TEC-1G Bill of Materials - In Build Order			(Yellow = Optional)
Qty	**Reference**	**Value**	**Description**
	Step 1		**Test Power Switchover (DC to USB) and Distribution**
1	J13	USB_B_OST_USB-B1HSxx	USB Type B connector (Omit if using Barrel Jack only.)
1	BJ1	Power Jack	DC Barrel Jack w/ internal switch (join pins 2-3 if USB only)
1	D0	1N4002	100V 1A General Purpose Rectifier Diode, DO-41 (Omit if USB only)
2	C2, C3	100n	Unpolarised decoupling capacitors, pitch 5.0mm
1	L1	5mm LED	Power indicator, Blue
1	REG1	L7805 (TO-220)	5V Linear Regulator (Not required if using only USB power)
1	R1	330R	1/4 watt metal film 1% Resistor
1	SW1	Slide Switch	SPDT Slide or Toggle Switch
TEST	LED lights up and confirm output at all power IC pads measure 5v with multimeter.		
	Step 2		**If Using mechanical keys with LED under-lighting**
21	1.8mm LED	White	Shift key, and alpha numeric keys
2	1.8mm LED	Yellow	Plus / minus keys
1	1.8mm LED	Red	Reset key
1	1.8mm LED	Green	GO key
1	1.8mm LED	Blue	AD key
2	RN4, RN6	330R	SIP9 8 resistor network
1	RN5	330R	SIP5 4 resistor network
1	JP5	Jumper, 3 pole	Shunted, Default "ON"
TEST	Test Fulisik LEDs light up and switch off with JP5.		
	Step 3		**Test Soldering Skillz & Clock**
7	D1 - D7	1N4148	100V 0.15A standard switching diode, DO-35
5	R5, R9, R14, R15, R19	330R	1/4 watt metal film 1% Resistor
1	R2	2k2	1/4 watt metal film 1% Resistor
13	R3 - R8, R10 - R12, R26 - R30	10k	1/4 watt metal film 1% Resistor
2	R16, R31	2K2	1/4 watt metal film 1% Resistor
7	R17, R20 - R25	1K	1/4 watt metal film 1% Resistor
1	C9	100n	Unpolarised decoupling capacitors, pitch 5.0mm
1	C4	10u/10n	10u if no DS1233 / 10n with Power Manager
1	C6	100p	Unpolarised decoupling capacitors, pitch 5.0mm
1	C10	10u	Polarised radial electrolytic capacitor, pitch 2.5mm
5	X1, U5, U6, U11, U14	Socket	14 pin DIP Socket
4	U1, U3, U10, U12	Socket	16 pin DIP Socket
7	U4, U13, U15, U16, U17, U18, U19	Socket	20 Pin Socket
1	U8	Socket	28 pin skinny DIP Socket
1	U9	Socket	28 pin wide DIP Socket
1	U7	Socket	28 pin ZIF socket
1	U2	Socket	40 pin DIP socket
1	X1	ACO-400MHz	4 Mhz Crystal Oscillator Package (8 or 14 DIP)
2	SW2, SW6	Slide Switch	SPDT Slide or Toggle Switch
TEST	Re-Confirm output at all power IC pads measure 5v with multimeter, and check Pin 6 of Z80 for Clock Signal		

TEC-1G Bill of Materials - In Build Order			(Yellow = Optional)
Qty	**Reference**	**Value**	**Description**
	Step 4		**Test Soldering Skillz, Part 2**
1	BAR1	Status BlinkenLites	LED Bar Graph 8 segment block
1	C9	100n	Unpolarised capacitor, pitch 5.0mm
1	C4	10u/10n	10u if no DS1233 / 10n with Power Manager
1	C6	100p	Unpolarised capacitor, pitch 5.0mm
1	C10	10u	Polarised radial electrolytic capacitor, pitch 2.5mm
10	DC1 - DC10	100n	Unpolarised decoupling capacitors, pitch 5.0mm
1	HS1	Heatsink	TO220 Horizontal (Only required with many peripherals)
1	JP3	Jumper, 3 pole	Shunted, Default "KB"
1	L2	3mm LED	HALT indicator, Red
1	L3	5mm LED	Speaker indicator, White
1	LCD1	LCD Header	Female connector, 01x16, vertical
1	PM1	DS1233	Power Monitor & Reset, TO-92 (C4 is 10n if this is installed)
7	Q1 - Q7	BC547	0.1A Ic, 45V Vce, Small Signal NPN Transistor, TO-92
8	Q8 - Q15	BC557	0.1A Ic, 45V Vce, PNP Small Signal Transistor, TO-92
1	R18	100R	1/4 watt metal film 1% Resistor
1	RN1	47K	SIP9 8 resistor network
1	RN7	330R	SIP9 8 resistor network (Status BlinkenLites)
1	SD1	1N5817	20V 1A Schottky Barrier Rectifier Diode
1	SP1	Speaker	8 ohm
3	SW3, SW4, SW5	Jumper, 3 pole	3 Pin Header with Shunt (EPROM size select)
1	SW8	CONFIG	3x DIP Switch, Single Pole Single Throw (SPST) switch
1	VR1	100K	Potentiometer, small, vertical
1	VR2	10K	Potentiometer, small, vertical
1	C1	1000U	Polarised radial electrolytic capacitor, pitch 5.0mm
TEST	Power Cycle Test. Check power LED lights up.		
