

Quick Reference Guide

Tecplot 360 EX 2019 Release 1

Command Line

The general form for running Tecplot 360 EX from the command line is:

`tec360 [options]`

The available options include:

[layoutfile]	List the layout file you would like to load (*.lay, *.lpk).
[datafiles]	List the data file(s) you would like to load. If both a layout file (*.lay only) and data files are listed, the data files referenced in the layout file will be substituted with the data files in the command line.
[macrofile]	List the macro file you would like to load (*.mcr).
-addonfile <i>filename</i>	Supply a custom list of addons via the <i>tecplot.add</i> file.
-b	Run in batch mode.
-c <i>cfgfile</i>	Use <i>cfgfile</i> for the configuration instead of the default configuration file, <i>tecplot.cfg</i> .
-convert	Loads all the specified data files, and runs specified macros in a restricted batch mode in which the only permitted options are reading data files (in any supported format) and writing SZL files. Does not use a license key. See also -o.
-display <i>computername</i>	Display on computer <i>computername</i> (Linux only). The target system must have X-server capability with the GLX extension.
-datafile <i>filename</i>	Load data file <i>filename</i> .
-debug <i>debugfile</i>	Send debug information to the file <i>debugfile</i> . Information is displayed to aid in debugging a new configuration file, macro file, or binary data file. You may specify the minus sign ("-") for <i>debugfile</i> to send the debug output to the "standard output" (Mac/Linux only).
-f <i>fontfile</i>	Use <i>fontfile</i> instead of the default font file, <i>tecplot.fnt</i> .
-h <i>homedir</i>	Use <i>homedir</i> for the home directory instead of the default home directory.
--help	Open help message for command-line flags.
-loadaddon " <i>addonname</i> "	Load an add-on named <i>addonname</i> .
-m <i>colormapfile</i>	Use <i>colormapfile</i> as the initial color map file.
-mesa	Use Mesa software 3D renderer instead of hardware rendering (Linux/Mac only)
-nobanner	Do not show the opening banner (i.e. splash screen).

-nobatchlog	Suppress creation of the file <i>batch.log</i> during batch mode operation.
-nostdaddons	Do not load the add-ons listed in the <i>tecplot.add</i> file.
-nowelcomescreen	Do not display the Welcome Screen at startup (it may still be opened after launch from the View menu)
-o <i>outputfile.szplt</i>	Writes the specified SZL file from the data loaded from other files (including macros) specified on the command line, then exit. Does not require a license key. See also -convert.
-p <i>scriptfile</i>	Play the macro commands in the file <i>scriptfile.mcr</i> .
-q	Use quick playback mode. Ignores delay and pause commands.
-qm <i>quickpanelfile</i>	Place the macro functions in <i>quickpanelfile</i> in the Quick Macro Panel, instead of using the macros from the default file, <i>tecplot.mcr</i> .
-quiet	Turns off all standard-out messages (Linux only).
-r <i>printfile</i>	Set the filename for routing Print Files to <i>printfile</i> .
-s <i>stylefile</i>	Use <i>stylefile</i> as a stylesheet for the first frame (*.sty).
-showpanel	Open the Quick Macro Panel upon startup.
-v	Display the version number.
-y <i>exportfile</i>	Set the filename for export files to <i>exportfile</i> .

Mouse & Keyboard Shortcuts

3D Rotate Tools

Alt-Click-and-drag	Rotate about the viewer position using the active Rotate tool.
Middle-click-and-drag	Smoothly zoom in and out of the data.
Right-click-and-drag	Translate the data.
Control-right-click-and-drag (Mac OS X: Command-right-click-and-drag)	Rotate about the rotation origin (any tool may be active).
C	Move the rotation origin to the probed point, ignoring zones.
O	Set the center of rotation.
R	Switch to Rollerball rotation.
S	Switch to Spherical rotation.
T	Switch to Twist rotation.
X	Switch to X-axis rotation.
Y	Switch to Y-axis rotation.
Z	Switch to Z-axis rotation.

