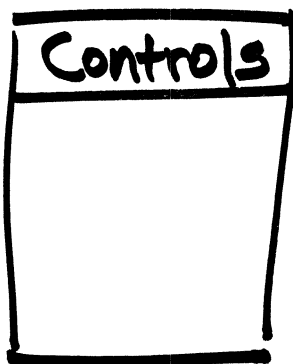
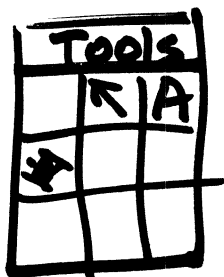
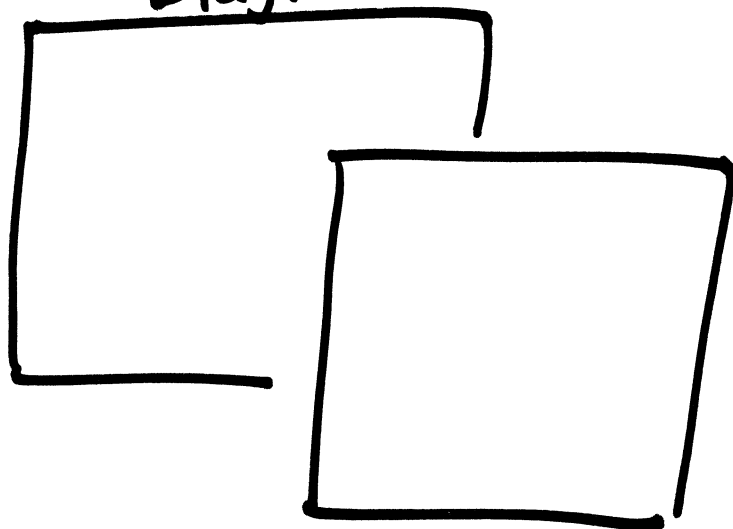


LabVIEW
laboratory Virtual Instrument
Engineering Workstation

Diagram



displays
inputs



Front Panel

Labview - Laboratory Virtual Instrument Engineering workstation

Diagram

Data dependencies

- data sources

- math operations

do wiring in diagram

↗ Positioning tool

 Wiring tool

CTRL-B Removes broken wires.

