SYS(x) - System Variable Function (updated up to v24)

The SYS function represents many different DesignCAD system variables. SYS(1), for example, is the number of points set, and SYS(3) is the current layer. A list of the available SYS variables and their valid ranges follows:

0 - Error checking (enable/disable) [0 = Off, 1 = On]
The error checking function is enabled by default. This setting is only effective during the current macro.

1 - Number of points currently in the point buffer after being set by SETPOINT or ENTITY or
  SETSELECTEDPOINTS. Mostly read-only, but you can clear the point buffer by setting it to zero.

2 - OpenGL shading mode for the currently active view window
[0 = wireframe, 1 = hiddenline, 2 = flatshade, 3 = smoothshade, 4 = quickhiddenline]

3 - Current layer index [0-1000]

4 - Current line type [0-12]
[0 = solid, 1 = dashed, 2 = hidden, 3 = center, 4 = phantom, 5 = dotted, 6 = dashdot,
7 = border, 8 = divide, 9 = special-1, 10 = special-2, 11 = speciall-3, 12 = special-4]
Numbers above 12 can be used but will refer to custom line types which may vary from user to user or even
  drawing to drawing.

5 - Current line type scale [0<=x<=10e6]

6 - Current line width [0 <=x<=10e6]

7 - Current distance precision displayed in the coordinate bar and in dialog boxes. [-7<=x<=15]

8 - Current angular precision displayed in the coordinate bar and in dialog boxes. [-7<=x<=15]

9 - Number of entities in the drawing [read_only]

10 - Units of measurement for printing
[1 = inches, 25.4 = mm, 2.54 = cm, 0.0254 = m, 0.0000254 = km, 0.08333333 = feet, 0.0000157828282828282 =
  mi].
The values for km, feet, and miles are new as of version 15. See also Sys(1114).

11 - Printing scale (drawing units per unit of paper) [0<=x<=10e6]
Proper interpretation of this value will require that you know both the drawing's units of measurement and the
  print units of measurement. For example, if your drawing is in inches, but your paper is measured in
  centimeters, a print scale of 1.0 will have a different meaning than if the paper was measured in inches.
You may set this value to zero to force the print to fit to the page.

12 - Default text size [0<=x<=10e6]

13 - Default text angle [-36<=x<=360]

14 - 2D Mode display grid type
[0 = Ortho, 1 = Isometric, 2 = Polar (v. 16 and higher)]
[0 = grid, 1 = tickmarks, 2 = dots (v. 15 and earlier)]

15 - Display grid enable/disable [0 = off, 1 = on]

16 – Enable/Disable Use Plot Range Box (Version 15)
[0=Disable, 1=Enable]
If enabled, draws a rectangle around the plot boundary when exporting HPGL files. If disabled, no border is
  plotted.

17 - Snap grid on or off [0 = off, 1 = on]

18 - Plot point optimization [0=unchanged, 1=optimized (default)]
This function determines whether the Export Plot File command rearranges points in adjacent entities to minimize
  pen movement. (Version 13)

19 - Minor Display Grid spacing along x (or angular spacing for polar grid) (v. 16 and higher)

Display grid size (distance between grid lines) (v. 15 and earlier)

20 - Minor Display Grid spacing along y (or radial spacing for polar grid) (V. 16 and higher)
Snap grid size (Version 15 and earlier)

21 - Attribute display mode
[0 = Don't display attributes, 1 = Display Visible Attributes Only,
2 = Display All Attributes]
This function applies only to attribute entities, not attribute definition entities. To control the visibility of attribute
definitions, use Sys(62).
By default, attributes are assumed to be visible, so old macro code which used only the 0 and 1 values for this
function will still behave much as before. That behavior will only change if you create new attribute entities
with the "invisible" option checked.

22 - Save parameters with drawing, enable/disable [0 = off, 1 = on]

23 - Mathematical or geographical angles [0 = Mathematical, 1 = Geographical]
Mathematical angles are measured counterclockwise from the positive X axis, while geographical angles are
measured clockwise from the positive Y axis.

24 - Fill wide lines enable/disable [0 = off, 1 = on]

25 = WMF output scale (metafile units per drawing unit).
One metafile unit is about 1/576 of in inch. A value of zero creates a WMF file of 5 inch width or height (5 inches
along longest side). Note that the 5-inch size does not include the border margin -- that's just the output size
of the drawing data. Given a default margin of 1/8 inch, the overall width or height of the output file (with
Sys(25) = 0) will be 5.25 inches.
The default value of Sys(25) is 80.

26 - Edit current layer only [0 = off, 1 = on]
Note that this function has the opposite behavior of the "Enable Multilayer Editing" check box in Layer Options –
when Sys(26) is zero, the multilayer editing box is checked.

27 - Beep on point set [0 = off, 1 = on]. Uses the "default" system sound. For best results, use a very short wav
file - if you set points faster than the sound file can play, some beeps will be skipped (but the points will still
be set).

28 - Update coordinates in Digitizer Tracing Mode [0 = off, 1=on].
Default is off; when in Digitizer Tracing Mode, the coordinate bar will only update when the pointing device
(mouse or digitizer puck/pen) stops moving. Since in tracing mode the user normally is looking at the
drawing he is digitizing rather than at the screen, this usually presents no problem.

If Sys(28) is turned on, then the coordinate bar will continuously update as the pointing device is moved on the
tablet. With some digitizers, the on-screen cursor is not able to keep up as the pointer is moved across the
tablet, resulting a slow-motion replay on screen of the motion performed on the tablet. This also sometimes
causes points to be dropped if the user sets points too quickly.

30 - Large cursor step size [0<=x<=10e6]

31 - Small cursor step size [0<=x<=10e6]

32 - Drawing unit size [0<=x<=10e6]

Note: Sys(32) is used internally by DesignCAD as scale factor for certain operations. Change it only with extreme
caution. Careless use can destroy a drawing's data. Especially avoid very small numbers (such as zero) and
very large ones (such as one million).

33 - Font Type [0 = TrueType, 1 = Vector]

34 - Selection flag [read_only: 1 = entities selected, 0 = nothing selected]

35 - Default number of sides for polygons [3-100]

36 - Silent mode (0=normal operation, 1=silent mode, 2=extra-silent mode)

In silent mode, the screen does not automatically show the points you set, or update the drawing screen as frequently. This mode is used for greater speed when your macro has complete control of the program and you are not expecting user input.

Silent mode 2 completely suppresses view regeneration and drawing command dialog boxes when you draw entities.

Note: After performing any drawing operations in Silent Mode 2, you will need to manually regenerate the screen after setting Silent Mode back to zero.

Note: You should always return silent mode to zero when your macro exits. Failure to do so may result in improper manual operation of DesignCAD.

37 - Cursor step consistent with Screen or Drawing
[1 = Screen, 2 =Drawing]

38 - Text mirror enable/disable [0 = off, 1 = on] 3D Text Only.
If you mirror a piece of text with this setting turned on, the mirrored text is drawn backwards.

39 - Point mark type [1 = cross, 2 = box, 3 = circle, 4 = circle+box, 5 = filled dot]

40 - Crosshair enable/disable [0 = off, 1 = on]

41 - Rubberband type

0=none,
1=line,
2=2D-Box,
3=3D-Box,
4=Curve,
5=Bezier Curve,
6=Circle (center-radius),
7=Circle(diameter points),
8=Circle(3-point),
9=Arc(center-start-end),
10=Arc(3-point),
11=Ellipse,
12=Elliptical Arc,
13=Plane,
14=OrthoLine,
15=Cylinder,
16=Cone,
17=Truncated Cone,
18=Sphere,
19=Hemisphere,
20=Torus,
21=Tube,
22=RoundBox,
23=Angled 2D-Box
24=Elliptical Arc(center, axis1, axis2, start angle, end angle)
25=Arc(beginning, end, center)
26=Parallelogram

This sets the type of rubberband-line that is displayed as points are set by the program or during SetPoint.

42 - Parallel-2 offset distance [0<=x<=10e6]

43 - Dimension text spacing [0<=x<=2] Default is 1.0. Sets the gap between dimension text and arrows.

44 - Default Print Corner (for non-centered printing)
    [0=Upper Left, 1=Lower Left, 2=Upper Right, 3=Lower Right]

45 - Output WMF size (inches) along longest size (width or height).
This Sys function overrides the current setting of Sys(25). Setting this value to zero restores the normal function
    of Sys(25).

46 - Margin for WMF output (inches). Default value is 1/8 inch.

47 - AutoRender in Paperspace Mode.
This function controls whether ViewFrames with OpenGL shading are automatically rendered when you enter
    Paperspace mode. If set to 0, the viewframes are not autorendered, and you must use the preview button to
    see the rendered result. If set to 1, the views are autorendered -- which may take some time on a complex
    drawing.

48 - Realtime Snap Preview. [0=off, 1=on].
Controls the snap preview cursor for snap modes. On very busy drawings, the snap preview can sometimes slow
    down the mouse movement, so we provided a means to turn it off.

49 - Disable Cursor Movement -- [0=off, 1=on] (Version 13)
When this flag is on it prevents the cursor from following the points which the macro sets in drawing commands.
    This can often speed up drawing operations

50 - Cursor Lock behavior in 2D mode
[0=new behavior - Shift forces Ortho Mode from the last point set
1=old behavior - Shift locks horizontal movement from the last cursor position, and Ctrl locks vertical movement
    from the last cursor position.]

51 – Display Arcs as Vectors (Version 14)
[0 = Disable, 1 = Enable] If this is set to zero, arcs are drawn using Windows API functions exclusively. The
    default setting is 1, whereby arcs are displayed as vector approximations in order to prevent display
    anomalies where an arc joins the end of a line.

52 – Sets the major Display Grid divisions along X (or Angular spacing for Polar grid) (V. 16)

53 – Sets the major Display Grid divisions along Y (or Radial spacing for Polar grid) (V. 16)

54 – Sets the Display Grid style (V. 16)
[0=lines, 1=dots, 2=crosses]

55 – Sets the Display Grid Angle (in degrees) for isometric display grids (V. 16)
[0 – 360]

60 - Tick mark segments [0<=x<=10e6]

61 - Tick mark segment division [0<=x<=10e6]

62 - Attribute Definition display mode (V. 13)
[0 = Don't display, 1 = Display only visible attribute definitions,
2 = Display all attribute definitions]
This function applies only to attribute definition entities, not attribute entities. To control the visibility of attribute
    entities, use Sys(21).

69 - Combine line segments after Fillet or Chamfer (V. 13)
[0=off, 1=on (default)]
Normally, when you fillet or chamfer two polylines, DesignCAD re-combines the segments on either side of the
    fillet. If Sys(69) is set to zero, then DesignCAD will leave the filleted/chamfered segments broken away
    from the other parts of the polylines.

70 - Old-style Fillet command behavior (V. 13)
[0=off (default), 1=on]
Normally, when you fillet two lines, DesignCAD changes their layer and linestyle properties, as well as that of
    the fillet arc, to match the first line clicked. If Sys(70) is set to 1, then DesignCAD emulates the old-style
    behavior, which only matched the fillet arc to the first line; the second line retains its original style and
    layer. Note that this setting always defaults back to zero when DesignCAD starts.

71 - Currently active view number

72 – Graphics Acceleration Setting for Hidden Line Removal (V. 15)
[0=off (default), 1=on]

80 - Number of entities currently selected [0-65000]
If any grid entities are selected, this number does not include grid lines, only the grid headers. Not affected by
    PUTATTR. Sys(80) can be set to zero to clear the current selection set (nothing is selected). Zero is the
    ONLY value that can be written to this Sys() function.

81 - SetPoint behavior * (V. 14)
[0=clear buffer (default), 1 = append points to buffer]
Normally, when you run the SetPoint statement, it clears any previous points from the point buffer. If Sys(81) is
    set to 1, you can run multiple SetPoint statements to accumulate more and more points.

***Functions 90 - 99 are properties of an entity just selected with the Entity statement.
They are all read_only values.***

90 - Entity type

91 - Entity line type
Note: For Entity type 34 (Group Entities) Sys(91) indicates the group entity's Internal Group Number – that is, the
    group number that will be shown for all entities that are contained in this group. The group entity itself may
    also be contained inside another group, which is indicated by Sys(94) just as for all other entity types.

93 - Entity layer

94 - Group number

95 - Solid number

96 - Selection status of entity [0 = not selected, 1 = selected]

97 - Line type scale

98 - Line thickness

99 - Number of points in the entity, or number of grid lines for a grid header entity (entity type 32). For a Group
    entity (entity type 34) it represents the number of entities contained in the group (including any nested
    Group entities).

100 – Line Fill Spacing for HPGL Export * (V. 15)
Controls the spacing between line fill pen strokes. Distance in plotter units.

101 - Dimension text format (same as Sys(424) - changing one changes the other)

    [0 = decimal, 1 = fractional, 2 = feet and decimal inches, 3 = feet and fractional inches]

102 - Static dimensioning enable/disable [0 = off, 1 = on]

Static dimensions are drawn as individual arrows, lines and text. However, when you first draw a static
    dimension, all the pieces still form a group, which will need to be exploded if you want to edit an individual
    piece.

