

576NUC+ MAIN BOARD

Qty	Part ID	Description	Digi-Key MFR P/N	Digi-Key P/N	Mouser P/N	Alternate
21	BP,C22,C21,C19,C18,C15,C14,C13,C8,C4,C3,C1	CAP CERAMIC 0.1UF 50V Axial	C412C104K5R5TA7200	399-4484-1-ND	80-C412C104K5R-TR	
1	C20	CAP CERAMIC 100PF 50V Radial	FG28C0G1H101JNT06	445-FG28C0G1H101JNT00-ND	810-FG28C0G1H101JNT6	
1	C17	CAP CERAMIC 10UF 25V Radial	C322C106K3R5TA	399-13968-ND	80-C322C106K3R	
4	C12,C11,C10,C9	CAP CERAMIC .047UF 50V Axial	A473K15X7RF5TAA	1107PHCT-ND	594-A473K15X7RF5TAA	
1	C16	CAP ELECTROLYTIC 10UF 16V Radial	ECE-A1CKS100	P966-ND	667-ECE-A1CKS100	
3	C23,C6,C5	CAP ELECTROLYTIC 220UF 6.3V Radial	ECA-0JHG221	P5506-ND	667-ECA-0JHG221	
1	C2	CAP ELECTROLYTIC 330UF 25V Radial	860010474012	732-8635-1-ND	710-860010474012	
1	C7	CAP ELECTROLYTIC 1000UF 6.3V Radial	ECA-0JHG102	P5509-ND	667-ECA-0JHG102	
1	D5	LED 3MM 2-HIGH GREEN/GREEN	SSF-LXH2103GGD/4	67-1255-ND	696-FLXH2103GGD/4	
1	D4	DIODE ZENER PRECISION 10V	LM4040AIZ-10.0	2156-LM4040AIZ-10.0-ND	926-LM4040AIZ100NOPB	
1	D1	DIODE SCHOTTKY 40V 2A DO204AC	SB240-E3/54	SB240-E3/54GICT-ND	625-SB240-E3	
2	D3,D2	DIODE SCHOTTKY 40V 350MA DO35	BAT48	497-2512-1-ND	511-BAT48	
1	J1	CONN PWR JACK 2.5X5.5MM	CUI PJ-059B	CP-059B-ND	490-PJ-059B	
1	J6	CONN HEADER VERT FEMALE 14POS 0.1"	PPPC141LFBN-RC	S7047-ND	855-M20-7821446	
1	J11	CONN HEADER VERT FEMALE 2POS 0.1"	PPTC021LFBN-RC	S7000-ND	855-M20-7820246	
1	J12	CONN HEADER VERT 2POS 0.1"	PH1-02-UA	2057-PH1-02-UA-ND	538-22-28-5027	
1	J4	CONN HEADER VERT 3POS 0.1"	PH1-03-UA	2057-PH1-03-UA-ND	538-22-28-5033	
2	J8,J7	CONN HEADER VERT 5POS 0.1"	PH1-05-UA	2057-PH1-05-UA-ND	538-22-28-4053	
1	J5	CONN RCPT FEMALE DIN 8POS	SDF-80J	CP-7080-ND	490-SDF-80J	
1	J3	CONN RCPT FEMALE MINI DIN 6POS	MD-60SM	CP-2260-ND	490-MD-60SM	
2	J10,J9	CONN D-SUB JACK 9POS R/A	A-DS 09 A/KG-T4S	AE10970-ND	636-182-009-113R171	
1	J2	CONN D-SUB JACK 15POS R/A	A-DS 15 A/KG-T4S	AE10976-ND	636-182-015-113R171	
1	L2	FIXED IND 100NH (0.1UH) 1.79A	9250A-101-RC	M10079-ND	652-9250A-101-RC	
1	L1	FIXED IND 6.8UH 2.4A	SBC2-6R8-242	399-18904-ND	80-SBC2-6R8-242	
1	Q3	MOSFET P-CH 30V 7.5A SOT-223-4	NDT456P	NDT456PCT-ND	512-NDT456P	
1	Q2	TRANSISTOR NPN 40V 1A TO-92	PN2222ABU	PN2222AFS-ND	512-PN2222ABU	
1	Q1	TRANSISTOR PNP 60V 0.8A TO-92	PN2907ABU	PN2907ABUFS-ND	512-PN2907ABU	
1	RT1	RES TRIMMER 500K OHM	3319P-1-504	3319P-1-504-ND		
2	R21,R15	RES 150 OHM 1/8W 5% CF AXIAL	CF18JT150R	CF18JT150RCT-ND	594-5063JD150R0F	
5	R24,R9,R3,R2,R1	RES 1K OHM 1/8W 5% CF AXIAL	CF18JT1K00	CF18JT1K00CT-ND	594-5063JD1K000F	
1	R11	RES 1.5K OHM 1/8W 5% CF AXIAL	CF18JT1K50	CF18JT1K50CT-ND	594-5063JD1K500F	
2	R8,R6	RES 100K OHM 1/8W 5% CF AXIAL	CF18JT100K	CF18JT100KCT-ND	594-5063JD100K0F	
1	R17	RES 27 OHM 1/8W 5% CF AXIAL	CF18JT27R0	CF18JT27R0CT-ND	588-OJ2705E-R52	
1	R5	RES 22K OHM 1/8W 5% CF AXIAL	CF18JT22K0	CF18JT22K0CT-ND	594-5063JD22K1%	
1	R20	RES 33 OHM 1/8W 5% CF AXIAL	CF18JT33R0	CF18JT33R0CT-ND	588-OJ3305E-R52	
6	R27,R26,R18,R14,R13,R7	RES 374 OHM 1/8W 1% CF AXIAL	RNF18FTD374R	RNF18FTD374RCT-ND	71-RN55D-F-374/R	
7	R30,R29,R28,R25,R23,R22,R4	RES 4.7K OHM 1/8W 5% CF AXIAL	CF18JT4K70	CF18JT4K70CT-ND	594-5063JD4K700F	
1	R10	RES 470K OHM 1/8W 5% CF AXIAL	CF18JT470K	CF18JT470KCT-ND	594-5063JD470K0F	
2	R19,R16	RES 75 OHM 1/8W 5% CF AXIAL	CF18JT75R0	CF18JT75R0CT-ND	OJ7505E-R52	
1	R12	RES 750 OHM 1/8W 5% CF AXIAL	CF18JT750R	CF18JT750RCT-ND	594-5063JD750R0F1	
1	RN9	RES ARRAY 5-BUS RES 1K OHM 6SIP	4606X-101-102LF	4606X-1-102LF-ND	652-4606X-1LF-1K	
1	RN7	RES ARRAY 5-BUS RES 3.3K OHM 6SIP	4606X-101-332LF	4606X-1-332LF-ND	652-4606X-1LF-3.3K	
1	RN1	RES ARRAY 7-BUS RES 4.7K OHM 8SIP	4608X-101-472LF	4608X-1-472LF-ND	652-4608X-1LF-4.7K	
2	RN6,RN3	RES ARRAY 8-BUS RES 4.7K OHM 9SIP	4609X-101-472LF	4609X-101-472LF-ND	652-4609X-1LF-4.7K	
1	RN8	RES ARRAY 3-ISOL RES 75 OHM 6SIP	4606X-102-750LF	4606X-102-750LF-ND	652-4606X-102-750LF	
1	RN2	RES ARRAY 8-ISOL RES 100 OHM 16SOIC	4816P-1-101LF	4816P-1-101LFCT-ND	652-4816P-1LF-100	
1	RN4	RES ARRAY 8-ISOL RES 220 OHM 16SOIC	4816P-1-221LF	4816P-1-221LFCT-ND	652-4816P-1LF-220	

