

# PTC<sup>®</sup> Translator Products User Guide

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CADD5<sup>®</sup> 5i Release 12

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**Parametric Technology Corporation, 140 Kendrick Street, Needham, MA 02494-2714**

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## Glossary

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# Preface

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*PTC Translator Products User Guide* tells you how to translate geometric and annotative data on a CADD system to and from the IGES standard format, in an IGES text file. You can also transmit geometric data to and from the Verband der Automobilindustrie Flächenschnittstelle (VDA-FS) standard format. The data can also be transferred to and from other CADD systems that also support the VDA-FS format.

## Related Documents

The following documents may be helpful as you use *PTC Translator Products User Guide*:

- *Initial Graphics Exchange Specification Version 5*
- *STEP Translators User Guide*
- *VDA/VDMA VDA-Flächenschnittstelle (VDAFS) Version 2.0 VDA Working Group CAD/CAM*

## Book Conventions

The following table illustrates and explains conventions used in writing about CADDs applications.

Convention	Example	Explanation
Menu selections and options	List Section option, Specify Layer field	Indicates a selection you must make from a menu or property sheet or a text field that you must fill in.
User-selected graphic location	X, d <sub>1</sub> or P1	Marks a location or entity selection in graphic examples.
User input in CADDs text fields and on any command line	cvaec.hd.data.param tar -xvf /dev/rst0	Enter the text in a CADDs text field or on any command line.
System output	Binary transfer complete.	Indicates system responses in the CADDs text window or on any command line.
Variable in user input	tar -cvf /dev/rst0 filename	Replace the variable with an appropriate substitute; for example, replace filename with an actual file name.
Variable in text	tagname	Indicates a variable that requires an appropriate substitute when used in a real operation; for example, replace tagname with an actual tag name.
CADDs commands and modifiers	INSERT LINE TANTO	Shows CADDs commands and modifiers as they appear in the command line interface.
Text string	"SRFGROUPA" or 'SRFGROUPA'	Shows text strings. You must enclose text string with single or double quotation marks.
Integer	n	Supply an integer for the <i>n</i> .
Real number	x	Supply a real number for the <i>x</i> .
#	# mkdir /cdrom	Indicates the root (superuser) prompt on command lines.
%	% rlogin remote_system_name -l root	Indicates the C shell prompt on command lines.
\$	\$rlogin remote_system_name -l root	Indicates the Bourne shell prompt on command lines.

## Window Managers and the User Interface

According to the window manager that you use, the look and feel of the user interface in CADD5 can change. Refer to the following table:

**Look and Feel of User Interface Elements**

User Interface Element	Common Desktop Environment (CDE) on Solaris, HP, Compaq, and IBM	Window Manager Other Than CDE on Solaris, HP, Compaq, IBM, SGI, and NT
Option button	ON — Round, filled in the center OFF — Round, empty	ON — Diamond, filled OFF — Diamond, empty
Toggle key	ON — Square with a check mark OFF — Square, empty	ON — Square, filled OFF — Square, empty

## Online User Documentation

Online documentation for each book is provided in HTML if the documentation CD-ROM is installed. You can view the online documentation in the following ways:

- From an HTML browser
- From the Information Access button on the CADD5 desktop or the Local Data Manager (LDM)

Please note: The LDM is valid only for standalone CADD5.

You can also view the online documentation directly from the CD-ROM without installing it.

From an HTML Browser:

1. Navigate to the directory where the documents are installed. For example,
  - `/usr/apl/cadds/data/html/htmldoc/` (UNIX)
  - `Drive:\usr\apl\cadds\data\html\htmldoc\` (Windows NT)
2. Click `mainmenu.html`. A list of available CADD5 documentation appears.
3. Click the book title you want to view.

From the Information Access Button on the CADD5 Desktop or LDM:

1. Start CADD5.
2. Choose Information Access, the *i* button, in the top-left corner of the CADD5 desktop or the LDM.
3. Choose DOCUMENTATION. A list of available CADD5 documentation appears.
4. Click the book title you want to view.

From the Documentation CD-ROM:

**1. Mount the documentation CD-ROM.**

**2. Point your browser to:**

CDROM\_mount\_point/html/doc/mainmenu.html (UNIX)

CDROM\_Drive:\html\doc\mainmenu.html (Windows NT)

## Online Command Help

You can view the online command help directly from the CADDs desktop in the following ways:

- From the Information Access button on the CADDs desktop or the LDM
- From the command line

From the Information Access Button on the CADDs Desktop or LDM:

- 1. Start CADDs.**
- 2. Choose Information Access, the *i* button, in the top-left corner of the CADDs desktop or the LDM.**
- 3. Choose COMMAND HELP. The Command Help property sheet opens displaying a list of verb-noun combinations of commands.**

From the Command Line: Type the exclamation mark (!) to display online documentation before typing the verb-noun combination as follows:

```
#01#!INSERT LINE
```

## Printing Documentation

A PDF (Portable Document Format) file is included on the CD-ROM for each online book. See the first page of each online book for the document number referenced in the PDF file name. Check with your system administrator if you need more information.

You must have Acrobat Reader installed to view and print PDF files.

The default documentation directories are:

- /usr/apl/cadds/data/html/pdf/doc\_number.pdf (UNIX)
- CDROM\_Drive:\usr\apl\cadds\data\html\pdf\doc\_number.pdf (Windows NT)

## Resources and Services

For resources and services to help you with PTC (Parametric Technology Corporation) software products, see the *PTC Customer Service Guide*. It includes instructions for using the World Wide Web or fax transmissions for customer support.

## Documentation Comments

PTC welcomes your suggestions and comments. You can send feedback in the following ways:

- Send comments electronically to `doc-webhelp@ptc.com`.
- Fill out and mail the PTC Documentation Survey located in the *PTC Customer Service Guide*.



# Introducing IGES and VDA-FS

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The Initial Graphics Exchange Specification (IGES) Translator translates geometric and annotative data (a CADDs part) on a CADDs system to and from the IGES standard format, in an IGES text file. In this way, data can also be transferred to and from non-CADDs systems that support the IGES format.

The CADDs VDA-FS Translator transmits geometric data to and from the Verband der Automobilindustrie Flächenschnittstelle (VDA-FS) standard format. The data can be transferred to and from other systems that also support the VDA-FS format. For example, you can design a product in CADDs and then send it to a subcontractor whose CAD/CAM system also supports the VDA-FS format. The reverse process is also possible.

You can run the IGES and VDA-FS Translators directly from the operating system prompt, provided that you have a CADDs environment. You can process CADDs parts that are already on your machine. If you are on a network, you can also process parts and files from Optegra or another node of the network.

- Brief History of IGES and VDA-FS
- Graphical User Interface (GUI) for IGES and VDA-FS
- CAMU IGES Translator
- The Translation Process
- Entity Processing Limitations
- Processing IGES Sfigs and Nfigs
- Filename Conventions and CGOS
- Processing Requirements for CGOS
- Command and Syntax Diagram Conventions

## Brief History of IGES and VDA-FS

### The IGES Specification

IGES is coordinated with and directed by the National Institute of Standards and Technology (NIST) in association with the American National Standards Institute (ANSI).

The *Initial Graphics Exchange Specification Version 5.0* contains the complete IGES standard format (NISTIR 4412 September 1990).

Please note: The IGES Translator conforms to major portions of IGES Version 5.2. CADDs parts and IGES files overlap in their ability to record geometric data; however, the capabilities of the two formats are not identical.

### The VDA-FS Specification

VDA-FS Version 1.0 has been approved by DIN as a German standard (DIN 66301) and is being presented to the International Standards Organization (ISO). VDA-FS Version 2.0 was announced in 1987 and is an extension of VDA-FS Version 1.0. The PTC VDA-FS Processor supports Versions 1.0 and 2.0 of the VDA-FS standard format.

The basic document, *VDA/VDMA VDA-Flächenschnittstelle (VDAFS) Version 2.0 VDA Working Group CAD/CAM* contains the complete VDA-FS standard format.

# Graphical User Interface (GUI) for IGES and VDA-FS

The graphical user interface, for all of the CADD5 IGES, VDA-FS and CAMU IGES translators is the Datashop. This interface enables you to easily exchange data between different data formats.

## Functions of the CADD5 IGES/VDA Translator GUI

Using the Datashop you can easily change the translator options and translate multiple files using the same modifier configuration. You can also schedule translations to run at any time using the cron tool.

The CADD5 IGES/VDA Translator performs the following functions.

1. Invokes the CVDORS license manager to verify that the correct license is present.  
In case no license exists the CADD5 IGES/VDA Translator will generate an error message window.
2. Handles reference assemblies when executing CAMU IGES.
3. Adds necessary logic to process all subfigures with the correct orientation when processing CAMU assemblies.
4. Prompts you for information when you are using the CAMU IGES translator from the command line
  - The -camu modifier will invoke the CAMU assembly processing.
  - The -part will contain the CAMU assembly part name.

The on-line documentation for each modifier in the CADD5 IGES/VDA Translator is available directly from the Datashop.

To invoke Datashop, issue the following command:

```
datashop_gui
```

# CAMU IGES Translator

CAMU IGES is a uni-directional data translator that enables you to output CAMU data in the IGES data format. The user interface for this translator is the Datashop. Using Datashop, you can easily change the translator options and also translate multiple files using the same modifier configuration.

Using the Datashop select a top level CAMU assembly for processing. A graphical tree representation of the CAMU assembly part is displayed. You can select nodes for processing individual components, sub-assemblies or the whole assembly. Each node selected is mapped to the IGES file as an IGES sub-figure (408/308 entity type). Access to the assemblies is done the same way as in CAMU, which requires that the path to each component be specified in your CVPATH.

## Graphical User Interface (GUI)

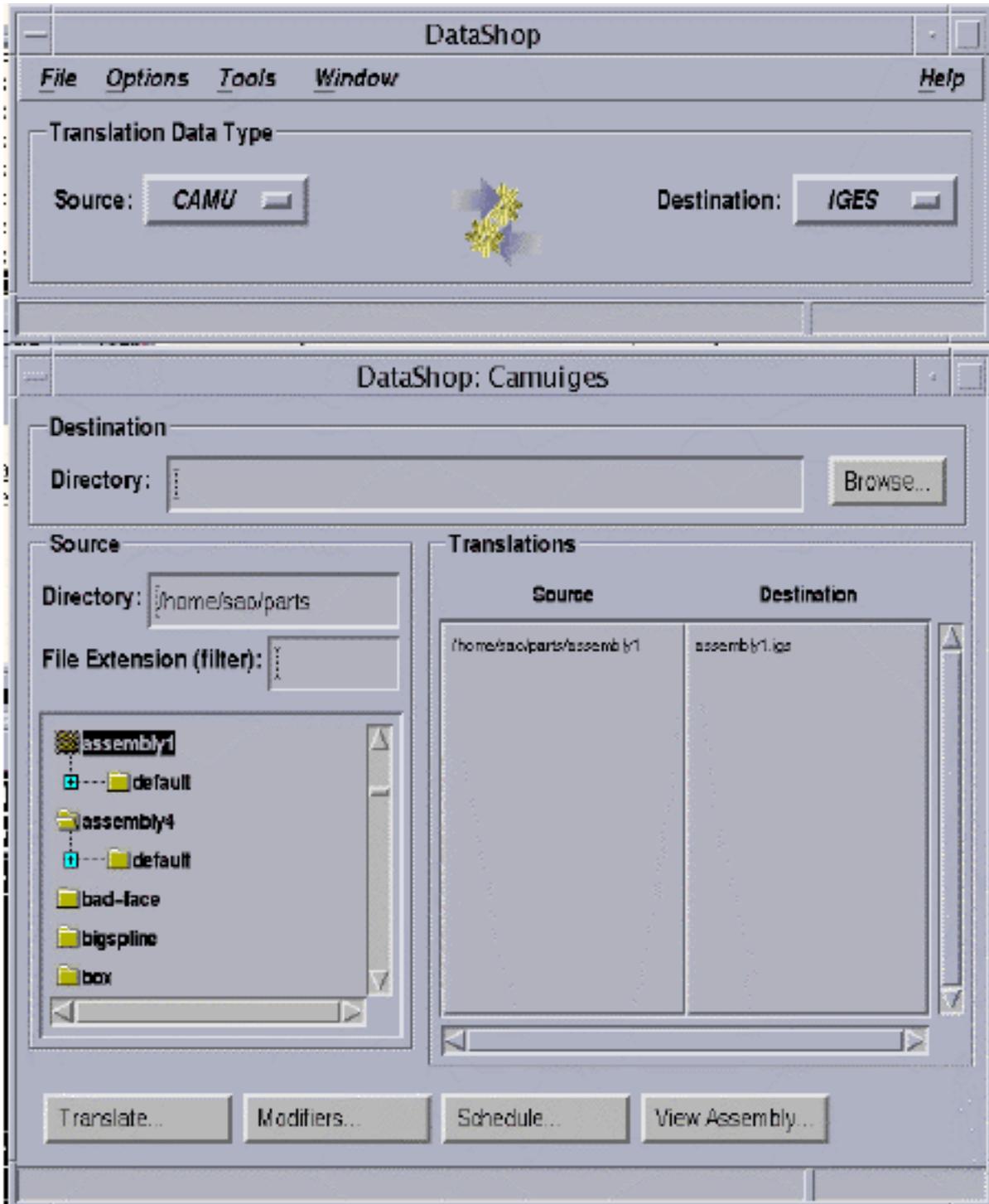
The CADD5 IGES GUI and PUTIGES executable supports the CAMU IGES Translator. Communication between the Datashop and the Translator is handled through a command line option. The Datashop and the IGES Translator also includes a CAMU IGES license check routine.

The CAMU IGES translator can be run from the Datashop as well as from the command line, but it is preferable to run it from the Datashop. You can select and display a full assembly component part using the Datashop. You can select any combination of components to be output in the IGES format. All options including the configuration file, that are currently supported in the CADD5 IGES/VDA Translator Datashop are also available with the CAMU IGES Translator.

## Using the Datashop Interface for the CAMU IGES Translator

The IGES conversion process is done by the `datashop_gui` command.

The `datashop_gui` command sources the `.cvtransrc` support files to invoke the Datashop menu. After the Datashop is invoked, the following user interface appears.

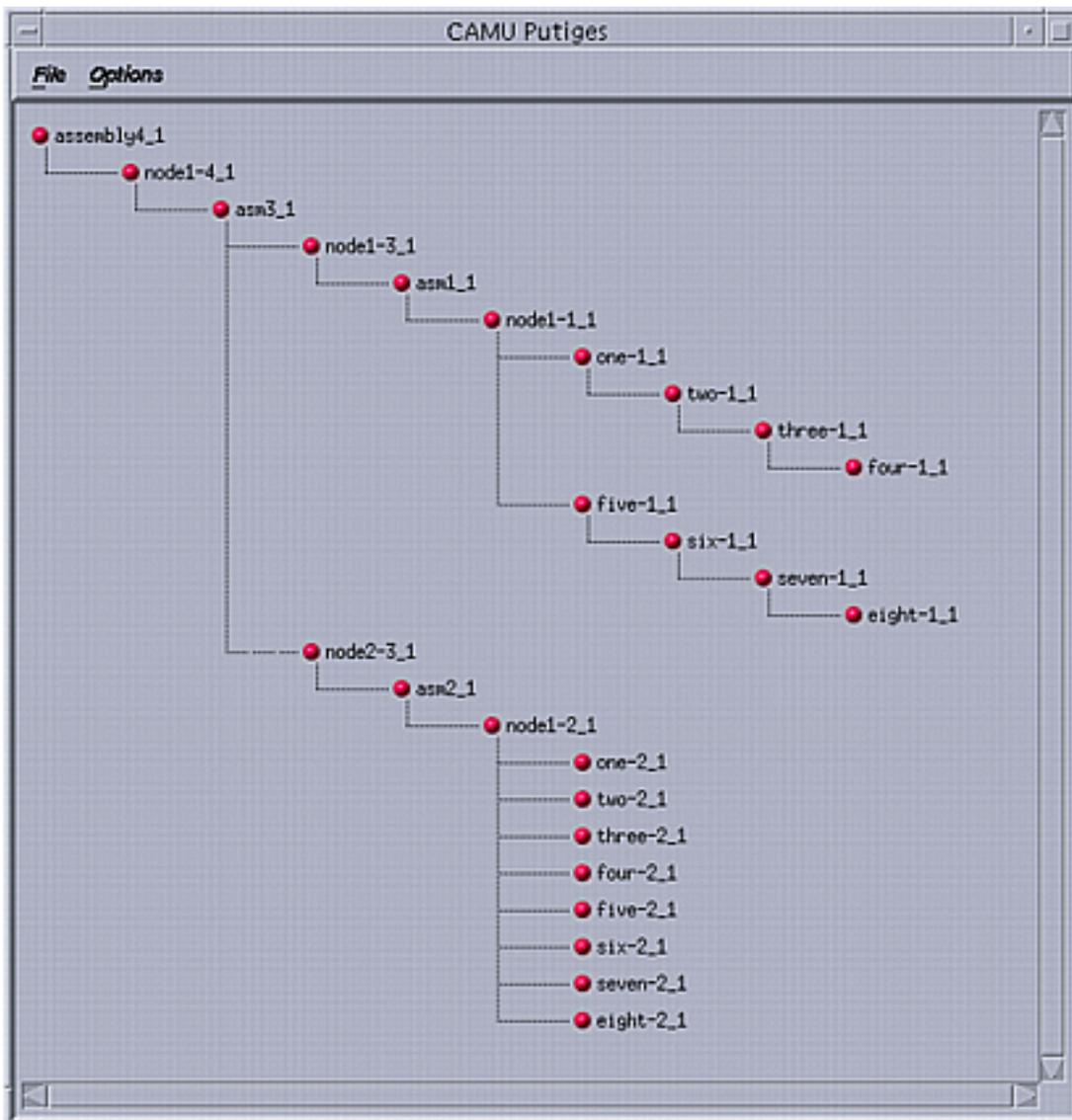


The Datashop menu is basically divided into two parts. The main window is called the Translator Selector window, which is common to all the translators. For details on the options of this window refer to “Options on the Translator Selector Window” on page 6-6. The other part is called the working window. All the options on this window are common to all the translators. For details on the options of this window refer to “Overview of the Working Window” on page 6-10.

In case of CAMU IGES translator an additional View Assembly option appears which is specific to the display of the CAMU assembly tree structure.

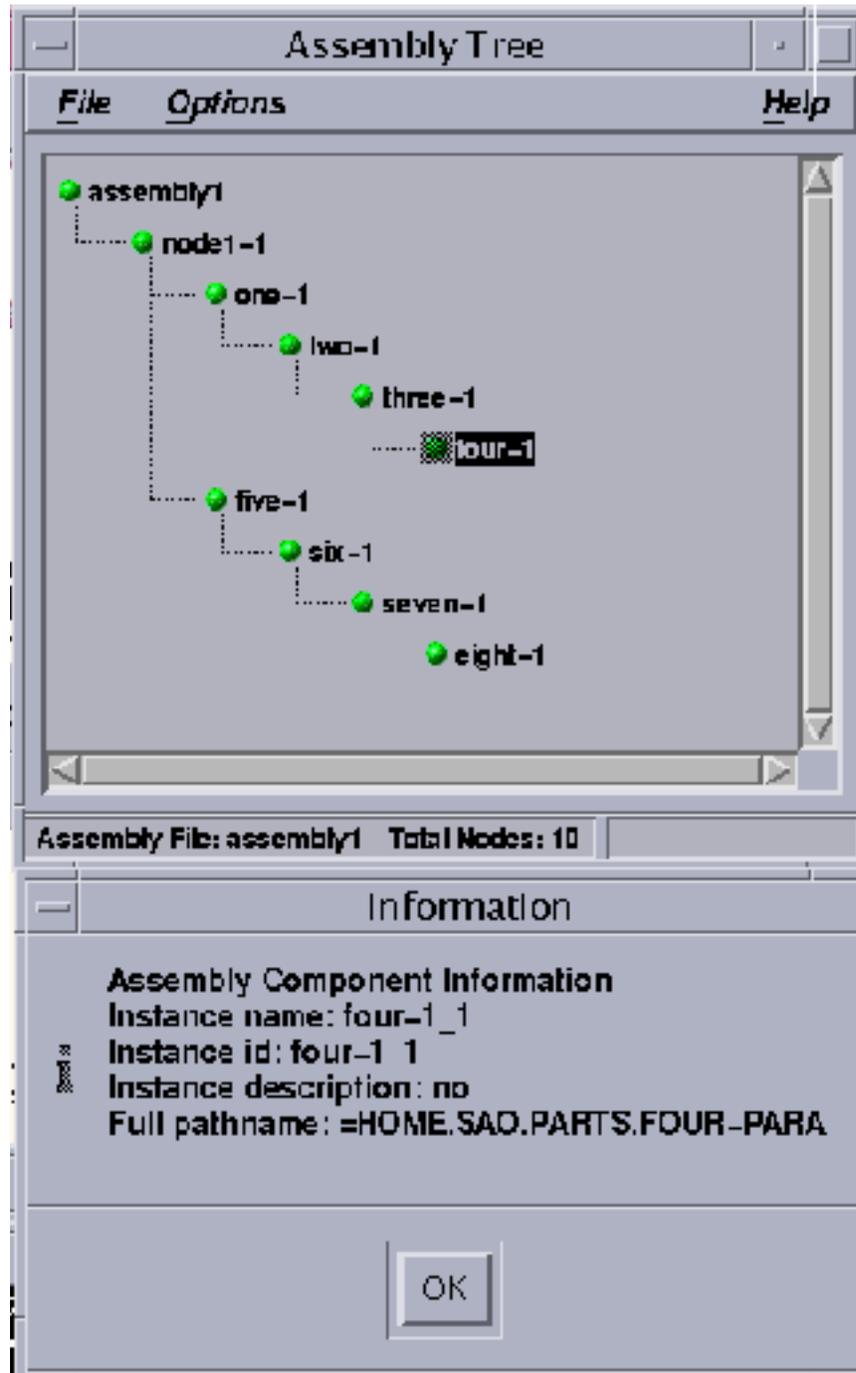
## Options in the Assembly Tree Window

1. Click View Assembly on the working window. A window displaying the CAMU assembly tree structure for the specified assembly appears.



2. Display the correct header and appropriate information regarding CAMU IGES.
  - Select one or more components before you invoke the translator. The components can be selected by clicking on them.

Individual component information is available by double clicking on the component, as shown in the information window.



Click OK to transfer the control back to window displaying the Assembly Tree structure.

- The complete assembly or sub-assembly can be selected via pressing the <shift> key and selecting a node.

3. Click on Options. The following menu appears.



- Click Tree Orientation to specify the position of the nodes. The following menu appears.



You can specify the position where you want to place the root node and the corresponding child nodes in the assembly tree display, using the options shown in the above window.

- Click Tree Layout to determine how the nodes are connected to their parent node. The following menu appears.



- Click ISI to display the tree in a fanned and angled format.
- Click Orthogonal to display the tree in a linear, right angled format.
- Click Display and select the options from the following window to display the information of the node.



- Click ID to display only the name of the node.
- Click Full Path to display the path of the actual CADDs part that contains the information of the selected assembly.

## The Translation Process

Enter commands at the operating system prompt or use the Datashop to translate files to and from IGES and VDA-FS format.

### IGES Process

The IGES conversion process consists of three commands:

<b>Command</b>	<b>Description</b>
putiges	Converts a CADDs part into an 80-column IGES text file.
getiges	Converts an 80-column IGES text file into a CADDs part.
datashop_gui	Starts the GUI to convert a CAMU assembly into an 80 column IGES text file or invokes putiges or getiges.

### VDA-FS Process

The VDA-FS conversion process consists of three commands:

<b>Command</b>	<b>Description</b>
putvda	Converts a CADDs part into an 80-column VDA-FS text file.
getvda	Converts an 80-column VDA-FS text file to a CADDs part.
datashop_gui	Starts the GUI to invoke putvda or getvda.

# Entity Processing Limitations

This section describes the entity processing limitations for the IGES and the VDA-FS files.

## Limitations for IGES Files

Use the `putiges` and `getiges` commands to process CADDs Sfigs (subfigures) and CADDs Nfigs (nodal figures). The `putiges` and `getiges` commands support the entities shown in the table below:

**Table 1-1 Subfigure Mappings**

<b>CADDs Entity</b>	<b>IGES Entity</b>	<b>Entity #</b>
Sfig Definition part file	Subfigure Definition	308
Sfig Instance entity	Singular Subfigure Instance	408
Nfig Definition part file	Network Subfigure Definition	320
Nfig Instance entity	Network Subfigure Instance	420

CADDs entities often have greater capabilities than their nearest IGES equivalent. CADDs Nfigs, for example, are more versatile than IGES Network Subfigures.

To determine where entity functions could be lost, perform a loop-back test by running the `getiges` command directly after the `putiges` command.

## Limitations for VDA-FS Files

The PTC Translator Products VDA-FS processor puts the following limits on VDA-FS surfaces:

- A maximum of 3500 grid points per surface
- A maximum of 65535 entities in one part

VDA-FS does not include any presentation data about the part, such as views and drawings.

# Processing IGES Sfigs and Nfigs

## Preprocessing Using putiges

When you use the `putiges` command, the IGES preprocessor:

1. Reads the CADDs Nfig Definition part files.
2. Inserts the contents into the IGES text file as an IGES Network Subfigure Definition (entity 320).
3. Creates one IGES Network Subfigure Instance (entity 420) for each Nfig Instance found in the CADDs part.
4. Reads the CADDs Sfig Definition part files.
5. Inserts the contents into the IGES text file as an IGES Subfigure Definition (entity 308).
6. Creates one IGES Singular Subfigure Instance (entity 408) for each Sfig Instance found in the CADDs part.

Please note: If a CADDs Nfig or Sfig (and part data) is not accessible when `putiges` is working on a part that contains it:

- No definition or instance of the CADDs Nfig or Sfig is written to the IGES file
- A message reports this omission and its cause

## Postprocessing Using getiges

When you use `getiges`, the postprocessor creates one CADDs:

- Nfig Definition part file for each IGES Network Subfigure Definition found in the IGES text file
- Nfig Instance for each IGES Network Subfigure Instance found in the IGES text file
- Sfig Definition part file for each IGES Subfigure Definition found in the IGES text file
- Sfig Instance for each IGES Singular Subfigure Instance found in the IGES text file

See page 3-6 for information on using the `-catalog` modifier with Sfigs and Nfigs.

# Filename Conventions and CGOS

When you work with CADDs parts, you must apply the filename and pathname conventions for the CADDs Graphical Operating System (CGOS).

## CGOS and UNIX Pathname Separators

CGOS uses different pathname and extension separators than UNIX. These are shown below:

**Table 1-2 UNIX and CGOS Special Characters**

Description	UNIX Character	CGOS Character
Root directory	/slash	=equals
Path separator	/slash	.period
Extension	.period	@at
Underscore	_underscore	&ampersand

The path and file name requirements for CADDs, IGES, and STEP files for Translators are:

- The path and file name of a CADDs part must not exceed 60 characters. Directory names can be 20 characters or fewer. A CADDs part name must be shorter than 20 characters.
- The combined path and file name of the IGES/VDA file must not exceed 60 characters. Directory names can be 19 characters or fewer. IGES and VDA file names cannot exceed 20 characters.
- You can specify any length for STEP path or file names.

## Using the Ampersand Character (&)

Avoid using the ampersand character (&) in filenames you enter from the operating system. This is because the operating system interprets “&” as a command to put a process into the background.

If you need to use “&” in your filenames, you must precede it with a backslash:

```
=user.trans.test.part\&1
```

This is interpreted as:

```
/user/tran/no.test/part_1
```

## Using Lowercase Characters

Use only lowercase characters in your pathnames, as uppercase characters are automatically converted to lowercase inside CADD5.

## The `_bcd` Directory

When you translate ASCII files to and from CADD5, they are automatically placed in a `_bcd` directory. This directory is invisibly created as the last directory in any pathname you specify.

## Writing a File

If you create an IGES or VDA-FS file called:

```
=user.trans.test.part@1
```

the translator software creates the file as:

```
/user/trans/test/_bcd/part.1
```

## Reading a File

If you read an IGES or VDA-FS file called:

```
=user.trans.test.part@1
```

the translator software searches for these files:

```
/user/trans/test/_bcd/part.1  
/user/trans/test/part.1
```

# Processing Requirements for CGOS

The database formats of CGOS and the CADDstation are equivalent but not identical. A software bridge automatically converts from one database format to the other. But, although parts may look the same on the screen or in plots, there are subtle differences. These can cause problems that are manifested after using `putiges` or `getiges`.

## Importing CADDs Parts from CGOS

When you import a CADDs part from the CGOS platform, you must follow these steps inside CADDs, before using `putiges` or `putvda`:

1. Activate the part.
2. Perform a CHECK DBASE.
3. Perform a PACK DBASE.
4. Activate all of the drawings (use `LIST DRAW ALL` to find their names). The following message appears:  
**REGENERATING GRAPHICS**
5. Select EXIT PART FILE.

These steps will correct some of the anomalies of a CGOS part in a CADDs database and improve the quality of data exchange.

# Command and Syntax Diagram Conventions

## Entering Commands

Enter the commands and modifiers in lowercase only.

## Command Conventions

The following conventions are used for command descriptions:

- Commands and modifiers are in bold.
- Each modifier is described in a table. If a default value exists for a modifier, this is also listed.
- The amount of indentation used for a command segment in a table shows its placement in the command hierarchy.

## Syntax Diagram Conventions

All command descriptions include a syntax diagram that shows the command and its modifiers, as explained below:

<b>Symbols</b>	<b>Modifiers</b>
Braces { }	Exclusive/Required: Indicate that you must include one of these modifiers in the syntax diagrams.  <div style="text-align: center;"> <b>{ modifier1            modifier2 }</b> </div>
Double bars	Exclusive/Optional: Indicate that you may include one of these modifiers in the syntax diagrams.  <div style="text-align: center;"> <b>   MODIFIER 1            MODIFIER 2   </b> </div>
Square brackets [ ]	Optional: Indicate that you may include any of these modifiers in the syntax diagrams.  <div style="text-align: center;"> <b>[ MODIFIER 1            MODIFIER 2 ]</b> </div>
Pointed brackets < >	Indicate the data type required. For example, <filename> requires you to enter a filename.
Brackets ( )	Indicate that the modifier can be abbreviated; <b>-overwrite (-ov)</b> shows you can abbreviate <b>-overwrite</b> to <b>-ov</b> .

# The PUTIGES Command

---

The `putiges` command converts a CADDSS part into an 80-column IGES text file.

This chapter lists the modifiers for `putiges`. There are examples, and a sample log file at the end of the chapter.

- PUTIGES Command Syntax
- Examples Using PUTIGES
- Example of a PUTIGES Log File

# PUTIGES Command Syntax

## Description

This command converts a CADDs part into an 80-column IGES text file.

