



Volga Wet base model User Interface Board

Adapted from Volga Dry base model User Interface Board

Changelog:

- REV A -- VOLGA DRY P1 BOARD
-- Initial send to layout.
- REV B -- change J4, J8, J9 to vertical from RA.
- REV C -- adjust numbers of bypass capacitors
- REV D -- Rename LED outputs
- REV E -- Fix power connection on U6.
- REV F -- VOLGA DRY P2 BOARD
-- Change processor to Cortex M4.
-- Lower LED brightness on R114,R115
-- Add transzorb on CAN.
- REV G -- Rearrange signals on membrane panel.
-- Change R68 and R70 to POPULATED.
- REV H-J --Change USB ground ferrites to 0 Ohm resistors.
- REV K -- VOLGA DRY PP BOARD
-- Fix pinout on U7.
-- Add R134-R138, not populated.
- REV L -- VOLGA WET P1 BOARD
-- Add DIGITAL_IN_5 and DIGITAL_IN_6 to micro.
-- Add ESTOP_READ circuit to J7-1.
-- Disconnect 50mA source from J7-1.
-- Rename LED and membrane switch signals.
-- Change population of membrane switch/LED components.
-- Add bail disable circuit R309,R310,Q19 R139, change R29 to 4.99K.
-- Added pins to connectors for mtg holes - TS
-- Renamed several footprints per Allegro constraints - TS
-- Corrected 3.3V_UNSW to 3.3V (ESTOP_READ ckt)- TS
- REV M -- Change generic signal names to be more specific. Page 2,4.
- REV N -- Volga Wet P1.5 board
-- Change VREF to more accurate LM4128-3.3.
-- Add RC filter to misc inputs page 4.
-- Delete unused 5V sources page 4.
-- Adjust LED drive strengths.
-- Change switch input resistors to 1K from 332.
--Add 3 board revision bits.
- REV O -- Volga Wet P2 board
-- Delete TP1 thru TP4.
-- Delete bail disable and add bail attenuator ckt.
- REV P -- Volga Wet PP board
-- Change all diode footprints so pin 1 is Cathode
- REV Q -- Change R58 to 0 Ohms.
- REV R -- Volga Wet xx board Q25042-009.
-- Change U18-7 Vbat connection on processor to Vdd.
- REV S -- Replace D4 with zero ohm resistor.
-- Rev R PCB change still pending.
- REV T -- Undo Rev S changes.
- REV U -- Added blocking diodes Dp1 and Dp2 to LSD chips. CAH 3/29/2018
- REV V -- Fixed GND_SIGNAL to GND for U26 and R355 update Q25042-009 to Q25042-010 CAH 4/02/2019

REFERENCE PART NUMBERS:

- MH1

MOUNTING HOLE

1
- MH2

MOUNTING HOLE

1
- MH3

MOUNTING HOLE

1
- MH4

MOUNTING HOLE

1
- PCA

ASSEMBLY

1228044
- FW

FIRMWARE

Q30061-006
- PCB1

PCB

Q25042-010
- SCHEMATIC1

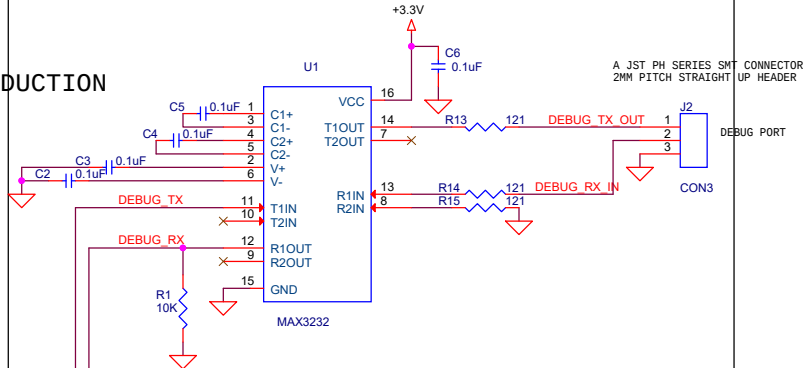
SCHEMATIC

Q26007-004

Title			
VOLGA WET BASE USER INTERFACE MODULE			
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DNI FOR PRODUCTION

