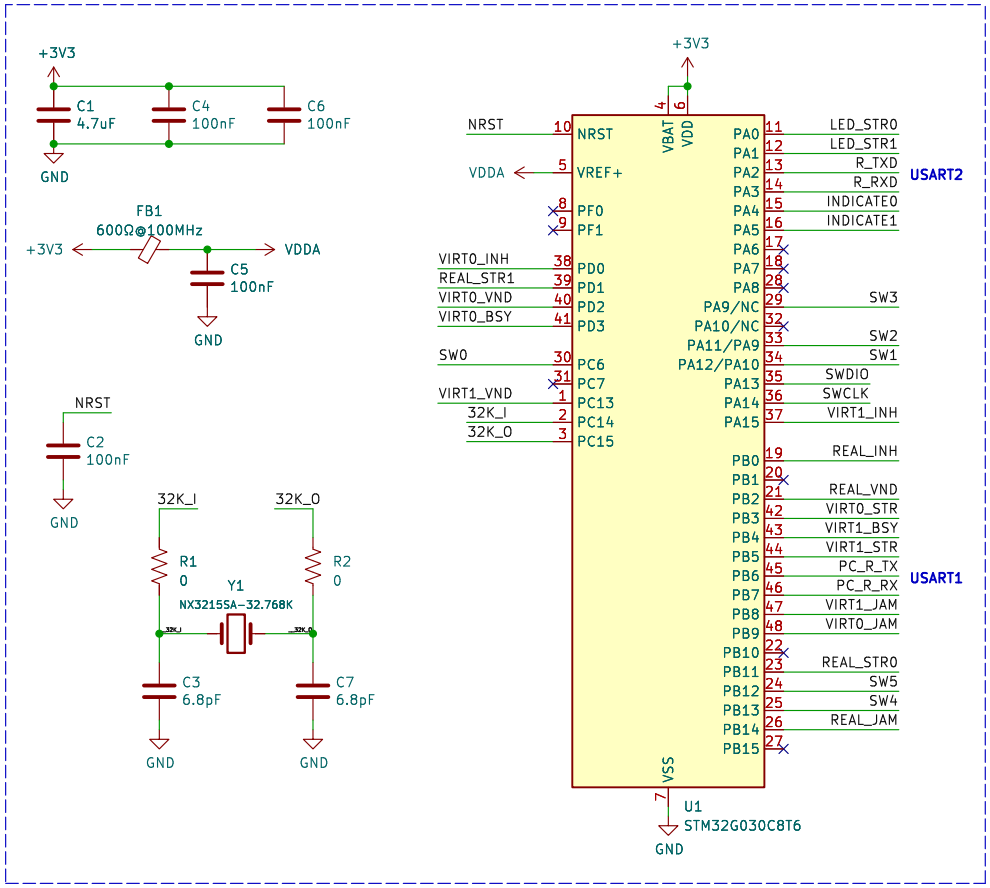
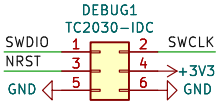
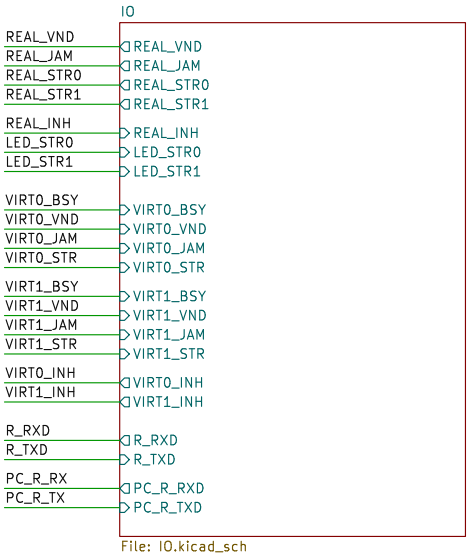
MCU (STM32G030)

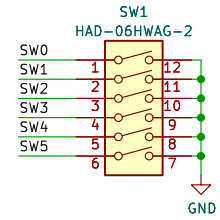


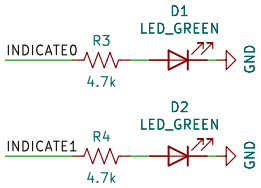
STM32 DEBUG(POGO)



Special POGO solution used.
Normal user is hard to handling this port.
But dedicated developer or Manufacturer
can download firmware or debugging.







CHANGE LOG

2023.06.12 (v0.1) : Initial release (but no PCB) 62.5mm x 62.5mm.
2023.06.13 (v0.2) : Fault DIP-SW footprint fixed and 0Ω on 3v3 removed. 62.5mm -> 63.0mm

LambdaEE_Logo
Symbol_Extended:LamudaEE-12.3x7.6mm
backside-logo-ferris:ferris-back

H1 MountingHole
H2 MountingHole
H3 MountingHole
H4 MountingHole

considered universal legacy device such as vending and amusement m
Card payment acceptor mocking board

Jinwoo Park, pmnxis@gmail.com

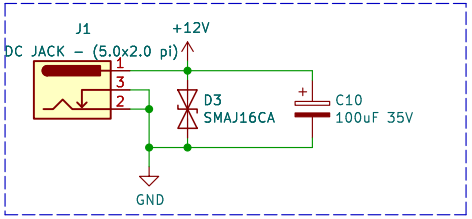
Sheet:
File: BillMock-HW.kicad_sch

Title: Main Block

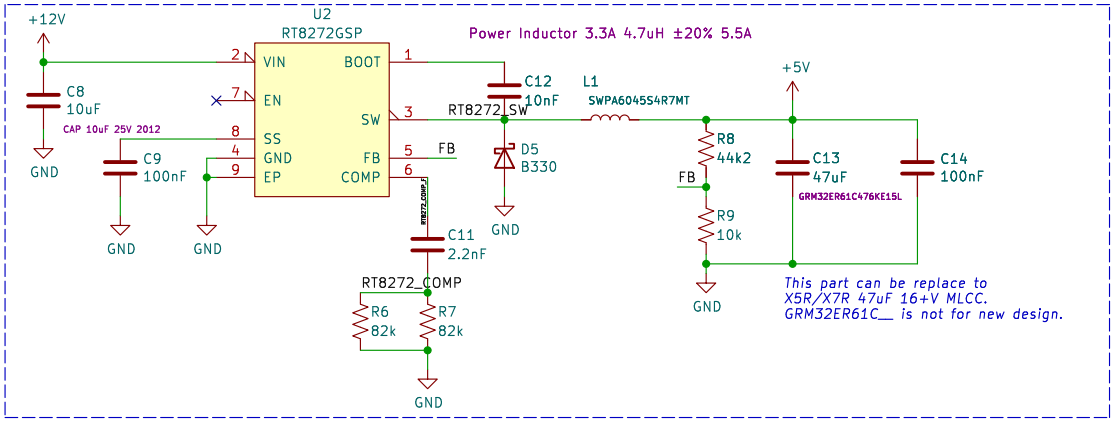
Size: A4	Date: 2023-06-13	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.5-0		Id: 1/5

Power Domain

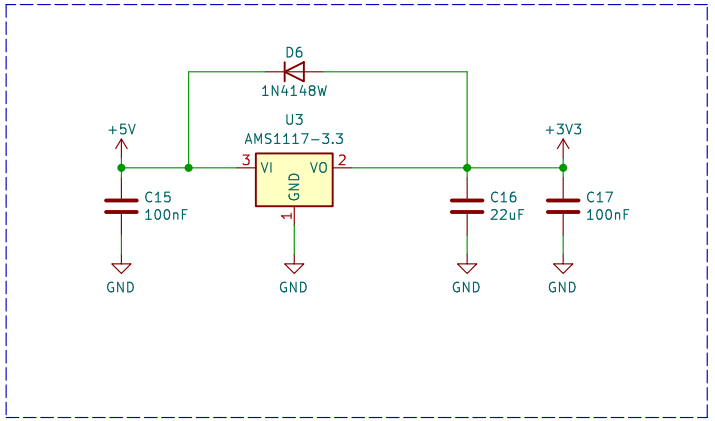
12V Input Jack



12V to 5V : Switching Regulator



5V to 3V3 : Linear Regulator



considered universal legacy device such as vending and amusement m
Card payment acceptor mocking board

