

1. Check the INPFIL and OUTFIL statements for an invalid BLKSIZE parameter for the device being supported, or for an invalid BUFOFF parameter value.
  2. Specify a valid length parameter value.
- 

**ILU130A BOTH INCLUDE AND OMIT DEFINED**

**Explanation:** Critical. Both INCLUDE and OMIT statements have been found in the same DFSORT/VSE application.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Remove one of the conflicting statements.

---

ILU131A RECORD TYPE INVALID

**Explanation:** Critical. The TYPE parameter in the RECORD statement must be F, V, or D.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the RECORD statement for an invalid TYPE operand value.

---

ILU132A ALTSEQ STATEMENT HAS INVALID DATA

**Explanation:** Critical. Valid data consists of exactly 4 valid hexadecimal digits per entry in the CODE parameter.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the ALTSEQ statement for invalid hexadecimal digits, unpaired digits, and missing commas.

---

ILU133A SUM FORMAT INVALID

**Explanation:** Critical. An invalid format was specified in the SUM statement. Only the formats FI, BI, PD, and ZD must be used.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the FIELDS and FORMAT parameters of the SUM statement.

---

ILU134I VIRT PARAMETER IGNORED

**Explanation:** VIRT parameter is ignored since DFSORT/VSE was running in real mode.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** None.

---

ILU135A VOLUME VALUE INVALID

**Explanation:** Critical. Invalid characters were specified on the VOLUME operand. A value assigned to the VOLUME parameter of the INPFIL statement must be numeric.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INPFIL statement for an invalid VOLUME operand value.

---

**ILU136A** xxxxxxxx **FIELDS BEYOND 4092**

**Explanation:** Critical. A SUM, SORT, or MERGE field lies beyond byte field 4092 of the record.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the length and displacement values specified in the indicated statement.

---

**ILU137A SYNTAX ERROR - xxxxxxxx**

**Explanation:** Critical. A syntax error has been detected in the control statement represented by xxxxxx. Common syntax errors are:

- Unbalanced parentheses
- Unbalanced apostrophes
- Shift-out (X'0E') is embedded within double-byte data in a character constant
- Missing commas
- Embedded blanks
- Redundant operands
- Missing parameters
- Odd number of digits in a hexadecimal constant

After issuing this message, DFSORT/VSE skips the rest of the statement in error, including any continuation lines, and continues to scan the next statement for errors. The remainder of the statement may, therefore, contain errors that will not be detected until DFSORT/VSE is rerun.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the specified control statement for an error in syntax.

---

**ILU138A** yyyyyyy **FIELD x INVALID VALUE**

**Explanation:** Critical. yyyyyyy will be replaced by INREC or OUTREC. One of the following errors has been detected in INREC or OUTREC field number x.

1. The position or the length of the input field is less than 1, or the end of the input field is greater than 65535.
2. The first input field consists of only one parameter (that is, it contains a position parameter without a length parameter).
3. An invalid input field alignment was specified. Only H, F, or D is allowed.
4. | A nC'xx...x' or nX'yy...yy' separation field or an input field with a  
| Y2C, Y2Z, Y2S, Y2P, Y2D, Y2B, PZ, PSI, ZSI, ZD, PD, PD0, BI, or FI  
| format was found in an INREC control statement. These are only  
| allowed in an OUTREC control statement.
5. | An invalid input field format was specified. Only Y2C, Y2Z, Y2S, Y2P,  
| Y2D, Y2B, PZ, PSI, ZSI, ZD, PD, PD0, BI, or FI is allowed.
6. | The length specified was invalid for the format specified.
  - | For Y2C, Y2Z, Y2S, and Y2P, the length must be 2.
  - | For Y2D and Y2B, the length must be 1.
  - | For PZ, the length must be 2 through 8.
  - | For PSI, the length must be 1 through 8.
  - | For ZSI, the length must be 1 through 15.
  - | For PD0, the length must be 2 through 8.
  - | For BI or FI, the length must be 1 through 4.
  - | For PD, the length must be 1 through 8.
  - | For ZD, the length must be 1 through 15.
7. An invalid separation field was specified. Only nX, nZ, nC'xx...x' or nX'yy...yy' is allowed, where n must be 1 through 256 and the character or hexadecimal string must be 1 through 256 bytes.
8. | A position parameter is followed by a separation field, an alignment  
| parameter (H,F or D) or a format parameter (Y2C, Y2Z, Y2S, Y2P, Y2D,  
| Y2B, PZ, PSI, ZSI, ZD, PD, PD0, BI, or FI). Only a length parameter  
| may follow a position parameter.
9. | A column was greater than 65535, or was followed by another column.
10. | The length for a hexadecimal field was greater than 32767.

11. | More than 15 digits or 22 characters were specified in an edit  
| pattern.
12. | SIGNz (where z is not S) was specified with Mn or without EDIT or  
| EDxy.
13. | x, y, or z in EDxy or SIGNz were the same character.
14. | The value for LENGTH was greater than 22.
15. | The length for a lookup input field was greater than 64 with character  
| or hexadecimal find-constants, or greater than 1 with bit constants.
16. | The length for a lookup output field was greater than 64.
17. | The length for a find-constant was greater than the lookup input field  
| length.
18. | A find-constant was not a character, hexadecimal, or bit constant.
19. | The length for a set-constant or NOMATCH field was greater than the  
| lookup output field length.
20. | An invalid character was specified in a find bit constant, or the  
| number of bits for a find bit constant was not 8.
21. | A set-constant was not a character or hexadecimal constant.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INREC or OUTREC statement for errors.

---

```
ILU139I PHASE 2 EXIT(S) IGNORED
```

**Explanation:** User exits other than those in Phase 1 or Phase 3 have been specified. These user exits are invalid and are ignored by DFSORT/VSE.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** None.

---

```
ILU140A LABEL ERROR
```

**Explanation:** Critical. A label starting in column 1 of a control statement has been detected that is more than 8 characters long, or does not start with an alphabetic character.



**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check control statements for a label that does not begin with an alphabetic character, or for a label that is more than 8 characters long, or for an operator beginning in column 1.

---

ILU141I SUBTASKED CHECKPOINT IGNORED

**Explanation:** DFSORT/VSE was requested to take a checkpoint while it was subtasked.

**System Action:** The checkpoint request is ignored. DFSORT/VSE continues normal processing.

**Programmer Response:** If the checkpoint is needed, reorganize the application so that DFSORT/VSE is not subtasked.

---

ILU142I CHECKPOINT IGNORED - *n* TRACKS OR BLOCKS NEEDED ON SORTCKP

**Explanation:** The disk extent allocated for SORTCKP was too small to take a requested checkpoint. *n* tracks is the minimum needed for a CKD device, *n* blocks for an FBA device.

**System Action:** The checkpoint request is ignored. DFSORT/VSE continues normal processing.

**Programmer Response:** If the checkpoint is needed, increase the disk extent for the SORTCKP file to at least *n* tracks or blocks. The space needed can be calculated from the formula given in *System Macros*.

---

ILU143I CHECKPOINT IGNORED - A PARTITION CROSSES 16 MB VIRTUAL

**Explanation:** DFSORT/VSE was requested to take a checkpoint while executing in a partition that crosses 16 MB virtual (the checkpoint/restart facility does not support the 31-bit environment).

**System Action:** The checkpoint request is ignored. DFSORT/VSE continues normal processing.

**Programmer Response:** If the checkpoint is needed, run the DFSORT/VSE application in another partition that does not cross 16 MB virtual.

---

ILU144A INVALID SPLIT CYLINDER EXTENT ON xxxxxxxx

**Explanation:** Critical. xxxxxxxx is the name of a work file. Split cylinder extents for work files cannot be used.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the work file xxxxxxxx EXTENT statement.

---

ILU145I STORAGE PARAMETER IGNORED. x USED

**Explanation:** *x* gives the number of bytes used by DFSORT/VSE. The STORAGE parameter requested more space than available in the partition. The request may be explicit or it may be implied by use of the default value. Note that the standard default supplied with DFSORT/VSE may have been changed for your installation.

**System Action:** DFSORT/VSE continues, and the standard default value is used.

**Programmer Response:** Increase the SIZE parameter value on the EXEC statement, or increase the partition size, or both. If DFSORT/VSE is called, and if the preloaded user exits and the return part of the program are loaded above DFSORT/VSE, you may have to move them to allow DFSORT/VSE more room.

---

**ILU146A INVALID ADDRESS IN THE PARAMETER LIST (DISPLACEMENT = *n*)**

**Explanation:** Critical. The specified address is invalid for the required entry of the parameter list. *n* is the displacement in the parameter list of the invalid entry.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Revise the indicated entry of the parameter list.

---

**ILU148I ROUTE PARAMETER IGNORED**

**Explanation:** ROUTE=*xxx* is only allowed when DFSORT/VSE is called from another program.

**System Action:** DFSORT/VSE continues, using the default value for the ROUTE option.

**Programmer Response:** Correct the ROUTE parameter value on the OPTION statement before any subsequent run.

---

**ILU149I ERROR (x) GETTING LABEL FOR *yyyyyyyy***

**Explanation:** *yyyyyyyy* will be replaced by the file name. If *x*=0, one of the following errors has been detected:

1. LABEL=U was specified for a disk device.
2. The logical unit number for SORT:*xxx* is assigned to a disk device, but a tape label was found for SORT:*xxx*.
3. The logical unit number in the extent is assigned to a tape device, but a disk label was found for SORT:*xxx*.

If *x*=255, one of the following errors has been detected:

1. A DLBL statement with no associated EXTENT statement was specified for *yyyyyyyy*.
2. No logical unit number was specified on the EXTENT statement.

3. The logical unit number on the EXTENT statement is not a programmer logical unit.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the DLBL and EXTENT statements for incorrect assignments. Also, check the LABEL parameter on the OPTION statement.

---

```
ILU150A ERROR (x) READING VTOC FOR yyyyyyy LABEL
```

**Explanation:** Critical. The common VTOC handler returned a nonzero return code of *x* when accessed to read the label of file *yyyyyy*.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Look up the documentation for the common VTOC handler in *Messages and Codes* and if possible, take the action required for return code *x*.

---

```
ILU151I CENTURY WINDOW FOR Y2 FORMATS IS FROM ssss TO eeee
```

**Explanation:** Indicates the starting year (*sss*) and ending year (*eee*) for the century window to be used in conjunction with the specified Y2 format fields.

**System Action:** None.

**Programmer Response:** None.

---

```
ILU152I WORK FILE NAME SPECIFIED TWICE
```

**Explanation:** The name of the work file is specified in both FILNM and WORKNM parameters of the OPTION statement.

**System Action:** DFSORT/VSE continues. The last name specified is accepted.

**Programmer Response:** Delete the FILNM parameter for the next run.

---

```
ILU154A ERROR (x) RETURN FROM GETVCE FOR xxxxxxx
```

**Explanation:** Critical. GETVCE returned a nonzero return code of *x* for file *xxxxxx*.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Look up return code *x* for GETVCE in *System Macros* and take the appropriate action.

---

```
ILU155A GETVIS FOR xxxxxxxx COMMON VTOC HANDLER WORK AREA FAILED.  n
      NEEDED.
```

**Explanation:** Critical. DFSORT/VSE needed more room for the common VTOC handler. It tried to GETVIS a larger area but failed, because the CI size of the VTOC for the FBA disk on which file xxxxxxxx is located is too large for the work area available to DFSORT/VSE.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Decrease the size of the problem program area by *n* bytes, using either the EXEC SIZE parameter or the SIZE job control command. This will increase the size of the partition GETVIS area. Alternatively, run the application in a larger partition.

---

```
ILU158I xxxxxxxx SYSNO IGNORED
```

**Explanation:** The logical unit number specified on the OPTION statement (or as an installation default) is ignored for disk files. xxxxxxxx is the file name, for example, SORTIN1.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** Remove the parameter from the OPTION statement, or recompile and relink the ILUINST macro without the specification, or both.

---

```
ILU161I SECONDARY ALLOCATION FOR SORTWORK WILL NOT BE SUPPORTED, RETURN
      CODE = n
```

**Explanation:** Insufficient program GETVIS area for secondary allocation support. *n* is the return code from the GETVIS macro.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** None.

---

```
ILU166A MORE THAN 12 CONTROL FIELDS SPECIFIED - GETVIS STORAGE NOT
      AVAILABLE
```

**Explanation:** Critical. Insufficient partition GETVIS area for control field processing.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Do one of the following:

1. Decrease the size of the partition program area by 4 KB, using either the EXEC SIZE parameter or the SIZE job control command.
  2. Decrease the number of control fields to 12 or less.
-

**ILU167A SUM CANNOT BE USED WITH SORT FIELDS=COPY OR MERGE FIELDS=COPY**

**Explanation:** Critical. Summary fields cannot be used with a copy operation.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Eliminate the SUM control statement, or change from a copy operation to a sort or merge operation.

---

**ILU168I ONLY FILES, SKIPREC, AND STOPAFT ARE APPLICABLE TO FIELDS=COPY**

**Explanation:** When FIELDS=COPY is specified on the SORT or MERGE control statement, only FILES, SKIPREC, and STOPAFT are in effect. All other SORT or MERGE control statement operands are ignored.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** None.

---

**ILU169I ALL OPERANDS OTHER THAN FIELDS=NONE ARE IGNORED**

**Explanation:** When FIELDS=NONE is specified on the SUM statement, all other operands are ignored.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** None.

---

**ILU170A INREC CANNOT BE USED WITH MERGE OR SORT FIELDS=COPY**

**Explanation:** Critical. INREC reformatting cannot be used with a merge or copy operation.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Use OUTREC (with appropriate changes to SORT, SUM, and OUTREC field locations) instead of INREC, or change from a copy or merge operation to a sort operation.

---

**ILU171A EXTENT EXCEEDS TRACK LIMIT OF 65535 ON xxxxxxxx**

**Explanation:** Critical. xxxxxxxx is the name of a work file for which the extent exceeds the 65535 track limit.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the work file xxxxxxxx EXTENT job control statement.

---

**ILU172A LOADING INFORMATION SPECIFIED FOR PHASE $x$  PRELOADED USER EXIT  
ROUTINES**

**Explanation:** Critical. Loading information (name, address, or length of the user exit routines) for phase  $x$  ( $x$  - phase number) preloaded user exit routines is specified in the MODS control statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Eliminate any loading information specifications from the MODS control statement for preloaded user exit routines.

---

**ILU180I REQUESTED DATA SPACE IS NOT AVAILABLE. RETURN CODE =  $x$ , REASON  
CODE =  $yyyyyyyy$**

**Explanation:** The amount of data space available was less than the user specified.  $x$  and  $yyyyyyyy$  are the return and reason codes from the DSPSERV macro used for data space creation.

**System Action:** DFSORT/VSE continues without using dataspace sorting.

**Programmer Response:** Reduce the DFSORT/VSE data space storage size in the DSPSIZE operand of the OPTION statement and rerun the application. Make sure that the appropriate DSIZE value is specified in the SYSDEF command or job control statement.

---

**ILU185I REQUESTED GETVIS SORTING AREA IS NOT AVAILABLE**

**Explanation:** The amount of getvis sorting area available was less than the user specified.

**System Action:** DFSORT/VSE continues without using getvis sorting.

**Programmer Response:** Reduce the DFSORT/VSE getvis sorting area size in the GVSIZ operand of the OPTION statement and rerun the application. Check the size of your partition GETVIS area.

---

**ILU201A TOO MANY RECORD LENGTH PARAMETERS**

**Explanation:** Critical. The number of length parameters specified in the record statement exceeds the maximum allowed. For fixed-length records, the number of parameters allowed is three (L1 to L3) and, for variable-length records, five (L1 to L5).

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the LENGTH operand in the RECORD statement for too many parameters.

---

**ILU202I  $xxxxxx$  STATEMENT OPERANDS ARE IGNORED**

**Explanation:**  $xxxxxx$  is replaced by INPFIL or OUTFIL. This message was issued for one of the following reasons:

1. When VSAM is specified in an INPFIL statement, all other operands are ignored except for EXIT and TOL. EXIT overrides VSAM.
2. When ESDS, KSDS or RRDS is specified in an OUTFIL statement, all other operands are ignored except for EXIT and TOL. EXIT overrides KSDS, ESDS, or RRDS.
3. When EXIT is specified in an INPFIL statement, all other operands are ignored except for DATA.
4. When EXIT is specified in an OUTFIL statement, all other operands are ignored.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** None.

---

**ILU204I DEFAULT ALTSEQ USED**

**Explanation:** A field that requires ALTSEQ was found, but no ALTSEQ statement was specified. The default alternate collating sequence will be used by DFSORT/VSE.

**Note:** The standard default alternate collating sequence is EBCDIC. It may have been changed at your installation by the ALTSEQ installation option.

