

A Comprehensive CIF Test Set

by

Stephen Trimberger

Technical Report No. 3352

January 17, 1980

Computer Science Department
California Institute of Technology
Pasadena, California 91125

Silicon Structures Project

sponsored by

Burroughs Corporation, Digital Equipment Corporation,
Hewlett-Packard Company, Honeywell Incorporated,
International Business Machines Corporation,
Intel Corporation, Xerox Corporation,
and the National Science Foundation

The material in this report is the property of Caltech, and is subject to patent and license agreements between Caltech and its sponsors.

Copyright, California Institute of Technology, 1980

A Comprehensive CIF Test Set

This is the first in a series of documents of length at least two on the CIF program test set. The test set consists of several CIF2.0 files which are used to test CIF processing software. At present, there are four (4) files in the CIF test set. They are: BLTST.CIF, NASTY.CIF, PLA.CIF and TEST.CIF. All of the files can be found on <SSPDOC>.

This document describes each one briefly, its purpose and some specifics on how it tries to do that. The CIF test files and this document will be evolving over the next few months, so stay tuned to this printer.

BLTST.CIF

BLTST is a tester for "bloating", the expanding of graphic features in PA1. BLTST contains a few graphic primitives and allows the user to try different bloating values on them, observing the error messages or lack of them, and checking the resulting features to ensure their correctness.

NASTY.CIF

NASTY is a vicious test for a CIF2.0 parser. It is constructed of several bad- and questionable constructs. You can expect it to evoke every error message in your parser, and/or some in your run time system. If your CIF

handler can take NASTY, it is very robust. Many hackers spent lots of time making NASTY truly nasty. To give you an example of their abilities, NASTY blasts CIIPOB into space dust. NASTY is not for the faint-hearted. A listing of the error messages produced on one sample run of NASTY is appended to this document. This should give you an idea of what to look for. There are a lot of comments in NASTY describing what feature each test is checking. You should use nasty only after your program has passed TEST (below). Be armed with a source listing of your program and a listing of NASTY. Use it on somebody else's software (it hurts too much to see your own in such bodd shape).

PLA.CIF

PLA is a real chip designed by Alastair Thompson at Caltech. There is nothing very special about it, in fact, there are a lot of known bugs in it as well as some systematic errors caused by bugs in the design system which created it. But it is an example of a real chip. PLA was made with no thought to testing CIF software, its indifference to CIF processing programs is the main part of its desirability. PLA is big enough to be a real test and short enough to be reasonably quick test. We have found enough bugs in our programs with PLA to warrant its inclusion unchanged in the CIF test set.

TEST.CIF

TEST is an example of forthright CIF code to test a number of CIF parser and plotter properties. test is designed to

