

Qty	Part ID	Description/Value	Manufacturer P/N	Digi-Key P/N (unless shown otherwise)	Cost (ea)	Cost (ext)
<b>XEP80-II MAIN BOARD</b>						
1	XEP80-II PCB	4.5"x4.5" 4-LAYER 1.6MM PRINTED CIRCUIT BOARD		<b>JLPCB Price Each @ 5 piece Qty</b>	\$9.00	\$9.00
1	BTN1	SWITCH TACTILE SPST N.O. MOM R/A PCMNT	1-1825027-1	450-1658-ND	\$0.29	\$0.29
1	SW1	SWITCH TOGGLE SPDT ON-ON R/A PCMNT <b>(optional)</b>	1MS1T1B4M7QES	<b>MOUSER</b> 118-1MS1T1B4M7QES	\$2.81	\$2.81
2	C1,C2	CAP CERAMIC RADIAL 5MM LS 22PF	C317C220J2G5TA	399-4220-ND	\$0.20	\$0.40
14	C3,C6,BP (By-Pass)	CAP CERAMIC RADIAL 5MM LS 0.1UF	K104K15X7RF53H5	<b>MOUSER</b> 594-K104K15X7RF53H5	\$0.28	\$3.92
2	C4,C5	CAP ELECTROLYTIC RADIAL 1MM LS 6.3V 10UF	UMA0J100MCD2	493-13406-ND	\$0.29	\$0.58
1	C7	CAP CERAMIC RADIAL 5MM LS .01UF	K103K10X7RH5UH5	<b>MOUSER</b> 594-K103K10X7RH5UH5	\$0.25	\$0.25
1	D1	LED 3MM 2-HIGH GREEN/GREEN R/A PCMNT	SSF-LXH2103GGD/4	67-1255-ND	\$1.29	\$1.29
1	D2	DIODE SCHOTTKY 40V 350MA DO35	SD103A-TR	SD103AVSCT-ND	\$0.37	\$0.37
7	D3,D4,D5,D6,D7,D8,D9	DIODE GEN PURPOSE 100V 200MA DO35 1N914	1N914	1N914FS-ND	\$0.10	\$0.70
1	J1 – AV2HDMI	CONN HEADER VERT 8POS 1.25MM	53047-0810	<b>MOUSER</b> 538-53047-0810	\$0.47	\$0.47
1	J2 – 80-OUT	CONN HEADER VERT 3POS 2.54MM	PBC03SFAN	S1211E-03-ND	\$0.30	\$0.30
1	J2 – 80-OUT	CONN JUMPER SHORTING 2.54MM GOLD	SPC02SVJN-RC	S9344-ND	\$0.13	\$0.13
1	J3 – A/V IN/OUT	CONN RCA JACKx3 MONO 3.2MM R/A PCMNT	RCJ-32234	CP-1445-ND	\$3.06	\$3.06
1	J4 – S-VIDEO IN	CONN RCPT FEMALE MINI DIN 4P R/A PCMNT	MD-40SM	CP-2240-ND	\$1.82	\$1.82
1	J5 – JOY/COM/PWR	CONN D-SUB RCPT 9POS R/A PCMNT	A-DF 09 A/KG-T4S	AE10924-ND	\$0.82	\$0.82
1	Q1	TRANSISTOR NPN 40V 1A TO92-3 PN2222	PN2222ABU	PN2222ABU-ND	\$0.35	\$0.35
1	X1	CRYSTAL 12.0000MHZ 20PF TH	FC4STCBMF12.0	631-1105-ND	\$0.35	\$0.35
2	R1,R2	RESISTOR 1/4W AXIAL 390 ohm	CFR-25JB-52-390R	390QBK-ND	\$0.10	\$0.20
3	R3,R9,R15	RESISTOR 1/4W AXIAL 10K ohm	CFR-25JB-52-10K	10KQBK-ND	\$0.10	\$0.30
1	R4	RESISTOR 1/4W AXIAL 47K ohm	CFR-25JB-52-47K	47KQBK-ND	\$0.10	\$0.10
1	R5	RESISTOR 1/4W AXIAL 430 ohm	CFR-25JB-52-430R	430QBK-ND	\$0.10	\$0.10
1	R6	RESISTOR 1/4W AXIAL 10 ohm	CFR-25JB-52-10R	10QBK-ND	\$0.10	\$0.10
2	R7,R16	RESISTOR 1/4W AXIAL 75 ohm	CFR-25JB-52-75R	75QBK-ND	\$0.10	\$0.20
1	R8	RESISTOR 1/4W AXIAL 150 ohm	CFR-25JB-52-150R	150QBK-ND	\$0.10	\$0.10
1	R10	RESISTOR 1/4W AXIAL 1K ohm	CFR-25JB-52-1K	1.0KQBK-ND	\$0.10	\$0.10
5	R11,R12,R13,R14,R20	RESISTOR 1/4W AXIAL 3.9K ohm	CFR-25JB-52-3K9	3.9KQBK-ND	\$0.10	\$0.50
1	R17	RESISTOR 1/4W AXIAL 470 ohm	CFR-25JB-52-470R	470QBK-ND	\$0.10	\$0.10
1	R18	RESISTOR 1/4W AXIAL 270 ohm	CFR-25JB-52-270R	270QBK-ND	\$0.10	\$0.10
1	R19	RESISTOR 1/4W AXIAL 47 ohm	CFR-25JB-52-47R	47QBK-ND	\$0.10	\$0.10
1	U1	IC 4-BIT BINARY COUNTER 16-DIP 74HC163	SN74HC163N	296-8246-5-ND	\$0.62	\$0.62
2	U2,U10	IC D-TYPE LATCH OCTAL 20DIP 74HC373	SN74HC373AN	296-11674-5-ND	\$0.61	\$1.22
2	U3,U11	IC EEPROM 64KBIT PARALLEL 28DIP AT28C64B	AT28C64B-15PU	AT28C64B-15PU-ND	\$5.05	\$10.10
1	U4	IC SRAM 64KBIT PARALLEL 28DIP AS6C6264	AS6C6264-55PCN	1450-1036-ND	\$3.78	\$3.78