## Syntax

```
putiges [ -noprompt  
-bounded  
-cfg <name>  
-color  
-errlog  
-dimgeom  
-iges <name>  
-jama  
-layer <n>,<n1-n3>  
-inf <n>  
-maxmsg  
-model  
-nobounded  
-nocolor  
-nodimassoc  
-noseg  
-nurbs  
-overwrite  
-part <partname>  
-prolog <info>  
-prop  
-sitol <nnnnn>  
-trace  
-unsew  
-xhatch 106  
-wireframe  
-draw2model  
-explode  
-log <name>  
-nolog ] ]
```

## Modifiers

Modifiers	Description
-bounded	Creates 143 (bounded surface) entities for output, instead of the default 144 (trimmed surface). Use this modifier when the receiving system can handle the 143 entities.
-cfg<name>	Specifies the configuration file that contains modifiers to be used for the translation. Refer to the configuration file section for the syntax.
-nocolor	Creates entity using the default color.
-color	Creates entities using the layer color entity instead of the entity color.
-errlog	Creates a log file that contains messages of ERROR severity only. The error log is named by appending <code>-error</code> to the log file name. If <code>-nolog</code> is set, <code>-errlog</code> is ignored.
-explode	Explodes figures on output.
-dimgeom	Maps a dimension box to 106 form 11, instead of the default 406 form 31.
-iges <name>	Specifies the IGES file to create. CADDs naming conventions apply. If the IGES file does not begin with <code>=</code> , the translator searches the create directory specified in your CADDSPATH or CVPATH, including the <code>_bcd</code> directory specified as the create directory in the CADDSPATH or CVPATH definition in your <code>.caddsrc</code> file. If you do not enter <code>-iges</code> , you are prompted for a file name.
-jama	Outputs the IGES file conforming to the JAMA-IS specifications.
-layer <n>, <n1-n3>	Translates the entities on the specified layers. When specifying a range of layers, the layer numbers must be in ascending order.
-lnf	Writes out the local nodal figure as a group entity with a name property attached to it in place of subfigure.
-maxmsg <n>	Specifies the number of times an error message is written to the log file. For example, if all entities in a part have the same error, the message for that error is printed at most<n> times.
-model	Writes out model entities only, not drawings (404) or views (410).
-nobounded	Puts out 144/142 even if poles (144's may be technically invalid).
-nodimassoc	Prevents dimension associatively from being output to the IGES file.

<b>Modifiers</b>	<b>Description</b>
-noprompt	Prevents translator from issuing interactive prompts. Use <code>-noprompt</code> when starting the translator from batch scripts or the user interface.
-noseg	Prevents output of 402 form 19 entities (segmented views visibility). This modifier ignores the interval font on those entities which use it. It places these entities in their corresponding views and uses the default fonts.
-nurbs	Outputs all geometry as NURBS. All wireframe geometry is output as either 126 or 128 entities.
-overwrite (-ov)	Overwrites the existing IGES file. If you do not enter <code>-overwrite</code> and the IGES file already exists, you are prompted for overwrite permission. If you answer NO, you are prompted for a new file name.
-part <partname>	Names the part to translate. CADDs naming conventions (CGOS characters and the <code>_bcd</code> directory) apply for <partname>. If you do not enter <partname>, you are prompted for it.
-prolog <filename>	Specifies the information for the start of the translated file. This file setup is as follows: Line1: Author Line2: Organization Line3: Prolog End of file (EOF) or Start Section.
-prop	Outputs properties for tags, line fonts, text fonts, and mesh.
-s1tol <.nnnn>	Sets the linear distance tolerance to set surface tolerances and detect any discontinuities. The default is 0.00001. Use <code>s1tol</code> to override the default value used in the IGES Minimum Intended Resolution field.
-trace (or -t)	Displays on the screen the MIPTR of the entity being processed. The MIPTR is placed in the subscript field of the DE number of the created IGES entity.
-unsew	Creates trimmed surfaces instead of solid entities from CADDs solids. The trimmed surfaces will be type 144, or 143 if the <code>-bounded</code> modifier is set.
-xhatch106	Outputs crosshatching as 106 form 31 instead of the 230 entity.
-log <name>	Creates a log file called <name>. The default log file name is <partname>-log and is located in the part's <code>_bcd</code> directory. Using the <code>-log</code> modifier, you can enter a different name and location. CADDs naming conventions apply. See "Sample Log File" on page 2-9.

Modifiers	Description
-nolog	Directs all messages to the screen. No log file is produced. This modifier overrides the <code>-log</code> modifier.
-wireframe	Allows to output only wireframe geometry.
-draw2model	Converts draw mode entities to model mode, so that the segmented views interval font can be maintained using the IGES 402:19 entity.

## Configuration File

You can place the modifiers in a text file, instead of placing them on the command line. The file syntax includes a section header to indicate whether it is getiges or putiges. For putiges it is PUT: on a line by itself. Each of the desired modifiers can be listed after this line. All of the modifiers except `-cfg` can be used in the configuration file. The syntax for the modifiers is as follows:

```
-modifiers<string> on the command line is:
modifier = "string";
```

```
-modifier<n> on the command line is:
modifier = n;
```

```
-modifier on the command line is:
modifier = "on";
```

The syntax for comments is a line starting with `/*` and ending with `*/`.

Please note: The recommended method of creating a configuration file is to use the Datashop. This eliminates the need for the user to become familiar with the content and syntax of the file.

Following is an example configuration file:

```
PUT: /* example of configuration file */
```

```
/* the next line replaces -part users.test.parts.xyz */
part = "users.test.parts.xyz";
```

```
/* the next line replaces -iges users.test.igesfiles.xyz-igs */
iges = "users.test.igesfiles.xyz-igs";
```

```
/* the next line replaces -maxmsg 2 */  
maxmsg = 2;
```

```
/* the next line replaces -overwrite */  
overwrite = "on";
```

Additional modifiers do exist in the configuration file that currently are not available on the command line. The syntax for these following modifiers in the configuration file is: modifier = "on";

<b>Modifier</b>	<b>Description</b>
line	Outputs all lines as NURBS.
arc	Outputs all arcs as NURBS.
conic	Outputs all conics as NURBS.
shape	Outputs all shapes as NURBS.
rectangle	Outputs all rectangles as NURBS.
string	Outputs all strings as NURBS.
tcyl	Outputs all tabulated cylinders as NURBS.
srev	Outputs all surface of revolution as NURBS.
rsurf	Outputs all ruled surfaces as NURBS.

The following modifiers have a different syntax:

rename\_list: Allows the name of 308 and 320 entities to be changed. The name must match exactly for the figure to be renamed.

syntax : rename\_list = {nam1,newnam1}, {nam2,newnam2};

# Examples Using PUTIGES

## Example 1

In this example, the ID of each entity is displayed on the screen. There is no log file.

The following CADDs naming conventions apply:

```
ws% putiges -part =cadds.trans.part@1 -iges
=iges.parts.part1@iges -nolog -trace
```

The following table shows the results of this command line.

**Table 2-1 Summary of Example 1**

Modifier	Description	Result
-part	Original CADDs part	/cadds/trans/part.1
-iges	Output IGES file	/iges/parts/_bcd/part1.iges
-nolog	Turns any log file off	Messages displayed on the screen
-trace	Displays ID for each entity processed	Entity ID displayed

## Example 2

The IGES file created in this example consists of CADDs layers 1, 23 through 40, and 57. No solids are output to the IGES file; trimmed surfaces of entity type 143 are defined.

The following CADDs naming conventions apply:

```
ws% putiges -part =cadds.trans.part@1 -iges
=iges.parts.part1@iges -bounded -unsew -layer 1,23-40,57
```

The following table shows the results of this command line.

**Table 2-2 Summary of Example 2**

<b>Modifier</b>	<b>Description</b>	<b>Result</b>
-part	Original CADDs part	/cadds/trans/part.1
-iges	Output IGES file	/iges/parts/_bcd/part1.iges
-bounded	Specifies type 143	Type 143 output (Bounded surfaces entity)
-unsew	Trimmed surfaces instead of solids	Trimmed surfaces output to IGES file
-layer	Specifies output layers	Layers 1, 27-40, 57 output to IGES file

## Example of a PUTIGES Log File

The log file contains the:

- Product header
- Start date, time and filename
- Modifiers used for processing the file
- Count of entities put out
- Status, warning, or error messages called during the translation
- For each subfigure:
  - Count of entities put out
  - Status, warning, or error messages generated during the translation
- After processing all figures:
  - Summary of all messages printed to the log file
  - Count of IGES entities created
  - Termination date and time

## Sample Log File

Below is an example of the log file for putiges.

```
PTC IGES Pre-Processor Log File
*****
CADDS VERSION: CADDS5 REV 6.0 GRAPHIC SYSTEM
Preprocessor Ver:PTC Translator Products Revision 2.1
Date-Time Processed:Mon Mar 18 11:18:13 1996
CADDS File processed:=test.atf.parts.arcxxx
IGES File created: /users2/cvc/parts/_bcd/arc.igs
Log file name: /users2/cvc/parts/_bcd/putiges.log
*****
Command line arguments used during this translation:
-part =test.atf.parts.arcxxx -iges arc@igs -log putiges@log
Start Section
From here down, will go to the start section
*****
Global Section
Parameter Delimiter: ,
Record Delimiter: ;
Sending Product ID: =test.atf.parts.arcxxx
File Name: /users2/cvc/parts/_bcd/arc.igs
System ID: PTC CADDS5 REV 6.0 GRAPHIC SYSTEM
Preprocessor Version: PTC Translator Products, Revision 2.1
Size of Integer: 32
Sgl. Precision Mag: 38
```

```

Sgl. Precision Sig:      6
Dbl. Precision Mag:     308
Dbl. Precision Sig:     15
Receiving Product ID:   =test.atf.parts.arcxxx
Model Space Scale:      .000000
Unit Flag:              1
Unit String:            IN
# of Line Weights:      32767
Maximum Line Width:     32.767000
Creation Date:          11/10/93 11:18:21
Minimum Resolution:     0.000010
Maximum Coordinate:     0.000000
Author:                 Author
Organization:           Organization
IGES Version Number:    8
Drafting Standard:      0
Model Create/Modify Date:12/31/69 19:00:00
*****
                        CADDs Entities Found in part
*****
Entity No.      Name              Count
5               Arc/Circle             13
*****
Total                          13
*****
Entities Parsed from file: /users2/c/parts/_bcd/arc.igs
Type      Form      Description              Count
-----
100       0         Circular Arc              13
108       0         Plane (Unbounded)        4
124       0         Transformation Matrix    1
314       0         Color Definition         23
404       0         Drawing (form 0)         1
406       15        Property (Name)          2
406       16        Property (Drawing Size)  1
410       0         View                     1
-----
                        Total                          46
Date-Time Finished: Mon Mar 18 11:18:26 1996
  
```

# Troubleshooting

This section describes the following troubleshooting features along with solutions:

- A core dump occurs during translation.
  - a. Use the `validate_db` option to verify if the part is a valid part.
  - b. Use the `-trace` option to examine the CADDs entity and identify the MIPTR.
  - c. Confirm if the part is a valid part.

- If the receiving translator does not support IGES 186 solid entities.

Use the `-unsew` option to create trimmed surfaces (IGES 144) instead of solid entities (IGES 186) from the CADDs solid.



# GETIGES Command

---

This chapter lists and explains the `getiges` command modifiers, and provides examples of `getiges` in use. There is a sample log file at the end of the chapter.

There is also information on limitations in curve and surface processing.

- The GETIGES Command Syntax
- Examples Using GETIGES
- Curve and Surface Limits
- Example of a GETIGES Log File

# The GETIGES Command Syntax

## Description

The `getiges` command converts an 80-column IGES text file into a CADD5 part.

## Syntax

<code>getiges</code>	<code>-cfg</code>	<code>&lt;name&gt;</code>				
	<code>-dimstd</code>	<code>&lt;name&gt;</code>				
	<code>-elayer</code>	<code>&lt;n&gt;</code>				
	<code>-emlog</code>				<code>  -catalog &lt;dir&gt;</code>	
	<code>-iges</code>	<code>&lt;name&gt;</code>			<code>  -explode02</code>	
	<code>-keepform</code>				<code>  -explode</code>	
	<code>-lasttextgap</code>					
	<code>-inf</code>					
	<code>-maxmsg</code>	<code>&lt;n&gt;</code>			<code>  -log &lt;name&gt;</code>	
	<code>-model</code>				<code>  -nolog</code>	
	<code>-nodim</code>					
	<code>-nofont</code>					
	<code>-nosolid</code>				<code>  -namelog</code>	
	<code>-notrim</code>				<code>  -nolog</code>	<code>CR</code>
	<code>-noweight</code>					
	<code>-onlyde</code>	<code>n1 n2-n5 n6</code>				
	<code>-onlytype</code>	<code>t1 t2 t3</code>			<code>  -nosplit</code>	
	<code>-overwrite</code>				<code>  -smooth</code>	
	<code>-part</code>	<code>&lt;partname&gt;</code>				
	<code>-partbol</code>	<code>&lt;nn nnn&gt;</code>			<code>  --usemodel</code>	
	<code>-sabol</code>	<code>&lt;nn nnn&gt;</code>			<code>  -useparam</code>	
	<code>-single</code>					
	<code>-seed</code>	<code>&lt;part&gt;</code>				
	<code>-stbol</code>	<code>&lt;nnnnn&gt;</code>				
	<code>-skipde</code>	<code>n1 n2-n5 n6</code>				
	<code>-skiptype</code>	<code>t1 t2 t3</code>				
	<code>-trace</code>					
	<code>-uniformtext</code>					
	<code>-validate</code>					
	<code>-fixsymbols</code>	<code>&lt;n nn&gt;</code>				
	<code>-viewcenter</code>					
	<code>-view</code>	<code>xxx</code>				
<code>--nosplitcusps</code>						
<code>-max_surf_split</code>	<code>n</code>					
<code>-negdraw</code>						
<code>-noprompt</code>						

## Modifiers

Modifiers	Description
-cfg<name>	Specifies the configuration file that contains modifiers to be used for the translation. Refer to the configuration file section for the syntax.
-dimstd<name>	Specifies the dimension standard to be used: ISO, JIS or ANSI. If none is given, defaults to what is specified in the global data of the IGES file, if none is given in the IGES global data it will be ANSI.
-elayer<name>	Creates failed trimmed surfaces on layer n. Default layer is 254.
-errlog	Creates a log file that contains messages of ERROR severity only. The error log is named by appending <code>-error</code> to the log file name. If <code>-nolog</code> is set, <code>-errlog</code> is ignored.
-iges <name>	Specifies the IGES file to read in. CADDs naming conventions apply. If the IGES file does not begin with <code>=</code> , the translator searches the create directory specified in your <code>CADDSPATH</code> or <code>CVPATH</code> , including the corresponding <code>_bcd</code> directory. If you do not enter <code>-iges</code> , you are prompted for a filename.
-keepform	Ensures that invalid form numbers will not be set to 0 during parsing.
-lasttextgap	Adds the last text gap to the text string being processed.
-lnf	Creates local nodal figures (lnf) from named groups. For example, if a group entity with a 406 form 15 property is found, this creates a local nodal figure.

### Warning

Use the `-lnf` modifier with caution because of restrictions on the CADDs entity types that are allowed in local nodal figures. For example, CADDs entity types cannot be nested, but IGES Groups are often nested. Most IGES Groups with names are not intended to be represented in CADDs as a local nodal figure.

Modifiers	Description
-maxmsg <n>	Specifies the number of times an error message is written to the log file. For example, if many entities in a part have the same error, the message for that error is printed at most <n> times.
-model	Causes the views and drawings in the IGES file to be ignored and the file to be processed as if the views and drawings never existed. Also, entities subordinate to a drawing are not processed.

<b>Modifiers</b>	<b>Description</b>
-nodim	Prevents all 200 series and 312 entity types from being processed. Also, any entity with entity use set to annotation will not be processed.

Please note: When you use both the `-model` and `-nodim` modifiers, none of the views, drawings and annotations are processed. The result is only the geometry will be processed

<b>Modifiers</b>	<b>Description</b>
-nofont	Ignores the <code>line font</code> field in the IGES entity, and creates no line font subrecords in the CADD5 entity.
-noprompt	Prevents translator from issuing interactive prompts. Use <code>-noprompt</code> when starting the translator from batch scripts or the user interface.
-nosolid	Creates no solids from 186 entities. All faces for these entities are created as trimmed surfaces, unless <code>-notrim</code> is also set. In this case, only the defining geometry for the these entities is created.
-notrim	Does not create trimmed surfaces for any 186, 143/141, or 144/142 entities. Only the defining geometry for the solids and trimmed surfaces is created.
-noweight	Ignores the <code>line weight</code> field in the IGES entity. Thick lines are not created. This is particularly useful on files from CATIA.
-onlyde n1,n2-n5,n6	Allows selected entities to be processed whether or not they are subordinate. The entities listed are treated as if they are independent. This does not work with views or drawings and it does not work with subfigures if the <code>-explode</code> option is used.

Please note: When you are working with large files, it takes time to try different tolerances. By selecting a few of the problem surfaces and using the `-onlyde` modifier, you can try several different tolerances in a shorter amount of time.

<b>Modifiers</b>	<b>Description</b>
-onlytype t1,t2:f2,t3	Allows entities to be processed based on their type and optionally their form. If no form is specified, no forms are processed. This does not work with views or drawings and it does not work with subfigures if the <code>-explode</code> option is used. Unlike <code>-onlyde</code> , the entities of the given type are processed only if they are independent.

Modifiers	Description
-overwrite (or -ov)	Overwrites the existing partfile. If you do not enter <code>-overwrite</code> and the part already exists, you are prompted for overwrite permission. If you answer NO, you are prompted for a new part name.
-part <partname>	Names the part to create. CADDs naming conventions (CGOS characters and the <code>_bcd</code> directory) apply for <partname>. If you do not enter <partname>, you are prompted for it.
-pnttol <nn.nnn>	<p>Defines the tolerance to determine if two points are coincident. This is used in all tolerance calculations, except when checking for discontinuities. Use <code>-sltol</code> to check for discontinuity.</p> <p>The default tolerance is the Minimum Intended Resolution in the Global section of the IGES file. This value must be between 0.00001 and 0.1 millimeters.</p> <p>Use <code>-pnttol</code> to perform minimum arc radius, surface, close closure, and zero length line checks.</p> <p>You can also specify the <code>-pnttol</code> value again to improve trimmed surface processing.</p>
-satol <nn.nnn>	<p>Sets the angular tolerance to detect tangent discontinuities on a curve or surface (internal G1). The default value is 0.5 degree. See page 3-8 for more information on <code>-satol</code>.</p> <p>Use <code>-satol</code> during surface trimming loop regeneration. Increasing the <code>-satol</code> value may help to reduce the number of discontinuities detected, thereby reducing the number of surface splits performed. However, it is recommended that you set the <code>-sltol</code> value first because it directly affects the surface splitting. See section <code>-sltol &lt;.nnnn&gt;</code> for details.</p>
-single	Creates a single precision part. Double precision is the default. See "Curve and Surface Limits" on page 3-13 for more information on single- and double-precision parts.
-seed <part>	Sets the defaults for the part. All data from the translator is filed in <part>.
-sltol <.nnnn>	<p>Sets the linear distance tolerance to set surface tolerances and detect a discontinuity or point discontinuities (internal G0).</p> <p>The default value is 0.0001. See the Note on page 3-8 for more information on <code>-sltol</code>.</p> <p>Use <code>-sltol</code> while converting curves and surfaces to NURBS and during curve and surface knot removal. After translation, curves will be within the <code>sltol</code> times 0.001 value of the original, and surfaces will be within the <code>sltol</code> times 0.1 value of the original.</p>

Modifiers	Description
-skipde n1, n2-n5, n6	Prevents entities from being processed by specifying the DE number(s). This does not work with views or drawings and it does not work with subfigures if the <code>-explode</code> option is used.

Please note: Use the `-trace` modifier to determine on what DE the segv is occurring, then use the `-skipde` modifier to skip that DE. If there are several entities with the same problem, you may need to do this a number of times.

Modifiers	Description
-skiptype t1,t2:f2,t3	Prevents entities from being processed based on their type and optionally their form. If no form is specified, no forms are processed. This does not work with views or drawings and it does not work with subentries if the <code>-explode</code> option is used. A range of types (for example, 100-200) cannot be specified.
-trace (or -t)	Displays on the screen the ID of the entity being processed. The ID displayed is the DE number of the entity. The DE number is also placed in the TAG field of the corresponding CADDs entity.
-uniformtext	Creates all text as uniform (all text characters have equal width).
-validate	Validates the IGES file, and corrects the IGES data where possible.
-fixsymbols	Adjusts the height and width of bad symbols by a value of n.nn. See CAMU IGES user interface help for more details
-viewcenter	Zooms and centers the default views, eliminating the need for a ZOOM VIEW ALL in CADDs. Using this modifier may increase the translator time significantly.
-view xxx	xxx is the required Cplane to be used when creating the default view. xxx can be top, bottom, left, right, front, rear or ISO. The top is the default.
-nosplitcusps	Does not split cusps in trimming curves. This option can be used to bring in trimmed surfaces that have some problem.
-max_surf_split n	If a set and a surface splits into more than n surfaces because of discontinuities, then remove the split surfaces and use the original surface. This option can be used to bring in trimmed surfaces that have some problem.
-negdraw	If this modifier is set, the drawing extents are -500.0, -500.0, 500.0, 500.0. This fixes the older CADAM, CATIA and AutoCAD drawings with negative coordinates. If other coordinates are required, use the <code>-negdraw_extents n.n</code> modifier in the configuration file.

Modifiers	Description
-catalog <dir>	Specifies the directory for figure parts. If you enter <code>-catalog</code> without <dir> as the last modifier on the command line, the figure parts are created in your default create directory. If you do not enter <code>-catalog</code> , all figure parts are created in the default part directory (specified with <code>-part &lt;partname&gt;</code> ).

### Warning

If you do not use the `-catalog` modifier, `getiges` specifies a pathname for each Sfig and Nfig it creates, using the name of the part and the subfigure that exists under the part.

If you want to create the figures in your default directory (specified by CVPATH) place the `-catalog` modifier at the end of the `getiges` command line, without any value for dir. Example: "`getiges -catalog`" All figures are created in the location specified by CVPATH. If you want to create the figures in some other place, use the `-catalog` modifier with the location you want the figures created.

Example: "`getiges -catalog=cadds.global-figs`" All figures are created in `/cadds/global-figs`, the figure-exe still will be located in the part.

Modifiers	Description
-explode102	Creates an individual curve entity for each segment in an independent IGES composite curve entity (type 102).
-explode	Explodes figures on input. This does not create individual figure parts. It copies the entities from the figure definition into the main part, and locates each entity at the instance origin.
-log <name>	Creates a log file called <name>. The default logfile name is <partname>-log and is located in the part's <code>_bcd</code> directory. Using the <code>-log</code> modifier, you can enter a different name and location. CADDs naming conventions apply. See "Example of a GETIGES Log File" on page 3-15.
-nolog	Directs all messages to the screen; no log file is created. This overrides <code>-log</code> .
-namelog	Creates a log file containing all the renaming messages. The log file name is <partname-name-log>.

Please note: The modifiers `-nosplit`, `-smooth`, `-satol`, and `-sltol` work together as follows. The modifiers `-satol` and `-sltol` detect internal discontinuities, depending on their tolerance values. When a discontinuity is detected, the default process is to split the entity at that point. You can override this using `-smooth`, which smooths the discontinuity, or using `-nosplit`, which overrides the default and ignores the discontinuity.

Modifiers	Description
<code>-nosplit</code>	Bypasses smoothing and splitting, and performs no continuity checks on any surface or curve. This avoids surfaces being split at discontinuities, and prevents any change to the original surface (because of smoothing).
<code>-smooth</code>	Smooths surfaces that have internal discontinuities. The surface shape may change as a result of smoothing.
<code>-usemodel</code>	Selects model space curve preference for trimming. If the results of a trimming operation are not as expected, use <code>-usemodel</code> . If this is successful, it indicates that the parameter space curves are wrong.
<code>-useparam</code>	Selects parameter space curve preference for trimming. If the results of a trimming operation are not as expected, use <code>-useparam</code> . If this is successful, it indicates that the model space curves are wrong.

## Configuration File

You can place the modifiers in a text file, instead of the command line.

Please note: You are recommended to use the Datashop to create the configuration file. This eliminates the need to worry about syntax and content of the file.

The file syntax of the file includes a section header to indicate whether it is `getiges` or `putiges`. For `getiges` it is `GET:` on a line by itself. Each of the desired modifiers can be listed after this line. All of the modifiers except `-cfg` can be used in the configuration file. The syntax for the modifiers is as follows:

```
-modifiers<string> on the command line would be:  
modifier = "string";
```

```
-modifier<n> on the command line would be:  
modifier = n;
```

-modifier on the command line would be:  
modifier = "on";

The syntax for comments, is a line starting with /\* and ending with \*/.

Following is an example of a configuration file:

```
GET:
/* the next line replaces -part -users.test.parts.xyz */
part = "users.test.parts.xyz";

/* the next line replaces -iges -users.test.igesfiles.xyz-igs */
iges = "users.test.igesfiles.xyz-igs";

/* the next line replaces -maxmsg 2 */
maxmsg = 2;

/* the next line replaces -overwrite */
overwrite = "on";
```

You can use additional modifiers in the configuration file that currently are not available on the command line. The syntax for these modifiers is: modifier = "on";

Modifier	Description
line	Inputs all independent lines as NURBS. Dependent lines are processed as lines.
arc	Inputs all independent arcs as NURBS. Dependent arcs are processed as arcs.
conic	Inputs all independent conics as conics. Dependent conics will be processed as lines.
copious	This modifier will input all independent copious data as copious data. Dependent copious data are processed as lines.
tcyl	Inputs all independent tabulated cylinders as NURBS. Dependent tabulated cylinders are processed as tabulated cylinders.
srev	Inputs all independent surfaces of revolution as NURBS. Dependent surfaces of revolution are processed as surfaces of revolution.
rsurf	Inputs all independent ruled surfaces as NURBS. Dependent ruled surfaces are processed as ruled surfaces.

The following Modifiers have a different syntax:

<b>Modifier</b>	<b>Description</b>
explode_list	If the figure name matches exactly the name provided it will be exploded. If the explode modifier is used, all figures will be exploded. This modifier is processed after the rename_list modifier (see below). The name checked is the name contained in the 308 and 320 entities in the IGES file.
Syntax	explode_list = "fig1" , "fig2" , "fig3";
rename_list	This modifier allows the name of the 308 and 320 entities to be changed. This modifier is processed any others that affect the 308 and 320 entities. The name must match exactly for the figure to be renamed.
Syntax	rename_list = {nam1,newnam1} , {nam2,newnam2}

# Examples Using GETIGES

## Example 1

The CADDs part created in this example has internal discontinuities smoothed using an angular tolerance of .25 degree, and a point tolerance of .01.

CADDs naming conventions apply:

```
ws% getiges -part iges.igestest1 -iges 931021-iges -pnttol
.01 -smooth -satol 0.25
```

The following table shows the results of this command line.

**Table 3-1 Summary of Example 1**

Modifier	Description	Result
-part	CADDs part created	~/iges/igestest1
-iges	Input IGES file	~/931021-iges or ~/_bcd/931021-iges
-pnttol	Point tolerance	.01
-smooth	Smoothing	ON
-satol	Angular tolerance	0.25 degree.
(default)	Default log file	~/iges/_bcd/igestest1-log

Please note: In these examples, the directory denoted by ~ is the directory specified in your .caddsrc file, in the CVPATH or CADDSPATH variable.

## Example 2

The CADDs part created in this example has trimmed surfaces, and each entity ID is displayed on the screen. There is no log file produced.

CADDs naming conventions apply:

```
ws% getiges -part =users.iges.test1@in -iges
=data.iges.test@1-iges -nosolid -trace -nolog
-catalog =users.sfig.lib
```

The following table show the results of this command line.

**Table 3-2 Summary of Example 2**

<b>Modifier</b>	<b>Description</b>	<b>Result</b>
-part	CADDS part created	/users/iges/_bcd/test1.in
-iges	Input IGES file	/data/iges/test.1-iges or /data/iges/_bcd/test.1-iges
-nosolid	No solids created from 186 entities	Trimmed surfaces created
-trace	Displays ID of each entity processed	Entity IDs displayed
-nolog	Turns off log file	Messages displayed on screen
-catalog	Places any figures in the specified directory	Figures placed in /users/sfig/lib

# Curve and Surface Limits

When you use `getiges` or `getvda` to convert curve and surface entities, certain restrictions apply. A curve or surface may contain too many polygon points to be converted to CADDs entities as a single- or double-precision part.

## Converting Curves

For curves, the following table lists the maximum number of polygon points allowed for IGES entities 112 and 126 to be converted.

**Table 3-3 Curve Limits**

IGES Entity	Maximum Number of Polygon Points	
	Single-Precision	Double-Precision
112 Parametric Spline	3000 polygon points	4000 polygon points
126 Rational BSpline	3000 polygon points	4000 polygon points

## Converting Surfaces

For surfaces, the following table provides a formula you must use to determine if IGES entities 114 and 128 can be converted to CADDs entities in a single- or double-precision part.

In the table, **n1** is the number of polygon points in the first parametric direction, and **n2** is the number of polygon points in the second parametric direction.

**Table 3-4 Surface Limits**

IGES Entity	Maximum number of polygon points	
	Single-precision	Double-precision
114 Parametric Spline Surface	$n_1 \leq 3000$ $n_2 \leq 3000$	$n_1 \leq 8000$ $n_2 \leq 8000$
126 Rational BSpline Surface	$n_1 + n_2 < 4000$	$n_1 + n_2 < \frac{2^{30}}{8}$

## Converting Surfaces to Single-precision Parts

When converting surfaces to single-precision parts, both of the following must be true:

- The number of points in either parametric direction must be less than or equal to 3000.
- The number of points in both directions, when added together, must be less than 4000.

## Converting Surfaces to Double-precision Parts

When converting surfaces to double-precision parts, both of the following must be true:

- The number of points in either one parametric direction must be less than or equal to 8000.
- The number of points in both directions, when added together, must be less than  $230/8$ .

## Example of a GETIGES Log File

The log file contains the following information:

- Product header
- Start date, time and file name
- Modifiers used for processing the file
- Formatted global section with descriptive titles
- Start section
- Validation messages (only if the `-validate` modifier was used)
- Count of IGES entities read from the file
- Status, warning, or error messages generated during the translation
- Count of CADD5 entities created
- Termination date and time

## Sample Log File

Below is an example of the log file for `getiges`:

```
PTC IGES Pre-Processor Log File
      PTC IGES Post-Processor Log File
*****
CADDS VERSION:      PTC CADDS5 REV 6.0 GRAPHIC SYSTEM
Preprocessor Ver:PTC Translator Products, Revision 2.1
Date-Time Processed:Mon Mar 18 11:19:05 1996
IGES File processed: /users2/cvc/parts/_bcd/arc.igs
Part File Created:  arc
Log file name:      /users2/cvc/parts/_bcd/getiges.log
*****
Command line arguments used during this translation:
-part arc -iges arc@igs -log getiges@log
*****
      File Parsing Errors

      Parsing Messages

      Start Section
From here down, will go to the start section
*****
      Global Section
Parameter Delimiter: ,
Record Delimiter:   ;
Sending Product ID: =test.atf.parts.arcxxx
File Name:          /users2/cvc/parts/_bcd/arc.igs
System ID:          PTC CADDS5 REV 6.0 GRAPHIC SYSTEM
```

```

Preprocessor Version: PTC Translator Products, Revision 2.1
Size of Integer:      32
Sgl. Precision Mag:  38
Sgl. Precision Sig:   6
Dbl. Precision Mag:  308
Dbl. Precision Sig:   15
Receiving Product ID: =test.atf.parts.arcxxx
Model Space Scale:    1.000000
Unit Flag:            1
Unit String:          IN
# of Line Weights:   32767
Maximum Line Width:  32.767000
Creation Date:        11/10/99 11:18:21
Minimum Resolution:   0.000010
Maximum Coordinate:   0.000000
Author:               Author
Organization:         Organization
IGES Version Number:  8
Drafting Standard:    0
Model Create/Modify Date: 12/31/98 19:00:00
*****
*****
      Entities Parsed from file: /users2/cvc/parts/_bcd/arc.igs
Type      Form      Description          Count
-----
100      0      Circular Arc        13
108      0      Plane (Unbounded)   4
124      0      Transformation Matrix 1
314      0      Color Definition    23
404      0      Drawing (form 0)    1
406      15     Property (Name)     2
406      16     Property (Drawing Size) 1
410      0      View                1
-----
                        Total                46
*****
                        Mapping Messages
                        CADDs Entities Created in part
*****
Entity No.  Name          Count
5           Arc/Circle     13
*****
                        Total                13
Date-Time Finished: Mon mar 20 11:20:13 2000
  
```

# Troubleshooting

This section describes the following troubleshooting features along with solutions:

- You have created a CADDs part and have used the `ACTIVATE DRAWING` option to display the graphics. The graphics do not appear.

