

## TROUBLESHOOTING

<b>Symptom</b>	<b>Cause</b>	<b>Remedy</b>
Unit doesn't turn on	<ul style="list-style-type: none"> <li>● Defective power switch.</li> <li>● Fuse blown.</li> <li>● Broken DC power cable.</li> <li>● Poor solder connection or other open connection in power circuit.</li> </ul>	<ul style="list-style-type: none"> <li>● Replace.</li> <li>● Replace.</li> <li>● Replace.</li> <li>● Repair or replace.</li> </ul>
No sound received	<ul style="list-style-type: none"> <li>● Defective external speaker jack.</li> <li>● Poor contact on microphone connector.</li> <li>● Defective push switch on microphone.</li> <li>● Defective internal speaker.</li> <li>● Defective VCO circuit.</li> <li>● Defective AF amp.</li> <li>● Defective RF, mixer or IF amp.</li> </ul>	<ul style="list-style-type: none"> <li>● Repair or replace.</li> <li>● Repair or replace.</li> <li>● Repair or replace.</li> <li>● Replace.</li> <li>● Replace Q13, Q14, D8 or T6.</li> <li>● Replace IC2, IC3 or T5.</li> <li>● Replace Q2, Q3, Q4, Q5 or Q6.</li> </ul>
No transmission	<ul style="list-style-type: none"> <li>● Defective microphone.</li> <li>● Defective push switch on microphone.</li> <li>● Defective VCO circuit.</li> <li>● Defective holder, driver or final amp.</li> <li>● Defective antenna connector.</li> </ul>	<ul style="list-style-type: none"> <li>● Repair or replace.</li> <li>● Repair or replace.</li> <li>● Replace Q13, Q14, D8 or T6.</li> <li>● Replace Q16, Q17, Q18, Q19 or D11.</li> <li>● Replace.</li> </ul>
No modulation	<ul style="list-style-type: none"> <li>● Defective microphone.</li> <li>● Defective modulator.</li> <li>● Defective microphone amp.</li> <li>● Defective microphone connector.</li> <li>● Defective AMC circuit.</li> </ul>	<ul style="list-style-type: none"> <li>● Repair or replace.</li> <li>● Replace IC3 or T5.</li> <li>● Replace Q10 or Q11.</li> <li>● Replace.</li> <li>● Replace Q8 or Q9.</li> </ul>
No squelch	<ul style="list-style-type: none"> <li>● Defective IC or semi-fixed resistor.</li> </ul>	<ul style="list-style-type: none"> <li>● Replace IC2 or VR3.</li> </ul>
RX LED doesn't light	<ul style="list-style-type: none"> <li>● Defective LED or transistor.</li> </ul>	<ul style="list-style-type: none"> <li>● Replace LD202 or Q12.</li> </ul>
TX LED doesn't light	<ul style="list-style-type: none"> <li>● Defective LED or diode.</li> </ul>	<ul style="list-style-type: none"> <li>● Replace LD203 or D6.</li> </ul>

## ELECTRICAL PARTS LIST

Ref. No.	Description	RS Part No.	Mfr's Part No.
	PCB, Assembly, Main consists of the following:	US CA	MH00339 MH00549
<b>CAPACITORS</b>			
C1	Ceramic NPO 220 pF 50 V ± 5%		CCJBK221J*
C2	Ceramic NPO 220 pF 50 V ± 5%		CCJBK221J*
C3	Ceramic NPO 33 pF 50 V ± 5%		CCJBK330J*
C4	Ceramic NPO 22 pF 50 V ± 5%		CCJBK220J*
C5	Ceramic 0.01 µF 16 V ± 10%		CGJRG103KM or CGJLG103K*
C6	Electrolytic 22 µF 16 V ± 20%		CEACG226M*
C7	Ceramic 0.01 µF 16 V ± 10%		CGJRG103KM or CGJLG103K*
C8	Electrolytic 4.7 µF 50 V ± 20%		CEACK475M*
C9	Ceramic 0.01 µF 16 V ± 10%		CGJRG103KM or CGJLG103K*
C10	Ceramic 0.01 µF 16 V ± 10%		CGJRG103KM or CGJLG103K*
C11	Ceramic 1000 pF 50 V ± 10%		CKJEK102K*
C12	Electrolytic 22 µF 16 V ± 20%		CEACG226M*
C13	Ceramic 0.01 µF 16 V ± 10%		CGJRG103KM or CGJLG103K*
C14	Ceramic 1000 pF 50 V ± 10%		CKJEK102K*
C15	Ceramic SL 2 pF 50 V 0.25P		CCJVK2R0C*
C16	Ceramic 0.022 µF 16 V ± 10%		CGJRG223KM or CGJLG223K*
C17	Electrolytic 22 µF 16 V ± 20%		CEACG226M*
C18	Ceramic 1000 pF 50 V ± 10%		CKJEK102K *
C19	Ceramic 0.047 µF 16 V ± 10%		CGJRG473KM or CGJLG473K*
C20	Ceramic 0.047 µF 16 V ± 10%		CGJRG473KM or CGJLG473K*
C21	Ceramic 1000 pF 50 V ± 10%		CKJEK102K*
C22	Ceramic 0.047 µF 16 V ± 10%		CGJRG473KM or CGJLG473K*
C23	Electrolytic 1 µF 50 V ± 20%		CEACK105M*
C24	Ceramic 3300 pF 16 V ± 10%		CGJLR332KM
C25	Ceramic 4700 pF 16 V ± 10%		CGJLR472KM
C26	Ceramic 0.047 µF 16 V ± 10%		CGJRG473KM
C27	Ceramic 0.022 µF 16 V ± 10%		CGJRG223KM or CGJLG223K*
C28	Electrolytic 33 µF 16 V ± 20%		CEACG336M*
C29	Ceramic NPO 68 pF 50 V ± 5%		CCJBK680J*
C30	Ceramic 0.047 µF 16 V ± 10%		CGJRG473KM or CGJLG473K*
C31	Electrolytic 22 µF 16 V ± 20%		CEACG226M*
C32	Ceramic 0.022 µF 16 V ± 10%		CGJRG223KM or CGJLG223K*
C33	Ceramic 0.022 µF 16 V ± 10%		CGJRG223KM or CGJLG223K*