Front Panel

Controls

Indicators

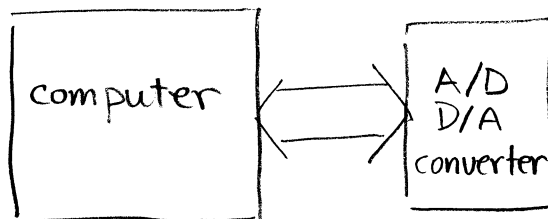
Displays

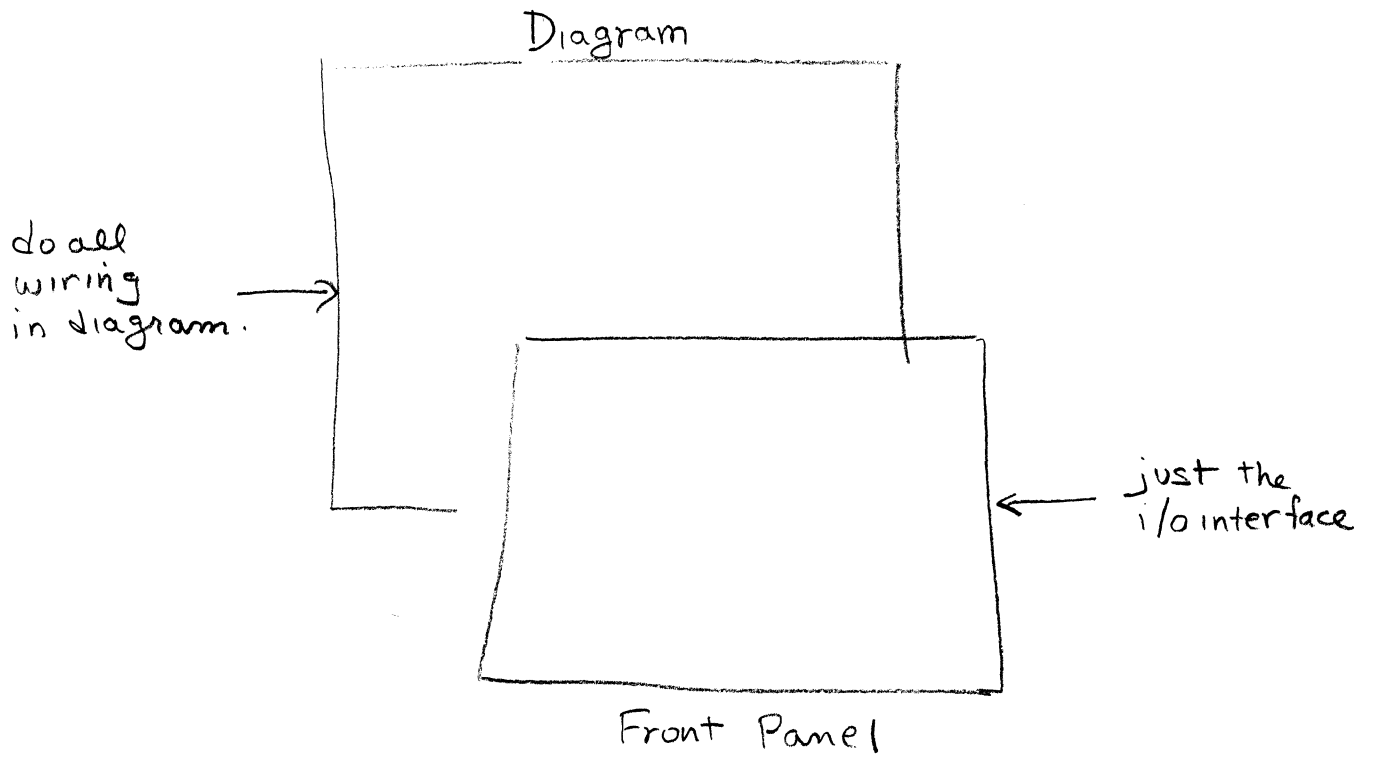
Structure → WHILE LOOP

Controls → Waveform Chart

→ STOP button