Use the `-nofont` or `-noweight` modifier to ignore the creation of line fonts or line thickness.

- Surfaces are missing and curves are not connected in the displayed graphics.
  - a. Use the `-usemodel` modifier to select the model space curve preference for trimming.
  - b. If the results of a trimming operation are not as expected, use the `-useparam` modifier to select the parameter space curve preference for trimming.

- You have created a CADDs part and displayed the graphics. The graphics appear invalid.

- a. Make sure that the IGES file contains valid data.

Use the `-validate` modifier to validate the IGES file, and correct the IGES data where possible.

- b. Increase the tolerance value to determine if two points are the same.

Use the `-pnttol` modifier. Specify the `-pnttol` as 0.001 or greater.

- c. Increase the linear distance tolerance value to detect a discontinuity.

Use the `-sltol` modifier. Specify the `-sltol` as 0.001 or greater.

- Segmentation errors occur during translation.

- a. Use the `-trace` modifier to identify the IGES entity causing the error.

- b. Examine the entity causing the error and attempt to resolve the error.

- There are error messages in the log file. If surface trimming errors or solid creation errors occur in the log file, for example, a contour, a sewing, or a trimming error, do the following:

- a. Use the `-notrim` modifier to create untrimmed surfaces.

- b. Use the `-elayer` modifier to create the untrimmed geometry on a specified layer separating it from the other geometry. The default layer is 254.

- c. Examine the untrimmed geometry. Specify the options again depending on the type of untrimmed geometry.

- d. If there are many faces in the untrimmed surfaces, use the `-sltol` option to increase the linear distance tolerance value. This should reduce the number of discontinuities and resulting splits in the original surface.

- After the translation process, when you view the part in CADD5, a surface is split multiple times. Specify a larger `-sltol` value to reduce the number of splits by increasing the tolerance value.
- After you use the `-validate` modifier, the log file indicates that line segments have been added to form a close trimming boundary.  
Use the `-pnttol` modifier to increase the tolerance value to ignore these gaps.
- A curve is close to the edge of the surface but not on it, or the surface or curve is small.  
Use the `-pnttol` modifier to decrease the `-pnttol` tolerance value.
- While using the `GETIGES` command, an error occurs in finding the IGES file.
  - a. Verify that the IGES file exists.
  - b. Verify the path specified is correct.
  - c. Verify you are in the correct operating system mode.
  - d. Verify that the IGES file is complete.

# PUTVDA Command

---

The `putvda` command converts a CADDSS part into an 80-column VDA-FS text file.

This chapter lists the modifiers for `putvda` command and provides examples and a sample log file at the end of the chapter.

- The PUTVDA Command Syntax
- Examples Using PUTVDA
- Example of a PUTVDA Log File

# The PUTVDA Command Syntax

## Description

The `putvda` command converts a CADDs part into an 80-column VDA-FS text file.

The following are the processing defaults:

- `putvda` outputs all VDA curves and surfaces (except arcs and circles) as VDA-FS polynomial curves and surfaces. Arcs and circles remain as VDA-FS arcs and circles.
- Only model data is output (there is no drawing or view data).
- No font processing is performed.

## Syntax

```
putvda [ -layer <n>,<n1-n3>
        -maxdeg <n>
        -maxmsg <n>
        -overwrite
        -part <partname>
        -set <n>,<n1-n3>
        -stol <nnnn>
        -trace
        -unsew
        -vdafile <name>
        -vda:prologue <file>
        -noprompt ] [ -log <name>
                    -nolog ] CR
```

Please note: Polynomial representation of curves and surfaces is very inefficient and can be inaccurate, particularly when you translate data between computer systems with different real number representations. Rational nurb curves and surfaces cannot be exactly represented as a polynomial, and must be approximated. This leads to very large VDA-FS files, particularly where the original CADDs part contains many filleted surfaces, Srevs, and other rational surfaces. Complex CADDs parts can exceed 200 Mbytes of disk space.

## Modifiers

Modifiers	Description
-layer <n>, <n1-n3>	Translates the specified layers. You can translate any number of layers, as long as the numbers rise in value.
-maxdeg <nn>	Sets the maximum degree for approximating all rational curves and surfaces. This may create very large VDA-FS files.
-maxmsg <n>	Specifies the number of times an error message is written to the log file. For example, if all entities in a part have the same error, the message for that error is printed <n> times only.
-overwrite (or -ov)	Overwrites the existing partfile. If you do not enter <code>-overwrite</code> and the part already exists, you are prompted for overwrite permission. If you answer NO, you are prompted for a new part name.
-part <partname>	Names the part to translate. CADDs naming conventions (CGOS characters and the <code>_bcd</code> directory) apply for <partname>. If you do not enter <partname>, you are prompted for it.
-set <n>, <n1-n3>	Creates sets with the layers specified. If you do not specify any layers, each layer creates a new set. You can enter multiple <code>-set</code> modifiers together: For example, <code>-set 1 -set 3-5 -set 7</code> creates 3 sets in the VDA-FS file: Set 1:contains layer 1 Set 2:contains layers 3 through 5 Set 3:contains layer 7
-sltol <.nnnnn>	Sets the linear distance tolerance for approximating rational curves as non-rational. The default is 0.0127 mm.  The <code>-sltol</code> value is also used to convert NURB curves and surfaces to VDA format and to change the degree of the VDA entities. The new VDA entities must be within the <code>-sltol</code> value of the original entities.
-trace (or -t)	Displays the ID of the entity being processed. The ID displayed is the MIPTR number of the entity.
-unsew	Creates FACE entities only from CADDs solids.
-vdafile <name>	Specifies the VDA-FS file to create. CADDs naming conventions apply. If the IGES file does not begin with =, the translator searches the create directory specified in your CADDSPATH or CVPATH, including the corresponding <code>_bcd</code> directory.
-vdaprologue <file>	Contains information specific to the company sending the data. There is a default file in <code>cvuts/data/iges/lib</code> called <code>vdafs-default-prologue</code> . If you need to make local edits to the prologue copy this file to your local area, and use <code>-vdaprologue</code> to specify the pathname of the file containing your changes.
-log <name>	Creates a log file called <name>. The default log file name is <partname>-log and is located in the part's <code>_bcd</code> directory. Using the <code>-log</code> modifier, you can enter a different name and location. CADDs naming conventions apply. "Example of a PUTVDA Log File" on page 4-7 for an example of a log file.

<b>Modifiers</b>	<b>Description</b>
-nolog	Directs all messages to the screen. No log file is produced. This modifier overrides the <code>-log</code> modifier.
-noprompt	Prevents translator from issuing interactive prompts. Use <code>-noprompt</code> when starting the translator from batch scripts or the user interface.

## Examples Using PUTVDA

### Example 1

The VDA-FS file created in this example creates a SET from layers 1 through 5, and each entity ID is displayed on the screen. There is no log file.

The following CADDs naming conventions apply:

```
ws% putvda -part =cadds.trans.part@1 -vdafile
      =vda.parts.part1@vda -set 1-5 -nolog -trace
```

The following table shows the results of this command line.

**Table 4-1 Summary of EXample 1**

Modifier	Description	Result
-part	Original CADDs part	/cadds/trans/part.1
-vdafile	Output VDA-FS file	/vda/parts/_bcd/part1.vda
-set	Creates a SET from the specified layers	SET consists of layers 1 through 5
-nolog	Turns any log file off	Messages displayed on the screen
-trace	Displays ID for each entity processed	Entity ID displayed

### Example 2

The VDA-FS file created in this example consists of CADDs layers 1, 23 through 40, and 57. Only FACE entities are defined.

The following CADDs naming conventions apply:

```
ws% putvda -part =cadds.trans.part@1 -vdafile
      =vda.parts.part1@vda -unsew -layer 1,23-40,57
```

The following table shows the results of this command line.

**Table 4-2 Summary of Example 2**

<b>Modifier</b>	<b>Description</b>	<b>Result</b>
-part	Original CADDs part	/cadds/trans/part.1
-vdafile	Output VDA file	/vda/parts/_bcd/part1.vda
-unsew	Does not create any TOP entities	FACE entities defined for each surface of the solids.
-layer	Specifies output layers	Layers 1, 23-40, 57 output to VDA-FS file

## Example of a PUTVDA Log File

The log file contains the:

- Product header
- Start date, time and filename
- Modifiers used for processing the file
- File header
- Count of CADDs entities in the part
- Status, warning, or error messages generated during the translation
- Summary of all messages printed to the log file
- Count of VDA-FS entities created
- Termination date and time

## Sample Log File

Below is an example of the log file for putvda.

```
PTC VDA Pre-Processor Log File
*****
CADDs VERSION: CADDs5 REV 6.0 GRAPHIC SYSTEM
Preprocessor Ver:PTC Translator Products, Revision 2.1
Date-Time Processed: Mon Mar 18 11:21:15 1996
CADDs File processed:set1
VDA File created: /users2/cvc/parts/_bcd/set1-vda
Log file name: /users2/cvc/parts/_bcd/putvda.log
*****
Command line arguments used during this translation:
-vda -part set1 -vdafile set1-vda -log putvda@log
*****
VDA file Header
VDAFS VERSION : 2.0
----- ANGABEN UEBER DEN ABSENDER-----
SENDERFIRMA :
ANSPRECHPARTNER :
-TELEFON :
-ADRESSE :
ERZUEGENDES SYSTEM : PTC Translator Products, Revision 2.1
1.0ERZUEGUNGSDATUM : MON MAR 18 11:21:19 1996
SENDE-FILENAME : SET1
----- ANGABEN UEBER DAS TEIL -----
PROJEKT :
OBJEKTKENNUNG :
VARIANTE :
VERTRAULICHKEIT :
GUELTIGKEITSDATUM :
```

```
----- ANGABEN UEBER/FUER DEN EMPFAENGER -----  
EMPFAENGERFIRMA      :  
EMPFAENGERNAME/ABT. :  
*****  
*****  
                CADDs Entities Found in part  
*****  
Entity No.      Name      Count  
2                Point      32  
*****  
                Total      32  
*****  
CADDs Layer to VDA SET Correspondence List  
*****  
*****  
                VDA Entities Found in VDA File  
*****  
                POINT      32  
                HEADER     1  
                *Total*    33  
Date-Time Finished: Mon Mar 18 11:21:23 1996
```

# GETVDA Command

---

This chapter lists and explains the `getvda` command modifiers, and gives examples of `getvda` in use.

- The GETVDA Command Syntax
- Examples Using GETVDA
- Example of a GETVDA Log File

# The GETVDA Command Syntax

## Description

The `getvda` command converts an 80-column VDA-FS text file into a CADDSS part.

## Syntax

```

getvda [
    -emlog
    -maxmsg      <n>
    -mdllength   <nn.nnn>
    -mdlult      <nn.nn.>
    -nosolid
    -notrim
    -overwrite
    -part        <partname>
    -prtbot      <nn.nnn>
    -pset        <n>
    -sbot        <nn.nnn>
    -single
    -seed        <part>
    -set         n p1-n2
    -setlayer    <n>
    -setinc      <n>
    -stbot       <nn.nnn>
    -trace
    -usemodel
    -vdafile     <name>
    -viewcenter
    -view        xxx
    -nosplitcusds
    -max_surt_split n
    -negdraw
    -noprompt
    ||-log <name> ||
    ||-nolog ||
    ||-namelog ||
    ||-nolog || CR
    ||-nosplit ||
    ||-smooth ||
]
    
```

## Modifiers

Modifier	Description
-errlog	Creates a log file for messages of ERROR severity only. The error log file is named by appending <code>-error</code> to the log filename. ( <code>-nolog</code> overrides <code>-errlog</code> .)
-maxmsg <n>	Specifies the maximum number of times an error message is written to the log file. If all the entities in a part have the same error, its message is printed <n> times only.
-mdilength <nn.nn>	Multiplies the size of each VDA-FS MDI vector by <nn . nn> for easier viewing
-mdimult <n.nn>	Sets the length of all MDI vectors to <nn . nn> for easier viewing
-noprompt	Prevents translator from issuing interactive prompts. Use <code>-noprompt</code> when starting the translator from batch scripts or the user interface.
-nosolid	Creates no solids from TOP entities. Trimmed surfaces are created for the faces in a TOP entity, unless <code>-notrim</code> is also set; this creates only the defining geometry for the TOP entities.
-notrim	Does not create trimmed surfaces for any TOP or FACE entities. Only the defining geometry for the solids and trimmed surfaces is created.
-overwrite (or -ov)	Overwrites the existing partfile. If you do not enter <code>-overwrite</code> and the part already exists, you are prompted for overwrite permission. If you answer NO, you are prompted for a new part name.
-part <partname>	Names the part to create. CADDs naming conventions apply (CGOS characters and the <code>_bcd</code> directory) for <partname>. If you do not enter <partname>, you are prompted for it.
-pnttol <nn.nnn>	Defines the tolerance for determining if two points are the same. This is used in all tolerance calculations, except when checking continuity. Smoothing tolerance is defined with <code>-sltol</code> . The default is .0127 mm.
-pset <n>	Allows control over the PSET entity, where <n> maps the PSET to one of the following types: 0 CV String entity 1 CV points 2 Lines 3 Group of points 4 Group of lines

Modifier	Description
-sato1 <nn.nnn>	Sets the angular tolerance for detecting a discontinuity. The default is 0.5 degree. See page 5-5 for more information on using <code>-sato1</code> .
-single	Creates a single-precision part. Double-precision is the default.
-seed <part>	Sets the default partname. All data from the translator is filed in <part>.
-set <n,n1-n2>	Reads sets <n>, and <n1> through <n2>. If you do not specify sets to read, all sets in the part are read. You can specify any number of sets, as long as their numbers increase in value.
-setlayer <n>	Defines the layer for all sets. All entities that are not in sets are placed on layer <n>. The default layer is 0.
-setinc <m>	Increments the layer for each processed set. For example, set 1 is placed on the layer specified by <code>setlayer &lt;m&gt;</code> . Set 2 is placed on layer <code>setlayer + 2&lt;m&gt;</code> . The default for <m> is 0.
-sltol <.nnnnn>	<p>Sets the linear distance tolerance to detect a discontinuity. The default is 0.0001. See page 5-5 for more information on using <code>-sltol</code>.</p> <p>The <code>-sltol</code> modifier is also used to convert curves and surfaces to NURBS for surface trimming. The new NURB entities must be within the specified value of the original entities.</p> <p>When trimming a surface, if a VDA file contains a tolerance value in the header section, set the <code>-pnttol</code> and <code>-sltol</code> tolerances to the tolerance value in the VDA file to obtain the best results.</p>
-trace (or -t)	<p>Displays the ID of the entity being processed. The ID displayed is the VDA name of the entity, or the last six characters of the VDA name.</p> <p>Certain entity types (TLISTS, MDI, PSETS) create more than one entity within CADDs. As CADDs does not allow duplicate TAG names, new TAG names are generated, using E#, where "#" is a sequential number. This can also happen when a curve or surface is split because of discontinuities.</p>
-usemodel	Selects model space curve preference for trimming. If the results of a trimming operation are not as expected, try <code>-usemodel</code> . If this is successful, the parameter space curves are wrong.
-vdafile <name>	Names the VDA-FS file to read. You must use CADDs naming conventions (CGOS characters) for <name>.

Modifier	Description
-viewcenter	Zooms and centers the default views, eliminating the need for a ZOOM VIEW ALL in CADDs. Using this modifier may increase the translator time significantly.
-view xxx	xxx is the required Cplane to be used when creating the default view. xxx can be top, bottom, left, right, front, rear or ISO. The top is the default.
-nosplitcusps	Does not split cusps in trimming curves. This option can be used to bring in trimmed surfaces that have some problem.
-max_surf_split n	If a set and a surface splits into more than n surfaces because of discontinuities, then remove the split surfaces and use the original surface. This option can be used to bring in trimmed surfaces that have some problem.
-namelog	Creates a log file containing all the renaming messages. The log file name is <partname-name-log>.
-nolog	Directs all messages to the screen. No log file is produced.
-log <name>	Creates a log file called <name>. The default log file name is <partname>-log and is located in the _bcd directory. Using the -log modifier, you can enter a different name and location. You must use CADDs naming conventions.

Please note: The modifiers -nosplit, -smooth, -satol, and -sltol work together as follows. The modifiers -satol and -sltol detect internal discontinuities, depending on their tolerance values. When a discontinuity is detected, the translator splits the entity at that point. You can override this using -nosplit, which ignores the discontinuity, or using -smooth, which smooths the discontinuity.

Modifier	Description
-nosplit	Bypasses smoothing and splitting, and performs no continuity checks on any surface or curve. This avoids surfaces being split at discontinuities, and prevents any change to the original surface because of smoothing.
-smooth	Smooths surfaces that have internal discontinuities. The surface shape may change as a result of smoothing.

## Examples Using GETVDA

### Example 1

This example shows how to create a CADDs part from a VDA-FS file, using a point tolerance of .01.

The part has internal discontinuities smoothed using an angular tolerance of .25 degree.

The following CADDs naming conventions apply:

```
ws% getvda -part vda.vdatest1 -vdafile 931021-vda  
-pnttol .01 -smooth -satol 0.25
```

The following table shows the results of this command line.

**Table 5-1 Summary of Example 1**

Modifier	Description	Result
-vdafile	Input VDA-FS file	~/931021-vda
-part	CADDs part created	~/vda/_bcd/vdatest1 or ~/vda/vdatest1
-pnttol	Point tolerance	.01
-smooth	Smoothing	ON
-satol	Angular tolerance	0.25 degree.
(default)	Default log file	~/vda/_bcd/vdatest1-log

Please note: In these examples, the directory denoted by ~ is the directory specified in your .caddsrc file, in the CVPATH or CADDSPATH variable.

### Example 2

This example shows you how to create a CADDs part from a VDA-FS file, using a point tolerance of .01.

The part will have internal discontinuities smoothed using an angular tolerance of .25 degree.

The following CADDs naming conventions apply:

```
ws% getvda -part =users.vda.test1@in -vdafile  
=data.vda.vdafs@1-vda -nosolid -trace -nolog
```

The following table shows the results of this command line.

**Table 5-2 Summary of Example 2**

<b>Modifier</b>	<b>Description</b>	<b>Result</b>
-vdafile	Input VDA-FS file	/data/vda/vdafs.1-vda
-part	CADDS part created	/users/vda/_bcd/test1.in or /users/vda/test1.in
-nosolid	No solids created from TOP entities	Trimmed surfaces created
-trace	Displays ID of each entity processed	Entity IDs displayed
-nolog	Turns off log file	Messages displayed on screen

## Example of a GETVDA Log File

The log file contains the following information:

- Product header
- Start date, time and filename
- Modifiers used for processing the file
- Count of VDA entities read from the file
- Status, warning, or error messages generated during the translation
- Count of CADDs entities created
- Termination date and time

## Sample Log File

Below is an example of the log file for `getvda`.

```
          PTC VDA Post-Processor Log File
*****
CADDs VERSION: CADDs5 REV 6.0 GRAPHIC SYSTEM
Preprocessor Ver:PTC Translator Products, Revision 2.1
Date-Time Processed: Mon Mar 18 11:20:47 1996
VDA File processed:  /test/vda/set01-vda
Part File Created:   set1
Log file name:       /users2/cvc/parts/_bcd/getvda.log
*****
Command line arguments used during this translation:
-vda -nurbs -part set1 -vdafile =test.vda.set01-vda -log
getvda@log
*****
          File Parsing Errors
*****
          VDA file Header
Senderfirma:HUNTER GMBH, Bayern
Projekt :Standardtest VDAFS
File-Name:TEST1.VDA
Gueltigkeitsdatum:VDA-Arbeitsgruppe 'Test' -
                Freigabe vom 04.09.1984
Erzeugungsdatum:31.08.1984
Erzeugendes Syst:STRIM-TRIDIM

Ansprechpartner:Herr Konig
                -telefon:   03675/82-281 oder -284
                -adresse:Vereinigte Elektrowerke GmbH
                        Gartenstr
                        Neustadt.
*****
```

```
*****
                          VDA Entities Found in VDA File
*****
                          SET1
                          POINT32
                          HEADER1
                          *Total*34
*****
VDA SET to CADD5 Layer Correspondence List
*****
VDA SET  0 CADD5 Layer  0  (entities not in any SET)
VDA SET  1 CADD5 Layer  0
*****
                          Mapping Messages
                          CADD5 Entities Created in part
*****
Entity No.      Name      Count
2               Point      32
*****
                          Total      32
Date-Time Finished: Mon Mar 10 11:20:57 1996
```



# User Interface for IGES, VDA-FS, CAMU IGES and STEP Protocols

---

You can use the Datashop user interface for application protocols like AP203, AP214, IGES, CAMU IGES and VDA-FS. For details on AP203 and AP214 application protocols, refer to *STEP Translators User Guide*.

This chapter explains how you can run the translator protocols through the Datashop user interface.

- Datashop Licensing
- Overview of User Interface for Translator Protocols
- Using the Options on the Datashop Interface

## Datashop Licensing

To use Datashop for a translator, the license for that translator is required. If a translator without a valid license is selected, the Datashop working window for that translator will be unavailable and a dialog box opens with an error message.

# Overview of User Interface for Translator Protocols

The user interface for the IGES, VDA-FS, CAMU IGES and STEP protocols is Datashop. Using the Datashop you can change the translator options and also translate multiple files, with the same modifier configuration.

Please note: You can still use the translator commands directly from the system prompt, without accessing the user interface.

## Setting up Datashop

The Datashop does not require any additional setup and can be setup along with the regular translator protocols.

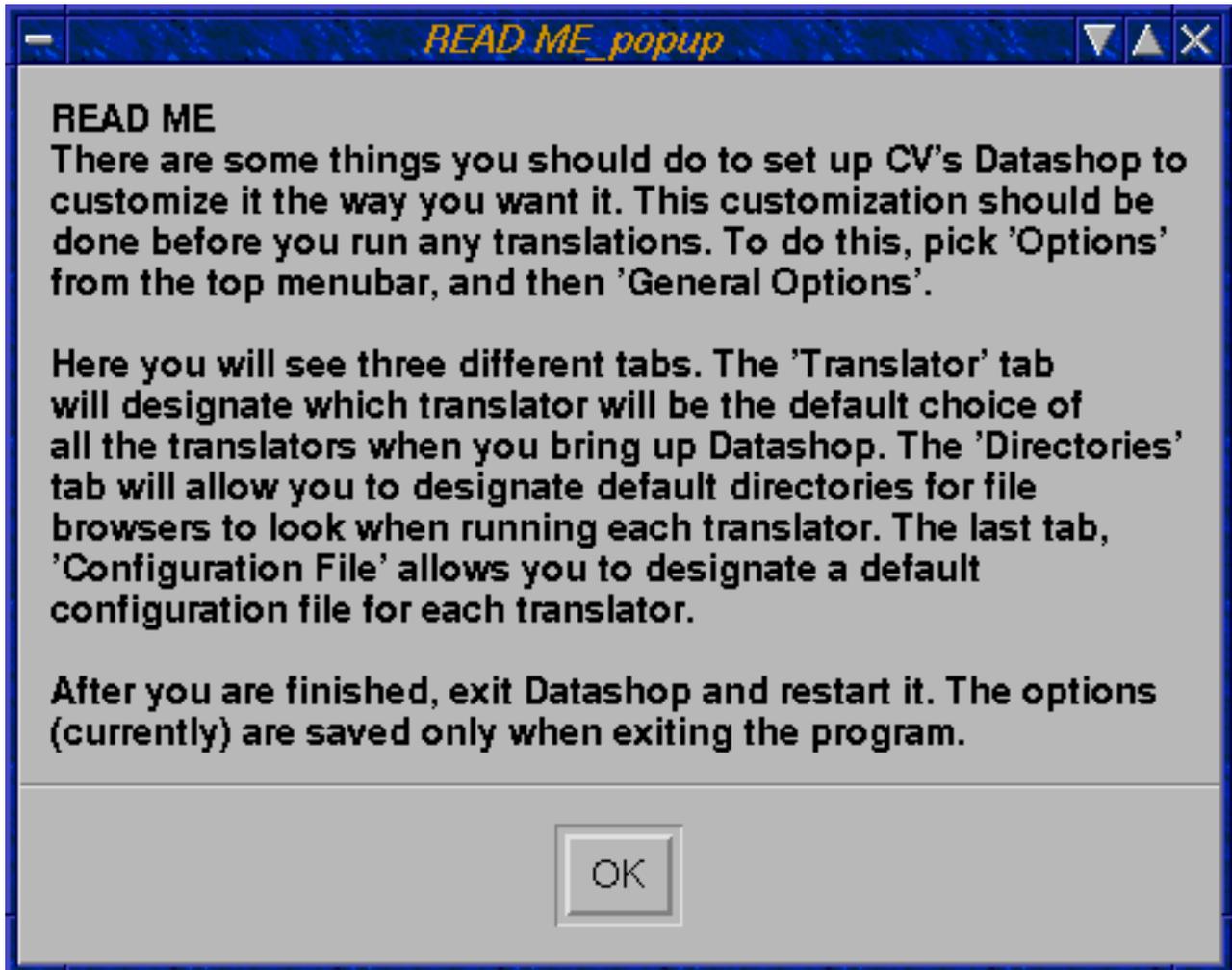
## Activating the Datashop

After Datashop has been set up, you can activate it from the operating system prompt by issuing the following command:

```
datashop_gui
```

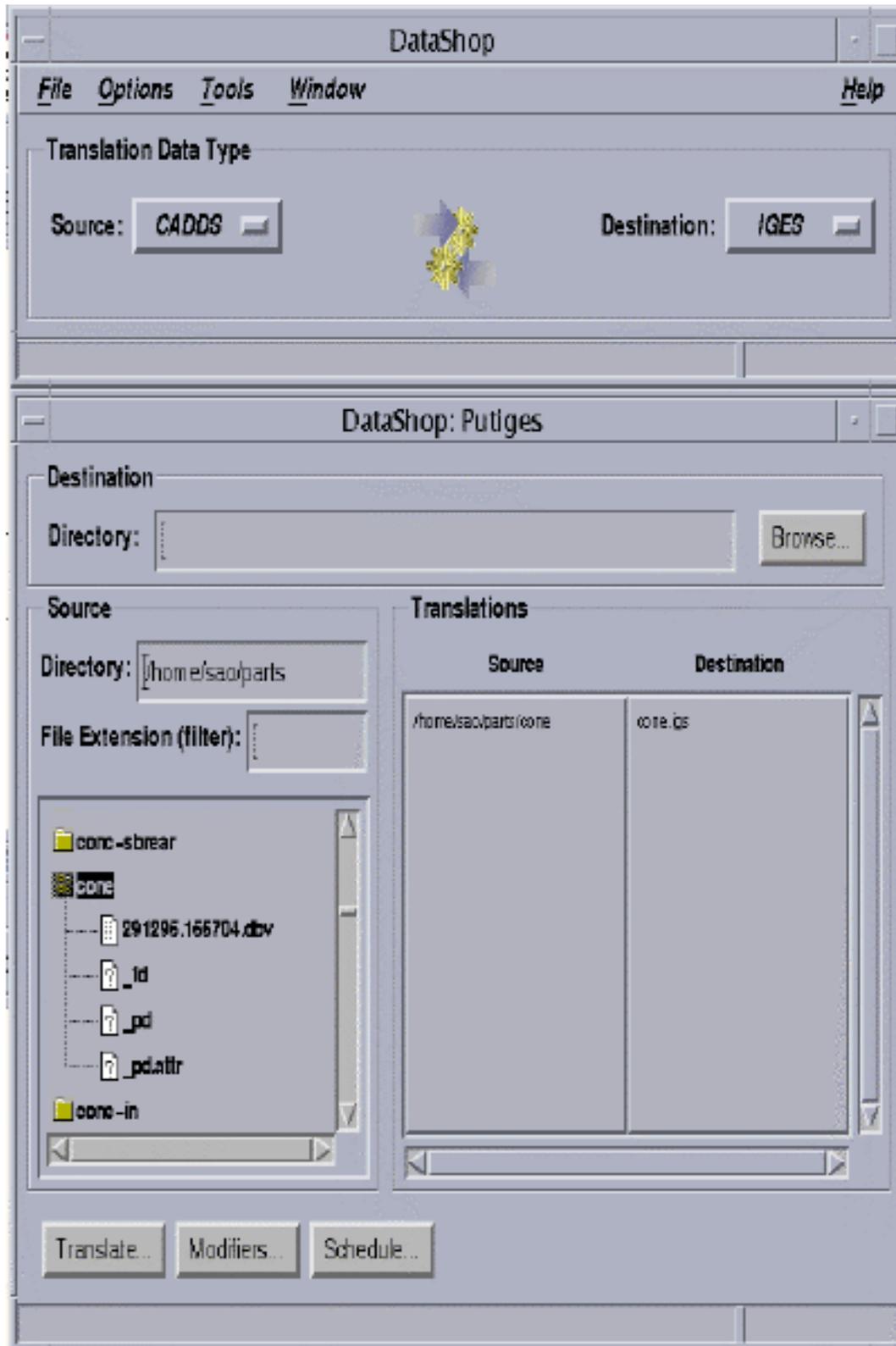
If you are activating Datashop for the first time, the dialog box shown in Figure 6-1 appears. Click OK to run and configure Datashop.

Figure 6-1 READ ME Menu



The Datashop menu shown in Figure 6-2 appears if Datashop has already been configured. This menu is divided into two main parts. The first part is called the Translator Selector Window and it can be used to select a translator by specifying the source and destination file types from the pull down menus. The second part is called the Working Window and it lets you specify details for the currently selected translator.

Figure 6-2 DataShop User Interface



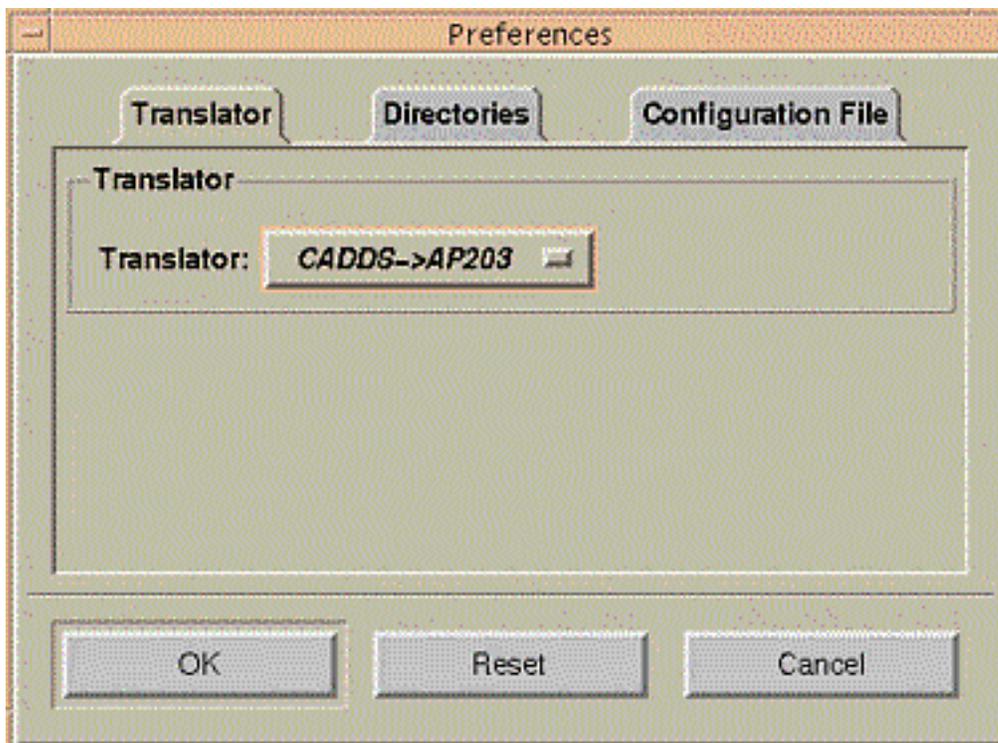
## Using the Options on the Datashop Interface

This section explains the various options available on the Datashop menu for the translator protocols. The `datashop_gui` command sources the `.cvtransrc` and optional `~/ .cvtransrc-local` support files to invoke the Datashop menu.

