



CALS TEST NETWORK

AFCTN Test Report 93-021

AFCTB-ID
92-030



Technical Publication Transfer Test

Using:



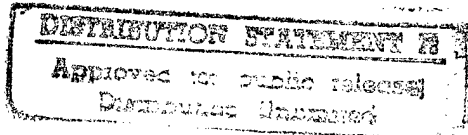
OC-ALC/TISDTPP ATOS



MIL-D-28000 (IGES)
MIL-M-28001A (SGML)



Quick Short Test Report



06 MAY 1992

19960822 188



Prepared for
Electronic Systems Center

DTIC QUALITY INSPECTED 3

AFCTN Test Report
93-021

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USING:
OC-ALC/TISDTPP ATOS**

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MIL-M-28001A (SGML)**

QUICK SHORT TEST REPORT

06 MAY 1992

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DTIC QUALITY INSPECTED 3

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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Computer-aided Acquisition and Logistics Support (CALs) Test Network (AFCTN) is conducting test of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze OC-ALC/TISDTPP ATOS's interpretation and use of the CALS standards in transferring their technical publications data. OCALC/TISDTPP used its ATOS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 92-030

Date of Evaluation: 6 May 1992

Evaluator: George Elwood
Air Force CALS Test Bed
HQ ESC/ENSP
4027 Colonel Glenn Hwy
Suite 200
Dayton OH 45431-1601

Data Originator: OC-ALC/TILDTPP ATOS
Walt Myatt
Building 3001
Tinker AFB, OK 73145

Data Description: Technical Manual Test
1 Document Declaration file
1 Document Type Definitions (DTD)

Exchange Specification (IGES) files

Data Source System:

IGES

HARDWARE

Unknown

SOFTWARE

Auto-Trol S5000 v7.0

Text/Standard Generalized Markup Language (SGML)

HARDWARE

Unknown

SOFTWARE

Unknown

**Evaluation
Tools Used:**

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN Tapetool v1.2.8 UNIX
AGFA Compugraphics CALS v40.4

MIL-D-28000 (IGES)

SUN 3/60

Rosetta Technology Preview v3.1
IGES Data Analysis (IDA) IGESview v2.0
Sun SparcStation 2
International TechneGroup Incorporated
(ITI) IGES/Works
Cheetah Gold 486
Autodesk AutoCAD 386 R11
CADKEY Cadkey v4.0
IDA IGES Parser/Verifier
Software Publishing Corporation
(SPC) Harvard Graphics v3.0

MIL-M-28001 (SGML)

Cheetah Gold 486

Exoterica XGMLNormalizer v1.2e3.2
Datalogics ParserStation v3.36

**Standards
Tested:**

MIL-STD-1840A
MIL-D-28000A
MIL-M-28001A

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was not marked with the magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was enclosed in barrier sheet material, as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed a lack of the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Some 9-track tape units require this BPI to be set manually. Enclosed in the box was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tape was run through the AFCTB *Tapetool v1.2.8* utility. No errors were encountered while evaluating the contents of the tape labels. No errors were reported when the tape was read using the AGFA *CAPS read1840A* utility.

3.2.2 Declaration and Header Fields

No errors were reported in the Document Declaration file header or the data file headers.

5. SGML Analysis

The DTD did not contain the necessary references to the included graphics files. The tape contained eight IGES files which were part of the document. The Text file was scanned and these external references were found. This information was added to the DTD and parsed using Exoterica's *XGMLNormalizer*. No errors were reported during this operation.

The required changes were made to the supplied DTD including adding the external references. This resulting DTD was then parsed using Datalogics' *ParserStation*. The DTD parsed with several minor noted errors. The external ISO reference set addresses the entity "inodot" in two different sets. The parser also noted that several entities were defined as empty. When the Text file was parsed using the menu system, an "out of memory" condition was reported. By running the parser from the command line, a successful parse was possible. USLynx uses the Datalogics parser as part of its system. Because of the memory problem, it was not possible to recreate the document using the USLynx software.

6. Raster Analysis

No Raster files were included on this tape.

7. CGM Analysis

No Computer Graphics Metafile (CGM) files were included on this tape.

8. Conclusions and Recommendations

In summary, the MIL-STD-1840A tape from OC-ALC/TISDTPP ATOS was basically correct. The tape could be read properly using the AFCTN *Tapetool* and AGFA *CAPS* software without a reported error.

The IGES files did not meet the CALS MIL-D-28000 specification. The Start Section information was missing, an illegal entity was used, and values for other entities were incorrect. The files generated in the AFCTB were not usable because of text overflow problems.

The DTD was not complete. The external entity, which defined the IGES files, were not included with the DTD or the Text files. When these entities were found and inserted into the DTD, the Text file parsed without reported error.

The tape did not meet the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Wed May 6 07:56:08 1992

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set087

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000019	Extracted
D001G002	DTD	D/00260	02048/000012	Extracted
D001Q003	IGES	F/00080	02000/000022	Extracted
D001Q004	IGES	F/00080	02000/000151	Extracted
D001Q005	IGES	F/00080	02000/000148	Extracted
D001Q006	IGES	F/00080	02000/000018	Extracted
D001Q007	IGES	F/00080	02000/000021	Extracted
D001Q008	IGES	F/00080	02000/000026	Extracted
D001Q009	IGES	F/00080	02000/000011	Extracted
D001Q010	IGES	F/00080	02000/000013	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release Number 8

Standards referenced:

ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Wed May 6 07:55:45 1992

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1CAL501

4

Label Identifier: VOL1

Volume Identifier: CAL501

Volume Accessibility:

Owner Identifier:

Label Standard Version: 4

HDR1D001 CAL50100010001000000 92119 00000 000000

Label Identifier: HDR1

File Identifier: D001

File Set Identifier: CAL501

File Section Number: 0001

File Sequence Number: 0001

Generation Number: 0000

Generation Version Number: 00

Creation Date: 92119

Expiration Date: 00000

File Accessibility:

Block Count: 000000

Implementation Identifier:

HDR2D0204800260

00

Label Identifier: HDR2

Recording Format: D

Block Length: 02048

Record Length: 00260

Offset Length: 00

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 19.

***** Tape Mark *****

EOF1D001T001

CALS0100010002000000 92119 00000 000019

Label Identifier: EOF1
File Identifier: D001T001
File Set Identifier: CALS01
File Section Number: 0001
File Sequence Number: 0002
Generation Number: 0000
Generation Version Number: 00
Creation Date: 92119
Expiration Date: 00000
File Accessibility:
Block Count: 000019
Implementation Identifier:

EOF2D0204800260

00

Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

HDR1D001G002

CALS0100010003000000 92119 00000 000000

Label Identifier: HDR1
File Identifier: D001G002
File Set Identifier: CALS01
File Section Number: 0001
File Sequence Number: 0003

Generation Number: 0000
Generation Version Number: 00
Creation Date: 92119
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier:

HDR2D0204800260 00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 12.

***** Tape Mark *****

EOF1D001G002 CALS0100010003000000 92119 00000 000012

Label Identifier: EOF1
File Identifier: D001G002
File Set Identifier: CALS01
File Section Number: 0001
File Sequence Number: 0003
Generation Number: 0000
Generation Version Number: 00
Creation Date: 92119
Expiration Date: 00000
File Accessibility:
Block Count: 000012
Implementation Identifier:

EOF2D0204800260 00

Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

Label Identifier: EOF2
Recording Format: F
Block Length: 02000
Record Length: 00080
Offset Length: 00

***** Tape Mark *****

<<<< PART OF LOG FILE REMOVED HERE >>>>

***** Tape Mark *****

End of Volume CALS01

End Of Tape File Set

Deallocating /dev/rmt0...

Tape Import Process terminated normally.

9.3 Tape File Set Validation Log

CALS Test Network File Set Evaluation - Version 1.2; Release Number 8

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Wed May 6 07:56:08 1992

MIL-STD-1840A File Set Evaluation Log

File Set: Set087

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: Oklahoma City ALC, OC-ALC/TISDTPP Building 3001, Tinker AFB, OK 73145

srcdocid: 5A9-8-8-8-8

srcrelid: NONE

chglvl: 0, 0, 19890622

dteisu: 19890815

dstsys: HQ ALFC/ENC WRIGHT PATTERSON AFB. OH

dstdocid: 5A9-8-8-8-8

dstrelid: NONE

dtetrm: 19920428

dlvacc: NONE

filcnt: T1 ,Q8,G1

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: MILB Technical Publication

docttl: UNKNOWN

Found file: D001T001

Extracting Text Header Records...

Evaluating Text Header Records...

srcdocid: 5A9-8-8-8-8

dstdocid: 5A9-8-8-8-8

txtfilid: W

doccls: UNCLASSIFIED

notes: The SGML Text File was converted from an ATOS MILB Tag Set to a MIL-M-28001 tag

Saving Text Header File: D001T001_HDR

Saving Text Data File: D001T001_TXT

Found file: D001G002

Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: 5A9-8-8-8-8
dstdocid: 5A9-8-8-8-8
notes: The SGML Text File was converted from an ATOS MILB Tag Set to a MIL-M-28001 tag

Saving DTD Header File: D001G002_HDR
Saving DTD Data File: D001G002_DTD

Found file: D001Q003
Renaming file from => /cals/tapetool8/Set087/D001Q003
to => /cals/tapetool8/Set087/D001/D001Q003
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: 5A9-8-8-8-8
dstdocid: 5A9-8-8-8-8
txtfilid: W
figid: 3-1
srcgph: H8700021
doccls: UNCLASSIFIED
notes: This figure is referenced on page 3-2.

Saving IGES Header File: D001Q003_HDR
Saving IGES Data File: D001Q003_IGS

<<<< PART OF LOG FILE REMOVED HERE >>>>

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - SGML Parser Logs

10.1 XGMLNormalizer Parser Log

No reported errors after basic corrections.

10.2 Datalogics Parser Log

SGML Document Type Definition Parser
Version 3.36
Copyright (c) Datalogics 1988, 1989, 1990, 1991
An SGML System Conforming to
International Standard ISO 8879
Standard Generalized Markup Language

Log file: 'ocalc.LOG'
SDO File: 'ctndekl.sdo'
Namecase General is yes.
Namecase Entity is no.
Parsing DTD file: 'ocalc.dtd'
<!-- DTD FOR MIL-M-38784 CONFORMING TECHNICAL MANUALS -->
<!-- The following set of declarations may be referred to using a
public
entity as follows:
-->
<!DOCTYPE doc Parsing DOCTYPE DOC

<!ENTITY inodot DTD0143: Attempt to declare general entity name
'inodot'
more than once denied.
In declaration: '<!ENTITY'.
In declaration: '<!DOCTYPE'.
in line 21 in file '\public\iso\$amso.ent'
in line 116 in file 'ocalc.dtd'
SDATA "[inodot]"--/imath =small i, no dot-->

DTD0095: Start tag for element 'LEP' cannot be omitted if the
element had declared content (CDATA, RCDATA, EMPTY).
DTD0095: Start tag for element 'CONTENTS' cannot be omitted if the
element had declared content (CDATA, RCDATA, EMPTY).
DTD0095: Start tag for element 'ILUSLIST' cannot be omitted if the
element had declared content (CDATA, RCDATA, EMPTY).
DTD0095: Start tag for element 'TABLIST' cannot be omitted if the

element had declared content (CDATA, RCDATA, EMPTY).
DTD0095: Start tag for element 'INDEX' cannot be omitted if the
element had declared content (CDATA, RCDATA, EMPTY).
This DTD conforms to the ISO 8879 standard

DTO file 'ocalc.DTO' created

closing statistics:

Capacity points:	73384
Bytes of DTO file string space:	18734
SGML descriptor blocks:	7912

Document Type Definition is compliant and parsed normally.

Program status code: 0.

IPA0108: *** SGML Instance Parser Log File ***
Source Document File: 'ocalc.txt'.
Job File: 'ocalc.jbf'.
DTD File: ''.
SGML Declaration File: ''.

