Simulation of Electronics Circuit using Xcos

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Outline

- Bridge Rectifier
- Operational Amplifier
- Logic Gates

Rectifier is an electronics Circuit which is used to Convert input Signal to Single polarity output signal, And when passes through the filter converts the pulsating signal to DC output signal.In Bridge Rectifier:-
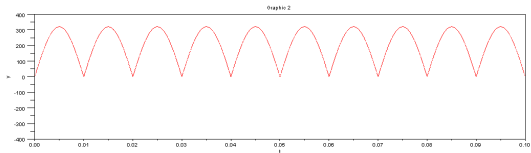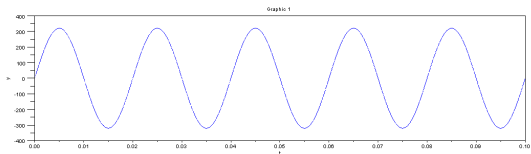
- Four Diodes are used.
- PIV is Vm.
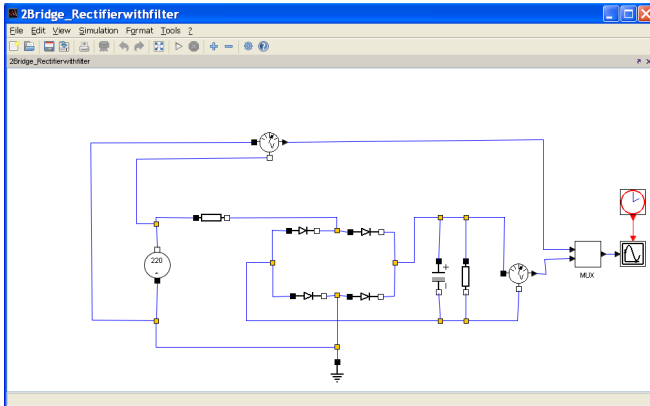- Used in most of the power supply Circuits.

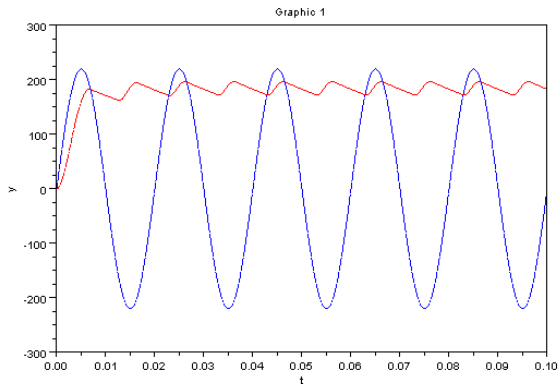# Bridge Rectifier Without Load
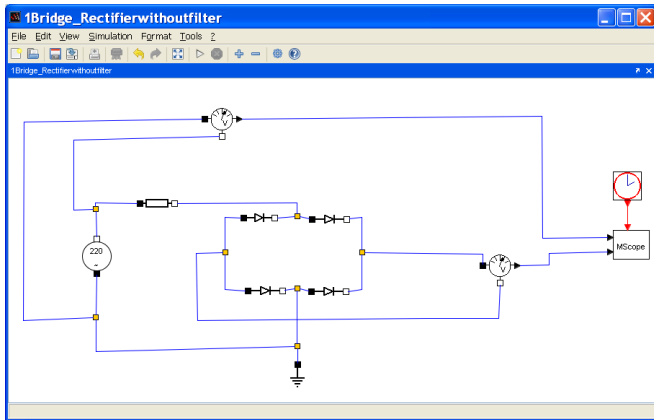
Output of Rectifier Without Load

Bridge Rectifier Without Load

Output of Rectifier Without Load

Operational Amplifier

Operational amplifier is a very high gain differential Voltage amplifier which uses the voltage feedback to provide a stabilized voltage gain. Operational amplifier consisting of two input terminals :
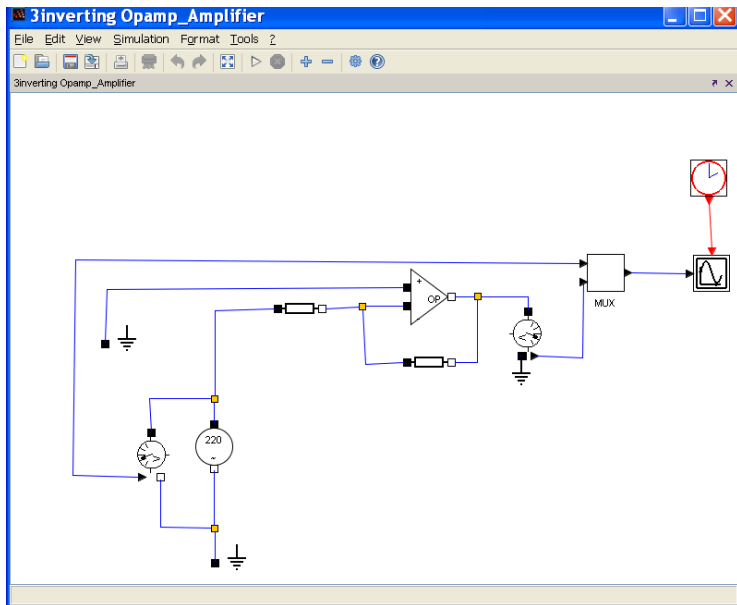
- Inverting Terminal
- Non-Inverting Terminal