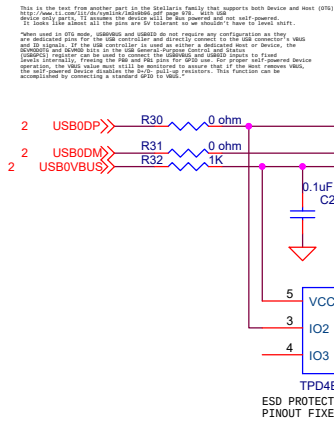
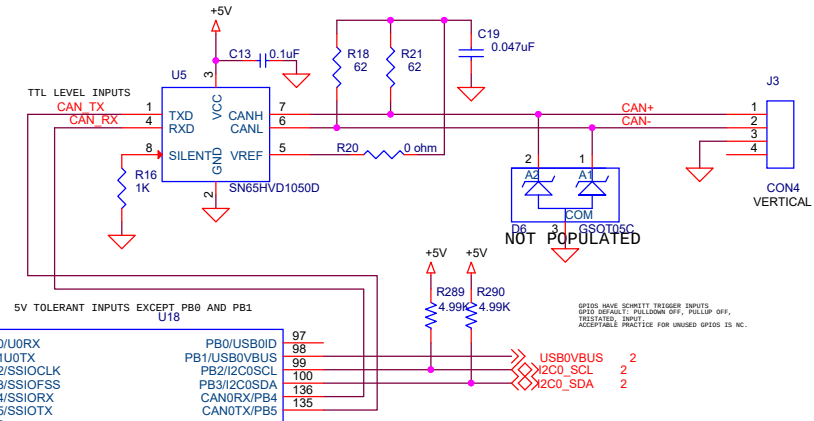
RS-232 SERIAL PORT



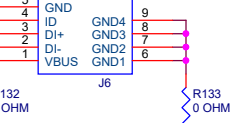
CAN INTERFACE

ELECTROSTATIC DISCHARGE PROTECTION
operating from air temperature range
PARAMETER TEST CONDITIONS VALUE
ESD Contact Discharge IEC 61000-4-2, 150V terminals vs GND or 2kV
Human Body Model, IEC 61000-4-2, 150V terminals vs GND or 2kV
Machine Model, IEC 61000-4-2, 150V terminals vs GND or 2kV
Machine Model, IEC 61000-4-2, 150V terminals vs GND or 2kV

Note:
To make a transceiver endpoint,
simply populate the 62 Ohm
resistors

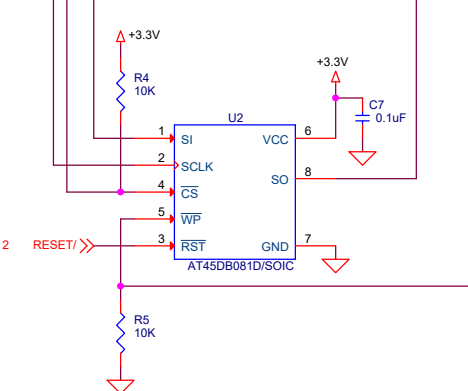
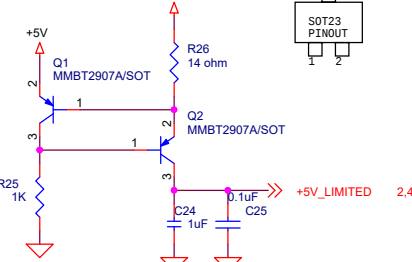