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2	U5,U6	IC TX/RX NON-INVERT XCVR 14DIP 74HC243	CD74HC243E	296-33055-5-ND	\$0.92	\$1.84
1	U7	IC MULTIPLEXER TRIPLE 1X2 16DIP MAX4619	MAX4619CPE+	MAX4619CPE+-ND	\$4.53	\$4.53
1	U8	TERMINAL DISPLAY PROCESSOR 48DIP NS405	NS405-B	eBay Price Each @ 100 piece Quantity	\$0.20	\$0.20
1	U9	IC FLIP-FLOP D-TYPE DUAL 1BIT 14DIP 74HC74	CD74HC74E	296-12819-5-ND	\$0.89	\$0.89
1	U12	IC GATE NOR 4CH 2-INP 14DIP 74HC02	SN74HC02N	296-1564-5-ND	\$0.58	\$0.58
1	U13	IC INVERT SCHMITT 6CH 6-IN 14DIP 74HC14	CD74HC14E	296-12786-5-ND	\$0.73	\$0.73
2	U1,U7	CONN IC DUAL LEAF DIP SOCKET 16POS	ED16DT	ED3046-5-ND	\$0.26	\$0.52
2	U2,U10	CONN IC DUAL LEAF DIP SOCKET 20POS	ED20DT	ED3054-5-ND	\$0.30	\$0.60
3	U3,U4,U11	CONN IC DUAL LEAF DIP SOCKET 28POS (see note)	ED28DT	ED3052-5-ND	\$0.34	\$1.02
5	U5,U6,U9,U12,U13	CONN IC DUAL LEAF DIP SOCKET 14POS	ED14DT	ED3045-5-ND	\$0.19	\$0.95
1	U8	CONN IC DUAL LEAF DIP SOCKET 48POS	4848-6004-CP	MOUSER 517-4848-6004-CP	\$1.22	\$1.22

Subtotal = **\$57.71****ACCESSORIES and CABLES**

1	AV2HDMI Module	AV/CVBS/S-VIDEO to HDMI CONVERTER MODULE	WIISTAR WS-Z51	AliExpress <a href="#">Buy Link</a>	\$16.15	\$16.15
1	AV2HDMI HEATSINK	HEAT SINK 8.8 x 8.8 x 5 MM SELF STICK (see notes)		AliExpress <a href="#">Buy Link (5 LOT \$0.35 ea)</a>	\$0.35	\$0.35
1	AV2HDMI Cable	CONN 1.25MM 8POS X 15CM DOUBLE FEMALE CABLE		AliExpress <a href="#">Buy Link (10 LOT \$0.40 ea)</a>	\$0.40	\$0.40
1	AV2HDMI PWR Cable	MICRO USB MALE/FEMALE PANELMNT EXT CABLE		AliExpress <a href="#">Buy Link</a>	\$1.76	\$1.76
3	SPACER	HEX STANDOFF M2.5 X 16MM NYLON	92319A140	McMaster-Carr 92319A140	\$1.86	\$5.58
6	MOUNTING SCREW	PAN HEAD SCREW M2.5 X 5MM NYLON	50M025045P005	MOUSER 144-50M025045P005 *see Notes	\$0.15	\$0.90
1	DSUB9 M/F CABLE	DB9 MALE/FEMALE JOYSTICK 6 FOOT EXT CABLE		CONSOLE5 <a href="#">Buy Link</a>	\$3.95	\$3.95

Total = **\$77.80**

## Notes:

The M2.5 Screws can also be ordered from McMaster-Carr in a larger quantity at a better discount than Mouser (P/N 92492A709 100 Piece minimum @ \$7.15).

The AV2HDMI WIISTAR WS-Z51 Module comes with a USB Power and a standard S-Video Cable. An Atari specific AV cable will be needed.

The 8.8 x 8.8 x 5 mm heat sink is for IC U1 on the AV2HDMI module.

[The Brewing Academy](#) will be selling fully assembled boards, cases, and a bare board kit that brings the 4-layer PCB, NS405 chip and 48-pin socket.

The 28 pin IC sockets have a center support bar that needs to be cut out with a pair of diagonal wire cutters in order to see the silk screened IC p/n on the PCB.

Substitution: 74HCTxxx can be used in place of 74HCxxx ICs, any 5% ¼ watt resistor with the same ohm value can be swapped from any vendor or manufacturer.