

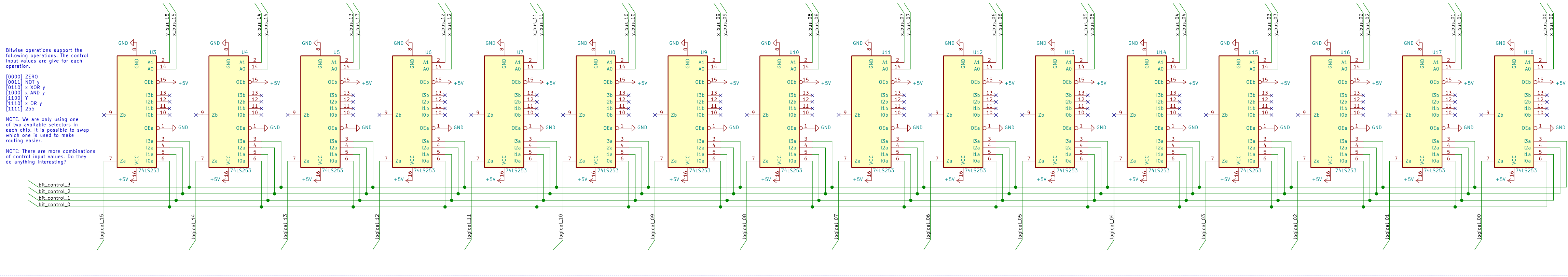
Bitwise Operations

Bitwise operations support the following operations. The control input values are give for each operation.

```
0000 Zero
0011 NOT y
0101 x XOR y
0100 x AND y
1100 y
1101 y
1111 OR y
1111 255
```

NOTE: We are only using one of two availables in each chip. It's possible to swap which one is used to make routing easier.

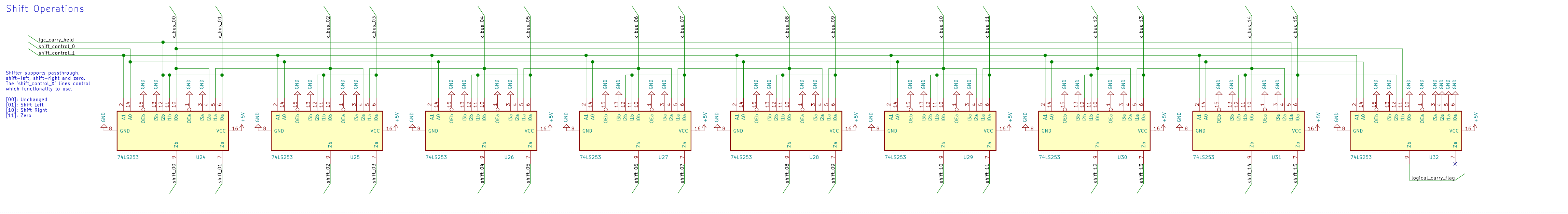
NOTE: There are more combinations of control input values. Do they do anything interesting?



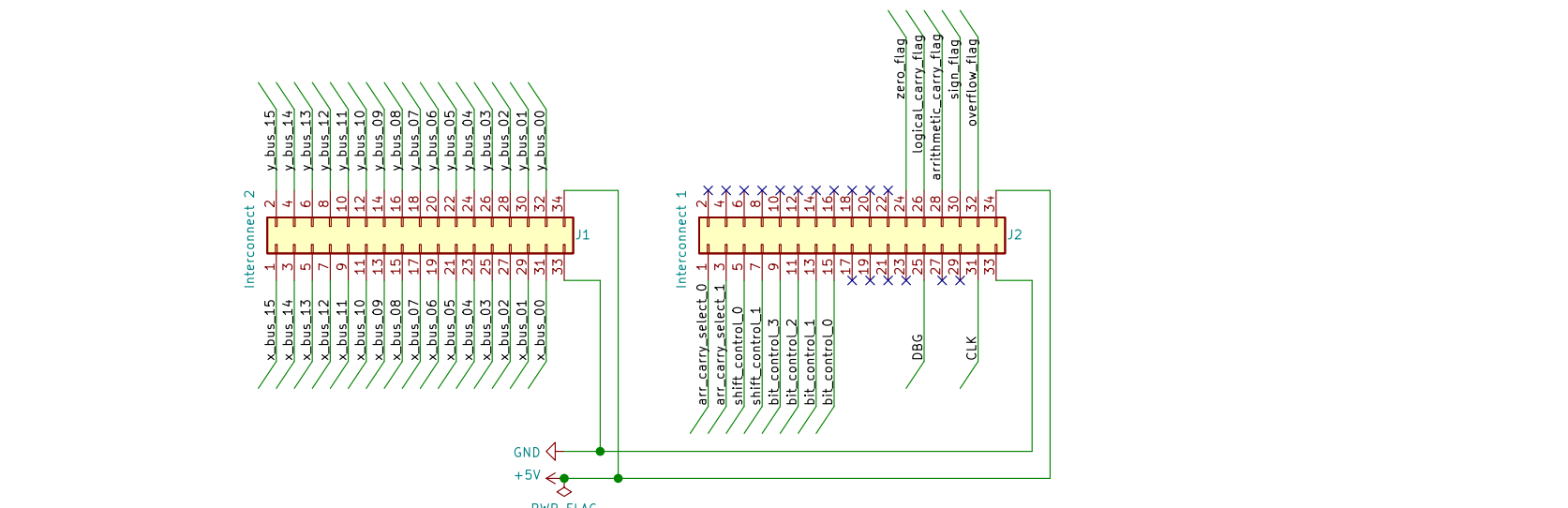
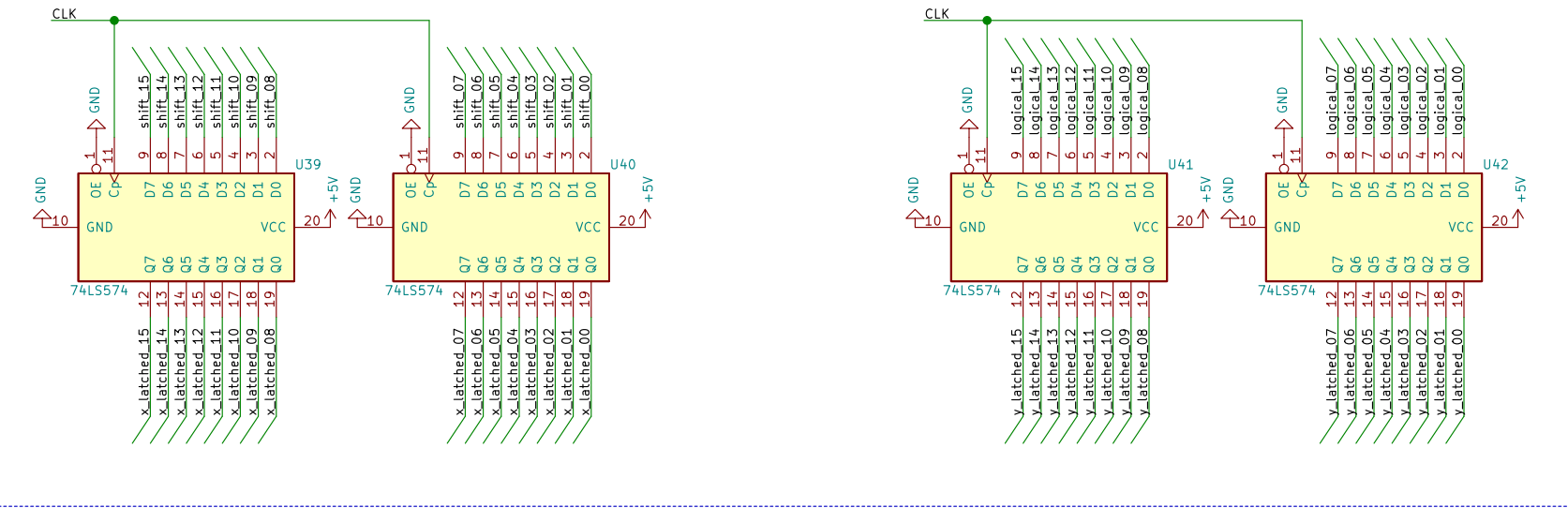
Shift Operations

Shifter supports passthrough, shift-left, shift-right and zero. The 'shift\_control' lines control which functionality to use.

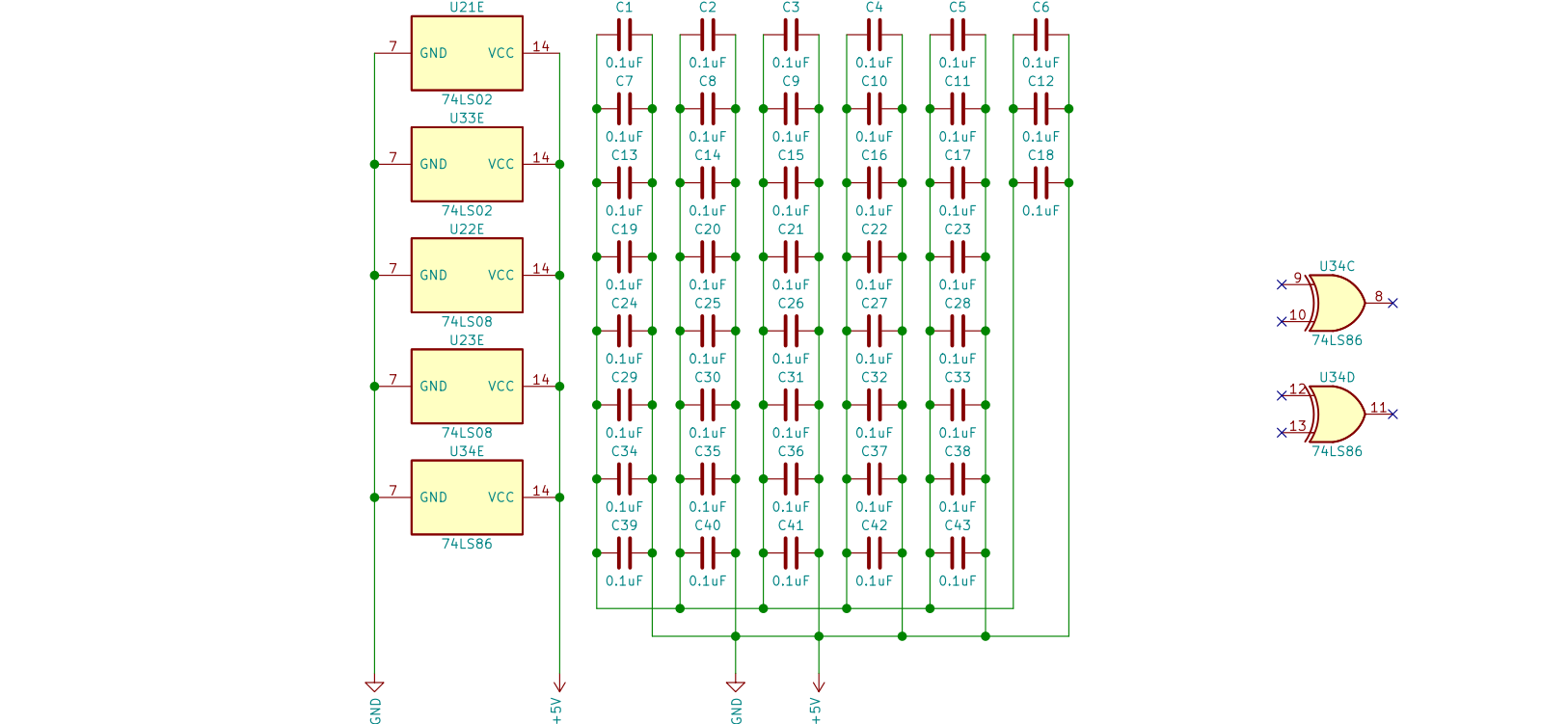
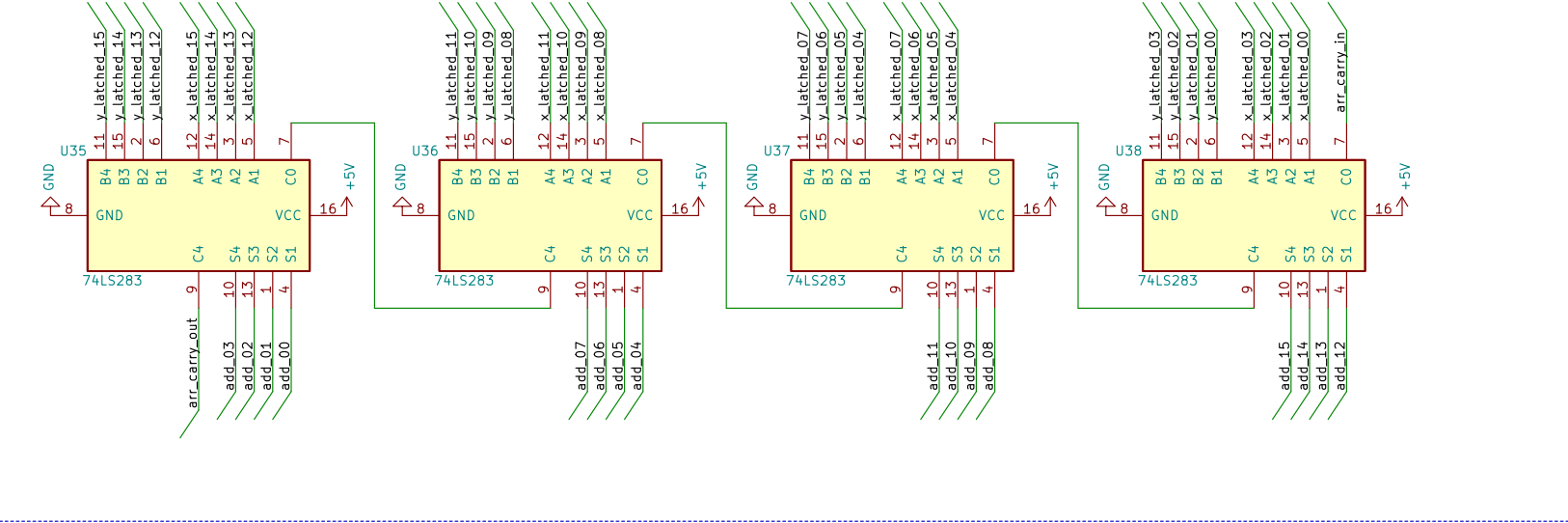
```
001 Unchanged
010 Shift Left
011 Shift Right
111 Zero
```