104 - Dimension arrowhead style [1-12]

106 - Dimension precision [-7<=x<=15]

110 - Coordinate system [-1 = left-hand, 1 = right-hand]

111 - Symbol Explode Layer Control Flag (V. 13)
This function allows the programmer to control the destination layer(s) for exploded symbols. This setting is NOT
    "sticky" and only applies to the document which was open when it was set. Possible values:
  0 -- default behavior. A symbol's entities get exploded onto their original layers. Entities that were defined on
    layer 0 of the symbol (or on layer 0 of any symbols within the exploded symbol) move to the layer on which
    the symbol was placed.
  1 -- flatten symbol layers. All of the symbol's entities get exploded to the layer on which the symbol was
    placed.

2 -- nested layer 0. As default behavior, except for entities that were on layer 0. Any entities that were on layer 0 of an included symbol move to the layer on which the included symbol was loaded in it's host symbol or drawing.

3 -- mostly flattened. Mostly like case 1, except that layer 0 entities are treated as in case 2.

Example: Symbol A contains a red line drawn in layer 0, and a black box on layer 1.

Symbol B contains Symbol A on layer 7, a blue circle on layer 9, and a green star on Layer 0.

Now you include Symbol B on layer 12 of your drawing, and explode it.

If Sys(111) = 0, the black box stays on layer 1, the blue circle stays on layer 9, and a red line and green star move to layer 12.

If Sys(111) = 1, all four entities move to layer 12.

If Sys(111) = 2, the black box stays on layer 1, the red line moves to layer 7, the green star moves to layer 12, and the blue circle stays on layer 9.

If Sys(111) = 3, the red line moves to layer 7, the black box moves to layer 12, the green star moves to layer 12, and the blue circle moves to layer 12.

112 - Depth of Nested Folders in Symbol Library window (V 15.1)

Sets the number levels of nested folders under the symbol library search path. Default value of 1, which only shows a tab for the target path and any folders immediately beneath it that contain drawing files. Higher values will show tabs for increasingly deeper folder levels. Once this value is changed, if you have already opened the Symbol Library command you may have to manually browse to a different folder and then back again in order to update the Symbol Library display.

120 - Minimum X value in the drawing [read_only]

121 - Minimum Y value in the drawing [read_only]

122 - Maximum X value in the drawing [read_only]

123 - Maximum Y value in the drawing [read_only]

124 - Minimum Z value in the drawing [read_only]

125 - Maximum Z value in the drawing [read_only]

130 - Input window left boundary pixel location (-10000 to center)

131 - Input window top boundary pixel location (-10000 to center)

132 - Output window left boundary pixel location (-10000 to center)

133 - Output window top boundary pixel location (-10000 to center)

134 - Printer top margin [varies with media]

135 - Printer bottom margin [varies with media]

136 - Printer left margin [varies with media]

137 - Printer right margin [varies with media]

139 - Sets/Clears the "Trim Picked Segments Only" options in Trim commands (V. 17)

[0 = off, 1 = on]

Version 17 offers a new option in the Trim commands: Trim Picked Segments Only. This option affects whether or not segments beyond the selected segment are also trimmed away.

140 - Sets/Clears the "Grid Smoothly Degrade" checkbox in Grid Options (V. 17)

[0 = off, 1 = on]

If this is set to 1, the display grid will smoothly reduce the number of visible grid lines as you zoom out. If it is set to 0, the grid will become invisible if you zoom out too far to display every grid division.

150 - Coordinate bar angle display mode

[0 = degrees, 1 = grads, 2 = radians, 3 = degrees-minutes-seconds, 4 = bearings]

151 - Coordinate bar distance display mode

[1 = decimal, 2 = fractions, 3 = feet + fractional inches]

152 - Scale mode for retrieving/copying drawings [1 = fixed, 2 = changeable]

160 - Printed height of drawing [read_only]

161 - Printed width of drawing [read_only]

162 - Print drawing centered [0=no, 1=yes]

163 - Print drawing fit to paper [0=no, 1=yes]

164 - Consider all drawing objects when printing [0=no, 1=yes]

165 - Print panel mark style [0=none, 1=corners, 2=outline box]

166 - Print panel numbers [0=no, 1=yes]

167 - Print output style
    [0=wireframe, 1=quickshade, 2=smoothshade, 3=hidden, 4=hidden (plotter), 5=hidden (scan-line)]

168 - Printed panel rows [read_only]

169 - Printed panel columns [read_only]

170 - Print selected objects only [0=no, 1=yes]

171 - Print Black and White [0 = no, 1 = yes] (V. 23)

172 - Print Shadows [0 = no, 1 = yes] 190 - Selection Handle 1 X value [-10e6<=x<=10e6] (V. 23)

191 - Selection Handle 1 Y value [-10e6<=x<=10e6]

192 - Selection Handle 2 X value [-10e6<=x<=10e6]

193 - Selection Handle 2 Y value [-10e6<=x<=10e6]

194 - Selection Handle 3 X value [-10e6<=x<=10e6]

195 - Selection Handle 3 Y value [-10e6<=x<=10e6]

196 - Selection Minimum X [-10e6<=x<=10e6]

197 - Selection Minimum Y [-10e6<=x<=10e6]

198 - Selection Maximum X [-10e6<=x<=10e6]

199 - Selection Maximum Y [-10e6<=x<=10e6]

200 - Selection Minimum Z [-10e6<=x<=10e6]

201 - Selection Maximum Z [-10e6<=x<=10e6]

202 - Selection Handle 1 Z value [-10e6<=x<=10e6]

203 - Selection Handle 2 Z value [-10e6<=x<=10e6]

204 - Selection Handle 3 Z value [-10e6<=x<=10e6]

205 - View rotation about X axis

206 - View rotation about Y axis

207 - View rotation about Z axis

208 - View distance

209 - Projection mode [0 = perspective, 1 = parallel]

210 - The number of view windows in the active drawing

211 - The currently active view window in the active drawing

212 - The number of drawings currently open [read_only]

213 - The currently active drawing

219 - Layer Toolbox visibility [0=off, 1=on]

220 - Toolbar visibility [0=off, 1=on]

221 - Main Toolbox visibility [0=off, 1=on]

222 - Snap Toolbox visibility [0=off, 1=on]

223 - Status Bar visibility [0=off, 1=on]

224 - Coordinate bar visibility [0=off, 1=on]

225 - Viewing Toolbox visibility [0=off, 1=on]

226 - Color Toolbox visibility [0=off, 1=on]

227 - Material Toolbox visibility [0=off, 1=on]

228 - Line Style Toolbox visibility [0=off, 1=on]

229 - Ruler visibility [0=off, 1=on]

230 - Scrollbar visibility [0=off, 1=on]

231 - Info Box visibility [0=off, 1=on]

232 - Double Line Toolbox visibility [0=off, 1 = on]

233 - Toolbox Icon style
    [0=small color, 1=large color, 2=small b/w, 3=large b/w]