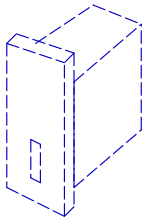
Jinwoo Park, pmnxis@gmail.com

Sheet: Power
File: Power.kicad_sch

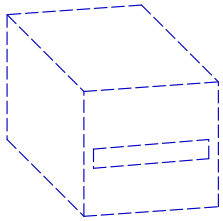
Title: Power domain

Size: A4	Date: 2023-06-13	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.5-0		Id: 2/5

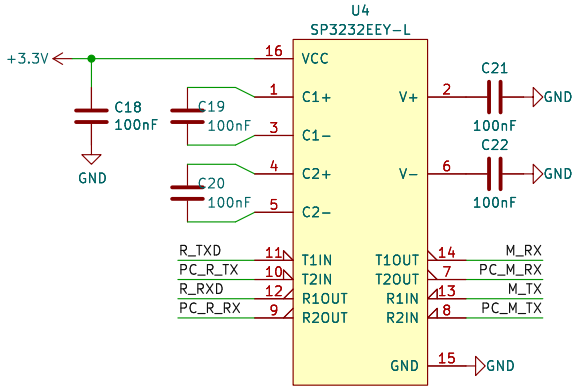
Transducer ...
Sensor ...
Switch ...

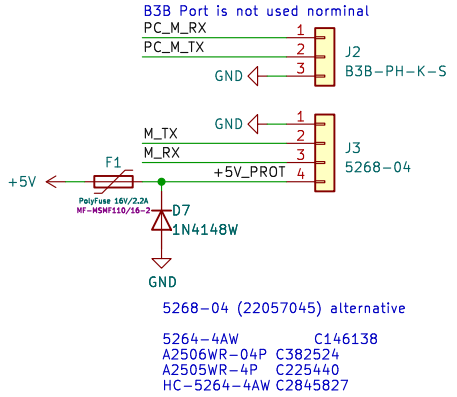


Coin Acceptor



Paper Acceptor





VendSide

Vending Machine (Coin and bill-paper acceptor) side
Or some start button led and switch.
There're some 12v pull-up input lines with CD4050,
open-drain and push-pull output lines.

In * 4 , Out * 3

REAL_VND
REAL_JAM
REAL_STR0
REAL_STR1
REAL_INH
LED_STR0
LED_STR1

File: VendSide.kicad_sch

HostSide

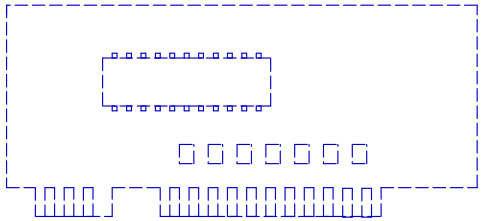
GAME PCB or I/O Board Side
Emulate the vending device such as paper and coin acceptor.
Or emulate start button signal by some mode.
There're some 12v pull-up input lines with CD4050,
open-drain and push-pull output lines.

In * 8 , Out * 2

VIRT0_BSY
VIRT0_VND
VIRT0_JAM
VIRT0_STR
VIRT1_BSY
VIRT1_VND
VIRT1_JAM
VIRT1_STR
VIRT0_INH
VIRT1_INH

File: HostSide.kicad_sch

PCB ...
IO Board ...



