

SCSI2IDE-004

REF	VALUE	FOOTPRINT	QTY	NOTES	DESCRIPTION	MFG PART	SUPPLIER	SUPPLIER PART
C1,C3-5,C7,C9,C11,C13,C15,C17,C19,C21,C23-29,C32,C34-35	0.1 uF	C2	22	1	Capacitor 0.1uF 50 Volt X7R 10% Radial 5.08mm Bulk	SR215C104KAA-VP	Jameco	544921
C2,C6	10 uF	C1V5	2		Aluminum Electrolytic Capacitors - Leaded Al Lytic Cap 105C Radial GA Series	EEA-GA1E100H	Mouser	667-EEA-GA1E100H
C31	22 uF	C1V5	1		Aluminum Electrolytic Capacitors - Leaded 25volts 22uF 5X7mm L/S=2.5mm Ammo STR	EEA-GA1E220H	Mouser	667-EEA-GA1E220H
C33	1.0 uF	C1V5	1		Aluminum Electrolytic Capacitors - Leaded 50volts 1.0uF 4X7mm L/S=2.5mm Ammo STR	EEA-GA1H1R0H	Mouser	667-EEA-GA1H1R0H
D1	MUR160	D5	1	2	Diode Ultra Fast Recovery Rectifier 600 Volt 1A 2-Pin DO-41 Bag	MUR160G	Jameco	879414
D2	1N914	D3	1		Diode Switching 100 Volt 2-Pin DO-35	1N914	Jameco	36311
D3	IDE ACT	T 1-3/4	1		LED Uni-Color Blue 468nm 2-Pin T-1 3/4	LTL-2R3CBD3	Jameco	2006764
D4	SD ACT	T 1-3/4	1		LED Uni-Color Blue 468nm 2-Pin T-1 3/4	LTL-2R3CBD3	Jameco	2006764
D5	+5V	T 1-3/4	1		LED Uni-Color Red 697nm 2-Pin T-1 3/4	LTL-307P	Jameco	790225
IC1	AM29F010	DIP-32 WIDE	1		5 VOLT 128KX8 DIP-32 70 NANOSECONDS FLASH	29F010-70	Jameco	242608
JP1-10	CONN_2	HDR 2X1	10	3,4	Breakaway Header, Male, 1 Row (see below)			
K-1	CONN_3	HDR 3X1	1	3,4	Breakaway Header, Male, 1 Row (see below)			
P1	CONFIG	HDR 8X2	1	3,4	Breakaway Header, Male, 2 Row (see below)			
P2	POWER	BORNIER-4	1		Disk Drive Power Connectors HI TEMP VERT HDR lead free	15-24-4745	Mouser	538-15-24-4745
P3	SERIAL	HDR 5X2 SHRD	1		Connector Shrouded Header 10 Position 2.54mm Solder Straight Thru-Hole	7110-10SG-R	Jameco	67812
P4	CLK_CPU	DIP-8 OSC	1	5	Standard Clock Oscillators 10MHz 5V	ACH-10.000MHZ-EK	Mouser	815-ACH-10-EK
