



TSUEN SHING ELECTRONICS LTD



DWG.:	Title	八通道对讲机	Sheet 1 of 1
CHK.:	Model No.:	NLM-8CI	
APP.:	Drawing No.:	SCH-NLM8CI-	Size: A2
	Rev.:		ENG-015-A

TSUEN SHING ENTERPRISES LIMITED

Flat 8-10, 8/F., Kar Wah Ind. Bldg., Hei Yip St., Yuen Long, N.T., Hong Kong

Tel:(852)24740130 Fax:(852)24731801 Email: tsuenshg@tsuenshing.com.hk

To : CEI
Attn : MS MAGGIE TSE
From : PHOEBE CHING
MODEL: NLM-8

Date: 04.09.2001

USAGE

PART LIST

I ELECTRICAL PARTS

1	ANTENNA		φ 5.8MM, 21T, L-80MM	1
2	SPEAKER		0.25 W, 8 OHM, Φ 28mm W=4.5mm	1
3	MIC		9.7X 5MM - 62dB	1
4	E. CAP	100UF/10V	-20% to 80% SMD 5X7 MM	3
5	E. CAP	10UF/16V	-20% to 80% SMD 4X7MM	3
6	E. CAP	22UF/16V	-20% to 80% SMD 4X7MM	2
7	E. CAP	4.7UF/16V	-20% to 80% SMD 4X7MM	3
8	TRIMMER CAP	20PF, SMD, 4.5-20PF		1
9	STEREO JACK		ISJ-02058N21	1
10	TACT SWITCH		KPT -1105V, HEIGHT:3.85MM	2
11	I.F.T.		455KHZ, 7.5X 7.5X6MM	1
12	LED		K:5 M:10	1
13	PVC JUMPER WIRE #28AWG, L=60MM (3+3 MM) BLACK			1
14	PVC JUMPER WIRE #30AWG, L=50MM (3+3 MM) BLACK			1
15	PVC JUMPER WIRE #28AWG, L=70MM (3+3 MM) RED			1
16	PVC JUMPER WIRE #30AWG, L=50MM (3+3 MM) RED			1
17	CONDUCTIVE RUBBER		φ 7x5.1MM	3
18	ROTARY SWITCH		RV09INS/A50K/10KQ 50K	1
19	VARIABLE RESISTOR		10K +/-25%, SMD	2
20	CRYSTAL		21.145MHZ, +/-20PPM, 16PF	1
21	CERAMIC FILTER		LTM455HT, 455KHZ, \pm 1KHZ	1
22	CRYSTAL FILTER		21.6MHZ, BW:3dB= \pm 7.5KHZ	1
23	SAW FILTER		KSF446AR2	1
24	CERAMIC RESONATOR		4.0M, 4MHZ, 9x4.5MM, \pm 0.3%	1
25	P.C.B.		82XX45.5 1.2 MM FR-4 DOUBLE-SIDED	1
26	CHIP CAP	1.5PF/50V	+/-0.25PF SMD NPO	1
27	CHIP CAP	10PF/50V	+/-0.5PF SMD NPO	3
28	CHIP CAP	1NF/50V	+/-10% SMD X7R	8
29	CHIP CAP	10NF/25V	+/-20% SMD X7R	16
30	CHIP CAP	0.1UF/25V	'-20% - +80% SMD Z5U	15
31	CHIP CAP	1UF/10V	'-20% - +80% SMD Z5U	2
32	CHIP CAP	12PF/50V	'+/-5% SMD NPO	4

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33	CHIP CAP	15PF/50V	'+/- 5% SMD NPO	1
34	CHIP CAP	18PF/50V	'+/- 5% SMD NPO	4
35	CHIP CAP	1PF/50V	'+/- 0.25PF SMD NPO	3
36	CHIP CAP	2NF/50V	'+/- 10% SMD X7R	1
37	CHIP CAP	20NF/25V	'+/- 20% SMD X7R	3
38	CHIP CAP	22PF/50V	'+/- 5% SMD NPO	1
39	CHIP CAP	2PF/50V	'+/- 0.25PF SMD NPO	3
40	CHIP CAP	33PF/50V	'+/- 5% SMD NPO	2
41	CHIP CAP	390PF/50V	'+/- 5% SMD NPO	1
42	CHIP CAP	3PF/50V	'+/- 0.25PF SMD NPO	2
43	CHIP CAP	47PF/50V	'+/- 5% SMD NPO	3
44	CHIP CAP	470PF/50V	'+/- 5% SMD NPO	4
45	CHIP CAP	4.7NF/50V	+/- 10% SMD X7R	2
46	CHIP CAP	56PF/50V	+/- 5% SMD NPO	1
47	CHIP CAP	5PF/50V	+/- 0.25PF SMD NPO	6
48	CHIP CAP	6PF/50V	+/- 0.5PF SMD NPO	1
49	CHIP CAP	7PF/50V	+/- 0.5PF SMD NPO	2
50	CHIP CAP	82PF/50V	+/- 5% SMD NPO	1
51	CHIP CAP	8PF/50V	+/- 0.5PF SMD NPO	1
52	CHIP CAP	33NF/25V	-20% to 80% SMD Y5V	1
53	CHIP CAP	47NF/25V	-20% to 80% SMD Y5V	1
54	CHIP CAP	0.47UF/25V	-20% to 80% SMD Y5V	1
55	CHIP CAP	2.2UF/10V	-20% to 80% SMD Z5U	1
56	DIODE		LS4148, DL-35	3
57	DIODE		1SWS356, USM	2
58	DIODE		BAV99, SOT-23	1
59	DIODE		BB721, SOD-123	2
60	TRANSISTOR		2SC2714 (Y), NPN, $\beta=100-200$ SOT 23	1
61	TRANSISTOR		2SA812-M6-T, SOT-23	1
62	TRANSISTOR		BFR93A, SOT-23	6
63	TRANSISTOR		MMBT3906, SOT-23	3
64	TRANSISTOR		BFG11/X, SOT-143B	1
65	TRANSISTOR		BFG540/X, SOT-143B	1
66	TRANSISTOR		2SC1623L6, SOT-23	1