Contour Add Tool

Alt-click	Place a contour line by probing on a streamtrace, slice, or iso-surface.
Click	Place a contour line.
Control-click	Replace the nearest contour line with a new line.
Click-and-drag	Move the new contour line.
-	Switch to the Contour Remove tool.

Contour Remove Tool

Click	Remove the contour line nearest to the probed location.
+	Switch to the Contour Add tool.

Geometry Polyline Tool

A	Allow translation of polyline segments in all directions.
H	Restrict translation of the current polyline segment to horizontal.
U	End the current polyline at last clicked point and start a new one.
V	Restrict translation of current polyline segment to vertical.

Probe Tool

Click	<p>If the pointer is over a single valid cell, the interpolated field values from all nodes in the cell are returned.</p> <p>If multiple cells are candidates, the action is dependent upon the plot type: For 2D, the cell from the highest number zone is used. For 3D, the cell closest to the viewer is used.</p>
Control-click	<p>If the pointer is over a single valid cell, the field values from the nearest node in the cell are returned.</p> <p>If multiple cells are candidates, the action is dependent upon the plot type: For 2D, the cell from the highest number zone is used. For 3D, the cell closest to the viewer is used.</p> <p>If the pointer is not over any cell, then the field values from nearest data point (as measured in distance on the screen) are returned.</p>
Shift-Control-click	<p>The field values from the nearest point on the screen are returned (ignoring surfaces, zone number, and depth of the point).</p> <p>This is useful in 3D for probing on data points that are on the back side of a closed surface without having to rotate the object. In 2D, this is useful for probing on data points for zones that may be underneath other zones.</p>

Alt-click	<p>Probe only on streamtraces, iso-surfaces, or slices.</p> <p>If multiple cells are candidates, the action is dependent upon the plot type: For 2D, the cell from the highest number zone is used. For 3D, the cell closest to the viewer is used.</p>
Alt-Control-click	<p>Probe only on streamtraces, iso-surfaces, or slices.</p> <p>If multiple cells are candidates, the action is dependent upon the plot type: For 2D, the cell from the highest number zone is used. For 3D, the cell closest to the viewer is used.</p> <p>If the pointer is not over any cell, then the field values from nearest data point (as measured in distance on the screen) are returned.</p>
Alt-Control-Shift-click	Probe only on streamtraces, iso-surfaces, or slices. The field values from the nearest point on the screen are returned.
X, Y T, R	When probing, press X or Y in XY Line to switch dependencies, or R or T in Polar Line.

Slice Tool

+	Turn on start/end slices, or increment the number of intermediate slices.
-	Turn off start/end slices, or decrement the number of intermediate slices.
Click	If no slices are displayed for the current slice group, place the primary slice. Otherwise, move the closest displayed start, end, and primary slice from its current position to the clicked position.
Alt-click	Place the start, end, or primary slice (whichever is closer to the click position) on the nearest derived object (streamtrace, slice or iso-surface).
Control-click	Place the start, end, or primary slice (whichever is closer to the click position) on the nearest data point.
I, J, K	Switch to slicing constant I, J, or K-planes, respectively. Available for ordered zones only.
X, Y, Z	Switch to slicing constant X-, Y-, or Z-planes, respectively.
A	Switch to arbitrary slice mode.
1-8	Switch between slice groups.

Streamtrace Placement tools (3D Cartesian plots only)

D	Change the streamtrace style to streamrods.
R	Change the streamtrace style to streamribbons.
S	Change the streamtrace style to surface lines.
V	Change the streamtrace style to volume lines.
1-9	Change the number of streamtraces to be added when placing a rake of streamtraces.

Translate Tool

-	Reduce the magnification of the data.
+	Increase the magnification of the data.
Drag	Translate the data.
Shift-drag	Translate the paper.
Shift - -	Reduce the magnification of the paper.
Shift - +	Increase the magnification of the paper.

Zoom Tool

Click	Center the zoom around the location of your click.
Control-click	Center the zoom around the location of your click and zoom out.
Drag	Draw a box to set the frame view.

