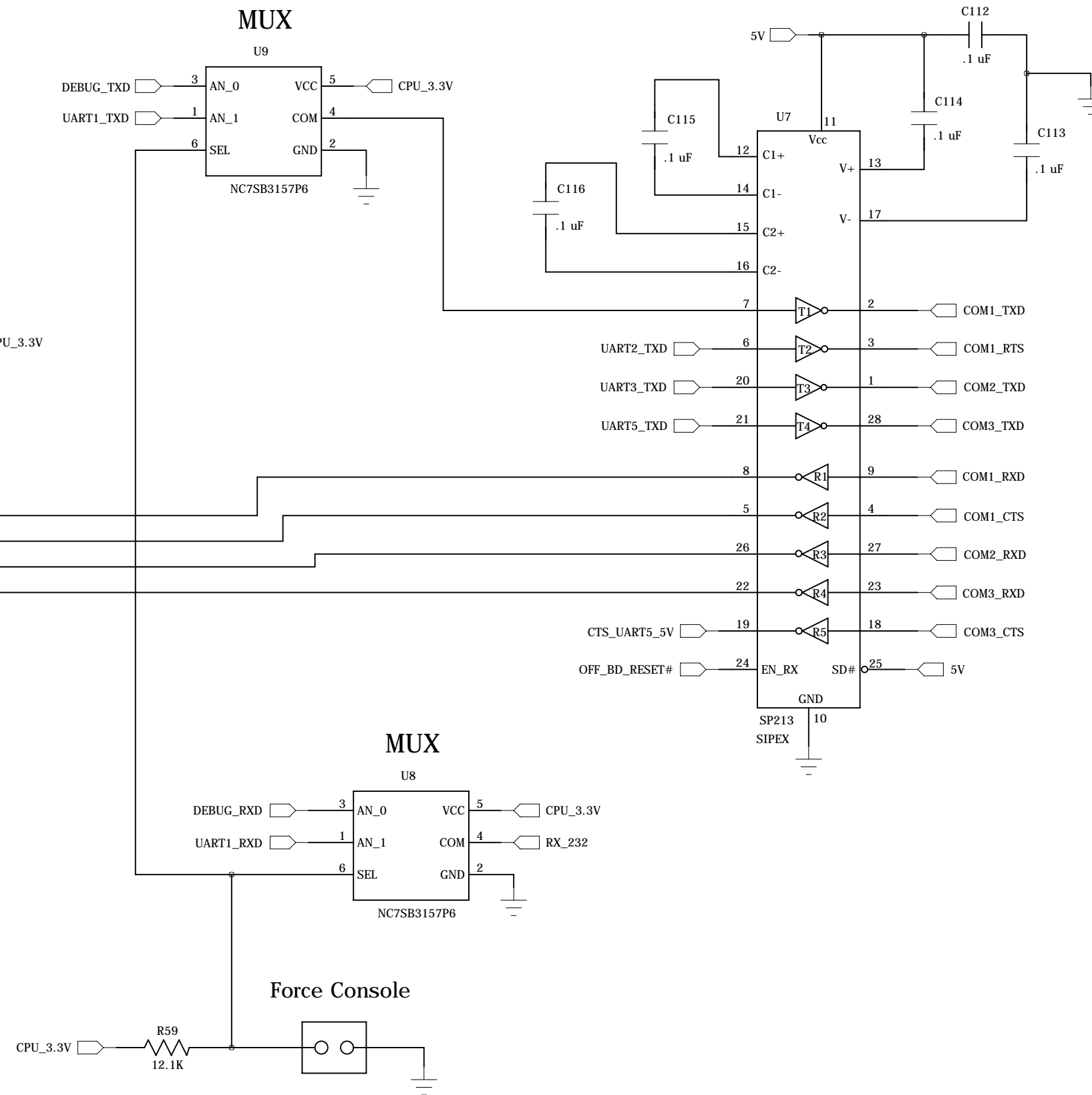
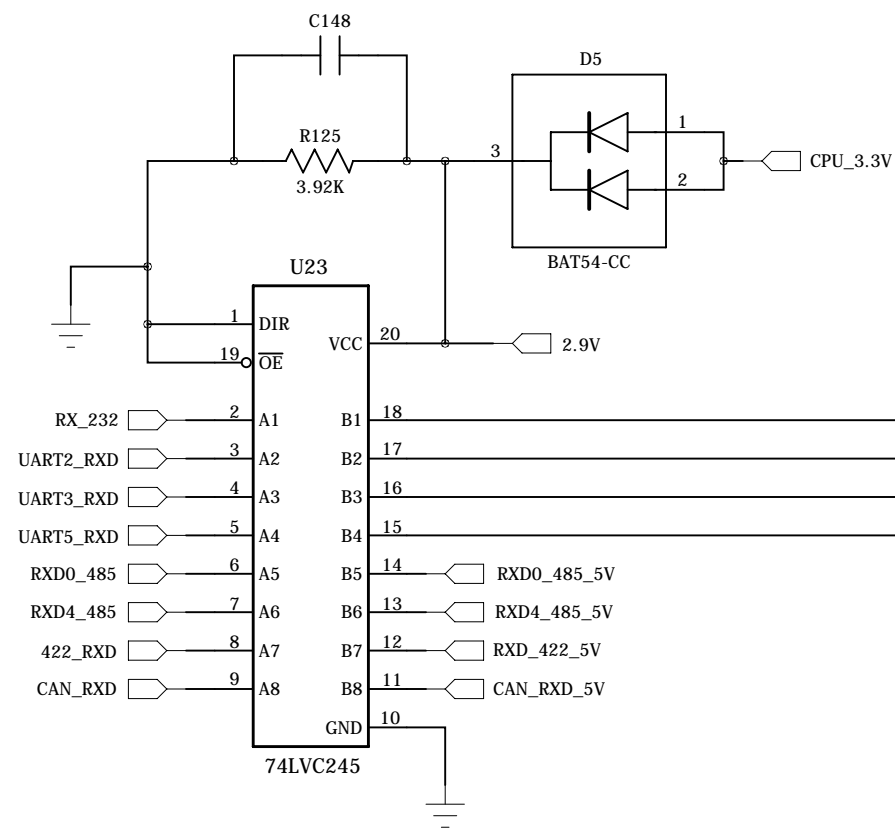
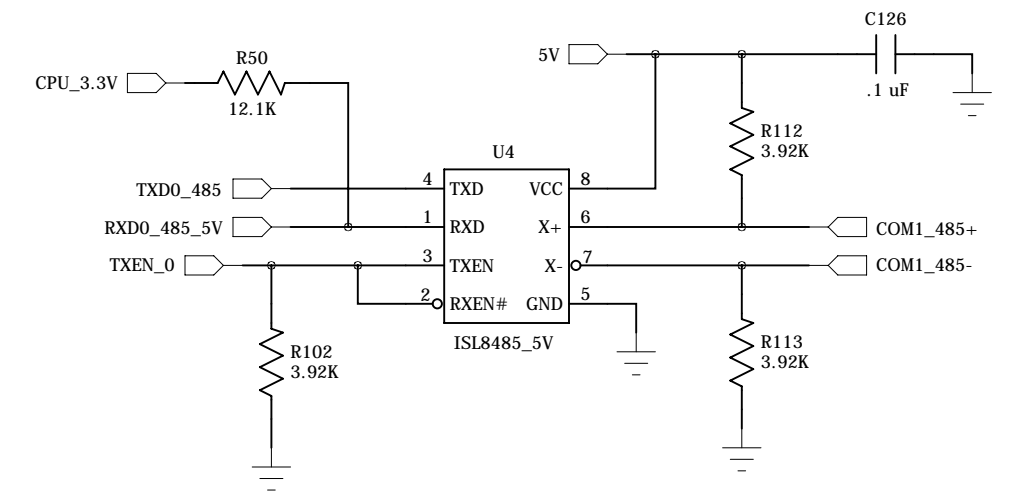