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1	RN5	RES ARRAY 8-ISOL RES 1.8K OHM 16SOIC	4816P-1-182LF	4816P-1-182LFCT-ND	652-4816P-1LF-1.8K	
1	U13	IC SRAM 64KX8 PARALLEL 32DIP	UM61512AK-15			eBay
1	U3	IC SRAM 512Kx8 PARALLEL 32DIP	AS6C4008-55PCN	1450-1027-ND	913-AS6C4008-55PCN	
1	U4	IC PLD 8MC 15NS 20DIP	ATF16V8BQL-15PU	ATF16V8BQL-15PU-ND	556-AF16V8BQL15PU	
1	U5	IC PLD 10MC 15NS 24DIP	ATF22V10C-15PU	ATF22V10C-15PU-ND	556-AF22V10C15PU	
1	U11	IC INVERTER 6CH 6-INP 14SOIC	SN74F04DR	296-1177-1-ND	595-SN74F04DR	
1	U17	IC GATE AND 4CH 2-INP 14SOIC	SN74HCT08DR	296-14862-1-ND	595-SN74HCT08DR	
1	U14	IC DECODER 3-TO-8 LINE 16SOIC	SN74HCT138DR	296-14863-1-ND	595-SN74HCT138DR	
1	U19	IC INVERTER SCHMITT 6CH 14SOIC	SN74AHCT14DR	296-1474-1-ND	595-SN74AHCT14DR	
1	U16	IC SWITCH SPDT 8SOIC	DG419LEDY-T1-GE4	DG419LEDY-T1-GE4CT-ND	78-DG419LEDY-T1-GE4	
1	U15	IC BUFFER VIDEO 3-CHAN 8SOIC	FMS6400			eBay
1	U18	IC MCU 8BIT 3.5KB FLASH 8DIP	PIC12F1572-I/P	PIC12F1572-I/P-ND	579-PIC12F1572-I/P	
1	U12	IC MCU 8BIT 14KB FLASH 18SOIC	PIC16F1847-I/SO	PIC16F1847-I/SO-ND	579-PIC16F1847-I/SO	
1	U2	IC EPROM -or- EEPROM 64Kx8	27C512, SST 27SF512, WinBond W27C512	AT27C512R-70PU-ND	556-AT27C512R70PU	eBay
1	U9	Atari ANTIC (NTSC/PAL)	CO12296/CO14887			BEST
1	U10	Atari GTIA (NTSC/PAL)	CO14805/CO14889			BEST
1	U7	Atari POKEY	CO12294			BEST
1	U6	Atari R6520 PIA	CO14795			BEST
1	U8	Atari CPU 8BIT SALLY	CO14806			BEST
1	U1	IC DC DC CONVERTER 5V TO-220	TPSM84205EAB	296-47074-ND	595-TPSM84205EAB	
1	X1	CRYSTAL 3.579545MHZ 17PF T/H (NTSC) FOR PAL USE Atari 3.546894Mhz CRYSTAL	ECS-35-17-4X CO16112	X1085-ND	520-HCU357-17X	BEST
IC SOCKETS						
1	U18	CONN IC DIP DUAL LEAF SKT 8POS 0.3"	A 08-LC-TT	AE9986-ND	571-1-2199298-2	
1	U4	CONN IC DIP MP SKT 20POS 0.3"	AR 20 HZL-TT	AE10015-ND	575-1154732041001000	
1	U5	CONN IC DIP DUAL LEAF SKT 24POS 0.3"	A 24-LC/7-T	AE10285-ND	517-4824-3000-CP	
1	U2	CONN IC DIP DUAL LEAF SKT 28POS 0.6"	A 28-LC-TT	AE10004-ND	517-4828-6004-CP	
1	U3	CONN IC DIP DUAL LEAF SKT 32POS 0.6"	A 32-LC-TT	AE10354-ND	517-4832-6004-CP	
1	U13	CONN IC DIP DUAL LEAF SKT 32POS 0.3"	32LPD.3			JAMECO
7	U6,U7,U8,U9,U10	CONN IC DIP MP SKT 40POS GOLD 0.6"	SA406000	ED3032-ND	575-1104764041001000	

No Stock – Used as Reference Only

PAL BURST BOARD (required for PAL configuration)

2	C3,C1	CAP CERAMIC 0.1UF 50V Axial	C412C104K5R5TA7200	399-4484-1-ND	80-C412C104K5R-TR	
1	C2	CAP CERAMIC 820PF 50V Axial	C410C821K5G5TA	399-C410C821K5G5TA-ND	80-C410C821K1R	
1	C4	CAP CERAMIC 56PF 200V Axial	SA102A560JARN	SA102A560JAR-ND	581-SA102A560JAR	
1	C5	CAP CERAMIC 22PF 200V Axial	SA102A220JARN	478-SA102A220JARNCT-ND	581-SA102A220JARN	
1	L1	FIXED IND 1.5UH 700 mA 200 MOHM TH	78F1R5K-RC	78F1R5K-RC-ND	542-78F1R5K-RC	
1	R3	RES 10K OHM 1/8W 5% CF AXIAL	CF18JT10K0	CF18JT10K0CT-ND	594-5063JD10K00F	
1	R5	RES 6.8K OHM 1/8W 5% CF AXIAL	CF18JT6K80	CF18JT6K80CT-ND	594-5063JD6K800F	
1	R1	RES 4.7K OHM 1/8W 5% CF AXIAL	CF18JT4K70	CF18JT4K70CT-ND	594-5063JD4K700F	
1	R2	RES 1K OHM 1/8W 5% CF AXIAL	CF18JT1K00	CF18JT1K00CT-ND	594-5063JD1K000F	
1	R4	RES 470 OHM 1/8W 5% CF AXIAL	CF18JT470R	CF18JT470RCT-ND	594-5063JD470R0F	
1	U1	IC FF D-TYPE DUAL 1BIT 14SOIC	SN74HCT74DR	296-1211-1-ND	595-SN74HCT74DR	
1	Q1	TRANSISTOR NPN 40V 1A TO-92	PN2222ABU	PN2222AFS-ND	512-PN2222ABU	
1	X1	CRYSTAL 4.433618MHZ 20PF TH	ECS-44-20-4X	X1047-ND	520-HCU443-20X	
1	U1	CONN IC DIP MP SKT 40POS GOLD 0.6"	SA406000	ED3032-ND	575-1104764041001000	

