## 3.6 PARTS LIST

## 3.61 LCD control board

## 3.62 Power amplifier board

		RESISTORS			RESISTORS
R1	33K	1/8 Watt Carbon Film	R1	3K3	1/4 Watt Metal Oxide
R2	33K	1/8 Watt Carbon Film	R2	S.O.T	1/4 Watt Metal Oxide
R3	820R	1/8 Watt Carbon Film	R3	-	NOT FITTED
R4	390R	1/8 Watt Carbon Film	R4	3K3	1/4 Watt Metal Oxide
R5	390R	1/8 Watt Carbon Film	R5	13K	1/4 Watt Metal Oxide
R6	10K	1/8 Watt Carbon Film	R6	10K	1/4 Watt Metal Oxide
R7	820R	1/8 Watt Carbon Film	R7	10K	1/4 Watt Metal Oxide
R8	820R	1/8 Watt Carbon Film	R8	18K	1/4 Watt Metal Oxide
R9	820R	1/8 Watt Carbon Film	R9	18K	1/4 Watt Metal Oxide
R10	820R	1/8 Watt Carbon Film	R10	75R	1/4 Watt Metal Oxide
R11	820R	1/8 Watt Carbon Film	R11	560R	3 Watt
R12	1K8`	1/8 Watt Carbon Film	R12	3R3	2 Watt
R13	1K8	1/8 Watt Carbon Film	R13	6K8	1/4 Watt Metal Oxide
R14	1K8	1/8 Watt Carbon Film	R14	560R	1/4 Watt Metal Oxide
R15	100R	1/8 Watt Carbon Film	R15	150R	1 Watt
R16	33K	1/8 Watt Carbon Film	R16	150R	1 Watt
R17	620R	1/8 Watt Carbon Film	R17	51R	1/4 Watt Metal Oxide
R18	100R	1/8 Watt Carbon Film	R18	-	NOT FITTED
R19	100K	1/8 Watt Carbon Film	R19	10R	1/4 Watt Metal Oxide
R20	100R	1/8 Watt Carbon Film	R20	820R	1/4 Watt Metal Oxide
R21	4K7	1/8 Watt Carbon Film	R21	820R	1/4 Watt Metal Oxide
R22	100R	1/8 Watt Carbon Film	R22	470R	1/4 Watt Metal Oxide
R23	10K	1/8 Watt Carbon Film	R23	10K	1/4 Watt Metal Oxide
R24	10K	1/8 Watt Carbon Film	R24	10K	1/4 Watt Metal Oxide
R25	-	not fitted	R25	10K	1/4 Watt Metal Oxide
R26	_	not fitted	R26	-	NOT FITTED
1120		not nited	R20	820R	1/4 Watt Metal Oxide
		CAPACITORS	R21	820R	1/4 Watt Metal Oxide
C1	47U	Miniature Radial Electrolytic	R22	470R	1/4 Watt Metal Oxide
C2	47U	Miniature Radial Electrolytic	R23	10K	1/4 Watt Metal Oxide
C3	33PF	Ceramic Plate 2.5 pitch (680)	R24	470R	1/4 Watt Metal Oxide
C4	33PF	Ceramic Plate 2.5 pitch (680)	R25	10K	1/4 Watt Metal Oxide
C5-11	560PF	Ceramic Plate 2.5 pitch (680)	R26	12R	1/4 Watt Metal Oxide
C12	100N	Monolithic Ceramic 2.5 pitch	R27	12R	1/4 Watt Metal Oxide
C12	2U2	Miniature Radial Electrolytic	R28	-	NOT FITTED
C14	560PF	Ceramic Plate 2.5 pitch (680)	R29	330R	1/4 Watt Metal Oxide
C15	100N	Monolithic Ceramic 2.5 pitch	R30	470R	1/4 Watt Metal Oxide
C16	560PF	Ceramic Plate 2.5 pitch (680)	R31	10K	1/4 Watt Metal Oxide
C17	560PF	Ceramic Plate 2.5 pitch (680)	R32	470R	1/4 Watt Metal Oxide
C18	2U2	Miniature Radial Electrolytic	R33	1K	1/4 Watt Metal Oxide
010	202	Williatare Radial Electrolytic	R34	1K	1/4 Watt Metal Oxide
		MISC	R35	39R	SMD 2512
VR1	5K	5mm MiniPot	VR1	10K	pot
VR2	100K	5mm MiniPot	VR2	1K	pot
D1	TOOK	LINKED ON PCB	VR3	1K	pot
D1 D2	_	WIRE LINK			
LED1	1N4148	400mW Glass Axial			0404017000
LED1	GREEN	3MM GREEN LED			CAPACITORS
LED3	RED	3MM RED LED	C1	470PF	5mm pitch
X1	8MHZ	HC49/U microprocessor crystal	C2	47PF	Disc Ceramic 2.5mm pitch
REG1	7805	TO220 1A 5 V regulator	C3	120PF	Disc Ceramic 2.5mm pitch
IC1	PIC16F877	40 pin 8 Bit micro Controller	C4	100PF	Disc Ceramic 2.5mm pitch
IC2	CA3240	op-amp	C5	10N	Disc Ceramic 2.5mm pitch
T1	TIP32A	PNP Transistor	C6	0.1U	Min Polyester
SW1-3	BUTTONS	Blue buttons	C7	330PF	Disc Ceramic 2.5mm pitch
CON1	10W IDC	IDC boxed header	C8	22U	Electrolytic 63V Radial
CON2	16W IDC	IDC boxed header	C9	22U	Electrolytic 63V Radial
LCD1	122x32	NAN YA LMD62S042JM	C10	10N	Disc Ceramic 2.5mm pitch
			C11	100U	Electrolytic 63V Radial

			C6	470uF 16V	Radial Electrolytic
				470uF 16V	Radial Electrolytic
C12	100U	Electrolytic 63V Radial	C8	2.2 uF 16V	Miniature Radial Electrolytic
C13	10N	Disc Ceramic 2.5mm pitch	C9	2.2 uF 16V	Miniature Radial Electrolytic
C14	10N	Disc Ceramic 2.5mm pitch	C10	82pF	Ceramic Plate 2.5 pitch (680)
C15	10N	Disc Ceramic 2.5mm pitch	C11	100n Y5V	Monolithic Ceramic 2.5 pitch
C16	2N2	SMD	C12	100uF 16V	Monolithic Ceramic 2.5 pitch
C17	2N2	SMD	C13	2.2 uF 16V	Miniature Radial Electrolytic
C18	47PF	Disc Ceramic 2.5mm pitch	C14	100n Y5V	Monolithic Ceramic 2.5 pitch
C19	47PF	Disc Ceramic 2.5mm pitch	C15	82pF	Ceramic Plate 2.5 pitch (680)
C20	47PF	Disc Ceramic 2.5mm pitch	C16	100n Y5V	Monolithic Ceramic 2.5 pitch
C21	39PF	Minature low K 2.5mm pitch	047	400E 40\/	Dediel Electrolistic
C22	- 47DE	NOT FITTED	C17	100uF 16V	Radial Electrolytic
C23 C24	47PF	Disc Ceramic 2.5mm pitch	C18	100uF 16V	Radial Electrolytic
C24 C25	39PF 8P2	Minature low K 2.5mm pitch Ceramic 2.5 pitch	C19 C20	1n 220pF	Gen. Pur. Ceramic Disc 2.5 pitch Ceramic Plate 2.5 pitch (680)
C26	18P	Minature low K 2.5mm pitch	C21	4p7	Ceramic Plate 2.5 pitch (680)
C27	22P	Disc Ceramic 2.5mm pitch	C22	4ρ7 27pF	Ceramic Plate 2.5 pitch (680)
C28	12P	Minature low K 2.5mm pitch	C23	56pF	Ceramic Plate 2.5 pitch (680)
C29	22P	Disc Ceramic 2.5mm pitch	C24	82pF	Ceramic Plate 2.5 pitch (680)
C30	3.3P	Disc Ceramic 2.5mm pitch	C25	1n	Gen. Pur. Ceramic Disc 2.5 pitch
C31	1N	High Voltage	C26	100n Y5V	Monolithic Ceramic 2.5 pitch
C32	100U	Electrolytic 63V Radial	C27	82pF	Ceramic Plate 2.5 pitch (680)
C33	100U	Electrolytic 63V Radial	C28	100n Y5V	Monolithic Ceramic 2.5 pitch