Ref. No.	Description					RS Part No.	Mfr's Part No.
C34	Electrolytic	220 $\mu$ F	10 V	$\pm$ 20%		CEACE227M*	
C35	Not Used						
C36	Electrolytic	4.7 $\mu$ F	50 V	$\pm$ 20%		CEACK475M*	
C37	Electrolytic	4.7 $\mu$ F	50 V	$\pm$ 20%		CEACK475M*	
C38	Ceramic	560 pF	50 V	$\pm$ 10%		CKJEK561K*	
C39	Electrolytic	1 $\mu$ F	50 V	$\pm$ 20%		CEACK105M*	
C40	Ceramic	0.068 $\mu$ F	16 V	$\pm$ 10%		CGJRG683KM	
C41	Electrolytic	47 $\mu$ F	10 V	$\pm$ 20%		CEACE476M*	
C42	Ceramic SL	180 pF	50 V	$\pm$ 5%		CCJVK181J*	
C43	Ceramic	1000 pF	50 V	$\pm$ 10%		CKJEK102K*	
C44	Ceramic SL	100 pF	50 V	$\pm$ 5%		CCJVK101J*	
C45	Electrolytic	47 $\mu$ F	10 V	$\pm$ 20%		CEACE476M*	
C46	Electrolytic	1 $\mu$ F	50 V	$\pm$ 20%		CEACK105M*	
C47	Electrolytic	4.7 $\mu$ F	50 V	$\pm$ 20%		CEACK475M*	
C48	Ceramic	0.068 $\mu$ F	16 V	$\pm$ 10%		CGJRG683KM	
C49	Electrolytic	330 $\mu$ F	10 V	$\pm$ 20%		CEACE337M*	
C50	Electrolytic	1000 $\mu$ F	16 V	$\pm$ 20%		CECCG108M*	
C51	Electrolytic	220 $\mu$ F	16 V	$\pm$ 20%		CEACG227M*	
C52	Electrolytic	47 $\mu$ F	10 V	$\pm$ 20%		CEACE476M*	
C53	Ceramic	0.01 $\mu$ F	16 V	$\pm$ 10%		CGJRG103KM or CGJLG103K*	
C54	Electrolytic	1 $\mu$ F	50 V	$\pm$ 20%		CEACK105M*	
C55	Ceramic	0.01 $\mu$ F	16 V	$\pm$ 10%		CGJRG103KM or CGJLG103K*	
C56	Ceramic	0.047 $\mu$ F	16 V	$\pm$ 10%		CGJRG473KM or CGJLG473K*	
C57	Ceramic	0.047 $\mu$ F	16 V	$\pm$ 10%		CGJRG473KM or CGJLG473K*	
C58	Ceramic	4700 pF	16 V	$\pm$ 10%		CGJRG472KM or CGJLG472K*	
C59	Electrolytic	33 $\mu$ F	16 V	$\pm$ 20%		CEACG336M*	
C60	Ceramic	0.039 $\mu$ F	16 V	$\pm$ 10%		CGJRG393KM	
C61	Ceramic	0.047 $\mu$ F	16 V	$\pm$ 10%		CGJRG473KM or CGJLG473K*	
C62	Electrolytic	10 $\mu$ F	25 V	$\pm$ 20%		CEACI106M*	
C63	Ceramic NPO	68 pF	50 V	$\pm$ 5%		CCJBK680J*	
C64	Ceramic NPO	24 pF	50V	$\pm$ 5%		CCJBK240J*	
C65	Electrolytic	22 $\mu$ F	16 V	$\pm$ 20%		CEACG226M*	
C66	Ceramic	0.1 $\mu$ F	16 V	$\pm$ 10%		CGJRG104KM or CGJLG104K*	
C67	Ceramic	0.01 $\mu$ F	16 V	$\pm$ 10%		CGJRG103KM or CGJLG103K*	
C68	Ceramic	0.047 $\mu$ F	16 V	$\pm$ 10%		CGJRG473KM or CGJLG473K*	
C69	Ceramic NPO	82 pF	50 V	$\pm$ 5%		CCJBK820J*	
C70	Ceramic NPO	24 pF	50 V	$\pm$ 5%		CCJBK240J*	
C71	Ceramic NPO	68 pF	50 V	$\pm$ 5%		CCJBK680J*	
C72	Ceramic	0.01 $\mu$ F	16 V	$\pm$ 10%		CGJRG103KM or CGJLG103K*	
C73	Electrolytic	47 $\mu$ F	10 V	$\pm$ 20%		CEACE476M*	
C74	Ceramic NPO	47 pF	50 V	$\pm$ 5%		CCJBK470J*	
C75	Ceramic	0.022 $\mu$ F	16 V	$\pm$ 10%		CGJRG223KM or CGJLG223K*	

Ref. No.	Description				RS Part No.	Mfr's Part No.
C76	Ceramic	0.022 $\mu$ F	16 V	$\pm$ 10%		CGJRG223KM or CGJLG223K*
C77	Ceramic SL	100 pF	50 V	$\pm$ 5%		CCJVK101J*
C78	Ceramic N220	68 pF	50 V	$\pm$ 5%		CCJHK680J*
C79	Ceramic N220	56 pF	50 V	$\pm$ 5%		CCJHK560J*
C80	Ceramic	0.01 $\mu$ F	16 V	$\pm$ 10%		CGJRG103KM or CGJLG103K*
C81	Ceramic	0.01 $\mu$ F	16 V	$\pm$ 10%		CGJRG103KM or CGJLG103K*
C82	Ceramic SL	4 pF	50 V	0.25p		CCJVK4R0C*
C83	Ceramic	0.01 $\mu$ F	16 V	$\pm$ 10%		CGJRG103KM or CGJLG103K*
C84	Ceramic	1000 pF	50 V	$\pm$ 10%		CKJEK102K*
C85	Ceramic	1000 pF	50 V	$\pm$ 10%		CKJEK102K*
C86	Ceramic	0.01 $\mu$ F	16 V	$\pm$ 10%		CGJRG103KM or CGJLG103K*
C87	Electrolytic	4.7 $\mu$ F	50 V	$\pm$ 20%		CEACK475M*
C88	Ceramic	0.01 $\mu$ F	16 V	$\pm$ 10%		CGRJG103KM or CGJLG103K*
C89	Ceramic NPO	12 pF	50 V	$\pm$ 5%		CCJBK120J*
C90	Ceramic SL	100 pF	50 V	$\pm$ 5%		CCJVK101J*
C91	Ceramic	0.01 $\mu$ F	16 V	$\pm$ 10%		CGJRG103KM or CGJLG103K*
C92	Not Used					
C93	Ceramic NPO	220 pF	50 V	$\pm$ 5%		CCJBK221J*
C94	Ceramic NPO	33 pF	50 V	$\pm$ 5%		CCJBK330J*
C95	Ceramic NPO	68 pF	50 V	$\pm$ 5%		CCCJBK680K*
C96	Ceramic	0.022 $\mu$ F	16 V	$\pm$ 10%		CGJRG223KM or CGJLG223K*
C97	Ceramic NPO	82 pF	50 V	$\pm$ 5%		CCJBK820J*
C98	Ceramic NPO	150 pF	50 V	$\pm$ 5%		CCJBK151J*
C99	Ceramic NPO	220 pF	50 V	$\pm$ 5%		CCJBK221J*
C100	Ceramic	0.01 $\mu$ F	16 V	$\pm$ 10%		CGJRG103KM or CGJLG103K*
<b>CERAMIC FILTERS</b>						
CF1	SFE10.7MJ-A			or		392300560B or
	10.7MJ-A					392390010A
CF2	CFU455HT					392100611A
<b>DIODES</b>						
D1	Silicon	1N4148				SDSI00062- or SDSI00064- or SDSI00149-
D2	Silicon	1N4148				SDSI00062- or SDSI00064- or SDSI00149-
D3	Germanium	1N60P				SDGE00001P or SDGE00003P
D4	Silicon	1N4148				SDAI00062- or SDSI00064- or SDSI00149-

Ref. No.	Description		RS Part No.	Mfr's Part No.
D5	Silicon	1N4148		SDSI00062- or SDSI00064- or SDSI00149-
D6	Silicon	1N4148		SDSI00062- or SDSI00064- or SDSI00149-
D7	Silicon	1N4148		SDSI00062- or SDSI00064- or SDSI00149-
D8	Varicap	ITT310		SDVCO0005-
D9	Silicon	1N4148		SDSI00062- or SDSI00064- or SDSI00149-
D10	Silicon	1N4148		SDSI00062- or SDSI00064- or SDSII00149-
D11	Silicon	1N4002		SDSI00007-
D12	Silicon	1N4002		SDSI00007-
<b>ICS</b>				
IC1	LC7132			SILC7132- -
IC2	NJM4558D			SINM4558D-
IC3	KIA7217AP			SIKA7217A-
IC4	MC78L08ACP NM78L08(A) MC78L08ACE	or or		SIMC78L08A or SINM78L08A or SIMUL08ACZ
<b>JACK</b>				
JK1	3.5MM	HSJ0615-01-010		191201330A
<b>COILS</b>				
L1	AIR	VR5-7.5T 5x7.5Tx0.6	or CA-2878	141002080A or 141190170A
L2	Inductor	LAL03NA 100 μH		142011510A
L3	Inductor	1μH K 1μH K (4645-0048) 1μH K	or or	142310920A or 142390040A or 142390050A
L4	Inductor	10μH K LAL03NA		142011150A
L5	Inductor	10μH K LAL03NA		142011150A
L6	Inductor	1.0μH K LAL03NA		142012880A
L7	Inductor	1.8μH K LAL03NA		142012830A
L8	Air	HR5.5-10T 5.5x10Tx0.6	or CA-2880	141102500A or 141190160A
L9	Inductor	0.47μH K LAL03NA		142012840A
L10	Inductor	1μH K 1μH (4645-0048) LμHK	or or CA-2879	142310920A or 142390040A or 142390050A
L11		27MHz D10 3C053 27MHz S10 3C054	or CA-2882	143310530A or 143310540A

Ref. No.	Description				RS Part No.	Mfr's Part No.
L12	Air	HR5.5-10T		or		141102500A or
L13	Choke	5.5x10Tx0.6 0.2mH E119 CH020 EI-19 HF/C2220R-V		or	CA-2882	141190160A 144010200A or 144090030A
<b>TRANSISTORS</b>						
Q1	2SA733(P)					ST2A733- -P
Q2	2SC1674(L)					ST2C1674-L
Q3	2SC1675(L)			or		ST2C1675-L or
	KTC380TM(O)					STKC380TMO
Q4	2SC1675(L)			or		ST2C1675-L or
	KTC380TM(O)					STKC380TMO
Q5	2SC930(E)					ST2C930- -E
Q6	2SC945(P)					ST2C945- -P
Q7	2SC945(P)					ST2C945- -P
Q8	2SA733(P)					ST2A733- -P
Q9	2SC945(P)					ST2C945- -P
Q10	2SC945(P)					ST2C945- -P
Q11	2SC945(P)					ST2C945- -P
Q12	2SC945(P)					ST2C945- -P
Q13	2SC945(P)					ST2C945- -P
Q14	2SA733(P)					ST2A733- -P
Q15	2SC945(P)				2TR-1090	ST2C945- -P
Q16	2SC945(P)				2TR-1090	ST2C945- -P
Q17	2SC945(P)				2TR-1090	ST2C945- -P
Q18	KTC2036B					STKC2036B-
Q19	KTC2075(A)				2TR-1091	STKC2075-A
<b>RESISTORS</b> Resistors are Metal - Glaze, 1/10W, $\pm 5\%$ unless otherwise indicated. Unit = Ohm						
R1	Carbon	1.5 k	1/2 W	$\pm 5\%$		RCSHP152J*
R2	Carbon	2 k	1/6 W	$\pm 5\%$		RC0XP202J*
R3		560				RG0TV561J*
R4	Carbon	1 k	1/6 W	$\pm 5\%$		RC0XP102J*
R5	Carbon	10 k	1/6 W	$\pm 5\%$		RC0XP103J*
R6		470				RG0TV471J*
R7	Carbon	820	1/6 W	$\pm 5\%$		RC0XP821J*
R8		470				RG0TV471J*
R9		180				RG0TV181J*
R10		100 k				RG0TV104J*
R11		220				RG0TV221J*
R12	Carbon	560	1/6 W	$\pm 5\%$		RC0XP561J*
R13		560				RG0TV561J*
R14		10 k				RG0TV103J*
R15		470				RG0TV471J*
R16	Carbon	2.2 k	1/6 W	$\pm 5\%$		RC0XP222J*
R17		2.2 k				RG0TV222J*
R18	Carbon	22 k	1/6 W	$\pm 5\%$		RC0XP223J*
R19		1 k				RG0TV102J*
R20	Carbon	470	1/6 W	$\pm 5\%$		RC0XP471J*
R21		33 k				RG0TV333J*
R22		10 k				RG0TV103J*