Reading File 'ocalc.jbf', File Type 'JOB FILE'.

Concrete Syntax Settings In Effect For This Parse:

NAMECASE GENERAL:	YES.
NAMECASE ENTITY:	NO.
NAMELEN:	32.
SHORTTAG:	YES.

Closed 'ocalc.jbf', File Type 'JOB FILE'.

Reading File 'ocalc.txt', File Type 'DIRECT INPUT FILE'.

--> Scanned Up To Line 100 In ocalc.txt.
--> Scanned Up To Line 200 In ocalc.txt.
--> Scanned Up To Line 300 In ocalc.txt.
--> Scanned Up To Line 400 In ocalc.txt.
--> Scanned Up To Line 500 In ocalc.txt.
--> Scanned Up To Line 600 In ocalc.txt.
--> Scanned Up To Line 700 In ocalc.txt.
--> Scanned Up To Line 800 In ocalc.txt.
--> Scanned Up To Line 900 In ocalc.txt.
--> Scanned Up To Line 1000 In ocalc.txt.
--> Scanned Up To Line 1100 In ocalc.txt.
--> Scanned Up To Line 1200 In ocalc.txt.

Closed 'ocalc.txt', File Type 'DIRECT INPUT FILE'.

Document Parsed Successfully, No Errors or Warnings.

11. Appendix C - IGES Data

11.1 D001Q003

11.1.1 IDA Parser Log

```
*** IGES DATA FILE PARSING ***
***      AUGUST 1991      ***
***   IGES Data Analysis   ***
***   (708) 449-3430      ***
```

Input file is \9230\q003.igs

Checking conformance to CALS Class I

Today is May 6, 1992 9:42 AM

*** Count of Records Per Section in Data File ***

Section	Records
Start	1
Global	3
Directory	320 (160 Entities)
Parameter	205
Terminate	1

*** Start Section From Input File:

ATOS - Graphic.
1

*** Global Section From Input File:

```
,,5HS5000,12Hh87000210000,21HAUTO-TROL S5000 V 7.0,11HVERSION 5.1,32,
1
8,23,11,52,,1.0,1,4HINCH,10000,1.000000,13H920427.163100,0.0001,
2
6.199911,,20HAUTO-TROL TECHNOLOGY,6,0;
3
```

*** File and Product Name Information ***

```
File name from sender      = 'h87000210000'
File creation Date.Time    = '920427.163100'
* Model change Date.Time   = ''
* Author                    = ''
Department                  = 'AUTO-TROL TECHNOLOGY'
```

Product name from sender = 'S5000'
* Destination product name = ''

*** Parameter Delimiters ***

* Delimiter = ','
* Terminator = ';'

*** Originating System Data ***

System ID = 'AUTO-TROL S5000 V 7.0'
Preprocessor version = 'VERSION 5.1'
Specification version = 6 (IGES 4.0)

*** Precision Levels ***

Integer bits = 32
Floating point - Exponent = 8 Mantissa = 23
Double precision - Exponent = 11 Mantissa = 52
NITPICK 1086: Real constant characteristics inconsistent with specific version.

*** Global Model Data ***

Model scale = 1.0000E+000
Unit flag = 1
Units = 'INCH'
Line weights = 10000
Maximum line thickness = 1.000000E+000
Minimum line thickness = 1.000000E-004
Granularity = 1.000000E-004
Maximum coordinate = 6.199911E+000

Drafting standard applicable to original data is not specified.

** 5 defaulted Global values.
(*) Indicates a defaulted value.

*** Entity Parsing Messages ***

** 0 defaulted Parameter data values.

*** Message Summary ***

1019: 1 Invalid Global parameters.

*** Error Summary ***

0 fatal errors
0 severe errors
0 errors
0 warnings
0 cautions
1 nitpicks
0 notes

11.1.2 IDA Verifier Log

*** IGES DATA FILE ANALYSIS ***
*** AUGUST 1991 ***
*** IGES Data Analysis ***
*** (708) 449-3430 ***

Input file is \9230\q003.igs

Checking for conformance to CALS Class I

Today is May 6, 1992 9:44 AM

*** File and Product Name Information ***

File name from sender = 'h87000210000'
File creation Date.Time = '920427.163100'
Model change Date.Time = ''
Author = ''
Department = 'AUTO-TROL TECHNOLOGY'
Product name from sender = 'S5000'
Destination product name = ''

*** Parameter Delimiters ***

Delimiter = ','
Terminator = ';'

*** Originating System Data ***

System ID = 'AUTO-TROL S5000 V 7.0'
Preprocessor version = 'VERSION 5.1'
Specification version = 6 (IGES 4.0)

*** Precision levels ***

Integer bits = 32
Floating point - Exponent = 8 Mantissa = 23
Double precision - Exponent = 11 Mantissa = 52

NITPICK 2329: Real constant characteristics inconsistent with specification version.

*** Global Model Data ***

Model scale = 1.0000E+000
Unit flag = 1
Units = 'INCH'
Line weights = 10000
Maximum line thickness = 1.000000E+000
Minimum line thickness = 1.000000E-004
Granularity = 1.000000E-004
Maximum coordinate = 6.199911E+000

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status:	Visible	160
	Blanked	0
Independence:	Independent	158
	Physically Subordinate	2
	Logically Subordinate	0
	Totally Subordinate	0
Entity use:	Geometry	148
	Annotation	12
	Definition	0
	Other	0
	Logical/Positional	0
	2D parametric	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	160
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
-----	-----	-----	-----	-----
106	11	2	10	Copious data - Piecewise planar, linear string(2D path)
106	11	6	3	
110	0	2	33	Line
110	0	3	54	
110	0	4	46	
124	0	2	1	Transformation matrix
212	1	8	12	General note - dual stack dimension
402	7	3	1	Group without back-pointers instance
ERROR	4031:	CALS Class I	requires	that exactly one drawing be defined.
ERROR	4032:	CALS Class I	requires	that exactly one view be defined.

*** Entity Count by Level ***

Level	Count
2	44
3	55
4	46
6	3
8	12

*** Labeling Information ***

100% of the entities are labeled.

Unlabeled 0

Label	Count	Label	Count	Label	Count
LINE	133	MATRIX	1	LNR PATH	13
NOTE	12	GROUP	1		

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
-	-	-	13	-	133	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	1	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	160	(0.0001)

*** Colors Used in Data ***

Defaulted	160
-----------	-----

 ***** ENTITY ANALYSIS *****

*** Entity type: 106

ERROR	4045: Illegal level for CALS Class I specified at D	33.	
ERROR	4025: CALS Class I requires matrix pointer to be zero at D	33.	33.
ERROR	4045: Illegal level for CALS Class I specified at D	35.	
ERROR	4025: CALS Class I requires matrix pointer to be zero at D	35.	35.
ERROR	4045: Illegal level for CALS Class I specified at D	37.	
ERROR	4025: CALS Class I requires matrix pointer to be zero at D	37.	37.
ERROR	4045: Illegal level for CALS Class I specified at D	43.	
ERROR	4045: Illegal level for CALS Class I specified at D	45.	
ERROR	4045: Illegal level for CALS Class I specified at D	51.	

ERROR 4025: CALS Class I requires matrix pointer to be zero at D 51.
ERROR 4045: Illegal level for CALS Class I specified at D 53.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 53.
ERROR 4045: Illegal level for CALS Class I specified at D 69.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 69.
ERROR 4045: Illegal level for CALS Class I specified at D 71.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 71.
ERROR 4045: Illegal level for CALS Class I specified at D 73.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 73.
ERROR 4045: Messages regarding illegal levels suppressed.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 75.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 77.
ERROR 4025: Messages regarding non-zero matrix pointers suppressed.

*** Entity type: 110

-- 133 lines averaging 4.814865E-001 units --

*** Entity type: 124

1 transformation matrices, 0 non-zero translations.

*** Entity type: 212

12 text strings in data file.
Average text aspect ratio in file is 1.0000000.
Minimum text aspect ratio in file is 1.0000000.
Maximum text aspect ratio in file is 1.0000000.

FONTS USED IN FILE

FONT	COUNT	NAME
1	12	Default ASCII Style

*** Entity type: 402

ERROR 4038: Entity type is not allowed in CALS Class I.

*** Message Summary ***

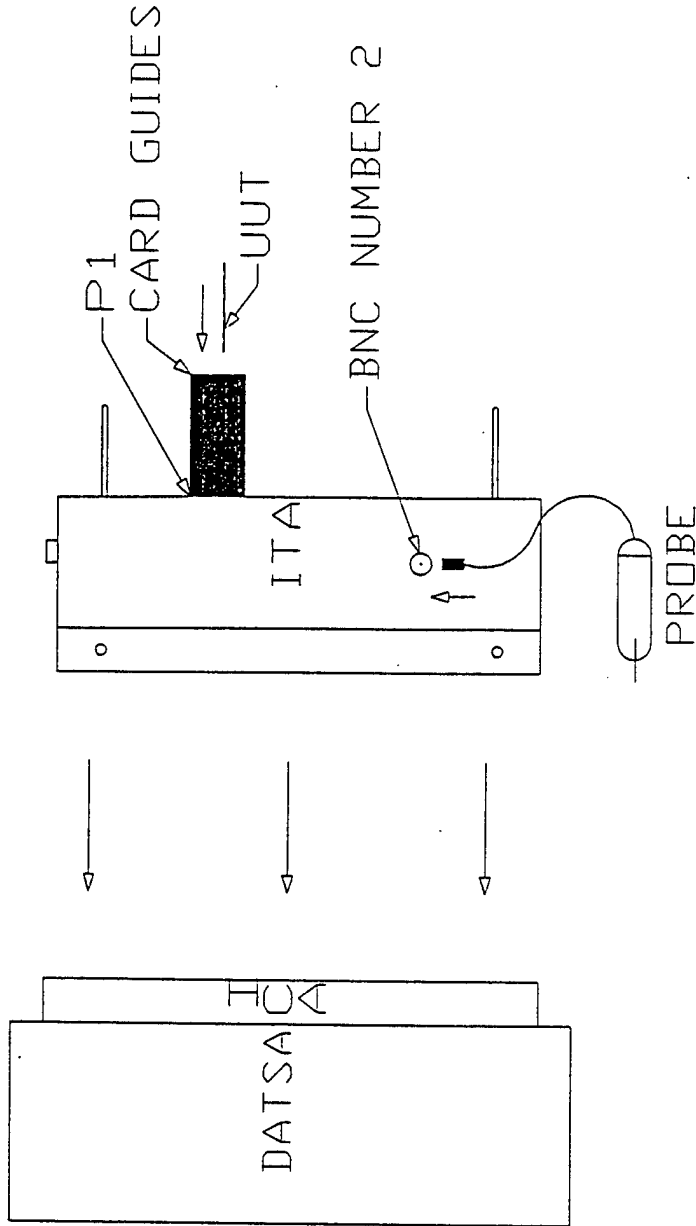
4000: 2 Miscellaneous CALS messages
4013: 43 Non-zero matrix pointers
4018: 1 Illegal entity types
4020: 158 Illegal levels

*** Error Summary ***

0 fatal errors
0 severe errors
204 errors
0 warnings
0 cautions
1 nitpicks
0 notes

