

Figure one. Usual ring drawing.

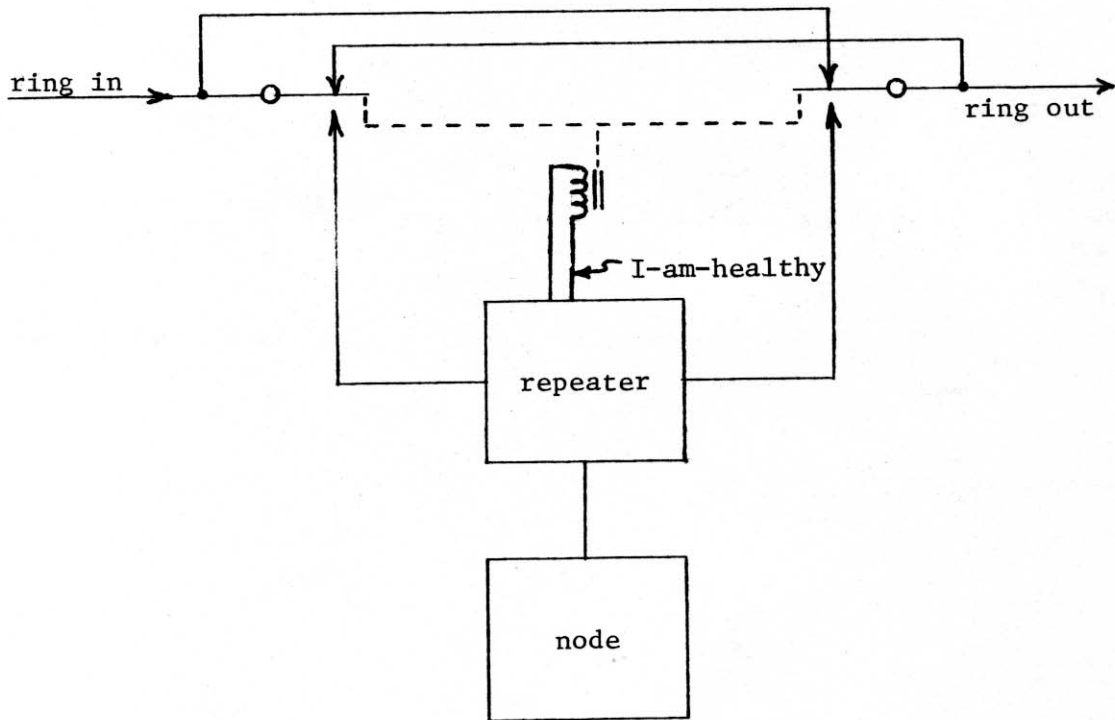


Figure two. Bypass relay energized by "I-am-healthy" line. Only one set of contacts is shown. In practice, three sets would be used, switching a twisted pair and its shield.

