

Ref. No.	Description	RS Location	Mfr's Part No.
FILTERS			
CF1	Ceramic, 10.7MJ	C-1442	270-010-2
CF2	Ceramic, CFU 455HT	C-1579	270-006-9
INTEGRATED CIRCUITS			
IC201	KIA2717AP, Audio	MX-4938	222-006-4
IC301	TL489CP, LED Driver	MX-6453	235-001-7
IC501	LC6526C-3220, CPU	MX-7599	224-060-2
IC502	LC7132, PLL	MX-6057	224-021-7
RESISTORS		All resistors are carbon film, 1/16W ± 5%. Unless otherwise specified.	
R100	8.2k ohm		002-182-8
R101	330 ohm		002-331-9
R102	330 ohm		002-331-9
R103	390 ohm		002-391-3
R104	1k ohm		002-102-9
R105	4.7k ohm		002-472-3
R106	270 ohm		002-271-8
R107	33k ohm		002-333-1
R108	18 ohm		002-180-9
R109-R110	Not used		
R111	18k ohm		002-183-2
R112	100 ohm		002-101-8
R113	10k ohm		002-103-0
R114	20k ohm		002-203-7
R115	220 ohm		002-221-3
R116	470 ohm		002-471-2
R117	22k ohm		002-223-5
R118	100 ohm		002-101-8
R119	100k ohm		002-104-1
R120-R121	Not used		
R122	470 ohm		002-411-2
R123	1k ohm		002-102-9
R124	10k ohm		002-103-0
R125	470 ohm		002-471-2
R126	1k ohm		002-102-9
R127	10k ohm		002-103-0
R128	2.7k ohm		002-272-9
R129-R130	Not used		
R131	220 ohm		002-221-3
R132	47 ohm		002-470-1
R133	8.2k ohm		002-822-6
R134	1M ohm		002-105-2
R135	68k ohm		002-683-7
R136	Not used		
R137	120k ohm		002-124-9
R138	100k ohm		002-104-1
R139-R140	Not used		
R141	20k ohm		002-203-7
R142	6,8k ohm		002-682-6
R143	470k ohm		002-474-5

Ref. No.	Description	RS Location	Mfr's Part No.
R144	47k ohm		002-473-4
R145	68k ohm		002-683-7
R146	4.7k ohm		002-472-3
R147	22k ohm		002-223-5
R148	33k ohm		002-333-1
R149	47k ohm		002-473-4
R150	1k ohm		002-102-9
R201	3.3k ohm		002-332-0
R202	1k ohm		002-102-9
R203	470k ohm		002-471-2
R204	820k ohm		002-824-8
R205	3.3k ohm		002-332-0
R206	220 ohm		002-221-3
R207-R208	8.2k ohm		002-822-6
R209	27k ohm		002-273-0
R210	1M ohm		002-105-2
R211	5.6k ohm		002-562-1
R212	47 ohm		002-470-1
R213	1 ohm		002-109-6
R214	22k ohm		002-223-5
R215	1.8k ohm		002-182-1
R216	470k ohm		002-474-5
R217	2.7k ohm		002-272-9
R218	100k ohm		002-104-1
R219	3.9k ohm		002-392-9
R220-R221	1k ohm		002-102-9
R222	47 ohm		002-470-1
R223	220 ohm		002-221-3
R224	4.7k ohm		002-472-3
R225	10k ohm		002-103-01
R226	4.7k ohm		002-472-3
R227	8.2k ohm		002-822-6
R228	10k ohm		002-103-0
R229-R230	Not used		
R231	330 ohm		002-331-9
R232	2.2k ohm		002-222-4
R233	22k ohm		002-223-5
R234	Metal Oxide 22 ohm 2W \pm 5%		019-220-0
R235	Carbon Film 33k ohm 1/2W \pm 5%		002-333-1
R301	390 ohm		002-391-3
R302	150k ohm		002-154-6
R303-R305	4.7k ohm		002-472-3
R306	68 ohm		002-680-4
R307	100 ohm		002-101-8
R308	1k ohm		002-102-9
R309-R310	Not used		
R311	100 ohm		002-101-8
R312	3.3 ohm		002-339-7
R313	Carbon Film 10 ohm 1W \pm 5%		018-100-0
R314	1.2k ohm		002-122-7
R315	1k ohm		002-102-9
R316	150 ohm		002-151-3