### Options on the Translator Selector Window

1. Click File on the top menu bar.
  - Choose the Quit option to exit Datashop. Whwn you exit Datashop, the various settings that you have specified are saved. The changes are saved in the Preferences and Tools files under the `.datashop` directory. This directory is automatically created under `$HOME` while exiting.
2. Click Options on the top menu bar.
  - Click General Options. The Preferences menu appears. The options on this menu allow you to customize the Datashop by setting up the various default parameters.

Figure 6-3 Preferences Menu



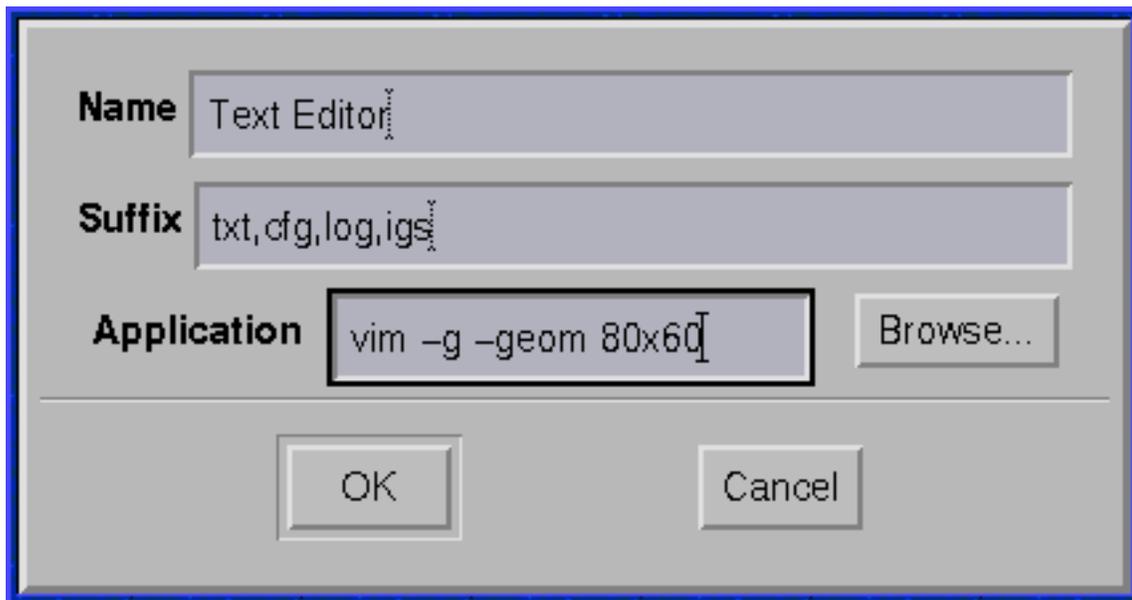
- Choose the Translator tab to set the default translator. When a new session is started, the Datashop comes up with this default translator.

- Choose the Directories tab to assign default directories to the file browser, while running the translator.
  - Choose the Configuration File tab to assign a default configuration file for each translator.
3. Click Tools on the top menu bar for using external tools with the Datashop. The following menu appears.



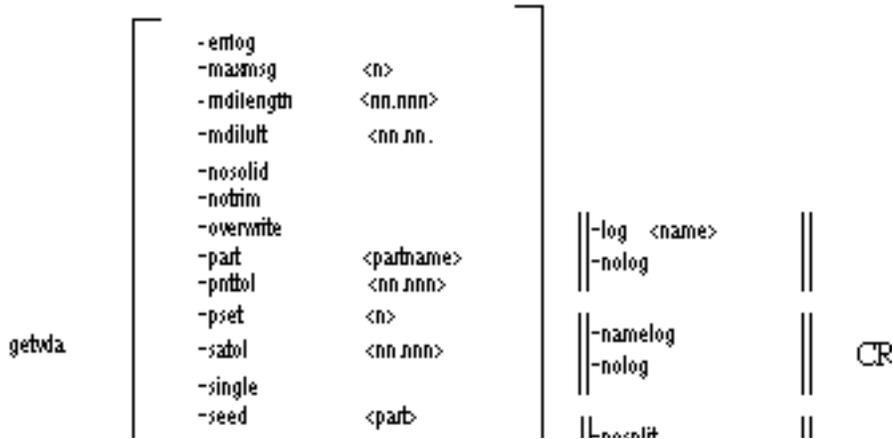
- Choose the Add New Tool option to register a new tool. The New Tool Menu appears as shown in Figure 6-4. Enter the name of the tool, a suffix list of file extensions to associate with the tool, and the tool's full path and executable name. If the full path is not specified, Datashop will search your PATH environment variable to find the executable.

Figure 6-4 New Tool Menu



- Choose the View option to modify any registered tool. The Tools Menu appears as shown in Figure 6-5

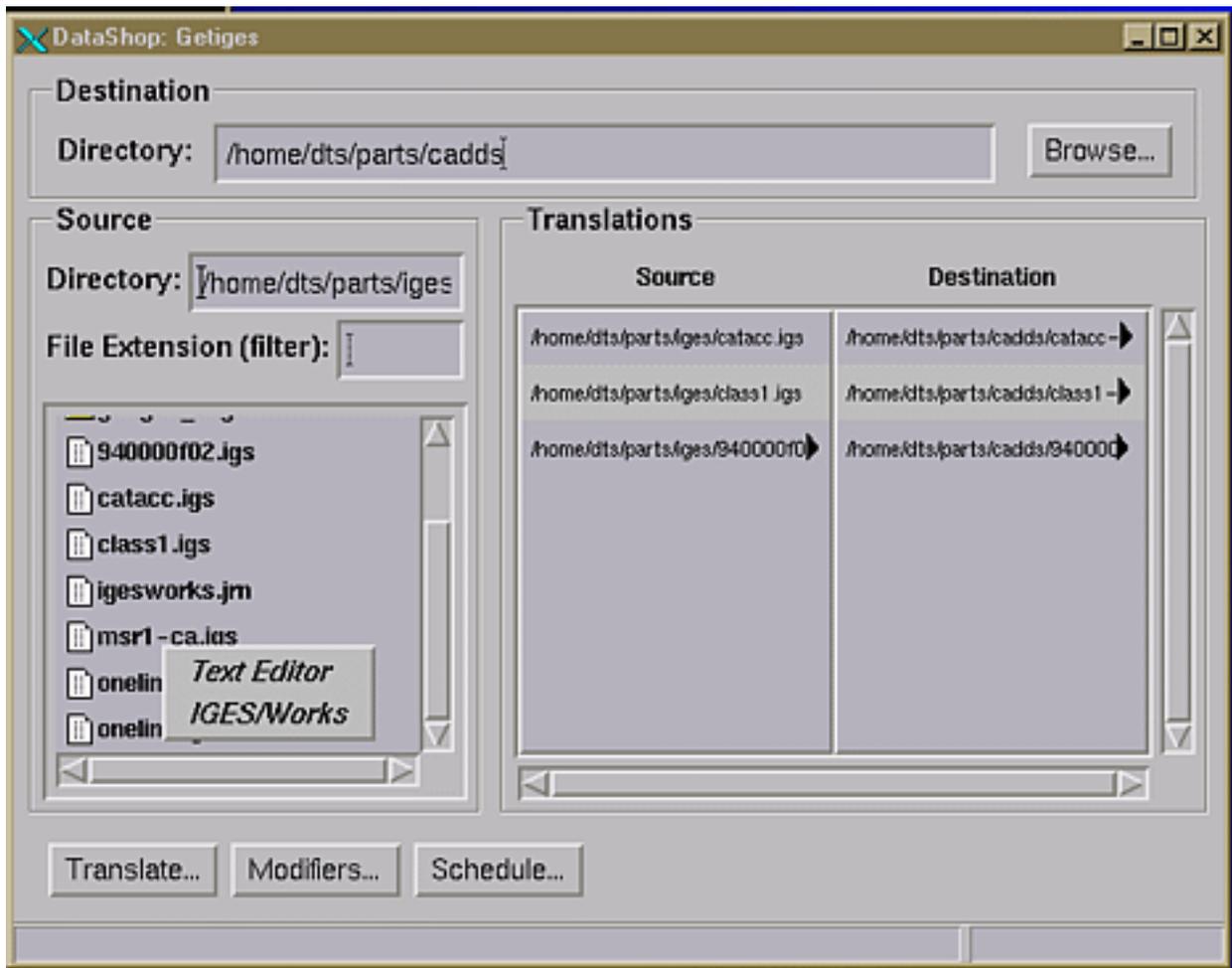
Figure 6-5 Tools Menu



- Choose the Edit option to modify the existing tools list.
- Choose the New option to register a new tool. The New Tool Menu appears as shown in Figure 6-4. Enter the name of the tool, a suffix list of file extensions to associate with the tool, and the tool's full path and executable name. If the full path is not specified, Datashop will search your PATH environment variable to find the executable.
- Choose the Delete option to delete the tools that are not required.
- Click OK to save the changes.

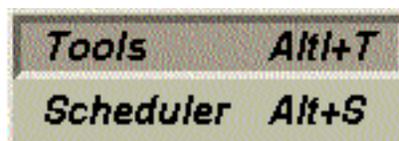
To invoke the tools you have registered, in the Source File Browser in the Middle Area of the Working Window, click the right mouse button on a file that has registered tools to display an option menu as shown in Figure 6-6. Choose the tool to open the file with.

Figure 6-6 Tools Right-Click Menu



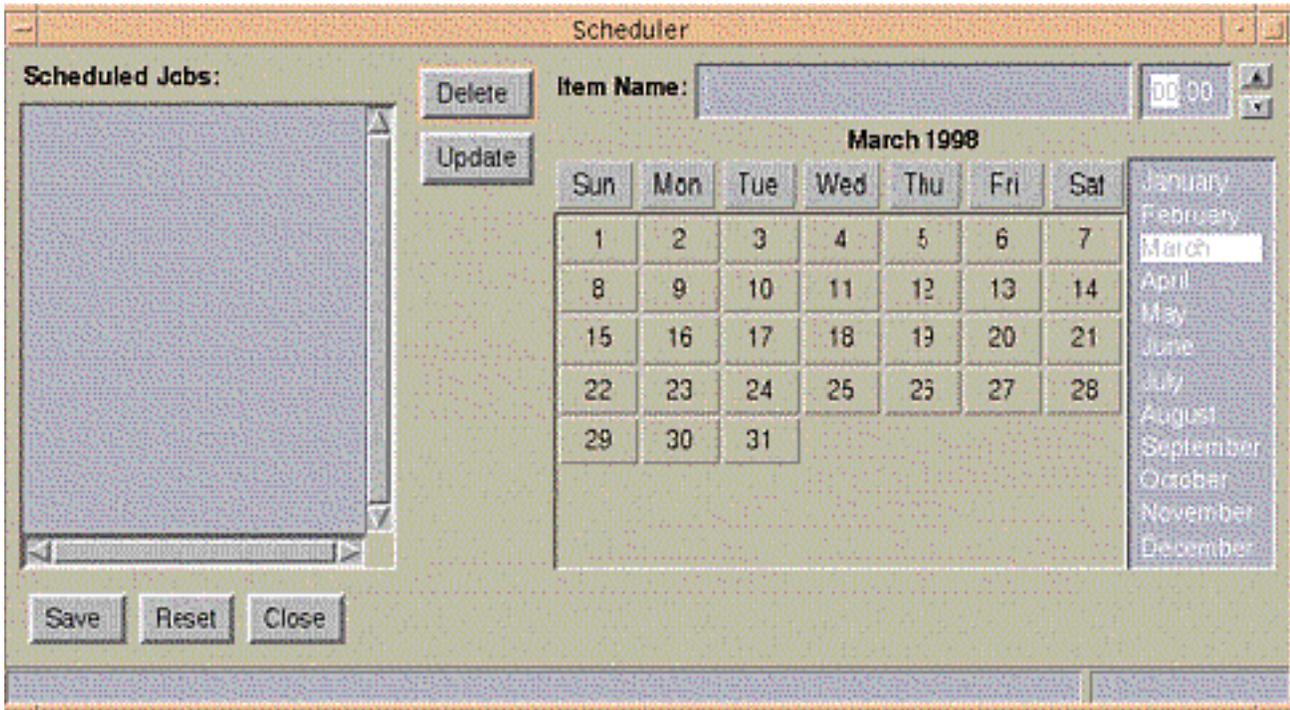
Please note: It is recommended that you use a X-based text editor. If a X-based text editor is not available on your system or if you prefer to use vi or emacs, execute them from an xterm by specifying a command like `xterm -e vi`.

4. Click Window on the top bar. The following menu appears.



- Choose the Tools option to open the Tools Menu as shown in Figure 6-5
- Choose the Scheduler option to schedule translations for a later date. The following menu appears.

Figure 6-7 Scheduler Menu



- Specify the job name in the Item Name field. You can specify the time in the time field present adjacent to it by assigning a value, or by using the up or the down arrow.
- Specify the date, day, and month when you want the scheduler to run the selected translations, using the calendar.
- You can update, delete, or reset the scheduled jobs using the corresponding options provided on the scheduler.
- Choose the Save option to save all the scheduled jobs.
- Click Close when you finish setting up the schedules. The scheduled jobs are listed in the Scheduled Jobs scrolling window.

Please note: You should select the source and the destination files and the Translator modifiers using the Datashop menu before scheduling jobs.

## Overview of the Working Window

The working window is the area where you actually carry out the translation work. This window consists of the Top Area, the Middle Area, and Bottom Area.

It is suggested that you complete the tasks first in the Top Area, followed by the Middle Area, and then the Bottom Area.

**Top Area:** The top area allows you to specify the destination directory. This is the directory where the translated files are created.

**Middle Area :** The middle area is a Source File Browser and a Translation Queue.

Translations can be added to the Translation Queue by double clicking on the source file(s) that you want to translate from the Source File Browser.

**Please note:** The Translation Queue can be cleared by double clicking in an empty area of the Source File Browser.

**Please note:** Once a translation is in the Translation Queue, the destination path and file name are editable. Press the **Return Key** to commit any changes made to the destination path and file name.

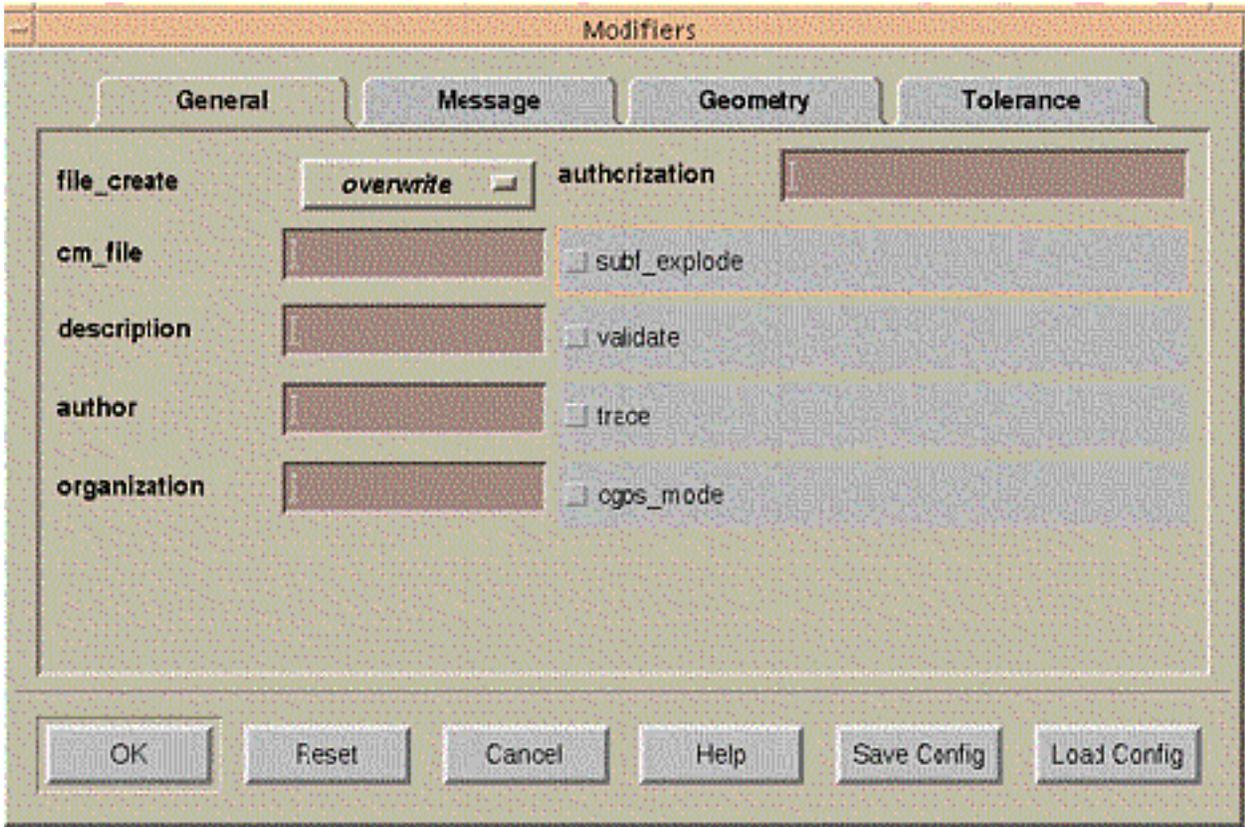
You can change the current directory of the Source File Browser by entering a directory name in the **Directory** field and pressing the **Return Key** to update the Source File Browser.

The Source File Browser also uses the file extension filters. If no filters are specified, then all files in the current directory are displayed. If one or more filter extensions are specified, then only files ending with a `.<ext>` are displayed.

Bottom Area: The bottom area contains the action buttons.

1. Choose the Modifiers Action button to specify the appropriate options for the translation. The Modifiers Menu appears as shown in Figure 6-8.

Figure 6-8 Modifiers Menu



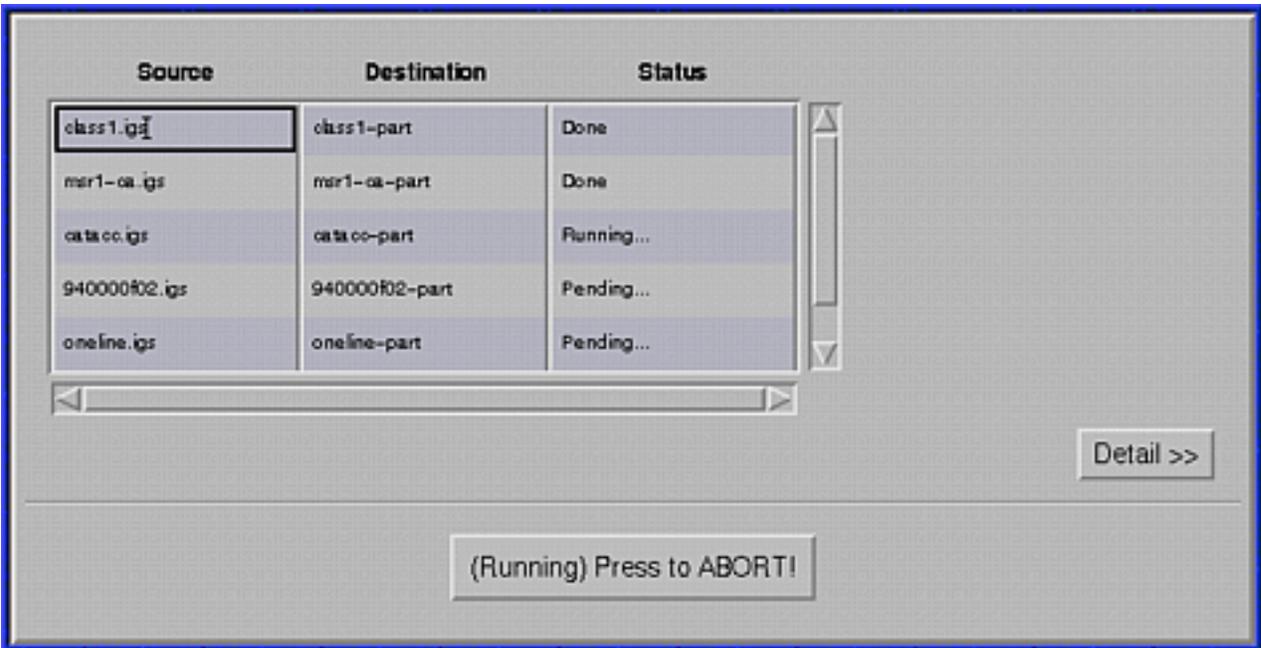
The modifiers available are the same as the command line parameters. For details on the command line parameters for the PUTIGES command, refer to “Modifiers” on page 3-3. For details on the command line parameters for the GETIGES command, see section “Modifiers” on page 3-3. For details on the command line parameters for PUTVDA command, see “Modifiers” on page 3-3. For details on the command line parameters for GETVDA command “Modifiers” on page 3-3.

- Click OK to return back to the working window on the Datashop interface.
  - Click Save Config to save your settings for future use.
  - Click Load Config to load an existing configuration file containing the required settings.
2. Choose the View Assembly Action button to display the CAMU assembly tree structure for the assemblies in the Translation Queue.

Please note: The View Assembly Action button is displayed only for the CAMUIGES Translator. For details, refer to “Options in the Assembly Tree Window” on page 1-6.

3. Choose the Translate Action button to execute the translations specified in the Translation Queue. The following Execute Menu appears.

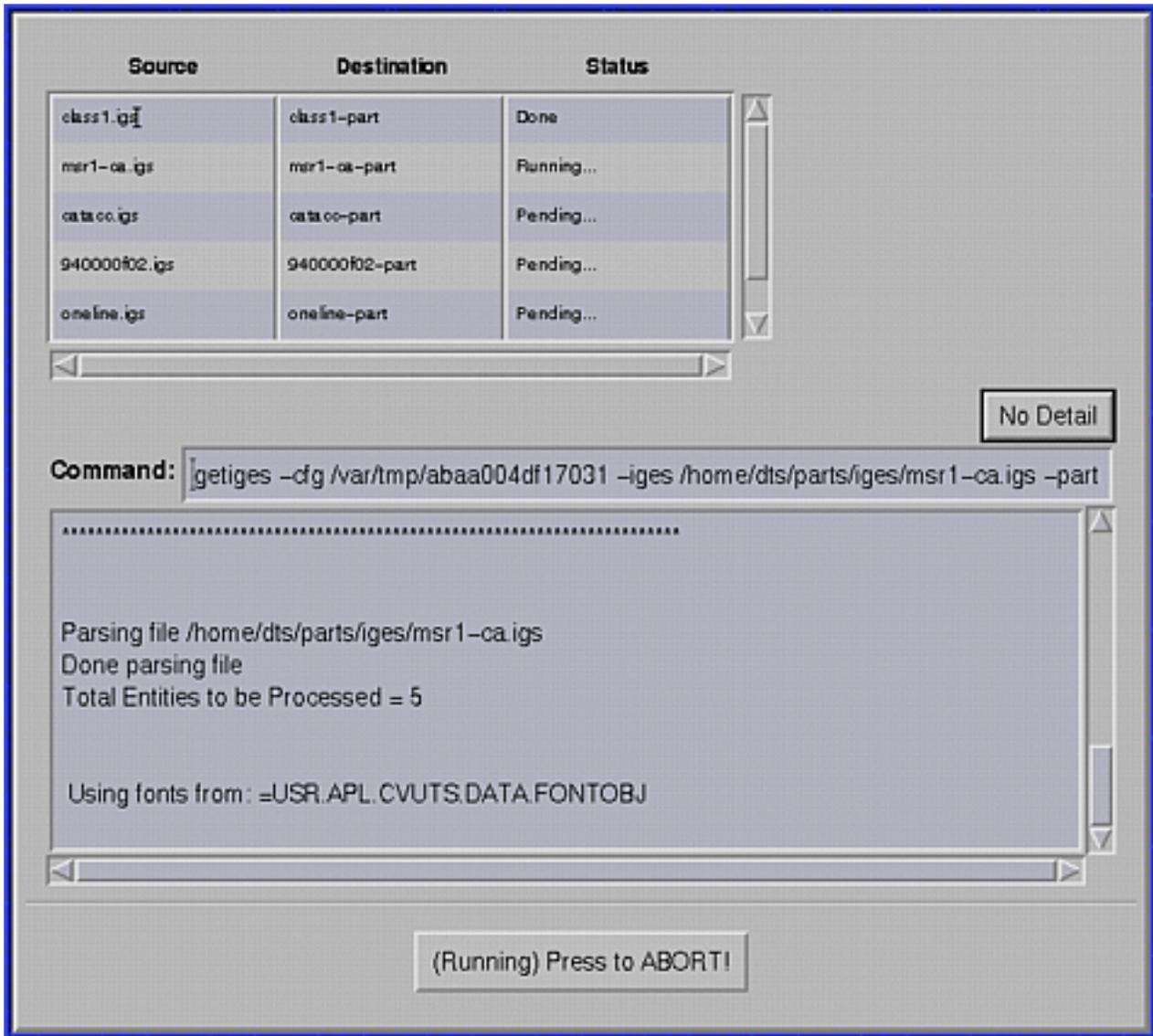
Figure 6-9 Execute Menu



The status column displays the status of the translations as either Done, Running..., or Pending....

- Click Abort to stop the current translation.
- Click Detail to see further details of the translations and the output. The Execute Menu changes as follows.

Figure 6-10 Execute Menu with Details



- The command field displays the command line output. You can copy this string to the command prompt and execute the translator command without Datashop.
  - The translator window output is displayed below the command line output.
  - When all translations are complete click Close to exit the Execute Menu.
4. Choose the Schedule Action button to schedule the translations in the Translation Queue for a later date. For details, refer to the Scheduler section in “Options on the Translator Selector Window” on page 6-6.

# Entity Mapping Types

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This chapter gives an overview of the mapping types used for each entity.

- Overview of Mapping Types

# Overview of Mapping Types

The mapping types are as follows:

<b>Mapping Type</b>	<b>Representation</b>	<b>Description</b>
Direct Mapping	DM	Occurs when there is an equivalent one-to-one or many-to-many functional and visual relationship between the source entity and the target entity.
Optional Mapping	OM	Occurs when there is more than one way to functionally represent an entity in CADDs.
Functional Mapping	FM	Occurs when there is no way to exactly represent the visual aspects of a source entity in the target system, for example, a dimension entity that has an unsupported arrowhead style. The dimension is created using a default arrowhead style.
Graphical Approximation	GM	Occurs when there is no way to preserve the functional aspects of a source entity in the target system.
Decomposition	DC	Occurs when there is no way to represent the functional structure of the source entity within the receiving system.

# PUTIGES Mapping

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This chapter lists the entity mappings for the `putiges` command.

- PUTIGES Drawing and View Mappings
- PUTIGES Entity Mappings
- PUTIGES Defaults
- PUTIGES Entity Attributes
- PUTIGES Entity Spaces

## PUTIGES Drawing and View Mappings

The following table shows how drawings and views are mapped when you use putiges:

**Table 8-1 PUTIGES Drawing and Views**

<b>CADDS Item</b>	<b>Mapping Type</b>	<b>IGES Entity</b>
Drawing	DM	404:0 If no rotated views
	FM	404:1 If Rotated views 406:15 Name property 406:16 Drawing Size 406:5557 Old style offset If negative offset drawing size 406:17 Drawing Units Prop
Views	DM	410:0 View 124 Matrix 108:0 Clipping Planes
	FM	410:1 Perspective View 406:15 Name property

# PUTIGES Entity Mappings

The following table shows how entities are mapped when you use putiges.

**Table 8-2 PUTIGES Entity Mapping Table**

CADDS Entity	Mapping Type	IGES Entity
2 Point	DM	116 Point
3 Line	DM	110 Line
-nurb	OM	126 Nspline
		106:20 (If 96 break subrecord)
5 Arc	DM	100 Arc/Circle 124 Matrix (If necessary)
-nurb	OM	126 Nspline
6 Conic	DM	104 Conic 124 Matrix (If necessary)
-nurb	OM	126 Nspline
7 Spline	DM	126 Nurb Spline
8 B-Spline	DM	126 Nurb Spline
9 C-pole	DM	126 Nurb Spline
10 C-point	--	Not mapped
11 S-point	--	Not mapped
12 N-spline	DM	126 Nurb Spline
14 N-Surface	DM	128 Nurb Surface
		406:5558 For Mesh (If -prop modifier used)
16 Tabulated Cylinder	DM	122 Tabulated Cylinder
-nurb	OM	128 Nurb Surface
		406:5558 Surface Mesh If -prop modifier used 128 Nurb Surface If used in tsurf/Solid
17 Surface of Revolution	DM	120 Surface of Revolution
-nurb	OM	128 Nurb Surface
		406:5558 Surface Mesh If -prop modifier used 128 Nurb Surface If used in tsurf/Solid
18 Ruled Surface	DM	118 Ruled Surface
-nurb	OM	128 Nurb Surface
		406:5558 Surface Mesh If -prop modifier used 128 Nurb Surface If used in tsurf/Solid

**Table 8-2 PUTIGES Entity Mapping Table**

<b>CADDS Entity</b>	<b>Mapping Type</b>	<b>IGES Entity</b>
19 Bsurface	DM	128 Nurb Surface
		406:5558 Surface Mesh If -PROP modifier used
20 Spole	DM	128 Nurb Surface
		406:5558 Surface Mesh If -PROP modifier used
21 Scalar	--	Not mapped
22 Vector	--	Not mapped
24 Shape	DM	106:63 Copious Data
-nurb	OM	126 Nspline
25 Rectangle	DM	106:63 Copious Data
-nurb	OM	126 Nspline
31 Crosshatching	GM	106:31 Copious Data if no boundary associated
	FM	230 Section Area if boundary associated 102 Composite Curve for the boundary
32 FCS	FM	228 Feature Control Symbol 212 General Note 214 Leader 100 Arc/circle 110 Line
33 Linear/Ordinate dimension	DM	216 Linear Dimension 212 General Note 106:40 Witness Line 214 Leader
	DM	218 Ordinate Dimension 212 General Note 106:40 Witness Line 214 Leader
34 Angular Dimension	DM	202 Angular Dimension 212 General Note 214 Leader 106:40 Witness Line
80 Subfigure Instance	DM	408 Subfigure Instance 308 Subfigure Definition Different xyz scales not supported
81 Connect Node	DM	132 Connect Point
82 Text Node	DM	312 Text Display Template
83 Nodal Figure	FM	420 Nodal Figure Instance 320 Nodal Figure Definition
85 Text	DM	212 General Note
86 Nodal Text	FM	212 General Note 312 Text Display Template
87 Relation	FM	402:7 Group

**Table 8-2 PUTIGES Entity Mapping Table**

<b>CADDS Entity</b>	<b>Mapping Type</b>	<b>IGES Entity</b>
88 Plane	DM	108:0
-nurb	OM	128 Nsurface
91 Trimmed surface	DM	144 Trimmed Surface 142 Curve on Surface 102 Composite Curve 126 Nurb Splines 128 Nurb Surface
-bounded		143 Bounded Surface 141 Boundary Entity 102 Composite Curve 126 Nurb Curve 128 Nurb Surface
91 Solid	DM	186 MSBO 514:1 Shell
92 Face	DM	510:1 Face 128 Nurb Surface 508:1 Loop 126 Nurb Curves
93 Edge	DM	504:1 Edge 126 Nurb Curves
94 Vertex	DM	502:1 Vertex

Please note: If you use the -unsew modifier, then either trimmed or bounded surfaces are put out instead of an MSBO solid, depending on the -bounded modifier.

## PUTIGES Defaults

### Drawings

The CADDs drawing entity maps to either entity 404:0 or 404:1 if any views in that drawing have been inserted at an angle. The name of the drawing is output as a 406:15 name property.

Any non 7-bit ASCII characters in the name are reduced to 7-bit ASCII, as 8-bit ASCII is not supported by IGES.

The drawing units map to a 406:17 if the units are different from the part units. The drawing size maps to a 406:16. If the drawing origin is not at the lower-left corner of the screen, the drawing size and offset maps to a 406:5557.

Please note: If you plan to exchange drawings with other non-CADDs systems, do not create your drawing using the origin modifier. The resultant offsets will not be readable by other CAD systems.

### Views

CADDs views are mapped to 410:0 for regular views and 410:1 for perspective views. Their construction planes are mapped to a transformation matrix 124:0 that is attached to the view.

Any non 7-bit ASCII characters in the name are reduced to 7-bit ASCII, as 8-bit ASCII is not supported by IGES.

Clipping boundaries are mapped to Clipping Planes (108:0) and the view name is mapped to a Name Property 406:15.

If the view is blanked, the blanking field in the 410 is set. Layer and entity blanking within views is not supported by IGES and therefore cannot be mapped. For this reason, any entity excluded from a view because of its entity type or layer is also excluded from the view in the IGES file. If any layers or entity types are turned off for a particular view, entities on that layer or of that type are excluded from that view when output.

### Figures

Subfigures and nodal figures are mapped to 408:0/308:0 and 420:0/320:0 respectively. All the entities in a figure are associated with the appropriate figure definition.

Any figure that is of different units than the referencing part has the entities in the figure scaled to the units of the referencing part.

Any non 7-bit ASCII characters in the name are reduced to 7-bit ASCII, as 8-bit ASCII is not supported by IGES.

If a figure instance is encountered and the defining part is not found, a message is issued to the log file and processing continues as if the instance was not encountered.

## Local Nodal Figures

Local nodal figures (named sets of CADDSS entities) are output to IGES as groups with a name property. Because other systems use the name property too, you must use the `-lnf` (local nodal figure) modifier when you convert a local nodal figure to IGES and then back to CADDSS, or you will lose the local nodal figures.

## Geometry Entities

The `-nurbs` modifier maps exactly all geometry entities to 126 and 128 nurb entities.

## Trimmed Surfaces and Solids

Solid entities are mapped to IGES solids. If you use the `-unsew` modifier, solids are output as trimmed surfaces.

Trimmed surfaces are mapped to IGES 144 trimmed surfaces. If you use the `-bounded` modifier, trimmed surfaces are output as 143 bounded surfaces. All geometry for trimmed surfaces and solids is output as NURBS entities. All defining geometry in a trimmed surface is output as NURBS.

## Text Font Processing

The `putiges` command uses an ASCII table for text font mapping. The name of the table is `textmap-table-ascii`. You can place this file anywhere in your `CVPATH` or `CADDSPATH`. This table allows you to selectively map any CV font/character to any IGES font/character.

The default table is in `/usr/apl/cvuts/data/iges/lib`. See “Text Font Table Layout” on page A-5 for the description of the contents of this table.

# PUTIGES Entity Attributes

CADDS supports entity attributes to the fullest extent that IGES will allow. These attributes are:

- Blanking
- Layer
- Color
- Line Fonts
- View Inclusion/Exclusion

## Blanking

Entity Blanking is fully supported. If the entity is blanked, it is created in the IGES file as blanked.

## Layer

The layer of a CADDS entity is mapped to the level field in the IGES entity.

## Color

CADDS supports color by two methods:

Method	Description
Individual Entity	CADDS assigns color to individual entities, regardless of the layer color.
Layer	CADDS assigns color depending on the entity's layer. For example, all entities on layer 10 are red.

Color processing for `putiges` tries first to assign an individual entity color. If the entity does not have an individual color subrecord, then CADDS uses the layer color for that entity.

## Line Fonts

Line font processing for `putiges` is through a user-defined table. See “Overview of Line Font Processing” on page A-2 for more information.

## View Inclusion/Exclusion

View inclusion and exclusion is handled, as well as different fonts in different views. See “View Modes” on page B-2 for more information.

## PUTIGES Entity Spaces

CADDS allows for four entity spaces or modes. They are model mode, draw mode, detail draw mode, and detail view mode.

You control this within CADDS by selecting the mode before inserting any entities into the CADDS model.

<b>Mode</b>	<b>Entity Mapping</b>
Model mode	Entities are mapped to IGES as model space entities.
Draw mode	Entities are attached to their respective IGES drawings, becoming draw space entities.
Detail Draw mode	Entities are scaled appropriately and mapped to draw space entities. When you convert to IGES and then back to CADDS (round trip), data on detail draw or detail view mode entities might be lost. These entities are approximated to look like those in the original drawing but the actual detail draw mode entities will be physically scaled. If you try to dimension a detail draw mode entity after a round trip, the dimension value is at the scaled size
Detail View mode	Entities are mapped to model space entities pointing to the detail view at the appropriate scale.

# GETIGES Mapping

---

This chapter lists entity mapping for the `getiges` command. It also details the mapping defaults and describes the entity attributes used.

- GETIGES Entity Mapping
- GETIGES Mapping Defaults
- GETIGES Entity Attributes

## GETIGES Entity Mapping

The following table describes the entities that are supported by the IGES and VDA-FS translators. Each entity is followed by a mapping type and then the CADDs entity type it will map to, based on the options/modifiers selected.

Please note: Anywhere Nspline is used, the mapping could also be either a Cpole or Bspline depending on whether the curve is uniform and has one or more segments. Similarly in the case of a Nsurface, the mapping could also be either an Spole or a Bsurface depending on whether the surface is uniform and has one or more patches.

**Table 9-1 GETIGES Entity Mapping Table**

<b>IGES Entity</b>	<b>Mapping Type</b>	<b>CADDS Entity</b>
100 Arc/circle	DM	5 Arc/Circle
-nurbs	OM	12 Nspline
102 Composite Curve	FM	12 Nspline
104 Conic	DM	6 Conic
-nurbs	OM	12 Nspline
106 Form 1-3	DC	2 Point 87 Relation
106 Form 11-13 63	DM	70 String
-nurbs	OM	12 Nspline
106 Form 20-21	GM	70 String with 96 subrecord break font
106 Form 31-38	DM	31 Crosshatch (no boundary)
106 Form 40 (Dependent)	FM	Witness line in a dimension
106 Form 40 (Independent)	GM	3 Line
108 Form 0 Non Bounded Plane	FM	88 Plane (Square boundary)
108 Form 0 Clipping Plane	--	Clipping Plane on the drawing
108 Form 1 Bounded Plane	FM	88 Plane (Square boundary)
108 Form -1 Hole	--	Not Supported
110 Line	DM	3 Line
-nurbs	OM	12 Nspline
112 Parametric Spline	DM	12 Nspline
114 Parametric Surface	DM	14 Nsurface
116 Point	DM	2 point
118 Ruled Surface	DM	18 Ruled Surface
-nurbs	OM	14 Nsurface
120 Surface of Revolution	DM	17 Srev
-nurbs	OM	14 Nsurface
122 Tabulated Cylinder	DM	16 Tcyl
-nurbs	OM	14 Nsurface
123 Direction Entity	--	Used In Solid
124 Matrix	--	Tab4
125 Flash Entity	--	Not Supported
126 Nurb Curve	DM	12 Nspline
128 Nurb Surface	DM	14 Nsurface

**Table 9-1 GETIGES Entity Mapping Table**

<b>IGES Entity</b>	<b>Mapping Type</b>	<b>CADDS Entity</b>
130 Offset	FM	12 Nspline
132 Connect Point	DM	81 Connect Node
134 Node Entity	--	Not Supported
136 Finite Element Entity	--	Not Supported
138 Nodal Displacement	--	Not Supported
140 Offset Surface	FM	14 Nsurface
141 Bounded Entity	FM	12 Nspline
142 Curve on Parametric Surf	FM	12 Nspline
143 Bounded Surface Entity	FM	91 Trimmed Surface
144 Trimmed Surface	DM	91 Trimmed Surface
146 Nodal Results	--	Not Supported
148 Elements Results	--	Not Supported
150 Block Entity	--	Not Supported
152 Right Angular Wedge	--	Not Supported
154 Right Cir Cylinder	--	Not Supported
156 Right Cir Cone Frustum	--	Not Supported
158 Sphere	--	Not Supported
160 Torus	--	Not Supported
162 Solid of Revolution	--	Not Supported
164 Solid of Linear Extrusion	--	Not Supported
168 Ellipsoid	--	Not Supported
180 Boolean Tree	--	Not Supported
184 Solid Assembly	--	Not Supported
186 MSBO	DM	91 Solid
190 Plane	DM	88 Plane
192 Right Cir Cylinder Surf	FM	14 Nurb Surface
194 Right Cir Conical Surf	FM	14 Nurb Surface
196 Spherical Surface	FM	14 Nurb Surface
198 Toroidal Surface	FM	14 Nurb Surface
202 Angular Dimension	DM	34 Angular Dimension
204 Curve Dimension	--	Not Supported
206 Diameter Dimension	DM	37 Diameter Dimension
208 Flag Note	FM	32 Flag Note or 36 label depending on leaders
210 General Label	DM	36 General Label
212 General Note	DM	85 Text
213 New General Note	FM	85 Text
214 Leader (Dependent)	FM	Leader in Dimension or label

**Table 9-1 GETIGES Entity Mapping Table**

<b>IGES Entity</b>	<b>Mapping Type</b>	<b>CADDs Entity</b>
214 Leader (Independent)	FM	36 General Label (NO TEXT)
216 Linear Dimension	DM	33 Linear Dimension
218 Ordinate Dimension	DM	33 Ordinate Dimension
220 Point Dimension	FM	33 Ordinate Dimension
222 Radius Dimension	DM	35 Radius Dimension
228 General Symbol	FM	32 Feature Control symbol
230 Section Area	FM	31 Crosshatch
302 Association Definition	--	Not Supported
304:1	--	Not Supported
304:2	--	Entity Attribute
304:3	--	Entity Attribute
308 Subfigure Definition	DM	Subfigure Part
310 Text Font Definition	--	Not Supported
312 Text Display Template	DM	82 Text node
314 Color Definition	--	Entity Attribute
316 Units Data Entity	--	Not Supported
320 Network Subfigure def	DM	Nodal Subfigure Part
322 Attribute Table def	--	Not Supported
402:1 Group	DC	87 Relation (Nested not supported)
402:3 Views Visibility	FM	Entity Attribute
402:4 Views Vis-font	FM	Entity Attribute
402:5 Entity Label Display	--	Not Supported
402:7 Group	DC	87 Relation (Nested not supported)
402:9 Single Parent	--	Not Supported
402:12 External Reference File	--	Not Supported
402:14 Group	DC	87 Relation (Nested not supported)
402:15 Group	DC	87 Relation (Nested not supported)
402:16 Group	DC	87 Relation (Nested not supported)
402:18 Flow Assoc.	FM	71 Nodal Line 81 Connect Nodes
402:19 Segmented Views Vis	FM	Entity Attributes
402:20 Piping Flow	--	Not Supported
402:21 Dimen Geom Assoc.	FM	Assoc. between geom and dimension
404:0 Drawing	DM	Drawing
404:1 Drawing Rotated Views	DM	Drawing
406:1 Definitions Levels	DC	Entity Attributes
406:2 Region Restrictions	--	Not Supported
406:3 Level Function	--	Not Supported

**Table 9-1 GETIGES Entity Mapping Table**

<b>IGES Entity</b>	<b>Mapping Type</b>	<b>CADDS Entity</b>
406:9 Part Number	--	Not Supported
406:10 Hierarchy	FM	Entity Attributes
406:11 Tabular Data	--	Not Supported
406:12 External Reference	--	Not Supported
406:13 Nominal Size	--	Not Supported
406:14 Flow Line Spec	--	Not Supported
406:15 Name	FM	Name of drawing Name of view Local nodal figure (-Inf modifier)
406:16 Drawing Size	FM	Size of Drawing
406:17 Drawing Units	FM	Units of Drawing
406:18 Interchar Spacing	--	Not Supported
406:19 Line Font	OM	Entity Attributes
406:20 Highlight	--	Not Supported
406:21 Pick	--	Not Supported
406:22 Rectangle grid	--	Not Supported
406:23 Assoc. Group Type	--	Not Supported
406:5 Line Widening	FM	PC-WIDTH
406:6 Drilled Hole	--	Not Supported
406:7 Reference Designator	--	Not Supported
406:8 Pin Number	--	Not Supported
406:24 Level to PWD map	--	Not Supported
406:25 PWD Artwork Stack	--	Not Supported
406:26 PWD Drilled Hole	--	Not Supported
406:27 Generic Data	OM	Stores tag name, Cadds Line and text fonts
406:28 Dimension Units	FM	Dimension Attributes
406:29 Dimension Tolerance	FM	Dimension Attributes
406:30 Dimension Display	FM	Dimension Attributes
406:31 Basic Dimension	FM	Dimension Attributes
408 Singular Sfig Instance	DM	80 Subfigure instance
410 Form 0 View	DM	View on drawing (1)
410 Form 1 Perspective View	FM	Perspective view on drawing
412 Rect Array Instance	DC	80 Multiple subfigure instance
414 Circular Array Instance	DC	80 Multiple subfigure instance
416 External Reference	--	Not Supported
418 Nodal Load Constraint	--	Not Supported
420 Network Sfig Instance	DM	83 Nodal Subfigure instance

**Table 9-1 GETIGES Entity Mapping Table**

<b>IGES Entity</b>	<b>Mapping Type</b>	<b>CADDS Entity</b>
422 Attribute Table Instance	--	Not Supported
430 Solid Instance Entity	--	Not Supported
502 Vertex Entity	DM	94 Part of Solid
504 Edge Entity	DM	93 Part of Solid
508 Loop Entity	FM	Part of Solid
510 Face Entity	DM	92 Part of Solid
514 Shell Entity	FM	Part of Solid

# GETIGES Mapping Defaults

This section describes the mapping defaults used by `getiges`.

## Drawing Entity

The `getiges` command creates a drawing in the CADDs part for each 404:0 or 404:1 found, and checks for these properties:

- 406:15 Name
- 406:16 Drawing Size
- 406:17 Drawing Units
- 406:5555 Old Style CADDs Name property
- 406:5557 Old Style CADDs Drawing Size property
- 406:5556 Old Style CADDs Drawing Units property

## Drawing Name

These properties map to the appropriate drawing attributes. If there is no name property found, the drawing name maps to the name `D###` where `###` is the identification number of the 404 that created the drawing.

## Drawing Size

If no drawing size property is found, an attempt to roughly determine drawing entity extents is done, and the size will be set at 110% of extents. If there is no units property, the drawing defaults to the model/part units.

## Draw Entity

If no draw entity is found in the IGES file, a default drawing called `DEFAULT` is created using the size and units given above. This creates a default view with a CPL of `TOP`, centered on the drawing. You might need `ZOOM VIEW` commands to see the model.

## Warning

The 406:5557 property allows for offsetting the origin of the drawing from the lower-left corner of the drawing. This property is known only by the Computerization translators. It is only used to allow for round-tripping of CADDs parts that have been created using this property. If you are going to exchange data with other non-CADDs systems, do not use the 406:5557 property inside CADDs.

## View Entity

The 410:0/410:1 View entities map to CADDs views. The 410:1 Perspective View maps to CADDs perspective view but it is not an exact mapping. All views are placed where the drawing entity specifies; clipping boundaries are mapped accordingly.

Independent Views (those views not pointed to by a drawing) have a default drawing created for each view. The drawing is named V####, where #### is the identification number of the view. No clipping is performed on these views.

View blanking is mapped. Layer and entity blanking within views is not supported by IGES and therefore cannot be mapped. For this reason, any entity excluded from a view because of its entity type or layer also will be excluded from the view in the IGES file.

## Subfigure Processing

Subfigure (308:0) and Network Subfigure (320:0) definitions create parts for use with subfigure instances. The names of these subfigure parts are the names found in the definition concatenated with the name of the part.

If you use the `-catalog` modifier, `getiges` uses the directory path entered after the modifier, in place of the part name. If you use the modifier as the last argument in the command line, or if the create directory path is entered after the modifier, the subfigure part is created in the default create directory named in the `CVPATH` environment.

If the subfigure part already exists, processing of that particular definition is bypassed and the existing definition is used.

IGES does not allow for mixed units between subfigures and the model part. All subfigures created by the translator are of the same units as the instancing part.

Subfigure Instances (408:0, 420:0, 412:0 and 414:0) create either subfigure or nodal figure instances. For 408:0 Subfigure, IGES allows only one scale applied to all three axes. CADDs subfigures with multiple-axis scales do not loop test with all three scales. The largest of the three scales is used for that subfigure.

The `-explode` option copies all subfigures into the main part and locates them at the appropriate instance. For example, entities in the figure definition are duplicated at each instance location.

Please note: Pre-preparation of the subfigures does not happen during the IGES translation. The execute file `<igesfile>-fig-prep` prepares the figures, when executed within CADDs. This execute file is produced in the directory containing the IGES file.

## Group Processing

IGES Group entities are mapped to the CADDs Relation entity (group). Due to the limitations of the CADDs relation entity, a CADDs entity can be in no more than 7 groups. If an IGES entity is in more than 7 groups a message goes into the log file and the entity is still inserted into the group.

Please note: Because of this, `oscadd`s may have a problem with group counts not matching. If you remove an entity from a group, you should run `oscadd`s to fix the count.

Since CADDs does not support nested relations nested group functionality is lost. Nested groups are flattened so that the top group contains all entities that the parent group references.

If CADDs encounters a group with a name property attached, and the `-lnf` modifier has been invoked, a local nodal figure is created instead of a group entity.

## Curve and Surface Mappings

Any curve and surface data created in the CADDs environment should be free of any internal tangent discontinuities. For this reason, any nurb curves or surfaces are split at any tangent discontinuity greater than .05 degree. This is the default value, which you can change using the `-satol` modifier.

Any discontinuity less than the specified tolerance is smoothed. This results in small changes to the shape of the geometry. Splitting a surface creates a trimmed surface that contains all the split surfaces sewn together.

## Dimension Geometry Associativity

The dimension geometry associativity is mapped by creating the appropriate subrecord links both in the geometry being dimensioned and the dimension itself. Additional Dimension properties are read where appropriate, and suitable data applied:

- 406:28 Dimension Units
- 406:29 Dimension Tolerance
- 406:30 Dimension Display Data
- 406:31 Basic Dimension

## Text Font Processing

GETIGES uses an ASCII table for text font mapping. The name of the table is `textmap-table-ascii`. You can locate this file anywhere in your `CVPATH` or `CADDSPATH`. This table allows you to selectively map any IGES font or character to any CV font or character, and gives you great control over text font processing.

The default table is in `/usr/apl/cvuts/data/iges/lib`. “Text Font Table Layout” on page A-5 for the layout of this table.

## Trimmed Surfaces and Solids

When you use trimmed surfaces and solids:

- The `getiges` command supports BREP solid definitions only. CSG solid primitives are not processed.
- Trimmed surfaces maps to CADDs trimmed surfaces. All defining geometry is converted to nurbs.
- IGES solids are mapped to CADDs solids. All defining geometry is converted to NURBS.

If you use the `-nosolid` modifier, solids are input as trimmed surfaces. Trimmed surfaces map to CADDs trimmed surfaces.

If you use the `-notrim` modifier, trimmed surfaces and solids map to defining geometry.

# GETIGES Entity Attributes

IGES Entity attributes are supported to the fullest extent that CADDSS allows. These attributes are:

- Blanking
- Color
- Layer
- Views
- Line Weights
- Line Fonts

## Blanking

Entity Blanking is fully supported. If any blanked entities are encountered, a message is sent to the log file stating that the part contains blanked entities.

## Color

Color processing is changed from layer discrimination to entity discrimination. The actual color of an entity is used to create a 96-color subrecord for that entity. In addition, independent 314 color definitions set the layer that they reference in their DE section to that particular color.

## Layer

The layer of an IGES entity maps to the CADDSS layer. A modulus operation is performed for those layers that are not between 0-254. A message is sent to the log file describing the layer mapping whenever a layer is changed.

## Views

Each entity in IGES can be displayed in one or more but not all views. IGES view inclusion maps to CADDSS view exclusion. Different entity fonts by views and segmented entity fonts by views are supported for model mode entities only. See “Overview of Line Font Processing” on page A-2 for more on View Processing.

## Line Weights

CADDS does not truly support the function of line weight for a particular line font. To define a line weight on any font, you must create a new font with the desired weight. Line weight is not supported for any 304 line font definition. Only the five predefined line font patterns support weight. These are mapped in three groups as follows:

Group 1 maps to no line weight.

Group 2 maps to the medium thickness predefined fonts.

Group 3 maps to the thickest predefined fonts.

To bypass all line weight processing, use the `-nofont` modifier.

See “How Line Fonts are Processed” on page A-2 for more on Line Weight processing.

## Line Fonts

CADDS provides an editable ASCII table for line font mapping to allow you to map user-defined fonts and customizations. This table allows you to define the CV fonts to which a particular line font maps. “Overview of Line Font Processing” on page A-2 for more detail on line font processing.

To bypass all line font processing, use the `-nofont` modifier.



# PUTVDA Mapping

---

This chapter lists the entity mappings for the `putvda` command.

- PUTVDA Entity Mapping

# PUTVDA Entity Mapping

PUTVDA uses the following entity mappings.

**Table 10-1 PUTVDA Entity Mapping Table**

<b>CADDS Entity</b>	<b>Mapping Type</b>	<b>VDA Entities</b>
2 Point	DM	POINT
3 Line	FM	CURVE
5 Arc	DM	CIRCLE
6 Conic	FM	CURVE
7 Spline	FM	CURVE
8 B-Spline	FM	CURVE
9 C-pole	FM	CURVE
10 C-point	--	Not mapped
11 S-point	--	Not mapped
12 N-spline	FM	CURVE
14 N-Surface	FM	SURF
16 Tab Cylinder	FM	SURF
17 Srev	FM	SURF
18 Ruled Surface	FM	SURF
19 B-surface	FM	SURF
20 Spole	FM	SURF
21 Scalar	--	Not mapped
22 Vector	--	Not mapped
24 Shape	FM	CURVE
25 Rectangle	FM	CURVE
31 Crosshatching	--	Not mapped
32 FCS	--	Not mapped
33 L/O dimension	--	Not mapped
34 Ang Dimension	--	Not mapped
35 Rad Dimension	--	Not mapped
36 General Label	--	Not mapped
37 Dia Dimension	--	Not mapped
50-58	--	Not mapped
70 String	FM	CURVE
71 Nodal line	--	Not mapped
73-74	--	Not mapped
75 Mass Point	--	Not mapped
76-78	--	Not mapped
80 Sfig Instance	--	Not mapped

**Table 10-1 PUTVDA Entity Mapping Table**

<b>CADDS Entity</b>	<b>Mapping Type</b>	<b>VDA Entities</b>
81 Connect Node	--	Not mapped
82 Text Node	--	Not mapped
83 Nodal Figure	--	Not mapped
85 Text	--	Not mapped
86 Nodal Text	--	Not mapped
87 Relation	FM	GROUP
88 Plane	FM	SURF
91 Trim Surface	DM	CONS, FACE, SURF, CURVE
91 Solid	DM	TOP, CONS, FACE, SURF, CURVE

Please note: If the `-unsew` modifier is used, then no TOP entities are output; only FACE and CONS entities.



# GETVDA Mapping

---

This chapter lists the entity mapping for the `getvda` command.

- GETVDA Entity Mappings

# GETVDA Entity Mappings

The following table describes how VDA-FS entities are mapped to CADDs entities, based on the options/modifiers selected. The mapping types are as follows:

**Table 11-1 GETVDA Entity Mapping Table**

<b>VDA-FS Entity</b>	<b>Mapping Type</b>	<b>CADDs Entity</b>
POINT	DM	Point
PSET	FM	Group of points
MDI	FM	Group of points and lines with the lines representing normal vectors
CIRCLE	DM	Arc
CURVE	FM	NURBS Curve
SURF	FM	NURBS Surface
CONS	FM	Used in creating Trimmed Surface
FACE	DM	Trimmed Surface
TOP	DM	Solid
HEADER	--	Printed to log file
COMMENT	--	Ignored
SET	FM	Determines Layer of Entity
GROUP	DM	Group
TMAT	FM	Used to rotate and translate entities
TLIST	FM	Copy and Transform Entity List

# Line and Text Font Processing

---

This appendix describes how line and text fonts are processed, and gives an example of the ASCII mapping tables.

- Overview of Line Font Processing
- Example of fontmap-table-ascii
- Text Font Table Layout

# Overview of Line Font Processing

The following section gives you an overview of the line fonts processing.

## How Line Fonts are Processed

The translators determine line font processing by analyzing the 96 subrecords associated with the entity and or views. In addition to the CADDs font record, the ASCII table `fontmap-table-ascii` (in the directory `/usr/apl/cvuts/data/iges/lib`) allows you to specify the IGES output for a specific CADDs font.

## The `fontmap-table-ascii` Table

The `fontmap-table-ascii` table contains the current default cross-reference mappings between CADDs and IGES fonts. You change the mappings by editing this ASCII file in your local area before startup. The `fontmap-table-ascii` table consists of 7 fields associated with each font available in the CADDs font table. You can map any CADDs font to the desired destination font.

## Line Font Mapping and Restrictions

The possible line font mappings to IGES from CADDs is a direct mapping; IGES 304:2, and IGES 304:3.

The following restrictions apply:

If you need a 304:2, but the data to build one is not available, then a dummy (solid) 304:2 is created.

For additional information explaining the mapping possibilities of entity attributes refer to the `fontmap-table-ascii` table.

## Example of fontmap-table-ascii

Here is an example of part of the fontmap-table-ascii table:

The following describes each field associated with a CV font. If a field is left blank (must have a dash) then it implies a default value to be used or that for the current font this field is not applicable.

NOTE: run time control of the line weights.

The first line read in from this table will be the default value for one gradation (defined thickness of one line), this information will be used to calculate the (global # 16) Maximum number of line weight gradation. This value was obtained from the cadds system, and may be changed here to adjust the value of global # 16. This comes from the equation single gradation =  $\text{MaxWidWgt}/\text{MaxNumWgtGrad}$ . The other variable MaxWidWgt is the obtained from the largest value found in field 7 from this table (field 7).

FIELD:1 col 1-24 (CV FONT NAME)

The CV font name.

FIELD:2 col 25-29 (IGES FONT#)

The IGES font# field shall contain the IGES default # used in the DE field of the geometry if a 304 is not created. If a 304 is created, then its DE font field shall contain this default #.

FIELD:3 col 30-34 (WGT - line weight,DE field 12) Weights shall be determined in the following manner. MaxNumWgtGrad - Global Parameter 16, Max # of weight gradations. MaxWidWgt - Global Parameter 17, Width of max line weight in units LWID(field 7)-Width, actual measured width distanced between top and bottom line displayed for this font.

NOTE:If a value GREATER than or EQUAL to zero is entered in the table then use it. else (negative value) the weight field shall be calculated based upon the CURRENT values!

single gradation= $\text{MaxWidWgt}(\text{global } 17)/\text{MaxNumWgtGrad}(\text{global } 16)$  WGT =  $\text{LWID}/(\text{single gradation})$  rounded to the nearest integer. This equation shall be performed in ig\_load\_font\_table.c at run time. If for some reason the parameters are not available to calculate this WGT field then the default weight = 1 is used.

FIELD:4 col 35:39 (406:19)

Flag signalling if this CV font maps directly to a 406:19. Contains the actual IGES mapping #.

FIELD:5 col 40-44 (304:2)

Flag signalling if a line font definition entity is to be created. field = 0 :a DUMMY 304 shall be created only for attaching 406:7823 if the PROP modifier is used.

field = 1 :a 304:2 shall be created defining the font.

FIELD:6 col 45-49 (406:7823)  
 Flag signaling if a 406:7823 is to be created when the PROP  
 modifier is used. FIELD:7 col 50-54 (LWID). This real value is the  
 actual measured width value for a line font, used for calculating  
 the WGT.

col 1-24	25	30	35	40	45	50
CV FONT NAME	IGES	WGT	406	304	406	LWID
	FONT#	:19	:2	:7823		
SOLID	1	1	-	-	-	-
DASHED	2	1	-	-	-	-
PHANTOM	3	1	-	-	-	-
PCWIDTH	-	1	-	-	-	-
TRACK	-	1	237	0	1	-
COUNTY	4	1	-	-	-	-
ROADG	-	-1	-	0	1	.025

Please note: For a full example of fontmap-table-ascii, refer to the contents  
 of /usr/apl/cvuts/data/iges/lib/fontmap-table-ascii.

## Text Font Table Layout

The layout of the text font mapping table is described below.

### Text Font Mapping for putiges

A font starts with the keyword:

```
cvfont=nnn
```

where *nnn* is the CV text font number. Each record following is in that font until another *cvfont* keyword is found.

### Text Font Mapping for getiges

A font starts with the keyword:

```
igesfont=nnn
```

where *nnn* is the IGES text font number. Each record following is in that font until another *igesfont* or *cvfont* keyword is found.

## Mapping cvfont Data

Once a font is defined, all characters and their information are in the defined font. Each character in the font has a line as follows:

```
cvfont=1  
"A" , .7668 , .394 , 1 , "A"
```

This example shows that in *cvfont* 1, character A is .7668 units wide with a gap of .394, and maps to IGES font 1 character A. (These numbers are based on inserting the character A, 1 unit high and 1 unit wide for the given font.)

### Parallelism Symbol

The parallelism symbol is defined as follows:

```
cvfont=9  
"H" , 1.4764 , .6017 , 1003 , "f"
```

The Parallelism symbol is an H in cvfont 9 and is 1.4764 units wide, and has a gap of .6017 units before the start of the next character. It maps to IGES font 1003, using the character £. It is inserted at 1 unit high, and 1 unit wide.

## Mapping IGES Font Data

IGES fonts use similar data, but rearrange it as follows:

```
igesfont=1  
"A" ,1, "A" , .8 , .3
```

This example shows that IGES character A maps to A in cvfont 1. The actual width of the character in the specified font is 0.8. The gap between the end of the character and the start of the next character is 0.3. (These values are based on inserting the character 1 unit high and 1 unit wide for the given font.)

## Mapping Kanji Fonts

The Kanji font 96 (IGES font 2001) is handled internally. If you need other Kanji fonts (97-161), you must create table entries for each font.

Please note: For a full example of the `textmap-table-ascii`, refer to the contents of `/usr/apl/cvuts/data/iges/lib/textmap-table-ascii`.

# View and View-dependent Processing

---

This appendix describes how views are processed, and lists the view modes.

- View Modes

# View Modes

## List of View Modes

There are three view modes available:

- Model
- Draw
- Detail
  - Detail draw
  - Detail view

## Description of View Modes

The three view modes are described below.

### Model Mode

For model mode entities, the translator first determine if the entity exists in all views or only certain views. Once this is determined, the translators evaluate which view entity needs to be created. This can be:

- A pointer to a single 410,
- A pointer to a 402:3, 402:4, 402:19 entity
- All views (NULL pointer)

Each depends upon the number and or specific attributes associated with a view.

### Draw Mode

Draw mode entities have the view pointer set to NULL.

### Detail Mode

For detail draw mode entities, the view pointer is set to NULL. The default font is processed, and the view scale (VSCALE) is loaded. This scale factor is only used in detail draw mode; it is initialized to 1.0 and loaded with the detail draw mode view scale. The scale factor is applied to the entity and then output as an IGES draw mode entity.

For detail view mode entities, the view pointer is set to a single view only and the default font is processed. The entity is blanked out if:

- The entity's layer is turned off in this view
- The entity type is turned off

If either of these conditions exist, the entity is blanked by setting QQBLANK.