P5	CLK_UART	DIP-8 OSC	1		Standard Clock Oscillators DIP-8 5V 1.8432MHz	ECS-2100AX-1.8432MHZ	Mouser	520-TCH184-X
P6	RESET	HDR 2X1	1	3	Breakaway Header, Male, 1 Row (see below)			
P7	IDE	HDR 20X2 SHRD	1		Connector Shrouded Header 40 Position 2.54mm Solder Straight Thru-Hole	7110-40SG	Jameco	181105
P12	SCSI	HDR 25X2 SHRD R/A	1		Headers & Wire Housings HDR R.A. DOUBLE 50P	1-5103311-0	Mouser	571-1-5103311-0
P14	IO ADR	HDR 3X2	1	3,4	Breakaway Header, Male, 2 Row (see below)			
Q1-2	2N3904	TO92-INVERT	2		TRANSISTOR General Purpose BJT NPN 40 Volt 0.2A 3-Pin TO-92	2N3904(FSC)	Jameco	178597
R1	10	R3	1		RESISTOR,CARBON FILM,10 OHM,1/4 WATT,5%,(100 BAG)	CF1/4W100JRC	Jameco	690380
R2,R5-6,R13-14	10K	R3	5		RESISTOR,CARBON FILM,10K OHM,1/4 WATT,5%,(100 BAG)	CF1/4W103JRC	Jameco	691104
R3,R16	470	R3	2		RESISTOR,CARBON FILM,470 OHM,1/4 WATT,5%,(100 BAG)	CF1/4W471JRC	Jameco	690785
R4,R8,R12,R17	4.7K	R3	4		RESISTOR,CARBON FILM,4.7K OHM,1/4 WATT,5%,(100 BAG)	CF1/4W472JRC	Jameco	691024
R7,R11	2.7K	R3	2		RESISTOR,CARBON FILM,2.7K OHM,1/4 WATT,5%,(100 BAG)	CF1/4W272JRC	Jameco	690961
R9	240	R3	1		RESISTOR,CARBON FILM,240 OHM,1/4 WATT,5%,(100 BAG)	CF1/4W241JRC	Jameco	690718
R10	390	R3	1		RESISTOR,CARBON FILM,390 OHM,1/4 WATT,5%,(100 BAG)	CF1/4W391JRC	Jameco	690769
R15	330	R3	1		RESISTOR,CARBON FILM,330 OHM,1/4 WATT,5%,(100 BAG)	CF1/4W331JRC	Jameco	690742
RR1-2	10K	SIP-10	2		RESISTOR NETWORK,10PIN,10KOHM,5%,125mW,BUSSED	LP10A103J	Jameco	2077714
RR3-5	220/330	SIP-8	3	6	Resistor Thick Film Net 220 Ohm-330 Ohm 2% 1 Watt ±100ppm °C Term 8-Pin SIP Pin Through Hole	4308R-104-221/331	Jameco	772182
SW1	RESET	SW_PUSH_SMALL	1		Switch Tactile N.O. Single Pole, Single Throw Flat Plunger PC Pins 0.05A 24 Volt 0.98N Thru-Hole Bag	B3F-1000	Jameco	162886

