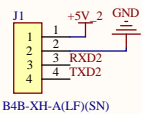
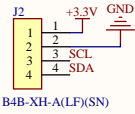


A

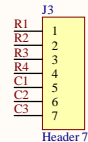
Connector to RasPi/BananaPi



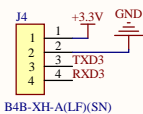
Connectors to OLED Screen



Connectors to Keypad



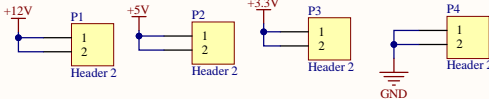
Connector QR/Barcode Scanner



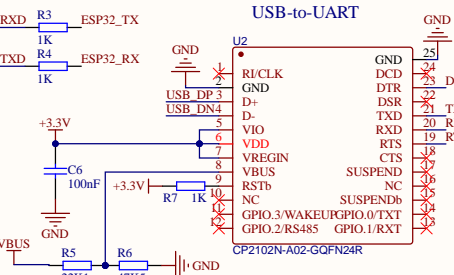
Relay and Solenoid Lock



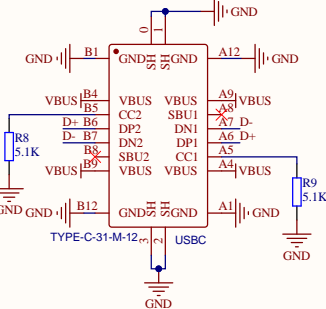
Test Points



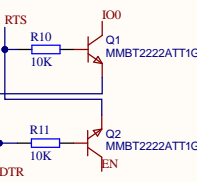
B



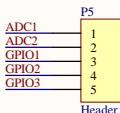
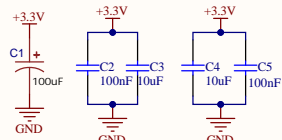
USB-C (for power and programming)



Flash/Debug

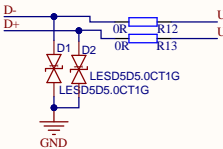


ESP32 Decoupling



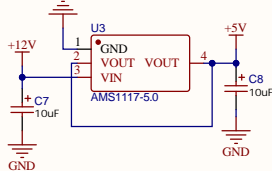
C

USB 5V&USB-UART

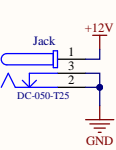


POWER SOURCES

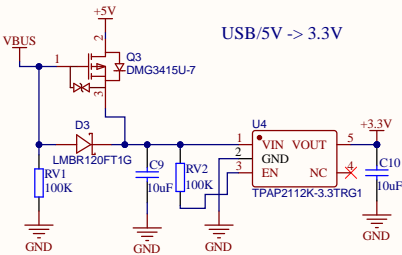
Main 12V -> 5V



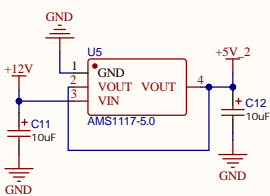
Input 12V



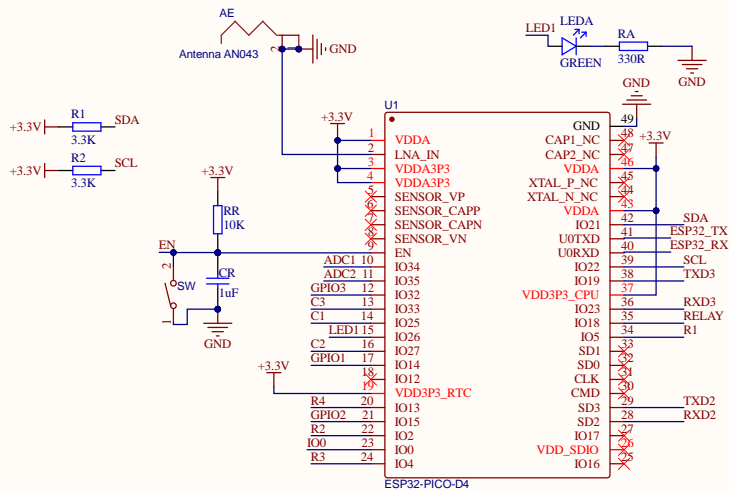
USB/5V -> 3.3V



Power for RasPi



Microcontroller (Main Controller)



