



# Definition AXOL1TL and TOPO model names

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# 1 AXOL1TL and TOPO model names

This document is a description for the naming convention of AXOL1TL and TOPO model names.

With the release of utm version 0.12, the possibility of setting cuts for different models of Axol1tl and Topological triggers is available. To prevent changes in utm and TME, we created a structure which is open for upcoming new models without touching utm and TME!

The uGT tool "VHDL Producer" and the uGT firmware (VHDL) code depend on the AXOL1TL and TOPO model names. Therefore a convention is necessary.

A list of valid AXOL1TL and TOPO model names will be provided on a web page (an example is available <https://globaltrigger.web.cern.ch/upgrade/tme/models>).

## 1.1 Implementation in Trigger Menu Editor (TME)

In TME "cut editor" a link to valid model names is available for L1Menu developers to set model names, see Figure 1 for TMODEL (Topological model), similar for AMODEL (Axol1tl model).

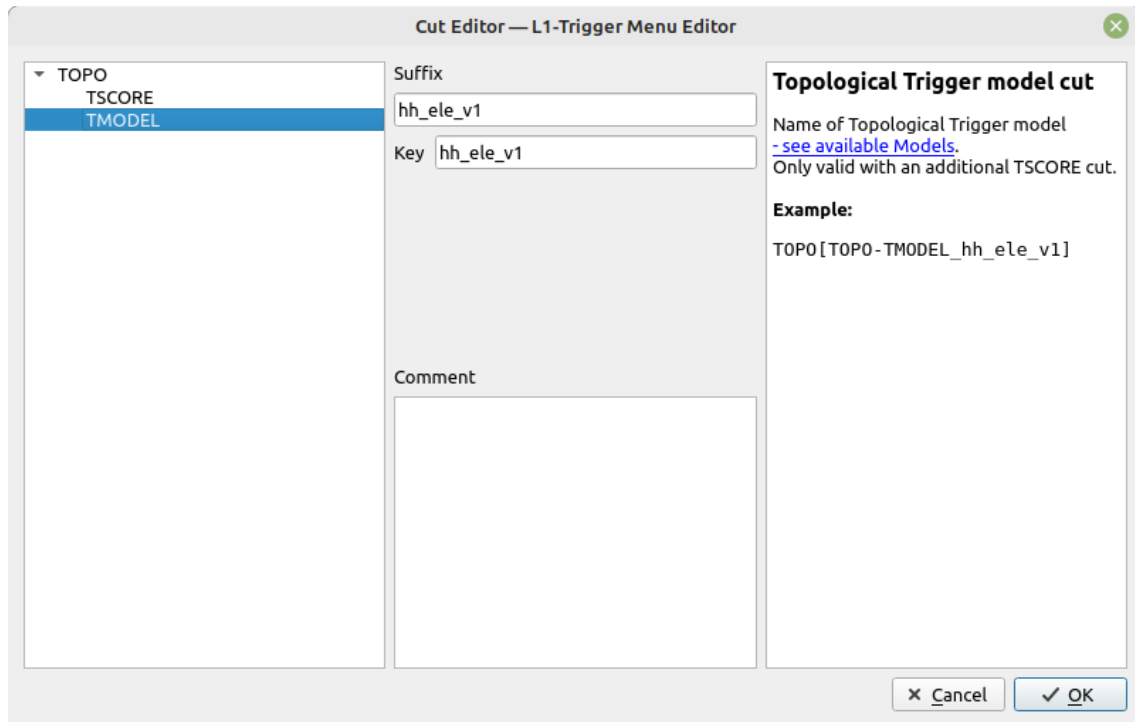


Figure 1: TME cut editor TMODEL

## 1.2 Implementation in uGT firmware

The uGT firmware ([https://github.com/cms-l1-globaltrigger/mp7\\_ugt\\_legacy](https://github.com/cms-l1-globaltrigger/mp7_ugt_legacy)) will provide subdirectories for VHDL files of every available model.

