

ABSTRACT

Communication system from analog to digital is now highly developed. This is because the human need that move forward in the field of communication. In the development of this age, desired a faster and practical communication. The development of these communication systems require students to continue to develop the ideas in the field of communication. In addition, students also need to know about today's digital communication systems. At the faculty of Electrical and Communication IT Telkom, especially major D3, in addition to know the theory that they got in the lecture, they also have to prove the theory in a practical time. So it can be realized into a product. One of the tools that can be realized, namely the manufacture of lab kit on the 16 QAM modulation demodulator.

In this final project was designed 16 QAM Demodulator in Power Splitter, Balanced Modulator, LPF and ADC. The process of making the 16 QAM Demodulator using Altium Designer software to design a circuit of 16 QAM Demodulator and Multisim circuit to show the simulation of 16 QAM Demodulator before the circuit is assembled in Altium Designer.

Result of analysis of 16 QAM Demodulator in Power Splitter, Balanced Modulator, LPF and ADC produces the bits in the first channel corresponding to the constellation diagram that are at 3V voltage level produced 10 bit, 1V produced 11 bit, -1V produced 01 bit and -3V produced 00 bit.

Keyword : Modulation, 16 QAM Demodulator, Lab Kit.