D

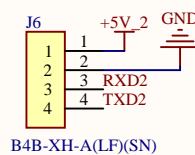
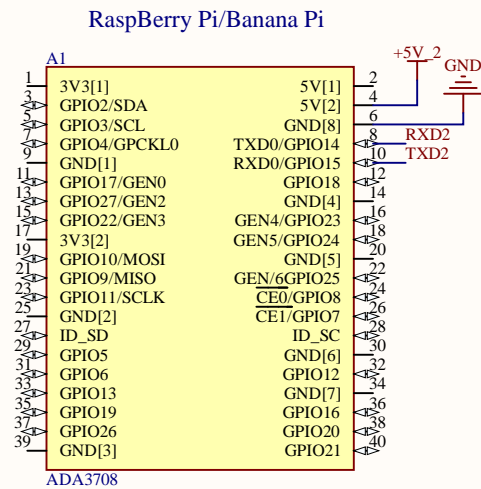
Title MainBoard_Box		
Size A3	Number 1	Revision 1
Date: 3/25/2023	Sheet of	
File: D:\Business\MainBoard_Box.SchDoc	Drawn By: Ghozali Hadi	

A

B

C

D



Connector to Microphone Connector to Speaker

USING USB MICRO AUDIO ADAPTER

Title RaspberryPi_Shield		
Size A4	Number 1	Revision 1
Date: 3/25/2023	Sheet of 1	
File:	D:\Business\...\RaspberryPi_Shield.SchDoc Drawn By: Ghozali Hadi	

