ABSTRACT

Now days, the service of CATV (Cable TV) have been enthused by many people or society. This matter can be seen that many company developt CATV as their services, not only in big city like Jakarta or Surabaya but in little city like in Gorontalo and Batam, even in housings. Along with the developing of the network of CATV from Coaxial Cable till *HFC* (*Hybrid Fiber Coax*) network to fullfill the other service beside CATV like *Internet*, *Telephony* and *Video on Demand*. Hence, one part of the HFC network, in this case *Headend*, also develop from analogue to digitally.

In this final project, the planning of *digital headend* divided in three part, which is: determining its scope, either the location side of *headend*, given services and the allocation of the bandwidth. Second part is to choose the best and the most suitable equipment in compiling system of *digital headend*. And the last part is to analyse the performance of *digital headend.*

From the planning in this final project can be seen the efficiency of bandwidth used in *digital headend* half time better than the analogue.while digital channel had efficiency 1/6 time better than the analogue channel. After analyzing the performance, digital channel have SNR up to 29 dB, level of the signal up to 47 dBmV and more reliable to noise and other interference. While for analogues channel have SNR 51 dB, level of the video signal up to 37 dBmV, level of the audio signal up to 21 dBmV, CSO dan CTB equal to + 70 dBc, Depth of Modulation 90% dan FM Deviation 50 KHz. And all the equipment have fulfilled the standard that given by PT. Broadband Multimedia Tbk, (*KABELVISION*).