**System Action:** DFSORT/VSE continues. Default ALTSEQ is used.

**Programmer Response:** If the default ALTSEQ should not be used, override it with an ALTSEQ control statement.

---

**ILU205I xxxxxxxx OPERAND IGNORED**

**Explanation:** This operand is ignored for one of the following reasons:

1. When MERGE is specified, the operand represented by xxxxxxxx is ignored.
2. If both SUM and EQUALS are specified, EQUALS is ignored. Note that EQUALS can be the default, if this has been reset for your installation. To suppress this message, specify NOEQUALS.
3. If ADDROUT or ADDROUT=D is specified when SUM, INREC, or OUTREC is specified, ADDROUT or ADDROUT=D is ignored.
4. If SPAN is specified with fixed-length records or ISCI/ASCII records, SPAN is ignored.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** Remove the unwanted operand before the next run.

---

**ILU206A BOTH INCLUDE AND DELBLANK DEFINED**

**Explanation:** Critical. An INCLUDE statement and the DELBLANK operand on the RECORD statement have both been found. (The DELBLANK operand is checked for compatibility reasons only.)

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Remove the conflicting specification.

---

**ILU207A RECORD DESCRIPTOR WORD NOT INCLUDED IN *yyyyyyyy***

**Explanation:** Critical. *yyyyyyyy* will be replaced by INREC or OUTREC. When the INREC or OUTREC statement is being used to reformat variable-length records, the record descriptor word (RDW, bytes 1 to 4 of a variable-length record) must be included in the reformatted output record. In other words, for variable-length records, the first entry in the FIELDS operand of the INREC or OUTREC statement must be 1,n where n is greater than or equal to 4.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Ensure that the first entry in the FIELDS operand of the INREC or OUTREC statement is correct.

---

**ILU208A *yyyyyyyy* FIELD *n* BEYOND RECORD**

**Explanation:** Critical. *yyyyyyyy* will be replaced by INREC, OUTREC, or SUM. One of the following errors has been detected:

1. INREC field *n* extends beyond the end of the minimum input record as defined by the RECORD statement.
2. INREC was not specified, and the SUM or OUTREC field *n* extends beyond the end of the minimum input record as defined by the RECORD statement.
3. INREC was specified, and the SUM or OUTREC field *n* extends beyond the end of the minimum reformatted input record as defined by the INREC statement.
4. INREC specified that the variable part of the input record should not be included in the reformatted input record, but OUTREC field *n* specifies that the variable part of the reformatted input record should be included in the reformatted output record. INREC and OUTREC must agree with respect to inclusion or exclusion of the variable part of the input record.
5. INREC specified that the variable part of the input record should be included in the reformatted input record, but OUTREC field *n* specifies that the variable part of the reformatted input record should not be included in the reformatted output record. INREC and OUTREC must agree with respect to inclusion or exclusion of the variable part of the input record.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INREC, OUTREC, and SUM statements for incorrectly specified field position or length. Check the RECORD statement for incorrect record length specification.

---



**ILU209A ADDRROUT OPTIONS INVALID**

**Explanation:** Critical. ADDRROUT or ADDRROUT=D has been specified when the EXIT or the SPAN operand is present in the INPFIL statement. You cannot specify the ADDRROUT or ADDRROUT=D option when you pass all input to DFSORT/VSE via a user exit, or when the records are spanned.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** ADDRROUT or ADDRROUT=D must not be specified in combination with either INPFIL SPAN or INPFIL EXIT.

---

**ILU210A INVALID LENGTH IN RELATIONAL CONDITION *n* FOR INCLUDE OR OMIT**

**Explanation:** Critical. The length of the *n*-th relational condition of the INCLUDE or OMIT statement is invalid because:

- The length (parameter *m*) is not a decimal number, or
- It is a negative number, or
- It is greater than or less than the length allowed for the field format.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INCLUDE or OMIT statement for invalid specifications.

---

**ILU211A xxxxxx EXIT REQUIRES Eyy**

**Explanation:** Critical. xxxxxx is replaced in the message by INPFIL or OUTFIL. yy is the number of the user exit required. This message was issued for one of the following reasons:

1. When EXIT is specified in the INPFIL statement, E15 (sort application) or E32 (merge or copy application) must be specified in the MODS statement.
2. When EXIT is specified in the OUTFIL statement, E35 must be specified in the MODS statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the appropriate control statement for an invalid keyword operand.

---

**ILU212A INVALID FORMAT FOR ASCII DATA**

**Explanation:** Critical. The value assigned to *f* (control field format) must be AC, ASL, or AST for ISCII/ASCII data.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the value assigned to *f* in the SORT or MERGE and INCLUDE or OMIT statements.

---

ILU213A DELBLANK POSITION BEYOND 4092

**Explanation:** Critical. The DELBLANK parameter of the RECORD statement lies beyond byte 4092 of the record. (The DELBLANK operand is checked for compatibility reasons only.)

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the DELBLANK operand value.

---

ILU214I EFFECTIVE L3 VALUE = *x*

**Explanation:** An INREC or OUTREC statement has been supplied. *x* is a decimal number that specifies the total length of the reformatted output record, including all input fields, alignment padding, and separation padding.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** None.

---

ILU215A SUM FIELD *n* OVERLAPS CONTROL FIELD *m*

**Explanation:** Critical. The *n*-th field defined in the SUM statement overlaps the *m*-th control field defined in a SORT or MERGE statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the SUM statement. Also check that the SORT or MERGE statement specifies the control fields correctly.

---

ILU216A SUM FIELD *n* OVERLAPS RECORD DESCRIPTOR WORD

**Explanation:** Critical. The *n*-th field defined in a SUM statement overlaps the record descriptor word (RDW) of the variable-length records being processed.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the SUM statement. Also check that the RECORD statement is correct.

---

ILU217A SUM FIELD *n* OVERLAPS SUM FIELD *m*

**Explanation:** Critical. The *n*-th field defined in a SUM statement overlaps the *m*-th field.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the SUM statement for errors.

---

ILU218A TOO MANY VOLUME POSITIONAL PARAMETERS

**Explanation:** Critical. The number of positional parameters in the VOLUME operand of the INPFIL statement exceeds the FILES operand value specified on the SORT or MERGE statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the VOLUME parameter or the number of files specified on the SORT or MERGE statement.

---

ILU219A INVALID SELF-DEFINING TERM IN RELATIONAL CONDITION *n* FOR INCLUDE  
OR OMIT

**Explanation:** Critical. The self-defining term is invalid in the *n*-th relational condition of the INCLUDE or OMIT statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INCLUDE or OMIT statement for errors.

---

ILU220A *yyyyyyy* FIELD *n* INVALID VALUE

**Explanation:** Critical. *yyyyyyy* will be replaced by INREC or OUTREC. A positional parameter was specified as the last numeric entry in the INREC or OUTREC FIELDS operand, that is, with no corresponding length indication, and the record type specified in the RECORD statement is fixed. This usage is only allowed with variable-length records.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INREC or OUTREC statement for errors. Check for commas or entries missing from the FIELDS operand.

---

ILU221I SPECIFIED *Exx* VALID ONLY FOR VSAM FILE

**Explanation:** The user exit indicated by *Exx* is only allowed when a VSAM file is used. The user exit is ignored.

**System Action:** DFSORT/VSE continues. DFSORT/VSE ignores the user exit.

**Programmer Response:** None.

---

ILU222A INVALID FORMAT IN RELATIONAL CONDITION *n* FOR INCLUDE OR OMIT

**Explanation:** Critical. The format is invalid in the  $n$ -th relational condition of the INCLUDE or OMIT statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INCLUDE or OMIT statement for errors.

---

ILU223A INSUFFICIENT STORAGE FOR {INCLUDE|OMIT} FUNCTION

**Explanation:** Critical. Insufficient partition program area is available to contain DFSORT/VSE.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Increase the partition program area available to DFSORT/VSE, or reduce the number of INCLUDE or OMIT conditions.

---

ILU224I PHASE 1 EXITS IGNORED BY MERGE OR SORT FIELDS=COPY

**Explanation:** Phase 1 of DFSORT/VSE is not used for a merge or copy application. Therefore, any Phase 1 user exits specified on the MODS statement of a merge or copy application are ignored.

**System Action:** DFSORT/VSE continues, ignoring the specified exits.

**Programmer Response:** Make sure the application is set up properly before the next run.

---

ILU225I EXIT E32 OR E38 IGNORED BY SORT

**Explanation:** Exits E32 and E38 are only available for a merge operation. They are ignored when specified in the MODS statement of a sort operation.

**System Action:** DFSORT/VSE continues, ignoring the specified exits.

**Programmer Response:** Make sure the application is set up properly before the next run.

---

ILU226A PRIORITY PARENTHESIS MISPLACED FOR INCLUDE OR OMIT

**Explanation:** Critical. A parenthesis has been found in a syntactically invalid position in the COND operand of an INCLUDE or OMIT statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INCLUDE or OMIT statement for invalid syntax, paying special attention to the parentheses.

---

ILU227A INCLUDE OR OMIT FORMAT INVALID

**Explanation:** Critical. An invalid format was specified in the FORMAT operand of an INCLUDE or OMIT statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INCLUDE or OMIT statement for an invalid FORMAT operand.

---

**ILU228A INVALID COMPARISON OPERATOR IN RELATIONAL CONDITION *n* FOR INCLUDE  
OR OMIT**

**Explanation:** Critical. The *n*-th relational condition of the INCLUDE or OMIT statement specifies an invalid comparison operator (only EQ, NE, GT, GE, LT, LE, ALL, SOME, NONE, NOTALL, NOTSOME, NOTNONE, BO, BM, BZ, BNO, BNM, and BNZ are valid), or a comparison operator that is incompatible with the field or constant specified.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INCLUDE or OMIT statement for errors.

---

**ILU229A ERROR IN LENGTH VALUE**

**Explanation:** Critical. One of the following errors has been detected in BUFOFF, BLKSIZE, or one of the RECORD length parameters:

1. L5 is greater than L1, L4 is greater than L5, or L4 is greater than L1 (RECORD statement).
2. BLKSIZE is greater than 9999 with DATA=A (INPFIL and OUTFIL statements).
3. BUFOFF is not 0 with DATA=E (INPFIL statement).
4. BUFOFF is not 0 with DATA=A and RECORD TYPE=F (OUTFIL statement).
5. BUFOFF is not 4 with RECORD TYPE=D (OUTFIL statement).

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the RECORD statement for invalid length values. Check the INPFIL and OUTFIL statements for invalid block size or BUFOFF values.

---

**ILU230A L1 VALUE INVALID**

**Explanation:** Critical. The L1 value must be greater than 4 for variable-length records.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the RECORD statement for a missing or invalid L1 value.

---

```
ILU231A DATA = A INVALID
```

**Explanation:** Critical. This message was issued for one of the following reasons:

1. ISCI/ASCII data (DATA=A or RECORD TYPE=D) is not allowed with ADDROUT or ADDROUT=D.
2. DATA=A is not allowed with RECORD TYPE=V.
3. ISCI/ASCII data is not allowed with disk input/output.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Specify a valid combination of RECORD TYPE, ADDROUT or ADDROUT=D, DATA, and device.

---

```
ILU232A ALTERED RECORDS REQUIRE INREC, OUTREC, OR E15 OR E35 EXIT
```

**Explanation:** Critical. One of the following errors has been detected:

1. L2 is not equal to L1, but an E15 user exit (in the MODS statement) has not been specified, so no change to the input record length is possible.
2. L3 is not equal to L2, but neither an INREC statement, an OUTREC statement, nor an E35 user exit (in the MODS statement) has been specified, so no change to the output record length is possible.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the RECORD and MODS statements for inconsistencies. Check for a missing INREC or OUTREC statement.

---

```
ILU233I xxxxxx BLOCK SIZE = y BYTES
```

**Explanation:** A block size was not specified for xxxxxx (either INPFIL or OUTFIL). DFSORT/VSE calculated the block size *y* as follows:

- For EBCDIC fixed-length records, block size equals record length.
- For EBCDIC variable-length records, block size equals record length + 4.
- For ISCI/ASCII fixed or variable-length records, block size equals record length + buffer offset.

**Note:** If DFSORT/VSE makes an invalid assumption when calculating the block size, degraded performance or termination may result.

**System Action:** DFSORT/VSE continues with the assumed value.

**Programmer Response:** If the calculated block size is inappropriate, correct it on the INPFIL or OUTFIL statement for the next run.

---

**ILU234A RECORD CONFLICTS WITH xxxxxx BLOCK SIZE**

**Explanation:** Critical. xxxxxx is replaced by INPFIL or OUTFIL. The block size specified in the INPFIL or OUTFIL statement must be consistent with the record length specified in L1 or L3.

- If the INREC or OUTREC statement is in use, the OUTFIL block size must be consistent with the effective length of the reformatted record (including padding, if any, the effective length is given by message ILU214I).
- For EBCDIC fixed-length records, block size must be an exact multiple of record length.
- For EBCDIC variable-length records, block size must be at least record length + 4.
- If ISCI/ASCII input data was specified, block size must be the sum of the block prefix and an exact multiple of record length.
- If ADDROUT or ADDROUT=D is specified with variable-length records, the rules for fixed-length records apply for L3.

**System Action:** If the conflict is between EBCDIC records and block size, or between ISCI/ASCII output records and block size, DFSORT/VSE terminates after completion of error checking of control statements and unit assignments.

If the conflict is between ISCI/ASCII input records and block size, DFSORT/VSE continues normal processing.

**Programmer Response:** Check the INPFIL or OUTFIL statement for inconsistencies with other statements.

---

**ILU235A MISSING FORMAT IN RELATIONAL CONDITION *n* FOR INCLUDE OR OMIT**

**Explanation:** Critical. The format specification is missing from *n*-th relational condition of the INCLUDE or OMIT statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INCLUDE or OMIT statement for a missing 'f' subparameter of COND.

**Note:** If DATA=A or RECORD TYPE=D is specified, only format AC, AST, or ASL is allowed.

---

**ILU236A DELBLANK POSITION BEYOND *yy***

**Explanation:** Critical. The DELBLANK parameter of the RECORD statement extends beyond the end of the minimum record length *yy*. The minimum

record length is defined by the RECORD statement LENGTH parameter L1 for fixed-length records when no E15 user exit is specified, or L2 if an E15 user exit is specified. For variable-length records, L4 specifies the minimum record length.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the RECORD statement for incorrect record length or DELBLANK values.

---

**ILU237A SYNTAX ERROR - INCLUDE OR OMIT**

**Explanation:** Critical. A syntax error has been detected in the INCLUDE or OMIT control statement. Common syntax errors are:

- Unbalanced parentheses
- Missing commas
- Embedded blanks
- Redundant operands
- Missing parameters

After issuing this message, DFSORT/VSE continues to scan the statement for errors. Since the statement is in error, subsequent messages issued for this statement may be meaningless.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the specified control statement for syntax errors.

---

**ILU238A Lx INVALID FOR yyyyyyy**

**Explanation:** Critical. x in the message text is replaced by the length parameter number (2 or 3). yyyyyyy is replaced by ADDRROUT (may also mean ADDRROUT=D, if appropriate), INREC, or OUTREC.

1. If ADDRROUT or ADDRROUT=D has been specified in the OPTION statement, either
  - a. L2 has been specified in the RECORD statement and is not equal to the length of the disk address (10 bytes for a SAM file, or 5 bytes for a VSAM file) plus the length of the control fields, or
  - b. L3 has been specified in the RECORD statement and is not equal to the length of the disk address (or the length of the disk address plus the length of the control fields for ADDRROUT=D).
2. L3 has been specified in the RECORD statement and is not equal to the length of the reformatted output record as defined by the OUTREC statement (or INREC statement if OUTREC was not specified).

**Note:** You need not specify L2 or L3 when using ADDRROUT or ADDRROUT=D. Likewise, you need not specify L3 when using INREC or OUTREC. DFSORT/VSE will calculate the correct values for you.

**System Action:** DFSORT/VSE terminates.



**Programmer Response:** Remove or correct the length parameter, INREC statement, or OUTREC statement, or remove the ADDRTOU or ADDRTOU=D operand.

---

**ILU239A SUM FIELD *n* LENGTH INVALID**

**Explanation:** Critical. In the *n*-th field defined on the SUM statement, the length is invalid for the format specified.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the SUM statement for errors. The permitted lengths (in bytes) are:

- format BI - 2, 4, or 8
- format FI - 2, 4, or 8
- format PD - 1-16
- format ZD - 1-18

---

**ILU240A FIELD OR VALUE GREATER THAN 8 CHARACTERS FOR INCLUDE OR OMIT**

**Explanation:** Critical. A field or value has been detected in the INCLUDE or OMIT statement that is greater than 8 characters. (This restriction does not apply to constants.)

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the specified statement for a field or value greater than 8 characters.

---

**ILU241A *xx* GREATER THAN *yy***

**Explanation:** Critical. *xx* will be replaced by L4 or L5. *yy* will be replaced by L1 or L5. One of the following errors has been detected:

1. The default value set for L4 is greater than the value specified in the RECORD statement for L1 or L5.
2. The default value set for L4 is greater than the default value set for L5.
3. The default value set for L5 is greater than the value specified in the RECORD statement for L1.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the RECORD statement for an invalid L1 or L5 value. Check SORT, MERGE, INREC, OUTREC, and SUM statements for field locations that would cause an invalid default to be set for L4 and L5.

