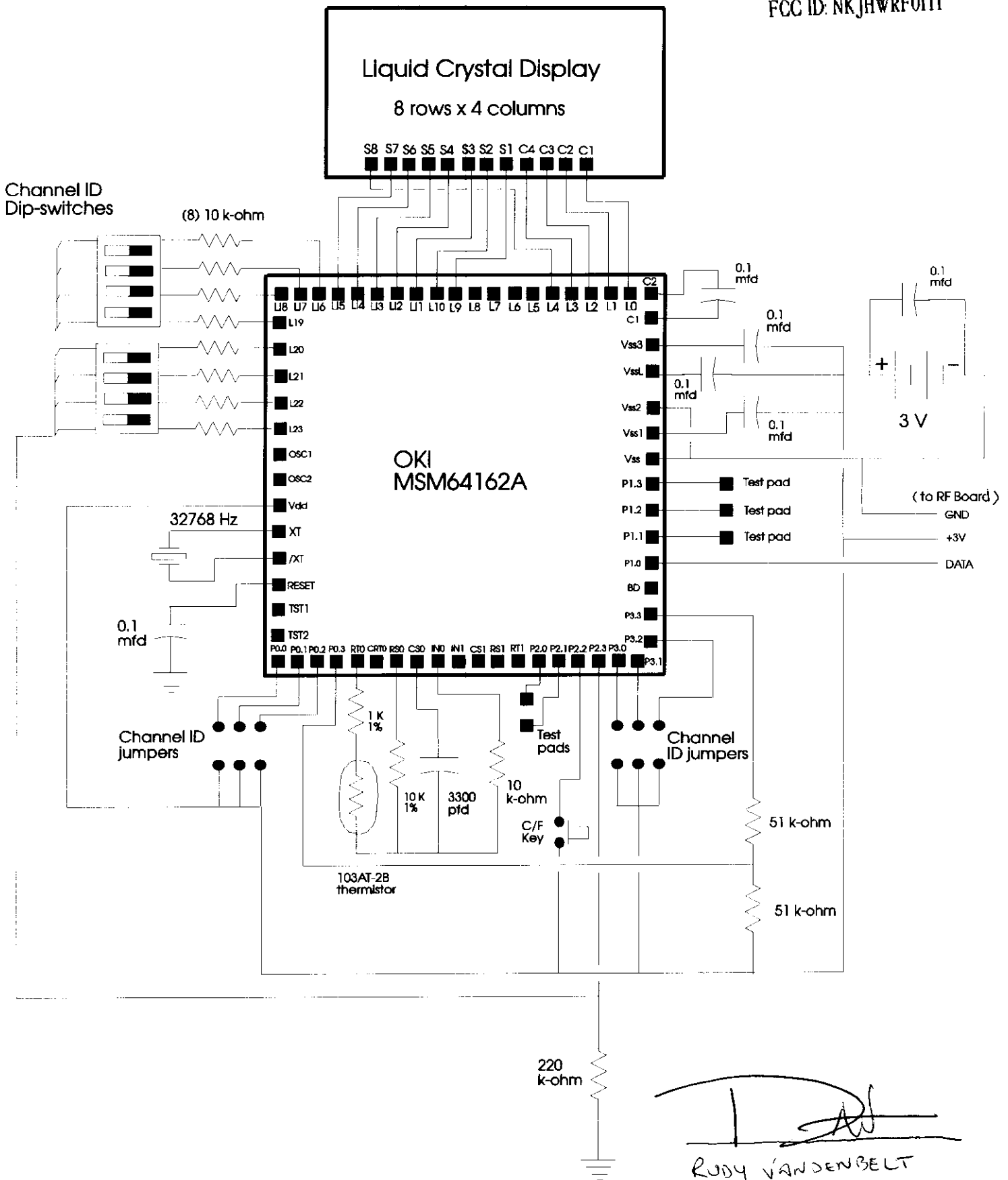


Headwaters Transmitter Digital Board

FCC ID: NKJHWRFOIT1



[Signature]
RUDY VANDENBELT
OCT 10/97

Electrical Components - Transmitter:

DIGITAL BOARD

Semiconductors:

(1) OKI 64162A CMOS microcontroller

Resistors: (5 percent tolerance surface-mount unless otherwise specified)

(1) 1 k-ohm, 1 percent

(9) 10 k-ohm

(1) 10 k-ohm, 1 percent

(2) 51 k-ohm

(1) 220 k-ohm

Capacitors: (surface-mount)

