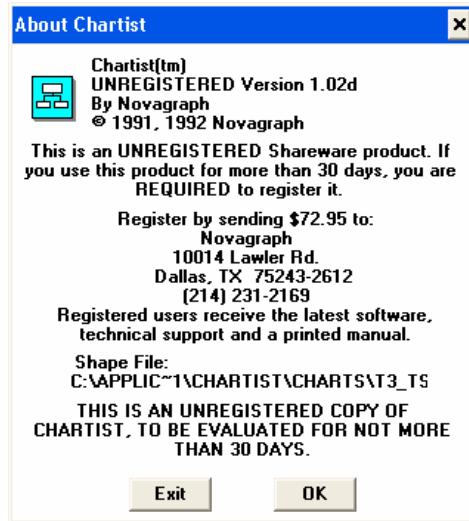


File format of Novagraph Chartist version 1.02d

Reverse engineered 2025/07/17 by Arnoud J.G. Mulder (info@aimstec.com) [version 0.3]



Little endian

Colors as RGBA

Strings stored as ANSI, with eos/zero byte (c-style)

Units are in mils -> 1250 = 1.250"

Font sizes are in points * 10

Default font: "Univers (WN)"

<file header>

<records, which start with 16-bit code>

<eof record 0x8003>

File header: 100 bytes, plus 58 bytes each style entry

offset	size	description
00	2	signature 0x8878
02	50	line font info
34	2	number of additional styles entries
36	n*58	<shape style entries>
36	2	line style 00 = solid 01 = dash 02 = dot
38	2	line width 00 = normal 02 = medium 03 = thick
3A	1	arrow length (units) zero if no arrow
3B	1	arrow style 00 = not solid 40 = solid (default) 80 = two arrows
3C	2	route mode 00 = auto 01 = direct 02 = curve
3E	4	line line color
42	4	line text color

46	4	default shape color
4A	2	z-order 00 = bottom 01 = middle 02 = top
4C	2	border line style 00 = solid 01 = dash 02 = dot
4E	2	border line width 00 = normal 02 = medium 03 = thick
50	8	00
58	2	default symbol width (units)
5A	2	default symbol height (units)
5C	2	grid horz (units)
5E	2	grid vert (units)
60	2	page width (units)
62	2	page height (units)

Shape style entries (58 bytes)

offset	size	description
00	50	font info
32	2	one-based style id
34	2	How many times this style is referenced by shapes
36	2	0000, 0001, 0002, 0005 - unknown
38	2	0000

Font info (50 bytes, stored in file header and in style records)

offset	size	description
00	2	font size (line label font)
02	2	font derived size
04	4	00
08	2	default font weight (400=normal, 700=bold)
0A	1	italic
0B	1	underscore
0C	1	strikeout
0D	1	00 (fCharSet) 00=ANSI_CHARSET
0E	1	02 (lfOutPrecision) 02=OUT_CHARACTER_PRECIS
0F	1	01 (fClipPrecision) 01=CLIP_CHARACTER_PRECIS
10	1	00 (lfQuality) 00=DEFAULT_QUALITY
11	1	12, 22 (lfPitchAndFamily) 10=FF_ROMAN 20=FF_SWISS 02=VARIABLE_PITCH
12	32	font name

File header is followed by shape/line records

record type	description
0x8001	shape
0x8002	line
0x8003	end of file

Shape record (58 bytes)

offset	size	description
00	2	record type, 0x8001
02	16	shape name as string "Rect" - ends with eos - eos is always stored - contains rubbish after the eos - if shape name is longer the 15 characters then its truncated
12	2	one-based shape id
14	2	x position
16	2	y position
18	2	z-order 00 = bottom 01 = middle 02 = top
1A	2	border line style 00 = solid 01 = dash 02 = dot
1C	2	border line width 00 = normal 02 = medium 03 = thick
1E	4	fill color
22	8	0000
2A	1	text alignment 0000 = left, top 0001 = hcenter, top 0002 = right, top 0004 = left, vcenter 0005 = hcenter, vcenter 0006 = right, vcenter mask 0003 = horz align mask 0004 = vert align
2B	1	40 = stretch bitmap to fit
2C	2	width (units)
2E	2	height (units)
30	2	number of characters of label
32	2	number of font descriptors
34	2	number of chars in reference string
36	4	number of bytes of bitmap
3A	n	<label string>
	n	
	n	<reference string>
	n	<bitmap stored as BMP file>

Font descriptor (4 bytes)

offset	size	description
00	2	style id FFFF = use line font
02	2	zero-based position of last character drawn with this font so if 1, then first two characters (0, 1) are drawn with this font

Line record (26 bytes)

offset	size	description
00	2	record type, 0x8002
02	2	source shape id
04	2	destination shape id
06	1	route mode 00 = auto 01 = direct 02 = curve
07	1	arrow at destination 00 = at source 20 = at destination
08	4	line line color
0C	4	line text color
10	1	source direction 01 = right 02 = down 03 = left 04 = up
11	2	destination direction
12	2	line style 00 = solid 01 = dash 02 = dot
14	2	line width 00 = normal 02 = medium 03 = thick
16	1	arrow length (units) zero if no arrow
17	1	arrow style 00 = not solid 40 = solid (default) 80 = two arrows
18	2	number of characters of label
1A	n	<label string>