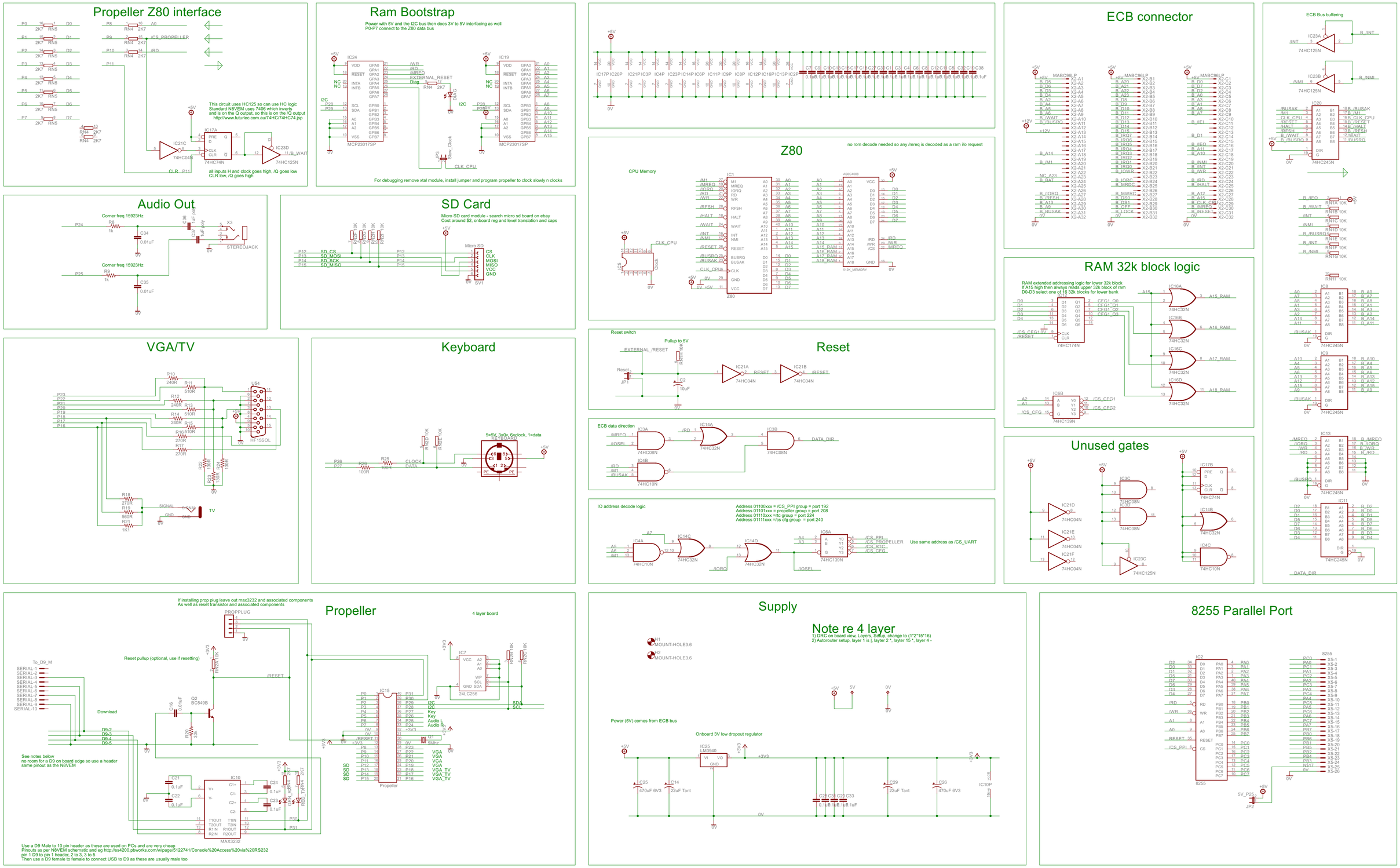
Propeller Z80 interface
This circuit uses HC125 so can use HC logic
Standard N8VEM uses 7406 which inverts
and is on the Q output, so this is on the /Q output
http://www.futurlec.com.au/74HC/74HC74.jsp
all inputs H and clock goes high, /Q goes low
CLR low, /Q goes high
Ram Bootstrap
Power with 5V and the I2C bus then does 3V to 5V interfacing as well
P0-P7 connect to the Z80 data bus
MCP23017SP
For debugging remove xtal module, install jumper and program propeller to clock slowly n clocks
Z80
no rom decode needed so any /mreq is decoded as a ram i/o request
CPU Memory
512K_MEMORY
ECB connector
ECB Bus buffering
Audio Out
Corner freq 15923Hz
STEREOJACK
SD Card
Micro SD card module - search micro sd board on ebay
Cost around $2, onboard reg and level translation and caps
Micro SD
Reset
Reset switch
Pullup to 5V
RAM 32k block logic
RAM extended addressing logic for lower 32k block
If A15 high then always reads upper 32k block of ram
D0-D3 select one of 16 32k blocks for lower bank
VGA/TV
HF15SOL
TV
Keyboard
5=5V, 3=0v, 6=clock, 1=data
KEYBOARD
ECB data direction
Unused gates
IO address decode logic
Address 01100xxx = /CS_PPI group = port 192
Address 01101xxx = propeller group = port 208
Address 01110xxx =rtc cfg group = port 224
Address 01111xxx =/cs cfg group = port 240
Use same address as /CS_UART
Propeller
If installing prop plug leave out max3232 and associated components
As well as reset transistor and associated components
4 layer board
Reset pullup (optional, use if resetting)
Download
See notes below
no room for a D9 on board edge so use a header
same pinout as the N8VEM
Use a D9 Male to 10 pin header as these are used on PCs and are very cheap
Pinouts as per N8VEM schematic and eg http://ss4200.pbworks.com/w/page/5122741/Console%20Access%20via%20RS232
pin 1 D9 to pin 1 header, 2 to 3, 3 to 5
Then use a D9 female to female to connect USB to D9 as these are usually male too
Supply
Note re 4 layer
1) DRC on board view, Layers, Setup, change to (1*2*15*16)
2) Autorouter setup, layer 1 is |, layer 2 *, layer 15 *, layer 4 -
Power (5V) comes from ECB bus
Onboard 3V low dropout regulator
8255 Parallel Port