

# COMMUNITY REPEATER PANEL

## SCHEMATIC DIAGRAM AND PARTS LIST

### Parts List

ZR310 Community Repeater Panel PL-931005-O

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
C1	151-0180	capacitor, fixed: uF 5%; 50 V : unless otherwise stated
C2	155-0083	0.1, 10%; ceramic, unstable
C3	151-0180	470; radial aluminum electrolytic 10 V
C4	154-0100	0.1, 10%; ceramic, unstable
C5-6	151-0022	10, 16V; tantalum
C7-8	151-0180	22 pF, 10%/5%
C9-10	154-0100	0.1, 10%; ceramic, unstable
C11-13	151-0180	0.1, 10%; ceramic, unstable
C14-18	151-0020	0.001, 10%; ceramic, temperature stable
C19	154-0035	2.2, 16-25 V
C20	151-0020	0.001, 10%; ceramic, temperature stable
C21	152-0085	0.01; polyester
C22	152-0012	0.1; polyester
C23-24	151-0180	0.1, 10%; ceramic, unstable
C25	154-0035	2.2, 16-25 V
C26-28	154-0100	10, 16V; tantalum
C29-31	151-0180	0.1, 10%; ceramic, unstable
C32	155-0077	100, 20; radial aluminum electrolytic 25 V
C33	154-0100	10, 16V; tantalum
C34	152-0012	0.1; polyester
C35	152-0089	0.001; polyester
C36	152-0012	0.1; polyester
C37	152-0122	0.022; polyester
C38	152-0012	0.1; polyester
C39	151-0180	0.1, 10%; ceramic, unstable
C40	154-0100	10, 16V; tantalum
C41-43	151-0180	0.1, 10%; ceramic, unstable
C44-45	152-0085	0.01; polyester
C46	152-0088	0.0047; polyester
C47-51	152-0085	0.01; polyester
C52-53	151-0180	0.1, 10%; ceramic, unstable
C54	152-0089	0.001; polyester
C55	152-0085	0.01; polyester
C57	154-0100	10, 16V; tantalum
C58	151-0180	0.1, 10%; ceramic, unstable
C59	154-0035	2.2, 16-25 V
C60	151-0180	0.1, 10%; ceramic, unstable
C61	152-0012	0.1; polyester
C62	152-0089	0.001; polyester
C63	154-0100	10, 16V; tantalum
C64	151-0180	0.1, 10%; ceramic, unstable
C65	152-0085	0.01; polyester
C66	152-0012	0.1; polyester
C67	152-0080	0.22
P1 thru 3	401-0254	connector, plug:
P4, 5	408-0001	16-pin (MOT 28C80923V01)
P6		wire jumper not used
J1	401-0194	connector, receptacle: 8-pin TELCO con ra
Y1 (see note 2)	376-4032	crystal: (see note 1) 4.032 MHz HC-18 CASE
Y2 (see note 3)	376-0358	3.58 MHz HC-18 CASE
CR1	342-0001	diode: (see note 1) 1 A, 100 V, 0.50 sp, silicon
CR2	342-3009	0.50 sp, silicon
CR3	343-3100	1W, 8.2 V, 0.50 sp, 5%
CR4	342-3009	0.50 sp, silicon
CR5	343-3100	1W, 8.2 V, 0.50 sp, 5%
CR6		not used
CR7	343-3100	1W, 8.2 V, 0.50 sp, 5%
E1 thru 6	305-0001	ferrite bead: with leads
U1	321-0803	integrated circuit: (see note 1) microprocessor, NMOS, ext temp
U2	325-4373	octal latch
U3	321-7256	32k x 8 SRAM, ext temp
U4	324-7414	HEX Schmidt
U5	321-2416	2048 x 8 EEPROM, ext temp
U6	324-7400	QUAD NAND
U7	324-4139	dual 2-4 LN decoder
U8	322-1256	32k x 8 170NS EPROM, ext temp