Selector Tool

Click	Select the frontmost object at the clicked location.
Control-click	Select the next object behind the currently selected object ("dig").
Shift-click	Multiple selection. Click the first object, then shift-click subsequent objects to add them to the selection
Alt-click	Ignore zone objects when selecting.

Selected Object Options

-	Reduce the size of the object. If multiple objects are selected, all object positions will be shifted towards the first object selected.
+	Increase the size of the object. If multiple objects are selected, all object positions will be shifted away from the first object selected.
Delete	Delete selected object(s).
Control-C	Copy selected object(s) to the clipboard.
Control-V	Paste selected object(s) from the clipboard.
Control-X	Cut selected object(s) to the clipboard, deleting them from the plot.

Time Navigation

Home	Jump to start.
Left Arrow	Step backward.
Space bar	Play or pause animation.

Right Arrow	Step forward.
End	Jump to end.

Other Keyboard Operations

Control-F	Fit Surfaces (3D Only) - Resize plot so that all surfaces are included in the frame, excluding any volume zones. Fit to Full Size (2D, XY, Polar, Sketch) - Fit the entire plot into the frame (including data, text and geometries).
Control-E	Fit Surfaces (3D Only) - Resizes plot so that all data points, text, and geometries are included in the frame.
Control-L	Last - Restore the last frame view.
Control-O	Open a layout file.
Control-P	Print.
Control-Q	Exit.
Control-S	Save the current layout to its file.
Control-W	Save the current layout to a specified file.

Macro Variables

Variables	Notes
|AUXDATASET: <i>Auxname</i>|	Retrieves auxiliary data named <i>Auxname</i> from a dataset. For example, |AUXDATASET:Reynolds| retrieves auxiliary data "Reynolds".
|AUXFRAME: <i>Auxname</i>|	Retrieves auxiliary data named <i>Auxname</i> from a frame: |AUXFRAME:MyFrame| retrieves auxiliary data "MyFrame" from the active frame.
|AUXZONE: <i>Auxname</i>|	Retrieves auxiliary data named <i>Auxname</i> from a specific zone. For example, |AUXZONE[3]:BC| retrieves auxiliary data "BC" from zone 3.
|AXISMAX n|	Maximum value of the n -axis range, where n is one of: A, R, X, Y or Z.
|AXISMIN n|	Minimum value of the n -axis range, where n is one of: A, R, X, Y or Z.
|BYTEORDERING|	Returns the byte ordering (INTEL or MOTOROLA).
|DATASETFNAME[nnn]|	Contains full path to loaded data file. If multiple data files have been loaded, use e.g. |DATASETFNAME[2]| to specify the desired path (indexing by load order).
|DATASETTITLE|	Returns the title of the dataset, or "No Data Set" if a dataset does not exist.
|DATE|	Returns the date in the form of <i>dd Mmm yyyy</i> .
|ENDSLICEPOS|	Returns the position of the end slice.
|EXPORTISRECORDING|	Returns YES/NO to help macros complete record commands in the proper order.
|FRAMEName|	Returns the name of the active frame.