Qty	Part ID	Description	Digi-Key MFR P/N	Digi-Key P/N	Mouser P/N	Alternate
576NUC+ FujiNet BOARD						
4	C1,C4,C5,C8	CAP 0,1UF CERAMIC 50V RADIAL	C322C104K5R5TA7301	399-9877-1-ND	80-C322C104K5R-TR	
2	C2,C7	CAP 1UF ALUM 20% 35V RADIAL	UMF1V010MDD1TP	493-10230-1-ND	647-UMF1V010MDD1TP	
2	C3,C6	CAP 10UF ALUM 20% 6.3V RADIAL	UMA0J100MCD2	493-13406-ND	647-UMA0J100MCD2	
5	R1,R4,R5,R6,R8	RES 2K OHM 1/8W 5% CF AXIAL	CFR-25JB-52-2K	2.0KQBK-ND	603-CFR-25JB-52-2K	
1	R2	RES 33K OHM 1/8W 5% CF AXIAL	CFR-25JB-52-33K	33KQBK-ND	603-CFR-25JB-52-33K	
1	R3	RES 1.2K OHM 1/8W 5% CF AXIAL	CFR-25JB-52-1K2	1.2KQBK-ND	603-CFR-25JB-52-1K2	
1	R7	RES 3.9K OHM 1/8W 5% CF AXIAL	CFR-25JB-52-3K9	3.9KQBK-ND	603-CFR-25JB-52-3K9	
1	RN1	RES ARRAY 9 RES 10K OHM 10SIP	4610X-101-103LF	4610X-1-103LF-ND	652-4610X-1LF-10K	
2	D1,D2	DIODE SCHOTTKY 40V 350MA DO35	BAT48	497-2512-1-ND	511-BAT48	
3	D3,D4,D5	LED-3MM R/A Holder Black Nylon	H-101C-1	492-2502-ND	749-H-101C-1	
1	D3	LED-3MM WHITE DIFFUSED	NTE30149	2368-NTE30149-ND		
1	D4	LED-3MM BLUE DIFFUSED	NTE30148	2368-NTE30148-ND		
1	D5	LED-3MM RED DIFFUSED	NTE30146	2368-NTE30146-ND		
1	U1	IC REG LINEAR 3.3V 400MA SOT223	LD1117S33TR	497-1242-1-ND	511-LD1117S33	
2	U2,U3	CONN IC DIP SOCKET 14POS TIN	A 14-LC-TT	AE9989-ND	517-4814-3004-CP	
1	U2	IC BUF NON-INVERT 5.25V 14DIP	SN74LS07N	296-14878-5-ND	595-SN74LS07N	
1	U3	IC SWITCH QUAD 1X2 14DIP	CD74HCT4066E	296-2122-5-ND	595-CD74HCT4066E	
1	U4	16 MB WIFI-Bluetooth Module SMD	ESP32-WROVER-E (16MB)	1965-ESP32-WROVER-E(16MB)CT-ND	356-ESP32WRVE22864PC	
1	SW1	SWITCH TOGGLE SPDT 5A 120V	100SP1T2B4M6QE	EG2362-ND	612-100-A2461	
3	SW2,SW3,SW4	SWITCH TACTILE SPST-NO 0.05A 24V	1-1825027-1	450-1658-ND	506-FSMRA4JH04	
1	J1	CONN HEADER VERT 50POS 2.54MM	TSW-150-15-T-S	SAM12373-ND	200-TSW15015TS	
1	J2	CONN HEADER VERT 5POS 2.54MM	961105-6404-AR	3M9457-05-ND		
1	J3	CONN HEADER R/A 4POS 2.54MM	PH1RB-04-UA	2057-PH1RB-04-UA-ND		
1	J4	CONN SECURE DIGITAL TOP PUSH-PULL	2041021-3	A130907-ND	571-2041021-3	
1	NA	HEX STANDOFF M3 X 18MM	25513	36-25513-ND	534-25513	
2	NA	PAN HEAD SCREW M3 X 8MM CROSS SL	97790803111	732-13705-ND	710-97790803111	

Notes:

[The Brewing Academy](#) will be selling fully assembled boards, cases, and bare boards.

Substitution: any resistor with the same ohm value and same wattage can be swapped from any vendor or manufacturer.