	Step 5		**For TEC-1G Expandability, include the following**
1	J1	TEC Deck Connector	IDC 40pin Female Socket, vertical
1	J2	Z80Bus Connector	IDC 40pin Female Socket, horizontal
1	J3	TEC Expander	Female Socket, 2x10, horizontal
1	J5	FTDI Module	Female Socket, 1x06, horizontal
1	J6	IOBus	Female Socket, 1x10, vertical
1	J7	MEMBus	Female Socket, 1x15, vertical
1	J8	GIMP Connector	Female Socket, 1x03, vertical
1	J12	GPIO Card Mount	Female Socket, 2x08, vertical
1	J14	GPIO Power	Female Socket, 1x02, vertical
2	J15	Test Points	Male Jumper Pin, 1x01, vertical
1	RN2	4.7k	SIP9 8 resistor network
1	RN3	10k	SIP9 8 resistor network
1	J11	Joystick	9-pin male D-SUB connector
1	J4	Matrix Keyboard	IDC Male Header, 02x10, vertical
TEST	Ensure all sockets are plumb and square. Solder 1 pin, check and adjust. Solder 2nd pin. Check and adjust. Solder rest of pins		

TEC-1G Bill of Materials - In Build Order			(Yellow = Optional)
Qty	**Reference**	**Value**	**Description**
	Step 6		**Insert all chips**
1	U1	CD4049	Hex inverter
1	U2	Z80A	Z80 CPU with min clock 4Mhz
3	U3, U10, U12	74HCT138	Decoder 3 to 8 active low outputs
1	U4	74HCT688	8 input comparator
1	U5	74HCT86	Quad 2-input XOR
1	U6	74HCT00	Quad 2-input NAND gate
1	U14	74HCT00	Quad 2-input NAND gate (memory protection)
1	U7	27C256 or 28C256	UV/E EPROM 256Kb (32K x 8), DIP-28
1	U8	MC62256	256Kb (32K x 8), DIP-28, wide or skinny
1	U11	74HCT30	8-input NAND
3	U13, U16, U17	74HCT273	8-bit D Flip-Flop, reset
1	U15	MM74C923	20-key encoder
1	U18	74HCT373	8-bit Latch, 3-state outputs
1	U19	74HCT245	Octal BUS Transceivers, 3-State outputs (Matrix keyboard)
6	DIG1 - DIG6	FND560	7 Segment Display (suggest using pin sockets for these)
TEST	Fire the TEC-1 up. Should get a beep and numbers on the 7 segment digits. Welcome to the TEC-1D.		
	Step 7		**Finishing UI Elements**
22	MX0 - MX21	Key Switches	12mm Tactile or Gateron MX (Low Profile, preferred)
1	LCD	LCD	20 x 4 Character LCD Module
TEST	Fire the TEC-1 up. Should get a beep and text on the LCD. Welcome to the TEC-1G!!		
	Step 8		**For Serial Communications**
1	FTDI Module		
	Step 9		**For extra ROM/RAM**
1	U9	2k, 4k, 8k, 16k or 32k	EXTRA ROM/RAM (optional)