Ref. No.	Description	RS Location	Mfr's Part No.
R317-R320 R321	1.5k ohm Carbon Film 4.7k ohm 1/2W ±5%		002-152-4 012-472-6
R501-R514	2.2k ohm		002-222-4
R515-R518	15k ohm		002-153-5
R519	3.3k ohm		002-332-0
R520	8.2k ohm		002-822-6
R521	10k ohm		002-103-0
R522-R524	56k ohm		002-563-2
R525	22 ohm		002-220-2
R526	470 ohm		002-471-2
R527	10k ohm 1/17W ±5%		002-103-0
R528	33k ohm		002-333-1
R529-R530	Not used		
R531	2.2k ohm		002-222-4
R532	82k ohm		002-823-7
R533	22k ohm		002-223-5
R534-R536	10k ohm		002-103-0
R537	Not used		
R538	22 ohm		002-220-2
R539-R540	Not used		
R541	470 ohm		002-471-2
R542	100 ohm		002-101-8
R543	Not used		
R544-R545	10k ohm		002-103-0
R546	4.7k ohm		002-472-3
R547	10k ohm		002-103-0
R548	47k ohm		002-470-1
R549-R550	Not used		
R551	820 ohm		002-821-5
R552	100k ohm		002-104-1
R553	220k ohm		002-224-6
R554-R555	2.7k ohm		002-272-9
R556	33 ohm		002-330-8
R557	18k ohm		002-183-2
R558	1M ohm		002-105-2
R559-R560	Not used		
R561-R562	18k ohm		002-183-2
R563	2.2M ohm		002-225-7
VARIABLE RESISTORS			
RV101, RV201 RV202	Semifixed, B20k ohm φ8, ±25% Semifixed, B2k ohm, φ8, ±25%	P-6989 P-7557	061-203-0 061-202-9
RV301	Semifixed, B20k ohm, φ8, ±25%	P-6989	061-203-0
VR101 VR102	Without/SW, B50k ohm ±20% With/OFF-ON SW, A50k ohm ±20%	P-8073 P-8074	450-601-2 450-602-3
VR201	With/DPDT SW, B10k ohm ±20%	P-8075	450-403-0