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1 AXOL1TL and TOPO model names

According to the model names listed in <https://globaltrigger.web.cern.ch/upgrade/tme/models>, we created a subdirectory structure as follows (currently in branch "dev\_v1.26.0" - [https://github.com/cms-l1-globaltrigger/mp7\\_ugt\\_legacy/tree/dev\\_v1.26.0/firmware/hdl/payload/gtl](https://github.com/cms-l1-globaltrigger/mp7_ugt_legacy/tree/dev_v1.26.0/firmware/hdl/payload/gtl)):

../axol1tl\_trigger/model\_v1  
containing VHDL files named 'axol1tl\_v1\_<hls file name>.vhd' and 'axol1tl\_v1.vhd'. (See example Figure 2).

../axoll1tl\_trigger/model\_v3  
containing VHDL files named 'axoll1tl\_v3\_<hls file name>.vhd' and 'axoll1tl\_v3.vhd'.

../topo\_trigger/model\_hh\_ele\_v1  
containing VHDL files named 'topo\_hh\_ele\_v1\_<hls file name>.vhd' and 'topo\_hh\_ele\_v1.vhd'.

../topo\_trigger/model\_hh\_ele\_v1  
containing VHDL files named 'topo\_hh\_had\_v1\_<hls file name>.vhd' and 'topo\_hh\_had\_v1.vhd'.

../topo\_trigger/model\_hh\_ele\_v1  
containing VHDL files named 'topo\_hh\_mu\_v1\_<hls file name>.vhd' and 'topo\_hh\_mu\_v1.vhd'.

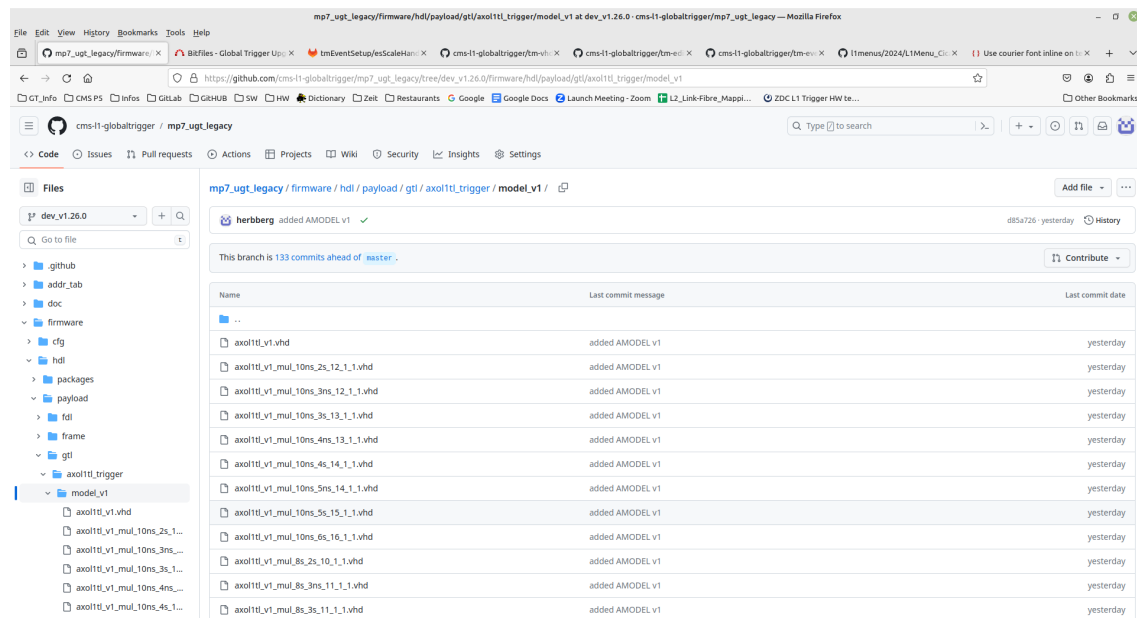


Figure 2: AXOL1TL v1 files