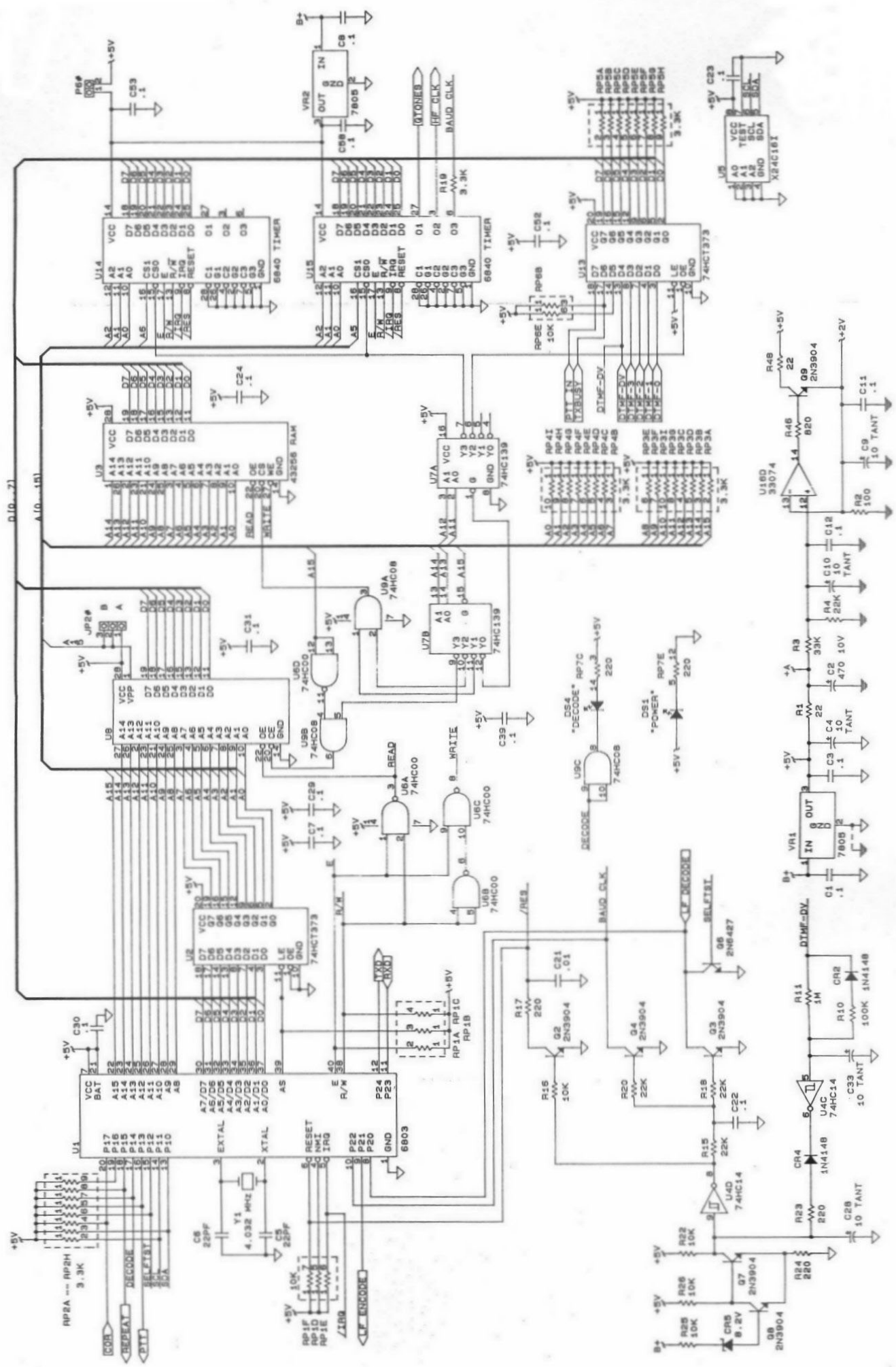
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REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
U9	324-7408	QUAD 2 in AND
U10	321-0204	DTMF receiver
U11	316-3074	QUAD HF OP-AMP, ext temp
U12	323-4053	3 PDT switch
U13	325-4373	octal latch
U14, 15	321-0840	limmer, ext temp
U16	316-3074	QUAD HF OP-AMP, ext temp
U17	316-0004	tone filter
U18	316-3074	QUAD HF OP-AMP, ext temp
JP1	403-0003	jumper: plating pattern on PC board not used
JP2, 3		
XJP1, 3 (pos B)	402-3040	mini jumper
DS1	311-0012	light emitting diode: (see note 1) green flush
DS2 thru 4	311-0011	red flush
R1	101-0033	resistor, fixed: 5%; 1/4 W : unless otherwise stated
R2	101-0049	22 Ohm
R3	101-0109	100 Ohm
R4	101-0105	33k
R5	101-0097	22k
R6	101-0071	10k
R7	101-0121	820 Ohm
R8	101-0085	100k
R9, 10	101-0121	100k
R11	101-0145	1 M
R12	101-0121	100k
R13	101-0068	620 Ohm
R14	101-0097	10k
R15	101-0105	22k
R16	101-0097	10k
R17	101-0057	220 Ohm
R18	101-0105	22k
R19	101-0085	22k
R20	101-0105	22k
R21	101-0049	100 Ohm
R22	101-0097	10k
R23, 24	101-0057	220 Ohm
R25, 26	101-0097	10k
R27	101-0123	120k
R28	101-0119	82k
R29	101-0114	51k
R30	101-0121	100k
R31	101-0090	5.1k
R32	101-0121	100k
R33	101-0149	1.5 M
R34	101-0085	3.3k
R35, 36	101-0097	10k
R37	101-0145	1 M
R38	101-0097	10k
R39	101-0137	470k
R40	101-0113	47k
R41	101-0101	15k
R42	101-0057	220 Ohm
R43	101-0101	15k
R44	101-0121	100k
R45	101-0097	10k
R46	101-0071	820 Ohm
R47	101-0097	10k
R48	101-0033	22 Ohm
R49	101-0101	15k
R50	101-0097	10k
R51	101-0145	1 M
R52	101-0117	68k
R53	101-0085	3.3k
R54	101-0117	68k
R55	101-0109	33k
R56	101-0105	22k
R57	101-0080	2k
R58	101-0101	15k
R59	101-0113	47k
R60	101-0121	100k
R61 thru 65	101-0097	10k
R66, 67	101-0085	3.3k
R68	101-0121	100k
R69	101-0113	47k
R70	101-0121	100k
R71	101-0085	3.3k