240 - Drag as box [0=drag image, 1=drag outline box]

241 - Save preview bitmap with drawing [0=no, 1=yes]

242 - Select object when created [0=no, 1=yes]

243 - This flag is no longer supported. Used to be Shade when Created

244 - Old-style command dialog bar [0=no, 1=yes]

245 - Show Tooltips [0=no, 1=yes]

246 - Draw text as outline [0=no, 1=yes]

247 - Group arrays when created [0=no, 1=yes]

248 - Use offscreen bitmap [0=no, 1=yes]

249 - 2D mode working plane [0=xy, 1=zy, 2=xz]

250 - AutoSave status [0=off, 1=on]

251 - AutoSave time interval (minutes)

252 - Display Grid extent

253 - 3D Display Grid Plane [0=zy, 1=xz, 2=xy]

254 - Draw text in current color [0=no, 1=yes]

255 - Draw text in current layer [0=no, 1=yes]

256 - Default text layer

257 - Text justification [0=left, 1=center, 2=right]

258 - Text style [0=normal, 1=bold, 2=italic, 3=bold italic]

259 - Text arc vertical scale

261 - Draw attributes in current color

262 - Draw attributes in current layer

263 - Default attribute layer

269 - Number of Arc Segments (V. 16)

This function how many segments to create when an arc, ellipse, or circle is created as a plane or line.

   Note 1: this only affects entity creation – it does not affect conversion to plane or vector after the object is created.

   Note 2: This represents the total number of segments for the new entity – 20-degree arcs and full circles will have the SAME NUMBER OF SEGMENTS. For example, if it is set to 20, a circle drawn with the "create as line" option will have 20 segments, as will a 20-degree arc created with the "Save as line" option.

270 - Display Entities by Layer Order [0 disables, 1 enables] (V. 16)

Changed in 17.1. Display Entities by Layer Order flag removed. Added instead:

AutoName Entities When Created [0 disables, 1 enables] (V 17.1)

271 - Layer List Filter Mode (V. 16

[0 = Active Layers Only, 1 = Named Layers Only, 2 = Active Or Named Layers Only, 3 = All Layers, 4 = Layer Groups Only]

272 - Layer List Sort Mode (V. 16)

[0 = by index, 1 = by status, 2 = by name, 3 = by content]

273 - Number of Multiline Styles in the current document (Read_Only) (V. 16)

274 - Number of Layer Groups in the current document (Read_Only) (V. 16)

275 - Visibility of Symbol Layers controlled by Symbol Host Layer (V. 17.1)

[0 = no, 1 = yes]

If this is set to 1, you can not hide individual layers inside symbols; the entire symbol is hidden or shown based on the visibility of its host layer.

When this is set to 0, you may hide or show entities inside the symbol by hiding or showing their original layers.

279 - MultiLine Mode Status (V. 16)

[0 = off, 1 = on]

If MultiLine Mode Status is on, all new lines will be drawn as multilines.

280 - Current Layer Group Number (V. 17)

[0 = off, 1 = on]

If MultiLine Mode Status is on, all new lines will be drawn as multilines.

281 - Current Layer Group Status (V. 17)

[0 = invisible, not editable,

 2 = visible, not editable

 4 = visible and editable]

282 - Select Invisible Attributes (V. 17.1)

[0=off, 1 = on]

If Select Invisible Attributes is on, the user is able to select hidden attributes that are on visible, editable layers (emulating DesignCAD behavior from Version 13 and earlier). If it is off, only attributes that are visible (and on editable layers) can be selected.

283 - Opaque Texture Maps (V. 17.2)

[0=off, 1=on]

If Opaque Texture Maps is off, the wirefram color blends with the colors of the texture map (like a photographic slide projected onto a colored screen). If it is off, the texture map hides the wireframe color of the shaded object, showing only the colors of the texture map.

    Functions 290 - 299 are properties of an entity just selected with the Entity statement.

290 - Current Entity color, Red value [0-255]

291 - Current Entity color, Green value [0-255]

292 - Current Entity color, Blue value [0-255]

293 - Current Entity Double Line Cap Style [read_only]

[0=none, 1=beginning, 2=end, 3=both

294 - Current Entity Double Line AutoTrim mode [read_only]
[0=off, 1 = on]

295 - Current Entity Double Line Alignment [read_only]
[0=Left, 1 = Center, 2 = Right]

296 - Entity Symbol Type   (Read-only) (V. 13)
 [0=not a symbol, 1=symbol by reference, 2=embedded symbol,
   3 = block]
This function indicates the symbol type of the current entity selected by the ENTITY statement.

297 - Entity Construction Line Type   (Read-only) (V. 13)   0
 [0=not a construction line, 1=ray, 2=construction line]
This function indicates the construction line type of the current entity selected by the ENTITY statement.

298 - Entity Attribute Definition Text Type (Read-only) (V. 13)
[0=not an attribute definition, 1=fixed text, 2=changeable text]
This function indicates the text type of the current Attribute Definition entity selected by the ENTITY statement.

299 - Entity Attribute Definition Visibility (V. 13)
[0=not an attribute definition, 1=visible, 2=hidden]
This function indicates the visibility of the current Attribute Definition entity selected by the ENTITY statement.
Note: The Attribute Definition Display Mode flag (Sys(62)) must be set to 1 or 2 for ANY attribute definitions to
      be visible.

300 - Current drawing color, Red value [0-255]

301 - Current drawing color, Green value [0-255]

302 - Current drawing color, Blue value [0-255]

306 - Rubber-band color, Red value [0-255]

307 - Rubber-band color, Green value [0-255]

308 - Rubber-band color, Blue value [0-255]

309 – Major Grid color, Red Value [0-255] (V. 16)
Display Grid color, Red value [0-255] (V. 15 and earlier)

310 – Major Grid Color (Red Value) [0 – 255] (V. 16)
Display Grid color, Green value [0-255] (V. 15 and earlier)

311 – Major Grid Color, Blue value [0-255] (V. 16)
Display Grid color, Blue value [0-255] (V. 15 and earlier)

312 - Point color, Red value [0-255]

313 - Point color, Green value [0-255]

314 - Point color, Blue value [0-255]

315 - Selection color, Red value [0-255]

316 - Selection color, Green value [0-255]

317 - Selection color, Blue value [0-255]

318 - Dimension color, Red value [0-255]

319 - Dimension color, Green value [0-255]

320 - Dimension color, Blue value [0-255]

321 - Background color, Red value [0-255]

322 - Background color, Green value [0-255]

323 - Background color, Blue value [0-255]

324 - Selection rubberband color, Red value [0-255]

325 - Selection rubberband color, Green value [0-255]

326 - Selection rubberband color, Blue value [0-255]

