

GIOS TEST SUITE
DOCUMENTATION

November 1,1983

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WHO IS THIS FOR

This document describes how to use the GSX 86 test suite. The suite has versions covering CP/M-86 or CCP/M-86 and PC-DOS or MS-DOS. There are three major sections to the suite of tests. They are

TESTGIOS.CMD CP/M
TESTGIOS.EXE MS-DOS

MODETEST.CMD CP/M
MODETEST.EXE MS-DOS

Test suite CP/M
MS-DOS

There are three disks for each operating system. The first two are for the test suite. The last is for the test suite and TESTGIOS and MODETEST.

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USING TESTGIOS USING TESTGIOS

Testgios is broken into seventeen frames. This program is the oldest of the entire suite of tests and is commonly used when first debugging your gios (device driver). The gios developer should NOT assume that when the gios appears to be fully functional under testgios that no further testing is required.

To run TESTGIOS under cp/m or ccp/m you must type the following command.

RUN TESTGIOS

To run under pc or ms-dos you simply type TESTGIOS.

Frame 1 This displays horizontal and vertical polylines, with color attributes, It displays lines with various styles also. Markers with various colors, sizes and types are also displayed. Non rotated, scaled text is also displayed.

Frame 2 This tests the devices escape functions. There are five parts to this frame each separated by a pause for a . The first screen displays a diagonal composed of 23 letter A's, which begin in the upper left hand corner of the display surface. Once a is struck a column of B's in reverse video (if the device supports it) is sent to the display. Then the cursor is moved to the middle of the display surface and the remainder of the line is erased using the erase to end of line function. Once a is struck the cursor is moved down two rows, then erases to the end of the display. The cursor address is then inquired. Once a is struck the screen is cleared and a C is placed at the home position and at the previously inquired upon position. Once a is struck the display is placed into graphics mode and displays the number of mice or tablet type devices supported in the gios.

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Frame 3 This provides a partial test for writing modes for polylines only. A left column of numbers representing the index of the mode requested is displayed. A column of numbers to the right of that indicate the modes supported by the driver. Two

lines are drawn for each of the modes. They are drawn on top of each other so that modes 1,2 appear solid 3 disappears altogether. Four does not appear since it is specified as an undraw mode.

Frame 4 These frames partially test the various GDP (GENERALIZED DRAWING PRIMITIVE) opcodes. Only supported GDP's will be tested. More complete tests will be found in the larger test suite.

Frame 5 This frame tests text rotation. It rotates the string 90 degrees four times. If the device does not support text rotation, only the 0 degree rotation is shown.

Frame 6 This frame tests text size and positioning. Eleven A's are displayed on a baseline, their size is attempted to be scaled. If no scaling is available they will all be the same size. An letter A is also drawn at the center of the marker symbol X.

Frame 7 This frame tests cell array output. On color devices, two identical grids, one on top of the other, will be displayed. The grid colors will be red, green, blue, yellow, cyan, and magenta. On grey-scale devices the colors will be represented by varying intensities of grey. On monochrome devices, the cell will appear solid filled.

Frame 8 This frame tests cell array inquiry. One cell, identical in every respect to the top cell in frame 7 will be displayed on the device surface.

Frame 9 This frame tests line widths. Three lines of differing widths will be output. If the device supports only one width only one line will be output.

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Frame 10 This frame displays the devices available font's. Characters from an ascii SPACE through ascii C will be displayed.

Frame 11-13 These frames partially test the setting and inquiring color representation. The

color indexes will be displayed and the three frames will attempt to set them to different colors. Additional tests for this are contained in the test suites.

Frame 14 This frame test request mode locator input by allowing 5 input points and then drawing a polygon between them.

Frame 15 This frame test request mode choice input. The choice key selected will be displayed.

Frame 16 This frame tests request mode string input with echo off.

Frame 17 This frame tests request mode string input with echo on.

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Modetest is a single screen program which displays all the output primitives in gsx in each of the four writing modes. To run it in either cp/m or ms-dos or pc-dos simply type MODETEST

Modetest only displays two color indices which it calls pen 0, and pen 1. The four writing modes are displayed as mode 1 through mode 4. The primitives are displayed once for each pen value and for each writing mode or a total of 8 times. The order of the primitives is text, polyline, bar, polygon, marker. On low resolution displays some wrapping of the markers occurs, as is shown in the accompanying picture. We feel even with this minor problem that the program displays so much information in a single test that it is useful.

