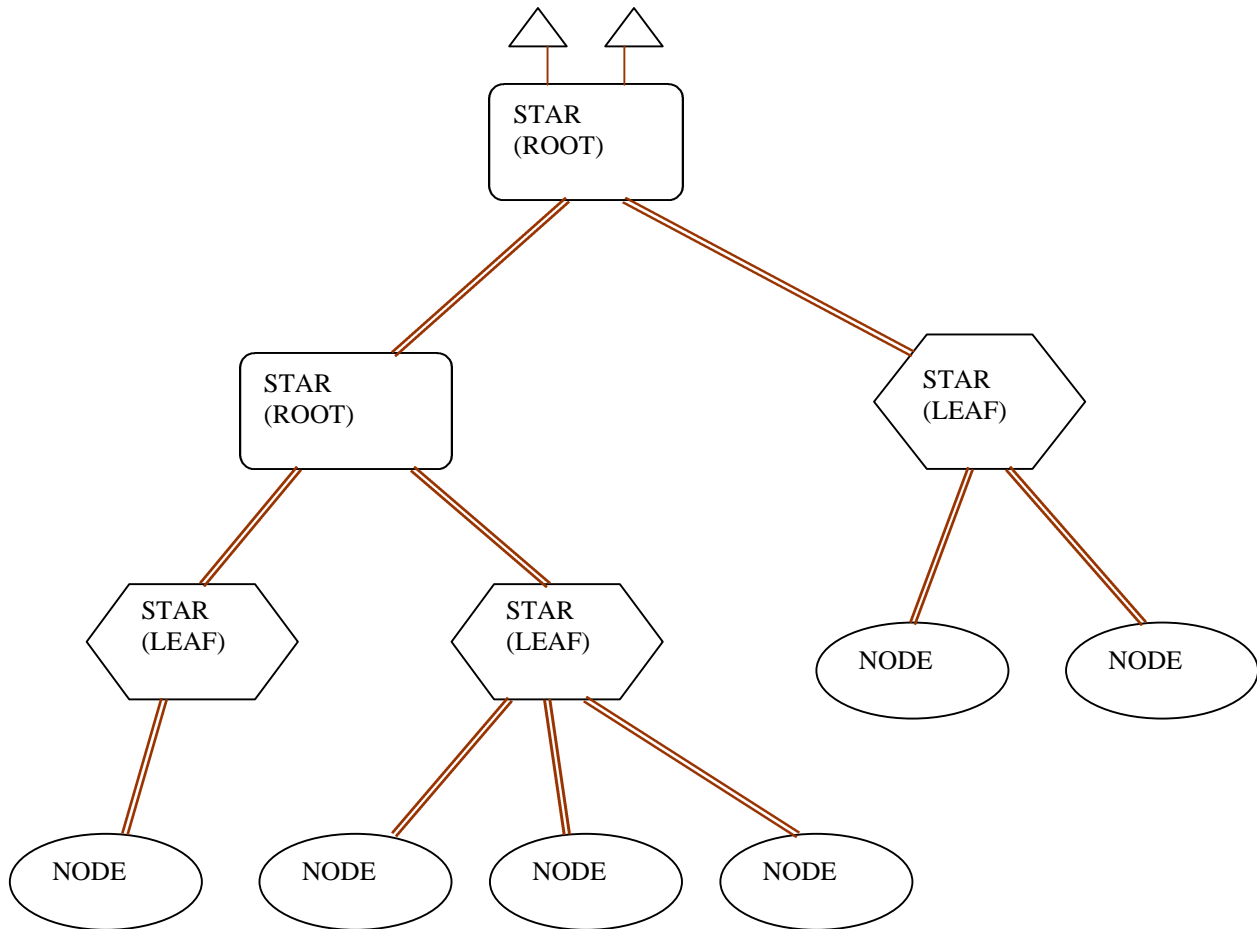# CARACA Bus Topology

The system is made up by two components, the STAR and the NODE. The former may be configured as a ROOT or LEAF depending on it have to connect a NODE or other STAR. Every LEAF provide the +12V for itself and its nodes.

For example in my house there is a ROOT for every floor, a LEAF for every room and a node for every socket.

Every component is connected by the bus cable made up by 4 twisted pair cable (standard UTP or STP used in Ethernet LAN).

The cable connecting the LEAF to the NODE is made up:
• One twisted pair for CANH, CANL (forth)
• One twisted pair for CANH, CANL (back)
• One twisted pair for +12V (~) DC
• One twisted pair for GND
• An optional shield connected to main ground

The cable connecting the ROOT to the LEAF is made up:
• One twisted pair for CANH, CANL (forth)
• One twisted pair for CANH, CANL (back)
• Two twisted pair for GND
• An optional shield connected to main ground

The ROOT terminate the two ends of the bus with 120 Ohm taps.
The total bus length is equal to CABLE LENGTH * 2, but it provides all the advantages of a star net, mainly in case of a node fault, it may be easily individuated and excluded.