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67	8 BIT MCU	PIC16C620A-04/SO, 18SOIC	1
68	IC	TB31202NF, SMD SSOP	1
69	IC	SN74HC164, SOP14	1
70	IC	XC62GR3022R, SOT-89-5	1
71	IC	KA3361CD, 16-SOP-225A	1
72	IC	TA7368F, SSOP10-P-225	1
73	IC	LM358D, 8SOP	1
74	CHIP INDUCTOR	39NH SMD +/-10% SMD	1
75	CHIP INDUCTOR	100NH SMD +/-10% SMD	1
76	CHIP INDUCTOR	0.82UH SMD, +/-10% SMD	1
77	CHOKE COILS	4T, ϕ 1.2MM D=0.35MM	2
78	CHOKE COILS	5T, ϕ 0.8MM D= 0.21MM	1
79	CHOKE COILS	5T, ϕ 1.0MM D=0.35MM	1
80	CHOKE COILS	5T, ϕ 1.2MM D= 0.35MM	6
81	CHOKE COILS	6T, ϕ 1.2MM D=0.35MM	1
82	CHOKE COILS	7T, ϕ 1.2MM D= 0.35MM	1
83	CHIP RESISTOR	100 Ω +/- 5% SMD	4
84	CHIP RESISTOR	1K Ω +/- 5% SMD	10
85	CHIP RESISTOR	10K Ω +/- 5% SMD	6
86	CHIP RESISTOR	100K Ω +/- 5% SMD	5
87	CHIP RESISTOR	1.2K Ω +/- 5% SMD	1
88	CHIP RESISTOR	120K Ω +/- 5% SMD	1
89	CHIP RESISTOR	150 Ω +/- 5% SMD	2
90	CHIP RESISTOR	15K Ω +/- 5% SMD	2
91	CHIP RESISTOR	20K Ω +/- 5% SMD	1
92	CHIP RESISTOR	22 Ω +/- 5% SMD	1
93	CHIP RESISTOR	220 Ω +/- 5% SMD	1
94	CHIP RESISTOR	2.2K Ω +/- 5% SMD	2
95	CHIP RESISTOR	22K Ω +/- 5% SMD	2
96	CHIP RESISTOR	220K Ω +/- 5% SMD	2
97	CHIP RESISTOR	270 Ω +/- 5% SMD	1
98	CHIP RESISTOR	33 Ω +/- 5% SMD	2
99	CHIP RESISTOR	3.3K Ω +/- 5% SMD	2

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100	CHIP RESISTOR	33K Ω	+/- 5% SMD	6
101	CHIP RESISTOR	330K Ω	+/- 5% SMD	2
102	CHIP RESISTOR	39K Ω	+/- 5% SMD	3
103	CHIP RESISTOR	470 Ω	+/- 5% SMD	8
104	CHIP RESISTOR	4.7K Ω	+/- 5% SMD	4
105	CHIP RESISTOR	47K Ω	+/- 5% SMD	3
106	CHIP RESISTOR	470K Ω	+/- 5% SMD	2
107	CHIP RESISTOR	56 Ω	+/- 5% SMD	2
108	CHIP RESISTOR	560 Ω	+/- 5% SMD	1
109	CHIP RESISTOR	5.6K Ω	+/- 5% SMD	1
110	CHIP RESISTOR	56K Ω	+/- 5% SMD	3
111	CHIP RESISTOR	6.8K Ω	+/- 5% SMD	3
112	CHIP RESISTOR	68K Ω	+/- 5% SMD	1

II PURCHASE PARTS

1	SPONGE	3X10X10MM	2
2	ANTI-DUST PAPER	ANTI-DUST PAPER OF SPEAKER ϕ 28 x 0.1MM, BLACK	1
3	SCREW PB2.6 x 8MM	WHITE	1
4	SCREW BT2.0 x 6MM	WHITE	2
5	BATTERY CONTACT (+)	MT 425 (+)	1

Tsuen Shing Enterprises Ltd.

NLM-8 Technical Description

1. Voltage : 4.5V (3 X "AA")
2. Temperature Tolerance : -10°C — $+50^{\circ}\text{C}$
3. Frequency ; 446 MHz
4. Circuit Mode : Frequency Merged Mode
5. No of Channels : 8
6. LED Display : 1-8
7. Channel Spacing : 12.5KHz
8. Modulation : FM
9. Low Power Indication : $3.5 \pm 0.1\text{V}$
10. Speaker Resistance : 8Ω
11. Receiving Mode: Dual Conversion Receive, Power Saving Mode
12. Center Frequency: 21.6MHz, 455 KHz
13. Receiver Sensitivity (12dB S/N) : -4dBu
14. Squelch Sensitivity: -6dB
15. Sound / Noise Sensitivity (60dBu Sound Input) : 40dB
16. Channel Suppression : 50 dB
17. Mirror Restrain : 59 dB
18. Audio Frequency Output (8Ω , 10% distort) : 120mW
19. Transmitting Power : 500 mW
20. Frequency Swing : $\pm 3\text{KHz}$
21. Calling Deviation : $\pm 1.5\text{KHz}$
22. Harmonic Suppression: 45 dB
23. Modulation Distortion : 2%
24. MIC: Condenser MIC
25. Dimension : $90 \times 55 \times 30\text{mm}$
26. Weight (Battery not inclusive) : 100g