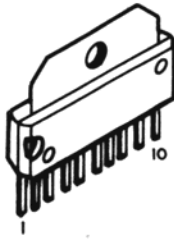
Ref. No.	Description	RS Location	Mfr's Part No.
SWITCH			
SW509	K121 D110-5NH 312, CH Up-Down		439-005-3
TRANSFORMERS			
T201	Output or	TB-0578	300-115-4 or
	Output		300-022-3
T601	Choke or	TB-0577	300-116-5 or
	Choke		300-008-1
TRANSISTORS			
Q100-Q101	KTA562TM(Y) PNP Silicon or MPS9468A(T) PNP Silicon	1TR-0220	202-054-2 203-041-4
Q102-Q104	KTC1923(O) NPN Silicon or MPS9426(C) NPN Silicon	2SC-19230	202-017-8 203-005-2
Q105	KTC1923(Y) NPN Silicon or MPS9623(I) NPN Silicon	2SC-1923	202-060-7 203-012-8
Q106	KTC1923(Y) NPN Silicon or MPS9623(H) NPN Silicon	2SC-1923	202-060-7 202-060-7
Q107	KTC1815(GR) NPN Silicon or MPS9623(I) NPN Silicon	2SC-1815GR	202-023-3 203-012-8
Q201	KTC1815(GR) NPN Silicon or MPS9631(T) NPN Silicon	2SC-1815-GR	202-023-3 203-014-0
Q202	KTA1015(Y) PNP Silicon or MPS9681(T) PNP Silicon	2SA-1015Y	202-036-5 203-009-6
Q203-Q205	KTC1815(GR) NPN Silicon or MPS9634(C) NPN Silicon	2SC-1815GR	202-023-3 203-002-9
Q206-Q207	KTA1015(GR) PNP Silicon or MPS9681(T) PNP Silicon	2SA-1015	202-036-5 203-009-6
Q208-Q209	KTC1815(GR) NPN Silicon or MPS9634(C) NPN Silicon	2SC-1815GR	202-023-3 203-009-6
Q301-Q302	KTC1923(O) NPN Silicon or MPS9426(C) NPN Silicon	2SC-19230	202-017-8 203-005-2
Q303	KTC2036A NPN Silicon or 2SC2314(E) NPN Silicon	2SC-2314	202-058-6 204-016-7
Q304	KTC2075 NPN Silicon or 2SC2078(D) NPN Silicon	2SC-2075	202-057-5 204-009-1
Q501	KTA1015(GR) PNP Silicon or MPS9681(T) PNP Silicon	1TR-0223	202-036-5 203-009-6
Q502	KTC1959(O) NPN Silicon or MPS9418(T) NPN Silicon	2SC-19590	202-056-4 203-010-6
Q503	KTA1015(GR) PNP Silicon or MPS9681(T) PNP Silicon	2SA-1015	202-036-5 203-009-6
Q504-Q505	KTC1923(O) NPN Silicon or MPS9426(C) NPN Silicon	2SC-19230	202-017-8 203-005-2
Q506-Q507	KTC1815(GR) NPN Silicon or MPS 9634(C) NPN Silicon	2SC-1815GR	202-023-3 202-002-9
Q508	KTA1015(GR) PNP Silicon or MPS9681(T) PNP Silicon	2SA-1015	202-036-5 203-009-6
Q509	KTC1815(GR) NPN Silicon or MPS9418(T) NPN Silicon	2SC-1815GR	202-023-3 203-010-6
Q510	KTC1815(O) NPN Silicon or MPS9631(T) NPN Silicon	2SC-1815O	202-020-0 203-009-6

Ref. No.	Description	RS Location	Mfr's Part No.
LED DISPLAY & SW PCB ASS'Y		XB-1704	593-006
LED501 SW501-SW507 SW508 D303-D306	L E D Display (RED) Touch EVQ-QSR-05K (Switch) SPH 221A (Switch) L E D Lamp, SLB26UR3HL (RED)	L-2120 S-3037 S-3669 L-1833	252-017-3 434-003-6 432-040-6 251-016-7
POWER CORD ASS'Y			504-255
	Fuse 250V/1A Fuse 250V/2A Power Cord 1,500m/m RED Power Cord 1,500m/m ORG Power Cord 1,500m/m BLK		280-015-0 280-006-2

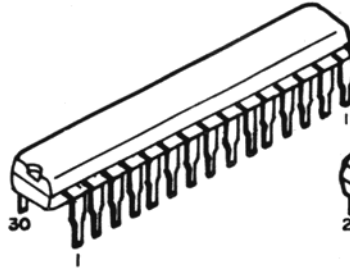
SEMICONDUCTOR LEAD IDENTIFICATION AND IC INTERNAL DIAGRAM

