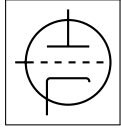


This document describes the use of a standard triode tube in the schematic drawing extension CircuiTikZ. It is highly configurable and has a large number of anchors.

## Basic usage

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

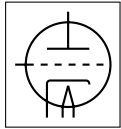


```

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

```

You can draw the filament if you like:



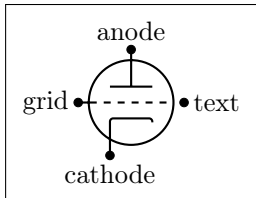
```

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.

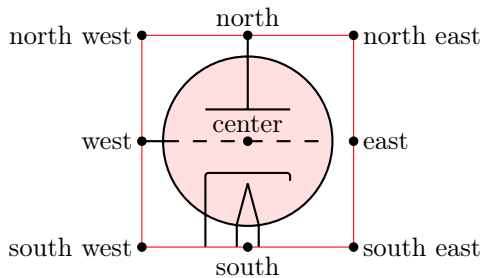


```

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/tube width/.initial=0.40}      % radius of tube circle
2 \ctikzset{tubes/triode/anode distance/.initial=0.20}  % distance from grid
3 \ctikzset{tubes/triode/anode width/.initial=0.20}    % width of (half) an anode/plate
4 \ctikzset{tubes/triode/cathode distance/.initial=0.20} % distance from grid
5 \ctikzset{tubes/triode/cathode width/.initial=0.20}  % width of (half) an cathode
6 \ctikzset{tubes/triode/cathode corners/.initial=0.06} % corners of the cathode wire
7 \ctikzset{tubes/triode/cathode right extend/.initial=0.075} % extension at the right
   side
8 \ctikzset{tubes/triode/grid protrusion/.initial=0.10} % distance in tube circle
9 \ctikzset{tubes/triode/grid dashes/.initial=5}       % number of grid dashes
10 \ctikzset{tubes/triode/filament distance/.initial=0.05} % distance from cathode
11 \ctikzset{tubes/triode/filament angle/.initial=15}  % Angle from centerpoint

```

Sample network:

