

ABSTRACT

The improvement of information technology especially in multimedia service such as *video*, *voice* and data and also the improvement of telecommunication technology based on *fiber optic network* that support multimedia service that can be provided interactively to user using *broadband fiber optic access*. This service can give many kinds of data communication service including internet and *audio-video* service. The HFC (*Hybrid Fiber Coax*) would be able to support that improvement of services.

Basic design of HFC planning is area surveying that describes the space of network so that can be known the number of users, services that provided and also the allocation of *bandwidth* used. And then tools surveying to sketch the network planned.

Based on the calculation, allocation of *bandwidth* needed shows that the *downstream* width is actually 742 MHz, that can provide some of multimedia services, such as *broadcast tv* and *fast internet*. For *broadcast tv* is available 70 channels, and the rest of *bandwidth* 342 MHz can be used for another services. For internet service needs 8 MHz (*downstream*) and 3,2 MHz (*Upstream*).

And the result of this HFC Network planning (*Hybrid Fiber Coax*) in Villa Bintaro Regency shows that the planning has been matched with the performance standard of PT. TELKOM that for $CNR \geq 43$ dB, and for CSO, CTB, Xmod ≥ 50 dB. The result of HFC Planning can be used to transmit signal to each user with the equal quality.