INTEGRATED CIRCUITS

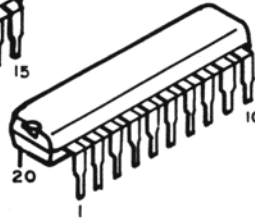
IC 201 KIA7217AP



IC 501 LC6526C



IC 502 LC7132



IC 301 TL489CP



TRANSISTORS

- MPS 9623
- MPS 9631
- MPS 9634
- MPS 9681
- MPS 9418
- MPS 9468



- KTA 5621
- KTA 1015
- KTC 1815
- KTC 1959



- MPS 9426
- KTC1923



- 2SC2314
- KTC2036

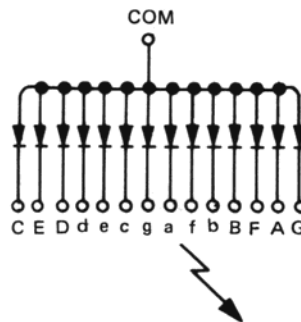
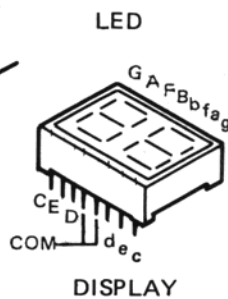
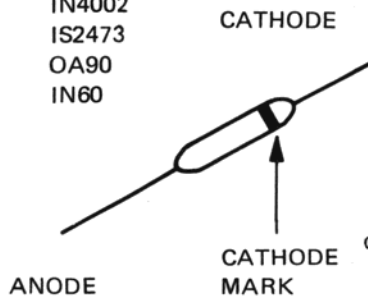