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The remaining suite of tests. Are the newest and most comprehensive tests for gsx. It is made of of twenty eight programs with a total of 42 screens. The programs will be discussed in the order of their file names. The test diskettes may not contain them in the order described here. To run any of the test programs under cp/m you must use the RUN

FILENAME command as was used for testgios. Under pc or ms dos you simply type the filename.

scrn01 Open Workstation This returns the data about the driver and displays it in a tabular form. The data is presented using graphic text and thus this program can be run only after graphic text is functional. There are two screens to this test.

scrn02 Polyline This shows the available polyline linetypes, and tests for out of range behavior of the driver. It then tests for line width and color with out of range values for each.

scrn03 Polymarker This displays the available marker symbols, and tests for out of range symbol values. It then displays the available sizes of marker symbols with out of range values also tested. It then tests the marker color representation with out of range color index values displayed.

scrn04 Polygon This displays the various interior styles available, with out of range values displayed. It then shows the colors available on polygons with out of range indexes displayed. It then displays the available pattern styles and the available hatch styles with testing for out of range values displayed.

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scrn05 Text This displays the various character sizes available with out of range values displayed. It then shows the various rotations available. It then shows characters with the available color range, testing for out of range values is also performed. The next screen shows the maximum text size, as per the data returned at open workstation. The next screen shows the effect of out of range text sizes by a size of max+10. The next several screens show the various fonts available with out of range values being tested also.

scrn07 GDP GRAPHIC CHAR This screen displays the gdp graphic ruling characters.

- scrn08 GDP BARS This displays the various interior styles available, with out of range values tested. It next displays the available pattern styles with out of range values tested. It next displays the available hatch styles with out of range values tested. It next displays the available colors with out of range indexes tested.
- scrn09 GDP ARC This screen displays the gdp arc if supported by the driver.
- scrn10 GDP PIE This screen displays the gdp pie if supported by the driver.
- scrn11 GDP CIRCLE This screen displays the gdp circle if supported by the driver.
- scrn12 0 Length Prim This screen displays 0 length polylines, polygons, text, markers, bars, pie, arc, circle and cell array. This shows if any off by one errors may exist in the gios.
- scrn13 Writing Mode This screen is essentially identical to mode test except that it does not wrap and is smaller is size.
- scrn14 Cell Array This screen test the cell array function if implemented.
- scrn15 Open Work/Clear This series of screens tries a number of combinations of openworkstation and clearscreen to see if a sequence can cause problems.
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- scrn19 Set Color Rep This screen draws the number of colors available in the form of bars. It then sets color representation, displaying the rgb contents of each index. If the display hardware supports color mapping then the colors will dynamically change on the screen.
- scrnx0 Work Init This screen uses open workstation to set the default values for the attributes etc.
- scrnx1 Vector Display This series of screens makes sure that the generation of lines (vectors) works with all slopes of lines. You should recieve displays like the three pictures which accompany this description.

scrn20a Locator Request This screen tests request mode locator input. You may verify that the ndc numbers displayed are correct by finding the size of your pixel in ndc space and computing the values at the corners of the display surface are correct. In addition if you are using a mouse or tablet, you may test the values returned for button presses. The decimal values are displayed near the base of the arrow.

scrn20b Locator Sample This screen tests that your sample mode locator is tracking correctly. You may wind your way through the maze to the cheese.

scrn21 Choice This screen tests both request and sample mode choice input. The first test is in request mode where you may input 10 choice presses. The second test is in sample mode where 10 samples are performed and the result is displayed.

scrn22 String This screen tests both request and sample mode text input. It also tests both echo and non echo modes.

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scrn23 Valuator This screen tests both request and sample mode valuator input. The request mode test asks you to set the valuator lower. Since it is request mode you terminate it by striking a key or button or whatever event terminates you valuator. You next set the valuator higher using the same procedure. You next set the valuator lower and higher in sample mode with 7 samples being shown for each.

scrn24 Long Vect Perf This test displays a very large number of vectors which range from a diagonal in length to the length of the x and y axes. A bell code is sent at the beginning and at the end allowing easy timing.

scrn25 Shrt Vect Perf This test displays a large number of short vectors with a bell at the beginning and a bell at the end for a timing mark.

scrn26 Polygon Perf This test fills a number of polygon shapes with a variety of styles. The

shapes run from very simple to the last with a large number of vertices. A bell sounds at the beginning and another bell at the end as a timing mark.

scrn27 Small Chr Perf This test fills the displays with rows of characters at the minimum text height of the device. This is repeated several times. A bell sounds at the beginning and another at the end.

scrn28 Big Char Perf This test fills the display with rows of the largest characters available on the device. A bell sounds at the beginning and another at the end.

scrn29 Bar Fill Perf This test draws a random set of sizes and shapes of bars with various colors and styles. If the bar fill is implemented well, this can be a very dramatic demonstration program. A bell sounds at the beginning and another at the end.