USB-MINIB-TE734035

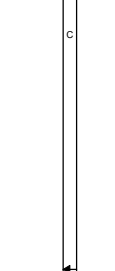
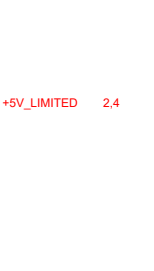
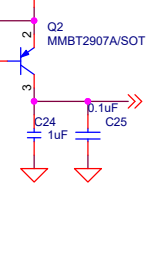
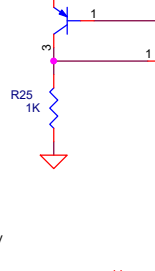
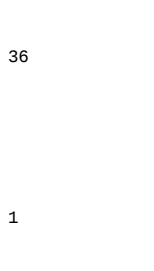
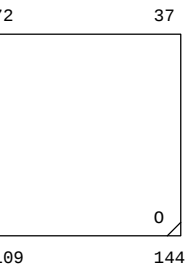
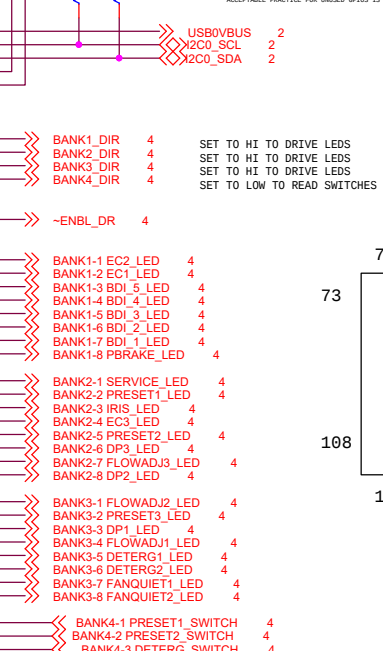
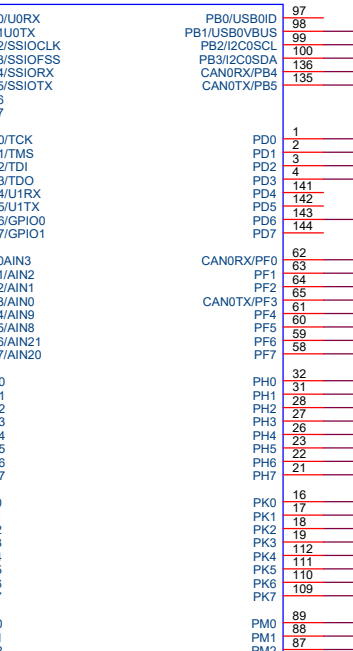
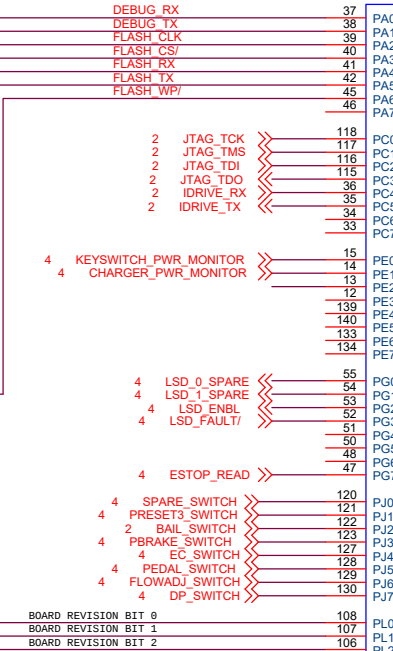
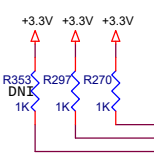


ESD PROTECTION 1.5pF 15KV
PINOUT FIXED.