Game IO Board

R_RXD
R_TXD
PC_R_RX
PC_R_TX

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Card payment acceptor mocking board

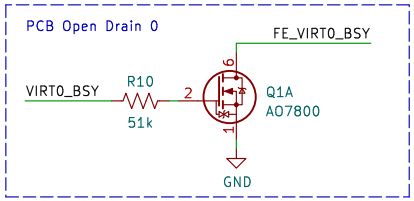
Jinwoo Park, pmnxis@gmail.com

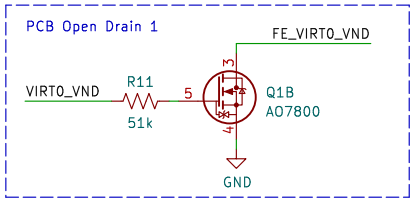
Sheet: IO
File: IO.kicad_sch

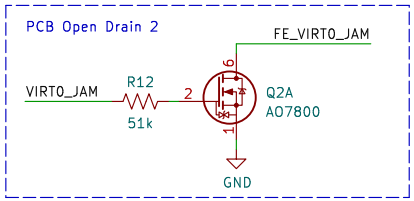
Title: IO

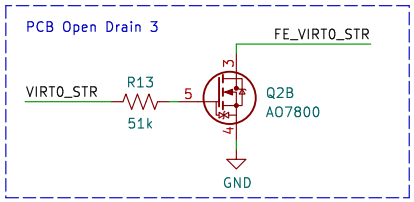
Size: A4	Date: 2023-06-13	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.5-0		Id: 3/5

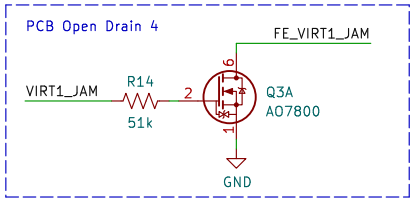
PCB Side Open Drain Output

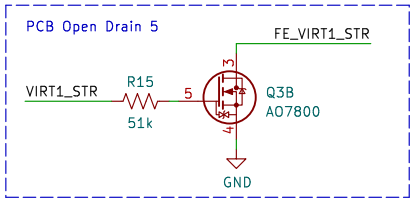


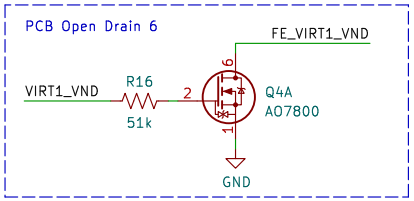


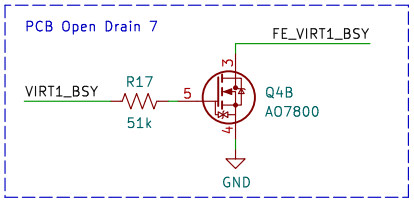












CHANGE LOG

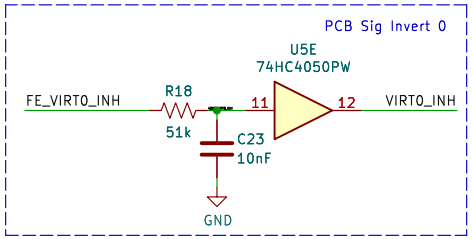
Formal arcade system use Game PCB have pull up line on input. and this domain make drop to 0V very safely, even each pin's voltage level is different.

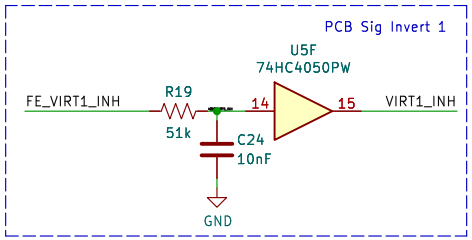
ULN2003AIDR has some issue COM line is shared. so we didn't used for seperate voltage level.
Q4:7 was changed to PMV100ENEA from IRFL014PBF. Because IRFL014PBF was obsoleted JLCPCB type. JLCPCB Assembly service don't have stock or option for PMV100.
DMN100 and PESD__ is alternation for this assembly system.

2020-07-20 : DMN100 or PMV100 NMOS reduce to dual channel NMOS.
Recommend is DMN3190LDW and
Alternative is DMN2004DWK
Requirements : high desity, high current , Volt accept. Gate,D-S Protection.