(6) 0.1 microfarad

(1) 3300 picofarad

Miscellaneous:

(1) 103-AT-2B thermistor (10 k-ohm resistance at room temperature)

(1) 32768 Hertz quartz crystal

(1) liquid crystal display

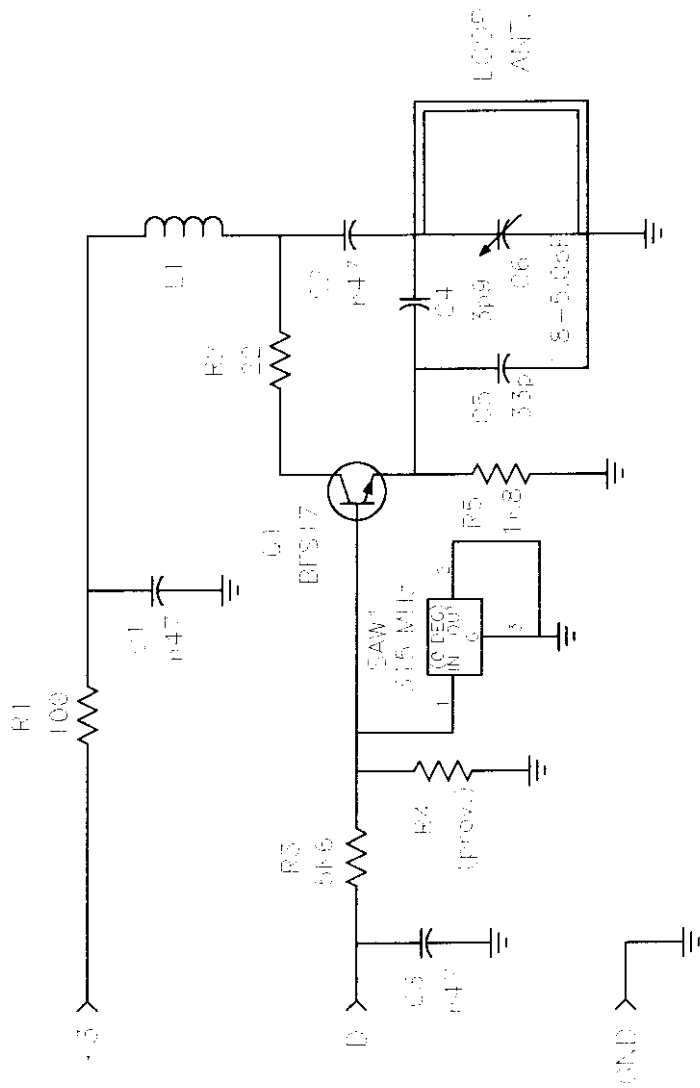
(2) DIP-switch (4 SPST switches)

(1) pushbutton switch

(1) digital double sided PCB

(1) keymat single sided PCB

FCC ID: NKJHWRFO1T1



Title: R3 THERMOVEITER TRANSMITTER

Size	Number	Rev
A	110533	9
Date	9 OCTOBER 1997	Drawn by B.G.C.
Filename	-WTR01.S01	Sheet 1 of 1

D

C

B

A

Electrical Components - Transmitter:**RADIO BOARD**

1	CAP 0805	3p9 +/-0.25p NPO	C4	
1	CAP 0805	33p 5% 50V NPO	C5	
3	CAP 0805	n47 10% 50V NPO	C1,C2,C3	
1	IND, AIR WOUND	260n	L1	See schematic.
1	NPN RF	BFS17	Q1	Transistor
1	RES 0805	1.8K 5% 1/10W	R5	
1	RES 0805	5.6K 5% 1/10W	R3	
1	RES 0805	100 OHM 5% 1/10W	R1	
1	RES 0805	22 OHM 5% 1/10W	R2	
0	RES 0805			R4 Provisional
1	SAWR 1-PORT	RO2073	SAWR1	RF Monolithics
1	TRIMCAP	1.8 - 5.0p	C6	See schematic.

