trsym package
version 1.0

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2000/06/25

Installation

If you see the symbols in section "Usage", the files are already installed. There is no need to do the installation again. Otherwise, do the following:

1. Create a subdirectory trsym in your local source path for MetaFont files. If you use the configuration file for the docstrip utility doing this is obligatory.

2. Run "latex trsym.ins". If you use docstrips' configuration file, everything is copied to its right place. Otherwise, copy trsy.mf, trsy10.mf and trsy12.mf into the subdirectory trsym (e.g. \\localtexmf\fonts\source\trsym). Copy utrsy.fd and trsym.sty into a subdirectory trsym in your local LaTeX path (e.g. \\localtexmf\tex\latex\trsym)

Usage

Write \usepackage{trsym} into your LaTeX file's preamble. In mathmode use the following commands generating the according symbol. The commands in parenthesis are short versions of the commands as I used to declare in my documents.

command	symbol
\TransformHoriz (\tfh)	∘—●
\InversTransformHoriz (\itfh)	●—∘
\TransformVert (\tfv)	
\InversTransformVert (\itfv)	

```
1  ⟨∗package⟩
2  \DeclareSymbolFont{transfsymbol}{U}{trsy}{m}{n}
3
4  \DeclareMathSymbol{\TransformHoriz}{\mathrel}{transfsymbol}{0}
5  \DeclareMathSymbol{\InversTransformHoriz}{\mathrel}{transfsymbol}{1}
6  \DeclareMathSymbol{\TransformVert}{\mathrel}{transfsymbol}{2}
7  \DeclareMathSymbol{\InversTransformVert}{\mathrel}{transfsymbol}{3}
8  ⟨/package⟩
9
10 ⟨∗fontdefinition⟩
11 \ProvidesFile{utrsy.fd}
```

```
12   [\trsymfiledate v\trsymfileversion transformation symbol font definitions]
13 \DeclareFontFamily{U}{trsy}{}
14 \DeclareFontShape{U}{trsy}{m}{n}{
15   <-11> trsy10
16   <11-> trsy12
17 }{}
18 ⟨/fontdefinition⟩
19
20 ⟨∗metafont⟩
21 font_identifier:="TRANSFORMATION";
22
23 qqs:=ceiling(qqs#*hppp);
24 define_pixels(qqw,qqh);
25
26 fontdimen 1: 0,0,0,0,0,0,0,qqs#;
27 let cmchar=\;
28
29 cmchar "horizontal transformation symbol";
30 beginchar(0,1.5qqw#,.75qqh#,0);
31   pickup pencircle scaled qqs;
32   y1=y2=y3=y4=1/2h;
33   20x1=5x2=4w;
34   70x3=30x4=21w;
35   diam_sharp:=1/5w;
36   draw fullcircle scaled diam_sharp shifted z1;
37   draw z3--z4;
38   pickup pencircle scaled (diam_sharp+qqs);
39   drawdot z2;
40 endchar;
41
42 cmchar "horizontal inverse transformation symbol";
43 beginchar(1,1.5qqw#,.75qqh#,0);
44   pickup pencircle scaled qqs;
45   y1=y2=y3=y4=1/2h;
46   20x1=5x2=4w;
47   70x3=30x4=21w;
48   diam_sharp:=1/5w;
49   draw fullcircle scaled diam_sharp shifted z2;
50   draw z3--z4;
51   pickup pencircle scaled (diam_sharp+qqs);
52   drawdot z1;
53 endchar;
54
55 cmchar "vertical transformation symbol";
56 beginchar(2,.75qqw#,1.15qqh#,.35qqh#);
57   pickup pencircle scaled qqs;
58   x1=x2=x3=x4=1/2w;
59   5(y1+d)=20(y2+d)=4(h+d);
60   70(y3+d)=30(y4+d)=21(h+d);
61   diam_sharp:=1/5(h+d);
62   draw fullcircle scaled diam_sharp shifted z1;
63   draw z3--z4;
64   pickup pencircle scaled (diam_sharp+qqs);
65   drawdot z2;
```

```
66 endchar;
67
68 cmchar "vertical inverse transformation symbol";
69 beginchar(3,.75qqw#,1.15qqh#,.35qqh#);
70   pickup pencircle scaled qqs;
71   x1=x2=x3=x4=1/2w;
72   5(y1+d)=20(y2+d)=4(h+d);
73   70(y3+d)=30(y4+d)=21(h+d);
74   diam_sharp:=1/5(h+d);
75   draw fullcircle scaled diam_sharp shifted z2;
76   draw z3--z4;
77   pickup pencircle scaled (diam_sharp+qqs);
78   drawdot z1;
79 endchar;
80
81 bye
82 ⟨/metafont⟩
83
84 ⟨∗metafont10⟩
85 inner bye;
86 if not unknown cmbase:
87   errhelp "This font must be generated using the plain base.";
88   errmessage "You can't use cmbase for this font!";
89   expandafter bye
90 fi
91 font_size 10pt#;
92 mode_setup;
93 qqs# = .4pt#;
94 qqh# = 10pt#;
95 qqw# = 10pt#;
96 input trsy;
97 bye.
98 ⟨/metafont10⟩
99
100 ⟨∗metafont12⟩
101 inner bye;
102 if not unknown cmbase:
103   errhelp "This font must be generated using the plain base.";
104   errmessage "You can't use cmbase for this font!";
105   expandafter bye
106 fi
107 font_size 12pt#;
108 mode_setup;
109 qqs# = .4pt#;
110 qqh# = 12pt#;
111 qqw# = 12pt#;
112 input trsy;
113 bye.
114 ⟨/metafont12⟩
```