Understanding Basic Concept of Electrical and Electronic Systems

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IIUM PRESS
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

UNDERSTANDING BASIC CONCEPT OF ELECTRICAL AND ELECTRONIC SYSTEMS

Editors

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IIUM Press

Published by:
IIUM Press
International Islamic University of Malaysia
First Edition, 2011

Perpustakaan Negara Malaysia Cataloguing-in-Publication Data

Bibliography p.
Includes Index
ISBN

ISBN: 978-967-418-116-1

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM
(Malaysian Scholarly Publishing Council)

Printed by:
IIUM PRINTING SDN. BHD.
No. 1, Jalan Industri Batu Caves 1/3
Taman Perindustrian Batu Caves
Batu Caves Centre Point
68100 Batu Caves
Selangor Darul Ehsan

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27. COMPARATOR

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27.0 Abstract:

This is basically not like a comparator, but it is called the OP-APM operation mode, like single ended mode, double ended mode, or common mode. Basically the given below diagram is for the double ended mode, in this experiment the usage of an amplifier is different from normal usage as adder or summer.

27.1 Description

An operational amplifier has a well-balanced difference input and a very high gain. In the figure 27.1 tow inputs V1 and V2 are applied to its two input panels; inverting and non-inverting input.

Figure: 27.1: Operational amplifier as a comparator[http://en.wikipedia.org/wiki/file Op-Amp_comparator.svg]

The difference between V_1 and V_2 derives the operational amplifier to operation in saturation even if it is so small difference in both the inputs. When V_1 and V_2 applied to both the inputs are of the same polarity and magnitude or amplitude the voltage out (V out) becomes zero, the reason is because both inputs are exactly out of phase, so once same signal applied to both makes one of the input exact inverses of the other and hence output becomes zero.