327 - Entity point color (point select mode), Red value [0-255]

328 - Entity point color, Green value [0-255]

329 - Entity point color, Blue value [0-255]

331 - Cursor color, Red value [0-255]

332 - Cursor color, Green value [0-255]

333 - Cursor color, Blue value [0-255]

334 - 3D cursor X color, Red value [0-255]

335 - 3D cursor X color, Green value [0-255]

336 - 3D cursor X color, Blue value [0-255]

337 - 3D cursor Y color, Red value [0-255]

338 - 3D cursor Y color, Green value [0-255]

339 - 3D cursor Y color, Blue value [0-255]

340 - 3D cursor Z color, Red value [0-255]

341 - 3D cursor Z color, Green value [0-255]

342 - 3D cursor Z color, Blue value [0-255]

343 - Smooth solids when shading [0 = off, 1 = on]

344 - 2D Drafting Mode status [0 = off, 1 = on] read_only

345 - Point Select Mode Status [0 = off, 1 = on] read_only

346 - Double Line Mode Status [0=off, 1 = on]

347 - Ortho Mode [0=off, 1 = on]

348 - Number of material textures in drawing [read_only]

349 - Current material texture

350 - Current material color, Red value [0-255]

351 - Current material color, Green value [0-255]

352 - Current material color, Blue value [0-255]

353 - Default text color, Red value [0-255]

354 - Default text color, Green value [0-255]

355 - Default text color, Blue value [0-255]

356 - Default attribute color, Red value [0-255]

357 - Default attribute color, Green value [0-255]

358 - Default attribute color, Blue value [0-255]

359 - Default dimension color, Red value [0-255]

360 - Default dimension color, Green value [0-255]

361 - Default dimension color, Blue value [0-255]

370 - Default Double Line width

371 - Default Double Line Cap Style
[0 = none, 1 = Begin, 2 = Both, 3 = End]

372 - Default AutoTrim status [0 = off, 1 = on]

373 - Default Double Line Alignment [0 = left, 1 = center, 2 = right]

374 - Default Double Line Fill status [0 = off, 1 = on]

375 – Current MultiLine Style index

376 – Minor Display Grid Color (Red value) (V. 16)
[0 – 255]

377 – Minor Display Grid Color (Green value) (V. 16)
[0 – 255]

378 – Minor Display Grid Color (Blue value) (V. 16)
[0 – 255]

390 - Number of attribute definitions in the block entity (V. 13)

391 - Index of current attribute definition in the current block entity (V. 13)
(0 to clear, or if none selected)

392 - Indexed attribute definition type (in current block) (V. 13)
[1=fixed, 2=changeable]

393 - Indexed attribute definition visibility (in current block) (V. 13)
[1=visible, 2=hidden]

401 - Angular dimension prefix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

402 - Linear dimension prefix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

403 - Radius dimension prefix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

404 - Diameter dimension prefix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

405 - Chamfer dimension prefix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

406 - Coordinate dimension prefix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

407 - Angular dimension suffix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

408 - Linear dimension suffix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

409 - Radius dimension suffix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

410 - Diameter dimension suffix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

411 - Chamfer dimension suffix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

412 - Coordinate dimension suffix [0-5]

413 - Dimension layer [0-255]

415 - Dimension line position [0 = text and arrows inside lines, 1 = text inside, arrows outside]

416 - Dimension text location
    [0 = text aligned between arrows,

1 = text above and between arrows
2 = text below and between arrows
3 = text aligned to right of arrows
4 = text above and right of arrows
5 = text below and right of arrows
6 = text aligned to left of arrows
7 = text above and left of arrows
8 = text below and left of arrows]

417 - Angular text location [0 = above arrows, 1 = below arrows]

418 - Linear text direction
[0 = parallel, 1 = perpendicular, 2 = horizontal, 3 = vertical]

419 - Angular text direction [0 = parallel to center of arc, 1 = horizontal]

421 - Progressive dimension text format
[0 = 123.125, 1 = 123-1/8, 2 = 123' 1.5", 3 = 123' 1-1/2"]

424 - Dimension text format (identical to Sys(101) - changing one changes the other)
[0 = decimal, 1 = fractional, 2 = feet and decimal inches, 3 = feet and fractional inches]

425 - Progressive text direction [0 = along dimension, 1 = horizontal]

428 - Angular dimension text format
[0 = degrees, 1 = grads, 2 = radians, 3 = DMS]

433 - Angular dimension precision [-7<=x<=15]

437 - Link inward arrows [0 = off, 1 = on]

438 - Dimension text size [0<=x<=10e6]

441 - Dimension tolerance text size [0<=x<=10e6]

442 - Overshoot of Dimension extension lines [0<=x<=10e6]

443 - Gap of Dimension extension lines [0<=x<=10e6]

444 - Length of Dimension extension lines [0<=x<=10e6]

445 – Arrowhead size (for non-dimension arrows) * New in 16

446 - Text balloon radius [0<=x<=10e6]

447 - Dimension line offset for baseline dimension [0<=x<=10e6]

450 - Dimension arc prefix [0-5]
[0 = None, 1-Custom1, 2=Custom2, etc.]

451 - Dimension arc suffix [0-5]
[0 = None, 1-Custom1, 2=Custom2, etc.]

452 - Dimension arc text location [0 = above, 1 = below]

453 - Pullout text location [0 = inline, 1 = above, 2 = below]

454 - Progressive dimension text location [1 = above, 2 = below]

455 - Dimension chamfer text location [0 = inline, 1 = above, 2 = below]

456 - Dimension arc text orientation [0 = along center of arc, 1 = horizontal]

457 - Pullout text orientation
[0 = parallel to arrow, 1 = perpendicular to arrow, 2 = horizontal, 3 = vertical]

458 - Progressive dimension text orientation
[0 = horizontal, 1 = vertical, 2 = upside down, 3 = vertical reversed]

459 - Dimension chamfer text orientation
[0 = parallel to arrow, 1 = perpendicular, 2 = horizontal, 3 = vertical]

462 - Dimension arrowhead scale [0<=x<=1.0e6]
Length of arrowhead. In older versions (15 and older) this value was relative to text size (i.e. 2.0 gave an
    arrowhead twice as long as the text height). In version 16 and later, it is the actual size in units (i.e. 2.0 gives
    an arrowhead 2 units long).

463 - Dimension arc precision [-7<=x<=15]

464 - Dimension chamfer precision [-7<=x<=15

465 - Dimension coordinate precision [-7<=x<=15]

466 - Dimension diameter precision [-7<=x<=15

467 - Dimension radius precision [-7<=x<=15]

468 - Dimension progressive precision [-7<=x<=15]

469 - Dimension radius progressive precision [-7<=x<=15

470 - Prevent user from starting commands while macro is running [0 = off, 1 = on]
    Use this function to prevent the user from starting a command while the macro is waiting for the user to set
    points. It is only effective until the current macro ends.

