VGA
CON3

H5
12V
CON8
CON7

H7

Floppy
J3

68uH
Audio

TDA1543
510 510 510
R52 1k 1k
R54 1k 2k
R56 2k
510
R57 1k
R58 2k

J1

Floppy

D5
1N5820
L1

U11

U7
TXB0104PW

75 R59
75 R60

U17
74LS06

U18
74LS38

220uF

K
SW
SW_SPST

C50
C48
470uF

U6
MB8877A

H1
JP2

Flash 1/2
R57

R58
10k
U3''1
W25Q16

J4

uBus

R30
10k

H2

2k4
R2

2k4
R1

2k4
R3

J2

FPGA JTAG

Joystick
CON4

27
R4

10k
R5

U3
W25Q16

100n
C38

EP4CE6E22C8N

U4

EPM3128ATC100-5

X1
SG-7050CAN

CY62167EV30
U2

J7
ESP-BUS

C26
100n

TXB0104PW
U8

J5

AVR JTAG

R8
10k

Y2
16MHz

U10
ESP-12E

C3
1uF

U5
ATMEGA328-AU

J6
AVR UART

H3

3V

BT1

H4

U9
DS1307Z+

SW3

CF-CARD

32768Hz
Y1

Mode Selector

H6

D4 D6 D1 D2 D7
C6 R6 C5 C3 C7

SW_Push
SW2

SW_Push
SW1

H8

4k7 R24
R23 4k7
4k7 R22
R21 4k7
R42 10k
R41 10k
R40 10k
X* R53
750 R26
10uF C2
10uF C1
R27 750
100n C3
100n C4
820 R25
BAT54C D3
R6 1k
LM2596S-5
U15
12V EN
100n C14
100n C2
4k7 R8
100n C1
100n C43
100n C4
100n C9
R7 4k7
100n C51
AMS1117-1.2
U14
AMS1117-2.5
U13
AMS1117-3.3
U12
R61 300
100n C20
100n C11
100n C37
R43 10k
R44 10k
C7 10uF
10uF
C8 10uF
100n C23
C9 10uF
100n C19
100n C30
R60 10k
100n C15
100n C1
100n C1
10k R39
100n
100n C16
100n C12
100n C8
10k R35
10k R34
10k R35
R58 10k
R32 10k
C32 100n
C35 100n
100n C51
100n C54
100n
100n C1
100n
100n C1
10k R8
22p C5
22p C1
C22 100n
10k R32
10k R51
10k R30
100n C1
C27 100n
R36 10k
R46 10k
R47 10k
100n C18
10k R37
R52 10k
C25 100n
BC856 BC856
CON2
SD
10k R48
10k R50
10k R49
10k R51
4k7

karabas-pro-revD

Ref	Q-ty	Value	Footprint
BT1,	1	3V	CR2032 Battery holder
C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C46, C47, C49, C51,	38	100n	C0805
C1, C2	2	10uF	C0805
C3,	1	1uF	C0805
C4, C5,	2	22p	C0805
C7, C8, C9,	3	10uF	Tantalum D
C48	1	470uF	CP_Radial_D8.0mm_P3.80mm
C50	1	220uG	CP_Radial_D7.5mm_P2.50mm
CON1,	1	CF-CARD	TE_1734451-1
CON2,	1	SD	SD_TE_2041021
CON3,	1	VGA	DSUB-15-HD_Female
CON4,	1	Joystick	DSUB-9_Male
CON5,	1	Keyboard	MDIN06SS
CON6,	1	Mouse	MDIN06SS
CON7,	1	Audio	Jack_3.5mm_CUI_SJ1-3535NG
CON8,	1	5V DC	BarrelJack_Wuerth_6941xx301002
CON9,	1	Micro-SD	Molex MicroSD (mirrored)
D1, D2, D4, D6, D7	5	LED	L0805
D5	1	1N5820	D_DO-201AD_P15.24mm_Horizont
D3	1	BAT54C	SOT-23
J1,	1	Floppy	IDC-Header_2x17
J2,	1	FPGA JTAG	IDC-Header_2x05, angled
J3,	1	Floppy 5V	PinHeader_1x04
J4,	1	uBus	PinHeader_2x04
J5,	1	AVR JTAG	IDC-Header_2x03, angled
J6,	1	AVR UART	PinHeader_1x04
J7,	1	ESP-BUS	PinHeader_2x05
JP2	1	Jumper	PinHeader_1x03
L1,	1	68uH	L_12x12mm
R1, R2, R3,	3	2k4	R0805
R4, R57	2	27	R0805
R5, R9, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R58, R59, R60,	28	10k	R0805
R6, R11, R14, R17,	4	1k	R0805
R7, R8, R21, R22, R23, R24,	6	4k7	R0805
R10, R13, R16,	3	2k	R0805
R12, R15, R18, R28, R29, R54, R55, R56,	8	'470 (510)	R0805
R53	1	X* (see schematics)	R0805
R19, R20,	2	75	R0805
R25,	1	820	R0805
R26, R27,	2	750	R0805
R61,	1	300	R0805
SW1, SW2,	2	SW_Push	SPST_Angled_PTS645Vx58-2LFS
SW3	1	SW_DIP_x04	SPSTx04_Piano_CTS_Series

SW4	1	SW_SPST	Slider button switch
U1,	1	EP4CE6E22C8N	QFP-144
U2,	1	CY62167EV30 (ELL)	TSOP-I-48_18.4x12mm_P0.5mm
U3, U3"1	2	W25Q16 | M25P16	SOIC-8_5.23x5.23mm_P1.27mm
U4,	1	EPM3128ATC100	LQFP-100_14x14mm_P0.5mm
U5,	1	ATMEGA328-AU	TQFP-32_7x7mm_P0.8mm
U6,	1	MB8877A	DIP-40_W15.24mm
U7, U8,	2	TXB0104PW	TSSOP-14_4.4x5mm_P0.65mm
U9,	1	DS1307Z+	SOIC-8_3.9x4.9mm_P1.27mm
U10,	1	ESP-12E	ESP-12E
U11,	1	TDA1543	DIP-8_W7.62mm
U12,	1	AMS1117-3.3	SOT-223-3
U13,	1	AMS1117-2.5	SOT-223-3
U14,	1	AMS1117-1.2	SOT-223-3
U15,	1	LM2596S-5.0	TO-263-5
U17,	1	74LS06	DIP-14_W7.62mm
U18,	1	74LS38	DIP-14_W7.62mm
X1,	1	50MHz	SG8002CA-4Pin_7.0x5.0mm
Y1,	1	32768Hz	AT310_D3.0mm_L10.0mm
Y2,	1	16MHz	HC49-S