---

**ILU242A INVALID FORMAT COMBINATION IN RELATIONAL CONDITION *n* FOR INCLUDE  
OR OMIT**

**Explanation:** Critical. The  $n$ -th relational condition in the INCLUDE or OMIT statement specifies an invalid comparison.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the COND operand of the INCLUDE or OMIT statement for invalid comparisons.

If a CH to BI comparison and locale processing are both specified, then either correct the comparison formats (to character compare fields) or specify run-time option LOCALE=NONE.

---

**ILU243A INVALID LOGICAL OPERATOR IN RELATIONAL CONDITION  $n$  FOR INCLUDE OR OMIT**

**Explanation:** Critical. The  $n$ -th relational condition of the INCLUDE or OMIT statement specifies an invalid logical operator (only AND, OR, &, and | are valid).

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INCLUDE or OMIT statement for errors.

---

**ILU244A TOO MANY xxxxxxxx OPERANDS**

**Explanation:** Critical. xxxxxxx is INCLUDE or OMIT. For an INCLUDE or OMIT statement the complexity of the application caused dynamic areas to exceed the storage allowed for them.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Reduce the number of INCLUDE or OMIT fields or the size of INCLUDE or OMIT constants.

---

**ILU245A INCLUDE OR OMIT FIELD IN RELATIONAL CONDITION  $n$  BEYOND xxxxxxx**

**Explanation:** Critical. xxxxxx will be replaced by RECORD or 4092. The field in the  $n$ -th relational condition of the statement is beyond byte 4092 of the record, or beyond the length specified (or defaulted) in the L2 or L4 value of the RECORD LENGTH operand.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INCLUDE or OMIT statement for an invalid length or displacement value. Check the RECORD statement for an incorrect L2 or L4 value.

---

**ILU246A CONTROL FIELD  $n$  TOO LONG FOR TYPE**

**Explanation:** Critical. The  $n$ -th control field exceeds 256 bytes, or has packed decimal format (PD) and exceeds 32 bytes.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the length and format of the specified control field on the SORT or MERGE statement.

---

**ILU247A EXIT *Enn* NOT GIVEN FOR NONSTANDARD LABELS**

**Explanation:** Critical. Nonstandard labels are specified in the OPTION statement, but *Enn* is not specified in the MODS statement. *nn* is replaced by the user exit number.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check

- The MODS statement for the omitted user exit.
- The OPTION statement for an incorrect label specification. Valid user exit numbers for nonstandard labels are: E11, E17, E31, and E37.

---

**ILU248A INVALID FIELD POSITION IN RELATIONAL CONDITION *n* FOR INCLUDE OR OMIT**

**Explanation:** Critical. The field position is invalid in the *n*-th relational condition of the INCLUDE or OMIT statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the INCLUDE or OMIT statement for errors.

---

**ILU249A CONTROL FIELD *x* BEYOND RECORD LENGTH**

**Explanation:** Critical. One of following errors has been detected:

1. INREC was not specified, and SORT or MERGE field *x* extends beyond the end of the minimum input record as defined by the RECORD statement.
2. INREC was specified, and SORT field *x* extends beyond the end of the minimum reformatted input record as defined by the INREC statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the SORT or MERGE statement for an incorrectly specified control field displacement or length. Check the RECORD statement for an incorrectly specified or defaulted record length.

---

**ILU250A ALTSEQ CANNOT BE USED WITH DATA = A**

**Explanation:** Critical. An alternative sequence cannot be used with ISCII/ASCII data.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Either change the data type from DATA=A to DATA=E, or remove the field which requires ALTSEQ.

---

ILU251A INVALID WORK DEVICE

**Explanation:** Critical. A sort work file has been allocated on an invalid device, or more than two device types have been specified. Refer to *Application Programming* for information on valid device types and using more than one device type.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the device types and correct them.

---

ILU252I xxxxxxxx OPTION NOT APPLICABLE FOR yyyyyy DEVICE

**Explanation:** The xxxxxxxx option is not applicable to the input (yyyyyy=INPFIL) or output (yyyyyy=OUTFIL) device as follows:

1. For CKD disk input devices:

CLOSE, LABEL=U, OPEN

2. For FBA disk input devices:

ADDROUT, CLOSE, LABEL=U, OPEN

3. For tape input devices:

ADDROUT

4. For disk output devices:

CLOSE, LABEL=U, NOTPMK, OPEN

5. For tape output devices:

NOTPMK if LABEL=U is not specified, VERIFY

6. For printer and punch output devices:

BUFOFF, CLOSE, LABEL, NOTPMK, OPEN, REUSE, SPAN, TOL, VERIFY

**System Action:** DFSORT/VSE continues, but the indicated option is ignored.

**Programmer Response:** Optional. Remove the indicated option.

---

**ILU253A INVALID BLOCK SIZE FOR *yyyyyy* DEVICE**

**Explanation:** Critical. An invalid block size was specified for the input (*yyyyyy*=INPFIL) or output (*yyyyyy*=OUTFIL) device. The allowed minimum/maximum block sizes for input and output devices are:

- 9345 - 1 to 46456
- 3390 - 1 to 56664
- 3380 - 1 to 47476
- 3375 - 1 to 35616
- FBA - 1 to 32761
- Tape input - 12 to 32767
- Tape output - 18 to 32767
- Printer output - 1 to 124
- Punch output - 1 to 84

When more than one input device is used, the device with the largest block size determines the maximum allowable block size. For output to the printer or punch device, the output records must be unblocked.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct or remove (if possible) the invalid block size value specified for the BLKSIZE operand in the control statement (INPFIL or OUTFIL) indicated by *yyyyyy*.

---

**ILU254I ALTSEQ STATEMENT IGNORED**

**Explanation:** An ALTSEQ statement or alternative sequence translate table has been found but no field was specified as format AQ (or CH, if CHALT is specified).

**System Action:** The ALTSEQ statement or alternative sequence translate table is ignored and DFSORT/VSE continues.

**Programmer Response:** Check the SORT, MERGE, INCLUDE, and OMIT statements for incorrect field format specifications, or remove the unwanted ALTSEQ statement or alternative sequence translate table.

---

**ILU255A INVALID PHASE *x* BRANCH TABLE ADDRESS**

**Explanation:** Critical. The specified phase *x* (*x* - phase number) branch table address is invalid.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the invalid branch table address in the MODS control statement or parameter list.

---

ILU256A TOTAL LENGTH OF CONTROL FIELDS EXCEEDS MAXIMUM (3072 BYTES)

**Explanation:** Critical. The total length of the SORT or MERGE control fields must not exceed 3072 bytes.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the SORT or MERGE statement for an invalid length in the FIELDS operand. Remember that each length can be valid and yet the total may still be too large.

---

ILU257A INVALID INCLUDE OR OMIT OPERAND

**Explanation:** Critical. An invalid or duplicate operand has been detected on an INCLUDE or OMIT statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the appropriate control statement for an invalid or duplicate operand.

---

ILU258A INCLUDE OR OMIT COND OPERAND MISSING

**Explanation:** Critical. The COND operand is missing from an INCLUDE or OMIT statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the appropriate control statement for a missing COND operand.

---

ILU259A TOO MANY xxxxxxxx FIELDS

**Explanation:** Critical. xxxxxxxx is replaced by INCLUDE, OMIT or SUM. Too many fields are defined on the indicated statement.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Reduce the number of fields on the indicated statement.

---

ILU260A yyyyyyy FIELD CONTAINS ONLY RDW

**Explanation:** Critical. yyyyyyy is replaced by INREC or OUTREC. The reformatted record specified in the INREC or OUTREC statement only contains the first 4 bytes. This is not allowed for variable-length records, in which the first 4 bytes are the RDW (record descriptor word). At least one padding byte, or one data byte from the fixed data part of the record, must be included.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the INREC or OUTREC statement.

---

**ILU261I INPUT RECORD LENGTH OR BLOCK SIZE LESS THAN 12 BYTES**

**Explanation:** The input record length specified in the RECORD statement, or the BLKSIZE value specified in the INPFIL statement, is smaller than 12 bytes for tape input. This may result in physical input blocks that are less than 12 bytes and, if error recovery is attempted, such blocks may be lost. This will not be discovered by DFSORT/VSE.

**System Action:** Warning message. DFSORT/VSE continues.

**Programmer Response:** If appropriate, correct the record length or block size for the next run.

---

**ILU262I SPECIFIED EXX VALID ONLY FOR SAM FILE**

**Explanation:** The indicated Exx user exit is not allowed together with VSAM file processing.

**System Action:** DFSORT/VSE ignores the user exit.

**Programmer Response:** Check your input/output assignments for errors.

---

**ILU263I SPECIFIED E31 VALID ONLY WHEN CKPT SPECIFIED**

**Explanation:** When output is VSAM and an E31 user exit is specified, the CKPT operand must be specified on the SORT statement.

**System Action:** DFSORT/VSE ignores the E31 user exit.

**Programmer Response:** Specify the CKPT operand on the SORT statement, or remove the E31 user exit if it is not needed.

---

**ILU264A OUTPUT RECORD LENGTH LESS THAN XX BYTES**

**Explanation:** Critical. Output is on tape, and the output record length specified in the RECORD statement LENGTH parameter is less than 18 bytes for fixed-length records (L3) or 14 bytes for variable-length records (L4). A fixed-length record (L3) can only be less than 18 bytes when ADDROUT or ADDROUT=D is specified. When the INREC or OUTREC statement is used for variable-record files, the fixed portion of the output record must be at least 14 bytes.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the record length parameter or unit assignment for errors.

---

**ILU265I Lx VALUE IS IGNORED FOR MERGE OR SORT FIELDS=COPY**

**Explanation:** Lx is either L1 or L2, representing a RECORD LENGTH value. An invalid value has been specified in the RECORD LENGTH parameter:

1. When EXIT and E32 are *not* specified: if L1 is not equal to L2, the L2 value is overridden.
2. When EXIT and E32 *are* specified: if L1 is not equal to L2, the L1 value is overridden.

**System Action:** DFSORT/VSE continues, ignoring the L1 or L2 value.

**Programmer Response:** If appropriate, correct or remove the record length before the next run.

---

ILU266A L $x$  VALUE TOO LARGE FOR SORTIN $y$

**Explanation:** Critical. L $x$  is either L1 or L4, representing a RECORD LENGTH value.  $y$  is the number of the SORTIN file (1-9).

1. When record TYPE=F, L1 must not be larger than the maximum block size for the device specified by SORTIN $y$ .
2. When record TYPE=V, L4+4 must not be larger than the maximum block size for the device specified by SORTIN $y$ .
3. When record TYPE=D, L4+BUFOFF must not be larger than the maximum block size for the device specified by SORTIN $y$ .

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the L1 or L4 value.

---

ILU267A INVALID CI SIZE - xxxxxxxx

**Explanation:** Critical. xxxxxxxx in the message text is replaced by INPUT or OUTPUT. The CI size for the file is not a multiple of 512, or, if greater than 8 KB, is not a multiple of 2 KB.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the CI size, which is probably incorrectly specified in the output DLBL statement. If the file in error is an input file, check its labels for errors.

---

ILU268I CI SIZE NOT SPECIFIED FOR FBA OUTPUT. (x) USED

**Explanation:** A CISIZE parameter was not specified on the DLBL statement for an output FBA device.  $x$  is the size used.

**System Action:** DFSORT/VSE continues, using the default value for the parameter, which is the next largest multiple of 512 that will hold the block size plus 7 bytes. If the result is larger than 8 KB, it is rounded up to the next multiple of 2 KB.

**Programmer Response:** If the default is not satisfactory, add a CISIZE parameter to the output DLBL statement.



---

**ILU269A BLOCK SIZE DOES NOT MATCH xxxxxxxx CI SIZE**

**Explanation:** Critical. The control interval size specified for file xxxxxxxx is incompatible with the block size you have specified for the file. It should be at least the block size plus 7 bytes. However, for mixed FBA and CKD input, you can have a block size on CKD files that is larger than the CI size for the FBA files. The FBA and CKD block sizes must then be compatible in the usual way, that is:

- Variable-length records--not greater than specified block size (unless records are defined as spanned)
- Fixed-length records--not greater than specified block size, and a multiple of input record size

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Change your file definitions so that they are compatible.

---

**ILU270A ADDRROUT INVALID WITH CI FORMAT INPUT**

**Explanation:** Critical. ADDRROUT and ADDRROUT=D are not supported for FBA input files nor for SAM ESDS input files, unless accessed as VSAM.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Remove ADDRROUT or use an input file that is supported with ADDRROUT.

---

**ILU271I BYPASS IGNORED FOR FBA I/O ERRORS**

**Explanation:** INPFIL BYPASS cannot be used with an FBA input file.

**System Action:** DFSORT/VSE continues.

**Note:** If an I/O error is encountered for an FBA input file, DFSORT/VSE terminates.

**Programmer Response:** None.

---

**ILU272I LABELS SET STANDARD FOR MANAGED xxxxxxxx**

**Explanation:** LABEL=U or LABEL=N was specified for file xxxxxxxx, which is a SAM ESDS file. Since these files must be standard labeled files, DFSORT/VSE ignores the LABEL parameter and assumes the labels are standard.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** Remove the LABEL specification from the OPTION statement for this file.

---

**ILU273A LOADING INFORMATION NOT SPECIFIED FOR PHASE $x$  EXITS**

**Explanation:** Critical. Loading information was not specified.  $x$  represents the phase number.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Specify the loading information for phase  $x$  (in the parameter list for program invoked DFSORT/VSE or in the MODS control statement for directly invoked DFSORT/VSE).

---

**| ILU274A INCONSISTENT REFORMATTING FIELDS FOUND**

**| Explanation:** Critical. The FIELDS parameter of an OUTREC statement contained fields that were inconsistent with other fields. The inconsistency is one of the following:

- | A column overlapped the previous output field in the reformatted record, or
- | The lookup or edit feature was specified along with DATA=A in the INPFIL control statement.

**| System Action:** DFSORT/VSE terminates.

**| Programmer Response:** Correct the inconsistency.

---

**ILU275A WRONG RDW FIELD SPECIFIED WITH  $yyyyyy$** 

**| Explanation:** Critical.  $yyyyyy$  is replaced by INREC or OUTREC. For INREC, a separation field or invalid input field was specified as the first entry with variable-length records. For OUTREC, a separation field, edit field, lookup field, hexadecimal field or invalid input field was specified as the first entry with variable-length records. For variable-length records, the first entry in the FIELDS operand of the INREC or OUTREC statement must be 1,m where m is greater than or equal to 4. m must not be followed by an alignment, format, edit, lookup or hexadecimal operand.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the INREC or OUTREC statement.

---

**ILU276A FIXED DATA NOT INCLUDED FOR YYYYYY**

**Explanation:** Critical. yyyyyy is replaced by INREC or OUTREC. The reformatted record specified in the INREC or OUTREC statement has no fixed data. This is not allowed. At least one padding byte, or one data byte from the fixed portion of the record, must be included in the reformatted record.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Correct the INREC or OUTREC statement.

---

**ILU277I SKIPREC OR STOPAFT NOT APPLICABLE TO MERGE**

**Explanation:** A MERGE control statement is specified and SKIPREC or STOPAFT is in effect. Neither SKIPREC nor STOPAFT can be used with a merge application.

**System Action:** DFSORT/VSE continues. SKIPREC or STOPAFT is ignored.

**Programmer Response:** None.

---

**ILU278I SKIPREC NOT APPLICABLE TO INPFIL EXIT SPECIFICATION**

**Explanation:** INPFIL EXIT is specified and SKIPREC is in effect. SKIPREC cannot be used with INPFIL EXIT.

**System Action:** DFSORT/VSE continues. SKIPREC is ignored.

**Programmer Response:** None.

---

**ILU301A INVALID SIGN**

**Explanation:** Critical. A control field format with separate sign (CST, CSL, AST, or ASL) has an invalid value in the sign byte. The valid hexadecimal values for EBCDIC input are:

- X'4E' for plus sign (+)
- X'60' for minus sign (-).

For ISCII/ASCII input, the valid hexadecimal values are:

- X'2B' for plus sign (+)
- X'2D' for minus sign (-).

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the field format description in the SORT or MERGE statement.

---

| ILU302A MATCH NOT FOUND FOR CHANGE FIELD AT POSITION *p*

| **Explanation:** Critical. The CHANGE parameter was specified without a NOMATCH parameter and an input field value did not match any of the find constants. The position of a change field for which a match was not found is indicated by *p*.

| **System Action:** DFSORT/VSE terminates when the first input field is encountered for which a match is not found.

| **Programmer Response:** Correct the lookup table specified with the CHANGE parameter, or use the NOMATCH parameter to specify a constant or input field to be used as the output field if no match is found. Use of a constant such as NOMATCH=(C\*\*\*) can be helpful in identifying all input field values for which a match is not found.