480 - Prevent entity types from being selected. Use repeated calls to disable more than one entity type. Set to zero
to restore normal selection. This function is only effective until the current macro ends.
[0 clears, 1 disables lines, 16 disables circles/arcs, etc. See the PutAttr statement for a list of entity type numbers.]

481 - Prevent drawing commands from accessing point information from objects on hidden layers.
    [0 = off, 1 = on]

490 - Read-only - acquires the index of an entity whose longid (64-bit id) was written to Sys$(490) (V. 23)

500 - Dimension Baseline text location
    [0 = text aligned between arrows,
     1 = text above and between arrows
     2 = text below and between arrows
     3 = text aligned to right of arrows
     4 = text above and right of arrows
     5 = text below and right of arrows
     6 = text aligned to left of arrows
     7 = text above and left of arrows
     8 = text below and left of arrows]

    501 - Dimension Baseline text format
    [0 = decimal, 1 = fractional, 2 = feet and decimal inches, 3 = feet and fractional inches]

502 - Dimension Baseline Text Orientation
    [0 = parallel, 1 = perpendicular, 2 = horizontal, 3 = vertical]

503 - Dimension Baseline text precision [-7<=x<=15]

504 - Dimension Baseline prefix [0-5]
    [0 = None, 1-Custom1, 2=Custom2, etc.]

505 - Dimension Baseline suffix [0-5]
    [0 = None, 1 = Custom1, 2 = Custom2, etc.]

510 - Dimension Extended text location
    [0 = text aligned between arrows,
     1 = text above and between arrows
     2 = text below and between arrows
     3 = text aligned to right of arrows
     4 = text above and right of arrows
     5 = text below and right of arrows
     6 = text aligned to left of arrows
     7 = text above and left of arrows

8 = text below and left of arrows]

511 - Dimension Extended text format
[0 = decimal, 1 = fractional, 2 = feet and decimal inches, 3 = feet and fractional inches]

512 - Dimension Extended text orientation
[0 = parallel, 1 = perpendicular, 2 = horizontal, 3 = vertical]

513 - Dimension Extended text precision [-7<=x<=15]

514 - Dimension Extended prefix [0-5]
[0 = None, 1-Custom1, 2=Custom2, etc.]

515 - Dimension Extended suffix [0-5]
[0 = None, 1 = Custom1, 2 = Custom2, etc.]

520 - Dimension Distance text location
[0 = text aligned between arrows,
 1 = text above and between arrows
 2 = text below and between arrows
 3 = text aligned to right of arrows
 4 = text above and right of arrows
 5 = text below and right of arrows
 6 = text aligned to left of arrows
 7 = text above and left of arrows
 8 = text below and left of arrows]

521 - Dimension Distance text format
[0 = decimal, 1 = fractional, 2 = feet and decimal inches, 3 = feet and fractional inches]

522 - Dimension Distance text orientation
[0 = parallel, 1 = perpendicular, 2 = horizontal, 3 = vertical]

523 - Dimension Distance text precision [-7<=x<=15]

524 - Dimension Distance prefix [0-5]
[0 = None, 1-Custom1, 2=Custom2, etc.]

525 - Dimension Distance suffix [0-5]
[0 = None, 1 = Custom1, 2 = Custom2, etc.]

530 - Layer uses specific color (0/1) (V. 14)
(don't set this unless you've already set 531, 532, and 533)

531 - layer red (default 0) (V. 14)

532 - layer green (default 0) (V. 14)

533 - layer blue (default 0) (V. 14)

534 - layer uses specific linestyle (0/1) (V. 14)

535 - linetype (default 0) (V. 14)

536 - linescale (default 2) (V. 14)

537 - unit-based linewidth (default 0) (V. 14)

538 - layer uses fixed linewidth (0/1) (V. 14)
if 0, use the width specified by Sys(537);
if 1, use the linewidth specified by Sys(539)

539 - fixed linewidth in hundredths of mm (ex. 50 = .5 mm). (V. 14)
If the width specified does not match one of the preset values, the actual width will change to the next lowest preset width value (0.00, 0.05mm, 0.09mm, 0.13mm, etc.), so for example 12 would revert to 9, for 0.09mm.

540 - layer uses filled lines (V. 14)

541 - enforce layer color settings on all new entities (V. 14)

542 - enforce layer linestyle settings on all new entities * (V. 14)

550 - Default Fixed Lineweight (in 1/100ths of a millimeter) (V. 14)
[1=visible, 2 = hidden]
This function indicates the current default linewidth if fixed lineweight is active (and no layer settings override the default setting).

551 - Fill fixed-weight lines (applies to on-screen display only) (V. 14)
[0=no, 1 = yes]
This function indicates whether fixed-weight lines will be filled on-screen.

552 - Display Fixed-weight lines onscreen (V. 14)
[0=no, 1 = yes]
This function indicates whether fixed-weight lines will be displayed at their fixed width on-screen.

553 - Print Fixed-weight lines (V. 14)
[0=no, 1 = yes]
This function indicates whether fixed-weight lines will be printed at their set fixed width. If both Sys(553) and a print-option pen weight are specified, then the print-option width will be the minimum lineweight printed.

554 - Scale factor for fixed-weight lines (per-session only, not stored in the drawing) (V. 14)
This function allows you to scale the fixed-weight lines if desired when printing to different sizes than usual. For example, if you normally print a D-size plot, and need to do a letter-sized test print, you can scale the fixed-weight lines down to avoid losing details due to the fixed line width.

555 - Attribute Definition behavior when exploding blocks (V. 14)
[1=explode to attribute (uses the text contents, not the tag name)
 2=leave as attribute definition]
This function allows you to control what happens to attribute definitions when a block is exploded.

600 - Minimum X-value of the current display area [-10e6<=x<=10e6]

601 - Maximum X-value of the current display area [-10e6<=x<=10e6]

602 - Minimum Y-value of the current display area [-10e6<=x<=10e6]

603 - Maximum Y-value of the current display area [-10e6<=x<=10e6]

650 - Distance value returned by AngleDistance or LineDistance

651 - X-angle value returned by AngleDistance or LineAngle

652 - Y-angle value returned by AngleDistance

653 - Z-angle value returned by AngleDistance

654 - XY-angle value returned by AngleDistance

655 - Area value returned by Area or SurfaceArea or Volume

656 - Volume value returned by Volume command

657 - Interference check result

658 - Perimeter command result (V. 17)
The numeric result of the >Perimeter macro command is stored here.

