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12 GHz Microwave Communication System

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Final Report on an Electrical and Computer Engineering Technology Senior Design Project

Develop and Test a 12 GHz Microwave Communication System

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Prof. Hollander

Prepared By: Larry Ley
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Date Prepared: 20 April 1998

ABSTRACT

Our project was to adapt two 12 GHz microwave communication systems, with different frequencies, into one operational system for the electronic communication programs at the university. Upon locating separate power sources for the transmitter and receiver, they were powered up and preliminary assessments were completed. The transmitter and receiver were visually inspected to ensure the necessary components were present and the correct wiring between the components was verified. The transmitter and receiver with matching frequencies were placed in a rack to aid in testing. Test points on the transmitter and receiver were then tested utilizing a spectrum analyzer and an oscilloscope. A series of sine, triangle, and square waves served as the transmitted data. The performance characteristics of the system were then derived from the data collected using the spectrum analyzer and oscilloscope. On April 8, 1998, the system became operational.

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