---

| ILU303A INSUFFICIENT VIRTUAL STORAGE FOR IN-CORE SORT

| **Explanation:** Critical. The input file cannot be contained in virtual storage and work files are not specified.

**System Action:** DFSORT/VSE terminates.

| **Programmer Response:** Either allocate more virtual storage (GETVIS area -- for getvis sorting, data space -- for data space sorting, otherwise -- partition program area) or specify some work file space. See *Application Programming*.

---

ILU305A I/O ERROR ON SORTWORK CCB = xxx...x

**Explanation:** Critical. A permanent I/O error was encountered for a SAM file. xxx...x is replaced by 16 bytes of the channel control block (CCB) or input/output request block (IORB).

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** None.

**Operator Response:** Rerun the application with the DUMP option. If the error persists, contact your IBM representative.

---

ILU306A INSUFFICIENT WORK SPACE

**Explanation:** Critical. More work file space is required, but none is available.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the input file size against the record count given in message ILU322I or ILU333I. Specify more work file space and rerun the sort application. See *Application Programming* for details of work file space requirements.

---

ILU308I SECONDARY ALLOCATION OF ddddddd FAILED - RECOVERY IN PROGRESS

**Explanation:** DFSORT/VSE failed to allocate a secondary extent of the ddddddd work file due to insufficient space. DFSORT/VSE tries to use space on another work file.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** None.

---

ILU310A UNRECOVERABLE CHANNEL OR INTERFACE CONTROL CHECK

**Explanation:** Critical. Probable hardware failure.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** None.

**Operator Response:** Rerun the application with the DUMP option. If the error persists, contact your IBM representative.

---

ILU321I {SORT|MERGE|COPY} COMPLETE, INSERT *v*, DELETE *x*, IN *y*, OUT *z*

**Explanation:** DFSORT/VSE completed successfully. *v* is the number of records inserted at a program exit. *x* is the number deleted at an exit or as the result of an INCLUDE, OMIT, or SUM statement. *y* is the number received for processing by DFSORT/VSE, and *z* is the number sent to output by DFSORT/VSE. This message will appear on SYSLOG, as well as on the printer to which messages are routed.

**System Action:** None.

**Programmer Response:** None.

---

ILU322I {SORT|MERGE|COPY} ERROR, INSERT *v*, DELETE *x*, IN *y*, OUT *z*

**Explanation:** DFSORT/VSE has terminated unsuccessfully. *v* is the number of records inserted at a program exit. *x* is the number deleted at an exit or as the result of an INCLUDE, OMIT, or SUM statement. *y* is the number received for processing by DFSORT/VSE, and *z* is the number sent to output by DFSORT/VSE. This message will appear on SYSLOG, as well as on the printer to which messages are routed.

**System Action:** None.

**Programmer Response:** There will be another message giving the type of condition that caused the failure. The record counts in this message can be used in conjunction with the other message to pinpoint the cause of the problem.

---

ILU323I {SORT|MERGE|COPY} COMPLETE, IN *y*, OUT *z*

**Explanation:** DFSORT/VSE has completed successfully. *y* is the number of records received for processing by DFSORT/VSE, and *z* is the number sent to output by DFSORT/VSE. This message will appear on SYSLOG, as well as on the printer to which messages are routed.

**System Action:** None.

**Programmer Response:** None.

---

ILU324A VSAM CONTROL BLOCK ERROR (*x*) AT *aaaaaa*

**Explanation:** Critical. A VSAM control block error has been detected. The error code *x* (decimal) was received from a SHOWCB, TESTCB, GENCB, or MODCB macro. The error was detected by DFSORT/VSE at address *aaaaaa*. If *aaaaaa* is zero, DFSORT/VSE was unable to load the necessary VSAM processor (possibly because of lack of virtual storage).

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** If DFSORT/VSE was called by another program, check that it is not overlaid by your code. Look up the error code in the appropriate VSAM publication and take the action implied by the nature of the error. Check that the EXEC statement of the application specifies the SIZE parameter, giving a value small enough to leave room in the partition for VSAM. Check that REAL is *not* specified on the EXEC statement. If appropriate, contact your IBM representative.

**Note:** This message is mainly diagnostic and should not normally occur.

---

ILU325I VSAM CLOSE ERROR *yyyyyyy* (*x*)

**Explanation:** A VSAM CLOSE module has returned an error code *x* (decimal) while trying to close file *yyyyyyy*.

**System Action:** DFSORT/VSE continues if possible.

**Programmer Response:** Look up the error code in *System Macros* or *VSE/VSAM Messages and Codes*, and take appropriate action.

---

ILU326I ERASE IN PROGRESS

**Explanation:** Work files are being erased as requested.

**System Action:** None.

**Programmer Response:** None.

---

ILU327A I/O ERROR DURING ERASE

**Explanation:** Critical. DFSORT/VSE encountered an I/O error while erasing a work file.

**System Action:** DFSORT/VSE terminates without completely erasing the work files used.

**Programmer Response:** If the work files used for the application must be erased, take suitable action.

---

ILU330A RECORD COUNT OFF, INSERT *v*, DELETE *x*, IN *y*, OUT *z*

**Explanation:** Critical. The number of records leaving DFSORT/VSE is not equal to the number of records that entered, discounting any inserted or deleted records. *v* is the number of records inserted at a user exit. *x* is the number deleted at a user exit or as the result of an INCLUDE, OMIT, or SUM statement. *y* is the number received for processing by DFSORT/VSE, and *z* is the number sent to output by DFSORT/VSE.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check your E15, E32, or E35 user exit routines, if any. Rerun the application. If the error persists, contact your IBM representative.

---

ILU331I WORK SPACE USED: *x* FBA BLOCKS

**Explanation:** Work files are on FBA devices. *x* is the number of blocks actually used.

**System Action:** None.

**Programmer Response:** None.

---

ILU332I WORK SPACE USED: *x* TRACKS ON *yyyy*

**Explanation:** Work files are on CKD devices. *x* is the number of tracks actually used, and *yyyy* is the device type.

**System Action:** None.

**Programmer Response:** None.

---

ILU333I {SORT|MERGE|COPY} ERROR, IN *y*, OUT *z*

**Explanation:** DFSORT/VSE has terminated unsuccessfully because the number of records sent to output (*z*) is not the same as the number of records that entered (*y*). This message will appear on SYSLOG, as well as on the printer to which messages are routed.

**System Action:** None.

**Programmer Response:** There will be another message giving the type of condition that causes the failure. The record counts in this message can be used in

conjunction with the other message to pinpoint the cause of the problem.

---

ILU334I SORT CAPACITY APPROXIMATELY  $x$  RECORDS

**Explanation:**  $x$  is the approximate number of records that can be sorted.

**System Action:** None.

**Programmer Response:** None.

---

ILU335I SORT CAPACITY APPROXIMATELY  $x$  RECORDS OF MODAL LENGTH

**Explanation:**  $x$  is the approximate number of records that can be sorted, on the assumption that DFSORT/VSE's figure for modal record length is correct. Modal record length is printed in message ILU034I.

**System Action:** None.

**Programmer Response:** None.

---

ILU340I DATA SPACE STORAGE USED =  $n$ K BYTES

**Explanation:**  $n$  is the number of KB of data space storage used during this application.

**System Action:** None.

**Programmer Response:** None.

---

ILU345I GETVIS SORTING AREA USED =  $n$  BYTES

**Explanation:**  $n$  is the number of bytes of getvis sorting area used during this application.

**System Action:** None.

**Programmer Response:** None.

---

ILU352A OUT OF SEQUENCE ON SORTIN $n$

**Explanation:** Critical. Records on the SORTIN $n$  input file to a merge are out of sequence.

**System Action:** DFSORT/VSE terminates.



**Programmer Response:** Check the indicated input file for records that are out of sequence according to the control fields specified on the MERGE statement. If necessary, sort the indicated input file before rerunning the merge application.

---

ILU361A I/O ERROR. CCB/IORB = xx...x

**Explanation:** Critical. A permanent I/O error was encountered for a SAM file. *xxx...x* is replaced by 16 bytes of the channel control block (CCB) or input/output request block (IORB). Details of the CCB and IORB can be found in *System Macros*.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** None.

**Operator Response:** Rerun the application with the DUMP option. If the error persists, contact your IBM representative.

---

ILU362I I/O ERROR - BYPASS

**Explanation:** DFSORT/VSE encountered an I/O error on a SAM file, but INPFIL BYPASS was specified. This message is printed only once.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** None.

---

ILU363A WRONG LENGTH BLOCK - xxxxxxxx, y

**Explanation:** Critical. A record, block, or control interval has been detected in the input that is too long or too short for the current application. *xxxxxxx* is the name of the file. Information concerning the length of the incorrect block or control interval is displayed in *y*:

- For a CKD disk file, the length of the block in bytes, taken from the count field of the block.
  
- For an FBA file:
  - for a short control interval, the number of bytes read in (calculated from the CCB count).
  - for a long control interval, the number of bytes read in (that is, the defined control interval size) plus 1.
  
- For tape with variable-length records, the length of the block, in bytes, taken from the RDW.
  
- For tape with fixed-length records:
  - for a short block, the number of bytes read in (calculated from the CCB count).
  - for a long block, the number of bytes read in (that is, the defined block size), plus 1.

- For a SAM ESDS file:
  - for variable format, the length of the block in bytes taken from the RDW.
  - for fixed format, the length of the block in bytes returned to DFSORT/VSE by SAM, for example, block length for short blocks. Blocks that are too long are truncated and not checked.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the BLKSIZE operand on the INPFIL statement.

---

**ILU364I WRONG LENGTH BLOCK - xxxxxxxx, y**

**Explanation:** A block or control interval has been detected in the input that is too long or too short for the current application, but INPFIL BYPASS was specified. xxxxxxxx is the name of the file. Information concerning the length of the incorrect block or control interval is displayed in y:

- For a CKD disk file, the length of the block in bytes, taken from the count field of the block.
- For an FBA file:
  - for a short control interval, the number of bytes read in (calculated from the CCB count).
  - for a long control interval, the number of bytes read in (that is, the defined control interval size) plus 1.
- For tape with variable-length records, the length of the block, in bytes, taken from the RDW.
- For tape with fixed-length records:
  - for a short block, the number of bytes read in (calculated from the CCB count).
  - for a long block, the number of bytes read in (that is, the defined block size), plus 1.
- For a SAM ESDS file:
  - for variable format, the length of the block in bytes taken from the RDW.
  - for fixed format, the length of the block in bytes returned to DFSORT/VSE by SAM, for example, block length for short blocks. Blocks that are too long are truncated and not checked.

This message is printed only once for each file in which an error is detected.

**System Action:** The block is bypassed, and DFSORT/VSE continues.

**Programmer Response:** Check the BLKSIZE operand on the INPFIL statement.

---

ILU366A WRONG LENGTH RECORD EXIT E<sub>xx</sub> - *y*

**Explanation:** Critical. A wrong-length, variable-length record was inserted by E<sub>xx</sub> user exit. *y* is the length of the record in error.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Recode the E<sub>xx</sub> user exit routine to correct the error.

---

ILU367I SOME LOGICAL RECORDS ARE LESS THAN THE MINIMUM LENGTH

**Explanation:** One or more variable-length input records have been found that are shorter than the specified or default minimum length. However, all records were long enough to contain all needed fields.

**System Action:** DFSORT/VSE continues.

**Programmer Response:** Check the output file for records that are shorter than the specified or default minimum length.

---

ILU369A RETURN CODE ERROR E<sub>xx</sub>

**Explanation:** Critical. The E<sub>xx</sub> user exit routine returned an invalid code in the action word. Only decimal 0, 4, 8, 12 and 16 (hexadecimal 0, 4, 8, C and 10) are allowed, but not all of these are allowed for all situations. See the discussion of the indicated E<sub>xx</sub> user exit routine in *Application Programming* for complete details of valid return codes.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Recode the `E<sub>xx</sub>` user exit routine to correct the error. See the relevant exit coding instructions in *Application Programming* for details on valid return codes.

---

ILU370A TOO SHORT RECORD FOUND - *x*

**Explanation:** Critical. A variable-length input record was found that was too short to contain all INREC, SORT, OUTREC, SUM, and INCLUDE or OMIT fields. *x* is the length of the record in error. (Note that a negative value will be shown as the corresponding positive number.)

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Either reorganize the input file to leave out the short records, or remove the definition of the fields in question, to allow these

functions with the short records. Remove any records with erroneous record descriptor words.

---

ILU371A INVALID SIGN IN INCLUDE OR OMIT INPUT

**Explanation:** Critical. The sign of a separately signed numeric field is not a valid plus or minus.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Make sure the format is correctly specified. Make sure that all input records contain signed data in the field specified in the SORT, MERGE, INCLUDE or OMIT statement, and that the data is correctly recorded in the input records.

**Operator Response:** Make certain that the correct tape is mounted.

---

ILU374A INPUT SEGMENTS IN WRONG ORDER xxxxxxxx

**Explanation:** Critical. A first segment of a variable-length spanned record was detected in the input where a continuation segment was expected, or a continuation segment was detected where a first segment was expected. xxxxxxxx is replaced by the file name.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the input file and the program creating it.

---

ILU375A SORTOUT FILE ON SYS (x) OVERLAPS WORK EXTENT ON SYS (y)

**Explanation:** Critical. *x* and *y* will be replaced by logical unit numbers. One of the work file extents that was specified overlaps the output file extent.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Respecify work or output extent.

---

ILU377A INPUT SEGMENT TOO LONG, SEGMENT LENGTH = a, TOTAL LENGTH = b,  
xxxxxxx

**Explanation:** Critical. An input segment was found with a segment length that makes the total record length greater than the L1 value. *a* is the length of the segment found. *b* is the total length of the deblocked record including this segment. xxxxxxx is the file name.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check the program that produced the input file.

---

ILU381A VSAM OPEN ERROR yyyyyyy (x)

**Explanation:** Critical. File *yyyyyy* could not be opened. A VSAM OPEN module has returned error code *x* (decimal) from the ACB.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Look up the error code in *System Macros* or *VSE/VSAM Messages and Codes*, and take appropriate action. If the error is a "warning" message, the program can be made to ignore it by using the TOL operand on either the INPFIL or the OUTFIL statement.

---

**ILU382A VSAM CONTROL BLOCK ERROR (x) AT aaaaaa**

**Explanation:** Critical. A VSAM control block error has been detected. Error code *x* (decimal) was received from a SHOWCB, TESTCB, GENCB, or MODCB macro. The error was detected by DFSORT/VSE at address *aaaaaa*.

If *aaaaaa* is zero, DFSORT/VSE was unable to load the necessary VSAM processor (possibly because of a lack of virtual storage).

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** If DFSORT/VSE is called from another program, check that it is not overlaid by your code. Look up the error code in *System Macros* or *VSE/VSAM Messages and Codes*, and take appropriate action. Check that the EXEC statement of the application specifies the SIZE parameter, giving a value small enough to leave room in the partition for VSAM. Check that REAL is not specified on the EXEC statement. If appropriate, contact your IBM representative.

**Note:** This message is mainly diagnostic and should not normally occur.

---

**ILU383A VSAM INPUT ERROR yyyyyy t (x)**

**Explanation:** Critical. A VSAM GET module has returned error code *x* (decimal) for input file *yyyyyy*. The error was of type *t* (P for physical, L for logical). *x* is the RPL FDBK code.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Look up the error code in *System Macros* or *VSE/VSAM Messages and Codes*, and take appropriate action.

---

**ILU384A VSAM OUTPUT ERROR t (x)**

**Explanation:** Critical. A VSAM PUT module has returned error code *x* (decimal) for the sort output file. The error was of type *t* (P for physical, L for logical). *x* is the RPL FDBK code.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Look up the error code in *System Macros* or *VSE/VSAM Messages and Codes*, and take appropriate action.

---

**ILU385I VSAM CLOSE ERROR yyyyyyy (xx)**

**Explanation:** A VSAM CLOSE module has returned error code *xx* (decimal) while trying to close file *yyyyyy*.

**System Action:** DFSORT/VSE continues, if possible.

**Programmer Response:** Look up the error code in *System Macros* or *VSE/VSAM Messages and Codes* and take appropriate action.

---

ILU387A VSAM LOAD ERROR

**Explanation:** Critical. VSAM could not load its modules.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Make sure you have a large enough GETVIS area for VSAM. Ensure that REAL is *not* specified on the EXEC statement.

---

| ILU400I NO RECORDS WERE WRITTEN TO THE OUTPUT FILE - RC = *n*

| **Explanation:** The application was successfully processed, but DFSORT/VSE  
| did not write any records to the output file. DFSORT/VSE set a return  
| code of 0 (if NRECOU=RC0 is in effect) or 4 (if NRECOU=RC4 is in effect)  
| as indicated by *n*.

| **System Action:** DFSORT/VSE continues. The indicated return code can be  
| overridden by a higher return code set for some other reason.

| **Programmer Response:** If the output file should contain data, check the  
| input files, control statements, and user exit routines (if any) to  
| determine why records were not written to the output file. Correct the  
| problem (if any) as appropriate.

