



CALS TEST NETWORK

AFCTN Test Report 93-030

AFCTB-ID
93-080



Technical Raster Transfer



Using:

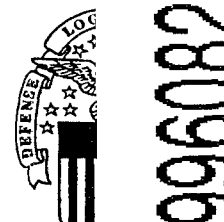
Rockwell International Data



MIL-R-28002A (Raster)



Quick Short Test Report



10 August 1993



Prepared for

Electronic Systems Center

QUALITY INSPECTED

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10 August 1993

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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests 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 Rockwell International's interpretation and use of the CALS standards, in transferring technical Raster data. Rockwell used its CALS 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 93-080

Date of Evaluation: 10 August 1993

Evaluator: George Elwood
Air Force CALS Test Bed
HQ ESC/ENCP
4027 Colonel Glenn Hwy
Suite 200
Dayton OH 45431-1672

Data Originator: John Amrsby
Rockwell International
Tactical Systems Division
1800 Satellite Blvd
Duluth GA 30136

Data Description: Technical Manual Test
1 Document Declaration file
1 Raster file

Data Source System: 1840

	HARDWARE	Unknown
	SOFTWARE	Unknown
Raster	HARDWARE	Unknown
	SOFTWARE	Unknown

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN Tapetool v1.2.10 UNIX

MIL-R-28002 (Raster)

SUN SparcStation 2

AFCTN validg4

AFCTN calstb.475

AFCTN xrastb.sun4

IGES Data Analysis (IDA) IGESView 3.0

PC 486/50

Inset Systems HiJaak v2.1

Xerox Ventura Publisher

Standards

Tested:

MIL-STD-1840A

MIL-R-28002A

3. 1840A Analysis

3.1 External Packaging

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

The tape was not enclosed in a barrier bag or 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. A packing list, showing all files recorded on the tape, was not enclosed in the envelope.

3.2 Transmission Envelope

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

3.2.1 Tape Format

The tape was run through the AFCTN *Tapetool* v1.2.10 utility. No errors were encountered while evaluating the contents of the tape labels.

The physical structure of this tape meets the CALS MIL-STD-1840A requirements.

3.2.2 Declaration and Header Fields

Two errors and four note were generated while evaluating the Document Declaration file and data file headers. The value for the record

"txtfilid" was inserted in both upper and lower case letters. MIL-STD-1840A requires this value to be in upper case letters only if it is "NONE".

txtfilid: None

*** ERROR (MIL-STD-1840A; 5.1.4.4) - Invalid 'txtfilid:' value for product data. Expected => NONE

*** NOTE - The header record will be given the value NONE.

*** NOTE - Correction made in new Raster Header File.

The value for the record "srcgph" was given a value other than "NONE". This record must be "NONE" if there are no SGML files. The value for this record is directly related to a graphic entity in a text file.

srcgph: USGS Info Sheet

*** ERROR (MIL-STD-1840A; 5.1.4.4) - Invalid 'srcgph:' value for product data. Expected => NONE

*** NOTE - The header record will be given the value NONE.

*** NOTE - Correction made in new Raster Header File.

This portion of the tape does not meet the CALS MIL-STD-1840A requirements.

4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included on the tape.

5. SGML Analysis

No Standard Generalized Markup Language (SGML) files were included on the tape.

6. Raster Analysis

The tape contained one Raster file. This file was evaluated using the AFCTN *validg4* utility. This program reported that the file did not meet the CALS MIL-R-28002A specification. The reported error was started on line 151, bit 2701.

```
density      = 300
path length  = 2700
scan lines   = 4800
bit format   = MSB
```

error, scan length exceeds pel count
s=151 a0=0 bstop=2701 pos=2101

file = i:\9380\D001R001

An attempt to read the file into the AFCTN *calstb.475* viewing utility resulted in a core dump with the file.

The AFCTN beta *xrastb.sgi* was able to read the file, but displayed the error in the same location as defined by AFCTN's *validg4*.

An attempt to convert the file using Rosetta Technologies' Prepare resulted in an error message indicating a fault in the scan line length.

It was possible to convert the Raster file to an IMG format using Inset Systems' *HiJaak*. The resulting file was then imported into the Xerox Ventura Publisher. The location of the reported scan line errors is apparent in the hard copy.

The Raster file did not meet the CALS MIL-R-28002A specification.

7. CGM Analysis

The tape contained no Computer Graphics Metafile (CGM) files.

8. Conclusions and Recommendations

The tape from Rockwell International was basically correct. The tape could be read properly using the AFCTN *Tapetool* with two reported errors in the data file header. The physical structure of the tape meets the CALS MIL-STD-1840A requirements.

The errors with the Raster image is serious. The construction of the Raster file appears to be flawed resulting in an unusable file. The Raster file did not meet the CALS MIL-R-28002A specification.

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

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

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

Mon Aug 9 16:48:37 1993

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set009

Page: 1

File Name	File Type	Record		Selected/ Extracted
		Format/ Length	Block Length/Total	
D001	Document Declaration	D/00260	02048/000001	Extracted
D001R001	Raster	F/00128	02048/000068	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

Air Force CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)

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

Mon Aug 9 16:48:33 1993

ANSI Tape Import Log

VOL1CALS01

4

Label Identifier: VOL1
Volume Identifier: CALS01
Volume Accessibility:
Owner Identifier:
Label Standard Version: 4

HDR1D001 CALS0100010001000000 93201 00000 000000

Label Identifier: HDR1
File Identifier: D001
File Set Identifier: CALS01
File Section Number: 0001
File Sequence Number: 0001
Generation Number: 0000
Generation Version Number: 00
Creation Date: 93201
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier:

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

End of Volume CALS01

End Of Tape File Set

Tape Import Process terminated normally.

9.3 Tape File Set Validation Log

Air Force CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

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

Mon Aug 9 16:48:37 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set009

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: 256

srcdocid: volume 1

srcrelid: NONE

chglvl: ORIGINAL

dteis: 19930720

dstsys: Rockwell

dstdocid: volume 1

dstrelid: NONE

dtetn: 19930720

dlvacc: NONE

filcnt: R1

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: Product Data

docttl: NONE

Found file: D001R001

Extracting Raster Header Records...

Evaluating Raster Header Records...

srcdocid: test

dstdocid: test

txtfilid: None

*** ERROR (MIL-STD-1840A; 5.1.4.4) - Invalid 'txtfilid:' value for
product data. Expected => NONE

*** NOTE - The header record will be given the value NONE.

*** NOTE - Correction made in new Raster Header File.

figid: 1
srcgph: USGS Info Sheet
*** ERROR (MIL-STD-1840A; 5.1.4.4) - Invalid 'srcgph:' value for
product data. Expected => NONE
*** NOTE - The header record will be given the value NONE.
*** NOTE - Correction made in new Raster Header File.
doccls: Unclass
rtype: 1
rorient: 000,270
rpelcnt: 002700,004800
rdensty: 0300
notes: test type 1

2 error(s), 0 warning(s), and 4 note(s) were encountered
in Raster File D001R001.

Saving Raster Header File: D001R001_HDR
Saving Raster Data File: D001R001_GR4

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.

A total of 2 error(s), 0 warning(s), and 4 note(s) were
encountered in Document D001.

A grand total of 2 error(s), 0 warning(s), and 4 note(s) were
encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - Raster

10.1 HiJaak/Ventura Publisher Output

