

MK14E Mainboard BOM

RefDes	Value	Description	Notes	Supplier Part No.	Quantity
C1	27pF	Ceramic capacitor			1
C2	100uF/16V	Electrolytic capacitor			1
C3-5,7-13	100nF	Ceramic capacitor			10
C6	22uF/16V	Tantalum capacitor			1
C101,102,104	10nF	Ceramic capacitor			3
C105	2n2	Ceramic capacitor			1
D1,2	FYQ-3641AUHR	4-digit 7-segment LED			2
D3,4,5,6,101	1N4148	Small signal silicon diode			5
IC1	INS8060	SC/MP microprocessor			1
IC2	2716 or 2732	2K/4K x 8-bit EPROM	programmed e.g. with SCIOS		1
IC3,12	74LS173	Quad D-type with 3-state outputs			2
IC4,5	HM6116 or uPD446C	2K x 8-bit SRAM			2
IC6,18	74LS04	Hex inverter			2
IC7	74LS260	Dual 5-input NOR gate			1
IC8	INS8154	128 x 8-bit RAM & input/output			1
IC9,10	74LS157	Quad 2 to 1-line selector			2
IC11	74LS365	Hex tri-state buffer			1
IC13	7445	BCD to decimal decoder/driver			1
IC14,15	7408	Quad 2-input AND			2
IC16	74LS10	Triple 3-input NAND gate			1
IC17	74LS00	Quad 2-input NAND			1
IC19	74LS20	Dual 4-input NAND gate			1
IC20	74LS93	4-bit binary counter			1
IC101,102	4001B	Quad 2-input NAND gate			2
J1	20-way	Right angle 3M header	for external keyboard		1
J2	DIN41612 AB 64-way	Right angle plug	Backplane connector		1
J3	6-pin 0.1"	Right angle header	for serial interface		1
J4	2.1mm	Power jack socket	Power connection	RS 448-382 (Mouser) Gravitech CON-SOCJ-2155	1
J5	2 x 3 0.1"		CPU control		1
J6	4-pin 0.1"	Right angle header	for Fastloader		1
J101	5-pin 180°	PCB DIN socket	for cassette interface	RS 491-087	1
LE101,102	5mm	Red LED	Cassette interface indicators		2
LK1	Link 0.1 x 3		Selects between Xtals		1
LK2	link 0.1"x 2		Fit for 1K EPROM		1
LK3	link 0.1" x 2		Fit for 2K EPROM		1
LK4	link 0.1" x 2		Selects between 2716/2732 or 2732 half		1
LK5	link 0.1" x 2		Enables Page 0 (normally fitted)		1
LK6	link 0.1" 2 x 4		Serial interface options		1
LK7	link 0.1" 2 x 3		Cassette interface options		1
LK8,9	link 0.1" x 3		Enables 8154 V5 images (normally fitted)		2
LK10	link 0.1" x 2		Enables keyboard/display V5 images (normally fitted)		1
LK11	link 0.1" x 2		Enables RAM when no 8154		1
R3	100K	250mW resistor			1
R4	1K2	250mW resistor			1
R11,20,22-27	4K7	250mW resistor			8
R16	470R	250mW resistor			1
R21,28,29	1K0	250mW resistor			3
R101,104,108	27K	250mW resistor			3
R102	1M0	250mW resistor			1
R103,110	470K	250mW resistor			2
R105	150K	250mW resistor			3
R106,111,112	150R	250mW resistor			3
R107,109	4M7	250mW resistor			2
RP1	4K7 x 8	SIL resistor network		Bourns 4609X-101-472LF	1
RP2,3	4K7 x 5	SIL resistor network		Bourns 4606X-101-472LF	2
S1-21	Keyswitch	Tactile switch		Omron B3F-5050	21
S1	Red	Keycap	Reset switch	Omron B32-1380	1
S2-11,16-21	White	Keycap		Omron B32-1360	20
S22	PCB	Toggle switch	Single step	e.g. C&K 7101MD9AGE	1
TR101	BC239	NPN transistor			1
X1	4.000MHz	Crystal HC49u	For VDU compatibility		1
X2	4.433619MHz	Crystal HC49u	As original		1
IC6,7,14-19,28,101,102	14-pin	DIL socket			11
IC3,9-13	16-pin	DIL socket			6
IC2,4,5	24-pin	DIL socket			3
IC1,8	40-pin	DIL socket			2
Feet	8mm diameter	Stick-on feet		eBay (kitchen door cushions)	6
Board supports	M3x24mm	Nylon threaded spacer			2

Alternative Keyboard

S2-21	12x12mm 4.3mm high	Tactile switch		available on eBay	20
S2-21	Keyboard Overlay	use 4.3mm high tactile switches	Requires 4 off M2.5x10mm black nylon screws and nuts for fixing	available from Ian Reynolds: 'Realtme' on the UK Vintage Radio forum or '55theparade' on eBay	1