2023-05-18 :
Dual-N : AO7800, Used for open-drain output
Dual-P : DMP2004VK, Used for inverse voltage input protect.
N+P CH : DMG1016V, N/P role both

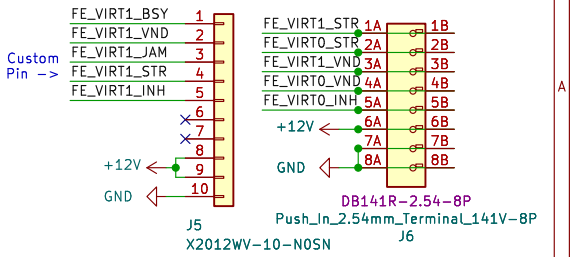
PCB Side extSignal Invert Input

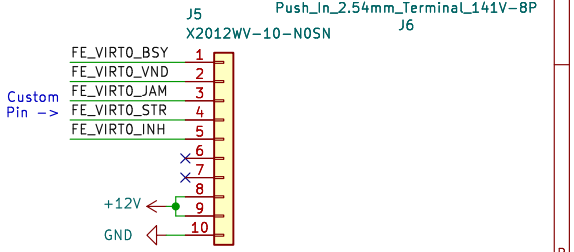


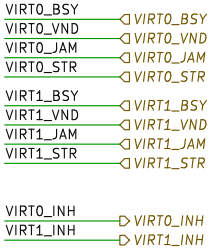


Emulated player 1/2 side common signal
(Paper Acceptor, start button etc)

X2012WV is (Semi)compatible part of 53015







considered universal legacy device such as vending and amusement m
Card payment acceptor mocking board

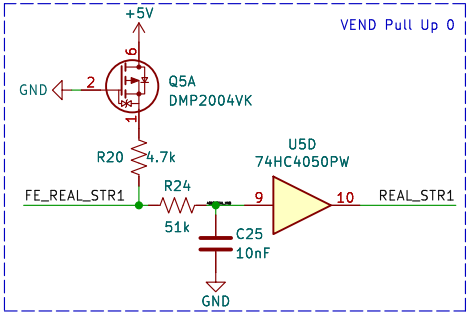
Jinwoo Park, pmnxis@gmail.com

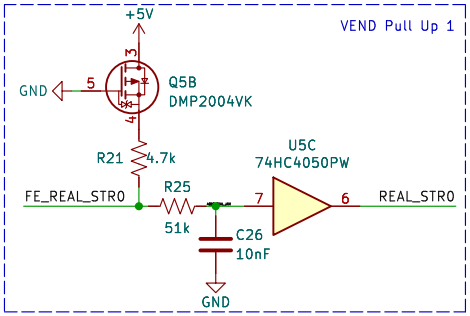
Sheet: HostSide
File: HostSide.kicad_sch

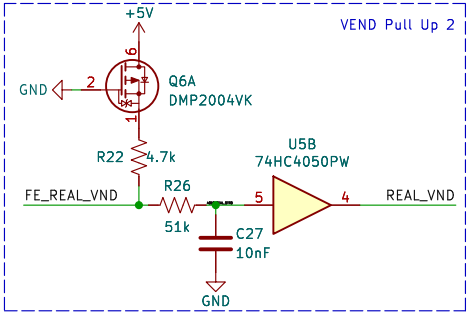
Title: Host Side

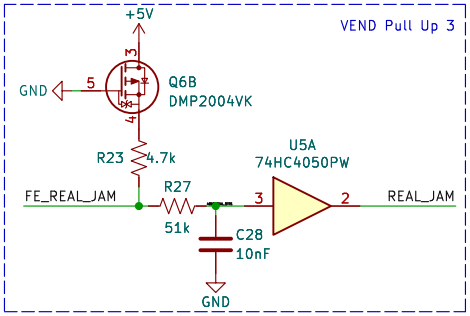
Size: A4	Date: 2023-06-13	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.5-0		Id: 4/5