- 2SC2078
- KTC2075

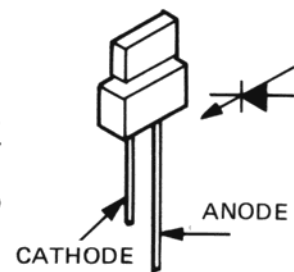


DIODES

- IN4002
- IS2473
- OA90
- IN60



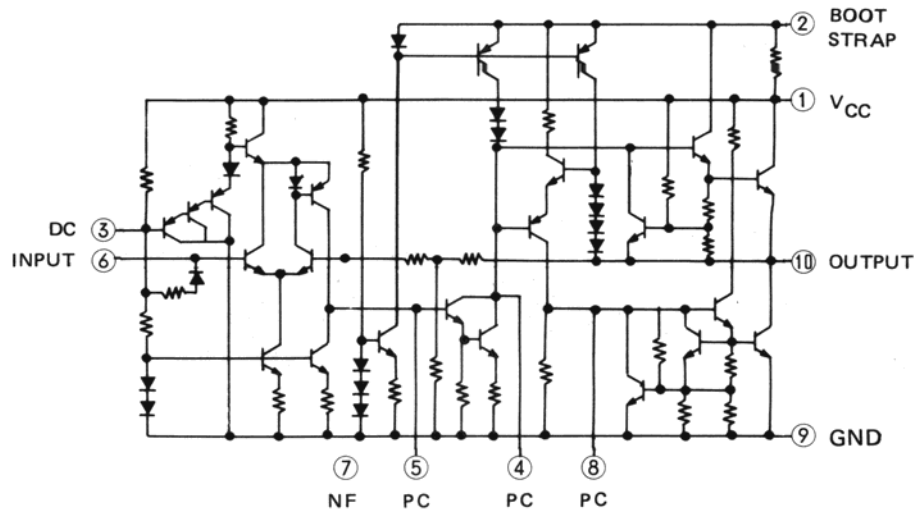
SLB26UR3HL



MV2209

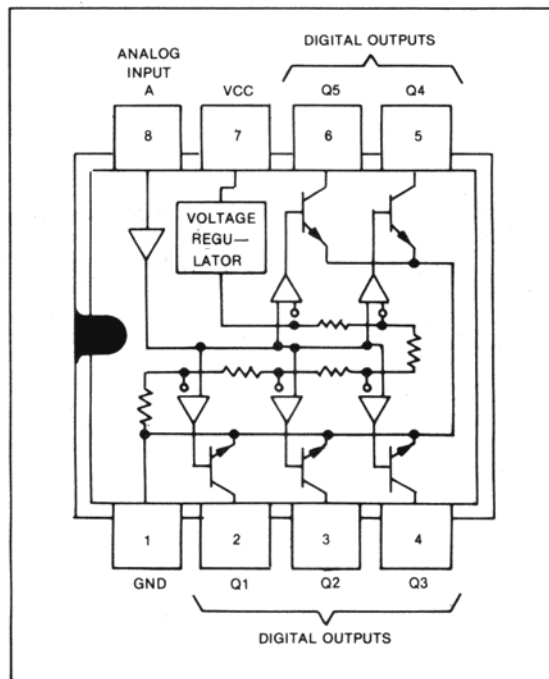


IC201 KIA7217AP

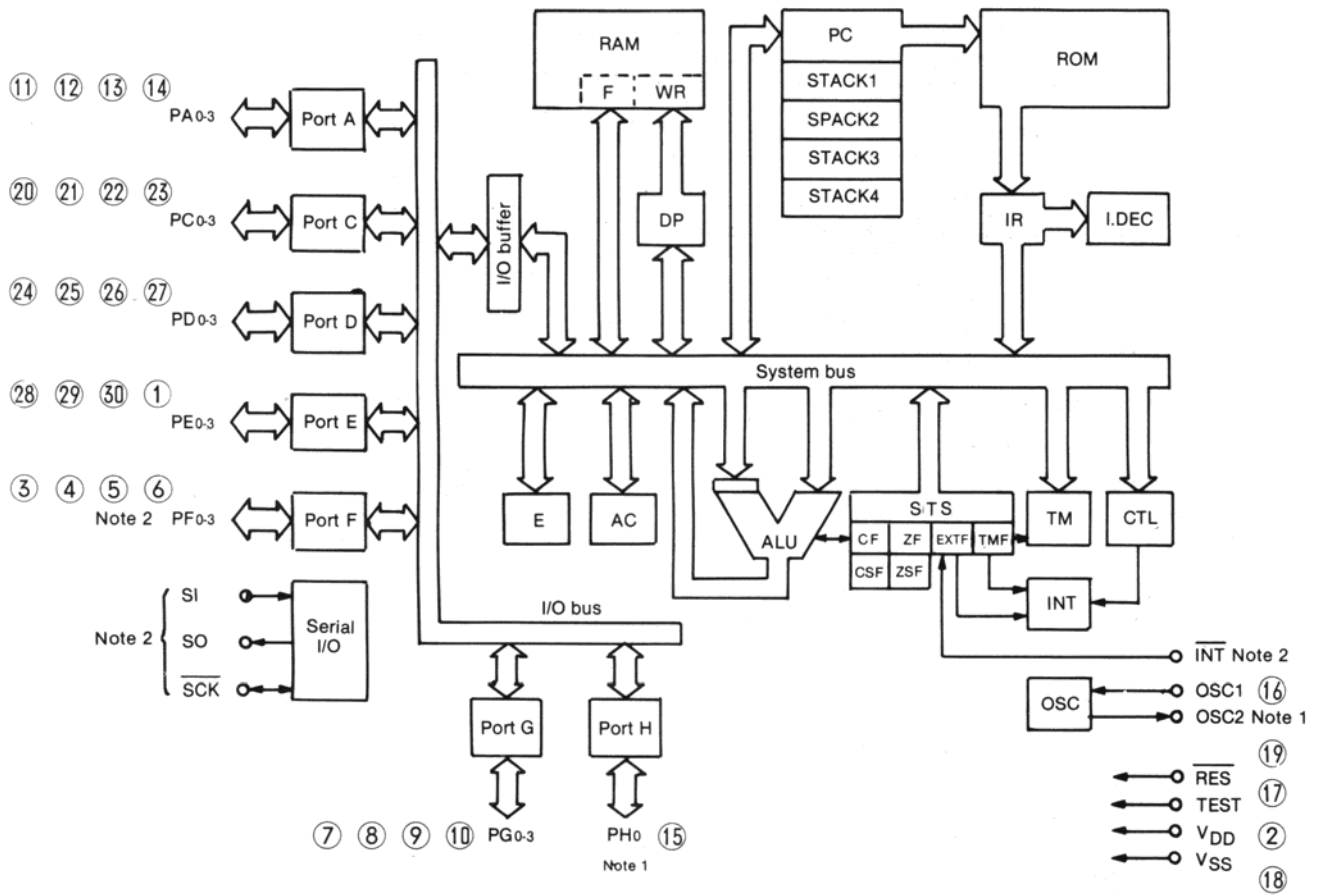


DC: Decoupling
PC: Phase compensation

IC301 TL489CP

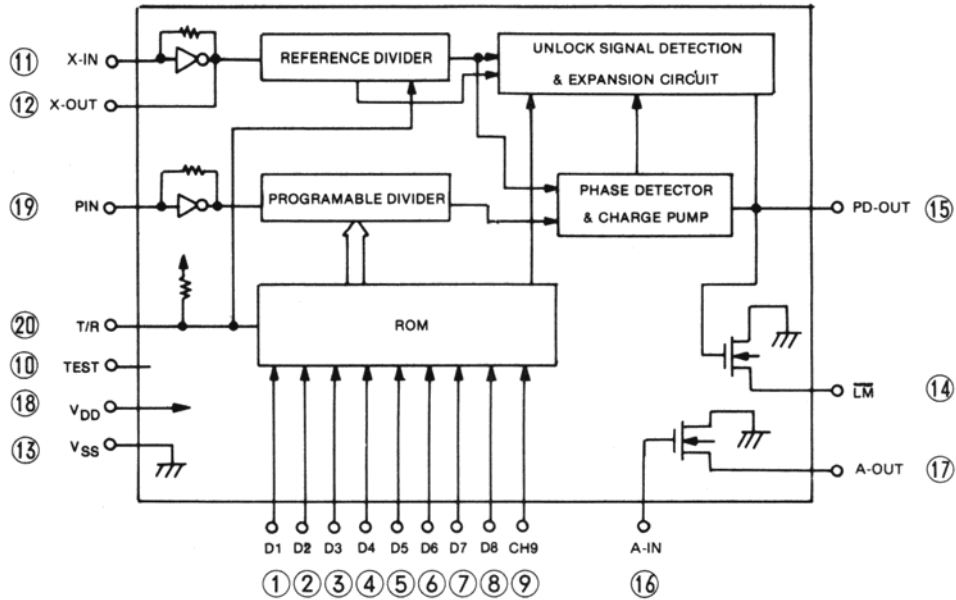


IC501 LC6526C



- | | |
|---------------------------------|--|
| RAM : Data memory | ROM : Program memory |
| F : Flag | PC : Program counter |
| WR : Working register | INT : Interrupt control |
| AC : Accumulator | IR : Instruction register |
| ALU : Arithmetic and logic unit | I.DEC : Instruction decoder |
| DP : Data pointer | CF,CSF : Carry flag, carry save flag |
| E : E register | ZF,ZSF : Zero flag, zero save flag |
| CTL : Control register | EXTF : External interrupt request flag |
| OSC : Oscillator | TMF : Internal interrupt request flag |
| TM : Timer | |
| STS : Status register | |

IC502 LC7132



- D1 to D8 : Program input (7 segment code)
- X_{IN}, X_{OUT} : Amplifier for crystal oscillator
- V_{DD}, V_{SS} : Power Supply
- LM : Lock monitor output, Lock = open or 1, Unlock = "0"
- PD_{OUT} : Charge dump output
- A_{IN}, A_{OUT} : Amplifier for low-pass filter
- PIN : Programable divider input
- T/R : Transmission/reception change over input
 $\overline{T/R}$ = "0" – Transmission, $\overline{T/R}$ = "1" – reception
- CH9 : Channel 9 select input
- TEST : LSI test pin (Connected to VSS or open)

TRANSISTOR AND IC VOLTAGE CHART

MEASURED AT;

