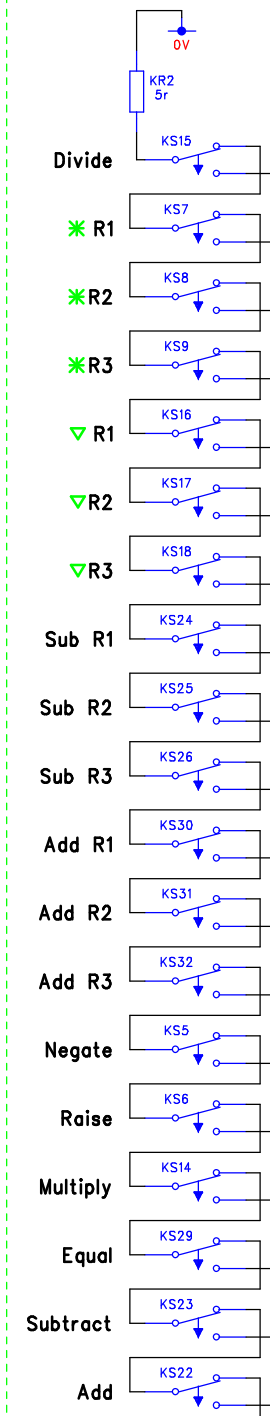


NIXIE[1:15] [12]
 Z-COUNTER [5,6,7,8,9,10]
 CONTROL [1,2,3,4,5,6,7,8,9,10]
 ENCODED-FUNCTION [7,8,9]

| Signal | SELREG1 | SELREG2 | KY(ADD/SUB) | KY(SUB) | KY(MUL) | KY(DIV) | KY(+/-) | KY(EQU) | ANYREGX | FNCTKEY |
|---------------|---------|---------|-------------|---------|---------|---------|---------|---------|---------|---------|
| Any key Reg 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Any key Reg 2 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Any key Reg 3 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Any Reg + Key | x | x | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Any Reg - Key | x | x | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| Any Reg *Key | x | x | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| Any Reg ▽Key | x | x | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Add | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| Subtract | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| Multiply | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| Divide | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| Raise | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| Negate | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| Equal | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |

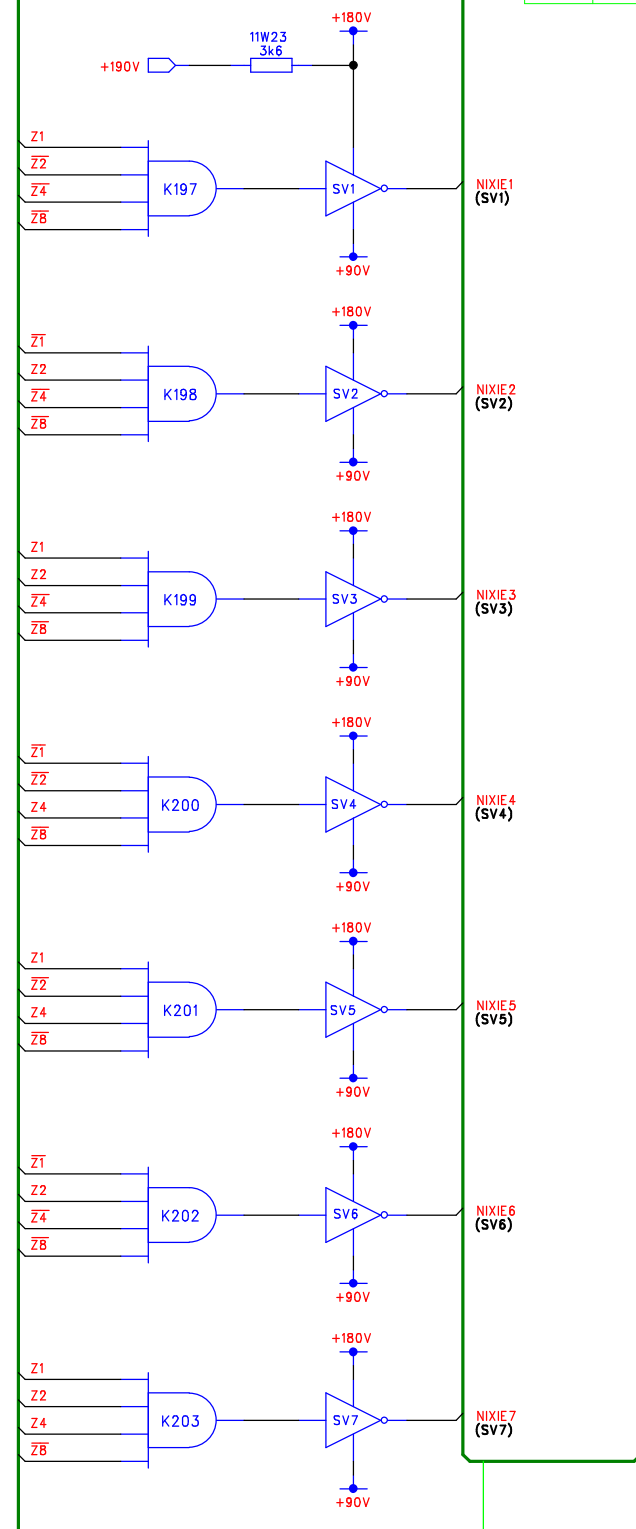
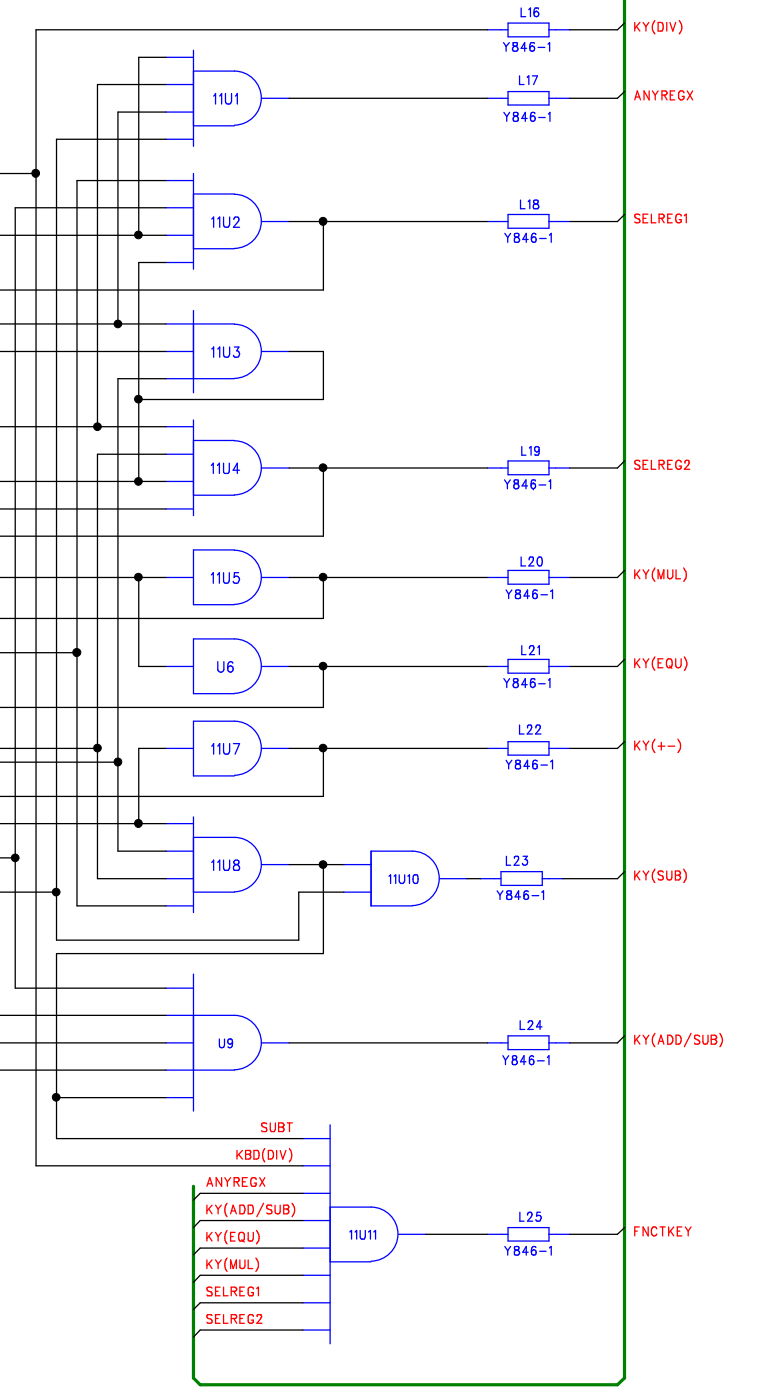
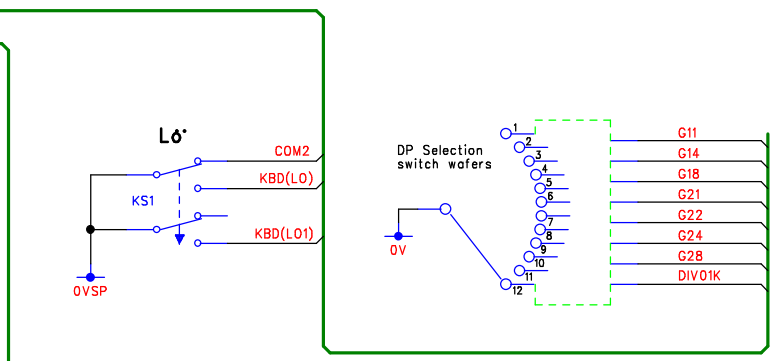
0 = Key pressed (= 0V)
 1 / x = No key (-12V)