---

| ILU401A NO RECORDS WERE WRITTEN TO THE OUTPUT FILE - RC = 16

| **Explanation:** Critical. NRECOU=RC16 was in effect and DFSORT/VSE did not  
| write any records to the output file.

| **System Action:** DFSORT/VSE terminates.

| **Programmer Response:** If the output file should contain data, check the  
| input files, control statements, and user exit routines (if any) to  
| determine why records were not written to the output file. Correct the  
| problem (if any) as appropriate.

---

ILU600I ICETOOL UTILITY RUN STARTED

**Explanation:** Indicates the start of the ICETOOL run.

**System Action:** None.

**Programmer Response:** None.

---

ILU601I ICETOOL UTILITY RUN ENDED - RETURN CODE: *nn*

**Explanation:** Indicates the end of the ICETOOL run and the highest return code encountered. Message ILU602I gives the return code for each operation.

**System Action:** None.

**Programmer Response:** None if *nn* is 00. Otherwise, check the error message(s) for each ICETOOL operation, and correct the indicated errors.

---

ILU602I OPERATION RETURN CODE: *nn*

**Explanation:** Indicates the return code for this operation.

**System Action:** If *nn* is not 00, this operation was terminated due to an error.

**Programmer Response:** None if *nn* is 00. Otherwise:

- | If *nn* is 04, check message ILU627I to determine which call to  
| DFSORT/VSE caused the return code of 4. Check the DFSORT/VSE messages  
| giving the type of condition that caused the return code of 4 and  
| correct the problem(s) indicated in these DFSORT/VSE informational  
| messages.
  - If *nn* is 12, check the error message(s) for this operation and correct the indicated errors.
  - If *nn* is 16, check message ILU627I to determine which call to DFSORT/VSE terminated. Check the DFSORT/VSE message giving the type of condition that caused the termination, and correct the error indicated in this DFSORT/VSE error message.
- 

ILU603I INFORMATION PRINTED ON SYSxxx

**Explanation:** The information requested for this operator was printed on the printer associated with logical unit SYSxxx. If the operation was terminated, the information may be incomplete.

**System Action:** None.

**Programmer Response:** None.

---

ILU604A ERROR IN KEYWORD, PARAMETER, OR DELIMITER

**Explanation:** Critical. The statement contained an error in an operand (keyword, parameter) or a delimiter was incorrect or missing. Some common errors are:

- A keyword or parameter was misspelled.  
Example: USED instead of USE
- A keyword or parameter was used with an operator for which it was not valid.  
Example: NOSIGN was used with an operator other than VERIFY.
- A left or right parenthesis was missing.  
Example: FROM IN instead of FROM (IN)
- A blank was used inside parentheses.  
Example: FROM ( IN) instead of FROM (IN)
- A continuation indicator (-) was used incorrectly.  
Example: TO (OUT1, - instead of TO (OUT1, OUT2) -
- Parameters were not separated by a comma or semicolon.  
Example: ON (3:5:ZD) instead of ON (3, 5, ZD) OR ON (3;5;ZD)
- A numeric value was specified incorrectly.  
Example: ON (0, 3, ZD) instead of ON (1, 3, ZD) OR LIMIT (+1) instead of LIMIT (1)
- An operand that can be specified only once per operator was specified more than once.  
Example: COPY TO (OUT1) TO (OUT2) instead of COPY TO (OUT1, OUT2)
- Mutually exclusive operands were used.  
Example: RANGE EQUAL (10) LOWER (15) instead of RANGE EQUAL (10) OR RANGE LOWER (15)
- A numeric value was too low or too high.  
Example: LINES (9) OR LINES (1000)
- A string was not enclosed in apostrophes.  
Example: HEADER (Revenue), HEADER ('Revenue'), HEADER ('Revenue'), OR HEADER ("Revenue") instead of HEADER ('Revenue')
- A string exceeded the character limit allowed.  
Example: TITLE ('This string is longer than the limit of 50 characters for TITLE')

**Note:** In your ICETOOL statement, the entire operand must be on *one* line.

- A parameter was specified incorrectly.  
Example: DATE (DMY) instead of DATE (DMY.)
- NOHEADER was used when HEADER(NONE) was required.  
Example: HEADER ('Name') NOHEADER instead of HEADER ('Name') HEADER (NONE)
- Mutually exclusive items were specified within an operand.  
Example: DATE (YM4/) instead of DATE (YMD/) OR DATE (DM4/)
- A formatting item was specified with an operator other than DISPLAY.  
Example: OCCUR ON (1, 5, ZD, A1) instead of OCCUR ON (1, 5, ZD)

**System Action:** This operation is terminated.

**Programmer Response:** A \$ marks the point at which the error was detected. Correct the error.

ILU607I STATISTICS FOR { (p,m,f) | (VLEN) }:

**Explanation:** Indicates the field to which the statistics in subsequent messages ILU608I and ILU609I apply. (p,m,f) or (VLEN) is a field you specified for this STATS operator.

**System Action:** None.

**Programmer Response:** None.

ILU608I MINIMUM: snnnnnnnnnnnnnnnnn, MAXIMUM: snnnnnnnnnnnnnnnnn

**Explanation:** Indicates the minimum and maximum for the field indicated in the ILU607I message preceding this message. Each value consists of a plus (+)



or a minus (-) sign and 15 decimal digits (padded with zeros on the left as needed). If the values could not be determined due to an error (as indicated in a previous message), asterisks were printed for the values.

**System Action:** None.

**Programmer Response:** None, unless asterisks were printed for the values. If this is the case, correct the error indicated by the previous error message for this operation.

---

**ILU609I AVERAGE:** *s*nnnnnnnnnnnnnnnn, **TOTAL:** *s*nnnnnnnnnnnnnnnn

**Explanation:** Indicates the average and total for the field indicated in the ILU607I message preceding this message. Each value consists of a plus (+) or a minus (-) sign and 15 decimal digits (padded with zeros on the left as needed). If a value could not be determined due to an error (as indicated in a previous message), asterisks were printed for the value.

**System Action:** None.

**Programmer Response:** None, unless asterisks were printed for the values. If this is the case, correct the error indicated by the previous error message for this operation.

---

**ILU610I NUMBER OF UNIQUE VALUES FOR { (p,m,f) | (VLEN) }:** *n*nnnnnnnnnnnnnnnn

**Explanation:** Indicates the count of unique values for this field, printed as 15 decimal digits (padded with zeros on the left as needed). (p,m,f) or (VLEN) is the field you specified for this UNIQUE operator.

**System Action:** None.

**Programmer Response:** None.

---

**ILU611A TOTAL FOR { (p,m,f) | (VLEN) } OVERFLOWED 15 DECIMAL DIGITS**

**Explanation:** Critical. The total for the indicated field was greater than +99999999999999 or less than -99999999999999. (p,m,f) or (VLEN) is a field you specified for this STATS or DISPLAY operator.

**System Action:** This operation is terminated. For a STATS operator, asterisks are printed in message ILU609I for the average and total for this field.

For a DISPLAY operator, asterisks are printed for this field in any BAVERAGE, BTOTAL, AVERAGE, or TOTAL lines requested.

**Programmer Response:** If you need the average or total for this field, use the STATS or DISPLAY operator for subsets of the file, which does not cause the total to overflow. Use the statistics for the subsets to determine the needed statistics for the field.

---

**ILU612I NO ERRORS FOUND IN STATEMENT**

**Explanation:** Printed in SCAN mode to indicate that no errors were found in the statement.

**System Action:** DFSORT/VSE is not called in SCAN mode.

**Programmer Response:** If SCAN mode was entered due to an error while in STOP mode, correct the error. If SCAN mode was entered due to a MODE SCAN statement, replace it with a MODE STOP or MODE CONTINUE statement.

---

**ILU613A REQUIRED KEYWORD MISSING:** *keyword*

**Explanation:** Critical. The indicated *keyword* was required for this operator, but was not specified. The required keywords or operands for each operator are:

- COPY - FROM and TO
- COUNT - FROM
- DEFAULTS - LIST
- DEFINE - NAME or ROUTE
- DISPLAY - FROM, LIST, and ON. BREAK if BTITLE, BTOTAL, BMAXIMUM, BMINIMUM, or BAVERAGE is specified
- MODE - STOP, CONTINUE, or SCAN
- OCCUR - FROM, LIST, and ON(p,m,f), ON(p,m,HEX), or ON(VLEN)
- RANGE - FROM, ON, and HIGHER, LOWER, EQUAL, or NOTEQUAL
- SELECT - FROM, TO, ON, and ALLDUPS, NODUPS, HIGHER, LOWER, EQUAL, FIRST, or LAST
- SORT - FROM, TO, and USE
- STATS - FROM and ON
- UNIQUE - FROM and ON
- VERIFY - FROM and ON

**System Action:** This operation is terminated.

**Programmer Response:** Supply the indicated keyword or operand.

---

**ILU614A INVALID OPERATOR**

**Explanation:** Critical. The first keyword in the statement was not a valid operator. The valid operators are: COPY, COUNT, DEFAULTS, DEFINE, DISPLAY, MODE, OCCUR (or OCCURS), RANGE, SELECT, SORT, STATS, UNIQUE, and VERIFY.

A common cause of this error is a missing dash (-) on the previous line to indicate continuation.

**System Action:** This operation is terminated.

**Programmer Response:** A \$ marks the point at which the error was detected. If an invalid operator was used, replace it with a valid operator. If this is a continuation line, use a dash after the last operand on the previous line.

---

**ILU616A STATEMENT DOES NOT END AT OR BEFORE COLUMN 72**

**Explanation:** Critical. The statement overran column 72, or a string contained unmatched quotes.

**System Action:** This operation is terminated.

**Programmer Response:** Recode the statement to end at or before column 72. Continuation can be indicated by a dash (-) after the operator or any operand. For example:

```

SORT FROM (INDD) -
      TO (OUTPUT1, OUTPUT2, OUTPUT3)

```

Ensure that all quotes are matched as this message can also result from unmatched quotes in a string, for example, `TITLE ('Status Report')`.

---

**ILU617A RECORD COUNT OVERFLOWED 15 DECIMAL DIGITS**

**Explanation:** Critical. The number of records processed by ICETOOL for this operation was greater than 999999999999999.

**System Action:** This operation is terminated.

**Programmer Response:** Perform the operation on subsets of the file containing less than 999999999999999 records.

---

**ILU618A INVALID (p,m,f) VALUE - RECORD: nnnnnnnnnnnnnnn, HEX VALUE: h...h**

**Explanation:** Critical. Identifies an invalid decimal value in a specified field. One of the following was found:

- An invalid digit (A-F) in a field specified for a DISPLAY, RANGE, STATS, or VERIFY operator.
- An invalid sign (0-9) in a field specified for an OCCUR or VERIFY operator (NOSIGN was not specified).

*(p,m,f)* is a field you specified for this operator.

The invalid value was found in record number *nnnnnnnnnnnnnnnn* (prints as 15 decimal digits padded with zeros on the left as needed). For a DISPLAY, RANGE, STATS, or VERIFY operator, *nnnnnnnnnnnnnnnn* is the input record number (that is, the relative record number). For an OCCUR operator, *nnnnnnnnnnnnnnnn* is the sorted record number, and thus may not be useful.

*h...h* is the invalid value in hexadecimal.

**System Action:**

- For a DISPLAY operator with an invalid BREAK value, this operation is terminated.
- For a DISPLAY operator with an invalid ON value, asterisks are printed for this value in the data line and in any statistics lines requested. If this incorrect value causes the limit for decimal values to be reached, this operation is terminated after the current record is printed. Otherwise, processing continues.
- For an OCCUR or RANGE operator, this operation is terminated.
- For a STATS operator, asterisks were printed in message ILU608I for minimum and maximum, and in message ILU609I for average and total for this field.
- For a VERIFY operator, if this bad value caused the limit for invalid decimal values to be reached, this operation is terminated. Otherwise, processing continues.

**Programmer Response:** Correct the invalid digit or sign in the identified field. The VERIFY or DISPLAY operator can be used to print all the invalid values and their relative record numbers.

---

**ILU619A INVALID LENGTH, FORMAT, OR COMBINATION FOR operator OPERATION**

**Explanation:** Critical. One of the following conditions was detected in the parameters of an ON or BREAK operand:

- The format was invalid.  
Example: ON (10, 2, FL) or BREAK (10, 2, FL)
- The format was not allowed for this operator.  
Example: VERIFY ON (10, 2, BI)
- The length was not within the range allowed for the format and operator.  
Example: STATS ON (10, 8, BI)
- ON(VLEN) was specified for a VERIFY operator.  
Example: VERIFY ON (VLEN)
- ON(NUM) was specified for an operator other than DISPLAY.  
Example: STATS ON (NUM)
- ON(VALCNT) was specified for an operator other than OCCUR.  
Example: DISPLAY ON (VALCNT)
- ON(p,m,HEX) was specified for an operator other than DISPLAY or OCCUR.  
Example: UNIQUE ON (5, 4, HEX)
- The length was not within the range allowed for ON(p,m,HEX).  
Example: DISPLAY ON (5, 51, HEX)
- BREAK(p,m,HEX) was specified.  
Example: BREAK (5, 4, HEX)

**System Action:** This operation is terminated.

**Programmer Response:** A \$ marks the point at which the error was detected. Correct the error.

ILU620A SUM OF POSITION AND LENGTH GREATER THAN *max*

**Explanation:** Critical. A specified field extended beyond the maximum position (*max* - 1) allowed for this operation.

**System Action:** This operation is terminated.

**Programmer Response:** A \$ marks the point at which the error was detected. Change the position or length so that the field ends at or before position *max* - 1.

ILU621I DFSORT/VSE DETECTED AN ERROR AFTER E35 EXIT PROCESSING COMPLETED

**Explanation:** A call to DFSORT/VSE for this operation resulted in a return code of 16. However, because the error was detected by DFSORT/VSE after ICETOOL's E35 user exit completed its processing, the error did not prevent the completion of this ICETOOL operation.

**System Action:** None.

**Programmer Response:** None required, but you can examine the DFSORT/VSE messages to determine the error detected by DFSORT/VSE and correct it, if appropriate.

ILU622A EXPECTED CONTINUATION LINE NOT FOUND

**Explanation:** Critical. This message was issued for one of the following reasons:

- Continuation was indicated by a dash (-) after the last operand in the last line of the SYSIPT file, but the continuation line was not found.
- A parameter list statement area did not contain an ICETOOL statement.

- Continuation was indicated by a dash (-) in the last line of a parameter list statement area, but the continuation line was not found.

**System Action:** This operation is terminated.

**Programmer Response:** Supply the continuation line.

---

ILU623A MAXIMUM NUMBER OF *keyword* KEYWORDS EXCEEDED

**Explanation:** Critical. Too many keywords of the indicated type were specified for this operator. The maximum number of HEADER fields is 20 for a DISPLAY operator or 10 for an OCCUR operator. The maximum number of ON fields for each operator is:

- DISPLAY - 20
- OCCUR - 10
- RANGE - 1
- SELECT - 10
- STATS - 10
- UNIQUE - 1
- VERIFY - 10

**System Action:** This operation is terminated.

**Programmer Response:** A \$ marks the point at which the error was detected. Reduce the number of indicated keywords for this operator to the maximum allowed. If necessary, use additional operator(s) to handle all the required fields.

---

ILU624A MAXIMUM NUMBER OF TO FILENAMES EXCEEDED

**Explanation:** Critical. Too many TO filenames were specified for this operator. The maximum number of TO filenames for each operator is:

- COPY - 10
- SELECT - 1
- SORT - 10

**System Action:** This operation is terminated.

**Programmer Response:** A \$ marks the point at which the error was detected. Reduce the number of TO filenames for this operator to the maximum allowed. Use additional operator(s) to handle all the files required.

---

ILU625A OPEN FAILED FOR xxxxxx

**Explanation:** Critical. File xxxxxx, specified by the LIST operand, could not be activated by the OPEN macro because the device for the file is assigned IGN.

**System Action:** This operation is terminated.

**Programmer Response:** Ensure that the correct logical unit is associated with the actual physical device used to produce reports.

---

**ILU626A LIMIT FOR INVALID VALUES REACHED**

**Explanation:** Critical. The limit for the number of invalid decimal values specified by the LIMIT operand (or defaulted to 200) was reached for this DISPLAY or VERIFY operator.

**System Action:** This operation is terminated.

**Programmer Response:** Correct the invalid decimal values indicated in the ILU618A message(s), or set a higher LIMIT value.

---

```
ILU627I DFSORT/VSE CALL nnnn FOR {COPY|SORT} FROM filename1 TO
      {filename2|E35 EXIT} {COMPLETED|TERMINATED}
```

**Explanation:** Supplies information about a specific call to DFSORT/VSE for this operation as follows:

***nnnn***

The sequential number of the call to DFSORT/VSE in this job step.

