RELEASE NOTES FOR GRAPH 3.2
AS OF 7-1-91

The following information documents the features added for release 3.2.

Defaults Modifications

Given the scope of the enhancements for this release, it was necessary to expand the size of the graphics defaults file. To retain the default choices used with release 3.1, a conversion utility, CNVGRF, has been provided. Please refer to the installation guide for instructions on the use of this utility.

Main Menu Modification

The main menu has been modified. The "Defaults" and the "Graphics Device Definition" menu selections have been removed and replaced with a "Setup" menu selection. The Setup menu has the following menu selections:

1 - Graphics Device Definitions
2 - Defaults
3 - Color Palette Setup

Color Palette

This feature gives the user greater flexibility when using color devices. It allows each user to have a color table file referenced in their defaults. This file in turn will contain the users color palette information including each colors name and its red, green and blue components. The default name for this file will be SAT$LIB:COLPAT.SAT.

When color palette setup is selected, the user can then choose to enter names for any and all of the 16 colors as well as the red, green and blue components of each. The user at this point has the capability to store out the changes and/or to display the new color pallette.

All the data entry fields that reference color in the graphics programs have been modified to use the names provided by the user. However, the choices in defaults will not reflect these new names.

Monochrome devices will not be affected. Also some color devices whose colors can not be modified such as plotters are not affected. However, the following device drivers will take advantage of the color palette feature:

VT240, VT340, VAXSTATIONS, color postscript, EGA monitors, VGA monitors, CGM metafiles, Tektronix 4105, 4107, 4207, 4510 and color printers (HP inkjet and LA-324/LJ-250)

New Chart Type - 3D Surface

This new chart type provides 3D surface display capabilities. It has the following major features:

- Supports regular rectangular 3D grids of up to 32,000 X 32,000 points.

- User may specify arbitrary tilt and rotate angles to view the surface from any angle.

- An invert Z option available to view the bottom of the surface.

- Surfaces will be displayed with hidden lines removed. However, since a "Z Buffer" or display overlaying algorithm will be used, this feature will not be supported on plotters or terminals that do not have a selective erase capability.

- Surfaces may be be displayed in one of three ways:

    - Linear : adjacent points connected.
    - Smooth : points are connected via smooth curves in both directions.
    - Bar : Z values are represented as bars. Sort of a 3D step function.

- A "skirt" option may be specified for the linear and smooth surface types. This is a set of lines connecting the surface to the X-Y plane.

- Both linear and log scaling available on any of the axes.

- X, Y and Z display size proportions may be specified.

- Axis Min/Max and tic mark spacing available on all axes.

- Grid Options available on all axes.

- Import capabilities supported. Rectangular grids of points may be specified as well as lines worth of data.

Print Menu Added

This feature makes the process of printing and plotting graphs easier and more flexible for the end user.

Each time the user specifies an output device that is either a printer or a plotter, a print(or plot) options screen will be displayed enabling the user to specify the following:

Print Quality: This may be draft(lowest), standard or high. This will only be available for HP laserjet, HP inkjet, LN03, LN03+ and Xerox printers.

Orientation: This may be portrait or landscape.

Size: A width and length % may be entered.

Batch specification: The user may specify that this print job is to be submitted to a batch que rather than printing directly. This option will not be available on the PC.

In addition, a device type, LN03+ has been added to differentiate the device default resolutions between it and the LN03.

Chart Enhancements

The following is a list of the features added to the general charting capability:

Custom Legends

An additional legend type has been added to the chart option screen for pie, bar line and range charts, Custom Legend. When Selected, the user is presented with a screen to specify the following:

The legend may be located outside or inside the chart drawing area. It can also be placed to the left side, right side, centered or at some arbitrary horizontal location. Similarly, it can be placed to at the top, bottom, centered or at some arbitrary vertical position.

Both the horizontal and vertical size of the legend area may be specified.

The user may specify a title for the legend and specify its relative size and font.

The user may specify a border for the legend. The border type will be the same as those used for chart borders. The color and thickness of the border may also be specified.