# RS-232 Transceiver

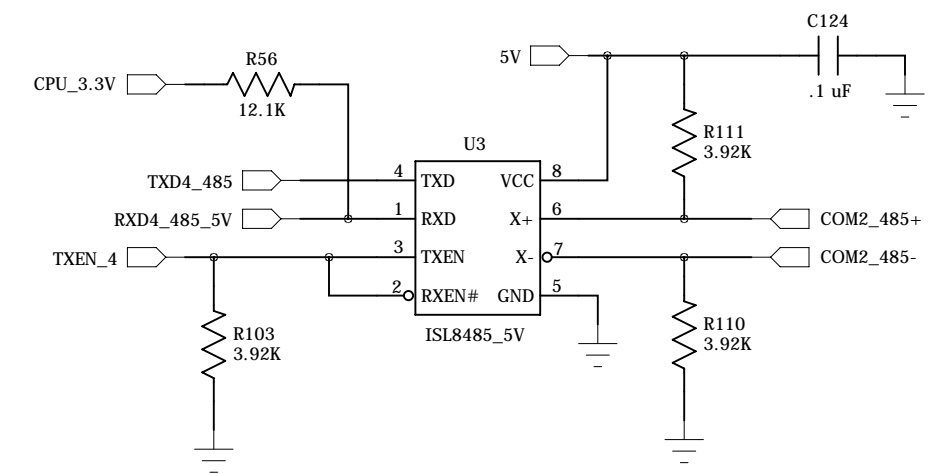
2.9V <-- 5V  
Level shifter



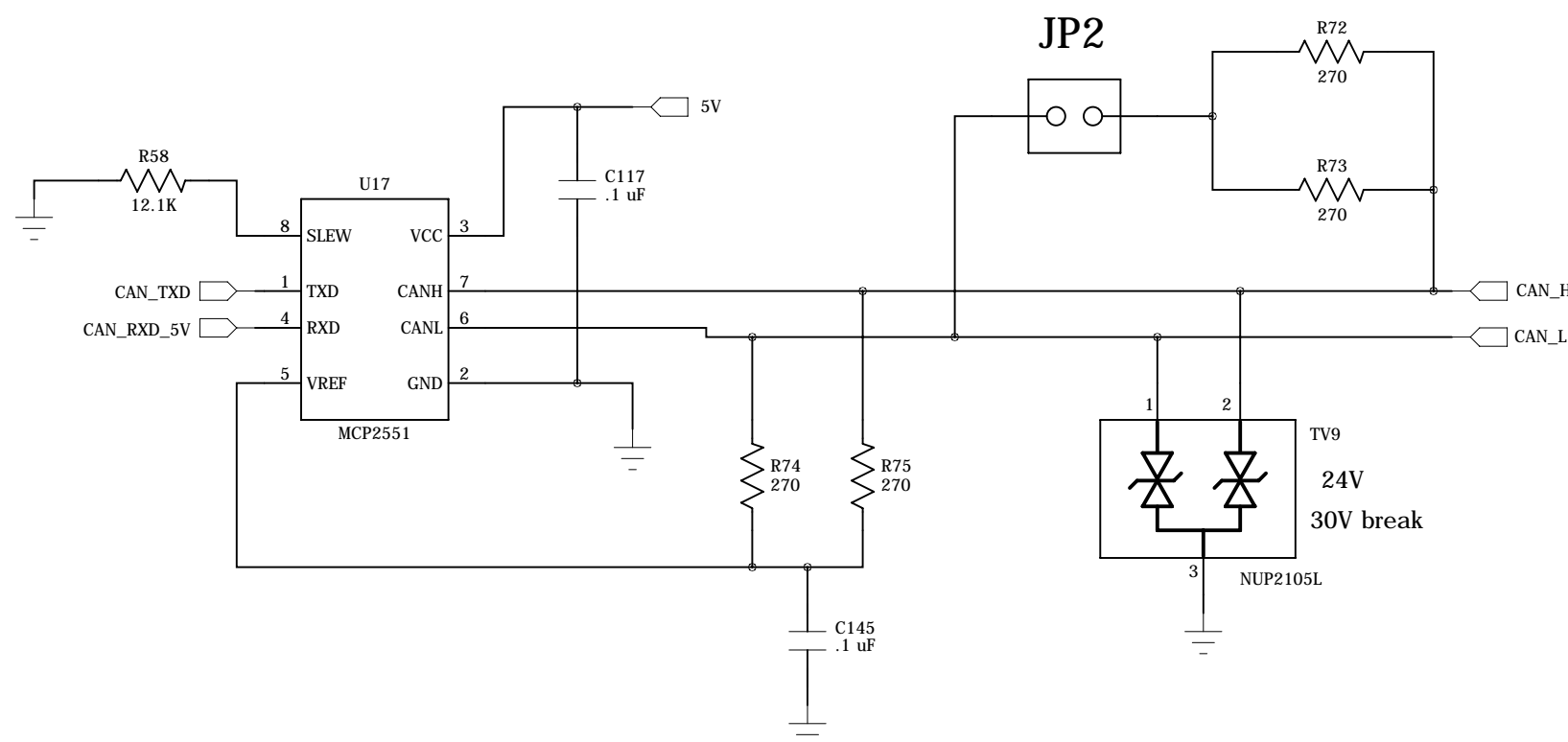
# COM1 RS-485 Driver



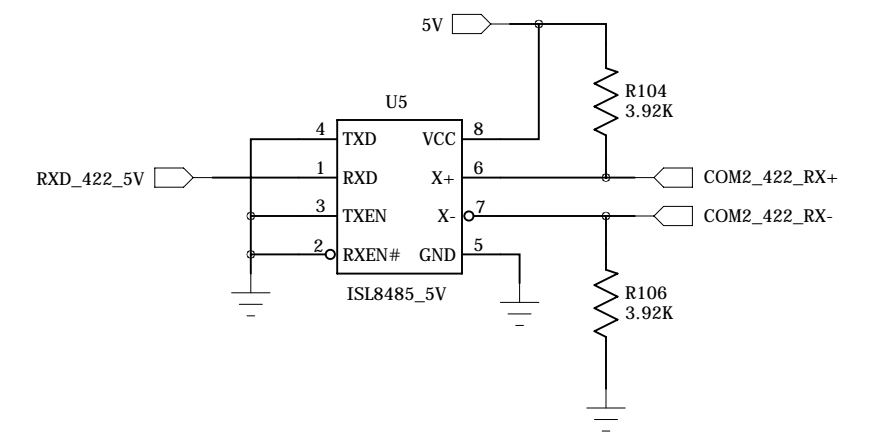
# COM2 RS-485 Driver



# Primary CAN Transceiver

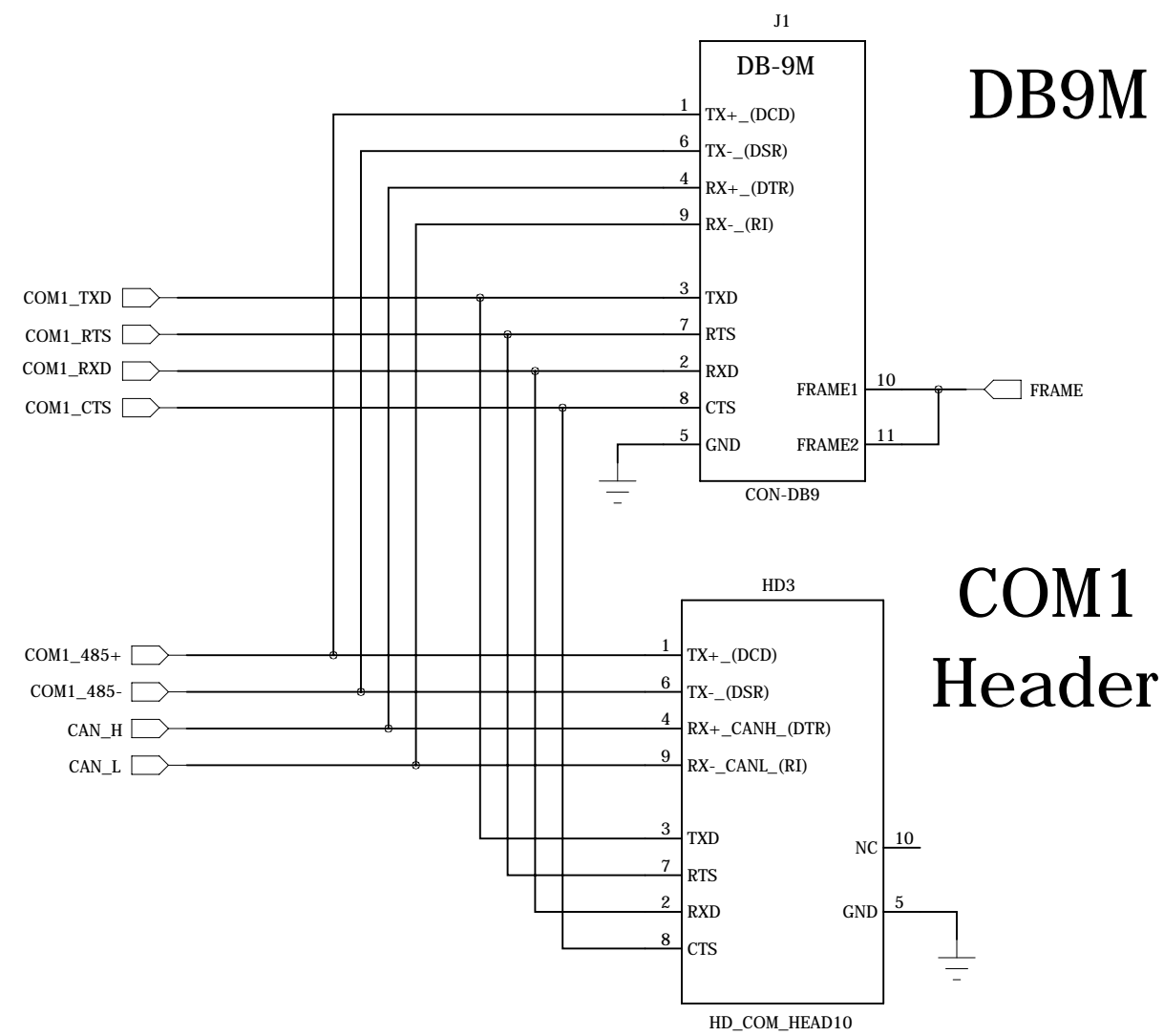


# COM2 RS-422 Receiver

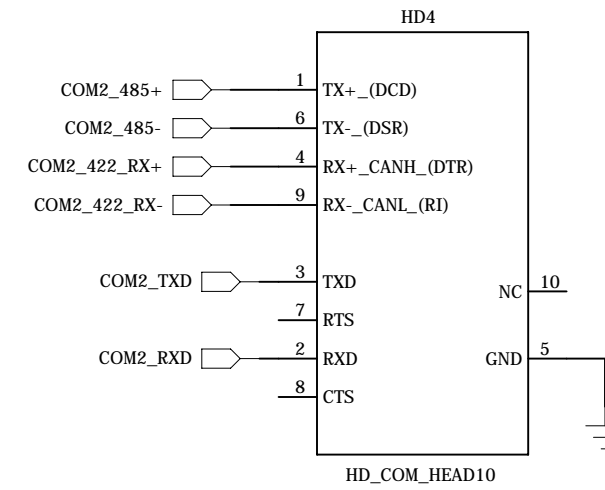


# COM Connectors and Headers

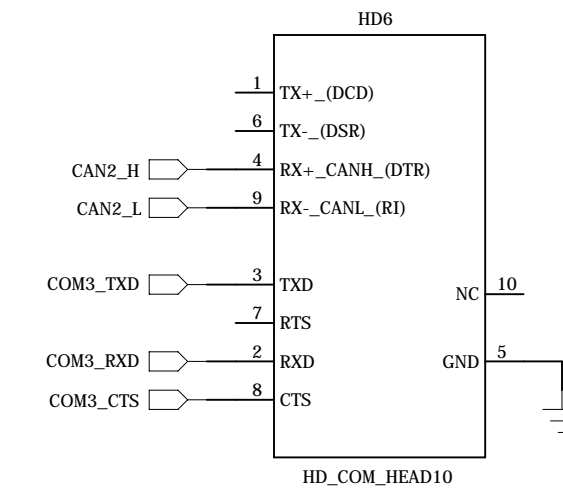