Ref. No.	Description				RS Part No.	Mfr's Part No.
R23		5.1				RG0TV5R1J*
R24		470				RG0TV471J*
R25	Carbon	470	1/6 W	±5%		RC0XP471J*
R26	Carbon	47 k	1/6 W	± 5%		RC0XP473J*
R27		47 k				RG0TV473J*
R28	Carbon	39 k	1/6 W	± 5%		RC0XP393J*
R29	Carbon	120 k	1/6 W	± 5%		RC0XP124J*
R30		33 k				RG0TV333J*
R31		10 k				RG0TV103J*
R32		68 k				RG0TV683J*
R33	Carbon	1 M	1/6 W	± 5%		RC0XP105J*
R34		5.1 k				RG0TV512J*
R35		560				RG0TV561J*
R36		100 k				RG0TV104J*
R37		470				RG0TV471J*
R38	Carbon	7.5K	1/6 W	± 5%		RC0XP752J*
R39		10 k				RG0TV103J*
R40		680				RG0TV681J*
R41	Carbon	22 k	1/6 W	± 5%		RC0XP223J*
R42		270 k				RG0TV274J*
R43		2.2 k				RG0TV222J*
R44	Carbon	39 k	1/6 W	± 5%		RC0XP393J*
R45		47 k				RG0TV473J*
R46		180 k				RG0TV184J*
R47		560 k				RG0TV564J*
R48	Carbon	680	1/6 W	± 5%		RC0XP681J*
R49		100 k				RG0TV104J*
R50		10 k				RG0TV103J*
R51		82				RG0TV820J*
R52		10				RG0TV100J*
R53	M-Oxide	270	2 W	± 5%		RX02P271J*
R54	M-Film	10	2 W	± 5%		RM02P100J*
R55	M-Film	15	1 W	± 5%		RM01P150J*
R56	Carbon	10 k	1/6 W	± 5%		RC0XP103J*
R57		910				RG0TV911J*
R58		1.8 k				RG0TV182J*
R59		2.2 k				RG0TV222J*
R60		18 k				RG0TV183J*
R61		1.2 k				RG0TV122J*
R62	Carbon	4.7 k	1/6 W	± 5%		RC0XP472J*
R63		1 k				RG0TV102J*
R64	Carbon	2.2 k	1/6 W	± 5%		RC0XP222J*
R65		56 k				RG0TV563J*
R66		8.2 k				RG0TV822J*
R67	Carbon	680	1/6 W	± 5%		RC0XP681J*
R68		6.8 k				RG0TV682J*
R69	Carbon	3.3 k	1/6 W	± 5%		RC0XP332J*
R70	Carbon	100 k	1/6 W	± 5%		RC0XP104J*
R71		10 k			NDA-028IEDG	RG0TV103J*
R72	Carbon	620	1/6 W	± 5%		RC0XP621J*
R73		1.2 k				RG0TV122J*
R74	Carbon	620	1/6 W	± 5%		RC0XP621J*
R75		1.2 k				RG0TV122J*
R76		1.2 k				RG0TV122J*

Ref. No.	Description	RS Part No.	Mfr's Part No.
R77	1.2 k		RG0TV122J*
R78	Carbon 1.2 k 1/6 W ± 5%		RC0XP122J*
R79	Carbon 1.2 k 1/6 W ± 5%		RC0XP122J*
R80	1.2 k		RG0TV122J*
R81	1.2 k		RG0TV122J*
R82	Carbon 1.2 k 1/6 W ± 5%		RC0XP122J*
R83	1.2 k		RG0TV122J*
R84	1.2 k		RG0TV122J*
R85	1.2 k		RG0TV122J*
R86	1.2 k		RG0TV122J*
R87	2.2 k	NDA-0216EDG	RG0TV222J*
R88	47 k		RG0TV473J*
R89	10 k		RG0TV103J*
R90	22 k		RG0TV223J*
R91	Carbon 47 k 1/6 W ± 5%		RC0XP473J*
R92	220 k		RG0TV224J*
R93	2.7 k		RG0TV272J*
R94	Carbon 470 1/6 W ± 5%		RC0XP471J*
R95	47 k		RG0TV473J*
R96	Carbon 2.2 k 1/6 W ± 5%		RC0XP222J*
R97	Carbon 470 1/6 W ± 5%		RC0XP471J*
R98	6.8 k		RG0TV682J*
R99	22 k		RG0TV223J*
R100	1 k	NDA-0196EDG	RG0TV102J*
R101	Carbon 470 1/6 W ± 5%		RC0XP471J*
R102	1.2 k		RG0TV122J*
R103	4.7 k		RG0TV472J*
R104	4.7 k		RG0TV472J*
R105	6.8k		RG0TV682J*
R106	180		RG0TV181J*
R107	Carbon 100 1/6 W ± 5%		RC0XP101J*
R108	6.8 k		RG0TV682J*
R109	3.3 k		RG0TV332J*
R110	Carbon 150 1/6 W ± 5%		RC0XP151J*
R111	220		RG0TV221J*
R112	1 k		RG0TV102J*
R113	Carbon 15 1/6 W ± 5%		RC0XP150J*
R114	Carbon 6.8 1/2 W ± 5%		RCSHP6R8J*
	TX POWER ADJ.		
	Carbon 7.5 1/2 W ± 5%		RCSHP7R5J*
	TX POWER ADJ.		
	Carbon 8.2 1/2 W ± 5%		RCSHP8R2J*
	TX POWER ADJ.		
	Carbon 9.1 1/2 W ± 5%		RCSHP9R1J*
	TX POWER ADJ.		
	Carbon 10 1/2 W ± 5%		RCSHP100J*
	TX POWER ADJ.		
	Carbon 11 1/2 W ± 5%		RCSHP110J*
	TX POWER ADJ.		
	Carbon 12 1/2W ± 5%		RCSHP120J*
	TX POWER ADJ.		
R115	Carbon 470 1/2 W ± 5%		RCSHP471J*