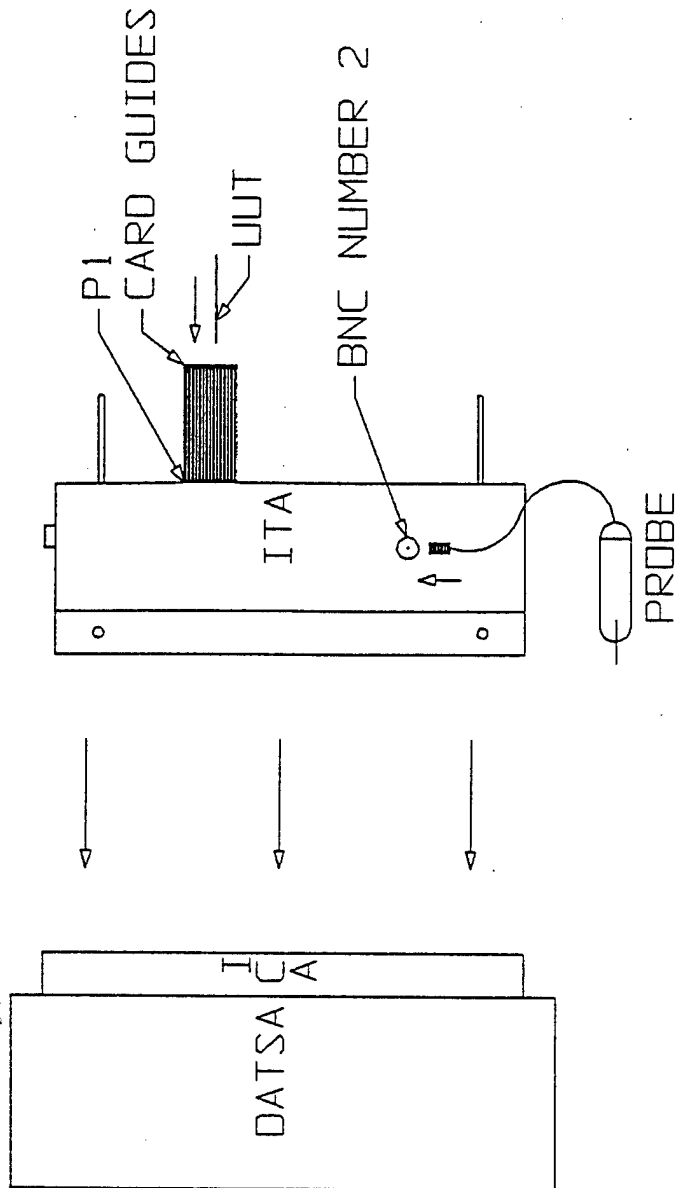
*** End of Analysis of \9230\q003.igs ***

11.1.3 AutoCAD R11



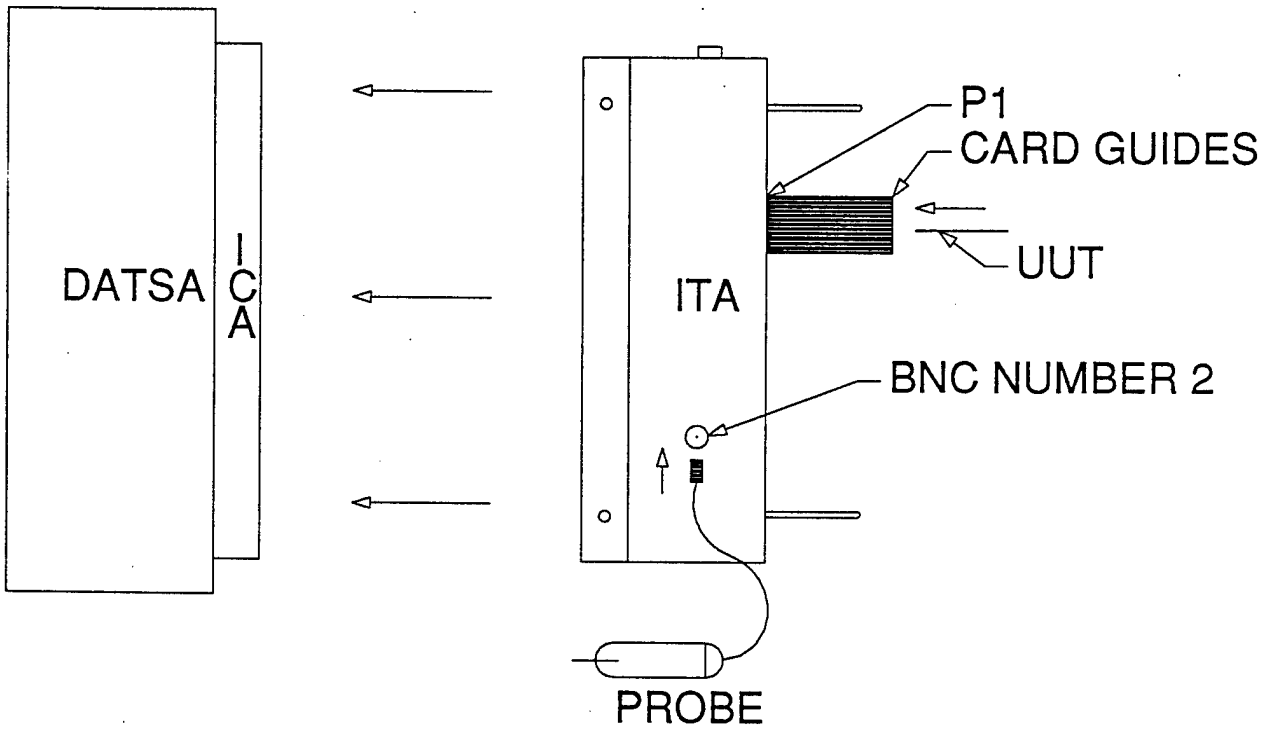
NOTE
THE CIRCUIT CARD IS INSERTED COMPONENT SIDE UP

11.1.4 Cadkey V4.06



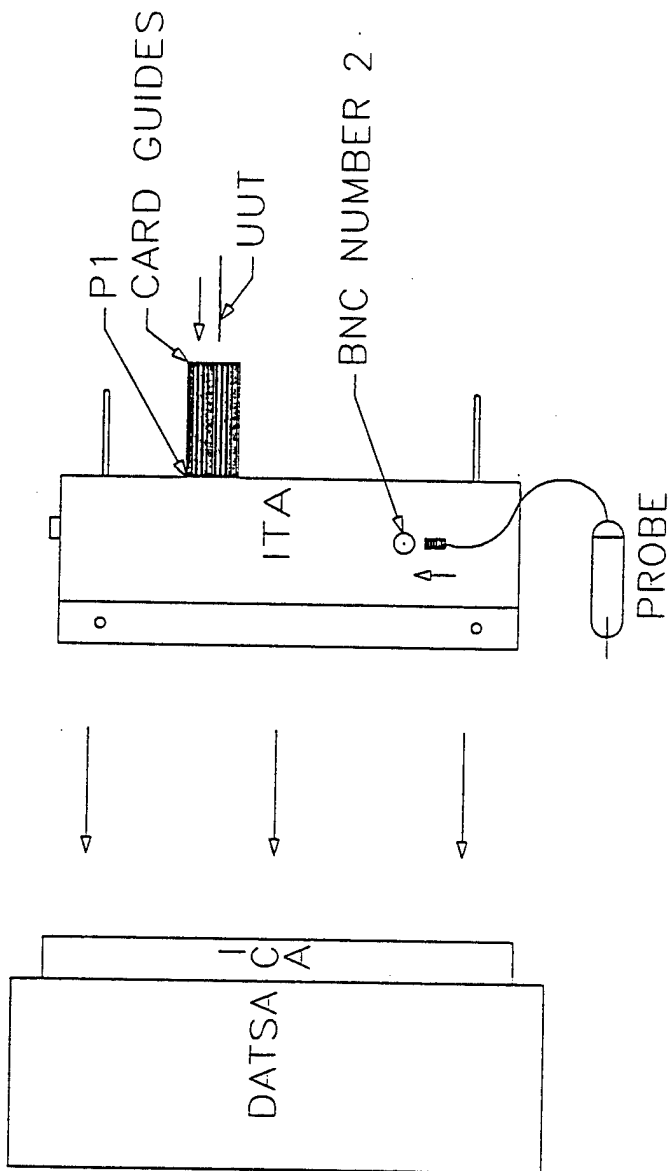
NOTE
THE CIRCUIT CARD IS INSERTED COMPONENT SIDE UP

11.1.5 IGESVIEW



THE CIRCUIT CARD IS INSERTED COMPONENT SIDE UP

11.1.6 Preview



NOTE
THE CIRCUIT CARD IS INSERTED COMPONENT SIDE UP

11.2 D001Q004

11.2.1 IDA Parser Log

```
*** IGES DATA FILE PARSING ***  
***      AUGUST 1991      ***  
***   IGES Data Analysis   ***  
***   (708) 449-3430     ***
```

Input file is \9230\q004.igs

Checking conformance to CALS Class I

Today is May 6, 1992 9:42 AM

*** Count of Records Per Section in Data File ***

Section	Records
Start	1
Global	3
Directory	2342 (1171 Entities)
Parameter	1401
Terminate	1

*** Start Section From Input File:

ATOS - Graphic.

1

*** Global Section From Input File:

1
,,5HS5000,12Hh87000220000,21HAUTO-TROL S5000 V 7.0,11HVERSION 5.1,32,

1

8,23,11,52,,1.0,1,4HINCH,10000,1.000000,13H920427.163218,0.0001,

2

5.990062,,20HAUTO-TROL TECHNOLOGY,6,0;

3

*** File and Product Name Information ***

```
File name from sender      = 'h87000220000'  
File creation Date.Time   = '920427.163218'  
* Model change Date.Time  = ''  
* Author                   = ''  
Department                 = 'AUTO-TROL TECHNOLOGY'  
Product name from sender  = 'S5000'  
* Destination product name = ''
```

*** Parameter Delimiters ***

* Delimiter = ','
* Terminator = ';'

*** Originating System Data ***

System ID = 'AUTO-TROL S5000 V 7.0'
Preprocessor version = 'VERSION 5.1'
Specification version = 6 (IGES 4.0)

*** Precision Levels ***

Integer bits = 32
Floating point - Exponent = 8 Mantissa = 23
Double precision - Exponent = 11 Mantissa = 52
NITPICK 1086: Real constant characteristics inconsistent with specific version.

*** Global Model Data ***

Model scale = 1.0000E+000
Unit flag = 1
Units = 'INCH'
Line weights = 10000
Maximum line thickness = 1.000000E+000
Minimum line thickness = 1.000000E-004
Granularity = 1.000000E-004
Maximum coordinate = 5.990062E+000

Drafting standard applicable to original data is not specified.

** 5 defaulted Global values.
(*) Indicates a defaulted value.

*** Entity Parsing Messages ***

** 0 defaulted Parameter data values.

*** Message Summary ***

1019: 1 Invalid Global parameters.

*** Error Summary ***

0 fatal errors

0 severe errors
0 errors
0 warnings
0 cautions
1 nitpicks
0 notes

*** Completed Parsing of \9230\q004.igs ***

11.2.2 IDA Verifier Log

*** IGES DATA FILE ANALYSIS ***
*** AUGUST 1991 ***
*** IGES Data Analysis ***
*** (708) 449-3430 ***

Input file is \9230\q004.igs

Checking for conformance to CALS Class I

Today is May 6, 1992 9:44 AM

*** File and Product Name Information ***

File name from sender = 'h87000220000'
File creation Date.Time = '920427.163218'
Model change Date.Time = ''
Author = ''
Department = 'AUTO-TROL TECHNOLOGY'
Product name from sender = 'S5000'
Destination product name = ''

*** Parameter Delimiters ***

Delimiter = ','
Terminator = ';'

*** Originating System Data ***

System ID = 'AUTO-TROL S5000 V 7.0'
Preprocessor version = 'VERSION 5.1'
Specification version = 6 (IGES 4.0)

*** Precision levels ***

Integer bits = 32
Floating point - Exponent = 8 Mantissa = 23

Double precision - Exponent = 11 Mantissa = 52
NITPICK 2329: Real constant characteristics inconsistent with specification version.