**COPY**

The DFSORT/VSE copy function was used.

**SORT**

The DFSORT/VSE sort function was used.

***filename1***

The file name of the file that was copied or sorted.

***filename2***

The file name of the file resulting from the copy or sort.

**E35 EXIT**

ICETOOL's E35 user exit was used.

**COMPLETED**

DFSORT/VSE did not detect any errors preventing completion of this ICETOOL operation.

**TERMINATED**

DFSORT/VSE detected an error which prevented completion of this ICETOOL operation.

**System Action:** None.

**Programmer Response:** You can use the information in this message to determine the result of this call to DFSORT/VSE.

---

```
ILU628I RECORD COUNT: nnnnnnnnnnnnnnnn
```

**Explanation:** Indicates the number of records processed by ICETOOL (prints as 15 decimal digits padded with zeros on the left as needed).

If ICETOOL completed the operation successfully, this count reflects the number of records in the input file or in the subset of the input file selected by DFSORT/VSE statements (for example, INCLUDE).

If ICETOOL did not complete the operation successfully, this count reflects the number of records processed before an error was detected that caused ICETOOL to terminate processing of this operation.

**System Action:** None.

**Programmer Response:** None.

---

ILU629A HIGHER AND LOWER VALUES EXCLUDE ALL RECORDS

**Explanation:** Critical. The values specified for HIGHER and LOWER excluded all records from the range. For example, HIGHER(5) and LOWER(6) define a range of  $5 < \text{value} < 6$ , which excludes every value.

**System Action:** This operation is terminated.

**Programmer Response:** A \$ marks the point at which the error was detected. Specify values for HIGHER and LOWER which define a valid range.

---

ILU630I MODE IN EFFECT: *mode*

**Explanation:** *mode* will be replaced by STOP, CONTINUE, or SCAN. It indicates the processing mode to be used for subsequent operators as follows:

- STOP mode - set at the beginning of the run and when a MODE STOP statement is processed. Stops subsequent operations if an error is detected (by entering SCAN mode).
- CONTINUE mode - set when a MODE CONTINUE statement is processed. Continues with subsequent operations if an error is detected.
- SCAN mode - set when an error is encountered in STOP mode and when a MODE SCAN statement is processed. ICETOOL statements are checked for errors, but DFSORT/VSE is not called to perform the operations.

**System Action:** None.

**Programmer Response:** If SCAN mode was set due to an error while in STOP mode, correct the error.

---

ILU631I NUMBER OF VALUES IN RANGE FOR { (p,m,f) | (VLEN) }: *nnnnnnnnnnnnnnnn*

**Explanation:** Indicates the count of values within the specified range for this field (prints as 15 decimal digits padded with zeros on the left as needed). (p,m,f) or (VLEN) is the field you specified for this RANGE operator.

**System Action:** None.

**Programmer Response:** None.

---

ILU632I SOURCE FOR ICETOOL STATEMENTS: *source*

**Explanation:** *source* will be replaced by SYSIPT or PARMLIST. It indicates whether ICETOOL statements were processed from SYSIPT file or from the calling program's PARMLIST (parameter list). Statements are processed from SYSIPT file unless the ICETOOL Parameter List Interface is used.

**System Action:** None.

**Programmer Response:** None.

---

**ILU633A RETURN AREA IS *n* BYTES, BUT *m* BYTES ARE REQUIRED**

**Explanation:** Critical. The length of the return area (in bytes) as indicated in the calling program's parameter list was too small to contain all of the information to be returned for this operation. A return area of *m* bytes is needed.

**System Action:** This operation is terminated.

**Programmer Response:** Provide a return area of *m* bytes (or more) for this operation and set the return area length appropriately.

---

**ILU635A NUMBER OF HEADER KEYWORDS DOES NOT MATCH NUMBER OF ON KEYWORDS**

**Explanation:** Critical. There was not a one-to-one correspondence between the HEADER keywords and the ON keywords. For example, two HEADER keywords were specified with three ON keywords.

**System Action:** This operation is terminated.

**Programmer Response:** Specify one HEADER('string') or HEADER(NONE) keyword for each ON keyword.

---

**ILU637A xxxxxx RECORD LENGTH OF *n* BYTES EXCEEDS MAXIMUM OF 0121 BYTES**

**Explanation:** Critical. The calculated record length for file xxxxxx was greater than the maximum of 121-bytes. *n* is the total bytes required for the carriage control character, the column widths (resulting from specified ON, HEADER, PLUS, BLANK, TOTAL, BREAK, BTITLE and BTOTAL operands), and the blanks between fields.

**System Action:** This operation is terminated.

**Programmer Response:** Take one or more of the following actions:

- Use formatting items or the PLUS or BLANK operand.
  - Reduce the length of one or more HEADER strings.
  - Reduce the length of one or more ON fields. For example, if an ON(1,8,PD) field always has zeros in bytes 1 through 3, use ON(4,5,PD) instead.
  - Reduce the number of ON fields, especially if the BTOTAL or TOTAL operand is used.
- 

**ILU638I NUMBER OF RECORDS RESULTING FROM CRITERIA: nnnnnnnnnnnnnnn**

**Explanation:** Indicates the count of records produced as a result of the specified criteria, for example, ALLDUPS (prints as 15 decimal digits padded with zeros on the left as needed).



- For an OCCUR operator, the count indicates the total number of records.
- For a SELECT operator, the count indicates the total number of records in the output file.

**System Action:** None.

**Programmer Response:** None.

---

ILU640A INVALID FORMATTING ITEM

**Explanation:** Critical. An ON(p,m,f,formatting) operand for this DISPLAY operator contained an invalid formatting item as follows:

- The formatting item was not /K, /M, /G, /KB, /MB, /GB, L'string', F'string', T'string' or a valid mask (that is, A0, A1-A5, B1-B6, C1-C6, D1-D6, E1-E4, or F1-F5).
- /K, /M, /G, /KB, /MB, /GB, F'string' or a mask was specified for a character field.
- More than one of /K, /M, /G, /KB, /MB and /GB was specified, more than one mask was specified, T'string' was specified more than once, L'string' was specified more than once or F'string' was specified more than once.
- L", F" or T" was specified.

**System Action:** This operation is terminated.

**Programmer Response:** A \$ marks the point at which the error was detected. Correct the error.

---

ILU650A DEFINE STATEMENT MISSING OR DOES NOT CONTAIN REQUIRED KEYWORD(S)  
FOR FILE *infile*

**Explanation:** Critical. For the input file with file name *infile* specified in the FROM operand for this operation, the DEFINE statement was missing, or the DEFINE statement for filename *infile* does not contain required operands, TYPE and LENGTH.

**System Action:** This operation is terminated.

**Programmer Response:** Provide the missing DEFINE statement, or required keyword(s) in the DEFINE statement before the execution of ICETOOL operation with an input file.

---

ILU651A MAXIMUM NUMBER OF DEFINE STATEMENTS EXCEEDED

**Explanation:** Critical. Too many DEFINE statements were supplied for this job step. The maximum number of DEFINE statements with unique file names is 50.

**System Action:** The extra DEFINE statement is not accepted, and this operation is terminated.

**Programmer Response:** Use the DEFINE operators only for the input files, or for the output files when their characteristics are changed during the job step. If necessary, use additional job step(s) to handle all the required operations.

---

ILU652A NO DFSORT/VSE STATEMENT(S) FOUND

**Explanation:** Critical. The USE operand was specified but no DFSORT/VSE control statements were supplied in the DFSORT/VSE section.

**System Action:** This operation is terminated.

**Programmer Response:** Supply the appropriate DFSORT/VSE statements in the SYSIPT file or in the statement area.

---

**ILU653A INVALID DFSORT/VSE STATEMENT DEFINER FOUND IN LINE nn**

**Explanation:** Critical. An invalid DFSORT/VSE statement definer was found in line *nn*. The valid DFSORT/VSE statement definers are: SORT, MERGE, RECORD, MODS, INPFIL, OUTFIL, INCLUDE, OMIT, ALTSEQ, SUM, INREC, OUTREC, ANALYZE, or OPTION.

**Note:** ICETOOL checks only DFSORT/VSE statement definers. Complete error checking of DFSORT/VSE control statements is accomplished by DFSORT/VSE.

**System Action:** This operation is terminated.

**Programmer Response:** Correct the statement definer in the indicated DFSORT/VSE statement.

---

**ILU654A TOO MANY STATEMENTS IN DFSORT/VSE SECTION**

**Explanation:** Critical. Too many DFSORT/VSE control statement lines were supplied in the DFSORT/VSE section for this operation. The maximum number of lines in the DFSORT/VSE section is 99.

**System Action:** DFSORT/VSE continues reading statements in the DFSORT/VSE section until a UEND statement is encountered, at which point the operation is terminated. The extra DFSORT/VSE control statements are ignored.

**Programmer Response:** Reduce the number of DFSORT/VSE statements.

---

**ILU655A LOAD FAILED FOR SORT PHASE. RETURN CODE = xx**

**Explanation:** Critical. An attempt to load the phase SORT was unsuccessful. *xx* is the return code of the LOAD macro executed with parameter RET=YES. For an explanation of return codes of the LOAD macro, refer to *System Macros*.

**System Action:** This operation is terminated.

**Programmer Response:** If this is not a user error, notify your system programmer.

---

**ILU656I xxxxxxK OF EXTRA STORAGE REQUESTED, yyyyyyK AVAILABLE**

**Explanation:** Indicates the number of KB of extra storage (*xxxxxx*) requested for SELECT processing. The extra storage is retrieved from the partition GETVIS area. *yyyyyy* indicates the number of KB of the largest contiguous free space in the partition GETVIS area at the time of the SELECT processing.

**System Action:** If .xxxxxx is greater than yyyyyy, SELECT processing fails.

**Programmer Response:** None.

---

**ILU657A GETVIS FAILED FOR EXTRA STORAGE**

**Explanation:** Critical. DFSORT/VSE tried to obtain additional partition GETVIS area for SELECT processing, but failed.

**System Action:** This operation is terminated.

**Programmer Response:** Rerun the job after ensuring that more GETVIS area is available by:

- Specifying a smaller value for SIZE in the EXEC statement, or
  - Using another larger partition.
- 

**ILU658A GETVIS FAILED FOR PRINT BUFFERS**

**Explanation:** Critical. DFSORT/VSE tried to obtain additional partition GETVIS area for print buffers for a DISPLAY or OCCUR operation, but failed.

**System Action:** This operation is terminated.

**Programmer Response:** Rerun the job after ensuring that more GETVIS area is available by:

- Specifying a smaller value for SIZE in the EXEC statement, or
  - Using another larger partition.
- 

**ILU659I DEFINE STATEMENT IGNORED**

**Explanation:** Only the NAME operand was specified in the DEFINE statement.

**System Action:** This statement is ignored.

**Programmer Response:** Verify which operands are required for a DEFINE operator. Correct the statement, if required.

---

**ILU660A CDLOAD FAILED. RETURN CODE = xx**

**Explanation:** Critical. An attempt to load the phase required for the operation was unsuccessful. xx is the return code of the CDLOAD macro executed with the parameter RETPNF=YES. For an explanation of return codes of the CDLOAD macro, refer to *System Macros*.

**System Action:** The operation is terminated.

**Programmer Response:** If it is not a user error, notify your system programmer.

---

**ILU661I** *nn* xxxxxxxx

**Explanation:** Shows a DFSORT/VSE control statement line obtained from the DFSORT/VSE section. *nn* is the DFSORT/VSE control statement line number. xxxxxxxx is the DFSORT/VSE control statement line. *nn* is not printed, if the control statement line number is greater than 99.

**System Action:** None.

**Programmer Response:** None.

---

**ILU662A** USTART, OR UEND, OR BOTH DELIMITERS MISSING

**Explanation:** Critical. The USE operand was specified for this operation. Either USTART, or UEND, or both delimiters were missing in the DFSORT/VSE section.

**System Action:** This operation is terminated.

**Programmer Response:** Supply all delimiters required in the DFSORT/VSE section.

---

**ILU663A** MAXIMUM NUMBER OF FROM FILENAMES EXCEEDED

**Explanation:** Critical. Too many FROM file names were specified for this operator. The maximum number of FROM file names is 9.

**System Action:** This operation is terminated.

**Programmer Response:** A \$ marks the point at which the error was detected. Reduce the number of FROM file names for this operator to the maximum allowed. Use additional operator(s) to handle all the files required.

---

**ILU664A** DUPLICATE DFSORT/VSE STATEMENT DEFINER FOUND IN LINE *nn*

**Explanation:** Critical. A statement definer in the line *nn* has been specified more than once in the DFSORT/VSE section.

**System Action:** The operation associated with this DFSORT/VSE section is terminated.

**Programmer Response:** Check for duplicate DFSORT/VSE statement types in the DFSORT/VSE section. Note that SORT and MERGE count as the same type as do INCLUDE and OMIT.

---

**ILU665A** GETVIS FAILED FOR DFSORT/VSE SECTION

**Explanation:** Critical. DFSORT/VSE tried to obtain 8000 bytes from the partition GETVIS area for processing of the DFSORT/VSE section, but failed.

**System Action:** This operation is terminated.

**Programmer Response:** Rerun the job after ensuring that more GETVIS area is available by:

- Specifying a smaller value for SIZE in the EXEC statement, or
- Using another larger partition.

---

**ILU701I LOCALE PROCESSING WAS USED WITH ACTIVE LOCALE xxxxxxxx**

**Explanation:** Indicates that DFSORT/VSE used locale processing and gives the name of the active locale. Locale processing is used for:

- SORT or MERGE character (CH) control fields
- INCLUDE or OMIT character (CH) compare fields
- INCLUDE or OMIT character or hexadecimal constant to character (CH) compare field comparisons.

**System Action:** None

**Programmer Response:** None

---

**ILU702A LOCALE PROCESSING CONFLICTS WITH xxxxxxxx**

**Explanation:** Critical. Locale processing cannot be used with the function or feature indicated by the keyword xxxxxxxx. See *Application Programming* for details on locale processing and the function or feature indicated.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:**

- If CHALT is the indicated keyword, take one of the following actions:
  - Specify run-time option NOCHALT to use locale processing without alternate sequence processing for CH fields. (Locale processing might eliminate the need for alternate sequence processing.) If alternate sequence processing is needed for a particular field, specify AQ for that field instead of CH.
  - Specify run-time option LOCALE=NONE to use alternate sequence processing for CH fields without locale processing.
- If INREC is the indicated keyword, take one of the following actions:
  - Use the OUTREC statement instead of the INREC statement to allow locale processing.

- Specify run-time option LOCALE=NONE to use the INREC statement without locale processing.

---

**ILU703A LANGUAGE ENVIRONMENT INITIALIZATION FAILED**

**Explanation:** Critical. LE/VSE initialization failed.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check that the LE/VSE dynamically loadable routines are available to DFSORT/VSE. If you are not sure of where LE/VSE is installed on your VSE/ESA system, contact your system administrator.

If the message is accompanied by LE/VSE messages (CEExxxx), then follow the instructions in *LE/VSE Library*. For example, you may need more GETVIS storage for LE/VSE.

---

**ILU704A LOAD FAILED FOR ACTIVE LOCALE xxxxxxx**

**Explanation:** Critical. Indicates that the designated active locale could not be loaded and gives its name.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** If the indicated locale name is that of an IBM-supplied locale, DFSORT/VSE must have access to the sublibrary containing the LE/VSE dynamically loadable routines. For example, this sublibrary might be called PRD2.SCEEBASE. If you are not sure of where the compiled locale modules are installed at your location, contact your system administrator.

If the indicated name is that of a user defined locale, DFSORT/VSE must have access to the sublibrary containing the locale.

---

**ILU705A LANGUAGE ENVIRONMENT SERVICE ERROR (nnnn)**

**Explanation:** Critical. Language Environment services returned an unexpected feedback code for a service call used by DFSORT/VSE. *nnnn* is the error message number of the feedback code.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Check that all CH fields specified in SORT, MERGE, INCLUDE, and OMIT statements contain valid character data values. If the problem persists, contact your IBM representative. The error message number can be used to reference run-time messages in *LE/VSE Library*.

---

**ILU706A CONTROL FIELDS FOR LOCALE PROCESSING ARE TOO COMPLEX**

**Explanation:** Critical. For a SORT or MERGE statement with control fields that require locale processing, the complexity of the application caused dynamic areas to exceed the storage allowed for them.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Reduce the number or length of SORT or MERGE control fields that require locale processing.

---

**ILU707A LOCALE PROCESSING REQUESTED - GETVIS STORAGE NOT AVAILABLE**

**Explanation:** Critical. Insufficient partition GETVIS area for locale support.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Decrease the size of the partition program area by 4 KB, using either the EXEC SIZE parameter or the SIZE job control command.

---

**ILU708A CULTURAL ENVIRONMENT SUPPORT REQUESTED BUT NOT ENABLED**

**Explanation:** Critical. Indicates that DFSORT/VSE's cultural environment support cannot be initialized because it was not enabled.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Ask your system administrator to enable DFSORT/VSE's cultural environment support.