Variables	Notes
|INBATCHMODE|	Returns 1 if in batch mode, 0 if in interactive mode.
|ISDATASETAVAILABLE|	Returns 1 if a dataset exists, and 0 otherwise.
|ISOSURFACELEVEL|	Returns the current iso-surface's iso-value.
|LAYOUTFNAME|	Returns the current layout file name.
|LOOP|	Innermost loop counter.
|MACROFILEPATH|	Returns the path to the directory containing the most recently opened macro file.
|MAXB|	Maximum value of the blanking variable.
|MAXC|	Maximum value of the contour variable.
|MAXI|, |MAXJ|, |MAXK|	[I, J, K]-dimension of the first active zone. For finite-element zones, MAXI is the number of nodes, MAXJ is the number of elements, and MAXK is the number of nodes per element (cell-based) or total number of faces (face-based).
|MAX _n|	Maximum value of the variable assigned to an axis: A (theta, i.e. Angle), R, X, Y, Z.
|MAXS|	Maximum value of the scatter sizing variable in the active zones.
|MAXU|, |MAXV|, |MAXW|	Maximum value of the variable assigned to the [X, Y, Z]-vector component of the active zones.
|MAXVAR[<i>nnn</i>]|	Maximum value of the variable <i>nnn</i> .
|MINB|	Minimum value of the blanking variable.
|MINC|	Minimum value of the contour variable.
|MINS|	Minimum value of the scatter sizing variable for the active zones.
|MINU|, |MINV|, |MINW|	Minimum value of the variable assigned to the [X, Y, Z]-vector component for the active zones.
|MINVAR[<i>nnn</i>]|	Minimum value of the variable <i>nnn</i> .
|MIN _n|	Minimum value of the variable assigned to an axis: A (theta, i.e. Angle), R, X, Y, Z.
|NUMFRAMES|	Number of frames.
|NUMFIELDMAPS|	Number of fieldmaps assigned to the active frame.
|NUMLINEMAPS|	Number of linemaps assigned to the active frame.
|NUMPAGES|	Number of pages.
|NUMPROCESSORSUSED|	Number of processors in use. This may be lower than the number of processors on your system due to a <code>!Limits MaxAvailableProcessors</code> command in <i>tecplot.cfg</i> .
|NUMVARS|	Number of variables in the current dataset.
|NUMZONES|	Number of zones in the current dataset.
|OPSYS|	Returns 1=Linux/Macintosh, 2=Windows.
|PAPERHEIGHT|	The height of the paper (in inches).
|PAPERSIZE|	The size of the paper (e.g. Letter or A4).
|PAPERWIDTH|	The width of the paper (in inches).

Variables	Notes
|PLATFORMNAME|	Returns the type of platform (e.g. SGI or Windows).
|PLOTTYPE|	Returns the plot type. 0 = Sketch, 1 = XY Line, 2 = 2D, 3 = 3D, 4 = Polar Line.
|PRINTFNAME|	Returns the file name of the last file sent for printing.
|SLICEPLANETYPE|	Plane type to which slices are assigned.
|SOLUTIONTIME|	The current solution time.
|SOLUTIONTIME[[ACTIVE OFFSET=]nnn]|	Returns the solution time of zone <i>nnn</i> . If <i>ACTIVEOFFSET=</i> is used, the integer value indicates the first zone associated with the <i>nnn</i> th active field map.
|STARTSLICEPOS|	Position of the first slice.
|STREAMSTARTPOS|	Streamtrace starting position in X, Y, Z coordinates.
|STREAMTYPE|	Returns the streamtrace type such as "Surface Line" or "Surface Ribbon".
|TECHOME|	Path to the home directory.
|TECPLOTVERSION|	The product version number.
|TIME|	The current time in the form of <i>hh:mm:ss</i> .
|VARNAME|	The name of a specified variable.
|ZONEMESHCOLOR[nnn]|	Returns the color of the mesh for zone <i>nnn</i> .
|ZONENAME[nnn]|	Returns the name of zone <i>nnn</i> .

Dynamic Text

Variables	Notes
&(AUXDATASET:name)	The value of the named auxiliary data attached to the dataset.
&(AUXFRAME:name)	The value of the named auxiliary data attached to the frame.
&(AUXPAGE:name)	The value of the named auxiliary data attached to the page.
&(AUXVAR[nnn]:name)	The value of the named auxiliary data attached to variable <i>nnn</i> .
&(AUXLINEMAP[Q]:name)	The value of the named auxiliary data attached to linemap Q, where Q = either <i>nnn</i> or <i>ACTIVEOFFSET = nnn</i> and <i>nnn</i> = linemap number. If <i>ACTIVEOFFSET=</i> is used, the integer value indicates the first linemap associated with the <i>nnn</i> th active fieldmap.
&(AUXZONE[Q]:name)	The value of the named auxiliary data attached to Q, where Q = either <i>nnn</i> or <i>ACTIVEOFFSET = nnn</i> and <i>nnn</i> = zone number. If <i>ACTIVEOFFSET=</i> is used, the integer value indicates the first zone associated with the <i>nnn</i> th active fieldmap.
&(AXISMAX <i>n</i>)	Maximum value of the current <i>n</i> -axis range, where <i>n</i> is one of: A°, R, X, Y, or Z.
&(AXISMIN <i>n</i>)	Minimum value of the current <i>n</i> -axis range, where <i>n</i> is one of: A°, R, X, Y, or Z.
&(BYTEORDERING)	Displays the platform's byte ordering (INTEL or MOTOROLA).
&(DATE)	The current date, in the format <i>dd Mmm yyyy</i> .