*** Global Model Data ***

Model scale = 1.0000E+000
Unit flag = 1
Units = 'INCH'
Line weights = 10000
Maximum line thickness = 1.000000E+000
Minimum line thickness = 1.000000E-004
Granularity = 1.000000E-004
Maximum coordinate = 5.990062E+000

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status:	Visible	1171
	Blanked	0
Independence:	Independent	1170
	Physically Subordinate	1
	Logically Subordinate	0
	Totally Subordinate	0
Entity use:	Geometry	1021
	Annotation	150
	Definition	0
	Other	0
	Logical/Positional	0
	2D parametric	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	1171
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
-----	----	-----	-----	-----
106	11	2	18	Copious data - Piecewise planar, linear string(2D path)
110	0	1	208	Line
110	0	2	60	

110	0	4	188	
110	0	7	545	
110	0	9	1	
124	0	2	1	Transformation matrix
212	1	8	16	General note - dual stack dimension
212	1	9	134	

ERROR 4031: CALS Class I requires that exactly one drawing be defined.
 ERROR 4032: CALS Class I requires that exactly one view be defined.

*** Entity Count by Level ***

Level	Count
1	208
2	79
4	188
7	545
8	16
9	135

*** Labeling Information ***

-11% of the entities are labeled.

Unlabeled	0				
Label	Count	Label	Count	Label	Count
LINE	1002	MATRIX	1	LNR PATH	18
NOTE	150				

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
-	-	-	18	-	1002	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined
116	118	120	122	124	125	126	128	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	1	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed

-	-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	-	User defined

130 132 134 136 138 140 142 144

-	-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	1171	(0.0001)

*** Colors Used in Data ***

Defaulted 1171

***** ENTITY ANALYSIS *****

*** Entity type: 106

ERROR 4045: Illegal level for CALS Class I specified at D 13.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 13.
ERROR 4045: Illegal level for CALS Class I specified at D 15.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 15.
ERROR 4045: Illegal level for CALS Class I specified at D 17.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 17.
ERROR 4045: Illegal level for CALS Class I specified at D 135.
ERROR 4045: Messages regarding illegal levels suppressed.
ERROR 4025: Messages regarding non-zero matrix pointers suppressed.

*** Entity type: 110

-- 1002 lines averaging 1.722544E-001 units --

*** Entity type: 124

1 transformation matrices, 0 non-zero translations.

*** Entity type: 212

150 text strings in data file.
Average text aspect ratio in file is 1.0000000.
Minimum text aspect ratio in file is 1.0000000.
Maximum text aspect ratio in file is 1.0000000.

FONTs USED IN FILE

FONT	COUNT	NAME
1	150	Default ASCII Style

*** Message Summary ***

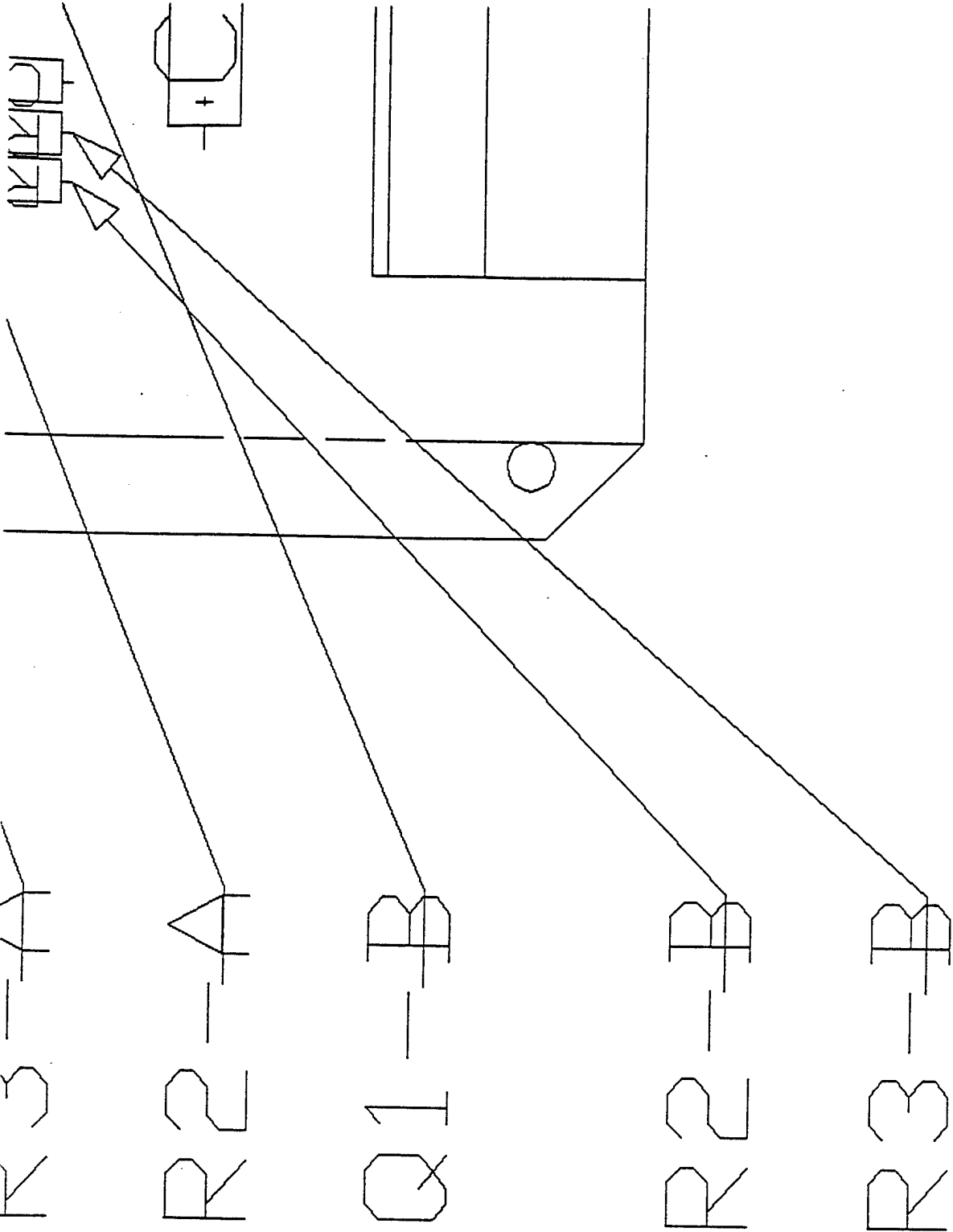
4000: 2 Miscellaneous CALS messages
4013: 876 Non-zero matrix pointers
4020: 1170 Illegal levels

*** Error Summary ***

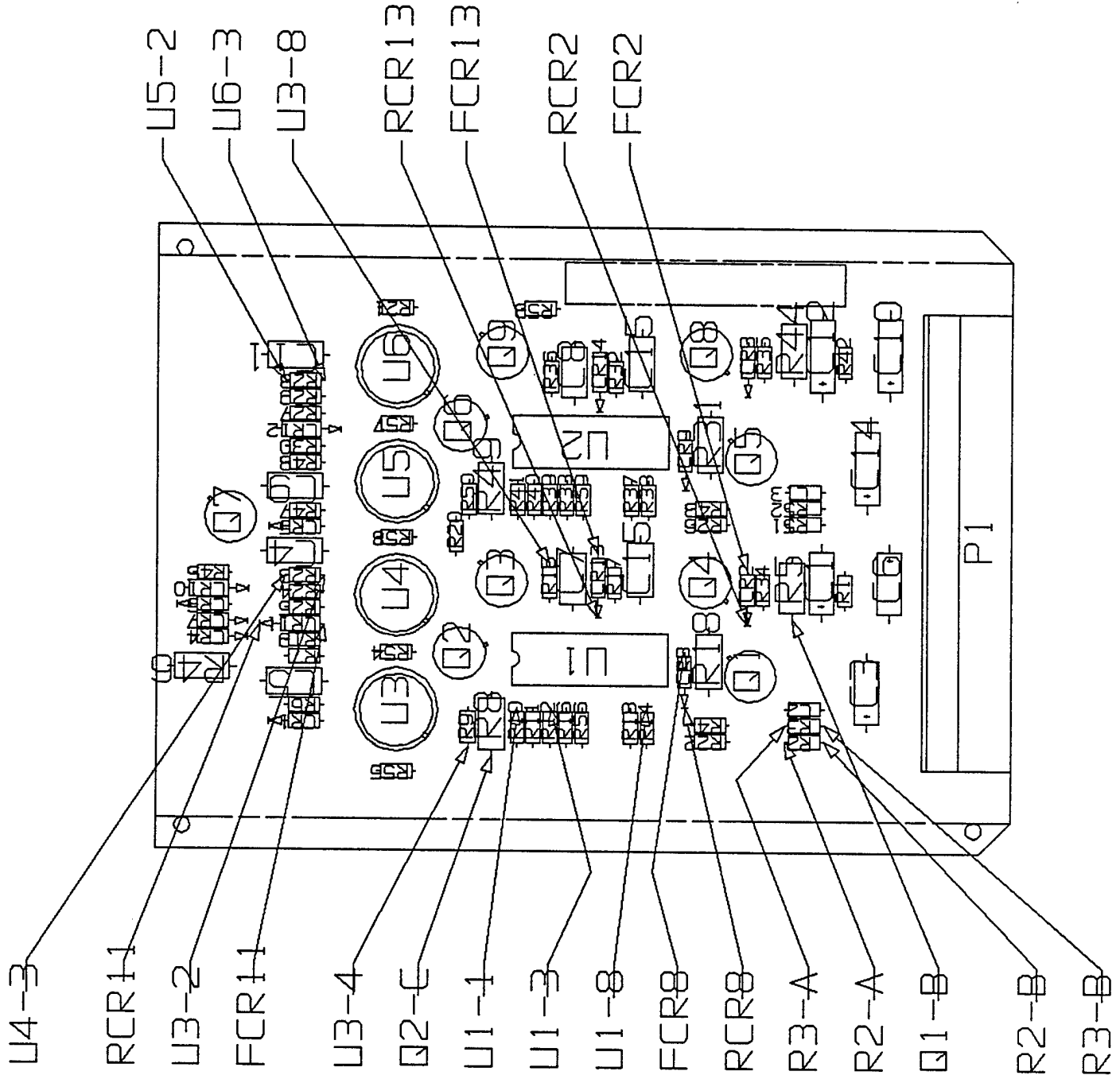
0 fatal errors
0 severe errors
2048 errors
0 warnings
0 cautions
1 nitpicks
0 notes