---

**ILU806I phase: TIME A: yy SECONDS, TIME B: zz SECONDS**

**Explanation:** DIAG message. Time A (yy) is the difference in the values returned by the GETIME macro at the start and end of *phase*. *phase* is one of the following values:

PH0  
Phase 0  
PH1  
Phase 1  
PH2  
Phase 2  
PAR  
A partitioning part of Phase 2  
PH3  
Phase 3  
MO  
MERGE only

Time B (zz) is one of the following:

- If application accounting is supported in your system, zz is the difference in the values obtained at the start and end of phase 0 from the processor time counter (ACCTCPU field) in the application accounting interface partition table.
- If you do not have application accounting, zz is the difference in the values returned at the start and end of phase 0 by the TTIMER macro.

**System Action:** None.

**Programmer Response:** None.

---

ILU808I MODULE STATUS: SVA

**Explanation:** DIAG message. ILUSOPT and the rest of the SVA-eligible modules are in the SVA.

**System Action:** None.

**Programmer Response:** None.

---

ILU810I ECPS:VSE MODE OF OPERATION

**Explanation:** DIAG message. DFSORT/VSE is running in ECPS:VSE mode.

**System Action:** None.

**Programmer Response:** None.

---

ILU816I GETVIS SORTING AREA OBTAINED = *n* BYTES BELOW, *m* BYTES ABOVE

**Explanation:** DIAG message. Specifies the number of bytes of getvis sorting area obtained below and above 16 MB virtual.

**System Action:** None.

**Programmer Response:** None.

---

ILU817I IN-CORE SORT

**Explanation:** DIAG message. The complete input file was sorted in virtual storage without using work files.

**System Action:** None.

**Programmer Response:** None.

---

ILU820I SECONDARY EXTENT FOR DATA WAS ALLOCATED ON xxxxxxxx

**Explanation:** DIAG message. xxxxxxxx specifies the work file name for which secondary allocation was provided.

**System Action:** None.



**Programmer Response:** None.

---

```
ILU821I SECONDARY EXTENT FOR INDEXES WAS ALLOCATED ON xxxxxxxx
```

**Explanation:** DIAG message. xxxxxxx specifies the work file name for which secondary allocation was provided.

**System Action:** None.

**Programmer Response:** None.

---

```
ILU832I INPUT: REAL I/O NOT USED
```

**Explanation:** DIAG message. The optimization routine selected real I/O, but sufficient real storage could not be obtained at the time buffers were to be allocated and page fixed. Virtual I/O was used. This can happen if a user exit is fixing buffer pages.

**System Action:** None.

**Programmer Response:** Increase the real partition size or inspect the user exit routines that fix pages.

---

```
| ILU840I DATA SPACE WAS NOT USED. RETURN CODE = xx
```

| **Explanation:** DIAG message. An attempt to add an entry to an access list for the data space failed. `xx` is the return code from the ALESERV macro as described in *System Macros*.

| **System Action:** DFSORT/VSE continues without using dataspace sorting.

| **Programmer Response:** None.

---

## 2.3 Chapter 4. Service Messages

This section lists and explains two types of DFSORT/VSE messages:

- Service diagnostic messages
- Program error messages

These messages contain special service information that can be used to diagnose DFSORT/VSE applications. See *Application Programming* for messages that provide information on DFSORT/VSE applications.

Subtopics:

- [2.3.1 Service Diagnostic Messages](#)
  - [2.3.2 Program Error Messages](#)
- 

## 2.3.1 Service Diagnostic Messages

The following messages are DFSORT/VSE service diagnostic messages for use by IBM field support personnel.

- | **ILU839I**
- | **ILU841I**
- | **ILU842I**
- | **ILU843I**
- | **ILU844I**
- | **ILU845I**
- | **ILU847I**
- | **ILU849I**
- | **ILU851I**
- | **ILU852I**
- | **ILU858I**
- | **ILU859I**
- | **ILU863I**
- | **ILU864I**
- | **ILU865I**
- | **ILU867I**
- | **ILU869I**

- | **ILU870I**
  
  - | **ILU871I**
  
  - | **ILU872I**
  
  - | **ILU873I**
  
  - | **ILU874I**
  
  - | **ILU875I**
  
  - | **ILU876I**
  
  - | **ILU882I**
  
  - | **ILU883I**
  
  - | **ILU884I**
  
  - | **ILU885I**
  
  - | **ILU886I**
  
  - | **ILU887I**
  
  - | **ILU888I**
  
  - | **ILU889I**
  
  - | **ILU890I**
  
  - | **ILU891I**
  
  - | **ILU925I**
- 

### 2.3.2 Program Error Messages

DFSORT/VSE has self-diagnostic code that checks certain parameters while the program is executing. If one of these checks fails, a program error message is produced. When one of these messages is generated, inform your system programmer and rerun your application with the DUMP option on the OPTION control statement. If the program error recurs, call your IBM representative, and give them the dump. Suggestions for possible temporary bypasses are provided with some of these messages.

---

**ILU900A CODE OVERLAID BY BUFFERS**

**Explanation:** Critical. A code overlay caused by an error in the optimization calculation has occurred.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Inform the system programmer. Rerun the application with the DUMP option on the OPTION control statement, and call your IBM representative.

---

**ILU901A ABNORMAL RETURN FROM REALAD**

**Explanation:** Critical. An unacceptable return code was received from the REALAD macro when translating channel program address to absolute form.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Inform the system programmer. Rerun the application with the DUMP option on the OPTION control statement, and call your IBM representative.

---

**ILU902A PFREE ERROR**

**Explanation:** Critical. An unacceptable return code was received from the PFREE macro.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Inform the system programmer. Rerun the application with the DUMP option on the OPTION control statement, and call your IBM representative.

---

**ILU903A ABNORMAL CODE OVERLAY RSA**

**Explanation:** Critical. There is not enough space in the RSA (record storage area). Fewer than three records can be stored.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Inform the system programmer. Rerun the application with the DUMP option on the OPTION control statement, and call your IBM representative.

**Possible Bypass:** Try increasing the amount of storage allocated to DFSORT/VSE by altering the SIZE parameter on the EXEC JCL control statement.

---

**ILU904A UNUSUAL OVERLAY CONDITION**

**Explanation:** Critical. A code overlay occurred.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Inform the system programmer. Rerun the application with the DUMP option on the OPTION control statement, and call your IBM representative.

---

**ILU905A ABNORMAL BUFFER AREA SIZE**

**Explanation:** Critical. The buffer size exceeded the fixable area size.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Inform the system programmer. Rerun the application with the DUMP option on the OPTION control statement, and call your IBM representative.

**Possible Bypass:** Try increasing the amount of real or page fixable storage available to the partition.

---

**ILU906A WRITE BACK LIST FULL**

**Explanation:** Critical. An abnormally large number of write back blocks has been created in Phase 2 or Phase 3, and there are too many for the program to handle.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Inform the system programmer. Rerun the application with the DUMP option on the OPTION control statement, and call your IBM representative.

---

**ILU907A MODULE OVERLAID BY TABLES**

**Explanation:** Critical. A code overlay caused by an error in the optimization calculation has occurred.

**System Action:** DFSORT/VSE terminates.

**Programmer Response:** Inform the system programmer. Rerun the application with the DUMP option on the OPTION control statement, and call your IBM representative.

---

## 2.4 Chapter 5. Return Codes

Subtopics:

- [2.4.1 DFSORT/VSE Return Codes](#)
  - [2.4.2 ICETOOL Return Codes](#)
  - [2.4.3 User Exit Return Codes](#)
- 

### 2.4.1 DFSORT/VSE Return Codes

----- Programming Interface information -----

| For successful completion, DFSORT/VSE passes back a return code of 0 or 4  
| to the operating system or the invoking program.

For unsuccessful completion DFSORT/VSE passes back a return code of 16 or 20 to the operating system or the invoking program.

The meanings of the return codes that DFSORT/VSE passes back are:

- 0**  
**Successful completion.** DFSORT/VSE completed successfully.
- 4**  
**Successful completion.** DFSORT/VSE completed successfully;  
| NRECOU=RC4 was in effect and DFSORT/VSE did not write any records  
| to the output file.
- 16**  
**Unsuccessful completion.** DFSORT/VSE detected an error that prevented it from completing successfully.
- 20**  
**Unsuccessful completion.** DFSORT/VSE failed to load the message phase into partition GETVIS area.

The return code is available to both directly invoked and program invoked DFSORT/VSE applications.

For directly invoked applications, the return code is passed in general register 15 using the VSE/ESA EOJ macro. For more details see *System Functions*.

For program invoked applications, the return code is available in a user specified area addressed by the DFSORT/VSE parameter list.

---

## 2.4.2 ICETOOL Return Codes

ICETOOL sets a return code for each operation it performs in STOP or CONTINUE mode and passes back the highest return code it encounters to the operating system or the invoking program.

| For successful completion of all operations, ICETOOL passes back a return  
| code of 0 or 4 to the operating system or the invoking program.

For unsuccessful completion of one or more operations, ICETOOL passes back a return code of 12, 16, 20, or 24 to the operating system or the invoking program.

The meanings of the return codes that ICETOOL passes back (in register 15) are:

- 0**  
**Successful completion.** All operations completed successfully.
- 4**  
**Successful completion.** All operations completed successfully.  
| DFSORT/VSE passed back a return code of 4 for one or more operations  
| because NRECOU=RC4 was in effect and DFSORT/VSE did not write any  
| records to the output file.
- 12**  
**Unsuccessful completion.** ICETOOL detected one or more errors that prevented it from completing successfully. Messages for these errors were printed on SYSLSST.

16

**Unsuccessful completion.** DFSORT/VSE detected one or more errors that prevented ICETOOL from completing successfully. Critical error messages for these errors were routed to the system console. If ROUTE=xxx operand was specified, all DFSORT/VSE messages were routed to SYSxxx.

20

**Unsuccessful completion.** ICETOOL failed to obtain 12 KB from the 24-bit GETVIS area.

24

**Unsuccessful completion.** ICETOOL failed to load the phase required for ICETOOL operations. The message for this error was printed on SYSLST.

## 2.4.3 User Exit Return Codes

An x in [Table 2](#) indicates a valid return code that your user exit routine can pass back to DFSORT/VSE. All other values (those not marked with an x) are invalid for the user exit or not applicable.

Enn	Valid Return Codes				
	0	4	8	12	16
E11					
E15	X	X	X	X	X
E17					
E18	X	X	X		
E31					
E32			X	X	X
E35	X	X	X	X	X
E37					
E38	X	X	X		
E39	X	X	X		

The return code is passed in the rightmost byte of the action word addressed by the user exit parameter list.

|----- End of Programming Interface information -----|

## 3.0 Part 2. Diagnosis Guide

Subtopics:

- [3.1 Chapter 6. Resolving Failures in DFSORT/VSE](#)
- [3.2 Chapter 7. Searching the IBM Software Support Database](#)
- [3.3 Chapter 8. Fixing or Bypassing the Problem](#)
- [3.4 Chapter 9. Reporting a Problem](#)

### 3.1 Chapter 6. Resolving Failures in DFSORT/VSE



To resolve a DFSORT/VSE failure, you describe the problem with a set of keywords called a *keyword string*. The IBM Support Center uses the keyword string to search an IBM software support database, such as the Software Support Facility, to determine whether an authorized program analysis report (APAR) has already been recorded.

An APAR contains information explaining how to fix or bypass the failure. This may be a program temporary fix (PTF), an APAR fix, or a bypass.

If an APAR has not been recorded, the IBM Support Center personnel may ask you to obtain messages or a dump in order to provide information beyond the keyword string you have developed.

To resolve a program failure most efficiently:

1. Read and follow the directions in [Chapter 1, "Eliminating Common Sources of Error" in topic 1.0](#), to first eliminate usage errors in user exit routines, calling programs (if you have any), or other factors as a source of error.

If the source of error is not your own user exit routines or calling programs, go to step 2.

2. Follow the instructions in ["Developing Your Keyword String" in topic 3.1.1](#). Each of the keywords in the string describes one aspect of a program failure and makes the search argument more specific. The more precise your keyword string is, the more selective the resulting search will be, and you will have fewer problem descriptions to evaluate.

You need messages, or a dump, or both to develop most keyword strings. If you did not receive messages or a dump, read ["Getting Messages" in topic 1.1](#) and ["Getting a Dump" in topic 1.2](#).

When you complete your keyword string, go to step 3.

3. Follow the instructions in [Chapter 7, "Searching the IBM Software Support Database" in topic 3.2](#). The search determines whether the problem has been reported previously.

If the problem has already been reported, go to step 4. If the problem has not been reported, go to step 5.

4. For known problems, you will be instructed either to add temporary changes to the maintenance area or to bypass the problem when possible.
5. For new problems, follow the instructions in [Chapter 9, "Reporting a Problem" in topic 3.4](#).

Subtopics:

- [3.1.1 Developing Your Keyword String](#)
- [3.1.2 Constructing the Keyword Strings](#)
- [3.1.3 Finding the Component ID and Component Level Code](#)
- [3.1.4 Component Identification Keyword Procedure](#)
- [3.1.5 Component Level Code Keyword Procedure](#)
- [3.1.6 Type-of-Failure Keyword Procedure](#)
- [3.1.7 Phase Keyword Procedure](#)
- [3.1.8 Offset Keyword Procedure](#)
- [3.1.9 Order Number Keyword](#)

---

## 3.1.1 Developing Your Keyword String

This section helps you to develop a keyword string to describe a failure. The keyword string is used to search an IBM software support database, explained in [Chapter 7, "Searching the IBM Software Support Database" in topic 3.2](#). The number of keywords within a keyword string depends on the type of failure being described. The types of failures include:

- Abend
- Wait
- Loop
- Message
- Incorrect output
- Performance
- Document

Before contacting the IBM Support Center for assistance, ensure that your keyword string contains all the required keywords for your particular type of failure.

[Figure 1](#) shows the steps you need to follow, depending on the type of failure you describe. The keywords you may need to use are:

<b>Keyword</b>	<b>When required</b>
Component ID	Always required
Component Level Code	Always required
Type-of-Failure	Always required
Phase	Required for abend, wait, and loop
Offset	Required for abend, wait, and loop
Order Number	Required for document error

Begin with "[Constructing the Keyword Strings](#)" in [topic 3.1.2](#) and follow the procedures until the keyword string is developed and you are instructed to use it as a search argument.

---

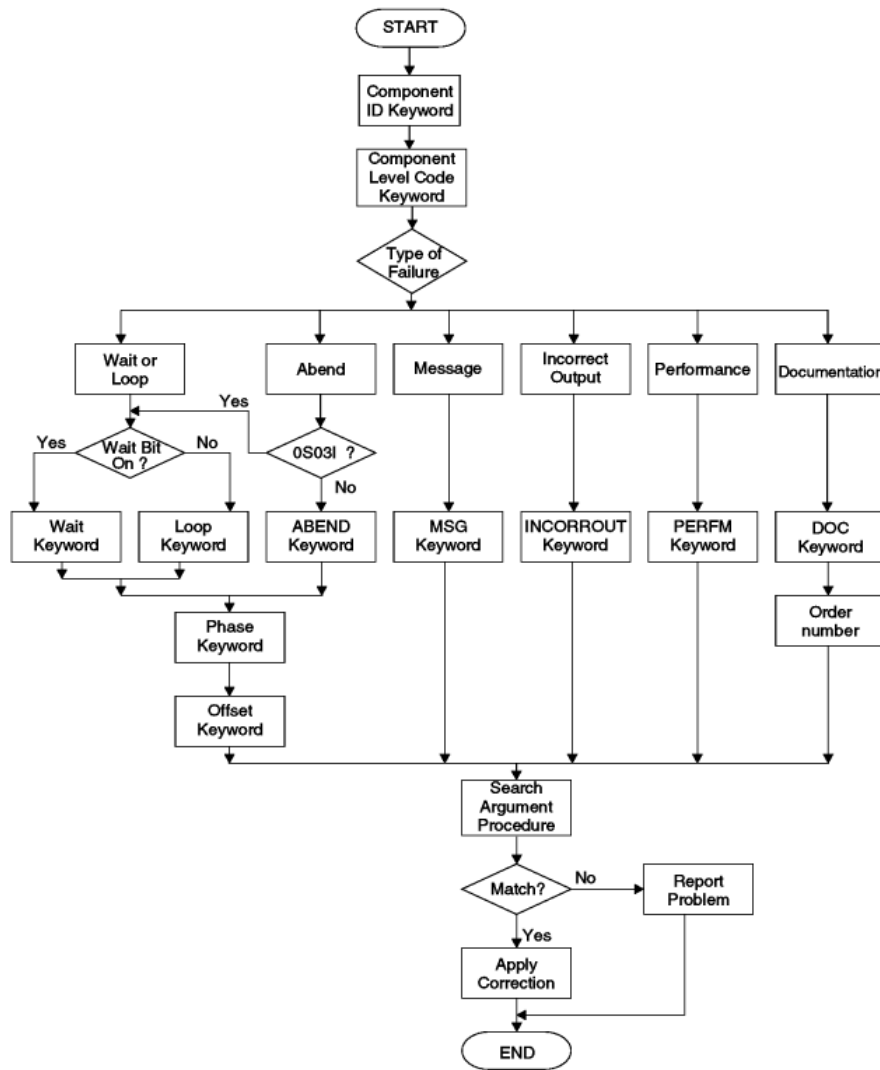


Figure 1. Keyword String Flowchart

### 3.1.2 Constructing the Keyword Strings

Use [Figure 2](#) to help you construct the keyword string to describe DFSORT/VSE program failures.