→ Numeric digital control





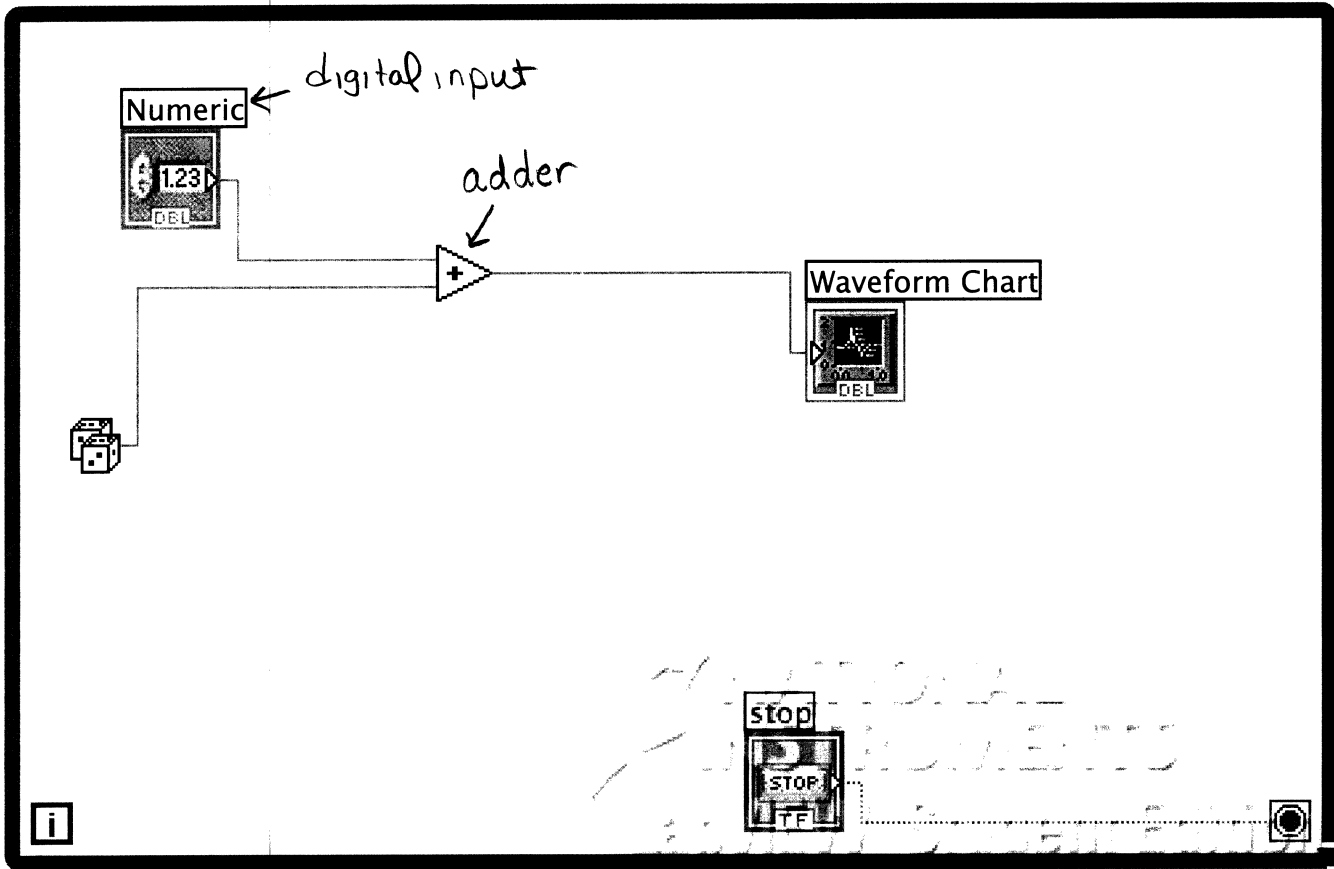
Tools		
	↖	A
⊞		

controls

Will change depending upon whether diagram or Front Panel is being edited (in front).



