

Bill Of Materials											
ZX Spectrum Harlequin 48k Rev.G											
Tom Major 11/2020											
Category	Part	Pins	Quantity	Mouser#	Reichelt#	Manufacturer	Description	Unit price [€]	Sum price [€]	Comments	
IC	Z84C0010PEG	40	1	692-Z84C0010PEG		Zilog	Z84C00 CMOS Z80 CPU	4,51	4,51		
IC	AS6G62256-55PCN	28	2	913-AS6G62256-55PCN		Alliance Memory	SRAM 256K, 2.7-5.5V, 55ns 32K x 8 Asynch SRAM	2,29	4,58		
IC	AT28C256-15PU	28	1	556-AT28C25615PU	27C256-100	Atmel / ST	(E)EPROM 256K 32Kx8 150/100 ns 4.5V-5.5V	3,02	3,02	take either the EEPROM or the EPROM (cheaper)	
IC	AD724JRZ	SMD16	1	584-AD724JRZ		Analog Devices	RGB to NTSC/PAL Encoder	13,95	13,95		
IC	LM2596SX-5.0/NOPB	TO-263-5	1	926-LM2596SX-5.0NOPB		TI	LM2596 150-kHz 3-A Step-Down Voltage Regulator	4,30	4,30		
IC	TL712CP	8	1	595-TL712CP		TI	Differential Comparator	2,04	2,04		
IC	74HC00	14	3	595-SN74HC00N		TI	Quadruple 2-Input Positive-NAND Gates	0,48	1,44		
IC	74HC04	14	1	595-SN74HC04N		TI	Hex Inverters	0,51	0,51		
IC	74HC08	14	4	595-SN74HC08N		TI	Quadruple 2-Input Positive-AND Gates	0,48	1,92		
IC	74HC32	14	5	595-SN74HC32N		TI	Quadruple 2-Input Positive-OR Gates	0,48	2,40		
IC	74HC74	14	4	595-SN74HC74N		TI	Dual D-Type Positive-Edge-Triggered Flip-Flops	0,48	1,92		
IC	74HC86	14	1	595-SN74HC86N		TI	Quadruple 2-Input Exclusive-Or Gates	0,40	0,40		
IC	74HC138	16	3	595-SN74HC138N		TI	3-Line To 8-Line Decoders/Demultiplexers	0,40	1,20		
IC	74HC161	16	3	595-SN74HC161N		TI	4-Bit Synchronous Binary Counters	0,52	1,56		
IC	74HC166	16	1	595-SN74HC166N		TI	8-Bit Parallel-Load Shift Registers	0,44	0,44		
IC	74HC174	16	1	595-SN74HC174N		TI	Hex D-Type Flip-Flop With Clear	0,45	0,45		
IC	74HC245	20	3	595-SN74HC245N		TI	Octal Bus Transceivers With 3-State Outputs	0,48	1,44		
IC	74HC253	16	2	595-SN74HC253N		TI	Dual 4-Line to 1-Line Data Selectors/Multiplexers With 3-State	0,53	1,06		
IC	74HC257	16	2	595-SN74HC257N		TI	Quadruple 2-Line to 1-Line Data Selectors/Multiplexers With	0,52	1,04		
IC	74HC541	20	1	595-SN74HC541N		TI	Octal Buffers and Line Drivers With 3-State Outputs	0,51	0,51		
IC	74HC574	20	3	595-SN74HC574N		TI	Octal Edge-Triggered D-Type Flip-Flop With 3-State Outputs	0,47	1,41		
IC	74HC4040	16	4	595-SN74HC4040N		TI	12-Bit Asynchronous Binary Counters	0,52	2,08		
IC									52,18		
Socket	Precision IC-Socket 8	8	1		MPE 001-1-008-3		001-1-008-3-B1STF-XT0	0,25	0,25		
Socket	Precision IC-Socket 14	14	18		MPE 001-1-014-3		001-1-014-3-B1STF-XT0	0,30	5,40		
Socket	Precision IC-Socket 16	16	17		MPE 001-1-016-3		001-1-016-3-B1STF-XT0	0,34	5,78		
Socket	Precision IC-Socket 20	20	7		MPE 001-2-020-3		001-2-020-3-B1STF-XT0	0,44	3,08		
Socket	Precision IC-Socket 28	28	3		MPE 001-2-028-6		001-2-028-6-B1STF-XT0	0,58	1,74		
Socket	Precision IC-Socket 40	40	1		MPE 001-2-040-6		001-2-040-6-B1STF-XT0	0,89	0,89		
Socket									17,14		
T	8C547BBU		5	512-8C547BBU		ON Semi. / Fairchild	NPN, 45V, 0,1A, 0,5W, 300MHz	0,19	0,95		
T	2SA1175 / 2SA933		8		SA 933	NEC / Rohm	PNP, 50V, 0,1A, 0,25W, 180MHz	0,28	2,24	2SA1175 seems hard to get, SA933 is a replacment	
D	1N4148		1	78-1N4148-TAP		Vishay	Small Signal Diode	0,09	0,09		
D	1N4740A		1	78-1N4740A-TAP		Vishay	Zener Diode 10V 1W 5%	0,25	0,25		
D	1N4742A		1	78-1N4742A-TAP		Vishay	Zener Diode 12V 1W 5%	0,25	0,25		
D	1N5822-E3/54		1	625-1N5822-E3		Vishay	Schottky Diode 3A 40V	0,37	0,37		
D	SB240S-E3/54		1	625-SB240S-E3		Vishay	Schottky Diode 2A 40V	0,44	0,44	use 1 diode instead of Bridge Rectifier D12/2W10	
T,D									4,59		
Q	XT9S20ANA4M433619		1	73-XT49S443-20		Vishay	Quarz 4.433619MHz HC49/U-S	0,44	0,44		
Q	Quarz 14MHz HC49/U-S		1		14,0000-HC49U-S		Quarz 14MHz HC49/U-S	0,24	0,24		
L	Inductor 68u		1	652-SRR1280-680M		Bourns	Shielded SMD Power Inductor 68u 2,4A, 0,12Ohm	0,88	0,88		
SP	SM230332-1		1	497-SM230332-1		DB Unlimited	Speaker 23mm, 32Ohm, 80mW	2,31	2,31		
CON	MD-80SM		1	490-MD-80SM		CUI Devices	MINI DIN CONNECTOR, PCB mount jack 8pin	1,90	1,90		
CON	MD-80		1	490-MD-80		CUI Devices	MINI DIN CONNECTOR 8pin	2,40	2,40	optional, if you need a video plug connector	
CON	SJ1-3525N		2	490-SJ1-3525N		CUI Devices	3.5 MM AUDIO JACK, tip and ring switch	0,68	1,36		
CON	161-0360-E		1	161-0360-E		Kobiconn	Right Angle RCA PCB Mount Phono Jack white	0,86	0,86		
CON	KLDX-0202-A		1	806-KLDX-0202-A		Kycon	PCB Mount DC Power Jack 6,3mm 2mm	0,49	0,49		
CON	5-520315-5		1	571-5-520315-5		TE Connectivity	FFC / FPC Vertical Cable Entry 5 pin	0,44	0,44		
CON	5-520315-8		1	571-5-520315-8		TE Connectivity	FFC / FPC Vertical Cable Entry 8 pin	0,99	0,99		
Q,L,SP,CON									12,31		
RA	4116R-1-4711F		1	652-4116R-11F-470		Bourns	Resistor Array 16pin 4700hm Isolated	0,96	0,96	U47	
RA	4309R-101-4721F		1	652-4309R-11F-4.7K		Bourns	Resistor Array 9pin 4,7k Bussed	0,99	0,99	R13	
RA	4309R-101-1031F		2	652-4309R-11F-10K		Bourns	Resistor Array 9pin 10k Bussed	1,04	2,08	R1,R2	
R	MFR-25FTE52-68R		6	603-MFR-25FTE52-68R		Yageo	R 68 Metal Film 1%	0,11	0,66		
R	MFR-25FTE52-75R		4	603-MFR-25FTE52-75R		Yageo	R 75 Metal Film 1%	0,11	0,44		
R	MFR-25FTE52-150R		1	603-MFR-25FTE52-150R		Yageo	R 150 Metal Film 1%	0,11	0,11		
R	MFR-25FTE52-270R		3	603-MFR-25FTE52-270R		Yageo	R 270 Metal Film 1%	0,11	0,33		
R	MFR-25FTE52-470R		5	603-MFR-25FTE52-470R		Yageo	R 470 Metal Film 1%	0,11	0,55		
R	MFR-25FTE52-2K2		3	603-MFR-25FTE52-2K2		Yageo	R 2.2k Metal Film 1%	0,11	0,33		
R	MFR-25FTE52-2K7		1	603-MFR-25FTE52-2K7		Yageo	R 2.7k Metal Film 1%	0,11	0,11		
R	MFR-25FTE52-3K9		3	603-MFR-25FTE52-3K9		Yageo	R 3.9k Metal Film 1%	0,11	0,33		
R	MFR-25FTE52-4K7		1	603-MFR-25FTE52-4K7		Yageo	R 4.7k Metal Film 1%	0,11	0,11		
R	MFR-25FTE52-10K		8	603-MFR-25FTE52-10K		Yageo	R 10k Metal Film 1%	0,11	0,88		
R	MFR-25FTE52-12K		3	603-MFR-25FTE52-12K		Yageo	R 12k Metal Film 1%	0,11	0,33		
R	MFR-25FTE52-18K		3	603-MFR-25FTE52-18K		Yageo	R 18k Metal Film 1%	0,11	0,33		
R	MFR-25FTE52-22K		1	603-MFR-25FTE52-22K		Yageo	R 22k Metal Film 1%	0,11	0,11		
R	MFR-25FTE52-33K		1	603-MFR-25FTE52-33K		Yageo	R 33k Metal Film 1%	0,11	0,11		
R	MFR-25FTE52-100K		1	603-MFR-25FTE52-100K		Yageo	R 100k Metal Film 1%	0,11	0,11		
R	MFR-25FTE52-470K		1	603-MFR-25FTE52-470K		Yageo	R 470k Metal Film 1%	0,11	0,11		
R	MFR-25FTE52-4M7		1	603-MFR-25FTE52-4M7		Yageo	R 4.7M Metal Film 1%	0,11	0,11		
R									9,09		
C	K100J15COGF53L2		2	594-K100J15COGF53L2		Vishay	C 10p MLCC COG 50V 5% 2,5mm	0,30	0,60		
C	K101J15COGF53L2		1	594-K101J15COGF53L2		Vishay	C 100p MLCC COG 50V 5% 2,5mm	0,11	0,11		
C	K102K15X7RF53L2		2	594-K102K15X7RF53L2		Vishay	C 1n MLCC X7R 50V 10% 2,5mm	0,32	0,64		
C	K332K15X7RF53L2		2	594-K332K15X7RF53L2		Vishay	C 3.3n MLCC X7R 50V 10% 2,5mm	0,30	0,60		
C	K104K15X7RF53L2		24	594-K104K15X7RF53L2		Vishay	C 100n MLCC X7R 50V 10% 2,5mm	0,15	3,60		
C	252LH680MEFC10X16		1	232-252LH680MEFC10X1		Rubycon	680u 25V D10 L16 RM5	0,47	0,47	mount horizontally	
C	352LH220MEFC8X11.5		3	232-352LH220MEFC8X15		Rubycon	220u 35V D8 L11.5 RM3.5	0,32	0,96		
C	100YXJ10M6.3X11		2	232-100YXJ10M6.3X11		Rubycon	10u 100V D6.3 L11 RM2.5	0,27	0,54		
C									7,52		
Total									102,83		