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REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
R72	101-0133	330k
R73	101-0101	15k
R74	101-0123	120k
R75	107-0003	2k Pot 1 turn P/A
R76	107-0010	10k Pot 1 turn P/A
R77	101-0123	120k
R78	101-0071	820 Ohm
RP1	119-0006	resistor, potentiometer: 10k x 9 R-SIP
RP2 thru 5	119-0005	3.3k x 9 R-SIP
RP6	119-0008	10k x 7 R-SIP
RP7	1190017	220 x 8 R-DIP
XU1	407-0040	socket: 40-pin DIP
XU2	407-0020	20-pin DIP
XU3	407-0028	28-pin DIP
XU4	407-0014	14-pin DIP
XU5	407-0008	08-pin DIP
XU6	407-0014	14-pin DIP
XU7	407-0016	16-pin DIP
XU8	407-0028	28-pin DIP
XU9 thru 11	407-0014	14-pin DIP
XU12	407-0016	16-pin DIP
XU13	407-0020	20-pin DIP
XU14, 15	407-0028	28-pin DIP
XU16	407-0014	14-pin DIP
XU17	407-0008	08-pin DIP
XU18	407-0014	14-pin DIP
Q1 thru 4	340-3904	transistor: (see note 1) NPN, 40 V/200 MA
Q5	340-7000	HEX FET
Q6	340-6427	NPN Darlington
Q7 thru 9	340-3904	NPN, 40 V/200 MA
Q10, 11	340-3906	PNP, 40 V/200 MA
VR1, 2	316-4780	voltage regulator: (see note 1) +5V, 1A, ext temp
non-referenced items		
	417-0010	LED mount ra, 4 used
(see note 3)	6010412	ZR310 EPROM code software, 1 used

note1: For optimum performance, diodes, transistors, and integrated circuits must be ordered by Motorola part numbers.  
note2: Secure component to board using 22 gauge wire or equivalent.  
note3: To be programmed and installed by production technician



# COMMUNITY REPEATER PANEL

## SCHEMATIC DIAGRAM AND PARTS LIST

NOTES: UNLESS OTHERWISE SPECIFIED:

1. ALL CAPACITORS ARE IN MICROFARADS.
2. ALL RESISTORS ARE IN OHMS, 1/4W, 5%.
3. ALL POTENTIOMETERS ARE 1 TURN.

