SOME EXTENSIONS TO THE MTS PLOT DESCRIPTION SYSTEM

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INTRODUCTION

This report describes some extensions to the MTS Plot Description Systems developed by the authors. These extensions allow the production of a publication quality vertical axis and of a date axis. These routines are integrated into the plot description system, and use PDS calling sequences. At present these subroutines reside in a private library.

The authors would like to thank Mr. Wolfgang Richter of the Simon Fraser University Computing Center for his assistance in the development of these routines.

XAXIS

PURPOSE: To draw an X axis for yearly or monthly data. The year will be plotted for every 5th year if yearly data is used otherwise at the start of every year.

LOCATION: Located in OFFICE.LIB

CALLING SEQUENCE: Call XAXIS (X, Y, TICK, STMON, PERIOD, YEAR, DIM)

PARAMETERS:

X,Y are floating point (REAL*4) numbers giving the coordinates of the axis origin,

TICK is a floating point (REAL*4) number whose magnitude is the distance between tick marks,

STMON is a fullward integer (INTEGER*4) whose value is the starting month to be plotted,

PERIOD is a fullward integer (INTEGER*4) whose magnitude is the number of periods per year,

YEAR if a fullward integer (INTEGER*4) indicating the starting year of the plot,

DIM is a fullward integer (INTEGER*4) which specifies how many data points are being plotted.

Example: Call XAXIS (1., 1., 1., 5, 12, 10,
1970, 10)

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├────────┼────┼────┼────┼────┼────┼────┼────┤
                                   1971
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74.2
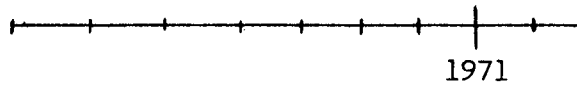
YAXIS

PURPOSE:	To draw a Y axis which has the numbers facing horizontally for easy reading.
LOCATION:	Located in OFFICE.LIB
CALLING SEQUENCE:	Call YAXIS (X, Y, TITLE, TITLEN, LENGTH, ANGLE, XMIN, DX, DV)

PARAMETERS:

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X,Y	are floating point (REAL*4) numbers giving the coordinates of the axis origin,
TITLE	is the (LOGICAL*1) title to be printed on the axis,
TITLEN	is the (INTEGER*4) number of characters in TITLE,
LENGTH	is the length (REAL*4) in inches of the axis to be drawn,
ANGLE	is the angle (REAL*4) of the axis, must be 90.0,
XMIN	is the floating-point (REAL*4) number to be drawn at the first tick mark,
DX	is the scale factor (REAL*4) in axis variable units per inch,
DV	is the distance in inches (REAL*4) between tick marks (division marks).

DESCRIPTION: Normally the axis values are printed parallel to the
                 Y axis. This may not always be desired, in which
                 case this subroutine may be used. Care must be taken
                 that the X coordinate passed as a parameter leaves
                 enough room to the left of the axis for the axis
                 values and title to be printed.

                 The format of the numbers printed along the axis is
                 calculated using DX, LENGTH and DV.

                 The numbers and title are printed with a fixed
                 heights of 0.18 inches and 0.25 inches respectively.
                 This may be changed with calls to AXVAL and AXTTL.

REDUNDANCY

1.2 —

1.0 —

0.8 —

0.6 —

0.4 —

0.2 —

0.0 —
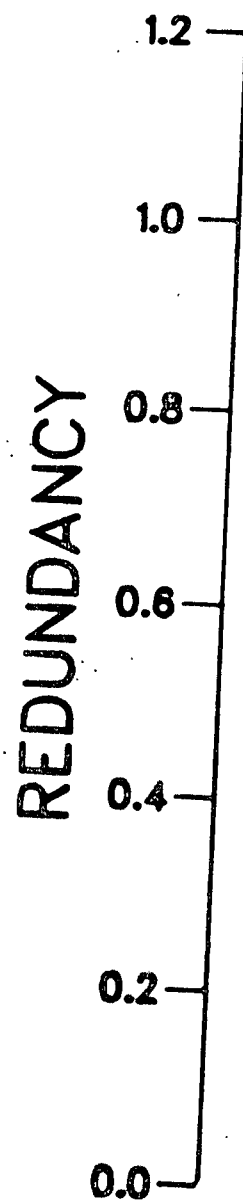
AXTTL

Subroutine Description

Purpose: AXTTL sets the lettering size for the title on a linear axis.

Calling Sequence: CALL AXTTL (thght)

Parameter:

thght is the floating-point (REAL*4) lettering height in inches for an axis title. If thght is zero or negative, PAXIS returns to using the default of 0.25 inches.

Description: The new value for thght is used for all axes drawn by PAXIS and YAXIS until AXTTL is called again. This subroutine was designed to be used along with YAXIS so that the X and Y-axis would have the same lettering sizes.

AXVAL

Subroutine Description

Purpose: AXVAL sets the lettering size for the numbering on a linear axis.

Calling Sequence   CALL AXVAL (vhght).

Paramterer:

vhght   is the floating-point (REAL*4) lettering height in inches for the numbering on an axis tick mark. If vhght is zero or negative, PAXIS returns to using the default of 0.14 inches.

Description: The new value for vhght is used for all axes drawn by PAXIS and YAXIS until AXVAL is called again. This subroutine was designed to be used along with YAXIS so that the X and Y-axis would have the same lettering sizes.