Intermediate Latches

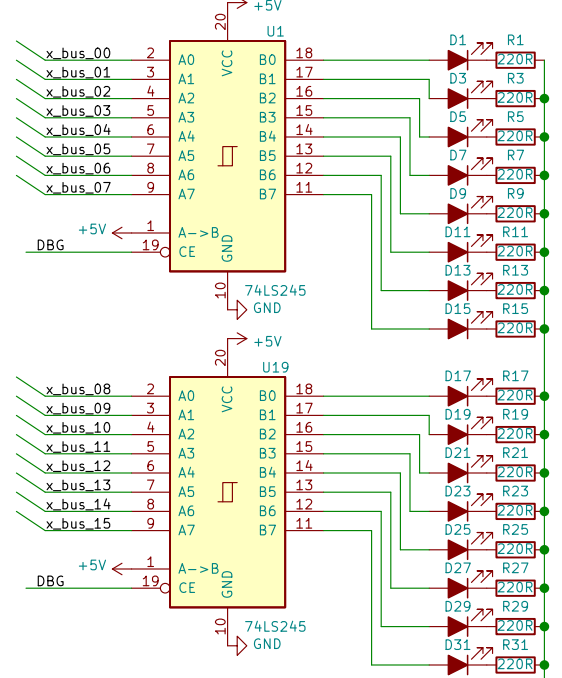


Adder

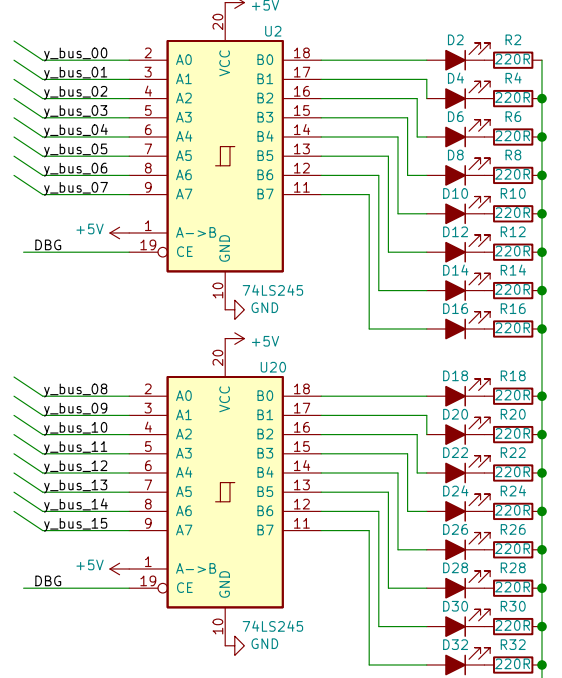


Bus Displays

X Bus



Y Bus



Flags