C34	10N	Disc Ceramic 2.5mm pitch	C29	100n Y5V	Monolithic Ceramic 2.5 pitch
C35	10N	Disc Ceramic 2.5mm pitch	C30	27pF	Ceramic Plate 2.5 pitch (680)
C36	10N	Disc Ceramic 2.5mm pitch	C31	12pF	Ceramic Plate 2.5 pitch (680)
C37	10N	Disc Ceramic 2.5mm pitch	C32	56pF	Ceramic Plate 2.5 pitch (680)
C38	10N	Disc Ceramic 2.5mm pitch	C33	1n	Gen. Pur. Ceramic Disc 2.5 pitch
C39	10N	Disc Ceramic 2.5mm pitch	C34	33pF	Ceramic Plate 2.5 pitch (680)
C40	10N	Disc Ceramic 2.5mm pitch	C35		Not Used
			C36	100n Y5V	Monolithic Ceramic 2.5 pitch
		INDUCTORS	C37	_	Not Used
L1	4 TURN COIL	0.9mm silvered copper wire	C38	47pF	Ceramic Plate 2.5 pitch (680)
L2	2 TURN COIL	0.9mm silvered copper wire	C39	47pF	Ceramic Plate 2.5 pitch (680)
L3	COIL	S18 Orange Toko	C40	100n Y5V	Monolithic Ceramic 2.5 pitch
L4	2 TURN COIL	18 Gauge silvered copper wire	C41	100n Y5V	Monolithic Ceramic 2.5 pitch
L5	2 TURN COIL	18 Gauge silvered copper wire	C42	47pF	Ceramic Plate 2.5 pitch (680)
L6	COIL	S18 Red Toko	C43 C44	47pF 100n Y5V	Ceramic Plate 2.5 pitch (680) Monolithic Ceramic 2.5 pitch
L7 L8	COIL	S18 Red Toko	C44 C45	4n7	Polycarbonate 5mm Pitch
LO	FB	Axial Ferrite bead	C46	6n8	Polycarbonate 5mm Pitch
		MISC	C47	6n8	Polycarbonate 5mm Pitch
DEC1	7010		C48	4n7	Polycarbonate 5mm Pitch
REG1 IC1	7818 CA3240	18 V 1A Regulator	C49	27pF	Ceramic Plate 2.5 pitch (680)
IC2	CA3240 CA3240	op-amp op-amp	C50	47pF	Ceramic Plate 2.5 pitch (680)
T1	SRFE1130P	RF Power Transistor	C51	100n Y5V	Monolithic Ceramic 2.5 pitch
D1	BAT42	Rectifier Diode	C52	47pF	Ceramic Plate 2.5 pitch (680)
D2	BAT42	Rectifier Diode	C53	27pF	Ceramic Plate 2.5 pitch (680)
TS1	LM335Z	Temperature sensor	C54	47uF 16V	Miniature Radial Electrolytic
CON1	PCB MCX	MCX connector	C55	10uF 16v	Miniature Radial Electrolytic
CON2	PCB MCX	MCX connector	C56	47pF	Ceramic Plate 2.5 pitch (680)
CON3	5Term	5 Way Screwless Terminal	C57	47uF 16V	Miniature Radial Electrolytic
CON4	4Term	4 Way Screwless Terminal	C58	27pF	Ceramic Plate 2.5 pitch (680)
CON5	10Way	IDC Box Header 90 degree	C59	27pF	Ceramic Plate 2.5 pitch (680)
RFT1	RFT	VSWR Coupler Toroid	C60	100n Y5V	Monolithic Ceramic 2.5 pitch
			C61	100n Y5V	Monolithic Ceramic 2.5 pitch
			C62	47uF 16V	Miniature Radial Electrolytic
3.63	Combo bo	pard	C63	47uF 16V	Miniature Radial Electrolytic
			C64 C65	330pF 330pF	Ceramic Plate 2.5 pitch (680) Ceramic Plate 2.5 pitch (680)
		CAPACITORS	C66	100n Y5V	Monolithic Ceramic 2.5 pitch
C1	2.2 uF 16V	Miniature Radial Electrolytic	C67	47uF 16	Miniature Radial Electrolytic
C2	2.2 uF 16V	Miniature Radial Electrolytic	C68	100n Y5V	Monolithic Ceramic 2.5 pitch
C3	100n Y5V	Monolithic Ceramic 2.5 pitch	C69	100n Y5V	Monolithic Ceramic 2.5 pitch
C4	39pF	Ceramic Plate 2.5 pitch (680)	C70	47uF 16V	Miniature Radial Electrolytic
C5	2.2 uF 16V	Miniature Radial Electrolytic	C71	100n Y5V	Monolithic Ceramic 2.5 pitch
		-			1

C72	2.2uF 16V	Miniature Radial Electrolytic	L5	S18 3.5T	Moulded Variable Inductor
C73	39pF	Ceramic Plate 2.5 pitch (680)	L6	.15uH	Axial Inductor
C74	2.2uF 16V	Miniature Radial Electrolytic	L7-8	220uH	Axial Inductor
C75	12pF	Ceramic Plate 2.5 pitch (680)			
C76	100n Y5V	Monolithic Ceramic 2.5 pitch			RESISTORS
C77	2.2uF 16V	Miniature Radial Electrolytic	R1	10K	1/8 Watt Carbon Film
C78	330pF	Ceramic Plate 2.5 pitch (680)	R2	10K	1/8 Watt Carbon Film
C79	100n Y5V	Monolithic Ceramic 2.5 pitch	R3	10K	1/8 Watt Carbon Film
C80	100pF	Ceramic Plate 2.5 pitch (680)	R4	10K	1/8 Watt Carbon Film
C81	330pF	Ceramic Plate 2.5 pitch (680)	R5	10K	1/8 Watt Carbon Film
C82	330pF	Ceramic Plate 2.5 pitch (680)	R6	10K	1/8 Watt Carbon Film
C83	-	Not Used	R7	330K	1/8 Watt Carbon Film
C84	330pF	Ceramic Plate 2.5 pitch (680)	R8	330K	1/8 Watt Carbon Film
C85	100n Y5V	Monolithic Ceramic 2.5 pitch	R9	10K	1/8 Watt Carbon Film
C86	12pF	Ceramic Plate 2.5 pitch (680)	R10	470R	1/8 Watt Carbon Film
C87	100n Y5V	Monolithic Ceramic 2.5 pitch	R11	33K	1/8 Watt Carbon Film
C88	47uF 16V	Miniature Radial Electrolytic	R12	1K2	1/8 Watt Carbon Film
C89	470uf 16V	Radial Electrolytic	R13	1K2	1/8 Watt Carbon Film
C90	470uf 16V	Radial Electrolytic	R14	330K	1/8 Watt Carbon Film
C91	2.2uF 16V	Miniature Radial Electrolytic	R15	330R	1/8 Watt Carbon Film
C92	100n Y5V	Monolithic Ceramic 2.5 pitch	R16	330R	1/8 Watt Carbon Film
C93	10uF 35V	Miniature Radial Electrolytic	R17	1K2	1/8 Watt Carbon Film
C94	39pF	ŕ	R18	100R	1/4 Watt Metal Oxide
VC1	5-65pF	Variable capacitor	R19	12K	1/8 Watt Carbon Film
	•	•	R20	4K7	1/8 Watt Carbon Film
		MISC	R21	220R	1/8 Watt Carbon Film
IC1	TL071	Low noise Op-Amp	R22	1K2	1/8 Watt Carbon Film
IC2-3	TL072	Low noise Dual Op-Amp	R23	1K2	1/8 Watt Carbon Film
IC4	TL071	Low noise Op-Amp	R24	68R	1/8 Watt Carbon Film
IC5	LM13600	Transconductance Amplifier	R25	180R	1/8 Watt Carbon Film
IC6-7	TL072	Low noise Dual Op-Amp	R26	4K7	1/8 Watt Carbon Film
IC8-9	TL072	Low noise Op-Amp	R27	470R	1/8 Watt Carbon Film
IC10-11		Low noise Op-Amp	R28	10R	1/8 Watt Carbon Film