To use the diagram, follow these instructions:

1. Choose the type of keyword.
2. Start at zero, on the left.
3. Continue to work from left to right.
4. When you encounter parallel elements in one line, make a choice.
5. Type uppercase letters and special characters exactly as given.
6. Replace lowercase letters with the appropriate data.
7. Your statement is complete when you reach zero, on the right side.

---

```

Wait or      0____5746SM310____clc____|____SORT____|____WAIT____|____ILUSname____OFFSETn____0
Loop         |____MERGE____|____|____LOOP____|
            |____COPY____|

Abend        0____5746SM310____clc____|____SORT____|____ABENDnn____ILUSname____OFFSETn____0
            |____MERGE____|
            |____COPY____|

Message      0____5746SM310____clc____|____SORT____|____MSGnnnn____0
            |____MERGE____|
            |____COPY____|

Incorrect    0____5746SM310____clc____|____SORT____|____INCORROUT type____0
Output      |____MERGE____|
            |____COPY____|

Performance 0____5746SM310____clc____|____SORT____|____PERFM____0
            |____MERGE____|
            |____COPY____|

Documentation 0____5746SM310____clc____DOC__order number____0

```

---

Figure 2. Keyword String Syntax

### 3.1.3 Finding the Component ID and Component Level Code

To obtain an up-to-date change level record of your product, complete the following:

1. Using the Problem History Handling panel, access the Retrace History File panel.

2. Select the Retrace Components option. The Retrace Components panel is displayed as shown in [Figure 3](#).

---

```
DATE 03/01/98 (MM/DD/YY)  JOB DMPRETR      MSHF-FUNCTION = RETRACE COMPONENT                PAGE    1
                          CUSTOMER
                          ADDRESS
                          PHONE NUMBER
                          SYSTEM PROGRAMMER
                          ENVIRONMENT      VSE/ESA, RELEASE  2.1
                          HISTORY FILE     11 % IN USE
                          REFRESH LEVEL    01.03.02
                          COMPONENT LIST
-----
COMPONENT = 5746-SM310_  LEVEL = 34A_  CORRECTLY  INSTALLED = 02/28/98
      (Component ID)_____ | _____ (Component Level Code)

PRODUCTION PART IN: PRD2.PROD
```

---

Figure 3. Finding the Component ID and the Component Level Code

### 3.1.4 Component Identification Keyword Procedure

The DFSORT/VSE component identifier is the number which identifies the product within the IBM software support database. The component identification keyword is nine characters.

1. The component identification keyword as shown in [Figure 3](#) is **5746SM310** (dash is omitted). Therefore, the keyword string so far is:

```
| _____ |
| 5746SM310 |
| _____ |
```

2. Refer to "[Component Level Code Keyword Procedure](#)" in [topic 3.1.5](#), to determine the current release level keyword of DFSORT/VSE.

### 3.1.5 Component Level Code Keyword Procedure

The component level code (CLC) keyword used with the component identification keyword narrows the search. The CLC shows the release of DFSORT/VSE. The component level code keyword is three characters.

1. The component level code keyword as shown in [Figure 3](#) is **34A**. Therefore, the keyword string so far is:

34A
-----

To identify DFSORT/VSE feature-related CLC information, refer to *Installation and Tuning*.

2. If the problem seems to result from incorrect or missing information in a DFSORT/VSE publication, refer to "[Document Keyword Procedure](#)" in [topic 3.1.6.6](#).

If the problem is not in a DFSORT/VSE publication, refer to "[Type-of-Failure Keyword Procedure](#)" in [topic 3.1.6](#).

### 3.1.6 Type-of-Failure Keyword Procedure

Use [Table 3](#) to find the name and page number of the procedure for the type-of-failure you have encountered.

Type of Failure	Description	Procedure Name and Page Number
Wait or Loop	Unexpected program suspension or repetition.	" <a href="#">Wait and Loop Keyword Procedure</a> " in <a href="#">topic 3.1.6.1</a> .
Abend	Abnormal termination of DFSORT/VSE.	" <a href="#">Abend Keyword Procedure</a> " in <a href="#">topic 3.1.6.2</a> .
Message	Errors identified by or associated with DFSORT/VSE error messages. Error messages which require that you perform some action.	" <a href="#">Message Keyword Procedure</a> " in <a href="#">topic 3.1.6.3</a> .
Incorrect Output	Unexpected, missing, or incorrect output not associated with message. (Use this keyword only when no other keywords seem appropriate.)	" <a href="#">Incorrect-Output Keyword Procedure</a> " in <a href="#">topic 3.1.6.4</a> .
Performance	Performance degradation. (Use this keyword only then you are sure that this is not a Wait or Loop problem.)	" <a href="#">Performance Keyword Procedure</a> " in <a href="#">topic 3.1.6.5</a> .
Documentation	Severe incorrect or missing information in DFSORT/VSE documentation.	" <a href="#">Document Keyword Procedure</a> " in <a href="#">topic 3.1.6.6</a> .

Subtopics:

- [3.1.6.1 Wait and Loop Keyword Procedure](#)

- [3.1.6.2 Abend Keyword Procedure](#)
- [3.1.6.3 Message Keyword Procedure](#)
- [3.1.6.4 Incorrect-Output Keyword Procedure](#)
- [3.1.6.5 Performance Keyword Procedure](#)
- [3.1.6.6 Document Keyword Procedure](#)

---

### 3.1.6.1 Wait and Loop Keyword Procedure

Because the wait and loop symptoms are often indistinguishable, the WAIT and LOOP keywords are included in the same type-of-failure procedure.

You need a dump for this procedure. If you did not receive a dump, refer to ["Getting a Dump" in topic 1.2](#).

1. Find the Program Status Word (PSW) in the dump; see [Figure 4](#).

---

```

OS01I THE OPERATOR CANCELED THE JOB_____ | cause of cancelation |
OS00I JOB DMPRETR1 CANCELED.                |                     |

OS07I PROBLEM PROGRAM PSW = 078D0000 0054169C_____ | PSW |
SYSDUMP.F7.DF700024                                |_____ |
                                                    PAGE 000

```

---

Figure 4. Finding the Cause of Cancelation and PSW

2. Check whether the wait state bit of the PSW is on (see [Figure 5](#)).

---

```

| 078D0000 0054169C | _____ PSW
|_____ |

```

To locate bit 14, divide the PSW into bits

BIT	0-11	12-15	16-63
PSW	078	D	00000054169C
BITS		12 13 14 15	
		1 1 0 1	

If BIT 14=0, wait state bit = OFF  
If BIT 14=1, wait state bit = ON

---

Figure 5. Finding the Wait State Bit in the PSW

3. Determine which keyword you should use, WAIT or LOOP. If the wait state is on, use the keyword WAIT; otherwise, use the keyword LOOP.
4. For the above example, you would have the following keyword string:

```
5746SM310 34A LOOP
```

5. The next keyword is the phase name. Refer to ["Phase Keyword Procedure" in topic 3.1.7.](#)

---

### 3.1.6.2 Abend Keyword Procedure

Use this procedure when DFSORT/VSE terminates abnormally and when you receive a nonzero interruption code.

Obtain the abend code from a message 0S03I as shown in [Figure 6 in topic 3.1.7.](#)

1. Record the abend code in the following format:

```
5746SM310 34A ABEND01
```

2. The next keyword is the phase name. Refer to ["Phase Keyword Procedure" in topic 3.1.7.](#)

---

### 3.1.6.3 Message Keyword Procedure

Use message keywords when an error is described by, or associated with, a DFSORT/VSE error message.

1. Locate the DFSORT/VSE error message in the DFSORT/VSE output.
2. Record the message keyword, using the following format:

```
MSGx...x
```



where x...x is the identifier of the message issued by DFSORT/VSE.

```
5746SM310 34A MSG901A
```

3. The Message keyword string is now complete. Refer to [Chapter 7, "Searching the IBM Software Support Database" in topic 3.2.](#)

---

### 3.1.6.4 Incorrect-Output Keyword Procedure

Use this procedure when DFSORT/VSE:

- Generates unexpected output
- Fails to generate expected output
- Generates incorrect output

Do not use this procedure if the problem is associated with an error message. Use the message keyword procedure instead.

1. Use **INCORROUT** as your type-of-failure keyword in the following format:

```
INCORROUT D/Tnnnn DFSORT/VSE
```

where D/Tnnnn is IBM device type, for example:

```
D/T3390
```

```
5746SM310 34A INCORROUT D/T3390 DFSORT/VSE
```

2. The incorrect-output keyword string is now complete. Refer to [Chapter 7, "Searching the IBM Software Support Database" in topic 3.2.](#)

---

### 3.1.6.5 Performance Keyword Procedure

Performance problems may be related to system tuning. Use this keyword when the performance problem cannot be corrected by system tuning.

1. Record the actual performance and expected performance.
2. Use **PERFM** as your type-of-failure keyword.

```
5746SM310 34A PERFM
```

3. The performance keyword string is now complete. Refer to [Chapter 7, "Searching the IBM Software Support Database" in topic 3.2](#).

---

### 3.1.6.6 Document Keyword Procedure

Use this keyword when a problem seems to be caused by incorrect or missing information in a DFSORT/VSE publication.

If the documentation problem is not severe, use the Reader Comment Form from the appropriate publication to suggest corrections or improvements to the publication.

If you consider the problem a severe one, build the keyword string as follows:

1. Use **DOC** as your type-of-failure keyword.

```
5746SM310 34A DOC
```

2. Refer to ["Order Number Keyword" in topic 3.1.9](#).

---

### 3.1.7 Phase Keyword Procedure

If your program ended abnormally or entered a wait or loop state, your next keyword in the keyword string is the name of the phase in control when the failure occurred.

You need a dump for this procedure. If you did not receive a dump, refer to ["Getting a Dump" in topic 1.2](#).

**Note:** If you invoke DFSORT/VSE from a COBOL program compiled with VS COBOL, you may receive both a COBOL dump and a DFSORT/VSE dump. For this procedure, use only the DFSORT/VSE dump.

You need the abend address to obtain the phase name:



```
5746SM310 34A ABEND01 PHASE ILUSCRE
```

Check to see that the release level that appears after the phase name is current. If the release level is not current, ensure that DFSORT/VSE has been installed correctly.

4. The next keyword shows the offset. Refer to ["Offset Keyword Procedure" in topic 3.1.8.](#)

### 3.1.8 Offset Keyword Procedure

If your program ended abnormally or entered a wait or loop state, your next keyword in the keyword string after the name of phase is the offset keyword.

To determine the offset:

1. Obtain the abend address as shown in [Figure 7 in topic 3.1.7.](#)
2. To obtain the address of the first byte of a phase, go to the abend address and scan backward on the right side of the dump until you find the closest name of the form:

```
ILUSname REL x.y
```

where ILUSname is the phase name.

3. Subtract the address of the first byte of the phase from the abend address.

```

0054345A   abend address
-00543408   phase address
-----
          52   offset

```

In the example in [Figure 7](#), the address of the phase ILUSCRE is 00543408, and the abend address previously found is 0054345A. Therefore, the offset is 52.

4. Record the offset keyword using the following format:

```
OFFSET n
```

where n is 1 to 4 digits and contains no leading zeros.

For example, the keyword string for an abend looks like:

```
5746SM310 34A ABEND01 PHASE ILUSCRE OFFSET 52
```

5. The keyword string is now complete. Refer to [Chapter 7, "Searching the IBM Software Support Database" in topic 3.2.](#)

---

### 3.1.9 Order Number Keyword

If you are developing a keyword string for a document error:

1. Use the order number on the cover of the document as your next keyword. Include the edition number, which is two digits, and omit hyphens.

For example, if you found a documentation error in *Application Programming* which has the order number SC26-7040-03, your keyword string would be:

```
5746SM310 34A DOC SC26704003
```

2. The Document keyword string is now complete. Refer to [Chapter 7, "Searching the IBM Software Support Database" in topic 3.2.](#)

---

## 3.2 Chapter 7. Searching the IBM Software Support Database

When you have developed the keyword string, you are ready to search the IBM Software Support Facility database by completing the following steps:

1. Before installing DFSORT/VSE, verify whether there is any additional Preventive Service Planning (PSP) information you need. Contact your IBM Support Center or use IBMLink (ServiceLink) in the U.S. or EMEA DIAL in Europe to obtain this information. Specify the following UPGRADE value:

- SORT340

If the problem has been reported before, a correction may already be available. This correction could be a program temporary fix (PTF), an APAR fix, or a bypass.

2. If you find a set of APAR closing descriptions, compare the APAR closing descriptions in the database with your problem.
3. If you find an APAR that matches your problem, correct your problem by applying the PTF, APAR fix, or bypass described in the APAR. If the PTF or APAR fix has already been installed, treat this situation like a new problem, refer to [Chapter 9, "Reporting a Problem" in topic 3.4.](#)

4. If you cannot find an appropriate APAR, try varying your search argument:

a. Drop one keyword at a time starting from the right, until you get to the type-of-failure keyword.

b. If your type-of-failure keyword is **LOOP**, **WAIT**, or **PERFM**, try searching with one or both of the other two. Sometimes, what seems like a WAIT problem may actually be a LOOP or a PERFM problem.

If you still cannot find an APAR that matches your problem, refer to [Chapter 9, "Reporting a Problem" in topic 3.4](#).

---

## 3.3 Chapter 8. Fixing or Bypassing the Problem

Subtopics:

- [3.3.1 Fixing the Problem](#)
  - [3.3.2 Bypassing the Problem](#)
- 

### 3.3.1 Fixing the Problem

Every DFSORT/VSE phase has a maintenance patch area. To use the patch area, first verify that it is not already being used. Then use the appropriate utility (MSHP) to enter the required change. If the verify fails, contact your IBM field service center for help.

**Note:** If DFSORT/VSE re-entable phases are in the SVA, remember to reload SVA.

---

### 3.3.2 Bypassing the Problem

**If the problem is with the secondary allocation of work files**, ensure there is sufficient space in the VSAM data space to allocate work files, try changing the size of primary, or secondary allocation, or both, or use SAM work files.

**If the problem is related to virtual storage**, try adding 32 KB to the SIZE parameter in the EXEC JCL statement. Some abends are related to storage problems and can be bypassed in this way.

**If the problem is related to dataspace sorting**, use the QUERY DSPACE command to verify definition of data spaces and the SYSDEF command to redefine data spaces. If the problem is not resolved, contact your system programmer.

**If the problem is related to getvis sorting**, and GVSIZE=MAX is specified, change this operand to GVSIZE=n (nK or nM) to reduce the amount of GETVIS area usage.

---

## 3.4 Chapter 9. Reporting a Problem

Follow these instructions to report a problem to the IBM Support Center.

1. Gather the information.

a. Have the following information available when you report a problem:

- Customer number
- Current service level (PTF list and list of APAR fixes applied)
- The keyword string developed to search the IBM software support database
- Processor number (serial model)

b. Also, have the following documents available to assist in analyzing the problem:

- Source code (assembler or compiler listing) and phase for any user routines or invoking program
- A listing of the job control language (JCL), DFSORT/VSE control statements, and all messages
- A copy of the input files in a machine-readable form
- A list of the installation defaults selected at your site. You can produce this list by using the DEFAULTS operator of ICETOOL. See *Application Programming* for complete details of ICETOOL
- A dump from the failing run of DFSORT/VSE

2. Contact the IBM Support Center.

If the difficulty is an IBM problem, the representative will assist you in preparing an APAR.

3. Submit APAR documentation.

When submitting material for an APAR to IBM, carefully pack and clearly identify any magnetic tapes that contain application source programs, job stream data, files, or libraries.

Each magnetic tape must have the following information attached and visible:

- The APAR number assigned by IBM
- A list of files on the tape (for example, application source program, JCL, data, and phases)

- Data on how the tape was created:
  - The exact JCL listing or the list of commands used
  - The record format and block size used for each file
  - Tape labeling
  - The tape recording mode and density

---

## BACK\_1 Communicating Your Comments to IBM

DFSORT/VSE  
Messages, Codes and Diagnosis Guide  
Version 3 Release 4

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Version 3 Release 4

Publication No. SC26-7132-01

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- 1 Very satisfied
- 2 Satisfied
- 3 Neutral
- 4 Dissatisfied
- 5 Very dissatisfied

	1	2	3	4	5
Overall satisfaction					

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