Comment	Description	Designator	Footprint	LibRef	Quantity
ADA3708	Raspberry Pi Zero WH (Zero W with Headers)	A1	ADA3708_RPi-ZERO	ADA3708	1
Antenna AN043	Small Size 2.4 GHz PCB antenna	AE	AN043	Antenna AN043	1
CA45-C-10V-100uF-K	100uF 10V - 55°C ~ +125°C 330mOhm 100kHz ±10% CASE-C, 6032 Tantalum Capacitors	C1	CASE-C_6032	Cap_100uF	1
CC04020K0X7R78B104	16V 100nF X7R ±10% 0402 Multilayer Ceramic Capacitors MLCC	C2, C5, C6	CAP0402	CAP-SM-0402-X7R-100NF	3
CL05A106M05NUNC	6.3V 10uF X5R ±20% 0402 Multilayer Ceramic Capacitors MLCC	C3, C4, C9, C10	CAP0402	CAP-SM-0402-X5R-10UF	4
TAJA106K0168RU	TANTALUM CAPACITORS 10UF 16V CASE-A_3216	C7, C8, C11, C12	CAP-SMD_L3.2-W1.6-R-RO	TAJA106K0168RU	4
CL05A105KASN0NC	MULTILAYER CERAMIC CAPACITORS MLCC - SMD/SMT 1UF 25V 0402	CR	CAP0402	CAP-SM-0402-X5R-1UF	1
LES05D5.0CT1G	18.6V 9.4A (8/20us) 5V Bidirectional 5.0V SOD-523 ESD Protection Devices	D1, D2	SOD-523_L1.2-W0.8-LS1.6-BI	LES05D5.0CT1G	2
UMBR120FT1G	20V 500mVw 1A 1A SOD-123 Schottky Barrier Diodes (SBD)	D3	SOD-123_L2.8-W1.8-LS3.7-RO	UMBR120FT1G	1
B4B-XH-A(LF)(SN)	Connector Header Through Hole 4 position 0.098 (2.50mm)	J1, J2, J4, J6	JST_B4B-XH-A(LF)(SN)	B4B-XH-A(LF)(SN)	4
Header 7	Header, 7-Pin	J3	HDR1X7	Header 7	1
B3B-XH-A(LF)(SN)	Connector Header Through Hole 3 position 0.098 (2.50mm)	J5	JST_B3B-XH-A(LF)(SN)	B3B-XH-A(LF)(SN)	1
DC-050-T25	1A 12V SMD AC/DC Power Connectors	Jack	6W410B106102	DC Jack SMD	1
19-217/GHC-YR152/3T	LIGHT EMITTING DIODES (LED) GREEN S20-535NM 112-258uM CDP20MA TOP VIEW 0603	LEDA	LED0603P	LED-0603-RED	1
Header 2	Header, 2-Pin	P1, P2, P3, P4, P, S	HDR1X2	Header 2	5
Header 5	Header, 5-Pin	P5	HDR1X5	Header 5	1
MMBT2222ATT1G	NPN 600mA, 40V 150mW SC-75(SOT-523) Transistors (NPN/PPNP)	Q1, Q2	SC-75-3_L1.6-W0.8-P1.00-LS1.6-BR	MMBT2222ATT1G	2
DMG3415U-7	SOT-23-3 MOSFETs	Q3	SOT-23-3_L2.9-W1.6-P1.90-LS2.8-BR-CW	DMG3415U-7	1
RC0402FR-073K3L	62.5mW Thick Film Resistors 50V ±100ppm/°C ±1% - 55°C ~ +155°C 3.3kΩ 0402 Chip Resistor - Surface Mount	R1, R2	RES0402	RES-SM-0402-10K	2
0402WGF100T1CE	±1% 1/16W Thick Film Resistors 50V ±100ppm/°C - 55°C ~ +155°C 1kΩ 0402 Chip Resistor	R3, R4, R7	RES0402	RES-SM-0402-1K	3
0402WGF2212TCE	±1% 1/16W Thick Film Resistors 50V ±100ppm/°C - 55°C ~ +155°C 22.1kΩ 0402 Chip Resistor - Surface Mount	R5	RES0402	RES-SM-0402-1K	1
0402WGF4752TCE	±1% 1/16W Thick Film Resistors 50V ±100ppm/°C - 55°C ~ +155°C 47.5kΩ 0402 Chip Resistor - Surface Mount	R6	RES0402	RES-SM-0402-1K	1
RC0402JR-075KTL	5.1kΩ 0402 1/16W 50V ±5% ±100ppm/°C Chip Resistor - Surface Mount	R8, R9	RES0402	RES-SM-0402-10K	2
0402WGF1002TCE	CHIP RESISTOR - SURFACE MOUNT 10KOHMS ±1% 1/16W 0402	R10, R11, RR	RES0402	RES-SM-0402-10K	3
RC0402FR-070RL	1/16W ±1% 0Ω 0402 Chip Resistor	R12, R13	RES0402	RES-SM-0402-0R	2
0402WGF3300TCE	CHIP RESISTOR - SURFACE MOUNT 330OHMS ±1% 1/16W 0402	RA	RES0402	RES-SM-0402-220R	1
RC0402FR-07100KL	62.5mW Thick Film Resistors 50V ±100ppm/°C ±1% - 55°C ~ +155°C 100kΩ 0402 Chip Resistor - Surface Mount	RV1, RV2	RES0402	RES-SM-0402-1K	2
TS-10925-B302-G	NO 3.6mm 2.5mm Gal Wing Gray Rectangle button Brick noggng SPST 6.1mm 250gf@±30gf SMD Tactile Switches	SW	SW-SMD_L6.1-W3.6-LS7.9	TS-10925-B302-G	1
ESP32-PICO-D4	QFN-48_7x7x0.5P-RF Transceiver ICs	U1	QFN-48_L7.0-W7.0-P0.50-BL-EP5.4	ESP32-PICO-D4	1
CP2102N-A02-G2FN248	QFN-24_4x4x0.5P USB ICs	U2	QFN-24_L4.0-W4.0-P0.50-TL-EP2.4	CP2102N-A02-G2FN248	1
AMS1117-5.0	68dBHz(120Hz) 1A 1.3V@1(A) Fixed 5V-5V Positive 1.15W SOT-223 Linear Voltage Regulators (LDO)	U3, U5	SOT-223_L6.5-W3.5-P2.30-LS7.0-BR	AMS1117-5.0	2
TPMP2112K-3.3TRG1	SOT-23-5 Linear Voltage Regulators (LDO)	U4	SOT-23-5_L2.9-W1.6-P0.95-LS2.8-BR	TPMP2112K-3.3TRG1	1
TYPE-C-31-M-12	SA 1.18 Female Type-C SMD USB Connectors	USBC	USB-C_SMD-TYPE-C-31-M-12	TYPE-C-31-M-12	1