*** End of Analysis of \9230\q004.igs ***

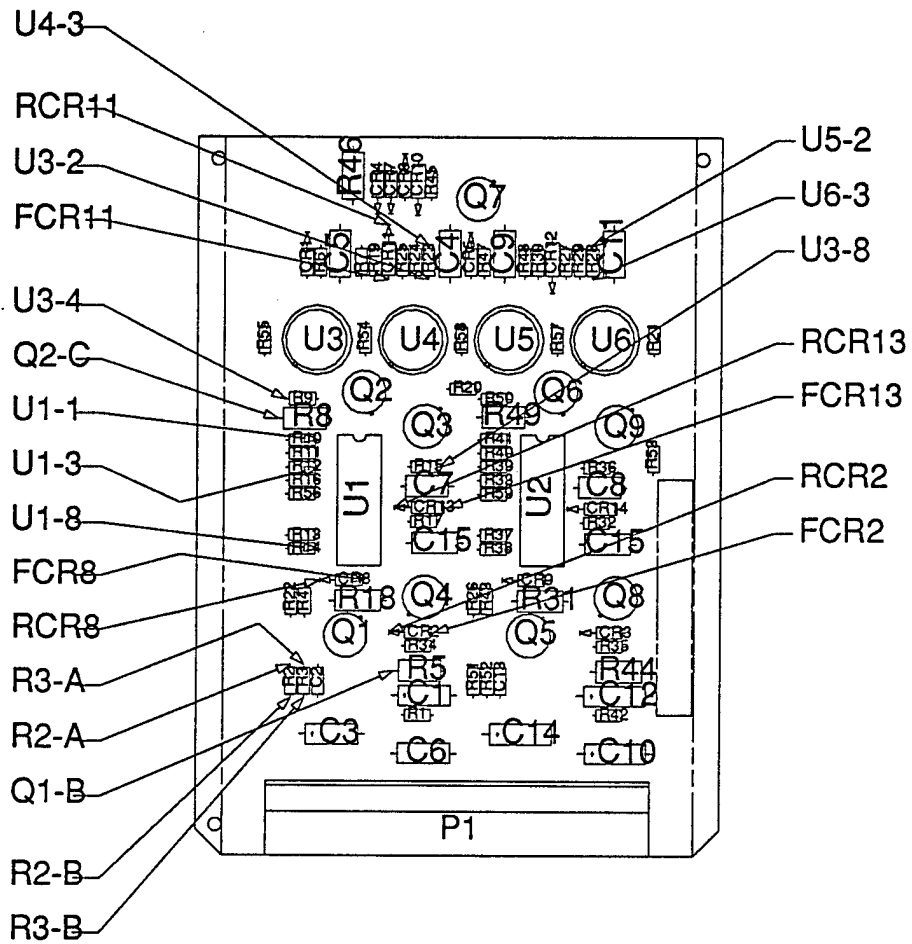
11.2.3 AutoCAD R11 - Detail



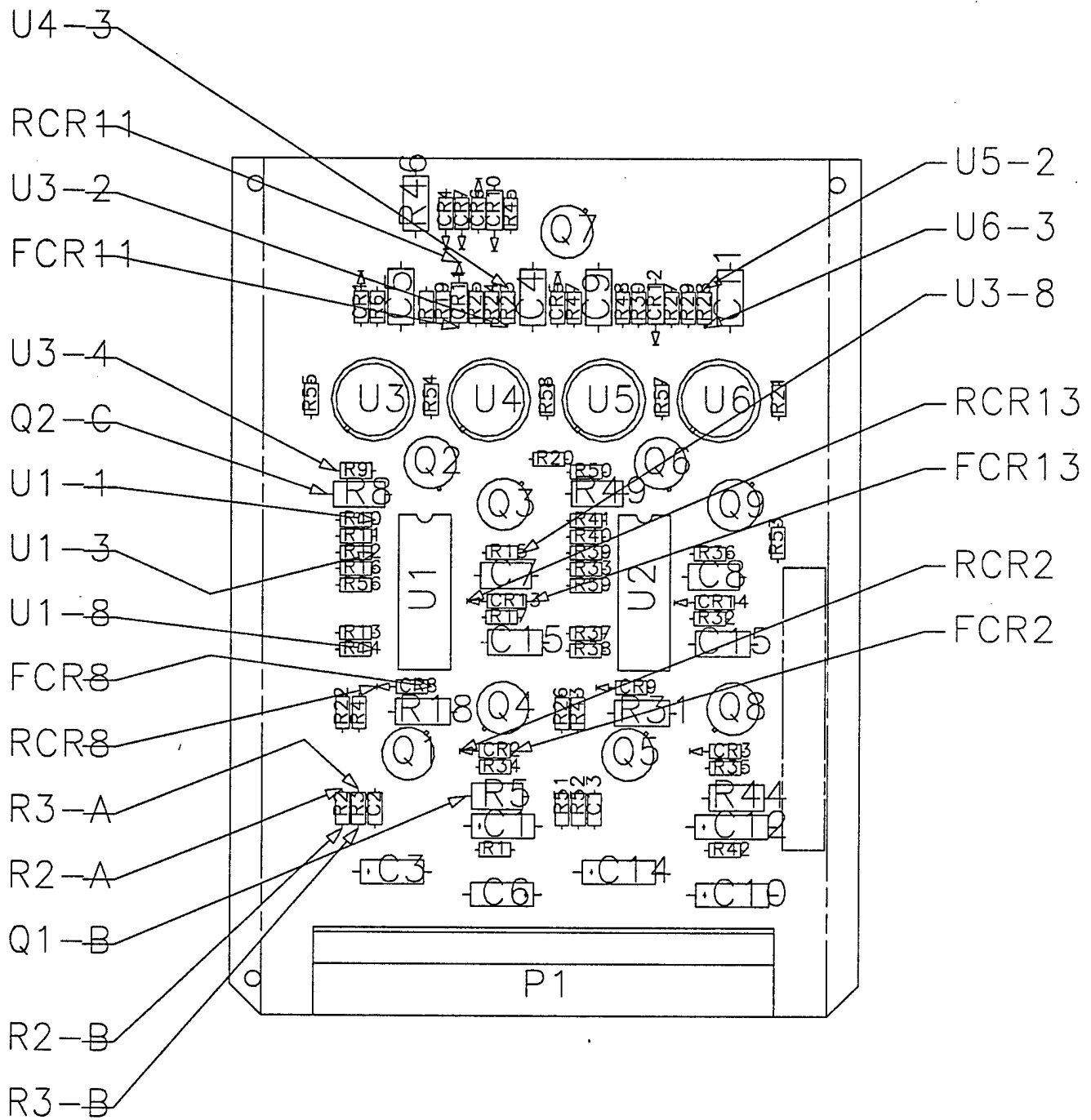
11.2.4 Cadkey V4.06



11.2.5 IGESVIEW



11.2.6 Preview



11.3 D001Q007

11.3.1 IDA Parser Log

```
*** IGES DATA FILE PARSING ***  
***      AUGUST 1991      ***  
***   IGES Data Analysis   ***  
***   (708) 449-3430      ***
```

Input file is \9230\q007.igs

Checking conformance to CALS Class I

Today is May 6, 1992 9:43 AM

*** Count of Records Per Section in Data File ***

Section	Records
Start	1
Global	3
Directory	274 (137 Entities)
Parameter	217
Terminate	1

*** Start Section From Input File:

ATOS - Graphic. S 1

*** Global Section From Input File:

,,5HS5000,12Hh89000610000,21HAUTO-TROL S5000 V 7.0,11HVERSION 5.1,32,	G	1
8,23,11,52,,1.0,1,4HINCH,10000,1.000000,13H920427.163632,0.0001,	G	2
6.620870,,20HAUTO-TROL TECHNOLOGY,6,0;	G	3

*** File and Product Name Information ***

```
File name from sender   = 'h89000610000'  
File creation Date.Time = '920427.163632'  
* Model change Date.Time = ''  
* Author                 = ''  
  Department             = 'AUTO-TROL TECHNOLOGY'  
  Product name from sender = 'S5000'  
* Destination product name = ''
```

*** Parameter Delimiters ***

* Delimiter = ','
* Terminator = ';'

*** Originating System Data ***

System ID = 'AUTO-TROL S5000 V 7.0'
Preprocessor version = 'VERSION 5.1'
Specification version = 6 (IGES 4.0)

*** Precision Levels ***

Integer bits = 32
Floating point - Exponent = 8 Mantissa = 23
Double precision - Exponent = 11 Mantissa = 52

NITPICK 1086: Real constant characteristics inconsistent with specification version.

*** Global Model Data ***

Model scale = 1.0000E+000
Unit flag = 1
Units = 'INCH'
Line weights = 10000
Maximum line thickness = 1.000000E+000
Minimum line thickness = 1.000000E-004
Granularity = 1.000000E-004
Maximum coordinate = 6.620870E+000

Drafting standard applicable to original data is not specified.

** 5 defaulted Global values.
(*) Indicates a defaulted value.

*** Entity Parsing Messages ***

** 0 defaulted Parameter data values.

*** Message Summary ***

1019: 1 Invalid Global parameters.

*** Error Summary ***

0 fatal errors
0 severe errors

0 errors
0 warnings
0 cautions
1 nitpicks
0 notes

*** Completed Parsing of \9230\q007.igs ***

11.3.2 IDA Verifier Log

*** IGES DATA FILE ANALYSIS ***
*** AUGUST 1991 ***
*** IGES Data Analysis ***
*** (708) 449-3430 ***

Input file is \9230\q007.igs

Checking for conformance to CALS Class I

Today is May 6, 1992 9:44 AM

*** File and Product Name Information ***

File name from sender = 'h89000610000'
File creation Date.Time = '920427.163632'
Model change Date.Time = ''
Author = ''
Department = 'AUTO-TROL TECHNOLOGY'
Product name from sender = 'S5000'
Destination product name = ''

*** Parameter Delimiters ***

Delimiter = ','
Terminator = ';'

*** Originating System Data ***

System ID = 'AUTO-TROL S5000 V 7.0'
Preprocessor version = 'VERSION 5.1'
Specification version = 6 (IGES 4.0)

*** Precision levels ***

Integer bits = 32
Floating point - Exponent = 8 Mantissa = 23
Double precision - Exponent = 11 Mantissa = 52

NITPICK 2329: Real constant characteristics inconsistent with specification version.

*** Global Model Data ***

Model scale = 1.0000E+000
 Unit flag = 1
 Units = 'INCH'
 Line weights = 10000
 Maximum line thickness = 1.000000E+000
 Minimum line thickness = 1.000000E-004
 Granularity = 1.000000E-004
 Maximum coordinate = 6.620870E+000

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status: Visible 137
 Blanked 0

Independence: Independent 132
 Physically Subordinate 5
 Logically Subordinate 0
 Totally Subordinate 0

Entity use: Geometry 96
 Annotation 41
 Definition 0
 Other 0
 Logical/Positional 0
 2D parametric 0
 Not Specified 0

Hierarchy: Structure DE applies 0
 Subordinate DE applies 137
 Hierarchy property applies 0
 Not Specified 0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
-----	-----	-----	-----	-----
106	11	2	19	Copious data - Piecewise planar, linear string(2D path)
110	0	1	20	Line
110	0	2	54	
124	0	2	1	Transformation matrix
212	1	8	41	General note - dual stack dimension

402 7 8 2 Group without back-pointers instance
 ERROR 4031: CALS Class I requires that exactly one drawing be defined.
 ERROR 4032: CALS Class I requires that exactly one view be defined.

*** Entity Count by Level ***

Level	Count
1	20
2	74
8	43

*** Labeling Information ***

100% of the entities are labeled.

Unlabeled 0

Label	Count	Label	Count	Label	Count
NOTE	41	LNR PATH	19	MATRIX	1
LINE	74	GROUP	2		

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
-	-	-	19	-	74	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined
116	118	120	122	124	125	126	128	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	1	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined
130	132	134	136	138	140	142	144	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid

-	-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	137	(0.0001)

*** Colors Used in Data ***

Defaulted 137

***** ENTITY ANALYSIS *****

*** Entity type: 106

ERROR 4045: Illegal level for CALS Class I specified at D 7.
ERROR 4045: Illegal level for CALS Class I specified at D 11.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 11.
ERROR 4045: Illegal level for CALS Class I specified at D 15.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 15.
ERROR 4025: Messages regarding non-zero matrix pointers suppressed.

*** Entity type: 110

-- 74 lines averaging 2.414097E-001 units --

*** Entity type: 124

1 transformation matrices, 0 non-zero translations.

*** Entity type: 212

41 text strings in data file.
Average text aspect ratio in file is 1.0000000.
Minimum text aspect ratio in file is 1.0000000.
Maximum text aspect ratio in file is 1.0000000.

FONTS USED IN FILE

FONT	COUNT	NAME
------	-------	------

1 41 Default ASCII Style

*** Entity type: 402

ERROR 4038: Entity type is not allowed in CALS Class I.