1. 19CH
2. No Signal
3. No Modulation

TRANSISTORS

TRANSISTOR NUMBER	EMITTER		BASE		COLLECTOR	
	RECEIVE	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE	TRANSMIT
Q100	3.8	2.2	5.6	1.5	5.6	1.5
Q101	3.8	2.2	5.6	1.5	0.6	2.2
Q102	0.1	0	0.8	0.45	6.4	0.82
Q103	0.17	0	0.85	0	13.2	12.66
Q104	0.18	0	0.8	0.5	5.54	0.6
Q105	0.23	0	0.92	0.41	5.76	0.82
Q106	0.58	0	1.3	0.16	13.47	12.68
Q107	0	0	0.32	0.07	5.51	1.45
Q201	0	0.82	0.32	1.47	0.35	6.4
Q202	13.76	12.8	13.7	12.08	0.32	12.77
Q203	0	0	0.5	0.37	0.65	0.65
Q204	0	0	0.66	0.66	0.05	0.05
Q205	0	0	0	0	0	0
Q206	13.72	13.45	13.72	12.7	0.4	13.4
Q207	0.41	4.1	1.02	4.68	0	0
Q208	0	0	0	0	0	0
Q209	1.1	0.04	1.64	0.2	1.15	0.47
Q301	0	1.24	0	1.87	0	8.36
Q302	0	1.13	0	1.85	13.57	12.86
Q303	0	0	0	0	13.8	11
Q304	0	0	0	0	13.8	11.8
Q501	3.24	3.22	4.6	4.56	0	0
Q502	8.46	8.39	9.2	9.15	12.85	12.14
Q503	8.46	8.39	8.45	7.7	0	8.35
Q504	0	0	0.76	0.76	2.85	2.78
Q505	3.69	0.16	4.26	4.24	8.09	8.03
Q506	0	0	0	0.68	0.12	0
Q507	0	0	0.5	0.36	0.0	0
Q508	4.28	4.35	4.26	4.28	0.34	0.31
Q509	4.28	4.35	4.86	4.86	12.98	12.90
Q510	0	0	0.37	0.32	8.31	8.20

ICs

IC	PIN No.	VOLTAGE		IC	PIN No.	VOLTAGE		IC	PIN No.	VOLTAGE	
		RX	TX			RX	TX			RX	TX
IC 201	1	13.72	13.43	IC 502	1	0.25	0.24	IC 501	1	12.38	11.88
	2	12.54	12.25		2	0.25	0.24		2	4.27	4.27
	3	3.94	3.85		3	0.26	0.25		3	0.53	0.5
	4	8.12	7.98		4	12.5	12.20		4	0.52	0.5
	5	1.47	1.45		5	0.27	0.26		5	0.51	0.5
	6	3.36	3.17		6	0.28	0.27		6	0.52	0.5
	7	3.38	3.33		7	12.49	12.20		7	12.28	11.83
	8	1.25	1.13		8	12.49	12.21		8	12.30	11.85
	9	0	0		9	0	0		9	4.24	4.26
	10	6.85	6.72		10	0	0		10	0	0
IC 301					11	3.64	3.61		11	0.03	0
					12	3.85	3.82		12	0.03	0.02
					13	0	0		13	0.03	0.02
					14	0	5.11		14	0	8.35
					15	1.57	1.6		15	0.17	0.23
					16	1.57	1.6		16	1.99	1.97
					17	2.15	1.62		17	0	0
					18	8.26	8.2		18	0	0
					19	3.95	3.91		19	2.9	2.7
					20	6.27	0.81		20	0.25	0.24
									21	0.25	0.24
									22	0.26	0.25
									23	12.27	11.95
									24	0.27	0.26
									25	0.28	0.27
									26	0.28	0.27
									27	0.28	0.27
									28	12.25	12.18
									29	12.21	12.0
									30	0.29	0.28

RADIO SHACK
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