File: c:\temp\courses\spring2005\417\week_6.doc RWN 09/20/05

ENEE 417 Experiments Week 6
Week starting 10/05/05
Diodeless Full-Wave Rectifier

1. Using the MC1458 op-amps build the "precision full-wave signal rectifier" of the design idea article of Jose M. Blanes and Jose A. Carrasco, p. 81 of the September 1, 2005, EDN.
2. Test this using a signal generator and the Tektronix 220 oscilloscope. Capture the into an Excel file using the GPIB controlled by LabVIEW the voltages at every node in the circuit. Compare your results with those of the EDN article.
3. Repeat part 2 by generating and measuring the signals via LabVIEW.
4. Derive equations for the voltages at every node in the circuit and check these against the measurements.
5. If LMC6482 op-amps become available, build the circuit using them and run a comparison test to that of part 2. If the LMC6482 is not available choose some other op-amp and compare with the results using the MC1458.
6. Write a one to three page report summarizing your results.