*** Message Summary ***

4000: 2 Miscelaneous CALS messages

4013: 75 Non-zero matrix pointers

4018: 1 Illegal entity types

4020: 134 Illegal levels

*** Error Summary ***

0 fatal errors

0 severe errors

212 errors

0 warnings

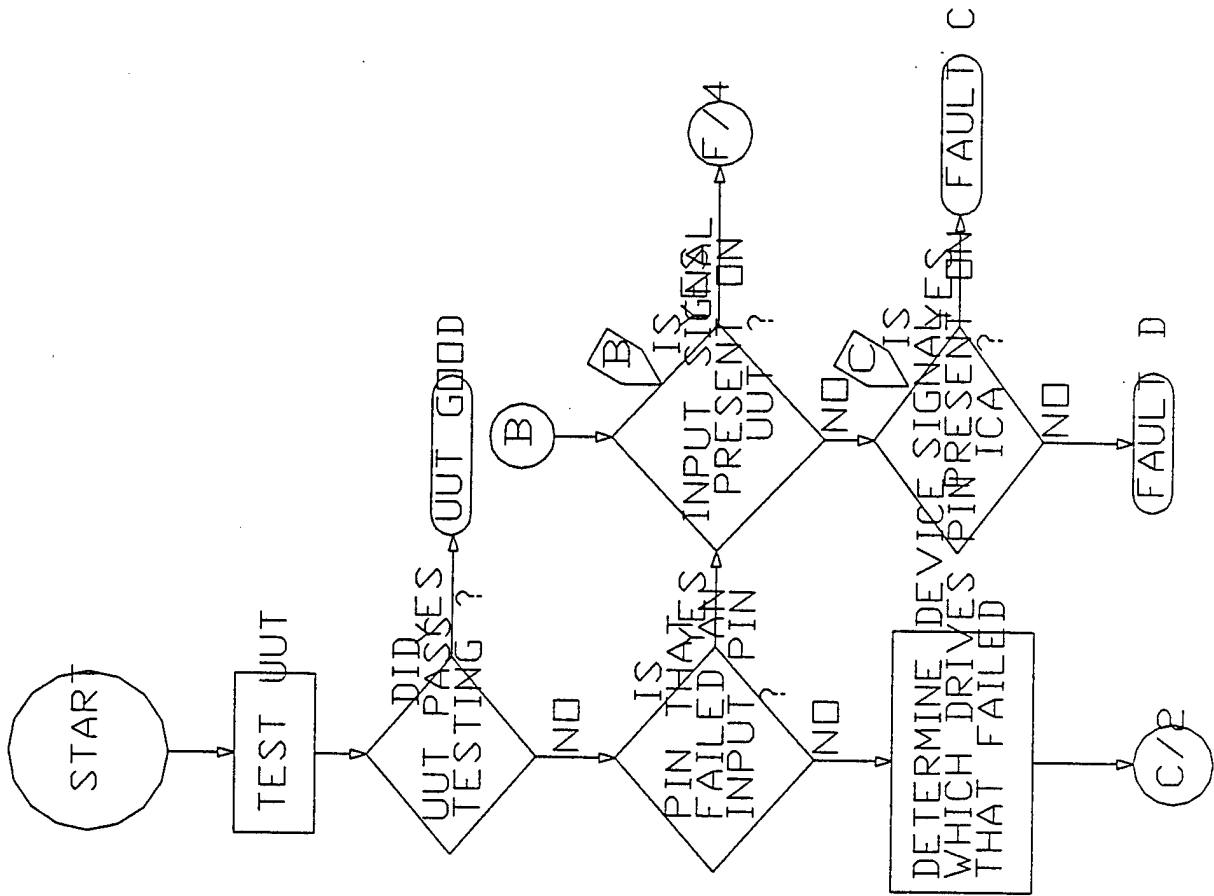
0 cautions

1 nitpicks

0 notes

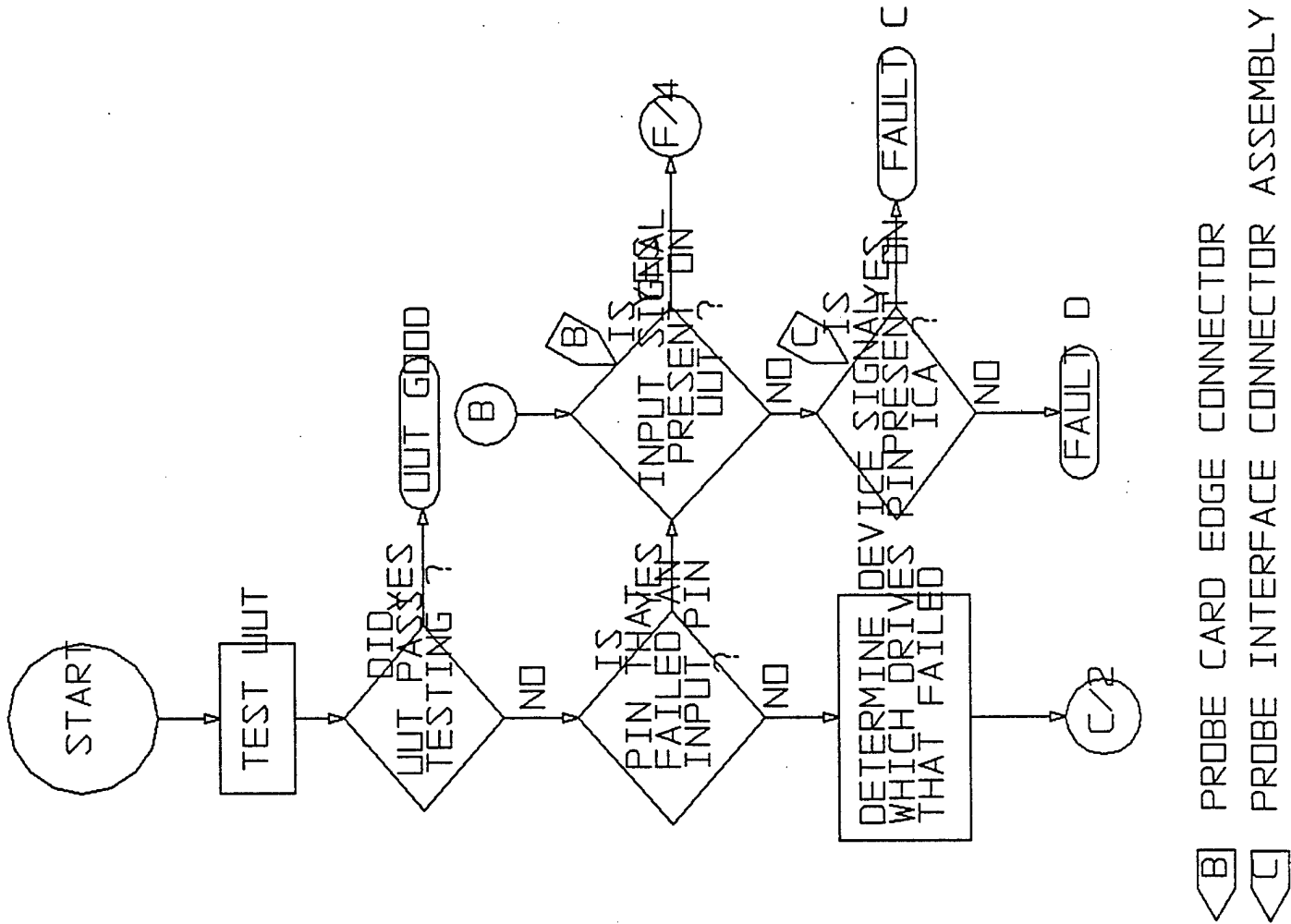
*** End of Analysis of \9230\q007.igs ***

11.3.3 AutoCAD R11

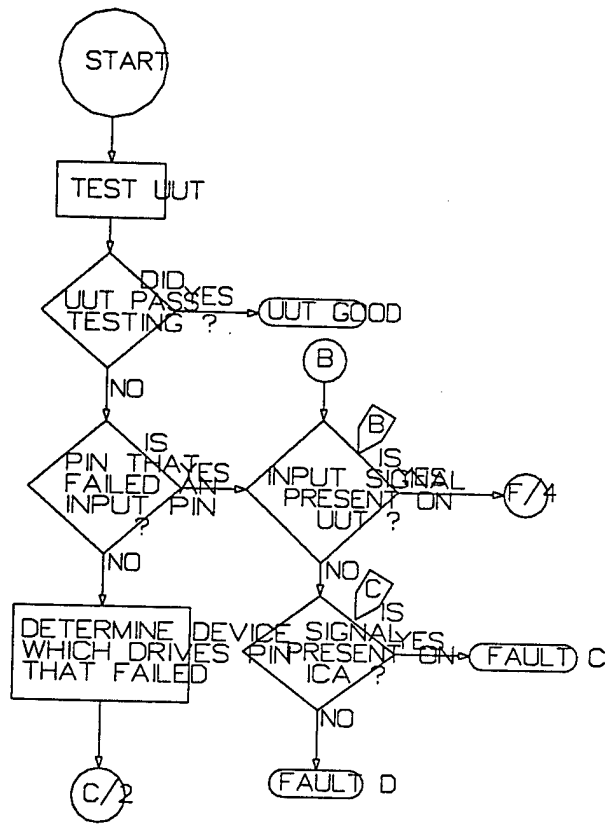


-  PROBE CARD EDGE CONNECTOR
-  PROBE INTERFACE CONNECTOR ASSEMBLY

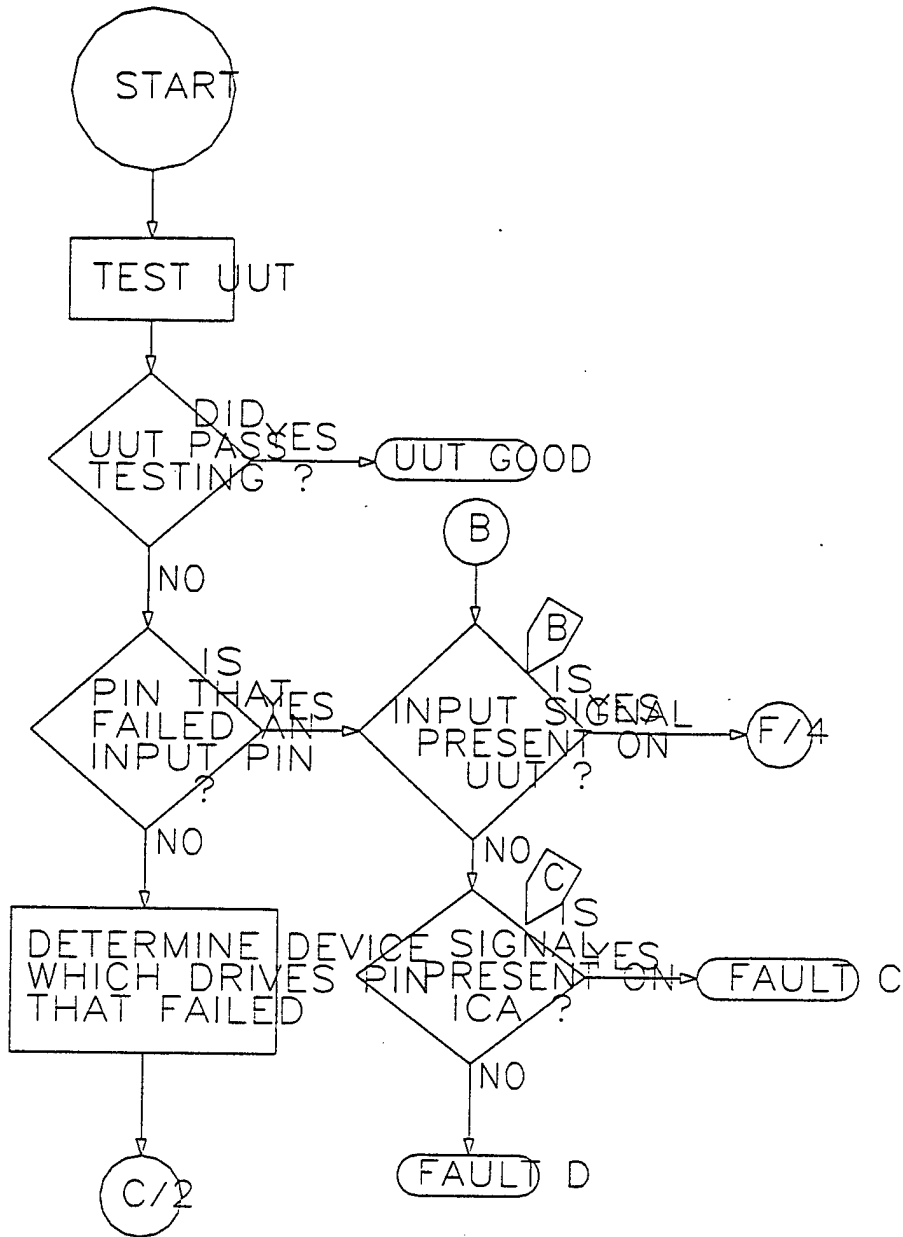
11.3.4 Cadkey V4.06



11.3.5 IGESVIEW



11.3.6 Preview



- ◀ B PROBE CARD EDGE CONNECTOR
- ◀ C PROBE INTERFACE CONNECTOR ASSEMBLY

11.4 D001Q010

11.4.1 IDA Parser Log

```
*** IGES DATA FILE PARSING ***  
***      AUGUST 1991      ***  
***   IGES Data Analysis   ***  
***   (708) 449-3430     ***
```