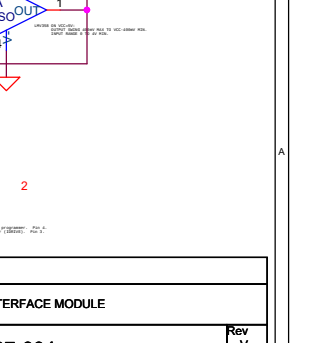
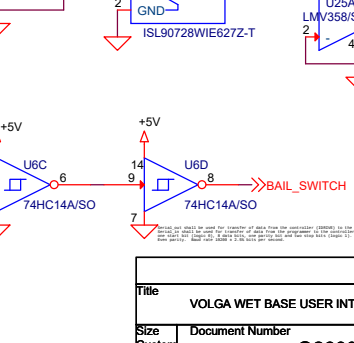
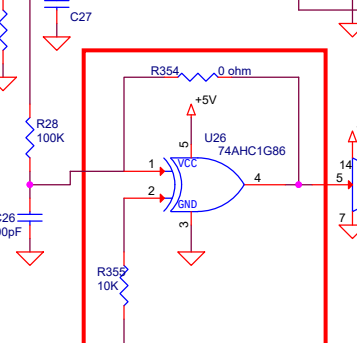
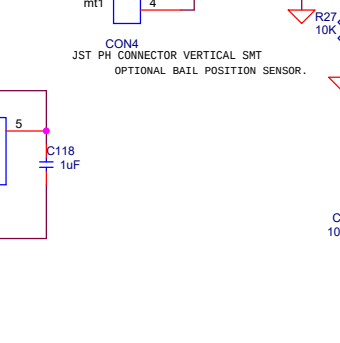
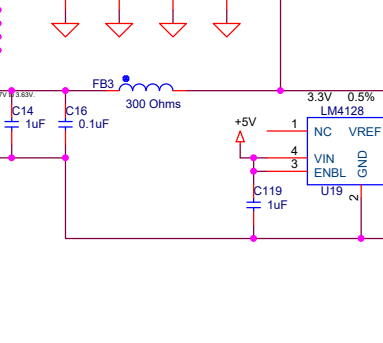
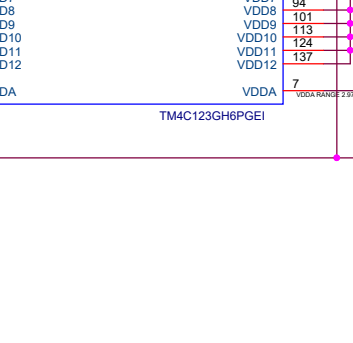
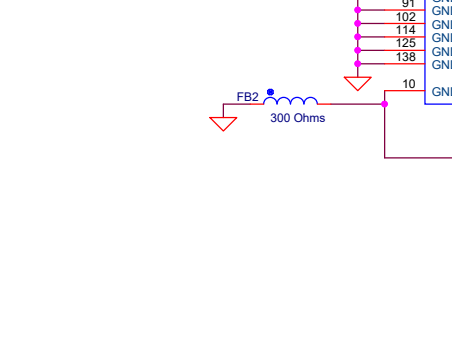
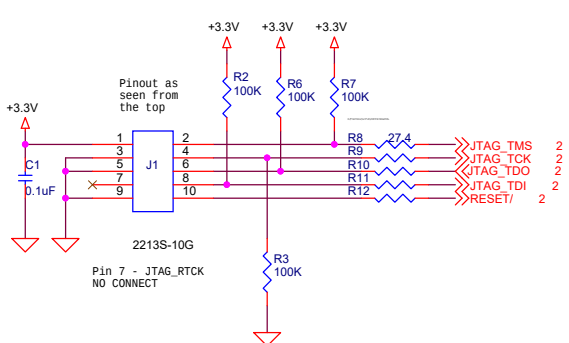
Current limited 5V source
50mA max



BOARD REVISION BIT DECODER:
BIT 2 1 0
REV 0 0 0 0 Vw P1 BOARD
REV 1 0 0 1 Vw P1.5 BOARD
REV 2 0 1 0 Vw P2 BOARD
REV 3 0 1 1 AM2 BOARD
REV 2 0 1 0 UN-AM2 BOARD



JTAG

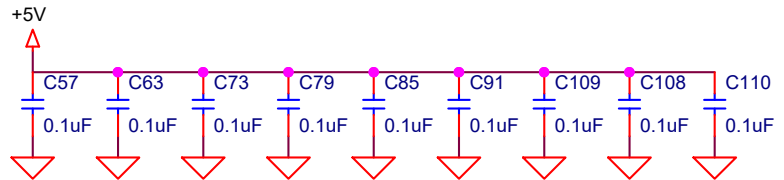
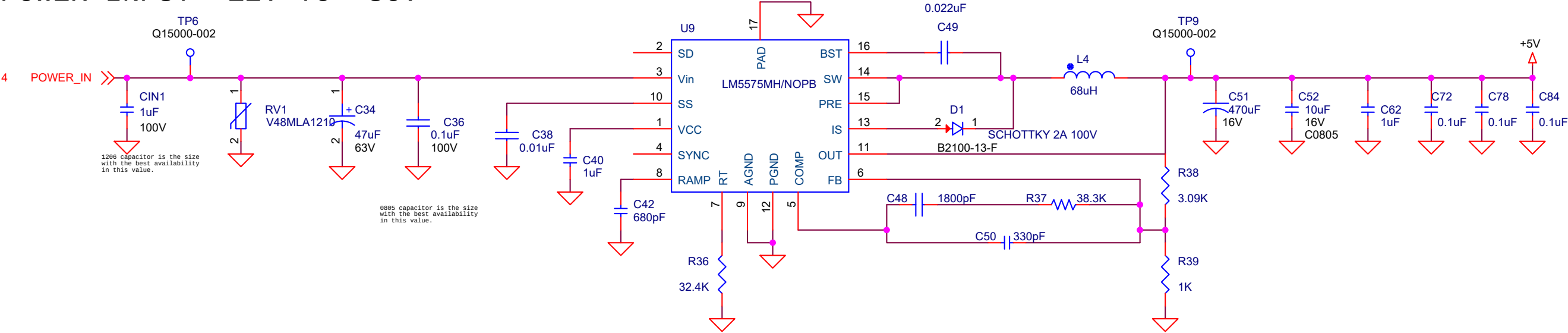