IC12	DG201-HS	Analog Switch	R29	4K7	1/8 Watt Carbon Film
IC13	16C620A-04P	8 Bit Microcontroller	R30	220R	1/8 Watt Carbon Film
IC14	TL071	Low noise Op-Amp	R31	2R2	1/8 Watt Carbon Film
IC15	TL071	Low noise Op-Amp	R32	1K2	1/8 Watt Carbon Film
IC16	TL072	Low noise Op-Amp	R33	1K2	1/8 Watt Carbon Film
IC17		P8 Bit Microcontroller	R34	1K2	1/8 Watt Carbon Film
IC18	MC145170-P	PLL synth. Chip	R35	1K2	1/8 Watt Carbon Film
IC19	4066	Analog Switch	R36	1K2	1/8 Watt Carbon Film
IC20	LF351	Bi-Fet op-amp	R37	1K2	1/8 Watt Carbon Film
T1-2	BC327	PNP General Purpose	R38	10R	1/8 Watt Carbon Film
T3-6	MPHS10	High Speed Switching	R39	2K2	1/4 Watt Metal Oxide
T7	2N4427	High Speed Switching	R40	1K	1/4 Watt Metal Oxide
T8-10	BC337	NPN General Purpose	R41	560R	1/4 Watt Metal Oxide
T11	MPSH10	High Speed Switching	R42	820R	1/4 Watt Metal Oxide
J1-12	3 PIN	3 Pin Jumper Header	R43	75R	1/4 Watt Metal Oxide
FIL1-2	5085	15KHz Block Filters	R44	12K	1/4 Watt Metal Oxide
X1	4.864MHz	HC49 Microprocessor crystal	R45	1K	1/4 Watt Metal Oxide
X2	8.000MHz	HC49 Microprocessor crystal	R46	36K	1/4 Watt Metal Oxide
DC1	NMH1215S	Newport 2W dual output DC	R47	7K5	1/4 Watt Metal Oxide
		convertor	R48	24K	1/4 Watt Metal Oxide
RFT1	4 to 1 Tx	4 Turns Blue / Yellow Ferrite/Ring)	R49	24K	1/4 Watt Metal Oxide
SW1-4	DEC ROTA.	Decimal Rotary PCB switches	R50	470R	1/4 Watt Metal Oxide
FB	FB	Axial Ferrite Bead	R51	1K	1/4 Watt Metal Oxide
	TO5 SINK	Push On T05 Heatsink	R52	3K3	1/4 Watt Metal Oxide
8 PIN	8PIN	8 Pin IC Holders X 14	R53	100K	1/4 Watt Metal Oxide
14 PIN	14 PIN	14 Pin IC Holders X 1	R54	12K	1/4 Watt Metal Oxide
16 PIN	16 PIN	16 Pin IC Holders X 3	R55	24K	1/4 Watt Metal Oxide
18 PIN	18 PIN	18 Pin IC Holders X 2	R56	24K	1/4 Watt Metal Oxide
			R57	200R	1/4 Watt Metal Oxide
		INDUCTORS	R58	24K	1/4 Watt Metal Oxide
L1	3.9mH	10RB Radial Inductor	R59	3K3	1/4 Watt Metal Oxide
L2	4.7mH	10RB Radial Inductor	R60	12K	1/4 Watt Metal Oxide
L3	MC120 075	Screened Variable Inductor	R61	7K5	1/4 Watt Metal Oxide
L4	S18 2.5T	Moulded Variable Inductor	R62	7K5	1/4 Watt Metal Oxide
	3 . 2 <b>2. 2 .</b>				

Dea	161/	1/4 Watt Motal Oxida	D14 4P7	ADT OUM DESISTOR
R63	16K	1/4 Watt Metal Oxide	D14 4R7	4R7 OHM RESISTOR
R64	16K	1/4 Watt Metal Oxide	D15-30 1N4148	Glass axial general purpose Diode
R65	1K	1/4 Watt Metal Oxide	VD1 BB809	VHF varicap Diode
R66	12K	1/4 Watt Metal Oxide	LED1-4 GREEN BI	Bi directional 5mm Green LED
R67	36K	1/4 Watt Metal Oxide	LED5 RED	5mm Standard RED LED