Input file is \9230\q010.igs

Checking conformance to CALS Class I

Today is May 6, 1992 9:43 AM

*** Count of Records Per Section in Data File ***

Section	Records
Start	1
Global	3
Directory	178 (89 Entities)
Parameter	127
Terminate	1

*** Start Section From Input File:

ATOS - Graphic. S 1

*** Global Section From Input File:

,,5HS5000,12Hh89000640000,21HAUTO-TROL S5000 V 7.0,11HVERSION 5.1,32, G 1
8,23,11,52,,1.0,1,4HINCH,10000,1.000000,13H920427.163806,0.0001, G 2
4.847920,,20HAUTO-TROL TECHNOLOGY,6,0; G 3

*** File and Product Name Information ***

```
File name from sender   = 'h89000640000'  
File creation Date.Time = '920427.163806'  
* Model change Date.Time = ''  
* Author                = ''  
  Department            = 'AUTO-TROL TECHNOLOGY'  
  Product name from sender = 'S5000'  
* Destination product name = ''
```

*** Parameter Delimiters ***

* Delimiter = ','
* Terminator = ';'

*** Originating System Data ***

System ID = 'AUTO-TROL S5000 V 7.0'
Preprocessor version = 'VERSION 5.1'
Specification version = 6 (IGES 4.0)

*** Precision Levels ***

Integer bits = 32
Floating point - Exponent = 8 Mantissa = 23
Double precision - Exponent = 11 Mantissa = 52

NITPICK 1086: Real constant characteristics inconsistent with specification version.

*** Global Model Data ***

Model scale = 1.0000E+000
Unit flag = 1
Units = 'INCH'
Line weights = 10000
Maximum line thickness = 1.000000E+000
Minimum line thickness = 1.000000E-004
Granularity = 1.000000E-004
Maximum coordinate = 4.847920E+000

Drafting standard applicable to original data is not specified.

** 5 defaulted Global values.
(*) Indicates a defaulted value.

*** Entity Parsing Messages ***

** 0 defaulted Parameter data values.

*** Message Summary ***

1019: 1 Invalid Global parameters.

*** Error Summary ***

0 fatal errors
0 severe errors

0 errors
0 warnings
0 cautions
1 nitpicks
0 notes

*** Completed Parsing of \9230\q010.igs ***

11.4.2 IDA Verifier Log

*** IGES DATA FILE ANALYSIS ***
*** AUGUST 1991 ***
*** IGES Data Analysis ***
*** (708) 449-3430 ***

Input file is \9230\q010.igs

Checking for conformance to CALS Class I

Today is May 6, 1992 9:44 AM

*** File and Product Name Information ***

File name from sender = 'h89000640000'
File creation Date.Time = '920427.163806'
Model change Date.Time = ''
Author = ''
Department = 'AUTO-TROL TECHNOLOGY'
Product name from sender = 'S5000'
Destination product name = ''

*** Parameter Delimiters ***

Delimiter = ','
Terminator = ';'

*** Originating System Data ***

System ID = 'AUTO-TROL S5000 V 7.0'
Preprocessor version = 'VERSION 5.1'
Specification version = 6 (IGES 4.0)

*** Precision levels ***

Integer bits = 32
Floating point - Exponent = 8 Mantissa = 23
Double precision - Exponent = 11 Mantissa = 52

NITPICK 2329: Real constant characteristics inconsistent with specification version.

*** Global Model Data ***

Model scale = 1.0000E+000
Unit flag = 1
Units = 'INCH'
Line weights = 10000
Maximum line thickness = 1.000000E+000
Minimum line thickness = 1.000000E-004
Granularity = 1.000000E-004
Maximum coordinate = 4.847920E+000

Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status:	Visible	89
	Blanked	0
Independence:	Independent	88
	Physically Subordinate	1
	Logically Subordinate	0
	Totally Subordinate	0
Entity use:	Geometry	67
	Annotation	22
	Definition	0
	Other	0
	Logical/Positional	0
	2D parametric	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	89
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
-----	-----	-----	-----	-----
106	11	2	9	Copious data - Piecewise planar, linear string(2D linear path)
110	0	1	31	Line
110	0	2	26	

124	0	2	1	Transformation matrix
212	1	8	22	General note - dual stack dimension

ERROR 4031: CALS Class I requires that exactly one drawing be defined.
 ERROR 4032: CALS Class I requires that exactly one view be defined.

*** Entity Count by Level ***

Level	Count
1	31
2	36
8	22

*** Labeling Information ***

100% of the entities are labeled.

Unlabeled 0

Label	Count	Label	Count	Label	Count
MATRIX	1	LNR PATH	9	LINE	57
NOTE	22				

*** Line Fonts Used in Data ***

100 102 104 106 108 110 112 114

-	-	-	-	-	-	-	-	Undefined
-	-	-	9	-	57	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116 118 120 122 124 125 126 128

-	-	-	-	-	-	-	-	Undefined
-	-	-	-	1	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	89	(0.0001)

*** Colors Used in Data ***

Defaulted 89

***** ENTITY ANALYSIS *****

*** Entity type: 106

ERROR 4045: Illegal level for CALS Class I specified at D 3.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 3.
ERROR 4045: Illegal level for CALS Class I specified at D 5.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 5.

*** Entity type: 110

ERROR 4045: Illegal level for CALS Class I specified at D 11.
ERROR 4025: CALS Class I requires matrix pointer to be zero at D 11.
ERROR 4045: Messages regarding illegal levels suppressed.
ERROR 4025: Messages regarding non-zero matrix pointers suppressed.
-- 57 lines averaging 4.541820E-001 units --

*** Entity type: 124

1 transformation matrices, 0 non-zero translations.

*** Entity type: 212

22 text strings in data file.

Average text aspect ratio in file is 1.0000000.
Minimum text aspect ratio in file is 1.0000000.
Maximum text aspect ratio in file is 1.0000000.

FONTS USED IN FILE

FONT	COUNT	NAME
1	22	Default ASCII Style

*** Message Summary ***

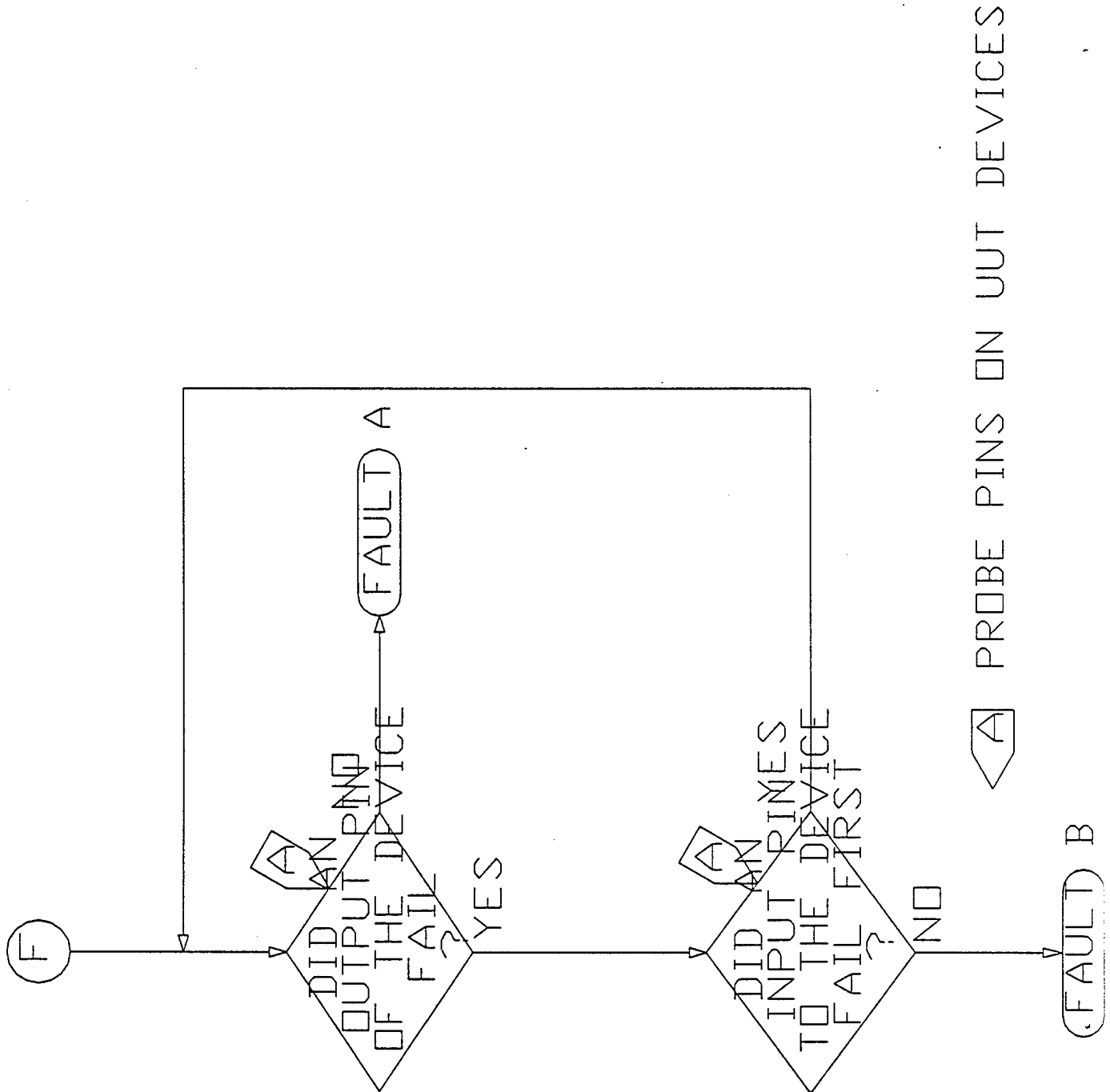
4000: 2 Miscellaneous CALS messages
4013: 61 Non-zero matrix pointers
4020: 88 Illegal levels

*** Error Summary ***

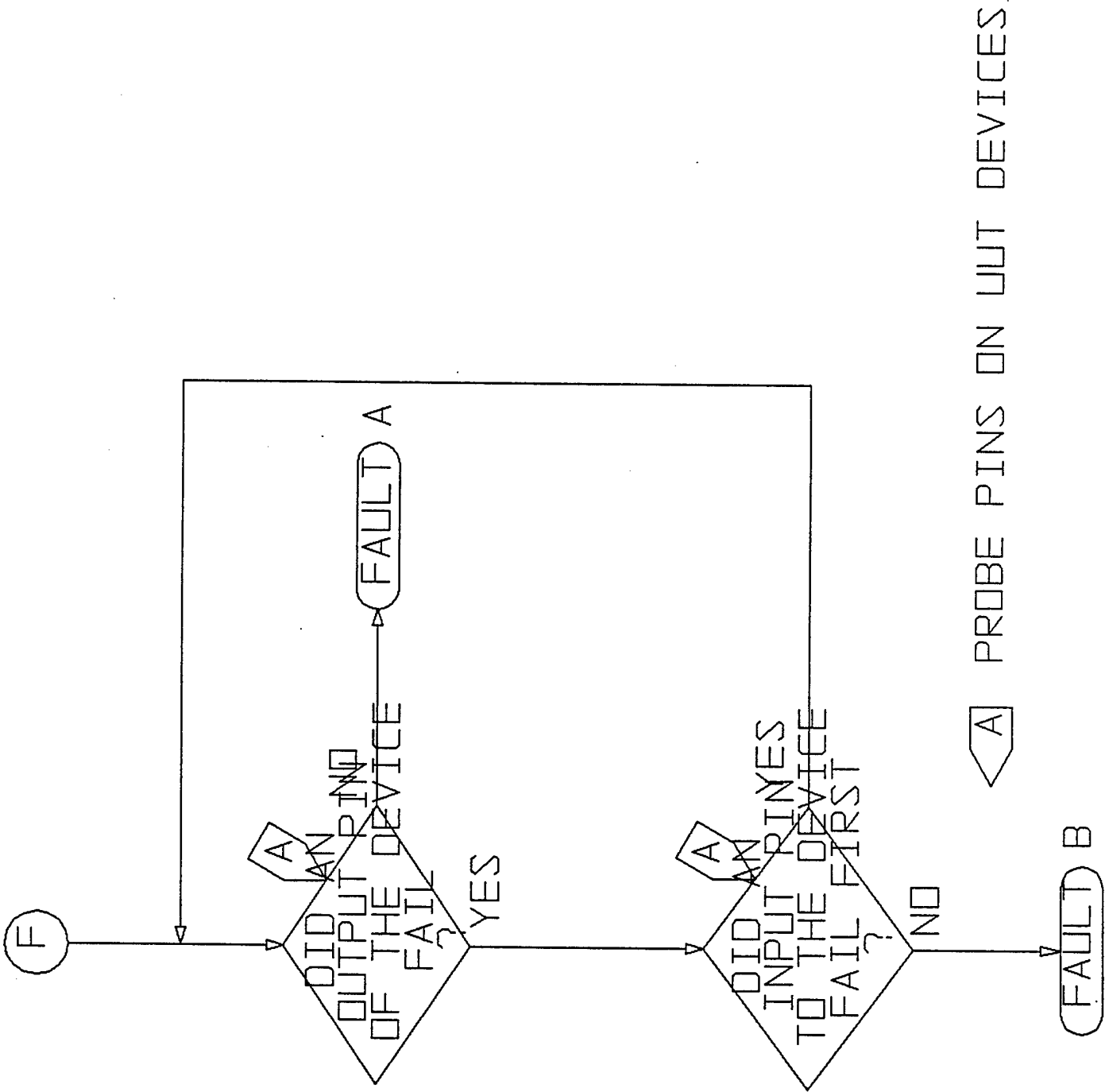
0 fatal errors
0 severe errors
151 errors
0 warnings
0 cautions
1 nitpicks
0 notes

*** End of Analysis of \9230\q010.igs ***

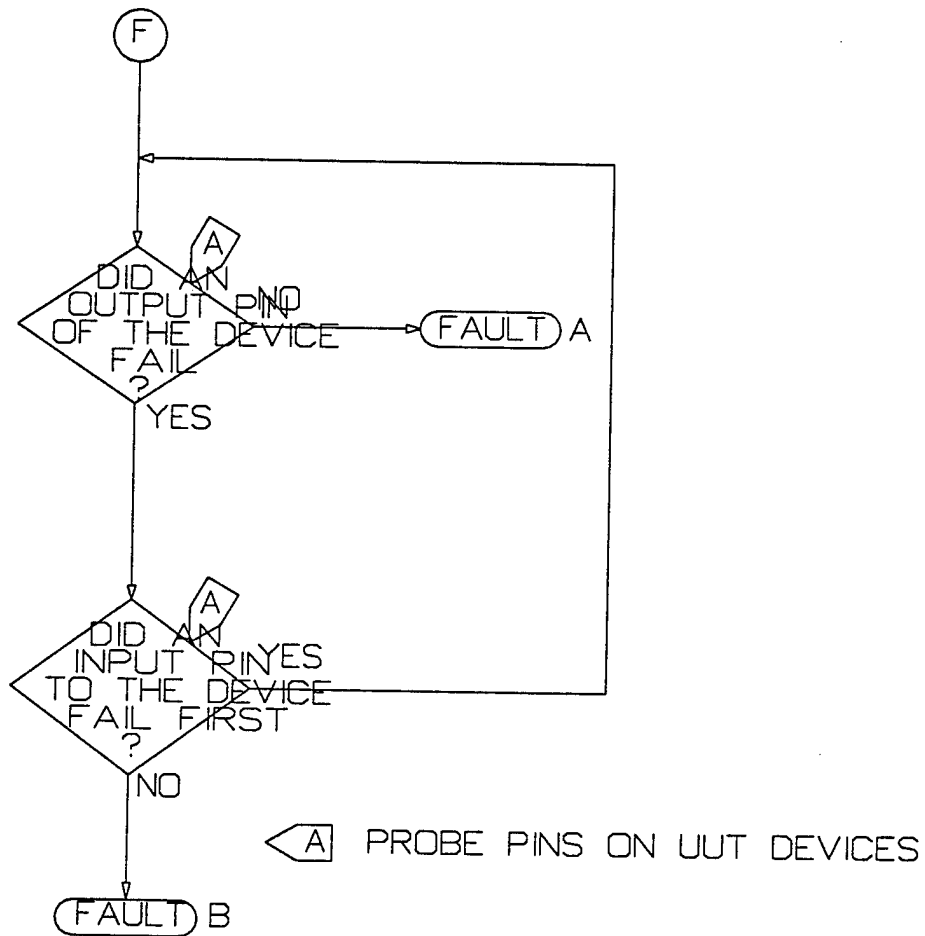
11.4.3 AutoCAD R11



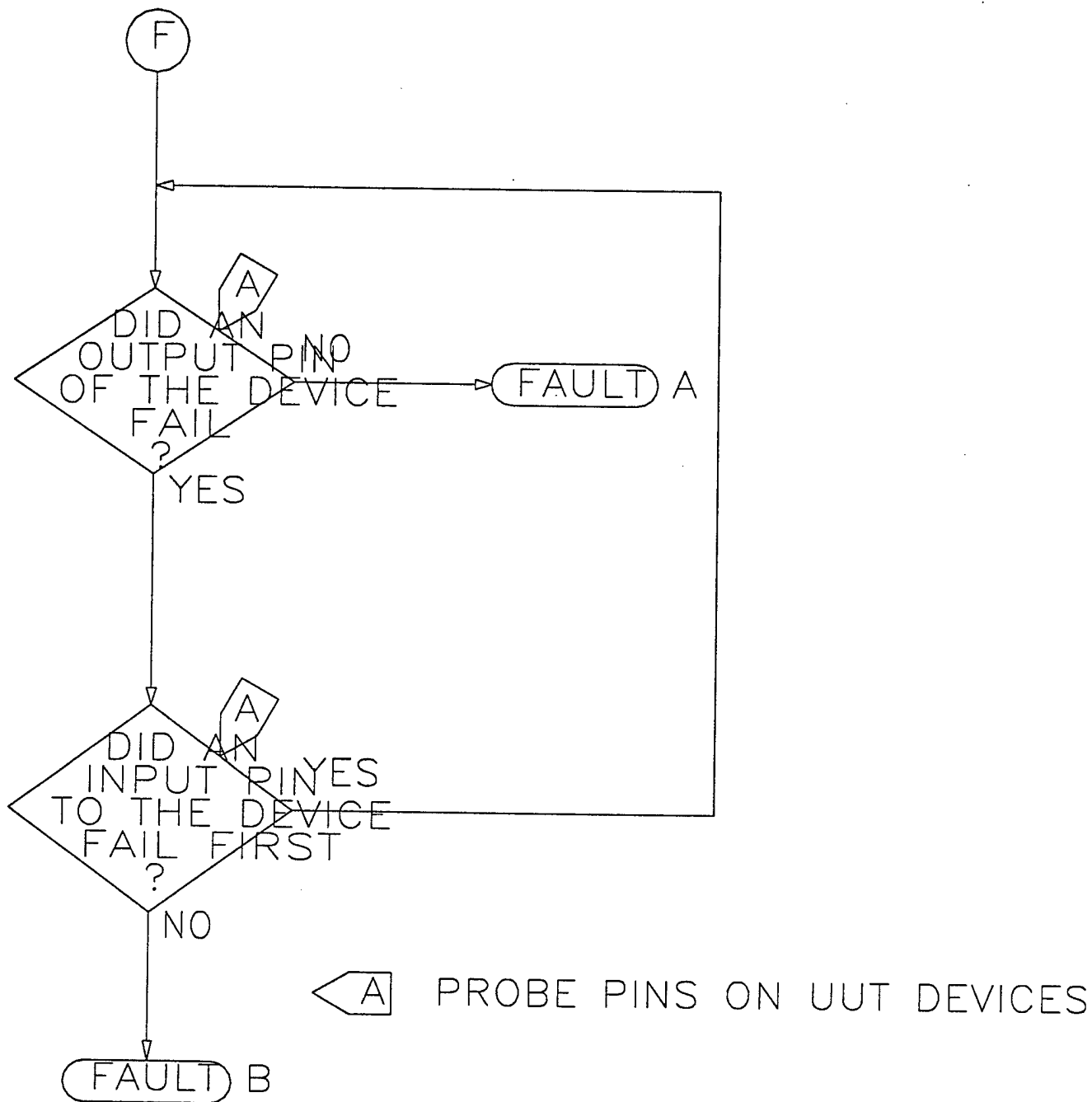
11.4.4 Cadkey V4.06



11.4.5 IGESVIEW



11.4.6 Preview



12. Appendix D - D001Q005 Detail

12.1 Detail IGES File

								S	1
,,	5HS5000,	12Hh87000230000,	21HAUTO-TROL	S5000	V 7.0,	11HVERSION	5.1,32,8,	G	1
23,	11,52,,	1.0D0,	1,4HINCH,	10000,	1.0D0,	13H920427.163440,	0.0001D0,	G	2
5.422762D0,,	20HAUTO-TROL	TECHNOLOGY,	6,;					G	3
0	1	0	0	0	0	0	0	0D	1
0	0	0	1	0				D	2
110	2	0	1	4	0	0	0	1D	3
110	0	0	1	0				LINE	978D
212	3	0	1	8	0	0	0	101D	5
212	0	0	2	1				NOTE	147D
110	5	0	1	4	0	9	0	1D	7
110	0	0	1	0				LINE	979D
124	6	0	1	2	0	0	0	10001D	9
124	0	0	2	0				MATRIX	1D
0;									10
								1P	1
110,	1.708681D0,	1.170777D0,	0.0D0,	-0.683675D0,	2.583365D0,	0.0D0;		3P	2
212,	1,5,	0.78125D0,	0.15625D0,	1,1.570796D0,	0.0D0,0,0,	-1.387797D0,		5P	3
2.532137D0,	0.0D0,	5HR51-B;						5P	4
110,	-0.683675D0,	2.583365D0,	0.0D0,	-0.808675D0,	2.583365D0,	0.0D0;		7P	5
124,	1.0D0,	0.0D0,	0.0D0,	0.0D0,	1.0D0,	0.0D0,0.0D0,	0.0D0,	9P	6
1.0D0,	0.0D0;							9P	7
S	1G	3D	10P	7				T	1

12.2 Harvard Graphics Detail

