1

```
\hrule \hrule height \langle dimen \rangle width \langle dimen \rangle depth \langle dimen \rangle \vrule \vrule width \langle dimen \rangle height \langle dimen \rangle depth \langle dimen \rangle
```

The \hrule command produces a horizontal rule; the \vrule command produces a vertical rule. You can specify any or all of the width, height, and depth of the rule—TEX supplies default values for those that you omit. You can give the dimensions of the rule in any order; the forms listed above show just two of the possible combinations. You can even give a dimension of a given kind more than once—if you do, the last one is the one that counts.

If you don't specify the width of a horizontal rule, the rule is extended horizontally to the boundaries of the innermost box or alignment that contains the rule. If you don't specify the height of a horizontal rule, it defaults to 0.4pt; if you don't specify the depth of a horizontal rule, it defaults to 0pt.

If you don't specify the width of a vertical rule, it defaults to <code>0.4pt</code>. If you don't specify the height or the depth of a vertical rule, the rule is extended to the boundary of the innermost box or alignment that contains the rule.

TEX treats a horizontal rule as an inherently vertical item and a vertical rule as an inherently horizontal item. Thus a horizontal rule is legal only in a vertical mode, while a vertical rule is legal only in a horizontal mode. If this seems surprising, visualize it—a horizontal rule runs from left to right and separates vertical items in a sequence, while a vertical rule runs up and down and separates horizontal items in a sequence.

Example:

```
\hrule\smallskip
\hrule width 2in \smallskip
\hrule width 3in height 2pt \smallskip
\hrule width 3in depth 2pt
produces:
```

 $\mathbf{2}$

```
\ §0
Example:
  \mbox{\ensuremath{\mbox{\%}}} Here you can see how the baseline relates to the
  \% height and depth of an \hrule.
  \leftline{
     \vbox{\hrule width .6in height Opt depth 8pt}
     \vbox{\hrule width .6in height 5pt depth 8pt}
     \vbox{\hbox{ baseline}\kern 3pt \hrule width .6in}
  }
produces:
                                baseline
Example:
  \hbox{( {\vrule} {\vrule width 8pt} )}
  \hbox {( {\vrule height 13pt depth 0pt}
     {\vrule height 13pt depth 7pt} x)}
  \% the parentheses define the height and depth of each of the
  \mbox{\ensuremath{\mbox{\%}}} two preceding boxes; the 'x' sits on the baseline
produces:
  ( \mid \blacksquare )
  ( || x )
```