Keyboard

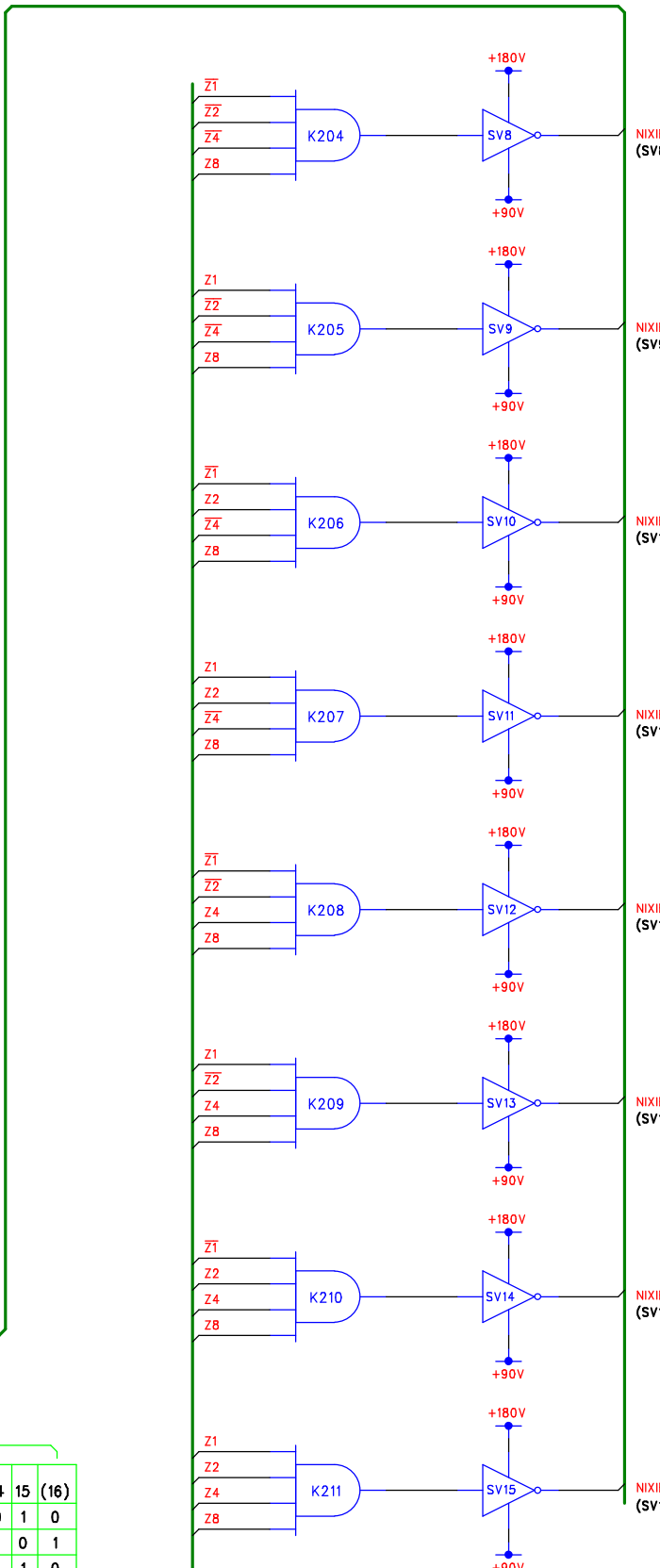
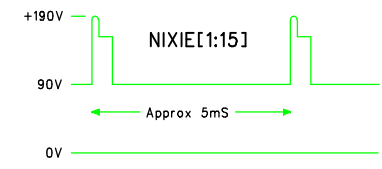


Keys are ordered for this diagram, not as they are wired, see circuit.

Negative logic referenced to 0V - Logical 1 = -12v, logical 0 = 0v



| Signal | Digit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | (16) |
|--------|-------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|------|
| Z1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| Z1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| Z2 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| Z2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| Z4 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| Z4 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| Z8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| Z8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |



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Pcb Dwg # =

| Name | Date |
|----------------|----------|
| Drawn MD Hatch | 4/7/2008 |
| Checked - | - |

| Scale | Nts |
|----------------|-----|
| Sheet 11 | 11 |
| Next Sheet | 12 |
| Drawing Number | |

| Title | Issue |
|--|---------|
| Soemtron ETR 220 Calculator #11 - Digit Decode & Anode Drive Logic Diagram | A2 |
| Soemtron 220 Logic | Issue A |