Block Diagram





Untitled 1

Last modified on 1/23/05 at 8:32 PM

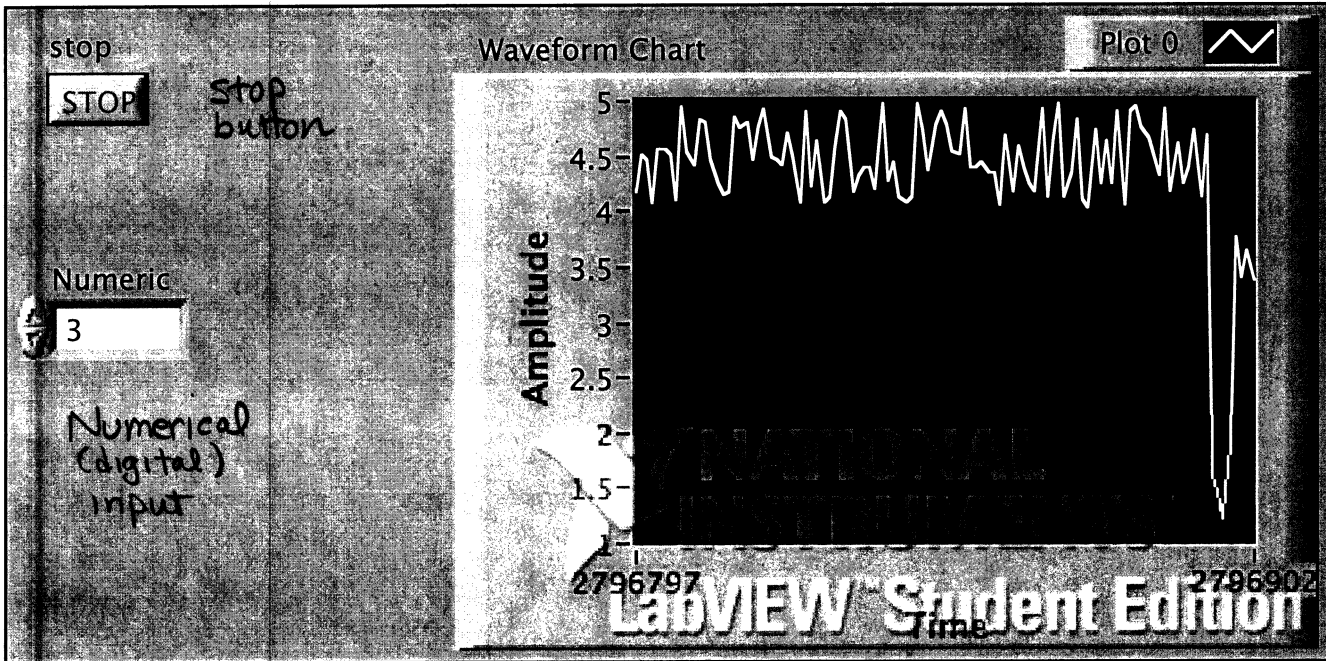
Printed on 1/23/05 at 8:32 PM

Connector Pane

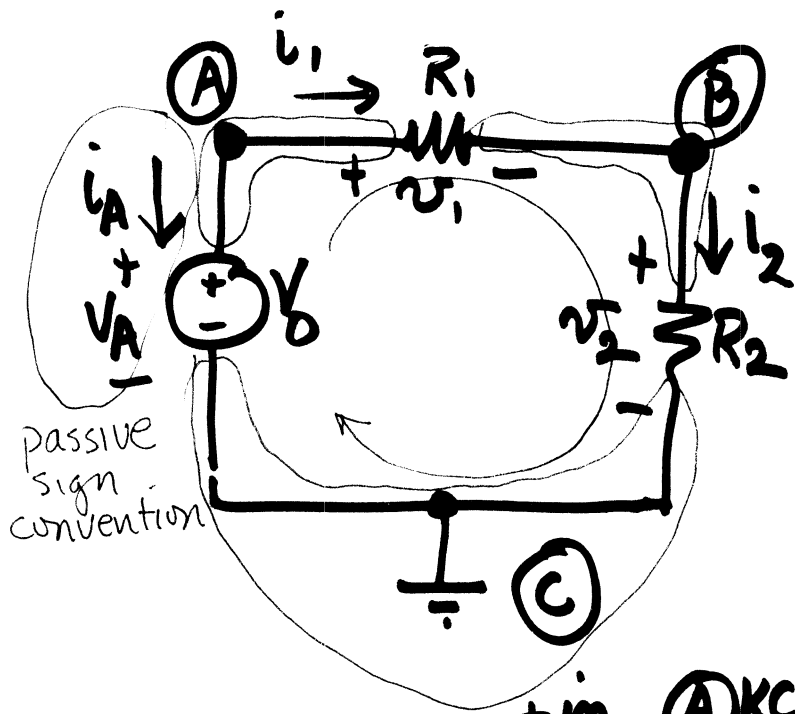


Untitled 1

Front Panel



→ right.
points move to
on chart recorder



1. label everything
2. element constraints

$$V_A = V_0 \text{ source}$$

$$v_1 = i_1 R_1$$

$$v_2 = i_2 R_2$$

3. connection equations

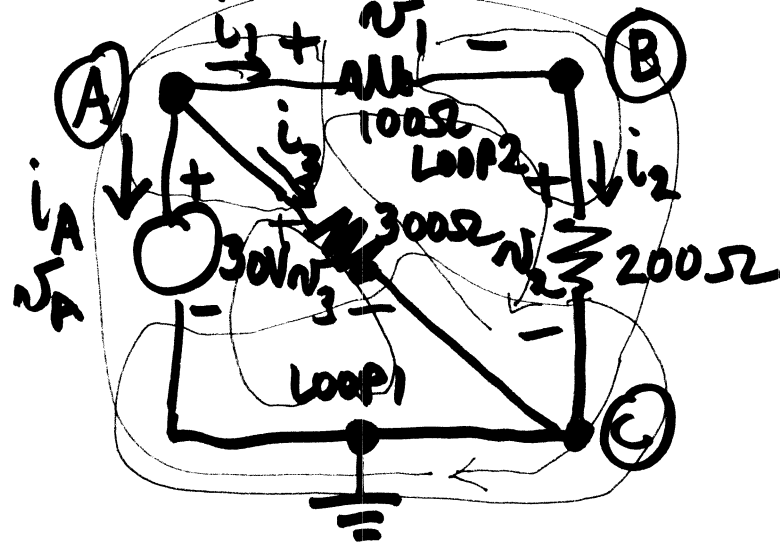
$$+ \text{in } \textcircled{A} \text{ KCL} \quad -i_A - i_1 = 0$$

$$+ \text{in } \textcircled{B} \text{ KCL} \quad \frac{+i_1 - i_2 = 0 \Rightarrow i_1 = i_2}{}$$

$$\textcircled{C} \text{ KVL} \quad -V_A + v_1 + v_2 = 0$$

$$\rightarrow -V_0 + i_1 R_1 + i_2 R_2 = 0$$

$$-V_0 + i_1 R_1 + i_1 R_2 = 0$$



3 nodes

① label everything by passive sign conv.

