

	No.	Part / Value	Attributes	Designation	Note	Rapid Electronics					
Main Board						Code	Unit Price	Total			
Capacitors	2	33p	RAD0.2	C1,C2	ceramic disc	080-050	0.05	0.10			
	3	10uF	RB.1/2	C3, C7, C15	elect. 16v	110-825	0.05	0.15			
	1	150p	RAD0.2	C4	ceramic disc	080-150	0.05	0.05			
	1	10n	RAD0.2	C5	poly	103-210	0.07	0.07			
	7	100n	RAD0.2	C6,C8,C9,C10,C11,C14	ceramic disc	080-235	0.06	0.42			
	1	1000uF	RB.2/4	C13	elect. 16v	110-290	0.11	0.11			
	Resistors all 0.6W	3	220R	AXIAL0.3	R1,R4,R5		* see notes				
1		1k	AXIAL0.3	R2		* see notes					
1		1k5	AXIAL0.3	R3		* see notes					
4		150R	AXIAL0.3	R6,R7,R8,R9		* see notes					
4		100R	AXIAL0.3	R10,R11,R12,R13		* see notes					
5		4k7	AXIAL0.3	R14,R15,R16,R17,R22		* see notes					
4		10k	AXIAL0.3	R18,R21,R25,R26		* see notes					
2		10R	AXIAL0.3	R19, R27		* see notes					
1		22k	AXIAL0.3	R20		* see notes					
2		22R	AXIAL0.3	R23,R24		* see notes					
Diodes	1	10k hor. preset	VR-PRESET	VR1		670-130	0.08	0.08			
	1	5V6 zener	DIODE0.4	D1	optional	473-016	0.06	0.06			
	4	1N4148	DIODE0.3	D2,D3,D4,D5		473-308	0.04	0.16			
ICs	1	1N4001	DIODE0.4	D6		473-130	0.04	0.04	Code	Unit Price	Total
	1	T89C51RD2	DIP40	U1	supplied with PCB						
	2	62256	DIP28	U2,U3		n/a			334-5919	4.16	8.32
	1	74HC573	DIP20	U4		830-152	0.45	0.45			
	2	74HC138	DIP16	U5,U8		830-084	0.28	0.56			
	1	DS1210	DIP8	U6		820-516	4.7	4.70			
	4	74HC574	DIP20	U7,U10,U11,U15		830-154	0.45	1.80			
	1	74HC245	DIP20	U9		830-124	0.32	0.32			
	2	74HC241	DIP20	U12,U13		discontinued			313-3322	0.51	1.02
	1	ADC0804	DIP20	U14		820-474	2.95	2.95			
	1	4051B	DIP16	U16		830-384	0.36	0.36			
	1	6N139	DIP8	U17		580-602	0.65	0.65			
	1	7805	TO-220	U18		473-290	0.32	0.32			
	2	BC547B	TO-92B	Q1,Q2		810-064	0.07	0.14			
	Misc	1	500ma FUSE	AXIAL0.2	F1	electronic fuse - optional	264-610	0.6	0.60		
3		3 PIN CONN	SIP3	J1,J6,J7		220-955	0.11	0.33			
1		4 PIN CONN	SIP4	J8		220-960	0.13	0.13	Code	Unit Price	Total
4		16 PIN CONN	IDC16	J2,J3,J4,J5		190-510	0.35	1.40			
1		18 MHZ	XTAL1	XTAL1		n/a			639-540	1.14	1.14
1		CR2032		VB		180-386	0.85	0.85			
1		PCB CELL HOLDER				180-498	0.4	0.40			
1	TO220 Heatsink				360-280	0.35	0.35				