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U1	16550	DIP-40 WIDE	1		UART 1 Channel 16Byte FIFO 3.3 Volt 5 Volt 40-Pin PDIP	TL16C550CN	Jameco	288809
U2,U30	74LS32	DIP-14	2		Gates (AND / NAND / OR / NOR) Quad 2-Input	SN74ALS32N	Mouser	595-SN74ALS32N
U6	74LS139	DIP-16	1		Encoders, Decoders, Multiplexers & Demultiplexers Dual	SN74ALS139N	Mouser	595-SN74ALS139N
U19	8255	DIP-40 WIDE	1		IC,82C55A,CPU PERIPHERAL,DIP-40,5MHZ	82C55A	Jameco	52417
U22	MAX202	DIP-16	1	1	Line Transceiver 2TR 2 Transceiver 2 Receiver 16-Pin Plastic Dip N	MAX202CPE	Jameco	142535
U23	62256	DIP-28 WIDE	1		SRAM Chip Async Single 5 Volt 256K-Bit 32K x 8 70ns 28-Pin MDIP	CY62256LL-70PC	Jameco	391822
U24	Z80-CPU	DIP-40 WIDE	1	8	Microprocessors - MPU 10MHz CMOS CPU XTEMP	Z84C0010PEG	Mouser	Z84C0010PEG
U27	74LS682N	DIP-20	1		Comparator ICs Octal binary or BCD Magnitude Comparator	SN74LS682N	Mouser	595-SN74LS682N
U28	74LS14	DIP-14	1		Inverters Hex Schmitt-Trigger	SN74LS14N	Mouser	595-SN74LS14N
U29	74LS06N	DIP-14	1		Buffers & Line Drivers Hex inverter Buffer/ Driver	SN74LS06N	Mouser	595-SN74LS06N
U31	Z53C80	PLCC44	1	9	SMALL COMPUTER SYSTEM INTERFACE SCSI	Z53C8003VSC	UTSource	
U33	LM317	TO92	1		Standard Regulator 1.2 Volt to 37 Volt 0.1A 3-Pin TO-92 Box	LM317LZ	Jameco	23552
U34	CONN_SD		1	7	Memory Card Connectors SD CARD CONNECTOR	10067847-001RLF	Mouser	649-10067847-001RLF
U35	74LS540	DIP-20	1		Buffers & Line Drivers Octal w/Tri-St Out	SN74ALS540N	Mouser	595-SN74ALS540N
JP1-10,P6		HDR 40X1	1	3	Connector Unshrouded Header 40 Position 2.54mm Solder Straight Thru-Hole	7000-1X40SG-R	Jameco	160882
P1,P14		HDR 40X2	1	3	Connector Unshrouded Header Male 80 Position 2.54mm Solder Straight Thru-Hole	7000-2X40SG-R	Jameco	117197
RR3-5		SIP-36	4	3	Socket SIPP 36 Pin Machine Tooled Pins Soldertail	2011-1X36-R	Jameco	175920
P4-5		DIP-8 OSC	2		OSCILLATOR SOCKET,4-PIN,8-POS,HALF CAN CRYSTAL OSCILLATOR SKT,MACH TOOL	240434	Jameco	676385
U2,U28-30		DIP-14	4		SOCKET,IC,14PIN,MACHINE TOOLED LOW PROFILE,SOLDERTAIL,.3"WIDE	6100-14-R	Jameco	37197
U6,U22		DIP-16	2		SOCKET,IC,16PIN,MACHINE TOOLED LOW PROFILE,SOLDERTAIL,.3"WIDE	6100-16-R	Jameco	37402
U27,U35		DIP-20	2		SOCKET,IC,20PIN,MACHINE TOOLED LOW PROFILE,SOLDERTAIL,0.3"WIDE	6100-20	Jameco	38623
U23		DIP-28 Wide	1		SOCKET,IC,28PIN,MACHINE TOOLED LOW PROFILE,SOLDERTAIL,0.6"WIDE	6100-28-R	Jameco	40329
IC1		DIP-32 Wide	1		SOCKET,IC,32PIN,MACHINED,LOW PROFILE,SOLDERTAIL,0.6 INCH WIDE	ICM-632-1-GT	Jameco	105381
U1,U19,U24		DIP-40 Wide	3		SOCKET,IC,40PIN,MACHINE TOOLED LOW PROFILE,SOLDERTAIL,.6"WIDE	6100-40D	Jameco	41136
U31		PLCC-44	1		SOCKET,PLCC,44 PIN,SOLDERTAIL,THRU-HOLE	4000-44D	Jameco	71618

Notes:

- (1) Note use of 0.1uF caps for level shifter (U22), level shifer must support this, specified MAX202 is fine
- (2) Use fast recovery diode, silicon only, forward voltage 0.7V
- (3) Breakaway header/socket strip, cut to desired size
- (4) Refer to board documentation for jumper configuration
- (5) CPU clock oscillator speed must be appropriate for Z80 CPU speed rating, 10 MHz CPU and oscillator specified here
- (6) Dual terminator resistor network, Bourns part #4308R-104-221/331 or equivalent
- (7) John Coffman's universal SD Card socket foot print, refer to <http://n8vem-sbc.pbworks.com/w/file/71455970/dual%20SDcard%20footprint.pdf>
- (8) Faster CPU is better, UTSource has 20MHz Z80, make sure CPU clock oscillator is within rated speed of CPU, 10MHz CPU assumed here
- (9) UTSource is reliable source of Z53C80