Variables	Notes
&(DATASETFNAME[<i>nnn</i>])	Filename of the <i>nnn</i> th file associated with the current dataset. If <i>nnn</i> is omitted, then all dataset filenames are shown, separated by new lines.
&(DATASETTITLE)	The current dataset title.
&(ENDSLICEPOS[< <i>slice group</i> or <i>activeoffset</i> >])	The position of the ending slice plane.
&(EXPORTISRECORDING)	Returns “YES” if recording is active, otherwise returns “NO”.
&(FRAMENAME)	The frame name.
&(INBATCHMODE)	Returns a value of 1 if the software is in batch mode, 0 if interactive.
&(ISDATASETAVAILABLE)	Returns a value of 1 if a dataset exists for the current frame, 0 if nonexistent.
&(ISOSURFACELEVEL[< <i>iso surface group</i> or <i>activeoffset</i> >] [<i>nnn</i>])	The value of the contour variable on the <i>nnn</i> th iso-surface.
&(LAYOUTFNAME)	The name of the current layout file.
&(LOOP)	Innermost loop counter.
&(MACROFILEPATH)	Path to the folder containing the most recently opened macro file.
&(MAX <i>n</i>)	Maximum value of the <i>n</i> variable, where <i>n</i> is one of: A, R, X, Y, or Z. For 2D or 3D Cartesian plots, the value is calculated from all active zones. For line plots, the value is calculated from the zone assigned to the first active linemap.
&(MAXB)	Maximum value of the blanking variable for the first active constraint. For 2D or 3D Cartesian plots, the value is calculated from the active zones. For line plots, the value is calculated from the zone assigned to the first active linemap.
&(MAXC)	Maximum value of the contour variable for contour group 1. For 2D or 3D Cartesian plots, the value is calculated from the active zones. For line plots, the value is calculated from the zone assigned to the first active linemap.
&(MAXI), &(MAXJ), &(MAXK)	[I, J, K]-dimension of the first active zone. For finite-element zones, MAXI is the number of nodes, MAXJ is the number of elements, and MAXK is the number of nodes per element (cell-based) or total number of faces (face-based).
&(MAXS)	Maximum value of the scatter sizing variable of the active zones.
&(MAXU), &(MAXV), &(MAXW)	Maximum value of the variable assigned to the [X, Y, Z]-vector component of the active zones.
&(MAXVAR[<i>nnn</i>])	Maximum value of variable <i>nnn</i> .
&(MIN <i>n</i>)	Minimum value of the <i>n</i> variable, where <i>n</i> is one of: A, R, X, Y, or Z. For 2D or 3D Cartesian plots, the value is calculated from all active zones. For line plots, the value is calculated from the zone assigned to the first active linemap.
&(MINB)	Minimum value of the blanking variable of the first active blanking constraint. For 2D or 3D Cartesian plots, the value is calculated from all active zones. For line plots, the value is calculated from the zone assigned to the first active linemap.
&(MINC)	Minimum value of the contour variable of contour group 1. For 2D or 3D Cartesian plots, the value is calculated from all active zones. For line plots, the value is calculated from the zone assigned to the first active linemap.