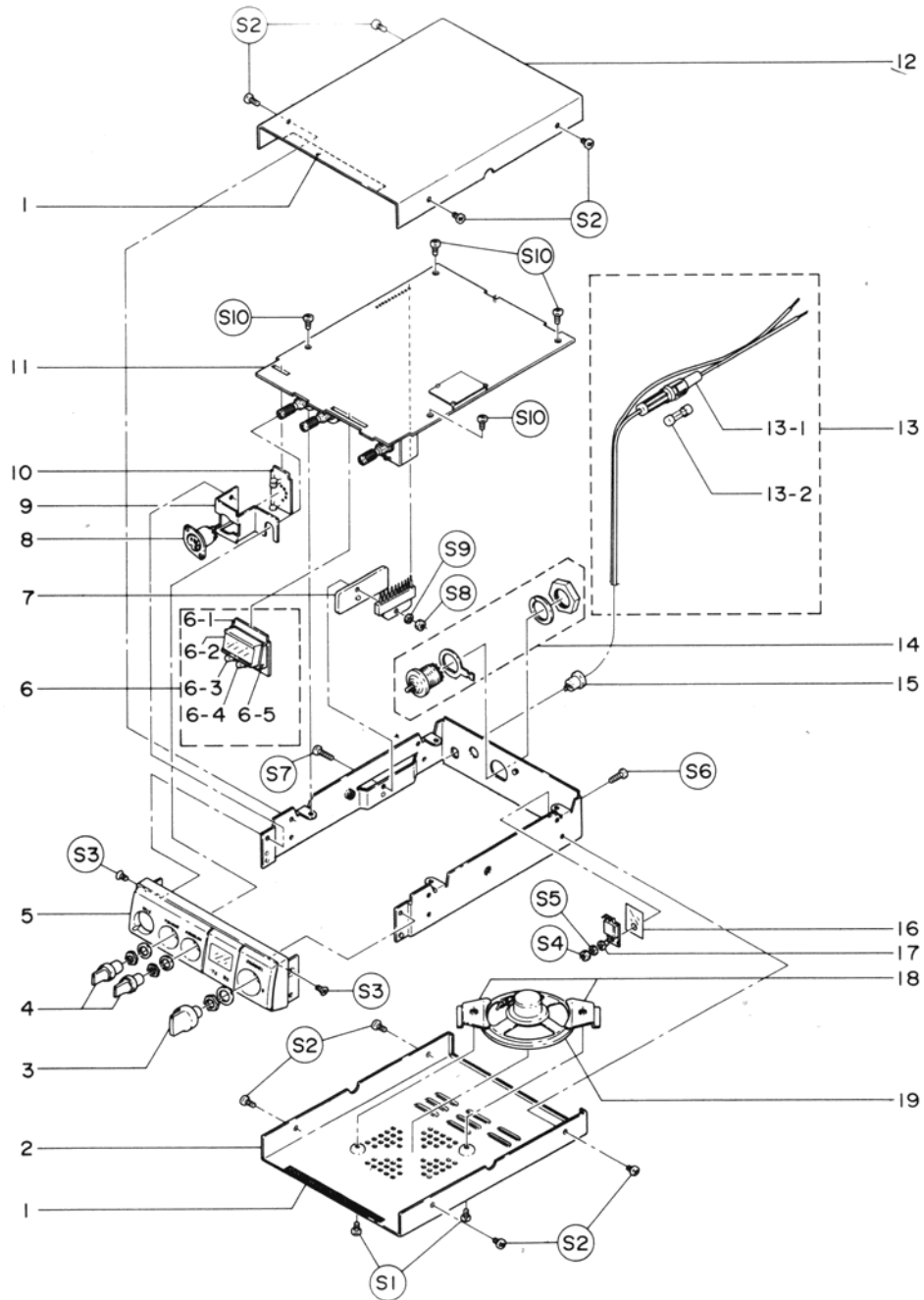


Ref. No.	Description	RS Part No.	Mfr's Part No.
<b>SWITCH</b>			
SW1	Rotary SRS202U CHANNEL		181110100A
<b>COILS</b>			
T1	Coil 27 MHz S7 1C038		143100381A
T2	Coil 27 MHz S7 1C258		143112580A
T3	IFT 455 S7 11066		131000660A
T4	IFT 455 S7 11027		131000270A
T5	Modulation Transformer EI24		10301005SA or 103390060A
T6	Coil 16MHz S7 1C259 or 2075-0152		143112590A or 143190290A
T7	Coil 27MHz S7 1C260		143112600A
T8	Coil 27MHz S7 1C260		143112600A
T9	Coil 27MHz S7 1C258		143112580A
<b>TRIMMER</b>			
TC1	TZ03T200FR		154010220A
<b>POTS</b>			
VR1	Rotary 10KA L20 VOLUME		171310200A
VR2	Rotary 100KB L20 SQUELCH or 16K1-B100k-L20KC		171211230A or 171290040A
VR3	Semi-Fixed 1KB TT24R100 or 1KB RVF6P01A-102N or 1KB TT24R100 or KVSF637A1KB		175206162A or 177310040A or 175206162A or 177390150A
<b>CRYSTAL</b>			
X1	10.240MHz HC-18/U		391010310A or 391012040A
<b>MISCELLANEOUS</b>			
	Plate, Shield Sheet, Insulation		473211370A 483013260A

	PCB, Assembly, Display consists of the following:	US CA	MH00340 MH00550
<b>LEDS</b>			
LD201	LED UL-1241-17 CHANNEL		555010111A
LD202	LED SLR-34MG3F, RX		SL-G00061-
LD203	LED SLR-34VR3F, TX		SL-R00125-
<b>MISCELLANEOUS</b>			
	Holder, For LED		413102240A

Ref. No.	Description	RS Part No.	Mfr's Part No.
	PCB, Assembly Micropone Jack consists of the following:		MH00341
<b>CAPACITORS</b>			
C301	Ceramic      0.01 $\mu$ F      16 V $\pm$ 10%		CGJRG103KM
C302	Ceramic      0.01 $\mu$ F      16 V $\pm$ 10%		CGJRG103KM
C303	Ceramic      0.01 $\mu$ F      16 V $\pm$ 10%		CGJRG103KM
<b>MISCELLANEOUS</b>			
	Sheet, Insulation		483013260A