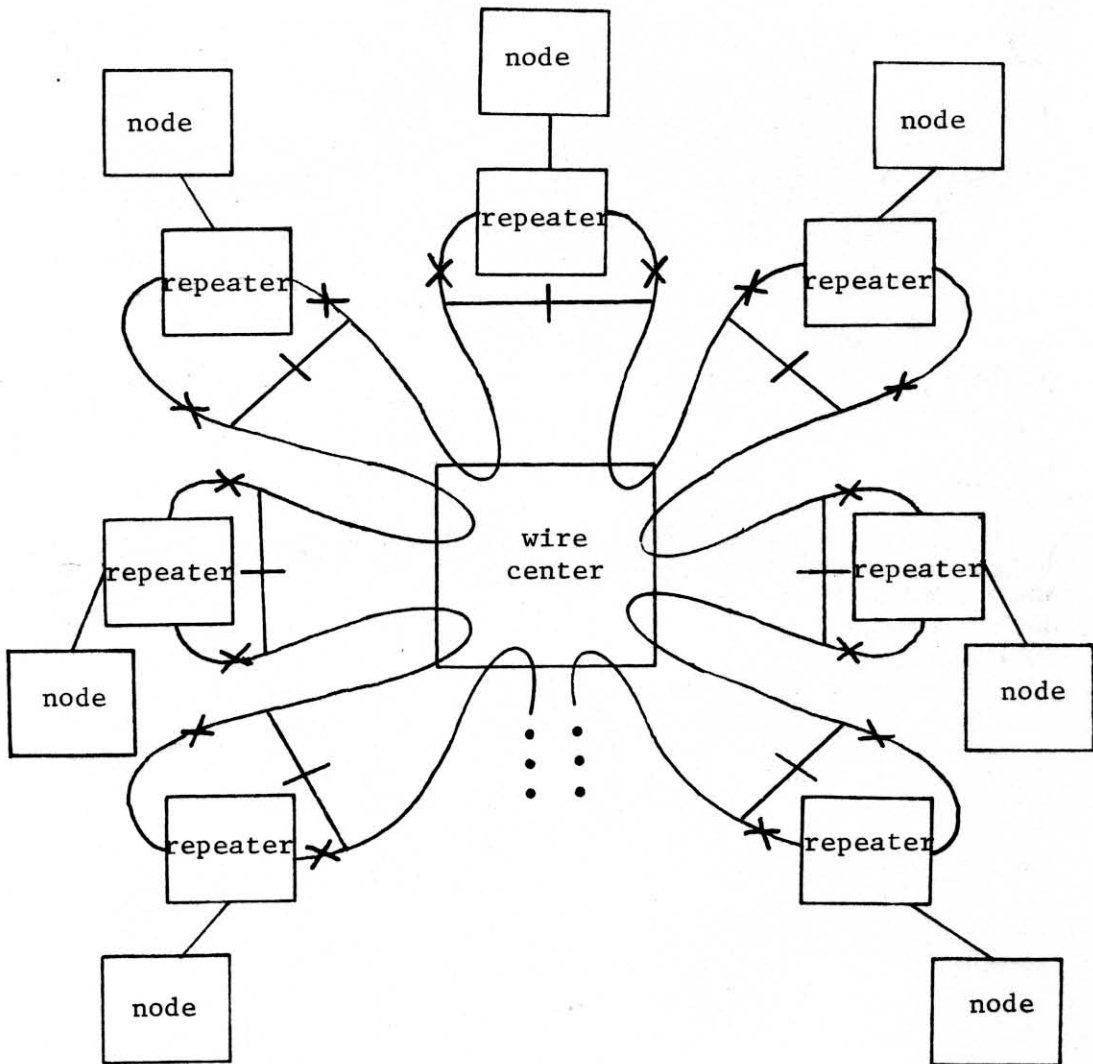


Figure three. Rearrangement of the ring in the shape of a star, to make serviceability easier. Bypass relay contacts are shown thus: normally closed + , normally open *.

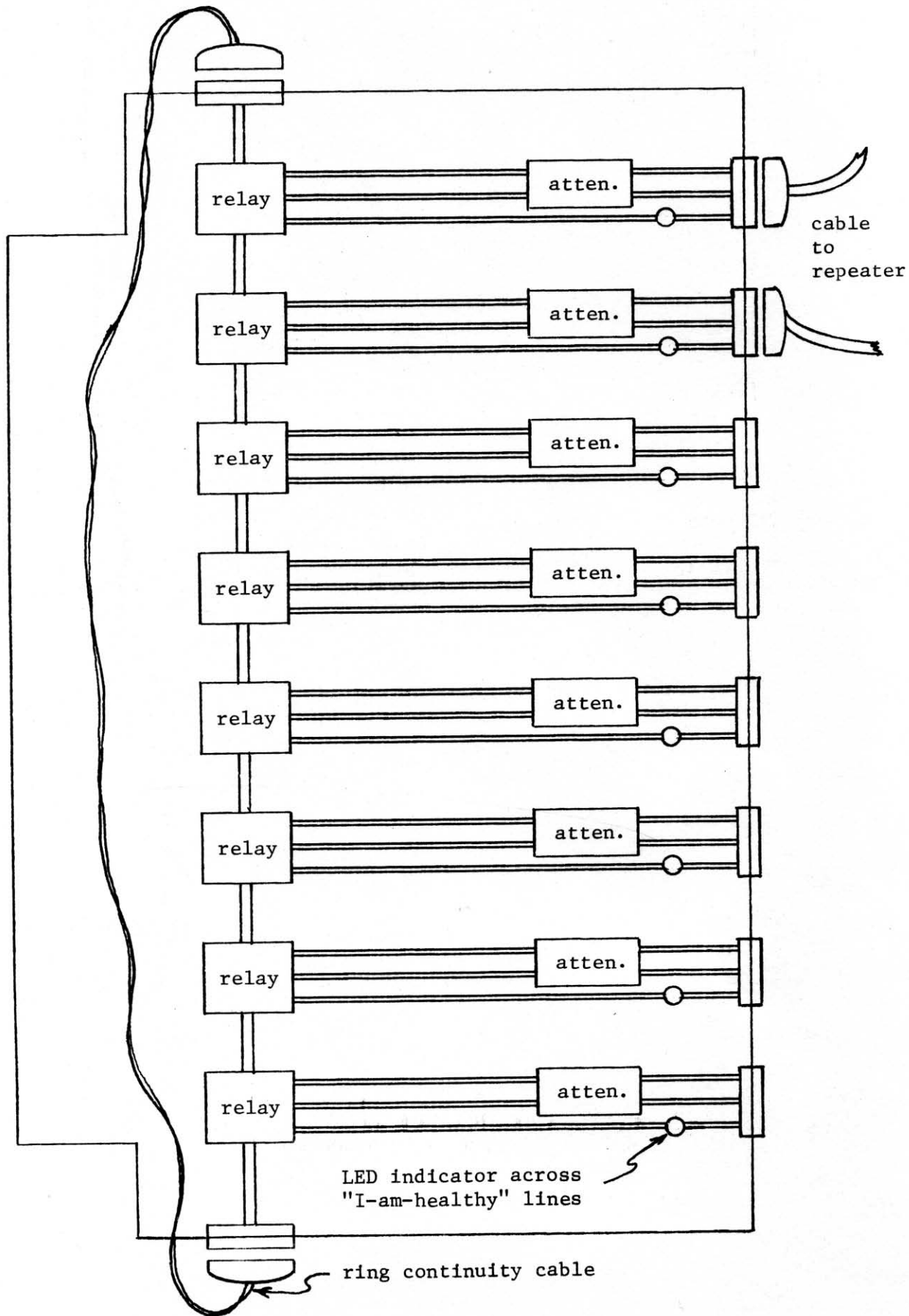


Figure four. Printed circuit board realization of the star-shaped ring.