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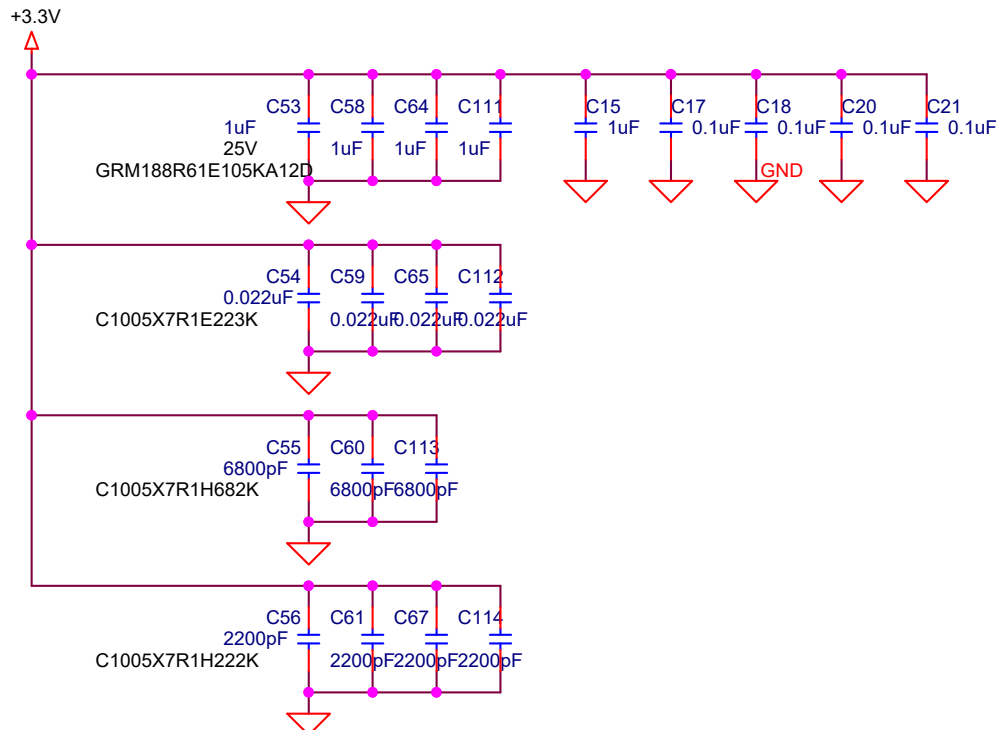
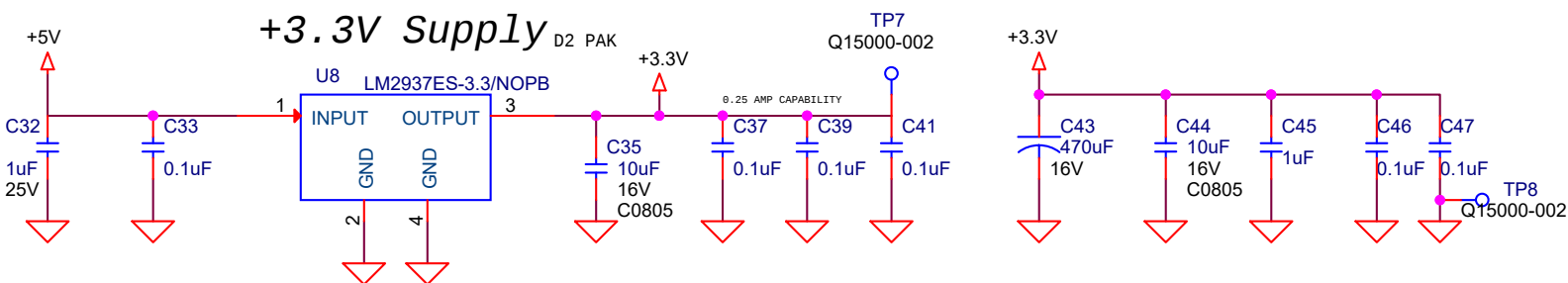
POWER SUPPLY +5V

design borrowed from Einstein
Input range 8V-72V

POWER INPUT +12V TO +36V



+3.3V Supply



Power Supplies

Title		
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