## COM1



## COM2 Header

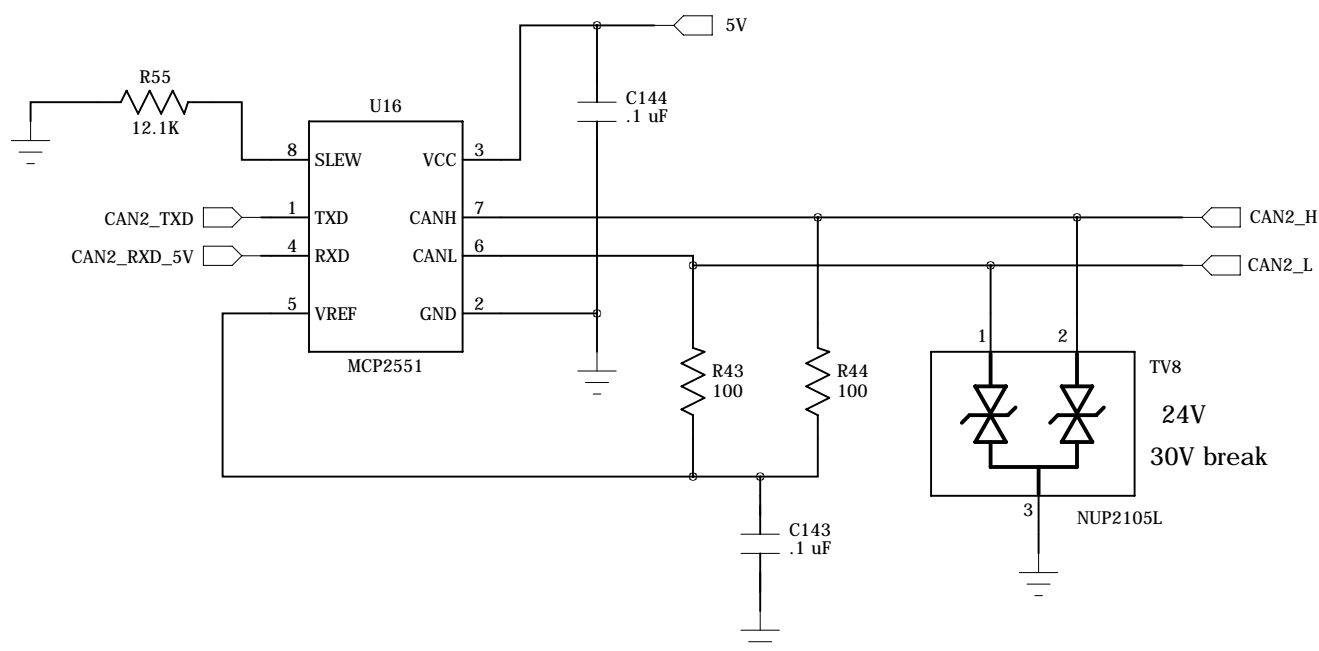


## COM3 Header

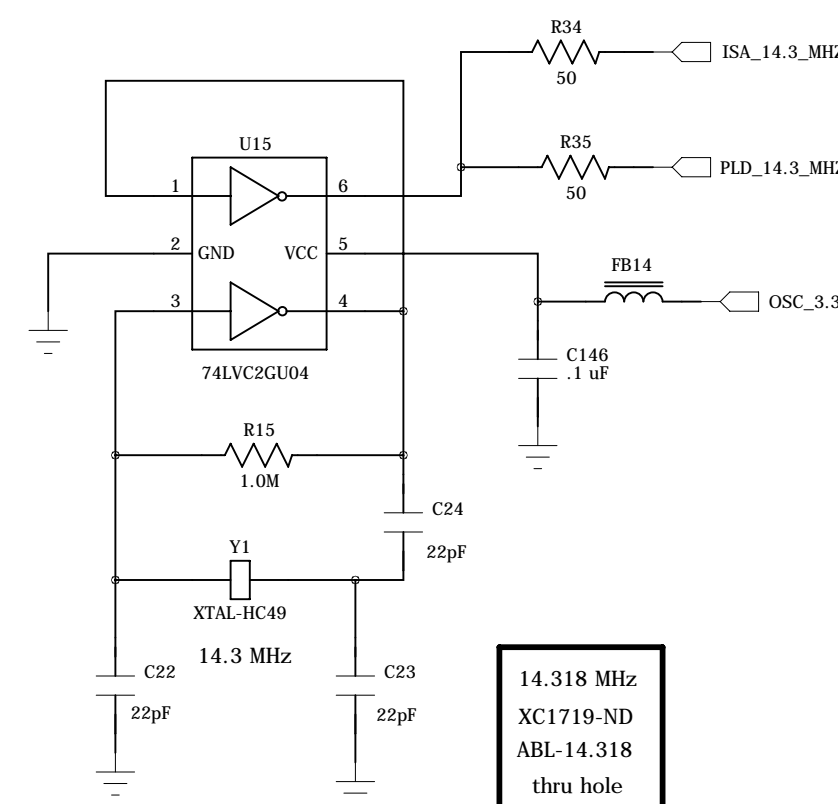


## 2nd

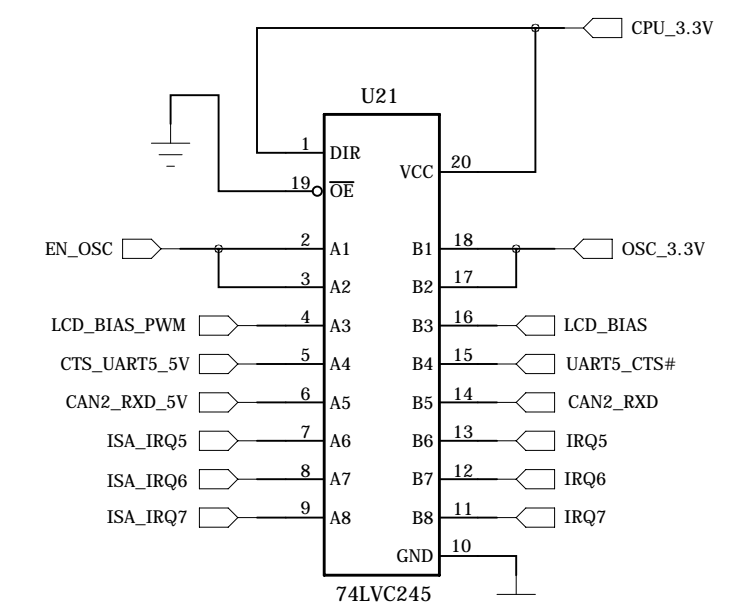
## CAN Transceiver



## 14.3 MHz Osc.



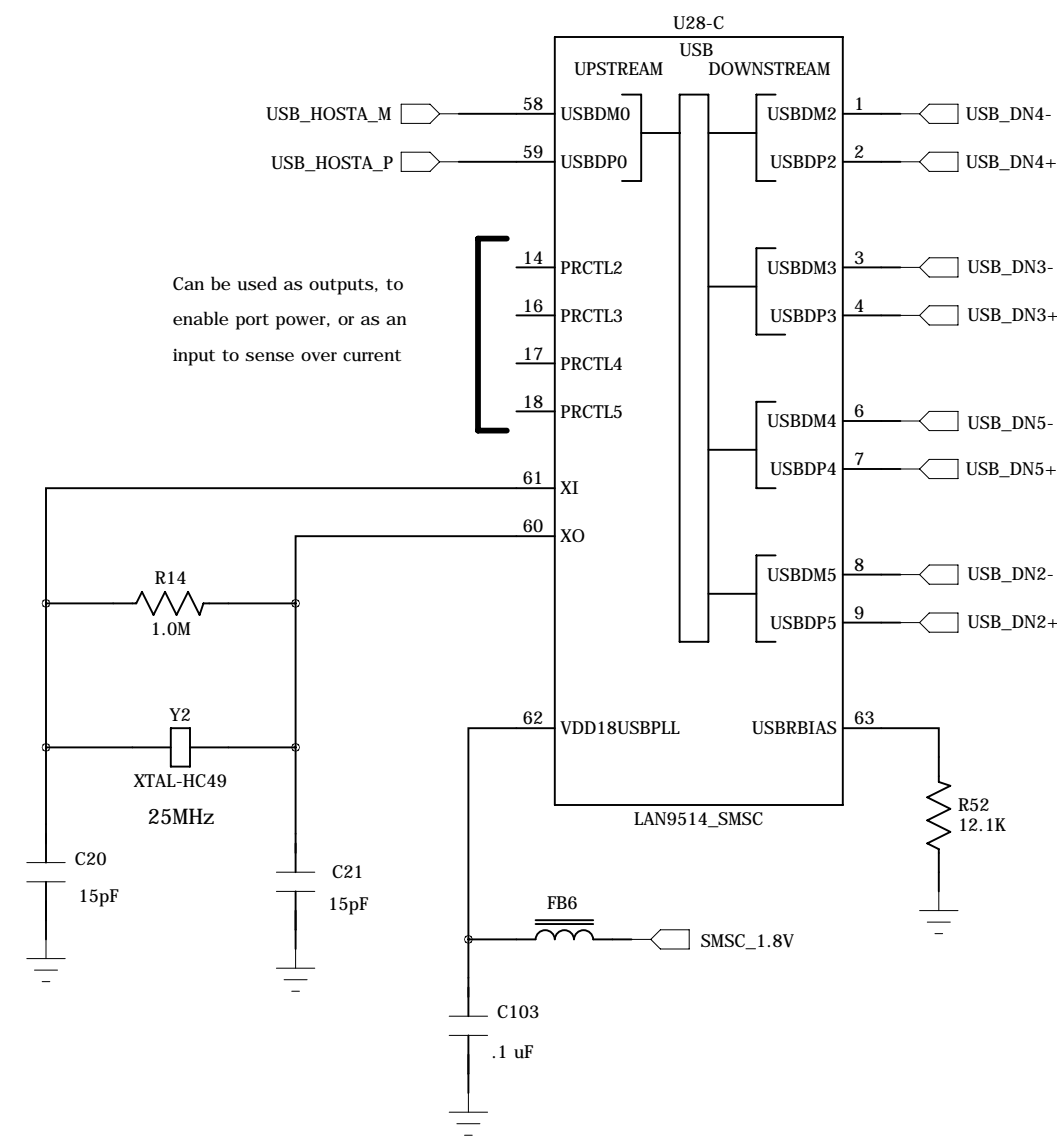
## 5V --> 3.3V



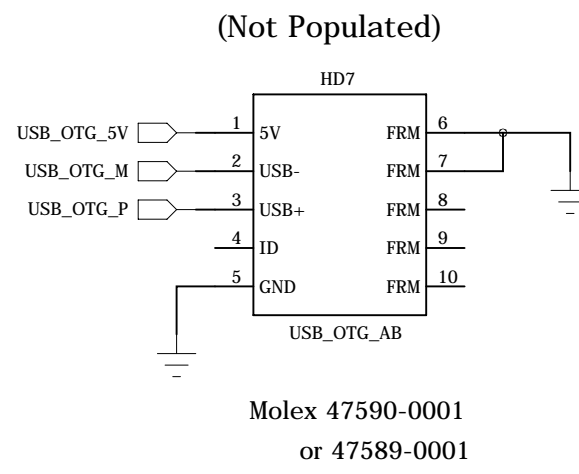
Provides 5V Tolerance

Technologic Systems		Feb. 12, 2011
Title: TS-8100 DB9, COM Headers		
Rev:	Designer	Sheet 2 of 10

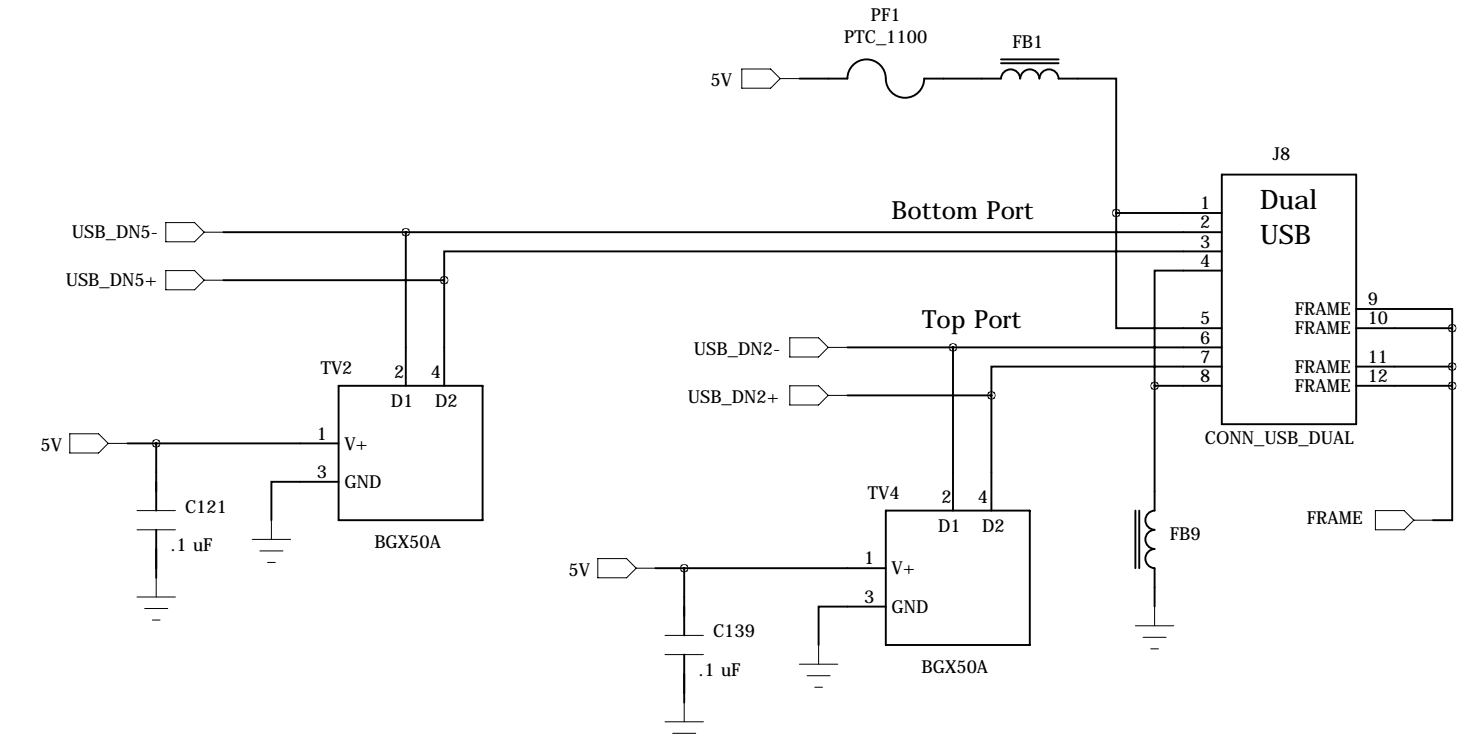
# SMSC USB Hub



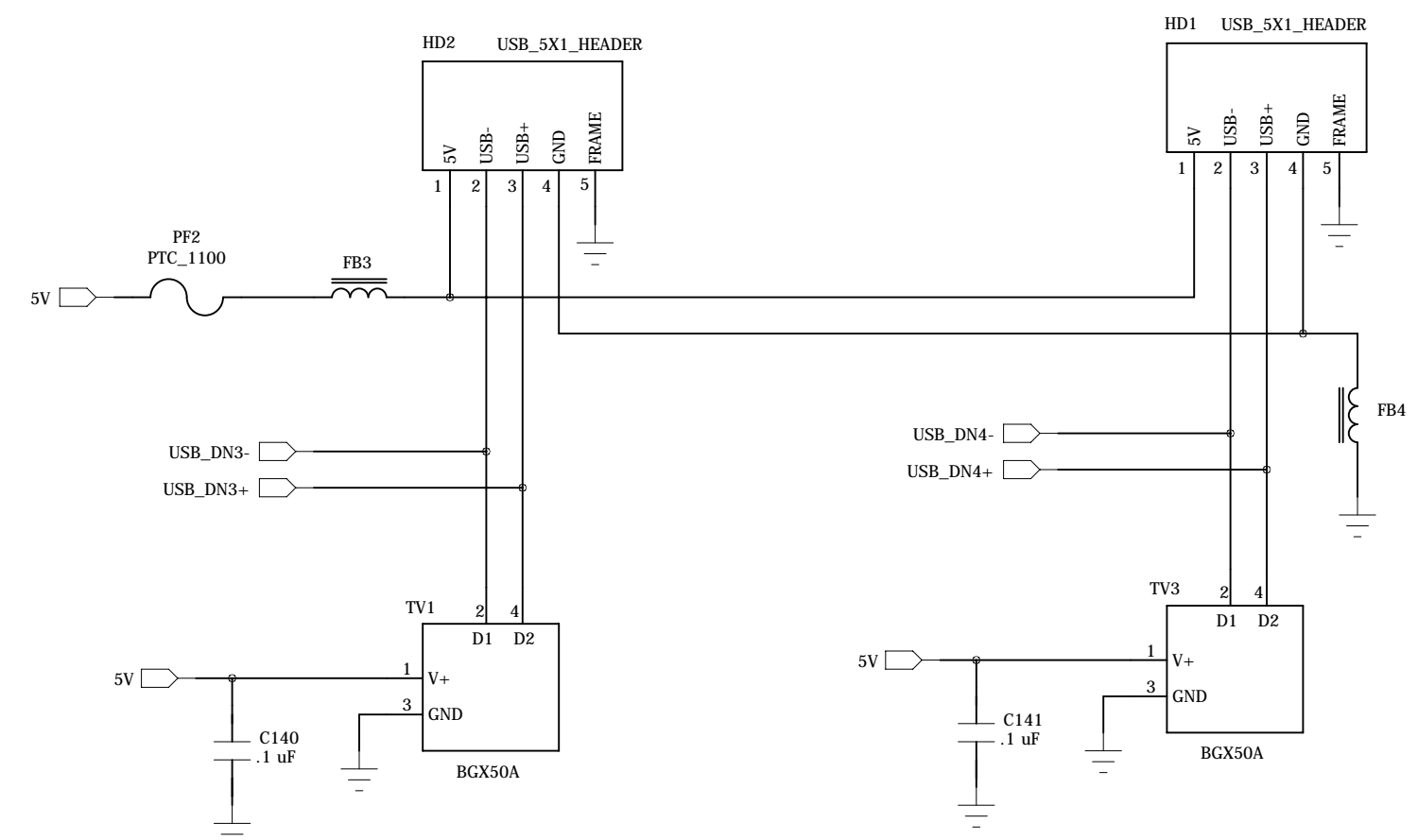
# USB Device Port for Win CE



# External Dual USB

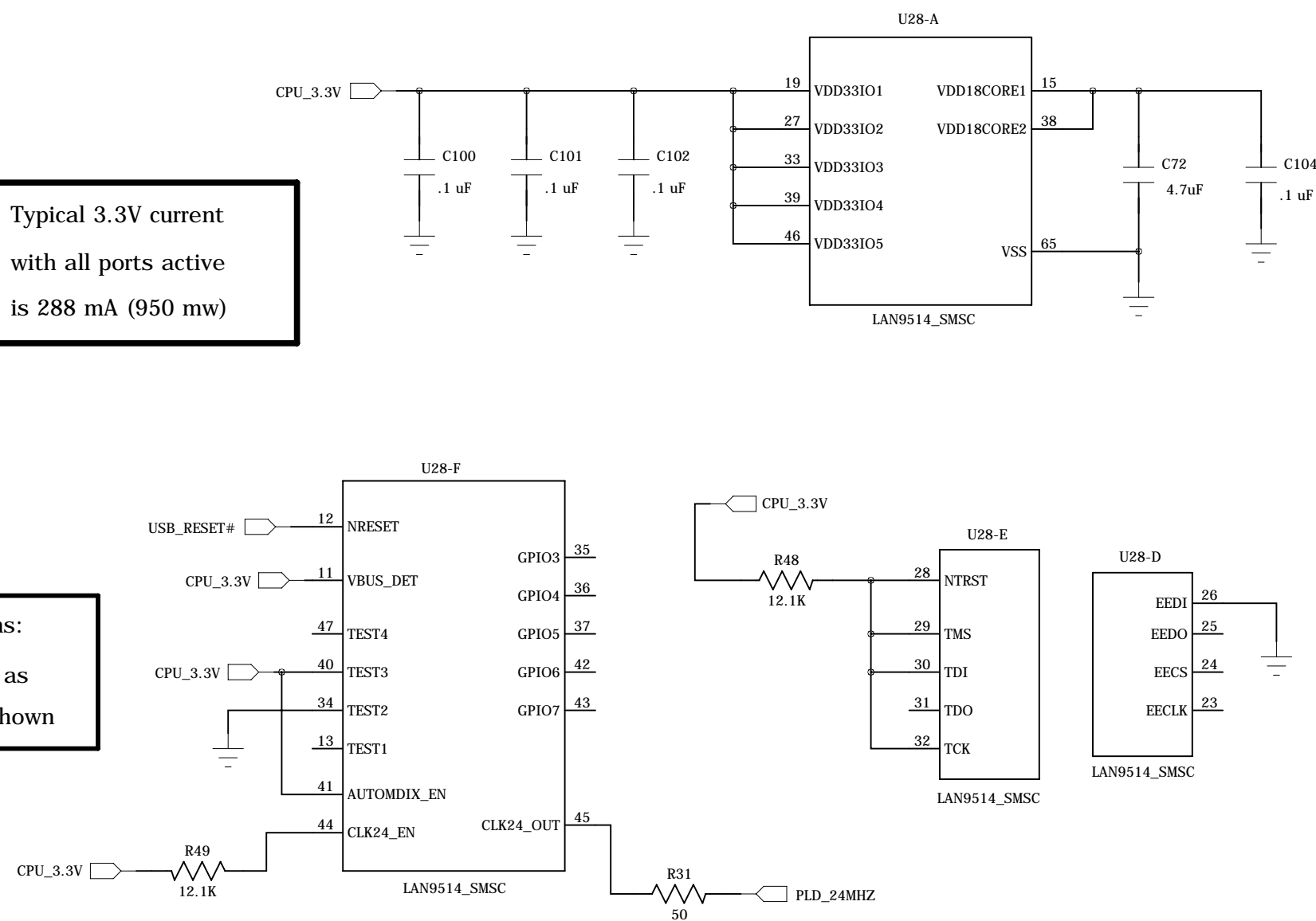


# Internal USB Headers



Typical 3.3V current  
with all ports active  
