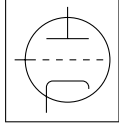This document describes the use of a standard triode tube in the schematic drawing extension CircuiTi*k*Z. It is highly configurable and has a large number of anchors.
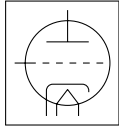
Basic usage

The triode must be placed as a node, for example:

```
1 \begin{tikzpicture}
2 \draw (0,0) node[triode] (Tri) {};
3 \end{tikzpicture}
```

You can draw the filament if you like:

```
1 \begin{tikzpicture}line width=1pt,font=\sffamily\footnotesize
2 \draw (0,0) node[triode,filament] (Tri) {};
3 \end{tikzpicture}
```

Triode anchors

The triode has three basic anchors and a text (or label) anchor: anode, cathode grid and text. The can be accessed by *nodename*.anode, *nodename*.cathode, *nodename*.grid and *nodename*.text. The filament has no anchors. The position of the anchors is shown below.
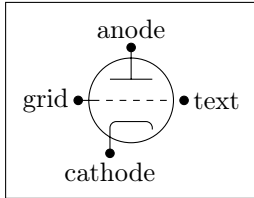
```
1 \begin{tikzpicture}
2 \draw (0,0) node[triode] (Tri) {}
3 \foreach \tria/\trip in {grid/left, anode/above,
4                          cathode/below, text/right}
5 {
6    (Tri.\tria) node[circ] {} node[\trip] {\tria}
7 }
8 ;
9 \end{tikzpicture}
```

Below is a figure that shows all geographical anchors (scaled by 2, filled with pink, bounding box).
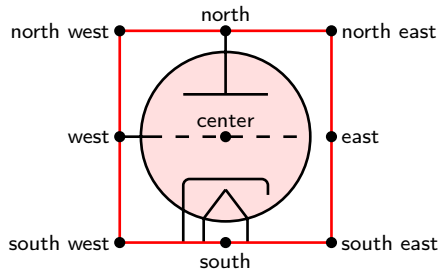
The following parameters can be altered:

```
1 \ctikzset{tubes/triode/thickness/.initial=1}          % relative line thickness
2 \ctikzset{tubes/triode/tube width/.initial=0.40}      % radius of tube circle
3 \ctikzset{tubes/triode/anode distance/.initial=0.20}  % distance from grid
4 \ctikzset{tubes/triode/anode width/.initial=0.20}     % width of (half) an anode/plate
5 \ctikzset{tubes/triode/cathode distance/.initial=0.20} % distance from grid
6 \ctikzset{tubes/triode/cathode width/.initial=0.20}   % width of (half) an cathode
```

```
 7 \ctikzset{tubes/triode/cathode corners/.initial=0.06} % corners of the cathode wire
 8 \ctikzset{tubes/triode/cathode right extend/.initial=0.075} % extension at the right
      side
 9 \ctikzset{tubes/triode/grid protrusion/.initial=0.10} % distance in tube circle
10 \ctikzset{tubes/triode/grid dashes/.initial=5}         % number of grid dashes
11 \ctikzset{tubes/triode/filament distance/.initial=0.05} % distance from cathode
12 \ctikzset{tubes/triode/filament angle/.initial=15}     % Angle from centerpoint
```

Sample network: