

## ***ABSTRACT***

*With the increase of telecommunication service user's demand performance and quality of network services, then the realization of correct technology and network architecture are have to be done. First step of technology realization is planning, with the end to choosing kind of architecture realization and technology (DLC, PON, AON).*

*Passive Optical Network (PON) technology which using Passive Splitter (PS) as power splitter to user is one of technology that will be such a solution to problems of telecommunication service, related to network development in the next year.*

*Study in this paper generally is about fiber access local network system and implementation using PON technology, and then specified to planning Fiber To The Home (FTTH) with PON technology, with the main objective this paper is to study planning of PON technology to the existing network, also this paper could give knowledge about PON technology also as a solution to many problems in planning fiber access network due to network development.*

*Method being used is with studying literature of architecture and optical technology from books and internet, doing measurement, analyzing output from measurement, including network conditional that installed before, user condition and network operational area, also the choosing of splitter location in the network.*

*In the end, from the study of this paper, we can be determined type, number and location of passive splitter to the existing fiber access network, which in this time is to PT Telkom operational area West Bandung.*

***Keyword : Fiber Access Local Network, FTTH, PON, Passive Splitter***