## EXPLODED VIEW / DISASSEMBLY INSTRUCTIONS



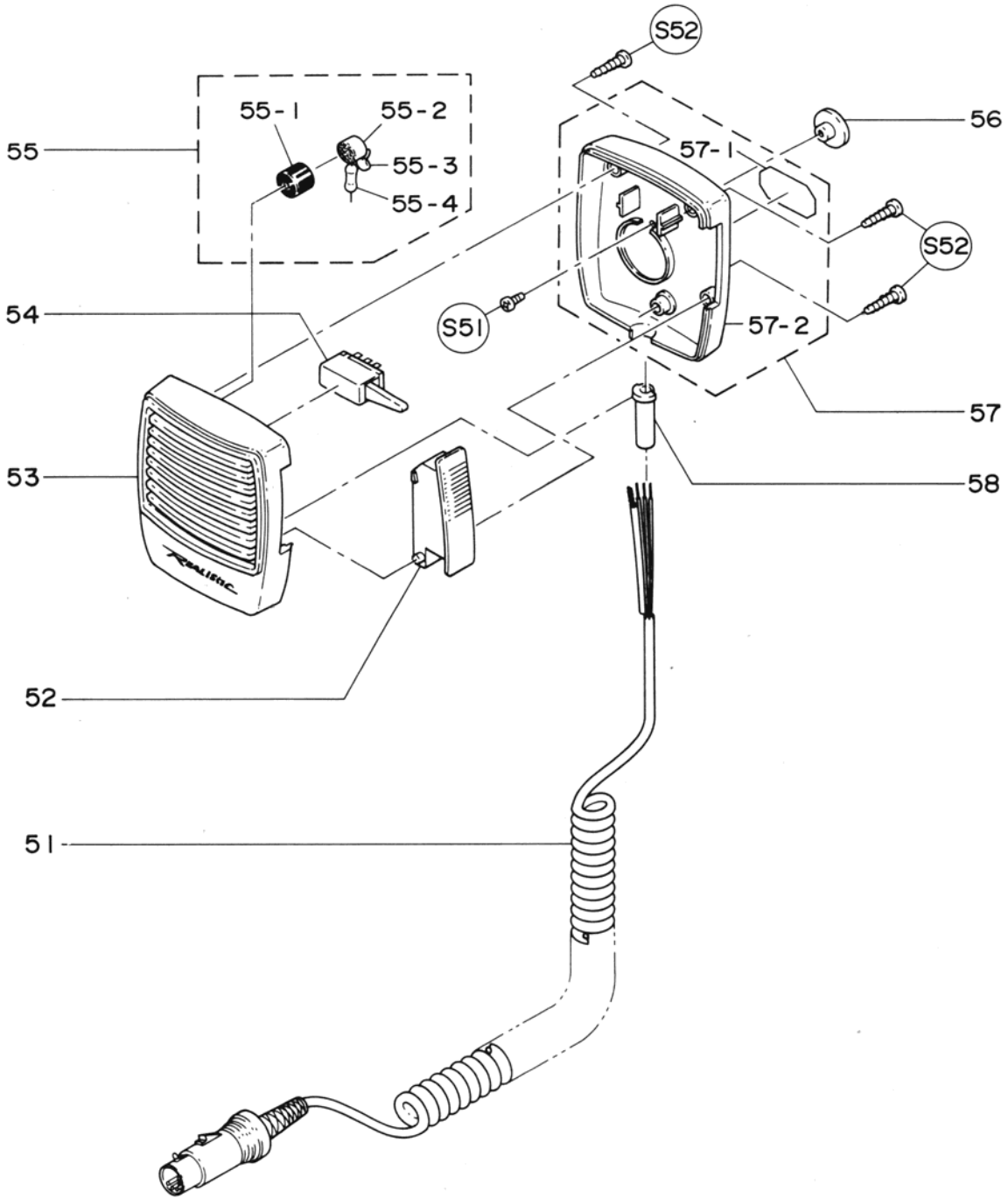
### Disassembly Instructions :

1. Remove four screws (S2) from top cover 12.
2. Remove four screws (S2) from bottom cover 2.
3. Remove two screws (S3) from front cabinet assembly 5.
4. Remove two knobs 4 and one knob 3 from front cabinet assembly 5.
5. Remove the nuts from the knobs 3 and 4 above.
6. Remove four screws (S10) from main PCB assembly 11.

## EXPLODED VIEW PARTS LIST

Ref. No.	Description	RS Part No.	Mfr's Part No.
1	Blind, Himelon for Top/Bottom Cabinets		851211370A
2	Cover, Bottom	E-4117	602210130A
3	Knob 25, CHANNEL	K-2635	652510880A
4	Knob 25, SQ/VOL	K-2636	652510870A
5	Assembly, Cabinet, Front (Non-repairable) Cabinet, Front Plate, Front	E-4115	MH00346
6	Assembly, PCB, Display	US CA	XB-3447
6-1	PCB 21 for Display PCB		MH00340
6-2	Module, LED, UL-1241-17, CHANNEL (LD201)		MH00550
6-3	LED, SLR-34VR3F, TX, Red (LD203)		20211064*A
6-4	LED, SLR-34MG3F, RX, Green (LD202)		555010111A
6-5	Holder for LED		SL-R00125-
7	Heat Sink		SL-G00061-
8	Jack, DIN for Microphone (JK301)		413102240A
9	Holder for Microphone This holder has been changed to 411102900A from serial no. 25329.		471010960A
10	Assembly, PCB, Mic Jack		193410120A or
11	Assembly, PCB, Main	US CA	193490010A
12	Cover, Top		411116400A
13	Assembly, Holder, Fuse		HB-0801
13-1	Holder, Fuse with Lead Wire		
13-2	Fuse, 125V, 2A (F401)		
14	Connector, M-type (JK401)		MH00341
15	Bushing, Cord		MH00339
16	Sheet, Insulation for Q19		MH00549
17	Grommet for Q19		602410090A
18	Holder fro Speaker		MH00345
19	Speaker, D66, 8 ohm, 0.7 W (SP401) SP-0138	E-4116 NG-0201	197210080A or
	Hardware Kit (S1 - S10)		197290020A
S1	Screw, 3 x 6P/ZnB for SP Holder		251010310A
S2	Screw, Taptite, 3 x 6BT-C/ZnB for TOP/Bottom Cover		193010011A or
S3	Screw, Taptite, 2.6 x 6FCT-B/ZnY for Front Cabinet		193090010A
S4	Nut, 3N-1/Ni-3		481000100A
S5	Washer, Spring, 3SW/Ni-3		483011470A
S6	Screw, 3 x 10B/Ni-3		481110120A
S7	Screw, 3 x 8B/ZnY		411012400A
S8	Nut, 3N-1/ZnY		271011050A
S9	Washer, Spring, 3SW/ZnY		HWK0211519
S10	Screw, Taptite, 3 x 8BT-B/ZnY for PCB		HMP03006SB
			HCBC3006SB
			HCCB2606SY
			HANN301-SN
			HWAS30SSSN
			HMB03010SN
			HMB03008SY
			HANN301-SY
			HAWS30SSSY
			HCBB3008SY