NOTES: 1. L1 is 260n, 14.75 turns #24AWG enamelled copper wire closewound over 0.109 inch drill mandrel.
 2. SAWR1 is from RF Monolithics Inc., Dallas, Texas, USA

COMPONENTS STOCK LIST

Mechanical Components - Transmitter:

CUSTOM MOLDED PARTS

Headwater #	ITEM	DESCRIPTION	SUPPLY	Color/Texture	3D Rls	Dwg Rls	Quantity
RF01 P101	Tran. Cover	PC	Tool Tx-1, 1 cavity	C1, T1	R1-May26	none	1
RF01 P102	Tran. Base	PC	Tool Tx-1, 1 cavity	C1, T1	R2-May28	none	1
RF01 P105	Tran. Battery Door	PC	Tool Tx-2, 1 cavity	C1, T1	R1-May26	R1-May30	1
RF01 P106	LCD to Cover Oring Lens Seal	Rubber	Tool Tx-4	black, gloss	R1-May26	R1-May27	1
RF01 P108	Display Support Frame	ABS, PC or equivalent	Tool Tx-3, 2 cavity	clear, T2	R1-May26	R1-May30	1
RF01 P109	Cover Base Oring Seal	Rubber	Tool Tx-4	black, gloss	R1-May26	R1-May27	1
RF01 P110	Base Battery Door Oring Seal	Rubber	Tool Tx-4	black, gloss	R1-May26	R1-May27	1
RF01 P111	Wall Mount Bracket	PC	Tool Tx-2, 1 cavity	C1, T1	R2-May28	R1-May30	1
RF01 P113	Transmitter display Lens	PC (water clear)	Tool Tx-3, 2 cavity	clear, gloss	R1-May26	R1-May31	1
RF01 P117	Temperature Probe holder	PC	Tool Tx-2, 1cav	C1, T2	R1-May26	R1-May27	1

Color Chip: #1 and #2B, Texture: T1-F637(gloss), T2-F632(gloss)

CUSTOM COMPONENTS

RF01 P103	Display Glass	TN, reflective, unbiased view angle		C - grey mode	x	R1-Mar97	1
RF01 P104	Digital Printed Circuit Board	FR4 D/S PTH, 1mm +/-0.1, 1 ounce copper	TfA control files	x	R1-May26	R1-May26	1
RF01 P107	RF Circuit Board (HW control files)	FR4 D/S PTH, 1mm +/-0.1, 1 ounce copper	see 'gold' samples	x	R1-May26	R1-May26	1
RF01 P112	Elastomeric Display Connector	conductive rubber - foam or rubber tbd		x	x	R1-May30	1
RF01 P114	Box for stand alone Transmitter	see artwork and layout diagram, foam insert	cardboard 0.7 thick	4 color	x	x	1
RF01 P115	Tran. Instruction Manual	see artwork, paper		black & white	x	x	1
RF01 P116	Transmitter Warranty Card	see artwork, thick paper		black & white	x	x	1

D# -development, R#-production

Mechanical Components - Transmitter:

MECHANICAL STANDARD COMPONENTS

Headwater #	ITEM	DESCRIPTION	SUPPLY	Cosmetic	3D RIs	Dwg RIs	Quantity
RF01 P801	Housing and PCB Screws	M2 x 6mm tapping screw, silver		silver	x	standard	7
RF01 P801a	Housing and PCB Screws	M2 x 6mm tapping screw, silver, stainless steel		silver	x	standard	2
RF01 P850	AA Battery contacts - board side	T1A sample C		silver	x	supplier	2
RF01 P851	AA Battery contacts - jumper side	T1A Sample C		silver	x	supplier	1
RF01 P852	Channel/Location selectors	DIP switch, SD-04ZL	Maruwa	blue	x	supplier	2
RF01 P853	DegC/DegF straight tactile switch	5N tact, EVQ(PAD,PBD,214or234), 130gm, L=7	Panasonic	black cap	x	supplier	1
RF01 P854	AA Battery	AA Cell Lithium (or Alkaline)		x	x	standard	2, not incl
RF01 P855	M3 Pan head battery door screw	M3 x 8 with slot 1.8 mm wide, stainless steel	as per T1A sample	silver	x	standard	2
RF01 P856	M3 metal nut	M3 standard nut, silver, stainless steel		silver	x	standard	2
RF01 P863	Probe Holder Oring	size 4mm x 0.4mm(A x B)	Kelvin Far East Ltd	any	x	standard	1
RF01 P864	Header connector for Digital to RF	25 thousandths square pins(3x1 plus 3 corners)		gold	x	supplier	6 pins
RF01 P865	Rubber or other stops for battery	foam piece to secure batteries from rattle if needed		black or grey	x	standard	1
RF01 P866	Pan head wall mount screw	25mm long, shaft < 3.4mm diam, philip/slot head	stainless	tbd	x	standard	2