is 288 mA (950 mw)

Test pins:  
must be as  
wired as shown



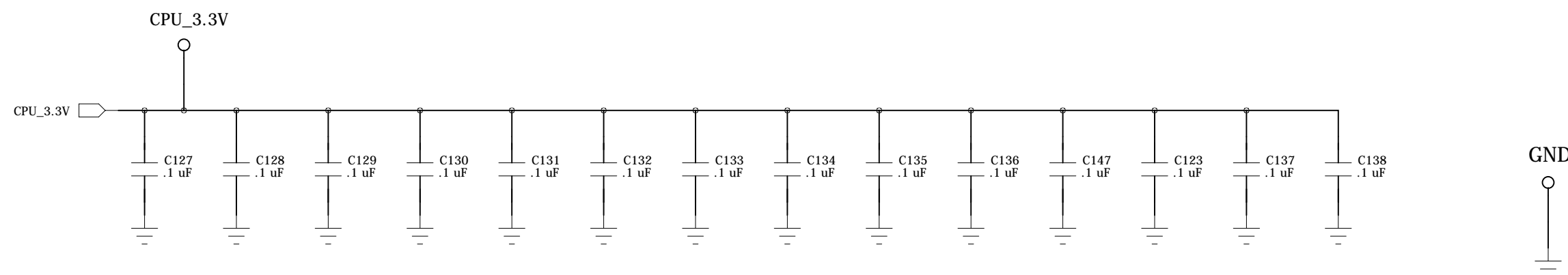
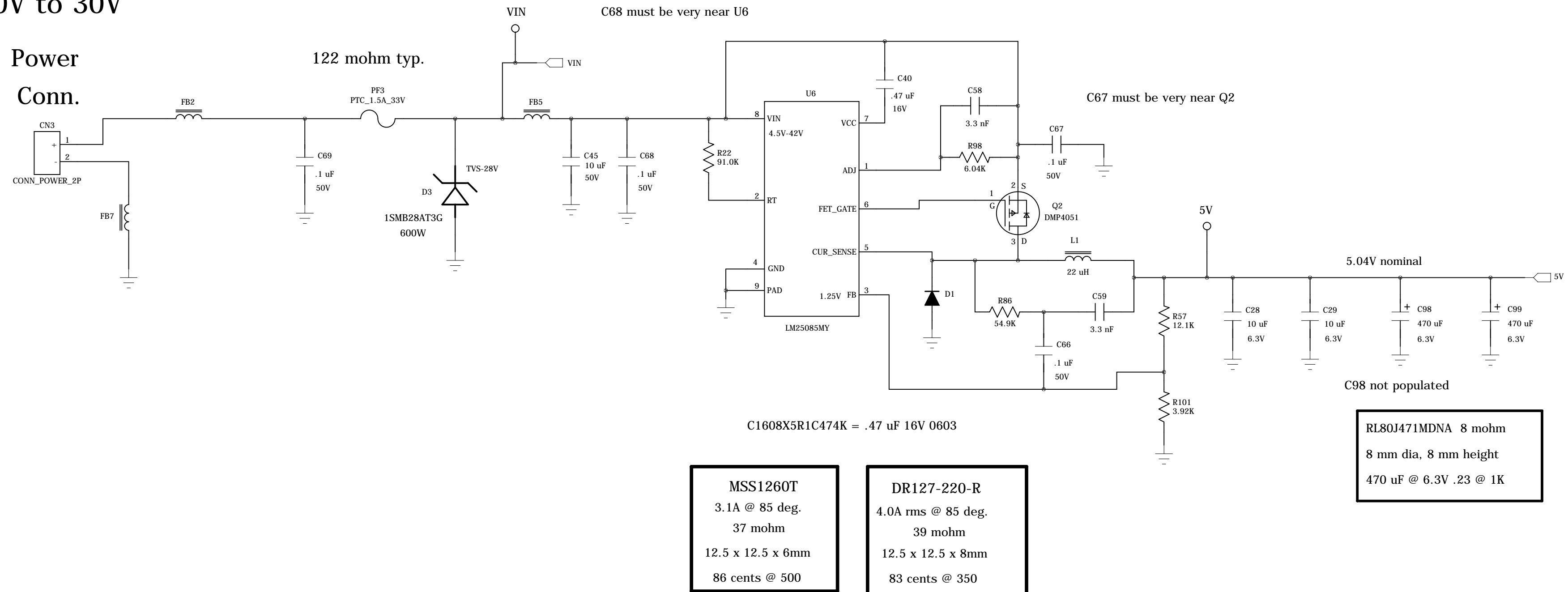


# 5V Power Supply (2.5 Amps)

## Input Power

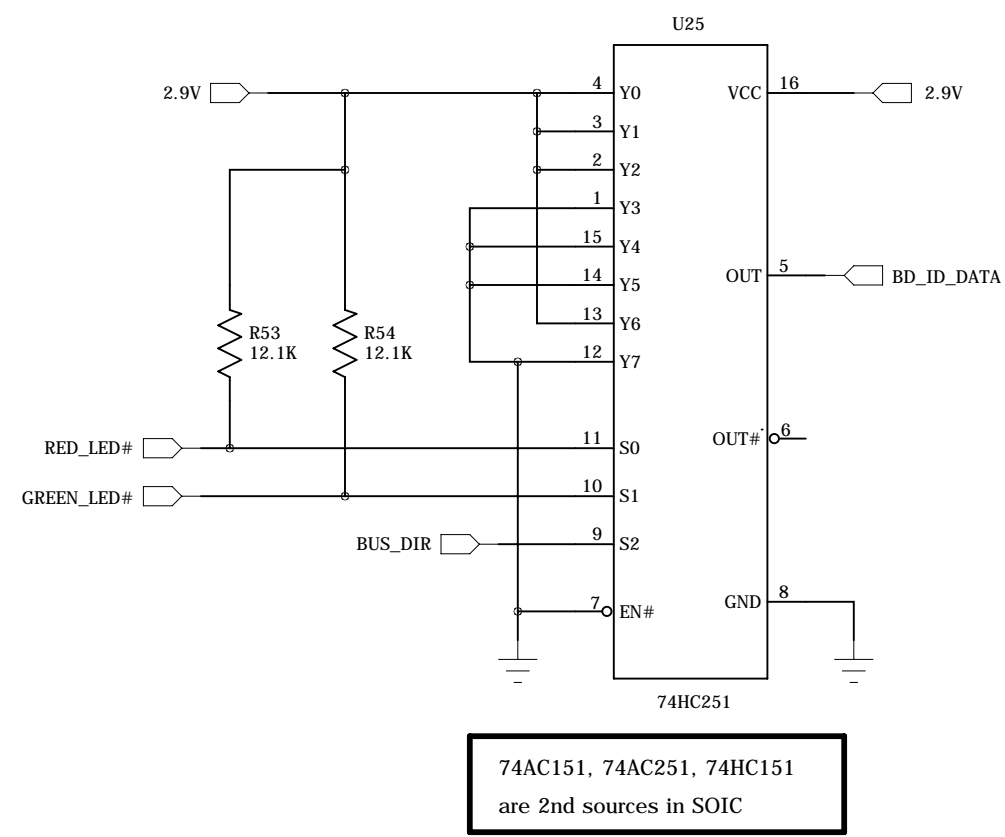
5.0V to 30V

Power  
Conn.

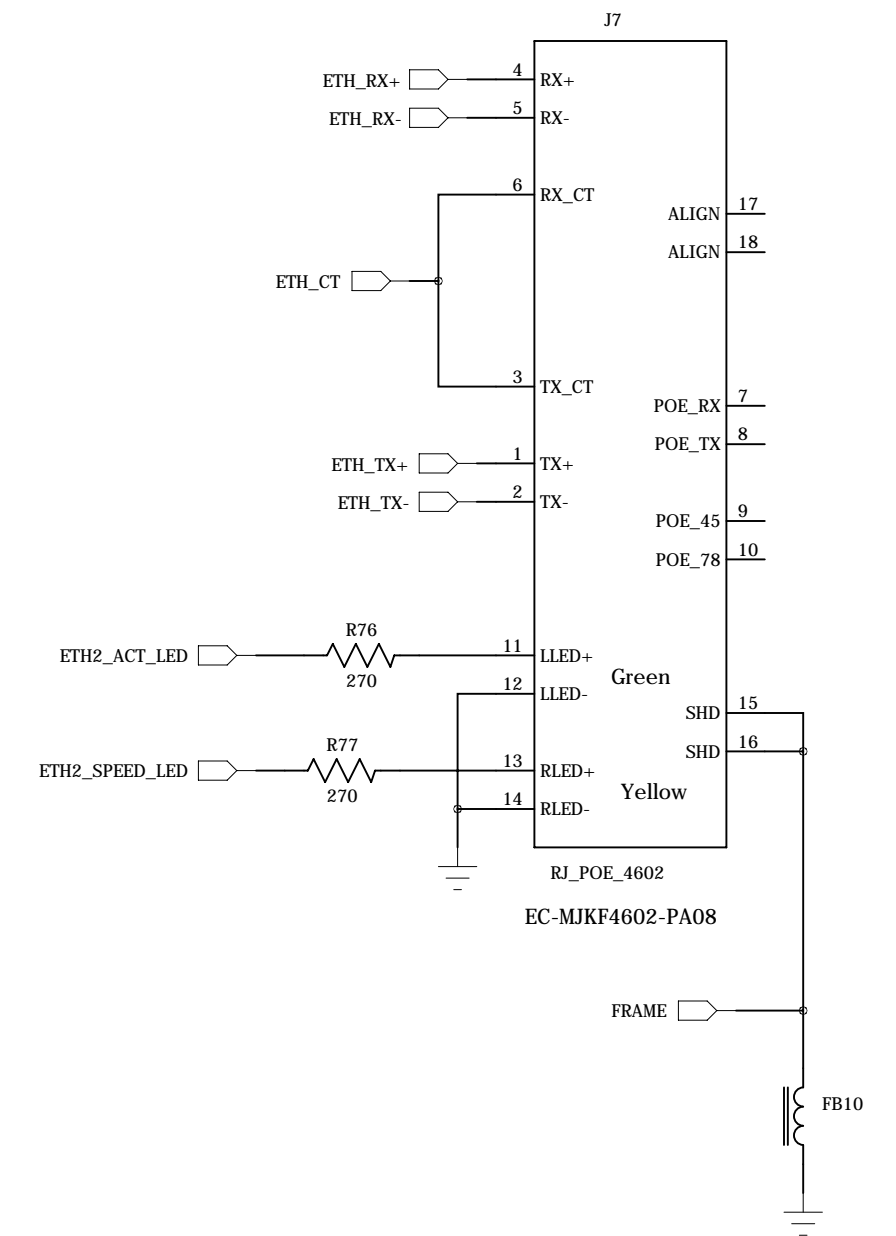


Technologic Systems		Feb. 12, 2011
Title: TS-8100 5V Power		
Rev:	Designer	Sheet 5 of 10

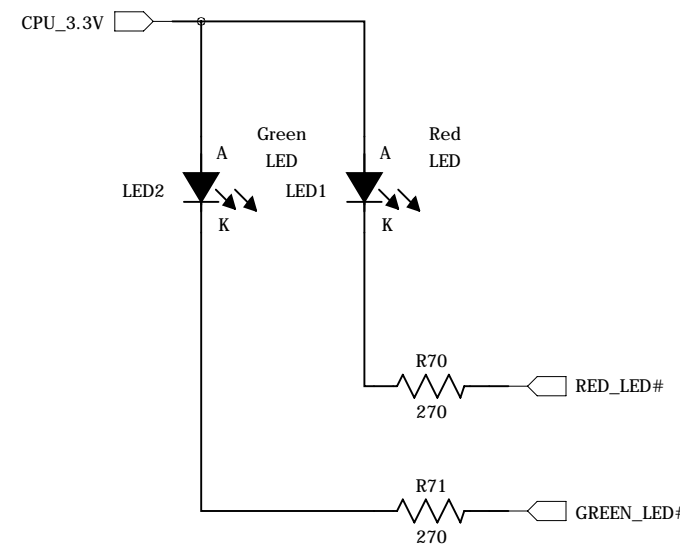
Board ID = 64 + 7



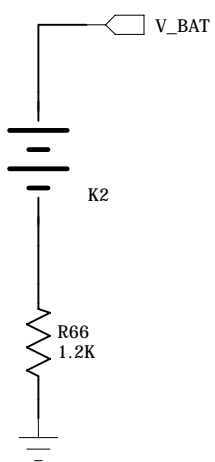
## SBC Primary 10/100 Ethernet



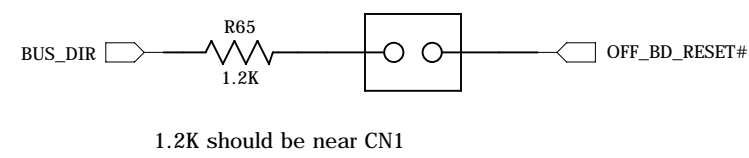
## LEDs



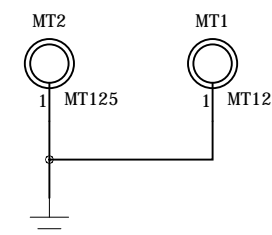
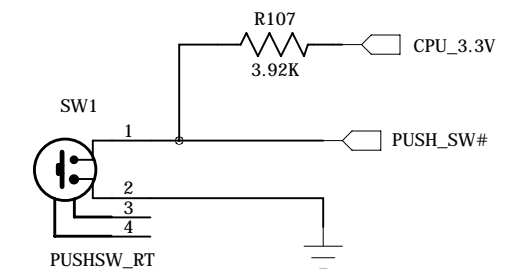
## RTC Battery



## Force Boot to SD card



## Push Switch



Technologic Systems	Feb. 12, 2011
Title: TS-8100 Ethernet, Battery, Board ID	
Rev:	Designer RLM Sheet 6 of 10

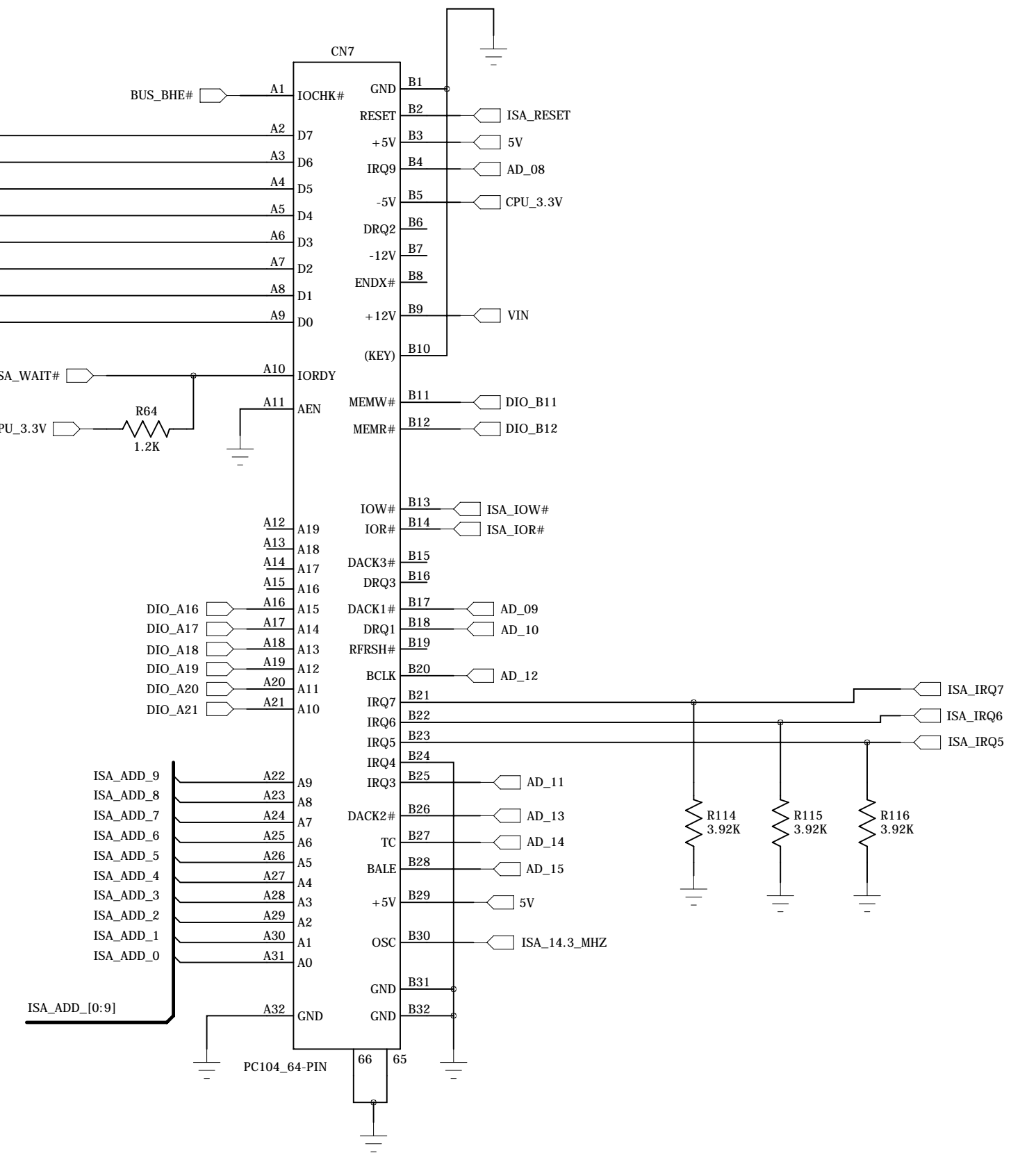
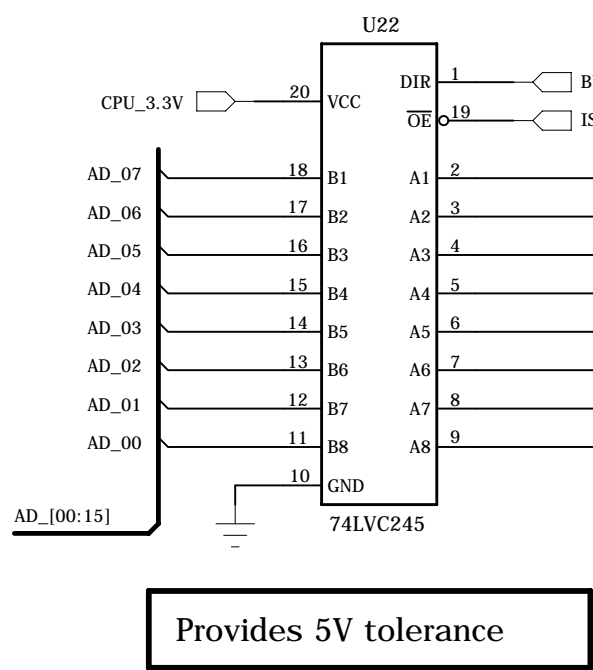
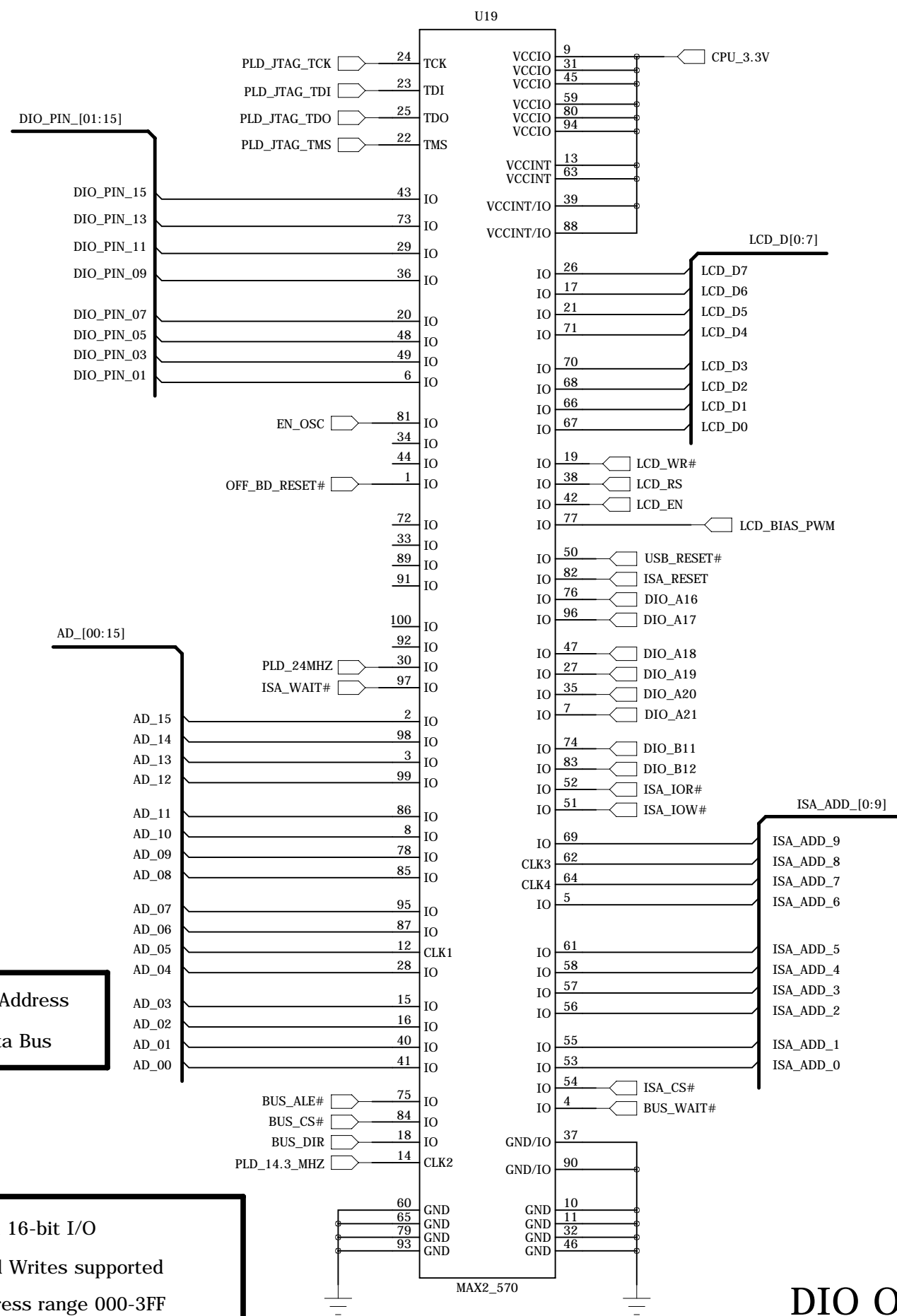
Inputs on Left

# PLD

Outputs on Right

# PC/104

## 64-pin Connector



MUXed Address and Data Bus

8-bit and 16-bit I/O  
Read and Writes supported over address range 000-3FF

Address range 100-3FF drives PC/104 bus

Address range 000-0FF is internal PLD registers

MAX240

**Warning:**  
Make sure PLD pins 39 and 88 are Inputs

**DIO Outputs**

DIO\_A16 thru DIO\_A21 and LCD\_EN should default to logic zero

DIO\_B11 and DIO\_B12 should default to logic "1"

USB\_RESET# should default to a logic zero

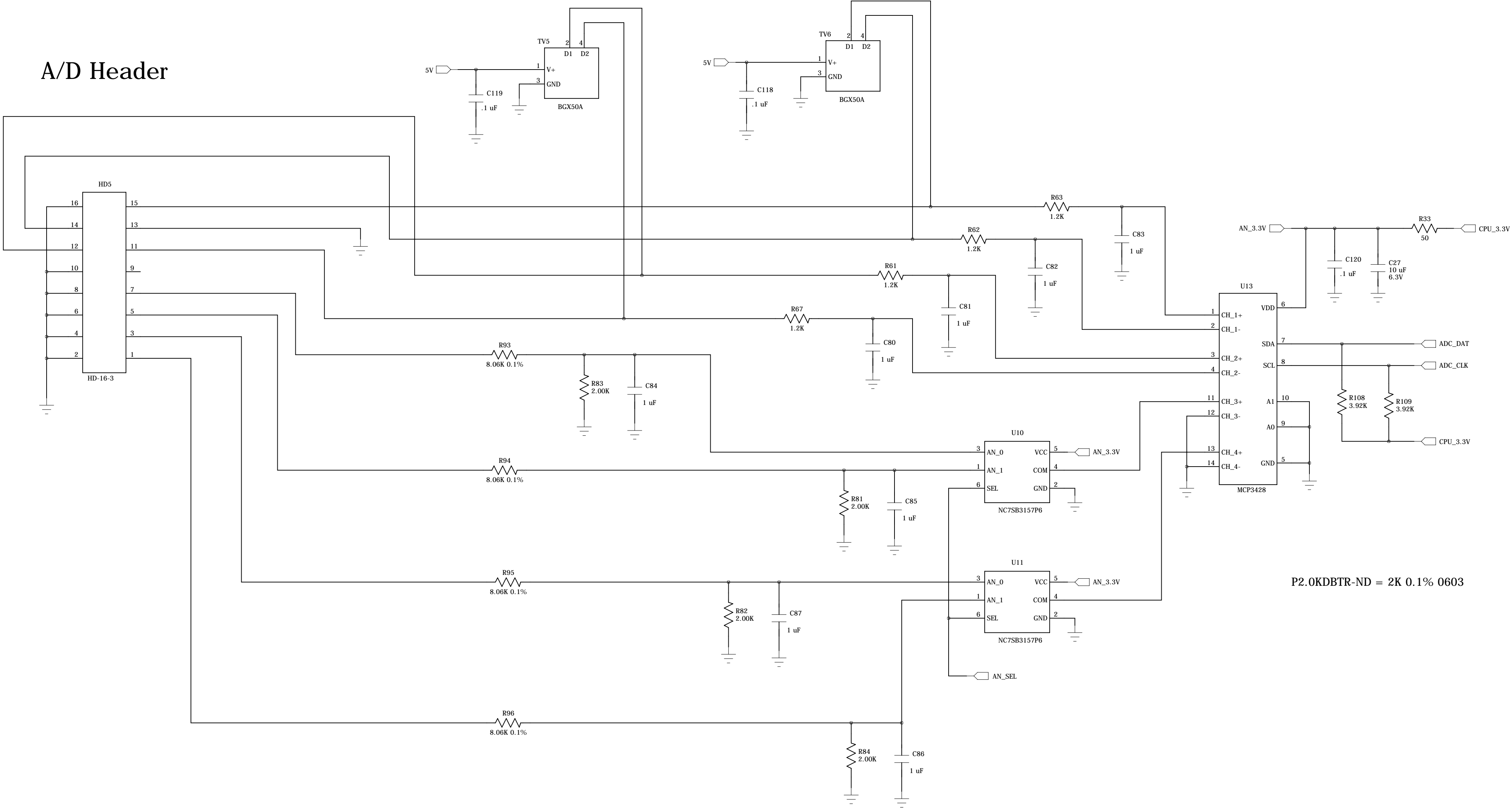
**DIO Inputs**

LCD\_WR#, LCD\_RS and LCD\_D0 thru LCD\_D7 should default as Inputs

DIO\_PIN\_1 thru DIO\_PIN\_15 should default as Inputs

# 16-bit A/D Converter

Four single-ended 0-10V Inputs  
Two differential pairs 0-2V range



P2.0KDBTR-ND = 2K 0.1% 0603

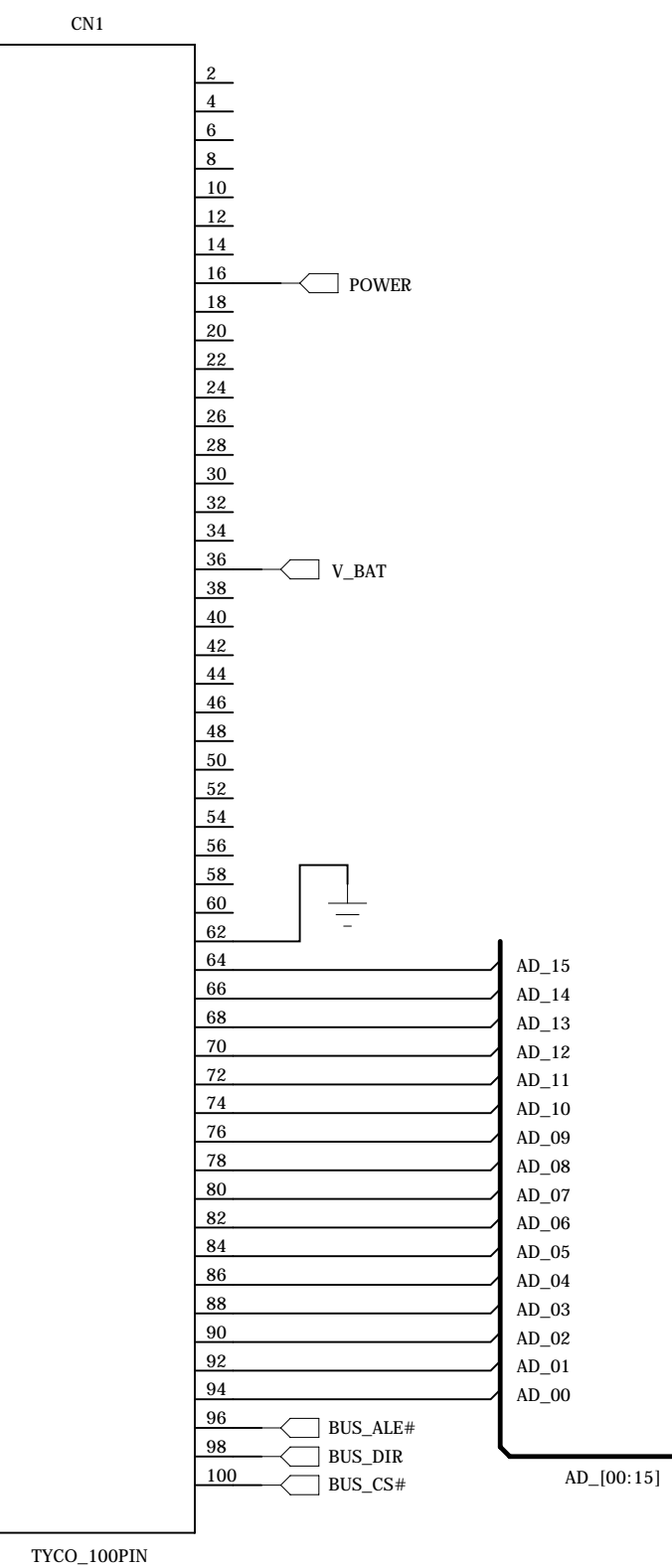
Technologic Systems		Feb. 12, 2011
Title: TS-8100 Analog		
Rev:	Designer	Sheet 8 of 10





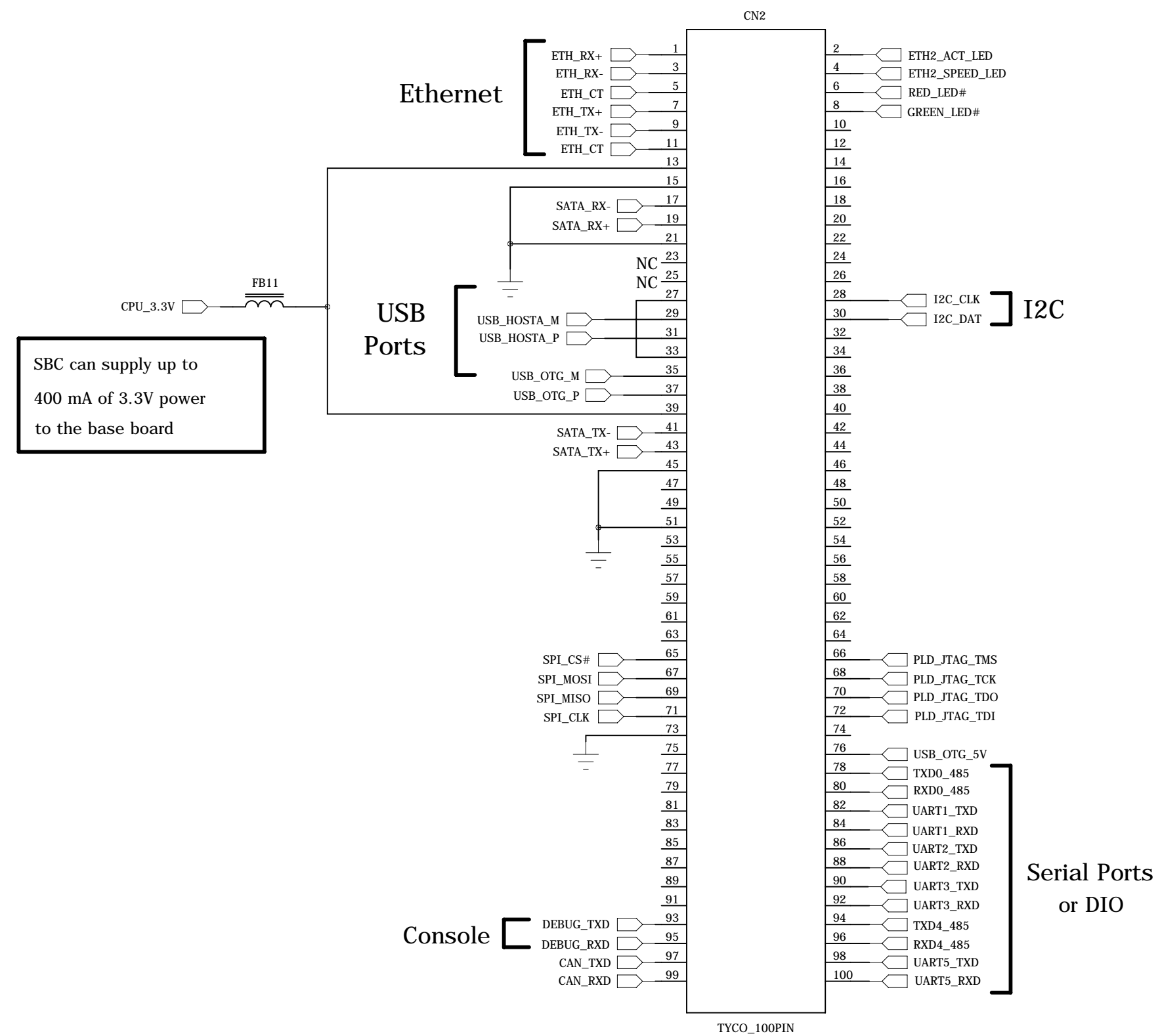
# Two 100-pin Module Connectors

Left



OFF\_BD\_RESET# is an Output from the SBC used to reset all peripherals

Right



SBC can supply up to 400 mA of 3.3V power to the base board

## Boot Strap

BUS_DIR	SBC Boots from
1	NAND Flash
0	SD Card

BUS\_DIR state is latched prior to OFF\_BD\_RESET# deasserted

BUS\_DIR has a 12K pull-up resistor on the SBC module

Use 1.2K ohm resistor to OFF\_BD\_RESET# to strap logic low