Ref. No.	Description	RS Part No.	Mfr's Part No.
	<p>Accessories:</p> <p>Shaft, Handle (2pcs)</p> <p>Holder for Hanger</p> <p>Speaker, NEOP Rubber (2pcs)</p> <p>Holder for Hand Mic</p> <p>Screw, 3 x 10B/ZnY (2pcs)</p> <p>Washer, Spring, 3SW/ZnY (2pcs)</p> <p>Washer, 3W/ZnY (2pcs)</p> <p>Screw, Tapping, 3 x 8BT-B/ZnY (2pcs)</p> <p>Nut, 3N-1/ZnY (2pcs)</p> <p>Bolt, 6 x 16H/ZnY (2pcs)</p> <p>Nut, 6N-1/ZnY (2pcs)</p> <p>Washer, 6W/ZnY (2pcs)</p> <p>Washer, Spring, 6SW/ZnY (2pcs)</p> <p>Screw, Tapping, 6 x 20PT-2/ZnY (2pcs)</p>	<p>HB-0802</p> <p>HB-0803</p>	<p>432201700A</p> <p>411116390A</p> <p>852013230A</p> <p>411116410A</p> <p>HMB03010SY</p> <p>HAWS30SSSY</p> <p>HAWP30SSSY</p> <p>HCBB3008SY</p> <p>HANN301-SY</p> <p>HBH06016SY</p> <p>HANN601-SY</p> <p>HAWP60SSSY</p> <p>HAWS60SSSY</p> <p>HTPS6020SY</p>



**Microphone Disassembly Instruction :**

Remove three screws (S52) from back cabinet assembly 57.

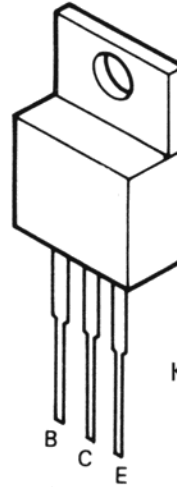
## HAND MIC UNIT EXPLODED VIEW PARTS LIST

Ref. No.	Description	RS Part No.	Mfr's Part No.
	Unit, Hand Mic	US CA	WU00014 WU00636
51	Assembly, Cord (Non-repairable) Plug, DIN Cord	W-0144	MH00344
52	Knob 95		659512670A
53	Cabinet, Front		601010610B
54	Switch, Push (SW501)		182210310A
55	Assembly, Microphone	US CA	MH00343 MH00552
55-1	Holder, NEOP Rubber for Microphone		413102330A
55-2	Unit, Microphone, EM-80 (MC501)		273100730A
55-3	Capacitor, Ceramic (C501)		CGJRG393KM
55-4	Resistor, Carbon, 4.7 Kohm (R501)		RC0XP472J*
56	Piece, Mounting	HC-3539	604010470A
57	Assembly, Cabinet, Back	US CA	MH00342 MH00551
57-1	Label, Rating		738013930A
57-2	Cabinet, Back		601110310A
58	Bushing, Cord		481010180A
	Hardware Kit (S51, S52)	HW-2101519	HWK211519M
S51	Screw, Taptite, 2.6 x 6PT-B/ZnY		HCPB2606SY
S52	Screw, Taptite, 3 x 12BT-B/ZnB		HCBB3012SB

# IC AND TRANSISTOR LEAD IDENTIFICATION AND IC INTERNAL DIAGRAM

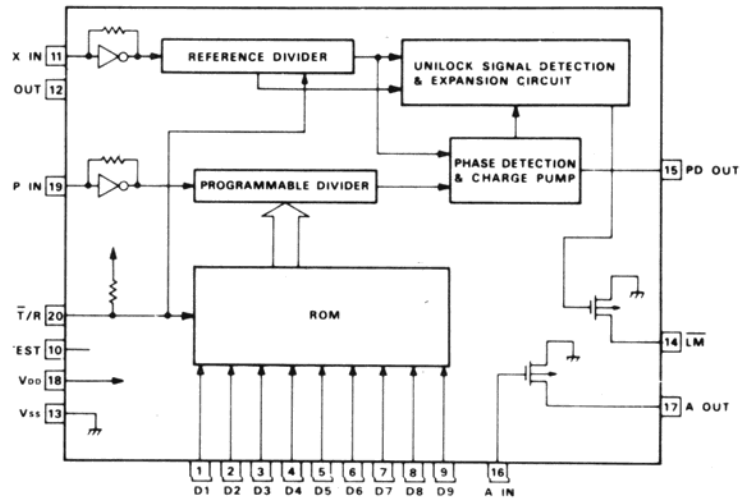
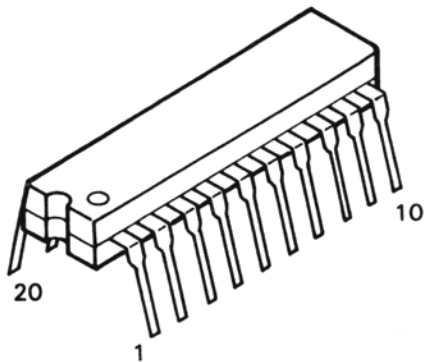


2SC930  
2SC945  
KTC2036B  
2SA733  
2SC1675  
2SC1674

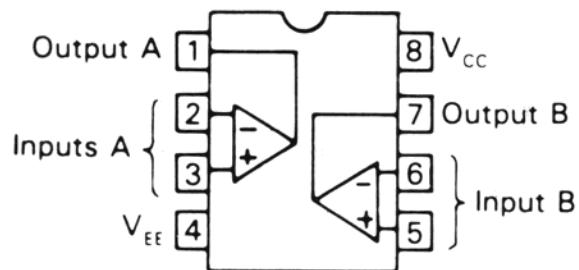
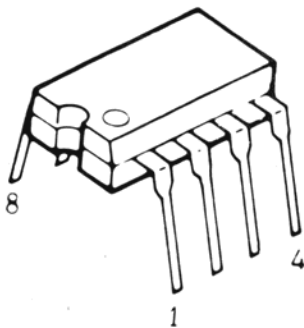


