

DESIGN AND DEVELOPMENT OF MEGA-RECEIVER
TELEVISION ANTENNA

DESIGN PROJECT

REALYN CESICAR DIOKNO
ANNA CRISTINA HARAPA ODONZO
ROD JAY AGUILAR AUSTRAL

College of Engineering and Information Technology
CAVITE STATE UNIVERSITY
Indang, Cavite

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**DESIGN AND DEVELOPMENT OF MEGA -
RECEIVER TELEVISION ANTENNA**

Undergraduate Design Project
Submitted to the Faculty of the
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In partial fulfillment
of the requirements for the degree of
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Communication Engineering



**REALYN CESICAR DIOKNO
ANNA CRISTINA HARAPA ODONZO
ROD JAY AGUILAR AUSTRAL**

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Republic of the Philippines
CAVITE STATE UNIVERSITY
(CvSU)
DON SEVERINO DE LAS ALAS CAMPUS
Indang, Cavite
☎ (046) 415-0021 ☎ (046) 415-0012
E-mail: cvsu@asia.com




COLLEGE OF ENGINEERING AND INFORMATION TECHNOLOGY
Department of Computer and Electronics Engineering


Design Project of: REALYN CESICAR DIOKNO
ANNA CRISTINA HARAPA ODONZO
ROD JAY AGUILAR AUSTRAL

Title of the Study: **DESIGN AND DEVELOPMENT OF MEGA -
RECEIVER TELEVISION ANTENNA**


APPROVED:


EDWIN R. ARBOLEDA
Design Project Adviser

4/2/07
Date


MYRINE H. PARAS
Technical Critic

4/2/2007
Date


AILEEN V. ROCILLO
Department Chairman


04/02/07
Date


CESAR C. CARRIAGA
Research Coordinator

4/3/07
Date


CAMILLO A. POLINGA
Dean

4/3
Date


EDNA A. VIDA
Director for Research

4/3/07
Date

ABSTRACT

REALYN C. DIOKNO, ANNA CRISTINA H. ODONZO and ROD JAY A. AUSTRAL. Design and Development of Mega Receiver Television Antenna. Undergraduate Design Project. Bachelor of Science in Electronics and Communications Engineering. Cavite State University, Indang, Cavite. April 2007. Adviser: Engr. Edwin R. Arboleda.

The Design and Development of Mega Receiver Television Antenna (MR TV) for Cavite State University was conducted at Block 7 lot 34 Green Valley Field Subdivision, Indang, Cavite.

The design composed of three functional units namely: the outdoor antenna; the TV signal amplifier and the Cable splitters. The design of the outdoor antenna was based on the principle of Yagi-uda antenna. It has three driven elements, a folded dipole for UHF and six directors for the directivity. The TV signal amplifier was composed of booster, and the RF amplifier. Four pieces of cable splitters were designed for each floor of the ladies dormitory. The system provided a good receptions for 50 televisions sets.

The designed antenna underwent a series of testing and evaluation. Hypothesis Testing or t-test for dependent was conducted to determine if the TV Signal Amplifier have a significant effect on the reception of television. Based on the analysis of data, the TV signal amplifier have a significant effect on the reception of the television.

The Kruskal Wallis Test or h-test was conducted to determine if brands of television has a significant effect on the reception of the television. Based on the analysis of data, the brands of the television have significant effect in the reception of the television. The cost of all the materials used in the development of the antenna computed which amounted to P 21,505.00

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DESIGN AND DEVELOPMENT OF MEGA - RECEIVER TELEVISION ANTENNA^{1/}

Realyn Cesicar Diokno
Anna Cristina Harapa Odonzo
Rod Jay Aguilar Austral

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INTRODUCTION

The first idea of transmitting and receiving of signal come from the insect's anatomy. Grasshopper is an example, it has a *feller or antennae*, organs of smell, touch, occasionally they used it as hearing, but some insects like butterfly, ants, centipedes and cockroach used fellers as their transmitting and receiving medium to communicate and self-protection. Because of this, human motivate to make a device similar to communication concept of the insects. Human called it *aerials* at first but later on it is called *antenna* and the discovery began.

As a general point of view, antenna is a long or short rod medium looks like stems that surround it used to have a clear reception for television and radios devices, but for Electronics and Communication Engineer, antenna is not that simple thing. Antenna is an