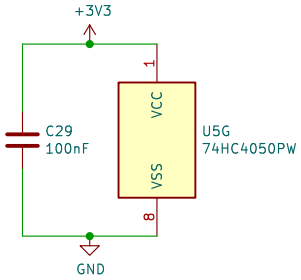
Vend Side Pull Up Input











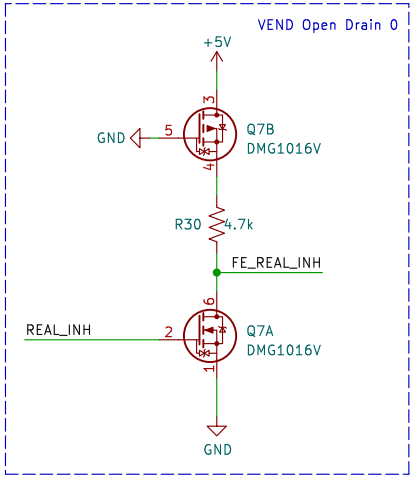
CHANGE LOG

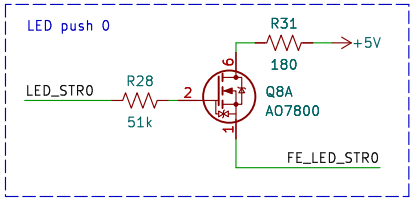
2020-07-16 : LTV217 Optocopuler is removed.
Replaced to high voltage input hex inverter.
Ti CD4049UBDR recommend 1uA input.
Ti require too few input current. So this design use
"ONSemi MC14049UBDR2G" , "Nxp HEF4049BT"

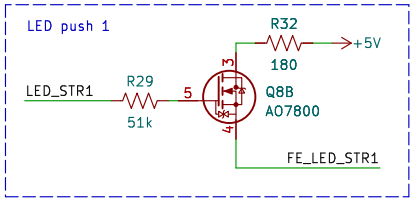
2020-07-20 : DMN100 or PMV100 NMOS reduce
to dual channel NMOS. DMN3190LDW or DMN2004DWK
Recommend is DMN3190LDW , Alternative is DMN2004DWK
Requirements : high desity, high current and voltage accept.
Gate,D-S Protection.

2023-05-18 :
Dual-N : AO7800, Used for open-drain output
Dual-P : DMP2004VK, Used for inverse voltage input protect.
N+P CH : DMG1016V, N/P role both

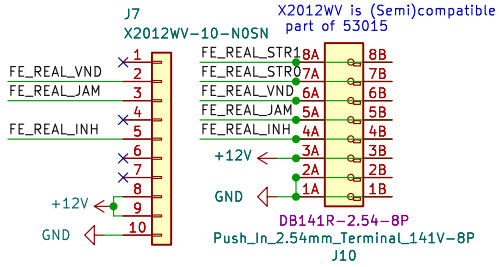
Vend Side Push Pull Active Low



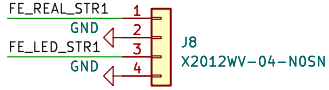




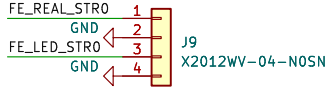
Player 1/2 side common signal
(Paper Acceptor, start button etc)

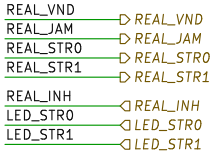


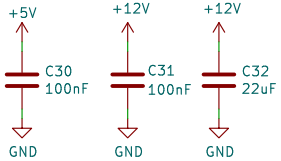
Player 2 side purchase/start button and led



Player 1 side purchase/start button and led







considered universal legacy device such as vending and amusement m
Card payment acceptor mocking board
CC BY-SA 3.0
Jinwoo Park, pmnxis@gmail.com

Sheet: VendSide
File: VendSide.kicad_sch

Title: Vend Side

Size: A4	Date: 2023-06-13	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.5-0		Id: 5/5