Please note: After you have processed this mode type you should set  
MODE = MODEL inside CADDs.



# System Messages

---

This appendix lists the messages you may see during translation, along with a description.

- List of System Messages

## List of System Messages

### CVIG\_ARGLIS

Command line arguments used during this translation: %s

This confirms the list of the command-line arguments you entered with the translator command.

### CVIG\_BADARCDATA

Arc/Circle with id %s has invalid data. Either the start and end angles were the same (0 length). Or the radius was  $\leq 0$ .

CADDS requires some arc length for an arc. If the start and end are the same, check database or oscadds would report an error. The same is true for radii that are less than or equal to 0. The arc will not be created in the database.

### CVIG\_BADCHAR

Text entity %s has a character that is invalid. The character will be replaced with '!'

Only 7-bit ASCII ranging from "space" through "~" are allowed in the input file. A character other than this was found in this file; it will be replaced with "!".

### CVIG\_BAD\_CV\_COLOR\_NUM

The CV color number cannot be mapped to IGES color number. Check the log file to see if the color table was read in.

The CV color number cannot be mapped to IGES color number. Check the log file to see if the color table was read correctly or if the 96-color subrecord number is correct.

### CVIG\_BADELEMENT

The VDA %s named '%s' has an invalid element (number %d in the list).

A list or group was encountered that had an invalid entity for an element. The bad entity will be removed from the tlist or group.

## CVIG\_BADELOG\_MODIFIER

The `-errlog` modifier was entered along with the `-nolog` modifier. This is an invalid combination of modifiers. `-errlog` will be Ignored.

You may not enter `-nolog` and `-errlog` at the same time.

## CVIG\_BAD\_GRADATION\_VALUE

Invalid gradation value, use default = 0.001. Possible bad data in the first readable line of mapping table.

The gradation value is invalid. The first readable line of the mapping table may contain invalid data, or the mapping table is not located. “The fontmap-table-ascii Table” on page A-2 for more information on mapping tables.

## CVIG\_BAD\_GROUP\_ENT

During group processing, entity with `miptr %ld` has not been processed. This is either due to Errors with the entity during processing or modifiers entered that do not allowing the referenced entity to be processed. The Entity will be excluded from the group.

An entity in a group has not been processed. The entity was either bad or not processed because of the modifiers entered. The entity will be excluded from the group.

## CVIG\_BAD\_IGES\_PARSE

An error has occurred trying to parse the IGES file. Make sure that the file entered is really an IGES file.

The parser has run into problems trying to parse the IGES file. Check the file to determine that it really is an ASCII IGES file and not a compressed, encoded, or partial file.

## CVIG\_BADKNOTREMOVAL

An Error occurred trying to remove knots from a surface. The entity `%ld` will be created with knots anyway.

Each curve and surface that is translated into the CADDs system is checked for redundant knots. If any are found, they are removed. The surface is still created in

CADDS so it might cause problems in later operations such as trimming, shading, or NC.

### CVIG\_BADLDIM

A linear dimension was encountered that contained 0 or 1 leaders. The IGES specification states that linear dimensions must have 2 leaders. This dimension will not be processed.

The dimension will not be processed because it does not comply with the IGES specification.

### CVIG\_BAD\_LEVEL

An invalid layer or combination of layers was entered as an option

The layer option was specified and the argument following was not a valid layer, or a valid combination of layer and option. Reenter the modifier using correct layer numbers.

### CVIG\_BADLEVELPROP

The IGES Level was invalid. Only a level number or a negated pointer to a Definition Level Property Entity (406:1) is allowed. The level will be set to 0.

If the level field is negative, the value is expected to be a pointer to a directory entry of a 406:1 entity.

### CVIG\_BADMAXDEGREE\_OPT

The parameter -maxdegree was entered. Unfortunately, the value entered after the modifier was invalid. Please reenter the modifier.

The -maxdegree modifier is used for fixing surfaces that have discontinuities. The value entered will be the point at which the surface will be smoothed versus split. Any surface with a discontinuity larger than -maxdegree will be split.

## CVIG\_BADMAXMSG\_OPT

Max error message option incorrectly entered. Should be `-maxmsg n` where `n` is the max you want to print. If anything `<= 0` will cause no maximum to be set.

You must enter a positive integer with `-maxmsg`.

## CVIG\_BADMDILENGTH\_OPT

The `-mdilength` modifier was entered incorrectly. The option should be issued `'-mdilength n.nn'` where `n.nn` is the length that is desired for the mdi. Please reenter correctly.

You did not enter a length for `-mdilength`.

## CVIG\_BAD\_MDILENGTH\_OPT

Invalid value entered for `-mdilength` option: %s

The value entered as the `-mdilength` option was invalid. Enter a new value and try again.

## CVIG\_BADMDIMULT\_OPT

The `-mdimult` modifier was entered incorrectly. The option should be issued `'-mdimult n.nn'` where `n.nn` is the factor that is desired for the mdi. Please reenter correctly.

The format for the `mdimult` option is `-mdimult n.nn` where `n.nn` is the factor for increasing or decreasing the mdi. If you do not enter a length, you will receive this message.

## CVIG\_BAD\_MDIMULT\_OPT

Invalid value entered for `-mdimult` option: %s

The value entered as the `-mdimult` option was invalid. Enter a new value and try again.

## CVIG\_BAD\_MODIFIER

An unknown modifier was entered, processing will continue

There is an unknown modifier in the command line of the translator. The translator will ignore the modifier and try to continue processing.

## CVIG\_BADMTXFIXED

A matrix was encountered that was not within CADDs tolerances. The bad matrix was adjusted so that it is now within tolerances. The resulting matrix will be applied to entity with miptr %s.

A bad matrix was encountered. However, the translator adjusted the matrix so that it fits within tolerance. The entity for this adjusted matrix is reported.

## CVIG\_BADMTXNOFIX

A matrix was encountered that was not within CADDs tolerances. The bad matrix was so bad it could not be adjusted to be within CADDs tolerances. The identity matrix will be applied to entity with miptr %s.

The translator was unable to adjust the matrix to fit within tolerance. The entity will have the identity matrix attached to it as reported.

## CVIG\_BAD\_NAMEFORMAT

Invalid cv-name format entered

The name entered for either a part, IGES, or VDA file does not conform to PTC standards.

## CVIG\_BADNLOG\_MODIFIER

The -namelog modifier was entered along with the -nolog modifier. This is an invalid combination of modifiers. -namelog will be Ignored.

You may not enter -nolog and -namelog at the same time.

## CVIG\_BAD\_PARAM\_ERROR

Bad parametric data found in the 96 BREAK subrecord. Will use the bounds extracted from the geometry. Miptr = %ld.

The translator found that the 96 BREAK parametric data was not within the bounds of the actual geometry. Therefore, the minimum boundary will be used.

## CVIG\_BADPARAM\_VALS

The Isoparametric values of a surface are bad. The id of the surface is %ld. The surface will be created using the original knot values.

The isoparametric values of a surface are outside the range of the surface as defined by the knot values of the surface. The bad value will be set to the maximum or minimum of the knot value.

## CVIG\_BAD\_PC\_DIAM\_FONT

The data found in the integer array to create the PC-Width or DIAM font is bad. Using default font, miptr = %ld

The data passed to `pi_cadds_pcwidth_font.c` for creation of the PC-Width or DIAM font is incorrect. The default font will be used.

## CVIG\_BADPSET\_OPT

An invalid value for `-pset` was entered

You must enter an integer value 0-4 inclusive as the argument following `-pset`.

## CVIG\_BADSETINC\_OPT

The `-setinc` option to increase specified layers was incorrect. The option should have a positive integer value following the option.

The format is `-setinc n` where `n` is the number of layers to increment for each set.

## CVIG\_BADSETLAYER\_OPT

The `-setlayer` option to map specified sets to layers was incorrect. The option should have the desired layer following `-setlayer`.

The format is `-setlayer n` where `n` is the layer that sets should start on.

## CVIG\_BADSIZEPROP

A Drawing size property has been encountered with a size  $\leq 0$ . Default sizes will be used. Entity id is %s

The size property of the drawing entity is  $\leq 0$ , or invalid. The drawing will be created using the default size.

## CVIG\_BADSURFSPLIT

An Error has occurred trying to split a surface due to tangent discontinuities. The surface will be created in the database unsplit. You should probably rerun `getiges` using the `SMOOTH` option. The id is %s

When a surface has large discontinuities in it, it is split into multiple surfaces and then sewn together at the edges. The surface identified had such a large rip in it that the sewing routine couldn't find like edges. The surface will be created unsplit in `CADDS` and may cause problems in later operations like trimming, shading or `NC`.

## CVIG\_BAD\_TABLE\_PATH

Unable to locate the font mapping table. Default font = solid.

The translator cannot locate the correct path to load the font mapping table. You should check the location of the table.

## CVIG\_BADTEXTFONT

`CVtext` entity has been encountered that has a font that is not in the font mapping table. The font is %ld and will be . defaulted to font 1. Entity `miptr` is %ld

Text font mapping occurs by taking all of the fonts found in the `textmap-table-ascii` file and mapping them to those desired in that file. In this case, the `CVfont` was not found in the table. Therefore, the font will be defaulted as if it were font 1.

## CVIG\_BAD\_TK\_GET

An attempt to get an entity from the database resulted in an error. The Miptr is = %ld, The error code is %ld.

The database interface returned an error while reading an entity from the database. The entity will be skipped and processing will continue.

## CVIG\_BADTOL\_OPT

The tolerance entered for options `-satol` or `-sltol` was not valid. Default tolerances will be used.

The tolerance entered for either the `-satol` or `-sltol` is either not numeric or is not reasonable. The default values will be used.

## CVIG\_BAD\_VDA\_PARSE

An error has occurred trying to parse the VDA file. Make sure that the file entered is a VDA file.

The VDA-FS parser has run into problems parsing the VDA file specified. Make sure that the file name entered is a VDA file and try again.

## CVIG\_BIG\_PART

Due to the amount of entities encountered in the input file, multiple parts will be created. To view these parts at the same time, use the `VIEW PART` command.

CADDS only allows a maximum of 65536 entities in a part. The input file might create more than 65536 entities, so multiple parts will be created.

## CVIG\_BLANKDIMTEXT

Text entity %s is blanked and in a dimension. Blanking of text within a dimension is not supported by CADDS. The text will not be blanked.

IGES allows portions of a dimension to have different attributes from the parent dimension. These attributes include blanking, color, level, and view. CADDS does not support this concept. So, when this is encountered, those attributes that are different are logged and defaulted to those in the dimension itself.

## CVIG\_CANTCREATEFILE

Error trying to create %s

While trying to create the paths for the above mentioned file, an error occurred. Make sure you have write privilege and try running again.

## CVIG\_CLIP\_ERROR

An Error has been detected calculating the clipping values for this view. The Clipping value for this particular direction will be defaulted to the edge of the drawing.

The values for calculating the clipping position for a view made no sense. The value will be ignored and the edge of the drawing will be used for clipping in this direction.

## CVIG\_CLIP\_OFF\_DRAWING

Clipping values are off the drawing. Resetting the values to be back on the drawing

The clipping values for a view were positioned beyond the bounds of the drawing. The clipping values will be reset to the extents of the drawing.

## CVIG\_COLOR\_READ\_ERR

An error occurred searching the CADDs color table that should have been read in, the default color number shall be used.

An error occurred searching the CADDs color table that was read at startup and the default color number will be used, check the log file for an error that occurred when the table was read in.

## CVIG\_CREATE\_ERROR

An attempt to create an IGES entity from a CADDs entity failed. The Miptr is = %ld, The error code is %ld

There was an error while trying to convert an IGES entity. The entity will not be created in the IGES file. This is usually caused by either lack of memory or disk space.

## CVIG\_DATA\_LOAD\_VIEW\_FONT\_ERROR

Unable to load the view and font subrecord information for this entity, the defaults shall be loaded. Miptr = %ld.

A call was made to load the font and view information into the structure (cvig\_pviewfont.h) for processing views associativity and line font definitions. Possible bad subrecords have been detected. Default information will be loaded for this entity.

## CVIG\_DB\_ACCESS

An error has been detected trying to get data from the part. The miptr that had trouble is %ld. And the Error code is %ld.

There was a database error when reading data for an entity. This means that the database (part) is probably bad. Try running oscadds on the part. If you still get the message after running oscadds, delete the entity by miptr and try again.

## CVIG\_DBREAD\_ERROR

A database read error has occurred. The miptr of the entity is %ld. The return code is %ld. Please see the database manual for a description of error codes.

The database was not successful in reading data from the CADDs part. The values for the return code are defined in the CADDs database manual. Try some database repair using the oscadds or CHECK and PACK DBASE.

## CVIG\_DEFAULTNOLOG

An error occurred trying to create the path for the desired log file. Because of this, the -nolog modifier will be defaulted.

An error occurred trying to create the log file. Since the log file cannot be created, the -nolog modifier becomes the default.

## CVIG\_DELETE\_PART

The overwrite modifier was entered, deleting part: %s

The overwrite modifier will delete the existing old part and will replace it with the newly created part.

## CVIG\_DELETE\_PART\_ERR

An error occurred while trying to delete part: %s  
The part could be active or a design part.

An error occurred while trying to delete this part. The part could be:

- an active part
- a design part
- not found by the translator

Check these possibilities or change the part name.

## CVIG\_DETAIL\_VIEW\_ERROR

No view was found that contained the picture number specified for this entity. Miptr = %ld

The translator found an entity that had a reference to a view that did not exist. The entity will be put into the IGES file in all views but will be set to blank status.

## CVIG\_DFLTFONTMAP

Text entity %s had font %ld. This font was not found in the textmap-table-ascii file. Will be defaulting the font mapping to font 1.

The file textmap-table-ascii contains the mapping tables used to map IGES fonts to CVfonts. The IGES font specified does not exist in the mapping file. Therefore, the default mapping will be as if the IGES font was 1. If you know the mapping for this particular font, edit the mapping file and add this particular IGES font.

## CVIG\_DFLTTEXTMAP

Text entity %s has a character that is not found in the table for font %ld. The character will be mapped to font 1.

The file textmap-table-ascii contains mapping tables used to map incoming fonts to CVfonts. The font on the incoming text entity was found but the character in the text string was not found in that particular font. The character will be mapped to font 1.

## CVIG\_DIFFDIMCOLOR

Entity id %s is a different color than its parent dimension. Having different colors on portions of a dimension is not supported by CADDs. The dimension portion will be defaulted to the color of the dimension.

IGES allows portions of a dimension to have different attributes from the parent dimension. These attributes include blanking, color, level, and view. CADDs does not support this concept. So, when this is encountered, those attributes that are different are logged and defaulted to those in the dimension itself.

## CVIG\_DIFFDIMLAYER

Entity id %s is on a different layer than its parent dimension. Having different layers on portions of a dimension is not supported by CADDs. The dimension portion will be defaulted to the layer of the dimension.

IGES allows portions of a dimension to have different attributes from the parent dimension. These attributes include blanking, color, level, and view. CADDs does not support this concept. So, when this is encountered, those attributes that are different are logged and defaulted to those in the dimension itself.

## CVIG\_DIMGEOMNOTGEOM

An geometric entity that was superabundant to a dimension or feature control symbol was not a geometric entity. The translator will process the entity, but it will NOT be made part of the dimension or FCS. ID is %s

IGES allows some dimensions and feature control symbols to point to geometric entities as part of their makeup. An entity was encountered that was in the geometric list but was not a geometry entity. The invalid entity will still be processed, but will be made independent.

## CVIG\_DIMNOTTEXT

The text entity for a dimension or FCS had no text in it. The dimension entity will continue to be processed. The id is %s

IGES states that a dimension and most FCS must have a text entity. The Text entity for this dimension had no text in it. This might cause some problems in CADDs if you try to modify this dimension.

## CVIG\_DIRECTORY\_NOWRITE

You do not have write permission to the directory you wish to write to

You do not have the necessary permissions to write to the directory specified for your output file. Either specify a directory that you have permission to write to, or change the permissions of the directory specified.

## CVIG\_EDGE\_VERTEX\_ERROR

The edge with miptr %ld is separated from the vertex with miptr %ld. Other operations on this edge may fail if a greater tolerance is not used.

The edge curve does not agree with the stored vertices. The vertices may be in the wrong position or separated by a distance greater than the tolerance.

## CVIG\_ERRBADFONT

An error occurred while trying to create a font for the entity, The DE number = %s. No font will be applied.

An error occurred while trying to create a font for the entity. This could be an invalid font number in the DE section of the entity, or unable to match the users defined font (304:2) to a CADDs font. No font will be created therefore defaulting to solid.

## CVIG\_ERRDRAWVIEW

An error was detected trying to read the drawing and view information From this part. Run oscadds on this part and make sure it is a valid part.

The translator was trying to read the information from the CVpart for the drawing(s) and view(s). Unfortunately, an error was detected by the data access routines. Run oscadds on the part to fix any information that can be fixed.

## CVIG\_ERR\_FONTOBJ

An error occurred reading the CADDs line fontobj, this occurred while trying to establish the type of fontobj currently being used. Default to English type.

An error occurred while trying to establish the type of fontobj currently being used. Default to English type; beware this could cause line font trouble.

## CVIG\_ERROR\_402\_19

Unable to create 402:19 view entity, default to all views.  
Miptr=%ld.

There was an error while trying to create the 402:19 IGES entity. Refer to previous logged error messages for a more specific reason. The view pointer will be defaulted to all views.

## CVIG\_ERROR\_402\_3

Unable to create 402:3 view entity, default to all views.  
Miptr=%ld.

There was an error while trying to create the 402:3 IGES entity. Refer to previous logged error messages for a more specific reason. The view pointer will be defaulted so that the entity will be displayed in all views.

## CVIG\_ERROR\_402\_4

Unable to create 402:4 view entity, default to all views.  
Miptr=%ld.

There was an error while trying to create the 402:4 IGES entity. Refer to previous logged error messages for a more specific reason. The view pointer will be defaulted so that the entity will be displayed in all views.

## CVIG\_ERRORONSMOOTH

An Error has occurred trying to fix a surface. The id of the surface is %ld. The surface will be created as is, but you will probably have problems with it.

Internally created CADDs surfaces cannot include discontinuities. For this reason, the translator tries to smooth any surface that has discontinuities up to a default tolerance, and splits any surface that has a discontinuity greater than the default tolerance. Occasionally, this process fails. This tolerance can be modified using the `-satol` and `-sltol` modifiers.

## CVIG\_ERR\_SEGMENT

A parametric value read in from the 402:19 exceeds the entity bounds. The value will be changed to the upper or lower bound that it exceeded. The DE number = %s.

A parametric value read in from the 402:19 exceeds the entity's bounds. The value will be changed to the upper or lower bound that it exceeded. Check the 402:19 values to ensure correctness or the actual bounds of the geometry.

### CVIG\_ERR\_VIEW

An error occurred while trying to create the views visible for this entity. The DE number = %s.

An error occurred while trying to create the views visible for this entity. There could be something wrong with the DE view field entity (IGES 410,402:3,4,19). You could change the field to 0 (implying all views for this entity) so view visible processing will be skipped.

### CVIG\_ERRWIDTHFONT

The width of a curve is wider than allowable in CADDs. The width will be defaulted to the widest width. id = %s

The width of the font for this curve is wider than that allowed in CADDs. The curve will be defaulted to the widest allowed. Modify the global section to decrease the maximum line width to a smaller number; the line might come in without being defaulted.

### CVIG\_EXISTINGNAME

Entity name already exists. New CADDs TAG generated. Entity name: %s , new CADDs TAG: %s

CADDs allows a tag name to exist only once. If the entity has already been processed, the tag name must be changed. The old and new tag names are listed.

### CVIG\_FATAL\_ERROR

Translator cannot continue. Exiting.

A fatal error occurred that stops the translator due to:

- Memory allocation failure
- A disk I/O error

### CVIG\_FCSNOTHINGTHERE

A Feature Control Symbol was found that had nothing in it to make Up a feature control symbol. The was no text, no geometry, no

leaders and no witness lines. The id is %s. The entity is being bypassed.

Since a Feature Control Symbol was found containing no text, geometry, leaders and witness lines, it did not make a Feature Control Symbol and the entity will be bypassed.

## CVIG\_FILE\_EXISTS

Part/file exists - no override option specified

The part, IGES, or VDA file entered already exists. If you want this particular file to be destroyed you must either delete it yourself or use the `-overwrite` option.

## CVIG\_FILE\_NONEXISTANT

Part/file does not exist

The Part, IGES or VDA file entered does not exist.

## CVIG\_FILLAPPROXED

CADDS does not support the concept of a solid filled area. For this reason, The translator will approximate the pattern as a bunch of closely spaced hatch lines.

The original pattern will be replaced by a set of crosshatch lines.

## CVIG\_FILLNOTSUPPORTED

IGES section area entity %s has fill pattern %d. This pattern is not supported. The section area entity will not be processed.

Fill patterns 1-19 are supported only.

## CVIG\_FONT\_NAME\_ERROR

Given the CADDS ASCII name, could not find a match in the users defined fontmap-table-ascii table. Miptr = %ld. font name is %s

The translator could not match a CADDS ASCII name from the CADDS fontdef table. Check that the font name is in the CADDS table, and in the fontmap-table-ascii. If it is missing, add the new name to the fontmap-table-ascii setting the appropriate values and then rerun.

## CVIG\_FONT\_NUM\_ERROR

Given the CADDs font number a name match could not be found in the CADDs fontdef table. The global default font shall be used. Miptr = %ld.

The translator could not match a CADDs font number to a CADDs font name. This is usually caused by not using the same fontdef to create the part that you are using now. Try rerunning with the correct fontdef, otherwise a default value for the font will be used.

## CVIG\_FONT\_VIEW\_ERROR

Unable to process view and or font information, for this entity. Miptr = %ld , possible corrupt database.

The translator cannot process the view/font information given. This could be caused by bad data in the database. You can try using REGEN GRAPHICS.

## CVIG\_FOPEN\_ERROR

Error opening %s

There was an error when opening a file. The name of the file has been provided. Check to make sure the file exists or has read or write permissions.

## CVIG\_GROUP\_NO\_ENTS

Group with miptr %ld has no entities. Group will not be created

A group has been detected with no entities. This can be because:

- All of the entities in the group had processing problems and were not output
- All the entities in the group were not processed due to the modifiers entered

Check the entities in the specified group.

## CVIG\_IGESTOGDX

An error has occurred trying to convert IGES data to internal format. Try running the same IGES file using the -validate option. If that still doesn't work, please report this as a bug and send the IGES file that caused the problem

You need to validate the IGES file to try to fix most of the problems. If you still get this message after using the validation option, submit a bug report along with the IGES file.

## CVIG\_IGESTONURBS

An error has occurred trying to convert the IGES trimmed surface or solid entity with DE %s to NURBS format. Try running the same IGES file using the -validate option. If that still doesn't work Please report this as a bug and send the IGES file that caused the problem

Each IGES trimmed surface or solid (144, 143, 186) entity is converted to a NURBS form before being mapped into its CADDs Equivalence. An error has occurred trying to do this. Validate the IGES file to try to fix the problem. If you still get this message after using the validation option, submit a bug report along with the IGES file.

## CVIG\_INCOMPAT\_ARGS

The modifier %s is not valid for vda processing.  
The modifier will be ignored.

You entered modifiers that have no meaning for VDA-FS processing. The modifiers will be noted and turned off. Execution will continue.

## CVIG\_INDEP142NOTCORRECT

An Independent 142 entity id %s was encountered. This is not technically correct. 142 entities should only be used as a child entity of a 144 Trimmed Surface. The translator will process the model space curve that this entity points to. If you do not wish that curve to be created, either edit the IGES file and change the 142 to be physically dependent or use the -trace modifier and delete the curve by tag. %s

An invalid entity was found. When processed, this entity may not be what you expected. You should either change it, or delete it from the file, as described in the message above.

## CVIG\_INVALID102

The data in a Composite Curve (102) has been determined to be invalid. The entity %ld will not be processed and anything that references this entity will probably be bad as well.

The data that makes up a 102 Composite Curve Entity does not conform to the specification. The data will be ignored. Any entity that accesses this entity may be incorrect. For example, if this was a trim boundary, no trimming can be done.

### CVIG\_INVALID112

The data in a Parametric Spline Curve (112) has been determined to be invalid. The entity %ld will not be processed and anything that references this entity will probably be bad as well.

The data that makes up a 112 Parametric Spline Curve Entity does not conform to the specification. The data will be ignored. Any entity that accesses this entity may be incorrect. For example, if this was a trim boundary no trimming can be done.

### CVIG\_INVALID114

The data in a Parametric Spline Surface (114) has been determined to be invalid. The entity %ld will not be processed and anything that references this entity will probably be bad as well.

The data that makes up a 114 Parametric Spline Surface Entity does not conform to the specification. The data will be ignored. Any entity that accesses this entity may be incorrect. For example, if this was a trim base surface no trimming can be done.

### CVIG\_INVALID130

The data in an Offset Curve (130) has been determined to be invalid. The entity %ld will not be processed and anything that references this entity will probably be bad as well.

The data that makes up a 130 Offset Curve Entity does not conform to the specification. The data will be ignored. Any entity that accesses this entity may be incorrect. For example, if this was a trim boundary no trimming can be done.

### CVIG\_INVALID140

The data in an Offset Surface (140) has been determined to be invalid. The entity %ld will not be processed and anything that references this entity will probably be bad as well.

The data that makes up a 140 Offset Surface Entity does not conform to the specification. The data will be ignored. Any entity that accesses this entity may be incorrect. For example, if this was a trim base surface no trimming can be done.

## CVIG\_INVALID\_LEVEL

Entity resides on level %ld in the IGES file, changing to level %ld for CADDs

CADDs supports levels/layers 0-254, and IGES supports levels 0-99999999. When IGES entities are found on levels greater than 254, the translator performs a modulus operation (gets the remainder after dividing by 254) and creates the entity on that layer.

## CVIG\_INVALID\_VAL\_FOUND

The desired calculated weight for this entity is larger than the maximum number of line weight gradations (global # 16) allowed. Check the user font table for inaccurate data.

Check the user font table for bad data describing this font.

## CVIG\_JUSTCHANGE

Text entity %s contains a text string that will be mapped to multiple CVfonts. Because of this, the justification will be changed to left justified.

When taking one input text string and mapping it to multiple CV strings, the justification and calculation of the text origins will result in a bad CV string.

## CVIG\_LIBERRORDESC

A Library error occurred on entity %s. See Error Documentation for a more exact description of the problem.

You need to look up the message in the IGES documentation for a description of the problem.

## CVIG\_LINE\_FONT\_DEF\_ERROR

The 304 line font definition entity could not be created for this CADDs entity, Miptr = %ld.

The 304 line font definition entity could not be created for this entity. Refer to previous error messages with this miptr #.

## CVIG\_LOCKERROR

While trying to lock an entity for update, an error occurred. This is usually caused by an I/O or lack of memory error. The error returned was %ld

There was an error while trying to lock an entity for update. This is usually caused by a Disk I/O or lack of memory error.

## CVIG\_MALLOC\_ERROR

Error trying to malloc memory. Sorry I've got to quit

While trying to allocate memory space for processing, an error was detected. This type of error can be caused by several problems:

- Bad data in either the part or the exchange file.
- Not enough swap space.

Check the data being translated. If it looks good, increase your swap space.

## CVIG\_MAX\_GROUPS

Miptr %ld is in more than 7 groups. CADDs only allows an entity to be in 7 groups. The translator will put the entity in all of its parent groups but CARE must be taken when deleting entities that are in groups. Should an entity be deleted it is suggested running oscadds to fix the count to the correct number.

See page 9-10 for further information on group processing.

## CVIG\_MIXED\_MODE\_FIGURE

A subfigure has been found that contains both draw and model mode entities. Due to limitations in the IGES specification, the translator can only put out one or the other. Therefore, it will be putting out those entities that have the same mode as the instance. The instance miptr is %ld. The figure is %s

Entities can be either draw or model entities. The entities created will be either draw or model, depending on the mode of the instance that called them.

## CVIG\_MULTIPLE\_LEVELS

Entity resides on multiple levels in the IGES file.  
Entity will be created on the first level found in 406 form 1.

An entity level field pointed to a 406:1 Definitions level entity. This entity defined all the layers that the referencing entity exists on. Since CADDs only allows each entity one layer, the first layer on the list is selected and the entity is created on that layer.

## CVIG\_NAMELOG\_HEADER

CV Entity name to tag mapping file entity name conversions are listed below. CADDs limits tag names to be 6 alpha-numeric characters. Due to size and or character limitations, The names have been changed accordingly.

The tag names have been changed to suit standard naming conventions.

## CVIG\_NEWDEFNAME

An IGES figure definition (%d) has a name illegal for use as a CADDs subpart name. A new name was generated.  
Old name: %s. New name: %s

CADDs has a limited set of characters allowed in a part name. IGES places no restrictions on what characters can be used in the name of a 308/320, so the translator must generate new names when bad names are found.

## CVIG\_NEWNAME

VDA entity name > 6 characters long. New CADDs TAG generated. VDA name: %s, new CADDs TAG: %s

CADDs only allows six character tag names. The VDA name for an entity was longer than six characters. Therefore, the translator shortened the name.

## CVIG\_NOCVTEXTFONTS

After parsing the textmap-table-ascii file, no CV fonts were found. Effects on putiges will cause all CV fonts to be mapped to IGES font 1. Effects on getiges will cause text string widths to be off.

No CV text font mapping information was found in textmap-table-ascii. Therefore, putiges will map all text fonts in the part file to IGES font 1. The getiges command will not be able to calculate string widths correctly.

## CVIG\_NO\_FILE\_NAME

The %s option was specified but no filename followed

Reenter the option and follow it with a valid filename for the corresponding option.

## CVIG\_NOIGESTEXTFONTS

After parsing the textmap-table-ascii file, no IGES fonts were found. As long as you only use putiges you should have no problems. However, if you use getiges, everything will map to CV font 12.

No IGES text font mapping information was found in textmap-table-ascii. All text fonts in the IGES file will be mapped to font 12. It will have no effect on putiges text font processing.

## CVIG\_NOTEXTINTEXT

A text entity was encountered with no text. Entity id is %s Entity will be bypassed.

There is an empty text entity in the file. This is ignored.

## CVIG\_NOTEXTPARMS

The ascii table used for text font/size mapping has not been found. All fonts found will be mapped to IGES font 1 for putiges and CVfont 12 for getiges. Text sizes will be assumed to be uniform.

The file textmap-table-ascii contains text font and size mapping information. Since this table wasn't found, all fonts for putiges will be put out as IGES font 1. All fonts for getiges will be brought in as CV font 12. The widths of the text strings will be off.

## CVIG\_PARTFILE\_ERROR

An Error has been detected filing a part. Error code returned is %ld

There was an error while trying to file the created part. This will result in no part being created from the translation. This is usually caused by lack of memory or disk space.

## CVIG\_PARTOPEN\_ERROR

An error has been detected trying to open and prepare the entered part for processing.

There was an error while trying to activate a part for processing. This could mean that the part is invalid or there is not enough temporary space to open the part.

## CVIG\_POLY\_CREATE

The edge curves for loop %d on entity with DE or name %s used in surface trimming could not be made into a polycurve.

Creating a polycurve from the trimming curves caused an error.

## CVIG\_POSS\_SUB\_ERROR

The possibility of referencing the figure by model and draw exist. This was discovered while determining the owner of the definition. The name of the figure is %c and will be created as draw mode.

To verify this possible problem the figure definition in the IGES file would have to be mapped out.

## CVIG\_PREP\_EXECFILE

You must EXECUTE the FILE %s to prep the sfig/nfig's created.

Any Sfig or Nfigs created while reading 308/320's must be prepped before activating the part created. The translator creates an execute file that must be executed within CADDs to perform this operation.

## CVIG\_PROC\_PART\_ERROR

An error has been detected trying to process the part entered. No more processing can continue.

There was a fatal error while trying to process the part entered. See the log file for previous messages for more details.

## CVIG\_PROJ\_ERROR

Error while converting parameter space curves to model space for loop %d on entity with DE/name %s.

An error has occurred while creating new model space curves from the parameter space curves in the loop. Check the underlying geometry in this entity.

### CVIG\_PROP\_NAME\_ERROR

The 406:7823 property entity could not be created, Miptr=%ld.

The 406:7823 property entity could not be created. This is usually caused by lack of memory or disk space.

### CVIG\_PROP\_WIDEN\_ERROR

The 406:5 property entity could not be created, Miptr=%ld.

The 406:5 property entity could not be created. This is usually caused by lack of memory or disk space.

### CVIG\_SECTAREA\_BADDATA

A section area entity 230 contained bad data. The entity is %s.  
The entity will be bypassed

An invalid entity was encountered.

### CVIG\_SECTAREA\_BOUNDRYNOTCLOSED

A section area entity 230 contained a bad boundary. The entity is %s.  
The boundary is not closed. The entity will be bypassed

An invalid boundary was encountered.

### CVIG\_SECTAREA\_NOAREA

A section area entity 230 has a boundary that has no area. Cannot  
Section something without area. id = %s. Entity bypassed

The 230 entity had a boundary that had no area. The entity will be skipped.

### CVIG\_SEGVIEWMULTIFONT

A 402 form 19 has been encountered that contains an entity within  
a view that has 2 or more non solid fonts. PTC doesn't support  
this. The segmented font will be ignored. The entity id is %s.

CADDS does not allow an entity to have multiple fonts except solid and something else. If you try to create a segmented entity with multiple fonts the second font does not display.

## CVIG\_SFIG\_UNEQUAL\_SCALES

A subfigure instance (miptr %ld) has different scales in the X, Y, and Z directions. IGES only supports one scale. Therefore, only the scale in the X direction will be used.

All scales in y- and z-directions are ignored.

## CVIG\_SHELL\_ERROR

The shell `internal_flags` for the solid with miptr %ld are incorrect. Only one shell may be EXTERNAL and all others must be INTERNAL.

Only one EXTERNAL shell is permitted in a solid and any other shells must be INTERNAL.

## CVIG\_SHRINK\_SURF

An error occurred while trying to reduce the size of the surface %s. It will be created but its coordinates may be too large to display.

A surface that was about to be trimmed had coordinates that were too large. An attempt to shrink it failed.

## CVIG\_SOLID\_CREATE

No trimmed surfaces or solids were created for entity %s. Try using the `notrim` and/or `nosolid` modifiers.

There was an error while creating a `tsurf` from a surface, or while creating a polycurve from a loop. Use the modifiers to determine whether the underlying geometry is correct.

## CVIG\_SOLID\_SEW

An error has occurred while sewing the faces of solid %s. `Tsurf` entities will be created for each face.

One or more of the trimmed faces may be incorrect, causing a sewing failure.

## CVIG\_SURFCREATE

Surface %s caused an error when it was written to the database.  
It's miptr is %d.

This surface may be too large for CADDs to handle or the surface data has been corrupted during translation.

## CVIG\_SURFDISCONTS

A surface has been encountered that has internal multiplicity > degree. The translator will try to make this surface continuous. Id is %s.

Because the translator found a surface with curves or surfaces that have tangent discontinuities (for example, internal number of knots is greater than degree), it will either try to smooth the surface if the discontinuity is less than the tolerance, or split the surface at the discontinuity and try to sew them together.

## CVIG\_TEXTFONTDEF

Text entity with id %s is pointing to a text font definition Entity for its font definition. This is not supported. The default font of 1 will be used.

IGES allows a text entity to point to a text font definition entity to define the font to use for a text string. CADDs does not support defining text fonts in this way. This particular text string will default to font 1.

## CVIG\_TEXT\_MIRROR

Text entity miptr %ld has been mirrored about both axes. This is not supported by the IGES standard. The entity will be mirrored perpendicular to the base of the text.

IGES does not support mirroring about both axes. The entity will be mirrored perpendicular to the base of the text.

## CVIG\_TRIMMING\_ALERT

When this message is displayed, the model space separation between the model and parameter space trimming curves is shown.

If this value is large, the entity should be examined in CADDs to make sure it is correct. This is a warning message only and does not always indicate invalid trimming. Without -useparam, this file gives a separation of 1.5.

## CVIG\_TRIM\_ERROR

Trimming failed for loop %d on entity with DE/name %s.  
Trimming curves and untrimmed tsurface will be created.  
%d attempts were made with a starting tolerance of %f and ending  
with %f. Set pnttol equal to the ending tolerance and try again.

There was an error while trimming a tsurface. Check the underlying geometry.

## CVIG\_TRIMTOSOLID

An error has occurred trying to convert the trimmed surface or  
solid entity with DE/name %s to internal format. Please report this  
as a bug and send the file that caused the problem

Each trimmed surface or solid (144, 143, 186, top, face) entity is converted to a  
neutral form before being mapped into its CADDs equivalence. An error has  
occurred trying to do this. Please submit a bug report along with the file.

## CVIG\_TSURF\_CREATE

The untrimmed tsurf could not be created from entity %s.  
A surface with miptr %d was created.

There was an error while creating a tsurface from a surface. Examine the created  
surface to see if it is correct.

## CVIG\_UNABLE\_LD\_COLOR\_TABLE

The color table was not loaded, the default color shall be used for  
all mapping, possible bad path.

The color mapping table was not loaded, the default colors are used. The table  
could have been edited with bad data or might not be in the correct path.

## CVIG\_UNABLE\_LD\_FONT\_TABLE

The user defined font mapping table was not loaded, the font  
default solid shall be used for all mapping, possible bad path.

The table could have been edited with bad data or might not be in the correct path.  
The user defined font mapping table was not loaded, therefore, the font default  
solid shall be used for all mapping.

## CVIG\_UNKNOWNRELAT

An unknown type of relation has been encountered. The Miptr is %ld. If you feel this message should not be displayed, Document the relation as to type and what it is doing and submit an enhancement for this processor. Include how the relation was created as well as the part.

Some relation types are not currently handled.

## CVIG\_UNKNOWN\_UNITS

An Unknown unit has been found in the IGES file. The part will be created with a units of INCHES

An unknown unit was found in the IGES file. Check any IGES manual for valid units.

## CVIG\_UNSUPPORTED\_ENTITY

An entity has been encountered that is not supported by this translator. The entity id is %s. The entity type is %ld.

The translator found an entity that is not supported. The entity is ignored and processing will continue.

## CVIG\_VDATOGDX

An error has occurred trying to convert VDA data to internal format. Please report this as a bug and send the VDA file that caused the problem

Each VDA-FS entity is converted to a neutral form before being mapped into the equivalent CADDs entity. An error has occurred trying to do this. Validate the VDA-FS file to fix most of the problems.

## CVIG\_VIEW\_PART

Maximum number of entities in a part has been reached. Therefore, multiple parts will be created. Use the command VIEW PART to view all entities in the that were in this file being translated. The part to be viewed with the original is: %s

CADDs allows a maximum of 65536 entities in a part. In some cases, data translation files will cause this number to be exceeded. In this case, additional

parts will be created with the remainder of the entities. You can use the command `VIEW PART` to see the entire model.

## GDX\_APPROXNOTFREED

All of the approximation workspaces were not freed.

Upon termination of the internal subsystem, not all of the allocated approximation workspaces had been freed. All remaining workspaces will be freed, but the application should verify that for each allocation of approximation workspace there is a corresponding approximation workspace free.

## GDX\_BADDATA

Bad data specified for least squares fit.

A bad set of data was specified for the least squares data fit. More data points will be evaluated to improve the fit. (Internal error.)

## GDX\_BADEEDGEINTER

A possible bad edge intersection occurred.

An error occurred in generating facets that may have resulted from a bad edge intersection. The application should verify the data is correct.

## GDX\_BADSUBPARMS

The end parameter(s) must be greater than the start parameter(s) for extraction of a subcurve/surface.

The end parameter(s) was less than or equal to the start parameter(s) for extraction of a subcurve/surface. Verify the call to the curve/surface extraction function.

## GDX\_COINPNTS

Invalid coincident points encountered.

A pair of coincident points was encountered that could not be handled for this operation. This can occur in the process of data fitting and is generally the result of bad data. This error should be reported after the data has been verified as correct.

## GDX\_DEGEN\_PARM

The parametric range is degenerative.

The internal surface parametric range is degenerative and the entity can not be processed.

## GDX\_DEGNURBCURVE

The NURBS curve data is degenerative and can not be processed

A call was made to a function to process an internal NURBS curve entity that is degenerative and can not be processed. The validity of the internal entity being processed should be verified.

## GDX\_DISCONTCOMP

The GDX composite curve entity is discontinuous between curve %ld and curve %ld by %lf units. A linear segment has been added at the discontinuity for linear approximation.

A geometric discontinuity greater than the linear approximation tolerance was encountered at the specified segment during linear approximation. The discontinuity will be bridged with a linear segment for approximation, but the user should verify the definition of the internal entity.

## GDX\_DISCONTINUOUS

A geometric discontinuity has been encountered between spans %d and %d. A linear segment will be created at the discontinuity for approximation.

A geometric discontinuity greater than the linear approximation tolerance was encountered at the specified segment during linear approximation. The discontinuity will be bridged with a linear segment for approximation, but the user should verify the definition of the internal entity.

## GDX\_ENTITYNOTCURVE

The GDX entity to process is not a GDX curve entity.

An internal function was expecting an internal curve entity, but the entity was not an internal curve entity. The application should verify that the correct call is being made.

## GDX\_ENTITYNOTSURFACE

The GDX entity to process is not a GDX surface entity.

An internal function was expecting an internal surface entity, but the entity was not an internal surface entity. The application should verify that the correct call is being made.

## GDX\_INVALIDAPPROXMETHOD

The requested approximation method is not valid.

The requested approximation method is not valid. The application should verify that the correct call is being made.

## GDX\_INVALIDAPPXMESH

The requested surface mesh must be greater than 1 X 1.

The requested surface approximation mesh is invalid. The application should verify that the correct call is being made and/or the user should specify a mesh greater than 1 x 1.

## GDX\_INVALIDMODEL

The model for GDX entity creation is not a GDX model.

The model specified for the current internal model is not an internal model. The application should verify that the correct model is being specified.

## GDX\_INVALIDNUMPTS

The requested number of approximation points must be greater than 1.

The requested number of linear approximation points is invalid. The application should verify that the correct call is being made and/or the user should specify the number of linear approximation points to be greater than 1.

## GDX\_INVALIDNURBCONIC

The form of the NURB conic is invalid.

A call was made to a function to convert an internal NURBS curve to an internal conic and the NURBS curve does not define a conic.

## GDX\_INVALIDPNTTYPE

The requested approximation point type is not valid.

The requested approximation point type is not valid. The application should verify that the correct call is being made.

## GDX\_INVALIDTOLERANCE

The requested approximation tolerance must be greater than 0.0.

The requested approximation tolerance value is invalid. The application should verify that the correct call is being made and/or you should specify a tolerance greater than 0.0.

## GDX\_MAXDEGEXCEEDED

The maximum degree of %d exceeded for degree elevation

A call was made to a function to elevate the degree of an internal NURBS curve or surface and the degree exceeded the maximum degree supported for this operation. The application should verify that the correct call is being made.

## GDX\_NOAPPROXDATA

A request for approximation data information was made and no approximation data exists.

A request for approximation data information was made and the application has not allocated the approximation data workspace. The application should verify the use of the approximation data.

## GDX\_NOCONVERGE

The approximation does not converge within the requested tolerance

The linear approximation of an internal entity does not converge within the requested tolerance. The tolerance specified should be increased and/or the validity of the internal entity being processed should be verified.

## GDX\_NOCURVE

The projection of the model space curve to the surface produced no parameter space curve.

The projection of the model space curve to the surface did not generate any parameter space curve. If the model space curve is not within the bounds of the surface, no parameter space curve can be created in some instances. Please verify the data.

## GDX\_NOMEMORY

No more memory available

A request for memory failed. This could indicate that the system ran out of memory, swap space was exhausted, or that the heap is corrupted.

## GDX\_NOPLANE

The surface to project to was not a plane.

A call was made to project a curve to a NURBS plane, but the NURBS surface was not a plane.

## GDX\_NORAT

The NURBS curve/surface is rational but the degree of the new NURBS curve is less than the original NURBS curve/surface and the new NURBS curve/surface will be non-rational.

A call was made to a function to convert an internal NURBS curve or surface to a lower degree and the option to keep the internal NURBS curve or surface rational was specified, but is invalid. The application should verify that the correct call is being made.

## GDX\_NOREALLOC

The current allocated space has been used and no reallocation is allowed

The option was set to not reallocate memory during linear approximation by setting the reallocation increment to zero, and the currently allocated space was exhausted. The amount of allocated space should be increased, and/or another approximation method used, and/or the reallocation increment set to a positive value.

## GDX\_NOTCORRECTED

A parameter space curve that lies outside the parametric bounds of the surface was not correctable to lie within the surface.

A parameter space curve that lies outside the parametric bounds of the surface was not corrected to lie within the surface bounds.

## GDX\_NOTMAKEG1

Unable to make the NURB curve/surface G1 continuous.

Could not make the NURB curve/surface G1 continuous at the tolerance specified because a zero weight will be created.

## GDX\_NURBNOTARC

The GDX NURB entity to process is not the arc form.

An internal function was expecting an internal NURB curve entity whose form was an arc and the internal NURN curve entity was not an arc. The application should verify that the correct call is being made.

## GDX\_NURBNOTCOMPOSITE

The GDX NURB entity to process is not the composite form.

An internal function was expecting an internal NURB curve entity whose form was a composite and the internal NURB curve was not a composite. The application should verify that the correct call is being made.

## GDX\_NURBNOTPOLYLINE

The GDX NURB entity to process is not the polyline form.

An internal function was expecting an internal NURB curve entity whose form was a polyline and the internal NURB curve was not a polyline. The application should verify that the correct call is being made.

## GDX\_OFFSETISPNT

The entity to offset is a point entity and can not be offset.

A request for an operation to offset an internal polyline was made and the polyline definition is a single point which cannot be offset. The application should verify that the correct operation is being performed.

## GDX\_PARMOUTOFRANGE

The parameter values is out of range

A call was made to a function with a parameter value that is not within the parametric range of the internal entity. The application should verify that the correct call is being made.

## GDX\_SINGULAREQS

A singular system of equations resulted in the least squares fit.

A singular system of equations was encountered in the process of performing a least squares data fit. More data points will be evaluated to improve the fit.  
(Internal error.)

## GDX\_TOOMANYPNTS

The number of points for the current operation exceed the number of points available.

A request for an operation on a list of points specified a count that exceeded the current number of points defined. The application should verify that the correct count of points is being specified.

## GDX\_UDISCONTINUOUS

A geometric discontinuity has been encountered at U span %d, between spans %d and %d. A linear segment will be created at the discontinuity for approximation.

A geometric discontinuity greater than the linear approximation tolerance was encountered at the specified segment during linear approximation in the surface U-parametric direction. The discontinuity will be bridged with a linear segment for approximation, but you should verify the definition of the internal entity.

## GDX\_UISODISCONTINUOUS

A geometric discontinuity has been encountered in an iso-parametric curve at the surface V parameter value of %lf.

A geometric discontinuity greater than the linear approximation tolerance was encountered approximating an iso-parametric curve in the surface U-parametric direction at the specified v value. You should verify the definition of the internal entity.

## GDX\_VDISCONTINUOUS

A geometric discontinuity has been encountered at V span %d, between spans %d and %d. A linear segment will be created at the discontinuity for approximation.

A geometric discontinuity greater than the linear approximation tolerance was encountered at the specified segment during linear approximation in the surface V-parametric direction. The discontinuity will be bridged with a linear segment for approximation, but you should verify the definition of the internal entity.

## GDX\_VISODISCONTINUOUS

A geometric discontinuity has been encountered in an iso-parametric curve at the surface U parameter value of %lf.

A geometric discontinuity greater than the linear approximation tolerance was encountered approximating an iso-parametric curve in the surface V-parametric direction at the specified u value. You should verify the definition of the internal entity.

## IAFF\_\_BAD\_EOF\_EOR

End of field and end of record delimiters are specified as being the same. Both will be set to default values.

The end of field delimiter and end of record delimiters must be different. The end of field delimiter will be set to the default character “;” and the end of record delimiter will be set to “;”.

## IAFF\_\_BAD\_FLOAT

A invalid floating point number was found while formatting DE %<DE> (database pointer %<PTR2>). Number will be formatted as 0.0.

A number to be formatted into the ASCII IGES file was found to be infinite, not a number, or invalid (depending on the hardware platform). The value will be formatted as 0.0 which may or may not be the proper value to output. This is usually caused by an error in the application which results in bad data being written to the entity.

## IAFF\_\_BAD\_GLOBAL\_EOF

End of field delimiter ‘%s’ is illegal. Default will be used instead.

The end of field delimiter (global section parameter 1) is not legal or contains more than one character. The delimiter must be a printable, non-numeric, character other than “ ”, “+”, “-”, “:”, “D”, “E”, or “H”. The default character “;” will be used instead unless the end of record delimiter is specified as “;” in which case the end of field delimiter will be set to “;”.

## IAFF\_\_BAD\_GLOBAL\_EOR

End of record delimiter ‘%s’ is illegal. Default will be used instead.

The end of record delimiter (global section parameter 2) is not legal or contains more than one character. The delimiter must be a printable, non-numeric, character other than “ ”, “+”, “-”, “:”, “D”, “E”, or “H”. The default character “;” will be used instead unless the end of field delimiter is specified as “;” in which case the end of field delimiter will be set to “;”.

## IAFF\_DDF\_ERR

Unexpected error accessing IGES ddf.

The formatter cannot be initialized because of an error in accessing the IGES ddf. This is usually caused by specifying a non-IGES model to be formatted or memory has been overwritten.

## IAFF\_FILBUF\_ERR

Error allocating IGES file buffer.

A request for memory failed. This could indicate that the system ran out of memory, swap space was exhausted, or that the heap is corrupted. This error causes the formatter to abort.

## IAFF\_FILE\_EXISTS

File already exists.

The output file already exists. The IAFF\_OVERWRITE option can be used to automatically overwrite the output file. This error causes the formatter to abort.

## IAFF\_FILEIO\_ERR

File I/O error occurred while writing the IGES file.

An I/O error occurred while formatting the file. This error causes the formatter to abort.

## IAFF\_INVALID\_MODEL

Invalid model specified to be formatted.

The model specified to be formatted is not a valid model. This error causes the formatter to abort.

## IAFF\_\_LONG\_ERR

The value of a long number exceeded the maximum width of a field while formatting DE %<DE> (database pointer %<PTR2>). Field will be set to the maximum/minimum number possible for the given field width.

A number to be formatted into the ASCII IGES file required too many digits to fit in the allowable field width. This usually occurs while formatting the DE portion of an entity. This is usually caused by an error in the application which results in bad data being written to the entity.

#### IAFF\_\_MAXEXP\_ERR

The magnitude of a floating point number exceeded the maximum allowable exponent while formatting DE %<DE> (database pointer %<PTR2>). Maximum allowable exponent will be used.

A number to be formatted into the ASCII IGES file had too large an exponent. This is usually caused by an error in the application which results in bad data being written to the entity.

#### IAFF\_\_MINEXP\_ERR

The magnitude of a floating point number was less than the minimum allowable exponent while formatting DE %<DE> (database pointer %<PTR2>). Minimum allowable exponent will be used.

A number to be formatted into the ASCII IGES file had too small an exponent. This is usually caused by an error in the application which results in bad data being written to the entity.

#### IAFF\_MODEL\_EMPTY

Model specified to be formatted does not contain any entities.

The model specified to be formatted is empty. This error causes the formatter to abort.

#### IAFF\_OPEN\_ERR

Error opening file %s.

The specified file could not be opened for writing. This may be caused by not having the proper permissions to open the file. This error causes the formatter to abort.

## IAFF\_TEMPFILE\_ERR

Error opening PD temporary file.

A temporary file to hold PD information could not be opened. This may indicate a protection problem in the temporary file directory. This error causes the formatter to abort.

## IAFP\_\_APTR\_EXPECTED

Non-integer field found where Integer/pointer field type was expected.

A field of type integer or negative pointer was expected but not found. The parser will set the value to an integer 0.

## IAFP\_\_BAD\_COUNT\_FIELD

Invalid count field value.

A count field was found with a negative value. Since count fields define how many fields are expected in an array of values, the count field must be  $\geq 0$ . The parser will set the count to 0. Since the parser has no way of knowing if the count should not have been zero, additional errors about incorrect field types are likely to be generated if there were values present in the array which corresponds to the count field.

## IAFP\_\_BAD\_DATA\_TYPE

Data type in 406:27 not in the range 0-6. Value type will be determined from the value field.

The data type field in a 406:27 was outside of the legal range of 0-6. The parser will determine the actual type from the value field (double, long, or vstring).

## IAFP\_\_BAD\_DE\_BACKPTR

Error decoding DE backpointer.

The parser could not decode the DE backpointer field for this PD line (columns 66-72). The entity will not be parsed.

## IAFP\_\_BAD\_DE\_BLANKING

Error processing DE blanking field.

The blanking field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_COLOR

Error processing DE color field.

The color field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_FONT

Error processing DE line font field.

The line font field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_FORM

Error processing DE form field.

The form field could not be decoded. The parser will set the field to a value of 0. If there is no form 0 for the entity type being parsed, the warning IAFP\_\_UNKNOWN\_TF will be issued.

## IAFP\_\_BAD\_DE\_HIERARCHY

Error processing DE hierarchy field.

The hierarchy field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_LABEL\_DISPLAY

Error processing DE label display pointer field.

The label display pointer field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_LEVEL

Error processing DE level field.

The level number field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_MATRIX

Error processing DE matrix pointer field.

The matrix pointer field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_PDCNT

Error processing DE parameter line count field.

The parameter line count field could not be decoded. The parser will set the field to a value of 0 and issue the warning IAFP\_\_PD\_LINECNT\_MISMATCH when the entity's PD information is parsed.

## IAFP\_\_BAD\_DE\_PDPTR

Error processing DE parameter data pointer field.

The parameter data (PD) pointer field could not be decoded. Since the parser uses the DE backpointer field to associate DE information with PD information, the entity will be parsed and an IAFP\_\_PD\_LINE\_MISMATCH error will be generated.

## IAFP\_\_BAD\_DE\_STRUCTURE

Error processing DE structure field.

The structure pointer field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_SUB

Error processing DE subordination field.

The subordination field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_SUBSCRIPT

Error processing DE subscript field.

The subscript field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_TYPE

Error processing DE entity type field.

The entity type field could not be decoded. The entity will not be parsed.

## IAFP\_\_BAD\_DE\_USAGE

Error processing DE usage field.

The usage field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_VIEW

Error processing DE view pointer field.

The view pointer field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_DE\_WEIGHT

Error processing DE line weight field.

The line weight field could not be decoded. The parser will set the field to a value of 0.

## IAFP\_\_BAD\_END\_OF\_DE

Second card of DE is missing.

The first line of the PD section was found when the parser was expecting to see the second line of a DE entry. The entity will not be parsed.

## IAFP\_BAD\_EOF\_EOR

End of field and end of record delimiters are specified as being the same at line %ld.

The end of field and end of record delimiters must be different. This error aborts the parser.

## IAFP\_BAD\_EOL\_DELIM

The file contains end-of-line delimiters consisting of 3 or more characters.

The character sequence which indicates the end of a line consisted of three or more characters. This error may indicate that the file is not an ASCII IGES file or that it has been transferred incorrectly through a file translation program. This error aborts the parser.

## IAFP\_BAD\_GLOBAL\_EOF

Error in processing global section at line %ld. Field delimiter not found or illegal.

The end of field delimiter (global section parameter 1) was not found or was invalid. The delimiter must be a printable, non-numeric, character other than " ", "+", "-", ":", "D", "E", or "H". This error aborts the parser.

## IAFP\_BAD\_GLOBAL\_EOR

Error in processing global section at line %ld. Record delimiter not found or illegal.

The end of record delimiter (global section parameter 2) was not found or was invalid. The delimiter must be a printable, non-numeric, character other than " ", "+", "-", ":", "D", "E", or "H". This error aborts the parser.

## IAFP\_\_BAD\_GLOBAL\_FIELD

Error processing global section field. Field value will be defaulted.

An error occurred while parsing a field in the global section. The parser will set the field to its default value.

## IAFP\_\_BAD\_HCOUNT

Bad Hollerith count found, Hollerith count must be greater than zero.

The Hollerith count for a text string was found to be less than or equal to zero. The count must be a positive integer. The text field will be treated as a default field and any text following the H will be ignored. This also usually generates an IAFP\_\_EXTRA\_CHARS error.

## IAFP\_BAD\_NAME

Invalid or null filename specified.

A NULL pointer or zero-length string was passed as the filename to be parsed. This error causes the parser to abort.

## IAFP\_\_BAD\_SECTION\_COUNT

Error decoding section count in terminate section.

A section count could not be decoded in the terminate section. The parser will ignore the count and use the actual number of lines found in the section.

## IAFP\_BINARY\_UNSUPPORTED

Binary IGES files are not supported.

The specified IGES file is in binary IGES format which is not currently supported. This error causes the parser to abort.

## IAFP\_\_BLANK\_LINE

Blank line found, line will be ignored.

A blank line was found in the file which will be ignored. This is technically illegal in an IGES file, however, the parser simply ignores the line and continues processing.

## IAFP\_CASCIi\_UNSUPPORTED

Compressed ASCII IGES files are not supported.

The specified IGES file is in compressed ASCII IGES format which is not currently supported. This error causes the parser to abort.

### IAFP\_DATA\_TYPE\_MISMATCH

Data type of %d expected, %d found on DE %<DE>.

A data type defined in the PD data does not correspond to the type of data found.

### IAFP\_\_DE\_CNT\_MISMATCH

DE section line count in terminate section is incorrect.

The number of lines found in the DE section does not match the number specified in the terminate section. The parser will ignore the count found in the terminate section and use the actual number of lines found.

### IAFP\_\_DELIMITER\_IN\_65

Field delimiter found in column 65.

The field delimiter for a PD field was found in column 65, which is illegal. The parser handles this by allowing the delimiter to be in column 65.

### IAFP\_\_DELIMITER\_ON\_NEXT\_LINE

Field delimiter not found on same line as field.

The field delimiter for a numeric PD or Global section field was found on the line following the field. It should be present on the same line as the field which it delimits. The parser assumes that the delimiter found at the start of the next line belongs with the undelimited last field on the current line. If this assumption is incorrect (the delimiter was simply missing rather than being defined on the following line), additional errors about incorrect field types may be generated.

### IAFP\_\_DEPD\_TYPE\_MISMATCH

Entity type specified in DE does not match type found in PD entry.

Entity type specified for this entity in its DE does not match the entity type found in the first PD field. The type specified in the DE is assumed to be correct. If this assumption is wrong, additional errors may be issued about incorrect field data types.

## IAFP\_DE\_SECTION\_MISSING

DE section missing or does not follow global section.

The DE section was not found following the global section. This error causes the parser to abort.

## IAFP\_\_DE\_TYPE\_MISMATCH

Entity type found in first DE card does not match that found in second card.

The entity type specified in the first DE record of this entity is not the same as the one specified in the second DE record. The parser will assume that the type specified in the first record is correct. If this assumption is incorrect, additional errors about incorrect field types may be generated.

## IAFP\_EOF\_ERR

Premature end of file encountered.

The end of the IGES file was found before the terminate section was processed. This error usually indicates that part of the file is missing.

## IAFP\_\_EXTRA\_CHARS

Extraneous characters follow field.

Extra characters were found between the end of a PD or Global section field and the field delimiter. The extra characters will be ignored by the parser.

## IAFP\_\_EXTRA\_GLOBAL\_FLDS

Extra fields found at end of global section.

Extra fields were found at the end of the global section, which the parser will ignore.

## IAFP\_FILBUF\_ERR

Error allocating IGES file buffer.

A request for memory failed. This could indicate that the system ran out of memory, swap space was exhausted, or that the heap is corrupted. This error causes the parser to abort.

#### IAFP\_FILEIO\_ERR

File I/O error occurred while reading the IGES file at line %ld.

An I/O error occurred while parsing the file. This error causes the parser to abort.

#### IAFP\_\_FLOAT\_EXPECTED

Integer found where floating point type was expected. Integer value will be converted to floating point.

A field of type floating point was expected but an integer was found. The parser will set the value to the floating point value of the integer.

#### IAFP\_\_GLOBAL\_CNT\_MISMATCH

Global section line count in terminate section is incorrect.

The number of lines found in the global section does not match the number specified in the terminate section. The parser will ignore the count found in the terminate section and use the actual number of lines found.

#### IAFP\_GLOBAL\_SECTION\_MISSING

Global section missing or does not follow start section.

The global section was not found following the start section. This error causes the parser to abort.

#### IAFP\_\_INVALID\_DE1

DE %ld referenced from the directory entry of DE %<DE> is invalid. DE will be changed to 0.

A DE reference was found which was negative, larger than the number of DE records found, or not an odd number. The value 0 will be used instead. This may cause the entity in which the error was found to become invalid.

## IAFP\_\_INVALID\_DE2

Invalid DE pointer will be changed to 0.

Please refer to the description of IAFP\_\_INVALID\_DE1, above.

## IAFP\_\_INVALID\_DE3

DE reference is negative, but should be positive. Absolute value will be used.

A DE reference was found which was negative but should have been positive. The absolute value will be used.

## IAFP\_\_INVALID\_DE\_BACKPTR

Invalid DE number found in DE backpointer.

The value found in the DE backpointer field for this PD line (columns 66-72) does not correspond to a valid DE number for this file. The entity will not be parsed.

## IAFP\_INVALID\_MODEL

Invalid model specified as target of parse.

The model specified in which to place the parsed IGES file in is not a valid model. This error causes the parser to abort.

## IAFP\_\_LARGER\_DBL\_EXP

IGES file contains numbers with a larger double precision exponent than what is allowed on this system.

Global parameter 10 indicated that this IGES file may contain floating point numbers that are out of the range supported by this system. Numbers larger or smaller than this will be truncated to the largest/smallest numbers this system can represent.

## IAFP\_\_LARGER\_DBL\_SIG

IGES file has greater number of significant digits in double precision numbers than this system.

Global parameter 11 indicated that this IGES file may contain floating point numbers which have more significant digits than are supported on this system. Numbers which have too many significant digits will be truncated.

#### IAFP\_\_LARGER\_SGL\_EXP

IGES file contains numbers with a larger single precision exponent than what is allowed on this system.

Global parameter 8 indicated that this IGES file may contain floating point numbers which are out of the range supported by this system. Numbers larger or smaller than this will be truncated to the largest/smallest numbers this system can represent.

#### IAFP\_\_LARGER\_SGL\_SIG

IGES file has greater number of significant digits in single precision numbers than this system.

Global parameter 9 indicated that this IGES file may contain floating point numbers which have more significant digits than are supported on this system. Numbers which have too many significant digits will be truncated.

#### IAFP\_\_MAGNITUDE\_ERR

The magnitude of this field exceeds the range of this system.

The value of a floating point field exceeded the range of this system. The floating point field is set to the largest or smallest value which this system can represent depending on the size of the field.

#### IAFP\_MALLOC\_ERR

Memory allocation error.

A request for memory failed, and aborted the parser. This may indicate that: you ran out of memory, swap space was exhausted or the heap is corrupted.

## IAFP\_\_MISSING\_DELIMITER

Section or entity changed while searching for end of field delimiter.

The section or entity changed while searching for the field delimiter of a PD field. This error can also be generated if the DE backpointer is set incorrectly in the second or subsequent PD lines. This usually indicates a major structural problem with the file and some data will probably be lost.

## IAFP\_\_MISSING\_EOL\_DELIM

Could not locate end of line delimiter, assuming card is 80 columns.