Variables	Notes
&(MINS)	Minimum value of the scatter sizing variable for the active zones.
&(MINU), &(MINV), &(MINW)	Minimum value of the variable assigned to the [X, Y, Z]-vector component for the active zones.
&(MINVAR[<i>nnn</i>])	Minimum value of variable <i>nnn</i> .
&(NUMFRAMES)	Number of frames.
&(NUMPAGES)	Number of pages.
&(NUMPROCESSORS USED)	Number of processors used. This may be different than the total number on the machine because of the \$!Limits MaxAvailableProcessors configuration file command, or because of a product limitation.
&(NUMVARS)	Number of variables in the current dataset.
&(NUMXYMAPS)	Number of XY-linemaps assigned to the current frame.
&(NUMZONES)	Number of zones in current dataset.
&(OPSYS)	Displays the current operating system. 1=Linux/Macintosh, 2=Windows.
&(PAPERHEIGHT)	The paper height (in inches).
&(PAPERWIDTH)	The paper width (in inches).
&(PLATFORM)	The platform type (e.g. LINUX or WINDOWS).
&(PLOTTYPE)	Plot type of the current frame: 0 for Sketch, 1 for XY Line, 2 for Cartesian 2D, 3 for Cartesian 3D, and 4 for Polar Line.
&(PRIMARYSLICEPOS [< <i>slicegroup</i> or <i>activeoffset</i> >])	The primary slice position.
&(PRINTFNAME)	The name of the current print file.
&(SLICEPLANETYPE[< <i>slice group</i> or <i>activeoffset</i> >])	The type of the slice plane (X, Y, Z, I, J or K-planes).
&(SOLUTIONTIME)	The current solution time.
&(SOLUTIONTIME[Q])	Solution time of Q, where Q = either <i>nnn</i> or <i>ACTIVEOFFSET</i> = <i>nnn</i> and <i>nnn</i> = zone number. If <i>ACTIVEOFFSET</i> = is used, the integer value indicates the first zone associated with the <i>nnn</i> th active fieldmap. &(SOLUTIONTIME[5]) displays the solution time of the 5 th zone. &(SOLUTIONTIME[ACTIVEOFFSET=3]) displays the solution time of the first zone in the 3 rd active fieldmap.
&(STARTSLICEPOS[< <i>slice group</i> or <i>activeoffset</i> >])	The position of the starting slice plane.
&(STRANDID[<i>x</i>])	The strandID of a zone in dynamic text.
&(STREAMSTARTPOS [<i>nnn</i>])	Starting position (X, Y, Z) of the <i>nnn</i> th streamtrace.
&(STREAMTYPE[<i>nnn</i>])	Type (Surface Line, Volume Line, Volume Ribbon, Volume Rod) of the <i>nnn</i> th streamtrace.
&(\$ <i>string</i>)	The value of the system environment variable <i>string</i> .
&(TECHOME)	Path to the home directory.

Variables	Notes
&(TECPLOTVERSION)	Displays the version number.
&(TIME)	The current time, in the format <i>hh:mm:ss</i> .
&(VARNAME[<i>nnn</i>])	The variable name of variable <i>nnn</i> .
&(ZONEMESHCOLOR[Q])	Color of the mesh for zone Q, where Q = either <i>nnn</i> or <i>ACTIVEOFFSET</i> = <i>nnn</i> and <i>nnn</i> = zone number. If <i>ACTIVEOFFSET</i> = is used, the integer value indicates the <i>nnn</i> th active zone for field plots or the zone associated with the <i>nnn</i> th active linemap for line plots.
&(ZONENAME[Q])	The zone name of zone Q, where Q = either <i>nnn</i> or <i>ACTIVEOFFSET</i> = <i>nnn</i> and <i>nnn</i> = zone number. If <i>ACTIVEOFFSET</i> = is used, the integer value <i>nnn</i> indicates the <i>nnn</i> th active zone for field plots. For line plots, indicates the zone associated with the <i>nnn</i> th active linemap that will be defaulted to upon deactivation of a previous zone.

a. where A represents the theta (or angle) axis variable in Polar Line plots.