OPeratinal Amplifier

Non-Inverting Terminal

Inverting Terminal

OP

Output Terminal
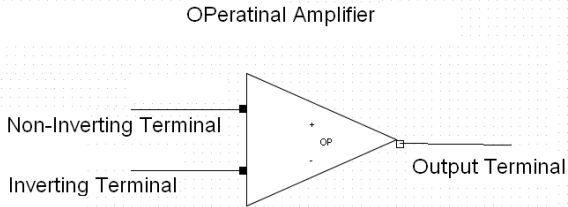
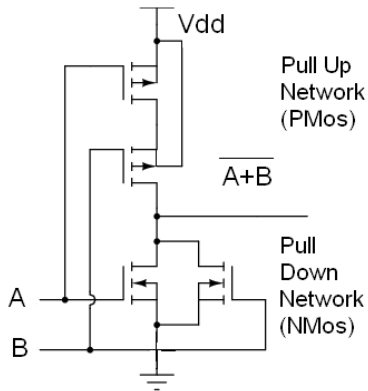# Inverting Operational Amplifier Using Xcos

Logic Gates

Logic operation such as AND,OR,NOT,NAND,NOR,XOR,XNOR are implemented by CMOS Circuit Can be simulate by using Xcos.Cmos Logic Circuit Consist of two networks:
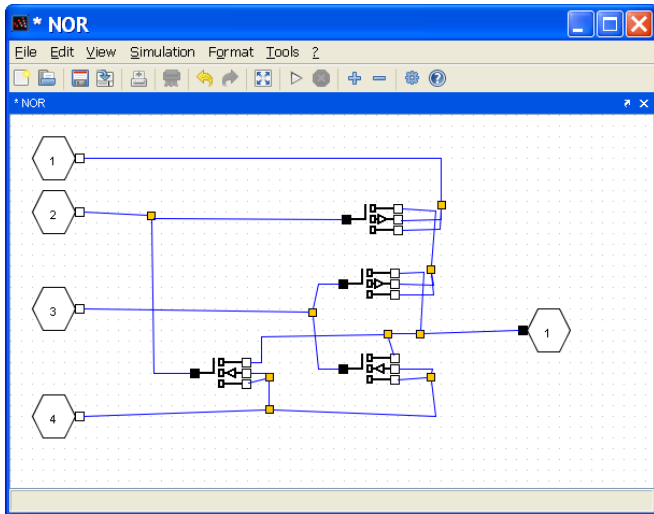
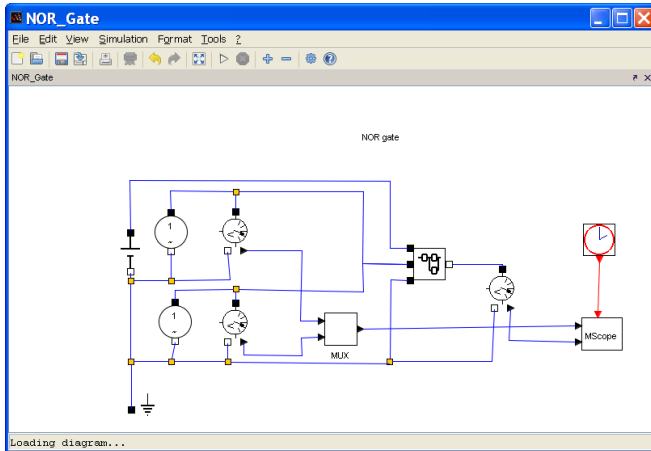- Pull Up - consist of PMos Logic.
- Pull Down - consist of NMos Logic.

NOR GATE USING CMOS
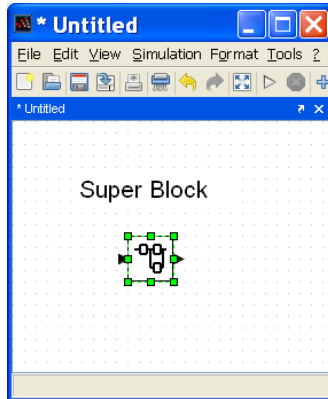
NOR GATE Using CMOS in Xcos

NOR GATE Using CMOS in Xcos

Super Block

This block opens up a new xcos window for editing a new block diagram. This diagram describes the internal functions of the super block. Super block inputs and outputs (regular or event) are designated by special (input or output) blocks.

Thank You