② element constraints

$$v_A = 30$$

$$v_1 = i_1 \cdot 100$$

$$v_2 = i_2 R_2 = i_2 \cdot 200$$

$$v_3 = i_3 R_3 = i_3 \cdot 300$$

③ connection equations

+in (A) KCL: $-i_A - i_1 - i_3 = 0$

+in (B) KCL: $+i_1 - i_2 = 0 \Rightarrow i_1 = i_2$

⌚ loop 1 KVL: $-v_A + v_3 = 0 \Rightarrow \underline{v_3 = v_A = 30}$

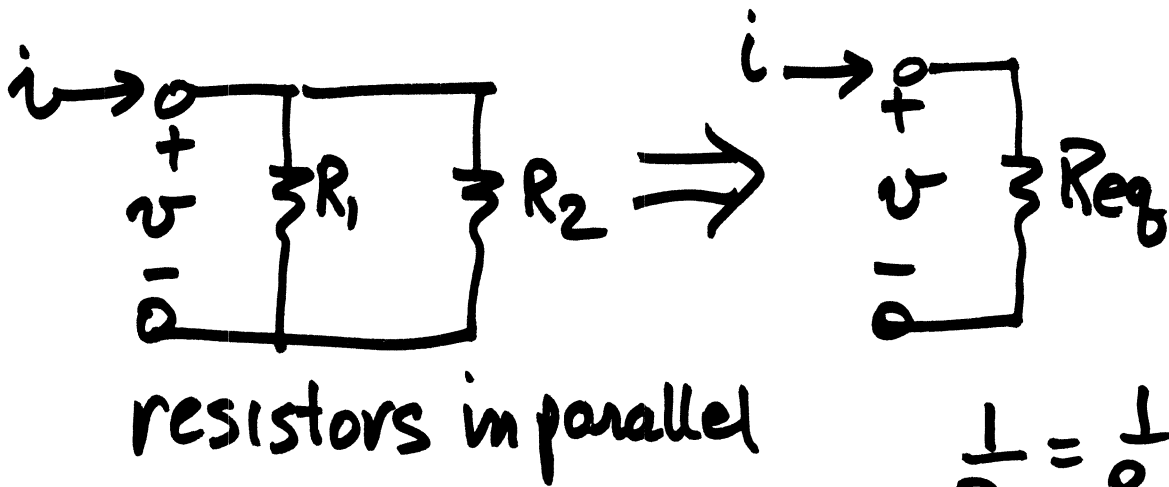
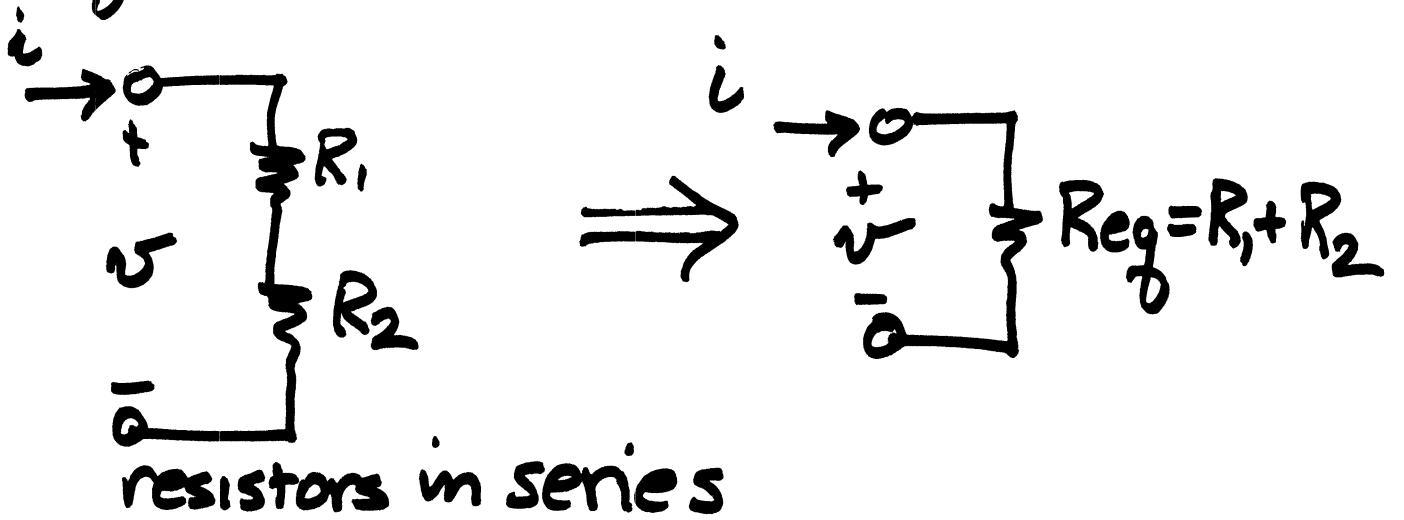
⌚ loop 2 KVL: $+v_1 + v_2 - v_3 = 0$

$$100 i_1 + 200 i_2 - 30 = 0$$

$$100 i_1 + 200 i_1 - 30 = 0$$

$$i_1 = \frac{30}{100+200} = \frac{30}{300} = 0.1 \text{ A}$$

Equivalent circuits



$$\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2}$$