Switch/LED									
Diode	16	DIODE	1N4148	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16		473-308	0.04	0.64	
	16	LED	TRI-COLOUR LED	D17, D18, D19, D20, D21, D22, D23, D24, D25, D26, D27, D28, D29, D30, D31, D32	common cathode, 3 pin tri-colour (red/green)	550-170	0.11	1.76	
Misc	1	CONN	IDC16 RA	J1	right angled	190-560	0.44	0.44	
	16	KEYSWITCH		S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16		* see notes			
Keypad									
Diode	9	DIODE	1N4148	D1, D2, D3, D4, D5, D6, D7, D8, D9		473-308	0.04	0.36	
Misc	1	CONN	IDC16	J1		190-510	0.35	0.35	
	9	KEYSWITCH		S1, S2, S3, S4, S5, S6, S7, S8, S9		* see notes		0.00	
Function									
Diode	4	Red LED		D1,D3,D5,D7		550-102	0.07	0.28	
	4	Yellow LED		D2,D4,D6,D8		550-110	0.09	0.36	
	2	1N4148		D9,D10		473-308	0.04	0.08	
Misc	2	KEYSWITCH		S1,S2	multimec tact switch	780-655	0.75	1.50	
	1	Switch cap - red		for S1	10mm circular cap	780-675	0.16	0.16	
	1	Switch cap - blue		for S2	10mm circular cap	780-665	0.16	0.16	
	1	CONN	IDC16	J1		190-510	0.35	0.35	
	1	CONN	SIP2	J2		220-950	0.07	0.07	
Pot Boards * all designations duplicated on upper and lower boards									
Resistor	32	10k linear	16 mm pot	VR1, VR2, VR3, VR4, VR5, VR6, VR7, VR8, VR9, VR10, VR11, VR12, VR13, VR14, VR15, VR16		650-715	0.38	12.16	
Capacitor	4	100n	RAD0.2	C1, C2	ceramic disc	080-235	0.06	0.24	
IC	4	4051	DIP16	U1, U2		830-384	0.36	1.44	
Misc	2	CONN	IDC16 RA	J1	right angled	190-560	0.44	0.88	
	8	Red knob				320-450	0.08	0.64	
	8	Blue knob				320-465	0.08	0.64	

	8	Yellow knob				320-460	0.08	0.64				
	8	Green knob				320-455	0.08	0.64				
Other												
	3	5 PIN DIN Socket			chassis or PCB mounting	200-550	0.18	0.54				
	1	CONN	IDC16	J1	for DIN board if PCB sockets	190-510	0.35	0.35		Farnell		
	1	LCD Module		POWERTIP PC1602F	16 x 2 char, HD44780 module - Also Maplin code VX24B	570-912	10.5	10.50	Code	Unit Price	Total	
	OR 1	PLED Module		DELTA OPTO PDC1602M					414-1921	28.08	28.08	
	1	Power switch				750-480	0.45	0.45				
	1	Power socket				200-985	0.46	0.46				
	10	IDC16 Plug				190-305	0.26	2.60				
	1	2 PIN SIP Header			F/B Aux Connector	220-905	0.04	0.04				
	3	3 PIN SIP Header			Power, Tempo & Data pot	220-910	0.05	0.15				
	1	4 PIN SIP Header			M/B Aux connector	220-915	0.07	0.07				
		SIP Crimp terminal				221-097	per 100	1.70				
	2	10k linear pot	16 mm pot	VR-Tempo,VR-Data	Tempo & Data pots	650-715	0.38	0.76				
	1	Red knob			Tempo knob	320-450	0.08	0.08				
	1	Yellow knob			Data knob	320-460	0.08	0.08				
		16W Ribbon cable				* see notes						
	2	8 Pin DIP Socket				220-400	0.14	0.28				
	7	16 Pin DIP Socket				220-410	0.27	1.89				
	9	20 Pin DIP Socket				220-420	0.34	3.06				
	2	28 Pin DIP Socket				220-435	0.4	0.80				
	1	40 Pin DIP Socket				220-440	0.68	0.68				
Notes												
							Maplin					
		Rapid only sell resistors in 100s, so it may be cheaper to buy the required quantities from Maplin.					Code	Unit Price	Total			
		18MHz XTAL not available from Rapid - Farnell stock them.										
		Keyswitches used for step and keypad keys supplied by Maplin				Switch x 25	DM76H	0.37	9.25			
		Same switches as Function Switches, or standard 12mm tact switches also useable				Cap x 25	DM77J	0.37	9.25			
		Tact switch order code - 780-640										
		Rapid sell ribbon cable on 30m reels, so also may be cheaper at Maplin.										
							TOTAL	93.79				