KTC2075

IC-1 LC7132

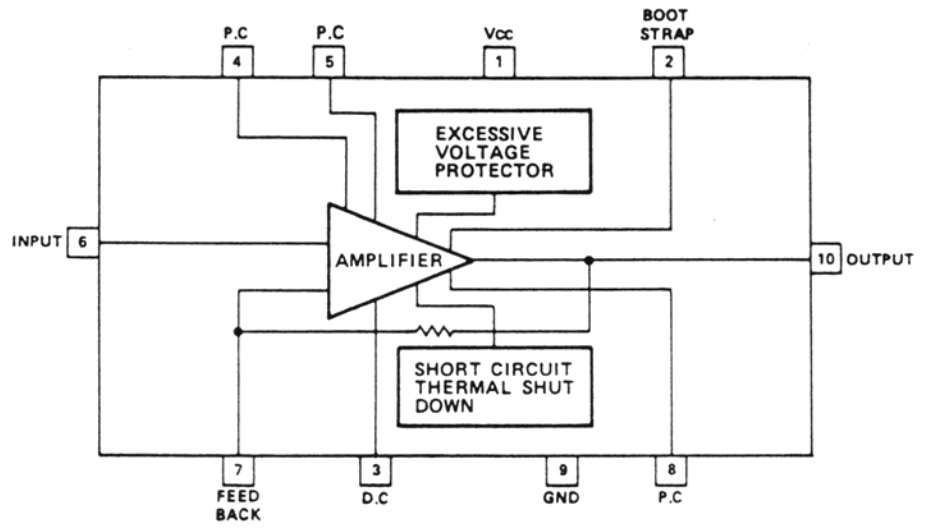
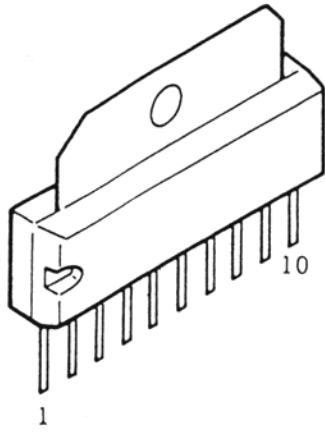


IC-2 NJM4558D

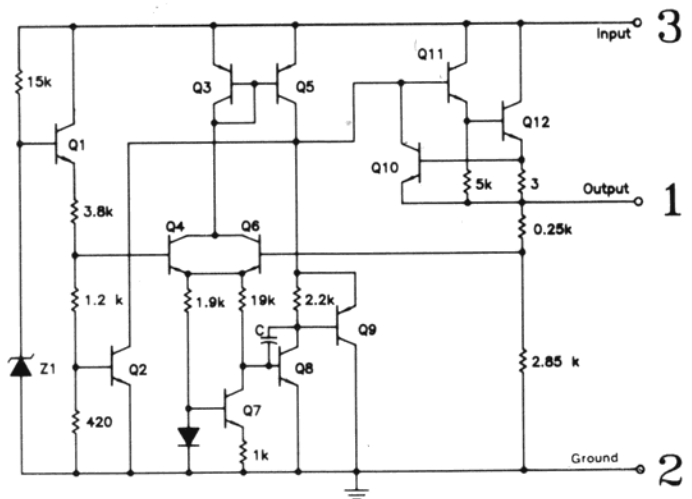
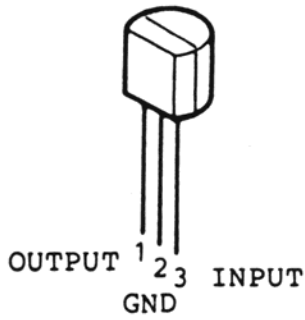




IC-3 KIA7217AP



IC-4 MC78L08ACP



# IC AND TRANSISTOR VOLTAGE CHART

## IC Voltage Chart

IC1	PIN NO. MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	TX	0	0	0	6.6	0	0	6.6	6.6	0	0	3.9	4.1	0	5.6	1.5
	RX	0	0	0	6.6	0	0	6.6	6.6	0	0	4.0	4.1	0	5.7	1.5
	PIN NO. MODE	16	17	18	19	20										
	TX	1.5	4.2	8.1	4.0	0.5										
	RX	1.5	3.8	8.1	4.0	8.1										
IC2	PIN NO. MODE	1	2	3	4	5	6	7	8							
	TX	3.4	3.4	3.4	0	1.2	0	6.6	6.9							
	RX	1.2 / 3.5	1.2 / 3.5	0.9 / 3.5	0 / 0	1.1 / 1.2	6 / 0	1.3 / 6.3	6.6 / 7							
IC3	PIN NO. MODE	1	2	3	4	5	6	7	8	9	10					
	TX	13.4	12.1	3.8	7.7	1.5	3.2	3.2	1.3	0	6.5					
	RX	13.8	12.6	3.9	7.9	1.5	3.3	3.3	1.3	0	6.6					
IC4	PIN NO. MODE	1	2	3												
	TX	8.1	0	13.4												
	RX	8.1	0	13.8												

- Notes :
- Channel : 19
  - Digital Volt Meter : DC Range
  - All voltage values are indicated in volts with no signal.
  - IC2 (RX)

Squelch
OFF / ON

## Transistor Voltage Chart

Transistor No.	PIN MODE	E	C	B	Transistor No.	PIN MODE	E	C	B
Q1	TX	1.7	1.8	7.4	Q11	TX	0	0	0
	RX	1.8	1.8	7.4		RX	0	0	0.6
Q2	TX	0.2	-0.2	0.2	Q12	TX	0	6.7	0
	RX	0.9	8.5	1.6		RX	0	0	0.7
Q3	TX	0	0	0	Q13	TX	5.2	7.2	5.6
	RX	0.2	10.4	0.9		RX	5.2	7.3	5.6
Q4	TX	0	0	0.4	Q14	TX	6.8	6.8	6.1
	RX	0.9	6.8	1.6		RX	8.1	0	7.5
Q5	TX	0	0	0.5	Q15	TX	2.2	12.1	2.8
	RX	1.0	10.4	1.7		RX	2.2	12.5	2.8
Q6	TX	0	0	0	Q16	TX	2.7	12.6	3.2
	RX	1.8	9.0	2.5		RX	3.5	13.8	3.4
Q7	TX	0	7.2	0.4	Q17	TX	3.6	13.2	4.1
	RX	0	7.4	0.5		RX	11.0	13.8	4.4
Q8	TX	5.0	0	5.6	Q18	TX	0	11.6	-0.2
	RX	5.2	0	5.7		RX	0	13.4	0
Q9	TX	0	0	0	Q19	TX	0	11.6	-0.3
	RX	0	0	0		RX	0	13.4	0
Q10	TX	0.5	3.4	1.2					
	RX	0.6	3.4	1.3					

- Notes :
- Channel : 19
  - Digital Volt Meter : DC Range
  - All voltage values are indicated in volts with no signal.