The user may specify a background color to be used for the legend area.

The User may specify a color to be used for the legend.

The user may specify how many columns to use when displaying the legend information. That is a value of one produces one vertical column, two produces two columns and a number greater than or equal to the number of legend entries in effect produces a horizontal row of legend entries.

The user may specify whether text is to be placed to the right or above the individual legend boxes.

Frame Background Color

This option allows the user to select a background color for the frame (the rectangular graphing area(s)). This option may be selected in the chart options screen for bar, line, range, gantt and 3D surface charts.

Value Scaling

This option enables the user to apply a scaling factor to data before it is output. This factor may be entered for any of the axes in bar, line, range or 3D surface charts whenever the user chooses to select axis min/max values.

Currency Option

This option, when enabled, displays values and numeric scales with the dollar sign($) included. This option may be selected for pie, bar, line and range charts.

Pie Chart Enhancements

Start Angle

This option enables the user to enter a value from 0 to 360 degrees. This determines where the first slice starts(default is zero).

Breakout Option

This option enables the user to take several slices of the pie and consolidate these slices into a single slice which is the sum of the parts. The individual pieces are then displayed in a single bar (or column) which is graphically linked to the consolidation slice. The consolidation slice is always on the right side of the chart centered about the angle zero. this option supersedes the starting angle option.

Sort Option

This enables the user to specify that the slices should be sorted at draw time. The sort may be ascending or descending.

Label Size

This allows the user to specify a size for the labels and numbers displayed around and inside the pie. The values may be from 1 to 20 (10 default).

Bar Chart Enhancements

New Bar Chart Types

The following bar chart types have been added :

Stacked 3D

Overlap - This is where the individual bars overlap one another. The amount of overlap may be specified on the options page.

100% bars - In this type of stacked bar chart chart, the numeric scale is always 0-100% and the bars always go to the top of the chart.

Bar Width

For all bar charts except vertical, horizontal 3D pie series and histogram, the user may enter a number from 10 to 90 on the options page specifying the relative width of the bars in the bar chart.

3D Bar Chart Depth Control

For 3D and Stacked 3D bar charts, the user may enter a number from 10 to 90 on the options page specifying the relative depth of the bars in the bar chart.

Value display for horizontal bar charts

The value display option has been extended to horizontal bar charts.

Line Chart Enhancement

A value display option is now available for line charts.

Word Chart Enhancement

Data Links may now be saved when importing data into word charts.

Drawing board Enhancements

The following enhancements/changes have been made to drawing board:

Journaling

Drawing board journaling may be enabled/disabled in graphics defaults. Once enabled, the user will have no further interaction until the fatal day when the system goes down or the program encounters a fatal bug. To recover the work done, the user merely has to reenter drawing board. The presence of the journal file is automatically detected. The user can then either exit the program, delete the journal file or perform the recovery. If recovery is selected, the software cycles through the keystrokes recorded on disk.

Main Menu Reorganization

Several menu choices have been taken off of the main menu and put on sub-menus. The following changes have been made:

M - MODIFY ELEMENT replaces:
- M - MOVE ELEMENTS
- R - ROTATE ELEMENTS
- S - SCALE ELEMENTS

F - FEATURE MODIFY

F - FILE OPERATIONS replaces:
- W - WRITE FILE
- A - ADD FILE
- I - IMPORT ASCII FILE

S - SCREEN LAYOUT replaces:
- G - GRID
- L - LEGEND DEFINITION
- T - TITLE AREA
- V - SET VIEW SIZE

Macro Capability

The ability to create and playback macros has been added.

Import ASCII Files Changed

Import ASCII files has been modified so that when 3 or more spaces exist between words, drawing board automatically splits the line into multiple text elements. These elements then may be justified in an additional step.

Select By Display Level

All the menues that allow the user to select multiple elements have been modified to allow the user to specify a display level for selection.

Performance Improvement

The performance of all REGIS type terminals (VT240,VT340 etc.) has been improved by about 1/3.