R68	7K5	1/4 Watt Metal Oxide	REG1 7815	1 A TO220 15 V Linear Reg
R69	100K	1/4 Watt Metal Oxide	REG2 7805	1 A TO220 5 V Linear Reg
R70	3K3	1/4 Watt Metal Oxide	REG3 78L10	•
				100 mA TO92 10 V Linear Reg
R71	1K	1/4 Watt Metal Oxide	REG4 79L12	100 mA TO92 -12 V Linear Reg
R72	470R	1/4 Watt Metal Oxide	REG5 78L12	100 mA TO92 +12 V Linear Reg
R73	24K	1/4 Watt Metal Oxide	CON 1 15 WAY D	Right Angled Female 15 D PCB
R74	24K	1/4 Watt Metal Oxide	CON 2-3R/A BNC	Right Angled PCB BNC
R75	24K	1/4 Watt Metal Oxide	CON 4-5R/A XLR	Right Angled XLR
R76	12K	1/4 Watt Metal Oxide	CON6 2 TERM	2 Way Screwless Terminal
R77	24K	1/4 Watt Metal Oxide	CON7 R/A RCA	Pcb mount RCA Socket
R78	200R	1/4 Watt Metal Oxide	CON8 IDC HEAD	10 or 16 way IDC straight header
R79	12K	1/4 Watt Metal Oxide	CON9 2 TERM	2 Way Screwless Terminal
R80	470K	1/4 Watt Metal Oxide		
R81	470K	1/4 Watt Metal Oxide		
R82	3K3	1/4 Watt Metal Oxide		
R83	6k8	1/4 Watt Metal Oxide		
R84	10R	1/4 Watt Metal Oxide		
R85	470R	1/4 Watt Metal Oxide		
R86	12K	1/4 Watt Metal Oxide		
R87	3K3	1/4 Watt Metal Oxide		
R88	6K8	1/4 Watt Metal Oxide		
R89	10R	1/4 Watt Metal Oxide		
R90	5K6	1/4 Watt Metal Oxide		
	12K			
R91		1/4 Watt Metal Oxide		
R92	47K	1/4 Watt Metal Oxide		
R93	120K	1/4 Watt Metal Oxide		
R94	1K	1/4 Watt Metal Oxide		
R95	4K3	1/4 Watt Metal Oxide		
R96	12K	1/4 Watt Metal Oxide		
R97	3K3	1/4 Watt Metal Oxide		
R98	1K	1/4 Watt Metal Oxide		
R99	6K8	1/4 Watt Metal Oxide		
R100	1M	1/4 Watt Metal Oxide		
R101	10K	1/4 Watt Metal Oxide		
R102	24K	1/4 Watt Metal Oxide		
R103	5K1	1/4 Watt Metal Oxide		
R104	5K3	1/4 Watt Metal Oxide		
R105	100R	1/4 Watt Metal Oxide		
R106	3K6	1/4 Watt Metal Oxide		
R107	11K	1/4 Watt Metal Oxide		
R108	75R	1/4 Watt Metal Oxide		
R109	10K	1/4 Watt Metal Oxide		
R110	10K	1/4 Watt Metal Oxide		
R111	SOR	SORT ON TEST		
R112	10K	1/4 Watt Metal Oxide		
R113	10K	1/4 Watt Metal Oxide		
R114	10K	1/4 Watt Metal Oxide		
R115	10K	1/4 Watt Metal Oxide		
R116	10K	1/4 Watt Metal Oxide		
R117	10K	1/4 Watt Metal Oxide		
R118	10K	1/4 Watt Metal Oxide		
R119	10K	1/4 Watt Metal Oxide		
R120	10R	1/4 Watt Metal Oxide		
R121	75R	1/4 Watt Metal Oxide		
VR1-2	10K	Horizontal Multiturn		
VR3-4	1K	Vertical Multiturn		
VR5	10K	Horizontal Multiturn		
VR6	10K	Horizontal 5MM Pitch		
V I (U	1011	. 10112011tal Olvilly I Itoli		
		DIODES		
D4 40	4114440	DIODES		
D1-12	1N4148	Glass axial general purpose Diode		
D13	1N4001	Axial 1 amp silicon rectifier diode		