An end of record delimiter was expected after 80 columns but was not found. When this condition occurs, the parser will attempt to scan ahead looking for a delimiter (in case the line contains extra characters). If none is found within the next 80 characters, the parser assumes that the delimiter is simply missing and adds a delimiter after the 80th character.

## IAFP\_\_MISSING\_SCTN\_LTR

Section letter not found in column 73.

The required section letter was not found in column 73. The parser will search backward from the end of the line looking for the section letter of the current file section or the next file section. If found, the parser will attempt to reconstruct the line. If not found, the parser will assume that the line belongs in the current section and will reconstruct it based on that.

## IAFP\_MODEL\_NOT\_EMPTY

Model specified as target of parse is not empty.

The model specified in which to place the parsed IGES file is not empty. This error causes the parser to abort.

## IAFP\_\_MULTIPLE\_PD

Multiple PD entries for a single DE.

Two or more PD entries referenced the same DE from the DE backpointer field. The first PD entry found for the given DE backpointer will be used and subsequent PD entries referencing the same DE will be ignored. This error can also be generated if the DE backpointer field on the indicated line was incorrect. If this is the case, the fields within the entity that referenced this PD entry will be set to default values.

## IAFP\_\_NO\_SCTN\_LTR

Could not locate section letter, assuming current section.

The section letter for a line that had to be reconstructed could not be found. The parser assumes that the line belongs in the current section and will continue reconstructing the line.

## IAFP\_NOT\_FOUND

File %s does not exist.

The specified file could not be found. This error causes the parser to abort.

## IAFP\_OPEN\_ERR

Error opening file %s.

The specified file could not be opened for reading. This may be caused by not having the proper permissions to open the file. This error causes the parser to abort.

## IAFP\_\_PD\_CNT\_MISMATCH

PD section line count in terminate section is incorrect.

The number of lines found in the PD section does not match the number specified in the terminate section. The parser will ignore the count found in the terminate section and use the actual number of lines found.

## IAFP\_\_PD\_LINE\_MISMATCH

PD line pointer does not point to proper PD card.

The PD line pointer in DE field 2 of this entity does not reference the first line of its PD entry. This error is also generated when two or more PD entries have the same DE backpointer in columns 66-72 or the PD line pointers in two or more DEs reference the same PD entry.

## IAFP\_\_PD\_LINECNT\_MISMATCH

Number of PD lines found, does not match number expected.

The number of lines of PD information for this entity does not match the number specified in field 14 of its DE. This error is also generated when two or more PD entries have the same DE backpointer.

## IAFP\_\_PD\_NOT\_COMPLETE

PD section ended prematurely.

The PD section ended in the middle of a text string. The parser truncates the text string to whatever was parsed on the previous line(s). Any data following the text string is left in an undefined state in the resulting entity. This error usually indicates a major structural problem with the file and some data will probably be lost.

## IAFP\_PD\_SECTION\_MISSING

PD section missing or does not follow DE section.

The PD section was not found following the DE section. This error causes the parser to abort.

## IAFP\_\_PD\_SEQNUM\_ERR

Error in decoding PD sequence number.

The PD sequence number could not be decoded. The parser will assume that it is was equal to the previous sequence number plus one.

## IAFP\_\_PD\_TYPE\_ERR

Error occurred while decoding entity type in PD entry.

The PD entity type (in the first PD field) could not be decoded. The parser assumes that the type specified in the DE section is correct.

## IAFP\_\_PD\_TYPE\_MISMATCH

Type of PD field found does not match expected type.

The type of data found in a PD field did not match the type expected for the field. This error can be caused by a wide variety of conditions. Usually the field is of the incorrect type. It can also be a side-effect of another problem with the entity that makes the parser think the entity is of a different type. If this happens, the parser expects the field types defined for the wrong type of entity. The parser treats the field as if it had been defaulted.

## IAFP\_PIP\_UNSUPPORTED

PIP format IGES files are not supported.

The specified IGES file is in PIP (IGES/Lib 3.x) format which is not currently supported. This error causes the parser to abort.

## IAFP\_READ\_ERR

Error reading from file %s.

A file I/O error occurred while determining the type of IGES file. This error causes the parser to abort.

## IAFP\_SECTION\_ORDER

IGES file sections are out of order at line %ld.

A section that was expected was not found. The file sections must be in the order: flag, start, global, DE, PD, terminate. This error aborts the parser.

## IAFP\_\_SHORT\_LINE

Line is not 80 columns long.

A record was found that was not 80 columns long. This is usually caused when one or more characters is deleted from the line. The parser will attempt to reconstruct a valid line by searching backwards from the end of the line for a sequence number. If found, the sequence number will be placed in the proper location on the line and the remainder of the line will be blank padded. Since the line was incomplete in the file, there is a good chance that data may be missing and subsequent errors may be generated.

## IAFP\_\_START\_CNT\_MISMATCH

Start section line count in terminate section is incorrect.

The number of lines found in the start section does not match the number specified in the terminate section. The parser will ignore the count found in the terminate section and use the actual number of lines found.

## IAFP\_TEMPFILE\_ERR

Error opening DE temporary file.

A temporary file to hold DE information could not be opened. This may indicate a protection problem in the temporary file directory. This error causes the parser to abort.

## IAFP\_TERMINATE\_SECTION\_MISSING

Terminate section missing or does not follow PD section.

The terminate section was not found following the PD section. This error causes the parser to abort.

## IAFP\_UNKNOWN\_FILETYPE

IGES file type could not be determined for file %s.

The type of IGES file could not be determined. The character in column 73 of the first line must be one of: S, C, B, or their lowercase equivalents. This error can also be caused by blank lines at the start of the file or extra characters in the first line. This error causes the parser to abort.

## IAFP\_\_UNKNOWN\_FORM

Entity type/form (%<TF>) of DE %ld is unknown. Form 0 will be used.

An entity type was found in the file with an unknown form number. However, form 0 of the entity type is defined, and the parser will assume that is the intended form and create an entity with 0 for the form number.

## IAFP\_\_UNKNOWN\_PROP

Unknown property form. Property assumed to be in standard IGES property format.

A property entity (type 406) was found in the file with an unknown form number. The parser assumes that the property is in standard IGES format (the number of property values followed by the list of property values, followed by the standard lists of property and associativity pointers). If this assumption is incorrect, additional errors about incorrect field types may be generated.

## IAFP\_\_UNKNOWN\_TF

Entity type/form (%<TF>) of DE %ld is unknown.  
Property/associativity data will not be processed correctly.

An entity was found in the file with an unknown type/form. The parser will read the entity into a structure that the application can access. However, property/associativity pointers will not be recognized correctly and will be stored in the structure in the same manner as the other PD information. The information stored by the parser will always be of type double, long, or vstring.

## IGDX\_BADBOUNDS

The NURBS curve/surface geometric bounds values are invalid.

The IGES NURBS curve/surface entity definition contains bounds value(s) that are not within the parametric domain of the IGES NURBS curve/surface. Validate the IGES NURBS curve/surface entity definition.

## IGDX\_BADCONIC

The conic form degenerates.

The IGES conic entity definition is degenerative and cannot be processed. Validate the IGES conic entity definition.

## IGDX\_BADSPLINEDEG

The degree of the GDX spline curve/surface must be less than or equal to 3.

The degree of the internal spline curve/surface entity must not be greater than 3 for conversion to an IGES parametric spline curve/surface entity.

## IGDX\_DEGENELLIP

The definition of the ellipse degenerates to a point or a line.

The definition of the IGES conic ellipse degenerates to a point or a line and can not be processed. Validate the IGES conic entity definition.

## IGDX\_DEGENHYPERBOLA

The definition of the hyperbola degenerates to a point or a line.

The definition of the IGES conic hyperbola degenerates to a point or a line and can not be processed. Validate the IGES conic entity definition.

## IGDX\_DEGENPARABOLA

The definition of the parabola degenerates to a point or a line.

The definition of the IGES conic parabola degenerates to a point or a line and can not be processed. Validate the IGES conic entity definition.

## IGDX\_DEGENSPLINE

The definition of the spline degenerates to zero.

The definition of the IGES parametric spline curve/surface degenerates to zero. Validate the IGES parametric spline curve/surface entity definition.

## IGDX\_ENTITYNOTSUPPORTED

The IGES entity is not currently supported for this operation.

A call was made to a function with an entity that is not supported by that function. This error is caused by either an invalid function call (for example, an attempt was made to convert a curve with a call to convert a surface function), or because the support for this entity has not yet been implemented in the library. The application

should verify that the correct call is being made, and you should verify the definition of a parent entity that may be referencing this entity.

### IGDX\_INVALIDCONIC

The conic is not the standard form.

The form of the IGES conic entity is not valid. Validate the IGES conic entity definition.

### IGDX\_INVALIDIDENTITYFORM

The form of the entity is not supported for this operation.

The form of the IGES entity is not supported for the current operation. Validate that the correct operation is being performed on the entity.

### IGDX\_INVALIDMODEL

The model for the IGES or GDX entity does not agree with the entity type.

The model specified for entity creation does not correspond to the type of entity requested for creation. The application should verify that the model for the internal entity creation is an internal model or that the model for the IGES entity creation is an IGES model.

### IGDX\_OFFSETTYPENOTSUPPORTED

The IGES curve offset type is not currently supported.

The IGES offset curve type is currently not supported for the requested processing of the IGES offset curve.

### IGEO\_ATTRSTACKUNDERFLOW

The entity attribute stack has underflowed.

An attempt to pop an attribute off the attribute stack resulted in an attribute stack underflow. The application should verify that the correct call is being made.

### IGEO\_BADBNDRY

The IGES 144/143 entity does not contain a unique outer boundary.

The IGES 144/143 entity has more than one boundary and none of the boundaries is a unique outer boundary of the surface to be trimmed. Verify and correct the definition of the IGES entity.

## IGEO\_BADDATA

Bad data was encountered for the specified operation.

Due to bad input data or a software error, bad data was generated for the specified operation. Verify the input data and report a possible software error.

## IGEO\_BADDEGREE

The degree of the IGES NURBS entity must be less than or equal to 3 for conversion to an IGES parametric spline entity.

A call was made to a function to convert an IGES NURBS curve or surface to an IGES parametric spline curve or surface and the degree of the IGES NURBS curve or surface was greater than 3. The application should verify that the correct call is being made.

## IGEO\_BADOFFSETBOUNDS

The offset curve parametric bounds values are not within the parametric bounds of the base entity.

The parametric bounds specified in the IGES offset curve entity are outside the bounds of the base curve. Verify the definition of the IGES offset curve entity.

## IGEO\_BNDRYLOOPNOTCLOSED

The parameter space bounded surface loop is not closed in model space. The curve will be closed for approximation.

The parameter space IGES Bounded Surface Boundary loop is not closed in model space. Verify the definition of the IGES parameter space Boundary curve data.

## IGEO\_BNDRYREORIENTED

A boundary curve for the bounded surface was oriented incorrectly. The boundary curve will be reoriented for approximation.

The IGES Bounded Surface has a boundary curve that is not oriented correctly. The curve is reoriented (reversed parametrically) for linear approximation, but verify the IGES Boundary curve data.

## IGEO\_CNVNOTSUPPORTED

The conversion of the IGES entity is not currently supported.

A call was made to a function to convert an IGES entity to another IGES entity when this conversion is not supported. The application should verify that the correct call is being made.

## IGEO\_COLINSECTAREA

The section area data is all colinear.

The IGES section area boundary curve data is collinear and cannot be processed. Verify the IGES section area boundary curve data.

## IGEO\_CURVEISNURBS

The IGES curve to convert is already a NURBS curve.

A call was made to a function to convert an IGES curve to a NURBS curve when the IGES curve was already a NURBS curve. The application should verify that the correct call is being made.

## IGEO\_CURVENOTCONIC

The form of the IGES NURBS curve is not a conic(3-5).

A call was made to a function to convert an IGES NURBS curve entity to an IGES conic entity and the IGES NURBS curve entity was not a definition of a conic. The application should verify that the correct call is being made.

## IGEO\_CURVENOTNURBS

The IGES curve to convert is not a NURBS curve.

A call was made to a function to convert an IGES NURBS curve entity to another entity and the IGES entity was not a NURBS curve. The application should verify that the correct call is being made.

## IGEO\_CURVENOTONSURF

The approximation of the IGES curve (DE = %ld) is off the IGES surface by %lf which is more than the requested approximation tolerance. The closest surface points to the point approximation of the curve will be used for approximation.

The approximation of the IGES curve could not be projected to the IGES surface to within the requested tolerance. The closest points on the surface to the curve linear approximation points will be used for approximation. Verify the IGES entity definition.

## IGEO\_DISCONTINUOUS

The IGES entity is discontinuous between segment %d and %d. A linear segment will be added at the discontinuity for approximation.

A geometric discontinuity greater than the linear approximation tolerance was encountered at the specified segment during linear approximation. The discontinuity will be bridged with a linear segment for approximation, but verify the definition of the IGES entity.

## IGEO\_DISCONTINUOUSWARNING

A discontinuity was encountered approximating the IGES entity.

A non-fatal geometric discontinuity was encountered within the indicated IGES entity during linear approximation. Verify the definition of the IGES entity.

## IGEO\_DONE

Done accessing linear approximation data.

This message is a status indicator for accessing linear approximation data.

## IGEO\_ENTITYNOT100

The IGES entity to convert is not an IGES circular arc (100).

A call was made to a function to convert an IGES circular arc (100) entity to another entity when the IGES entity was not an IGES 100. The application should verify that the correct call is being made.

## IGEO\_ENTITYNOT102

The IGES entity to convert is not an IGES composite curve (102).

A call was made to a function to convert an IGES composite curve (102) entity to another entity when the IGES entity was not an IGES 102. The application should verify that the correct call is being made.

## IGEO\_ENTITYNOT104

The IGES entity to convert is not an IGES conic (104).

A call was made to a function to convert an IGES conic arc (104) entity to another entity when the IGES entity was not an IGES 104. The application should verify that the correct call is being made.

## IGEO\_ENTITYNOT106

The IGES entity to convert is not an IGES copious data (106).

A call was made to a function to convert an IGES copious data (106) entity to another entity when the IGES entity was not an IGES 106. The application should verify that the correct call is being made.

## IGEO\_ENTITYNOT108B

The IGES surface to convert is not an IGES bounded plane surface (108:1).

A call was made to a function to convert an IGES bounded plane (108:1) entity to an IGES NURBS surface and the IGES entity was not an IGES bounded plane entity. The application should verify that the correct call is being made.

## IGEO\_ENTITYNOT110

The IGES entity to convert is not an IGES line (110).

A call was made to a function to convert an IGES line (110) entity to another entity when the IGES entity was not an IGES 110. The application should verify that the correct call is being made.

## IGEO\_ENTITYNOT112

The IGES entity to convert is not an IGES parametric spline (112).

A call was made to a function to convert an IGES parametric spline (112) entity to another entity when the IGES entity was not an IGES 112. The application should verify that the correct call is being made.

## IGEO\_ENTITYNOT114

The IGES entity to convert is not an IGES parametric spline surface (114).

A call was made to a function to convert an IGES parametric spline surface (114) entity to an IGES NURBS surface entity and the IGES entity was not an IGES parametric spline surface. The application should verify that the correct call is being made.

#### IGEO\_ENTITYNOT116

The IGES entity to convert is not an IGES point (116).

A call was made to a function to convert an IGES point (116) entity to another entity when the IGES entity was not an IGES 116. The application should verify that the correct call is being made.

#### IGEO\_ENTITYNOT118

The IGES surface to convert is not an IGES ruled surface (118).

A call was made to a function to convert an IGES ruled surface (118) entity to an IGES NURBS surface and the IGES entity was not an IGES ruled surface entity. The application should verify that the correct call is being made.

#### IGEO\_ENTITYNOT120

The IGES surface to convert is not an IGES surface of revolution (120).

A call was made to a function to convert an IGES surface of revolution (120) entity to an IGES NURBS surface and the IGES entity was not an IGES surface of revolution entity. The application should verify that the correct call is being made.

#### IGEO\_ENTITYNOT122

The IGES surface to convert is not an IGES tabulated cylinder surface (122).

A call was made to a function to convert an IGES tabulated cylinder surface (122) entity to an IGES NURBS surface and the IGES entity was not an IGES tabulated cylinder surface entity. The application should verify that the correct call is being made.

#### IGEO\_ENTITYNOT130

The IGES entity to convert is not an IGES offset curve (130).

A call was made to a function to convert an IGES offset curve (130) entity to another entity when the IGES entity was not an IGES 130. The application should verify that the correct call is being made.

#### IGEO\_ENTITYNOT140

The IGES surface to convert is not an IGES offset surface (140).

A call was made to a function to convert an IGES offset surface (140) entity to an IGES NURBS surface entity and the IGES entity was not an IGES 140. The application should verify that the correct call is being made.

#### IGEO\_ENTITYNOTANNOT

IGES entity is not an annotation entity.

A call was made to a function to process an IGES annotation entity when the entity is not an IGES annotation entity. The application should verify that the correct call is being made and you should verify the definition of a parent entity that may be calling this entity.

#### IGEO\_ENTITYNOTCURVE

IGES entity is not a curve entity.

A call was made to a function to process an IGES curve entity when the entity is not an IGES curve entity. The application should verify that the correct call is being made and you should verify the definition of a parent entity that may be referencing this entity.

#### IGEO\_ENTITYNOTGEOM

The specified entity is not an IGES geometric entity.

A call was made to a function to process an IGES geometric entity when the IGES entity was not geometry. The application should verify that the correct call is being made and you should verify that a parent entity has an invalid reference to this entity.

#### IGEO\_ENTITYNOTOTHER

IGES entity is not an other entity.

A call was made to a function to process an IGES entity that is other than an IGES Annotation, Curve, Surface, or Text entity and the IGES entity is not an IGES other entity. The application should verify that the correct call is being made and/or you should verify the definition of a parent entity that may be referencing this entity.

### IGEO\_ENTITYNOTSUPPORTED

IGES entity is not currently supported for this operation.

A call was made to a function with an entity that is not supported by that function. This is caused by either an invalid function call (for example, an attempt was made to approximate a curve with a call to the surface approximation function) or because the support for this entity has not yet been implemented. The application should verify that the correct call is being made and/or you should verify the definition of a parent entity that may be calling this entity.

### IGEO\_ENTITYNOTSURFACE

IGES entity is not a surface entity.

A call was made to a function to process an IGES surface entity when the entity is not an IGES surface entity. The application should verify that the correct call is being made and/or you should verify the definition of a parent entity that may be referencing this entity.

### IGEO\_ENTITYNOTTEXT

IGES entity is not a text entity.

A call was made to a function to process an IGES text entity when the entity is not an IGES text entity. The application should verify that the correct call is being made and you should verify the definition of a parent entity that may be referencing this entity.

### IGEO\_ENTITYTYPENOTSUPPORTED

This entity type has not been implemented for support.

Support for processing of this IGES entity has not been implemented in this function. The application should verify that the correct call is being made.

## IGEO\_INNERTRIMLOOPREORIENTED

A parametric curve(B) defining an inner surface trimming loop is oriented incorrectly. The parametric curve(B) will be reoriented for approximation.

The IGES Trimmed Surface Inner Curve on Surface parameter space and/or model space trimming curve(s) is not oriented correctly (clockwise relative to the surface parameterization). The curve is reoriented (reversed parametrically) for linear approximation, but you should verify the IGES Curve on Surface parameter space curve data.

## IGEO\_INVALID102ENTITY

The IGES composite curve entity references an invalid entity.

An IGES composite curve(102) entity references an invalid IGES entity. Verify the IGES composite curve entity definition.

## IGEO\_INVALIDAPPROXMETHOD

The requested approximation method is not valid.

The requested approximation method is not valid. The application should verify that the correct call is being made.

## IGEO\_INVALIDAPPXMESH

The requested surface mesh must be greater than 1 X 1.

The requested surface approximation mesh is invalid. The application should verify that the correct call is being made and you should specify a mesh greater than 1 x 1.

## IGEO\_INVALIDDEGREE

The degree must be greater than 0 for conversion of the IGES entity.

A call was made to a function to convert an IGES NURBS entity to an IGES NURBS entity of lower degree and the degree specified was invalid. The application should verify that the correct call is being made.

## IGEO\_INVALIDENTITYTYPE

The section area curve entity type is invalid.

The IGES section area boundary curve type is not a valid curve type for the IGES section area entity. Verify the definition of the IGES section area entity.

## IGEO\_INVALIDFILLTYPE

The section area fill type is not currently supported or invalid.

The IGES section area fill type specified is not currently supported for processing of the IGES section area. Verify the definition of IGES section area.

## IGEO\_INVALIDMODEL

The model for IGES entity creation is not an IGES model.

The model that was specified for the current IGES model is not an IGES model. The application should verify that the correct model is being specified for the current IGES model.

## IGEO\_INVALIDNUMBERIVS

The number of derivatives must be greater than or equal to 0.

A call was made to a function to evaluate derivatives and the number of derivatives requested was less than zero. The application should verify that the correct call is being made and you should request the maximum derivative to be greater than or equal to zero.

## IGEO\_INVALIDNUMPTS

The requested number of approximation points must be greater than 1.

The requested number of linear approximation points is invalid. The application should verify that the correct call is being made and you should specify the number of linear approximation points to be greater than 1.

## IGEO\_INVALIDOPTION

The specified option is not supported.

A call was made to a function with an invalid option. The application should verify that the correct call is being made.

## IGEO\_INVALIDOUTBNDRY

The IGES 144 entity outer boundary IGES 142 entity is not the outer boundary. The correct outer boundary will be used for approximation.

The IGES 144 entity outer boundary IGES 142 entity is not the outer boundary as specified in the entity definition. For approximation, the correct outer boundary has been determined and will be used. Verify the definition of the IGES entity.

## IGEO\_INVALIDPARMVALUE

The evaluation parameter values is not between 0.0 and 1.0 inclusive.

The evaluation parameter value is not within the valid range of 0.0 to 1.0 inclusive. The application should verify that the correct call is being made.

## IGEO\_INVALIDPNTTYPE

The requested approximation point type is not valid.

The requested approximation point type is not valid. The application should verify that the correct call is being made.

## IGEO\_INVALIDREPARM

The specified reparameterization values are invalid. The ending parameter must be greater than the starting parameter value.

A call was made to a function to reparameterize an IGES NURBS entity and the new parameter value(s) were invalid. The application should verify that the correct call is being made.

## IGEO\_INVALIDTOLERANCE

The requested approximation tolerance must be greater than 0.0.

The requested approximation tolerance value is invalid. The application should verify that the correct call is being made and you should specify a tolerance greater than 0.0.

### IGEO\_INVALIDTYPEOFATTR

The type of entity attribute is invalid.

The attribute type requested for processing was not a valid type. The application should verify that the correct call is being made.

### IGEO\_MISSINGBNDRY

A boundary for the IGES 143 entity is missing and has been added.

The IGES 143 entity has a boundary curve missing. The missing boundary has been determined to be the natural boundary of the base surface and will be added for the current operation. Verify and correct the definition of the IGES entity.

### IGEO\_MODELLOOPNOTCLOSED

The model space bounded surface loop is not closed. The curve will be closed for approximation.

The model space IGES Bounded Surface Boundary loop is not closed. Verify the definition of the IGES model space boundary curve data.

### IGEO\_NEWMODELCURV

The model space curve is missing and will be recreated by using the existing parameter space curve.

The model space curve is missing from this entity and the parameter space curve will be used to regenerate the missing model space curve. Verify the definition of this entity.

### IGEO\_NOAPPROXDATA

A request for approximation data information was made and no approximation data exists.

A request for approximation data information was made and the application has not allocated the approximation data workspace. The application should verify the use of the approximation data.

## IGEO\_NOCONVERGE

The linear approximation does not converge to the requested tolerance.

The linear approximation of an IGES entity does not converge within the requested tolerance. The tolerance specified should be increased and the validity of the IGES entity being processed should be verified.

## IGEO\_NOGDXENTITY

The IGES entity does not have a GDX entity representation.

The IGES entity does not have a corresponding internal entity representation. The application should verify that the correct call is being made.

## IGEO\_NOIGESEntity

The GDX entity does not have an IGES entity representation.

The internal entity does not have a corresponding IGES entity representation. The application should verify that the correct call is being made.

## IGEO\_NOINNERBOUND

The IGES section area entity has no inner boundary required for this form.

The IGES section area entity had no inner boundary specified as required by its form and could not be processed. Verify the definition of the IGES entity.

## IGEO\_NOMEMORY

No more memory available

A request for memory failed. This could indicate that you ran out of memory, swap space was exhausted, or that the heap is corrupted.

## IGEO\_NOMODELCURV

The model space curve is required for this operation and is missing.

The model space curve is missing from this entity and is required for this operation. Verify the definition of this entity.

## IGEO\_NOOUTERBOUND

The IGES section area entity has no outer boundary required for this form.

The IGES section area entity had no outer boundary specified as required by its form and could not be processed. Verify the definition of the IGES entity.

## IGEO\_NOPARMCRV

The projection of the model space curve to the surface produced no parameter space curves.

The projection of the model space curve to the surface did not create any parameter space curves. The model space curve may be degenerate or may not lie in the domain of the surface. Verify the entity's surface and model space curve definitions.

## IGEO\_NOPARMCURV

The parameter space curve is required for this operation and is missing.

The parameter space curve is missing from this entity and is required for this operation. Verify the entity definition.

## IGEO\_NOTRELIMITED

The IGES NURBS curve/surface is not relimited.

A call was made to a function to unrelimit an IGES NURBS curve or surface and the IGES NURBS curve or surface was not relimited. The application should verify that the correct call is being made.

## IGEO\_NURBSNOTARC

The form of the IGES NURBS curve is not an arc(2).

A call was made to a function to convert an IGES NURBS curve entity to an IGES arc entity and the IGES NURBS curve entity was not a definition of an arc. The application should verify that the correct call is being made.

## IGEO\_NURBSNOTCOMPOSITE

The form of the IGES NURBS curve is not a composite curve.

A call was made to a function to convert an IGES NURBS curve entity to an IGES composite entity and the IGES NURBS curve entity was not a definition of a composite curve (only contained a single segment). The application should verify that the correct call is being made.

### IGEO\_NURBSNOTCOPIOUS

The IGES NURBS curve data does not represent a copious data entity.

A call was made to a function to convert an IGES NURBS curve to an IGES copious data entity and the IGES NURBS curve entity does not define a copious data entity. The application should verify that the correct call is being made.

### IGEO\_NURBSNOTLINE

The form of the IGES NURBS curve is not a line(1).

A call was made to a function to convert an IGES NURBS curve entity to an IGES line entity and the IGES NURBS curve entity was not a definition of a line. The application should verify that the correct call is being made.

### IGEO\_NURBSNOTPOINT

The IGES NURBS curve data does not represent a point entity.

A call was made to a function to convert an IGES NURBS curve to an IGES point entity and the IGES NURBS curve entity does not define a point. The application should verify that the correct call is being made.

### IGEO\_NURBSNOTUNKNOWN

The IGES NURBS curve data does not represent an unknown form.

A call was made to a function to convert an IGES NURBS curve to an IGES unknown curve entity when the form of the IGES NURBS curve entity is not unknown. The application should verify that the correct call is being made.

### IGEO\_OFFSETTYPENOTSUPPORTED

The IGES curve offset type is not currently supported.

The IGES offset curve type is currently not supported for the requested processing of the IGES offset curve.

## IGEO\_OUTOFBOUNDS

The parameter values specified is not within the entities parametric bounds.

A call was made to a function to normalize a parameter value when the parameter value was not in the valid parametric range of the IGES entity. The application should verify that the correct call is being made.

## IGEO\_RATIONAL

Only a non-rational IGES NURBS entity can be converted to an IGES parametric spline entity.

A call was made to a function to convert an IGES NURBS curve or surface to an IGES parametric spline curve or surface and the IGES NURBS curve or surface was rational. The application should verify that the correct call is being made.

## IGEO\_SECTAREANOTCLOSED

The section area is not closed.

A boundary curve off the IGES section area is not closed. Verify the IGES section area boundary curve data.

## IGEO\_SURFACEISNURBS

The IGES surface to convert is already a NURBS surface.

A call was made to a function to convert an IGES surface entity to an IGES NURBS surface and the IGES entity was already an IGES NURBS surface. The application should verify that the correct call is being made.

## IGEO\_SURFACENOTNURBS

The IGES surface to convert is not a NURBS surface.

A call was made to a function to convert an IGES NURBS surface to another IGES surface entity and the IGES entity was not an IGES NURBS surface. The application should verify that the correct call is being made.

## IGEO\_TOOMANYPARAMCRV

The projection of the model space curve to the surface produced more than one parameter space curve. Only one closed parameter space curve is allowed for this entity.

The projection of the model space curve to the surface resulted in the creation of more than one parameter space curve. The model space curve may cross a seam or a pole which produces an unclosed and greater than one parameter space curve. Verify the surface and model space curve definitions for this IGES entity.

## IGEO\_TRIMLOOPNOTCLOSED

The curve on parametric surface trimming loop is not closed. The curve will be closed for approximation.

The IGES Trimmed Surface Curve on Surface trimming loop is not closed. The trimming loop curve will be closed for linear approximation by adding a linear segment between the last point and the start point. Verify the definition of the IGES Curve on Surface curve data.

## IGEO\_TRIMLOOPREORIENTED

The parametric curve(B) defining the outer surface trimming loop is oriented incorrectly. The parametric curve(B) will be reoriented for approximation.

The IGES Trimmed Surface Outer Curve on Surface parameter space and/or model space trimming curve(s) is not oriented correctly (counterclockwise relative to the surface parameterization). The curve is reoriented (reversed parametrically) for linear approximation, but you should verify the IGES Curve on Surface parameter space curve and/or model space curve data.

## IGEO\_TRIMNOCONVERGE

The linear approximation of a trimmed/bounded surface is not converging to the requested tolerance.

The linear approximation of an IGES trimmed/bounded surface entity is not converging to the requested tolerance. The closest point to the requested tolerance will be used, but the approximation will not be to the requested tolerance. The tolerance specified should be increased and the validity of the IGES entity being processed should be verified.

## IGEO\_ZEROAREASURFACE

The area for the IGES surface is 0.0.

The surface area of the IGES surface to be processed is 0.0. Verify the IGES surface data and/or any data that may trim the IGES surface.



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# Glossary

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ANSI

American National Standards Institute. The primary organization for fostering the development of technology standards in the United States. ANSI works with industry groups and is the U.S. member of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

ASCII

American Standards for Code Information Interchange. Developed by the American National Standards Institute (ANSI).

BREP

Boundry Representation

CAD/CAM

Computer Aided Design/ Computer Aided Manufacturing

CGOS

CADDS Graphical Operating System .

CAMU

Concurrent Assembly Mock-Up. A PTC Product used to design an overall product structure and to manage the overall development of the product.

CATIA

CATIA is the flagship CAD/CAM/CAE/F system from Dassault Systems. The product is marketed worldwide by IBM Engineering Solutions.

IGES

Initial Graphics Exchange Specification

ISO

International Organization for Standardization, founded in 1946, is a worldwide federation of national standards bodies from some 100 countries, one from each country. Among the standards it fosters is Open Systems Interconnection (OSI), a universal reference model for communication protocols. Many countries have national standards organizations such as the American National Standards Institute (ANSI) that participate in and contribute to ISO standards making.

iso-parametric

A means of parametrizing a curve by controlling the location of points in an Iso -u or Iso -v manner.

MIPTR

Master Index Pointer

NURBS

A PTC software application used for modeling and manipulating Non-uniform Rational B-spline curves and surfaces.

NIST

National Institute of Standards and Technology. Formerly the National Bureau of Standards, promotes and maintains measurement standards. It also has active programs for encouraging and assisting industry and science to develop and use these standards.

VDA-FS

Verband der Automobilindustrie Flächenschnittstelle. A data exchange format.

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