800 - Macro debug trace mode [0=off, 1=on, 2 = log to file] This function allows you to examine the behavior of all or part of your macro as it executes. The macro will print each line to the debug window as the line is executed. When you set this function's value to 2, DesignCAD will dump the trace results to a log file, appending a .log extension to the macro's name (i.e. "MyMacro.d3m" logs to "MyMacro.d3m.log")

801 - Paperspace Mode [0=off, 1=on]

802 - Number of Paperspace Layouts -- can be set to 0 to delete all existing layouts.

803 - Index of current Paperspace Layout (starts at 1)

804 - Orientation of current Paperspace Layout [0 = Portrait, 1= Landscape]

805 - Paper Width (inches) of current Paperspace Layout

806 - Paper Height (inches) of current Paperspace Layout

807 - Left Margin (inches) of current Paperspace Layout

808 - Right Margin (inches) of current Paperspace Layout

809 - Top Margin (inches) of current Paperspace Layout

810 - Bottom Margin (inches) of current Paperspace Layout

811 - Paper Measurement Units of current Paperspace Layout [1=inches, 25.4=mm, 2.54 = cm, .0254 = m]

996 - Enhanced Esc Key Behavior
[0 (default) -- Esc key behaves normally- if pressed during a drawing command (such as Circle or Line), it terminates that command and offers the chance to end the entire macro. If pressed in the middle of a batch of macro language operations, it ends the macro immediately.

1 (enhanced) -- Esc key opens "do you want to quit?" dialog box. Answer "No" resumes operation without skipping any commands. Answer "Yes" terminates the macro. If Esc is pressed during a drawing command (such as Circle or Line), that command is NOT terminated if the user answers "No"- you must either complete the command or end the entire macro.]

You can turn Sys(996) off and on for different parts of your macro. If you CHAIN to another macro, the current setting of Sys(996) is lost; the new macro assumes default behavior unless there is code that specifically turns on the enhanced mode.

Note: Sys(996) does not interfere in any way with the operation of Sys(999), which is specifically for Input statements.

997 - Save empty files [0=no, 1=yes]

998 - Document changed since last save [0=no, 1=yes]

999 - INPUT Exit condition: 0 for Enter or OK; 1 for Esc or Cancel

1000 - Print By Layer Order [0 = no, 1 = yes]. If off, prints in display order.

1001 - Snap range in pixels. This sets the minimum distance in pixels that the cursor must be from the desired snap location.

1002 - Skip DWG Hatch patterns [0= no, 1 = yes]. If this mode is on, all DWG hatch patterns will be skipped when importing DWG files. Occasionally this may help import an otherwise intractable DWG drawing.

1004 - 2-Point line DWG/DXF export [0=off, 1=on] (V. 13)
This function allows you to turn the option to export lines as 2-point line entities instead of polyline entities. The default setting is off. If turned on, this function will export ALL polylines in the drawing as 2-point Line entities.

1008 - Backup File Save status [0=off, 1=on]. (Read/Write) (V. 13)
This function indicates whether DesignCAD is set to automatically copy the previous version of your drawing to a BAK file when you save it.

1009 - Construction line visibility flag [0=hidden, 1=visible] (Read/Write) (V. 13)
This function indicates whether DesignCAD shows or hides construction line entities.

1010 - DWG Export code page
Supported code pages:
   -1 - use the codepage of the active keyboard layout
    0 - use the code page in the DesignCAD drawing file
1250 - Eastern Europe (Poland, Czech Republic, etc.)
1251 - Cyrillic (Russia)
1252 - US, Western European
1253 - Greek
1254 - Turkish

1257 - Baltic (Latvia, Slovenia, etc.)

1011 - DWG Import code page
Supported code pages:
   -1 - use the codepage of the active keyboard layout
    0 - use the code page in the DWG file
1250 - Eastern Europe (Poland, Czech Republic, etc.)
1251 - Cyrillic (Russia)
1252 - US, Western European
1253 - Greek
1254 - Turkish
1257 - Baltic (Latvia, Slovenia, etc.)

1015 - Sticky Handle mode [0=off, 1=on] (R/W) (V. 13)
This function controls whether DesignCAD saves selection handles with the entity or not.

    1016 - Synchronize Snap Grid to Display Grid [0=off, 1=on] (R/W) (V. 13)
    This function controls whether DesignCAD keeps the display grid and snap grid aligned to the same center. In previous versions the snap grid was always centered on the origin, but the new default behavior is to align them both on the same center. Therefore it is now possible to move the display grid center and have the snap grid shift to match.

    1020 - Number of points to average when using SmoothLine (menu command Smooth Line by Point Reduction) (V. 13)

    1021 - Sets the smoothing angle to be used by SmoothLine2 (menu command Smooth Line by Angle Detection) (V. 13)

1022 - Smoothed lines convert-to-curves flag [0=leave, 1=convert to curve] (V. 13)

1023 - Enable/Disable SmoothOptions dialog for smooth commands. (V. 13)
[0=hide, 1=show]

1024 - Angle Constraint mode [0=off, 1=on] (R/W) (V. 13)
This function allows the programmer to enable or disable Angle Constraints in a macro.

1027 - Message Box Style for the Message statement (V. 13)
[0=OK (default)
 1 = OK/Cancel
 2 = Abort/Retry/Ignore
 3 = Yes/No/Cancel
 4 = Yes/No
 5 = Retry/Cancel]
This function allows the programmer to specify the style of MessageBox that appears for the Message statement.

1028 - Return code for the last Message statement (Read-only) (V. 13)
[1=OK
 2 = Cancel
 3 = Abort
 4 = Retry
 5 = Ignore
 6 = Yes
 7 = No]
This function allows the programmer to determine the user's response to a Message statement.

1032 - Plane Snap mode [0 or 1] (R/W) (V. 13)
This function controls the behavior of the Plane Snap command. When set to zero, the plane snap command snaps to the nearest point in the mathematical plane occupied by the nearest surface (but that point may not actually be on the surface).
When set to one, the plane snap command behaves normally, and always snaps to the nearest point on the nearest surface (default).

1033 - Symbol Snap mode [0 or 1] (R/W) (V. 13)

This function controls the behavior of the Snap commands in the vicinity of symbols. When set to zero, the snap commands ignore entities that are embedded in symbols. When set to one (default), the snap commands can snap to points on entities inside symbols.

1035 – Reconstruct grids after solid operations [0=no, 1=yes] (V. 15)
By default, DesignCAD will attempt to combine adjacent facets from a cut grid entity into one or more new grids. By turning this flag off, all facets of a cut grid will be converted to planes.

1036 - selectable invisible attributes? [0=no, 1 = yes] (V. 15)
If this is set to 1, SelectAll will select both visible and hidden attributes on visible layers.

1100 - Current Units of Measurement (V. 15)
[0 = none, 1 = inches, 2 = feet, 3 = miles, 4 = mm, 5 = cm, 6 = m, 7 = km]

1101 - Default Units of Measurement for new drawings (V. 15)
[0 = none, 1 = inches, etc.]