Additional Resources

For detailed information on any of the topics discussed in this guide, refer to the [User's Manual](#) included in your installation package. The same information is available in the help system available from the product's Help menu or the Help buttons throughout the product.

Custom Characters

Character Index	English Text	Greek	Math	User Defined	Character Index	English Text	Greek	Math	User Defined	Character Index	Extended Character	Character Index	Extended Character
32	(space)				80	P	Π	∠	∅	160	ı	208	Đ
33	!	!	Υ		81	Q	Θ	∇	◊	161	ı	209	Ñ
34	*	√	ˆ		82	R	Ρ	®	◊	162	ē	210	Ô
35	#	#	≤		83	S	Σ	©	◊	163	£	211	Ó
36	\$	Ξ	/		84	T	Τ	™	◊	164	□	212	Õ
37	%	%	∞		85	U	Υ	Π	◊	165	¥	213	Ö
38	&	&	f		86	V	ς	√	⊗	166	ı	214	Ö
39	'	ε	♣		87	W	Ω	·	●	167	§	215	×
40	(	(	♦		88	X	Ξ	¬	●	168	"	216	Ø
41	)	)	♥		89	Y	Ψ	^	●	169	©	217	Ù
42	*	*	▲		90	Z	Ζ	∨	●	170	"	218	Ú
43	+	+	↔		91	[	[	↔		171	"	219	Û
44	,	,	↑		92	\	∴	⇐		172	¬	220	Ü
45	-	-	↑		93	]	] ]	↑		173	-	221	Ý
46	.	.	→		94	^	⊥	⇒		174	®	222	Þ
47	/	/	↓		95	-	—	↓		175	-	223	ß
48	0	0	°		96	'	—	◊		176	°	224	à
49	1	1	±		97	a	α	<	●	177	±	225	á
50	2	2	"		98	b	β	®	●	178	²	226	â
51	3	3	≥		99	c	χ	®	●	179	³	227	ã
52	4	4	×		100	d	δ	™	●	180	'	228	ä
53	5	5	∞		101	e	ε	Σ	●	181	μ	229	å
54	6	6	∂		102	f	φ	{	◊	182	¶	230	æ
55	7	7	•		103	g	γ	{		183		231	ç
56	8	8	+		104	h	η	{		184	.	232	è
57	9	9	≠		105	i	ι	{		185	ı	233	é
58	:	:	≡		106	j	φ	{		186	ı	234	ê
59	;	;	"		107	k	κ	{		187	"	235	ë
60	<	<	...		108	l	λ	{		188	¼	236	ì
61	=	=	|		109	m	μ	{		189	½	237	í
62	>	>	—		110	n	ν	{		190	¾	238	î
63	?	?	┘		111	o	ο	{		191	¿	239	ï
64	@	≡	κ		112	p	π	€		192	À	240	ð
65	A	A	Ω		113	q	θ	}		193	Á	241	ñ
66	B	B	Ω	+	114	r	ρ	}		194	Â	242	ò
67	C	X	φ	×	115	s	σ	{		195	Ã	243	ó
68	D	Δ	⊗	*	116	t	τ	{		196	Ä	244	ô
69	E	E	⊗	Δ	117	u	υ	}		197	Å	245	õ
70	F	Φ	⊗	∇	118	v	ϑ	}		198	Æ	246	ö
71	G	Γ	∩	□	119	w	ω	}		199	Ç	247	÷
72	H	H	∩	◊	120	x	ξ	}		200	È	248	ø
73	I	I	∩	◊	121	y	ψ	}		201	É	249	ù
74	J	θ	∩	◊	122	z	ζ	{		202	Ê	250	ú
75	K	K	α	*	123	{	{	}		203	Ë	251	û
76	L	Λ	∩	•	124	|	|	}		204	İ	252	ü
77	M	M	∩	+	125	}	}	}		205	Í	253	ý
78	N	N	ε	◊	126	-	-	}		206	ı	254	þ
79	O	O	ε	◊	127					207	ı	255	ÿ