1102 - Default Units of Measurement for unitless drawings (V. 15)
[0 = none, 1 = inches, etc.]

1103 - Interruptible Snap Mode (V. 15)
[0 = off, 1 = on]

1104 - Running Snap Mode (V. 15)
[0 = off, 1 = on]
Which snaps are on during Running Snap Mode is determined by Sys(1105) – (1109)

1105 - Running Gravity Snap (V. 15)
[0 = disabled, 1 = enabled]

1106 - Running Line Snap (V. 15)
[0 = disabled, 1 = enabled]

1107 - Running Midpoint Snap (V. 15)
[0 = disabled, 1 = enabled]

1108 - Running Intersect-1 Snap (V. 15)
[0 = disabled, 1 = enabled]

1109 - Running Tangent Snap (V. 15)
[0 = disabled, 1 = enabled]

1110 - Current Toolbars Visibility (V. 15)
[0 = off, 1 = on]
Reflects the current status of Show All Toolbars command

1111 - Snap to Hatch points (V. 15)
[0 = disabled, 1 = enabled]

1112 - File Lock (V. 15)
[0 = unlocked, 1 = locked by another instance of DesignCAD]

1113 - Drawing Handles Visible (V. 15)
[0 = no, 1 = yes]

1114 - Printing Base Units (V. 15)
[1 = inches, 2 = feet, 3 = mi, 4 = mm, 5 = cm, 6 = m, 7 = km] See also Sys(10)

1115 - Explode Symbols/Blocks at Top-Level only (V. 15)
[0 = no (explodes recursively) 1 = yes (retains sub-blocks or symbols)]

1116 - PresetPoint Mode (V. 15)
[0 = off, 1 = on]

1117 - Skip font data when saving DC2/DC3 ASCII files. (V. 15)
[0 = off, 1 = on]

1118 - Ortho tolerance angle (Default value 10 degrees) (V. 15)

This setting controls the maximum deviation from horizontal/vertical axes that the Ortho command will convert to horizontal or vertical.

1119 - Truncate trailing zeros in dimensions? (V. 15)
[0 = no, 1 = yes]

1120 - Truncate trailing zeroes in angular dimension? (V. 15)
[0=no, 1=yes]

1121 - Truncate trailing zeroes in arc dimensions? (V. 15)
[0=no, 1=yes]

1122 - Truncate Trailing zeroes in chamfer dimensions? (V. 15)
[0=no, 1=yes]

1123 - Truncate trailing zeros in diameter dimensions? (V. 15)
[0=no, 1=yes]

1124 - Truncate trailing zeros in radius dimensions? (V. 15)
[0=no, 1=yes]

1125 - Truncate trailing zeros in coordinate dimensions? (V. 15)
[0=no, 1=yes]

1126 - Truncate trailing zeros in progressive dimensions? (V. 15)
[0=no, 1=yes]

1127 - Truncate trailing zeros in progressive radius dimensions? (V. 15)
[0=no, 1=yes]

1128 - Truncate trailing zeros in distance-only dimensions? (V. 15)
[0=no, 1=yes]

1129 - Truncate trailing zeros in baseline dimensions? (V. 15)
[0=no, 1=yes]

1130 - Truncate trailing zeros in extended dimensions? (V. 15)
[0=no, 1=yes]

1140 - use/don't use nested groups. 0=nested groups, 1 = "old-style" groups. (V. 19)

1141 - highest used group index (read-only) (V. 19)

1142 - lowest unused group index (read-only) (V. 19)

1143 - Read-only – Last-used Solid ID (V. 23)

1144 - Read-only – Lowest unused Solid ID (V. 23)

1150 - Turn "Show Command Dialog" off or on. (V. 20)

1151 - Controls automatic toggle of by layer settings. 0 = toggle, 1 = don't toggle. (V. 20)

1160 - to control the "Use new shadows" option. (V. 21)

1173 - Display CS [0 = no, 1 = yes] (V. 23)

1174 - Automatically pack Group IDs and Solid IDs on Save. [0 = no, 1 = yes]. This setting remains sticky between sessions. (V. 23)
IMPORTANT NOTE: Sys(1174), when set to 1, is currently conflicting with some save operations within BasicCAD. We suggest for now that if your macro is going to save a drawing, your macro code should set Sys(1174) to zero and use the >PackGroupIDs and >PackSolidIDs commands (if so desired) before saving a file.

20000 - Owner Validated flag. This is set to 1 if a protected drawing has been accessed with the correct password. The value is zero if the owner has not entered the password during this session, or if the drawing is unprotected.

20001 - Password Protected. [0 if unprotected, non-zero otherwise].

20004 - Export disabled. [1 prevents export to other file formats; 0 allows export (no layer protection in the exported file)]

20007 - Save To Older Format disabled [1 prevents the file from being saved to older DesignCAD file formats; 0 allows the file to be saved to older formats (no layer protection in the saved file)]

20008 - Symbol Load/Merge disabled [1 prevents the file from being loaded as a symbol or from being merged into another drawing. 0 allows the drawing to be merged or used as a symbol (no layer protection in the loaded/merged data)]

20011 - Priority Class. [32 = normal, 64 = idle, 128 = high priority, 256 = real-time priority].

To use the SYS function in a macro, use it like you would any other function. For example, the following program segment checks that at least three points have been set:

if Sys(1) < 3 then

  setpoint "Set at least three points." 3

  end if

The SYS function is different from the other macro functions in that you can assign a value to most SYS variables. In other words, you can use the SYS function on the left side of the equal sign in an Assignment statement. For example, to set the current layer to layer number seven, you could use the following statement:

SYS(3) = 7

This is equivalent to using the macro language statement LAYER(7)=14.

When assigning a SYS function value to a variable however, it is necessary to place the variable on the left side of the equal sign. For example to set the current value for SYS(421) to the new variable v, you could use the following statement:

v = SYS(421)

SYS variables nine (the number of entities in the drawing) and 90-99 (entity characteristics) cannot be modified by assigning a value to the SYS function – they are read-only variables. There are other read-only SYS variables; they are noted as such in the chart above.

When some of the SYS variables are modified, the DesignCAD drawing screen should be regenerated with the REGEN statement or the DesignCAD >Regenerate command (or the >RegenerateAll command to update all views). For example, if you change the view characteristics or the screen colors, the drawing screen must be regenerated for correct operation. The macro language interpreter does NOT check for valid SYS assignments or screen regeneration – if you change the SYS variables, your macro is responsible for all validity checking.

The SYS variables 90-93 can be used together with the ENTITY statement to read the type, line type, and layer of the entity referred to by the last ENTITY statement.