ICB-1000W

USA Model
E Model
AUS Model

TRANSCEIVER

SPECIFICATIONS

GENERAL

Frequency	[illegible]
Communication System	[illegible]
Semiconductors	[illegible]
Antenna	[illegible]
Speaker	[illegible]
Microphone	[illegible]
Power Requirements	[illegible]
Communicating Distance	[illegible]
Dimensions	[illegible]
Weight	[illegible]

TRANSMITTER SECTION

Circuit	[illegible]
Frequency Tolerance	[illegible]
Output Power	[illegible]
Modulation	[illegible]
Current Drain	[illegible]

RECEIVER SECTION

Circuit	[illegible]
Intermediate Frequency	[illegible]
Maximum Sensitivity	[illegible]
Signal-to-Noise Ratio	[illegible]
Selectivity	[illegible]
Maximum Power Output	[illegible]
Current Drain	[illegible]

SONY
SERVICE MANUAL

ICB-1000W

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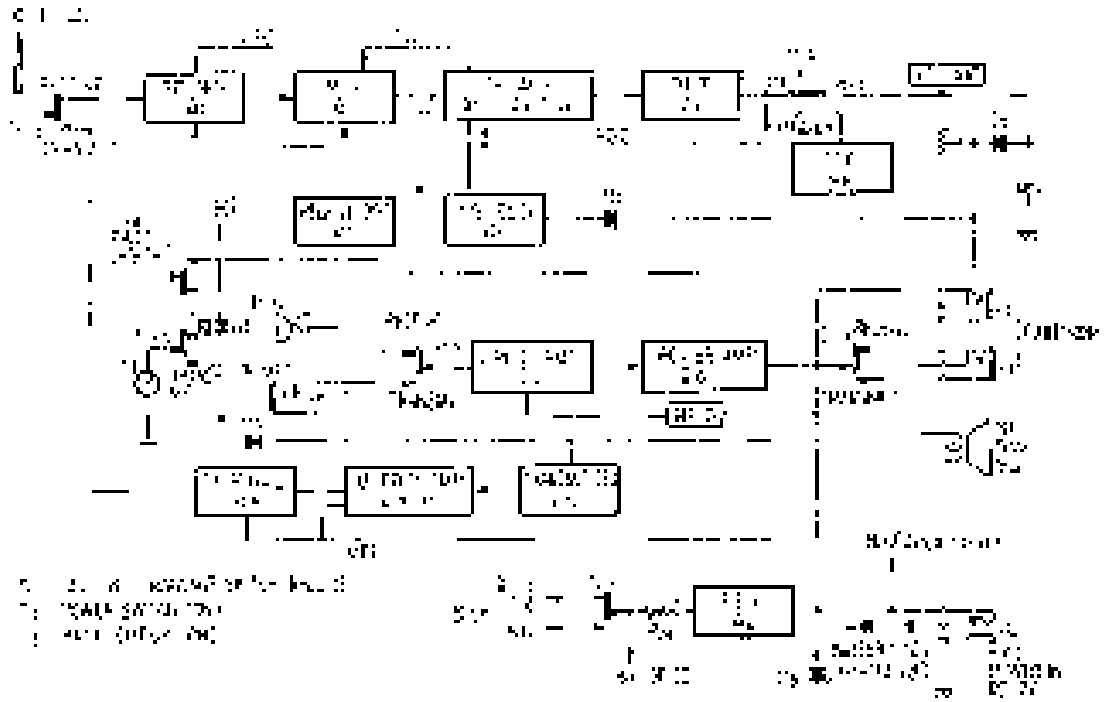
[illegible] NUMBERS [illegible]

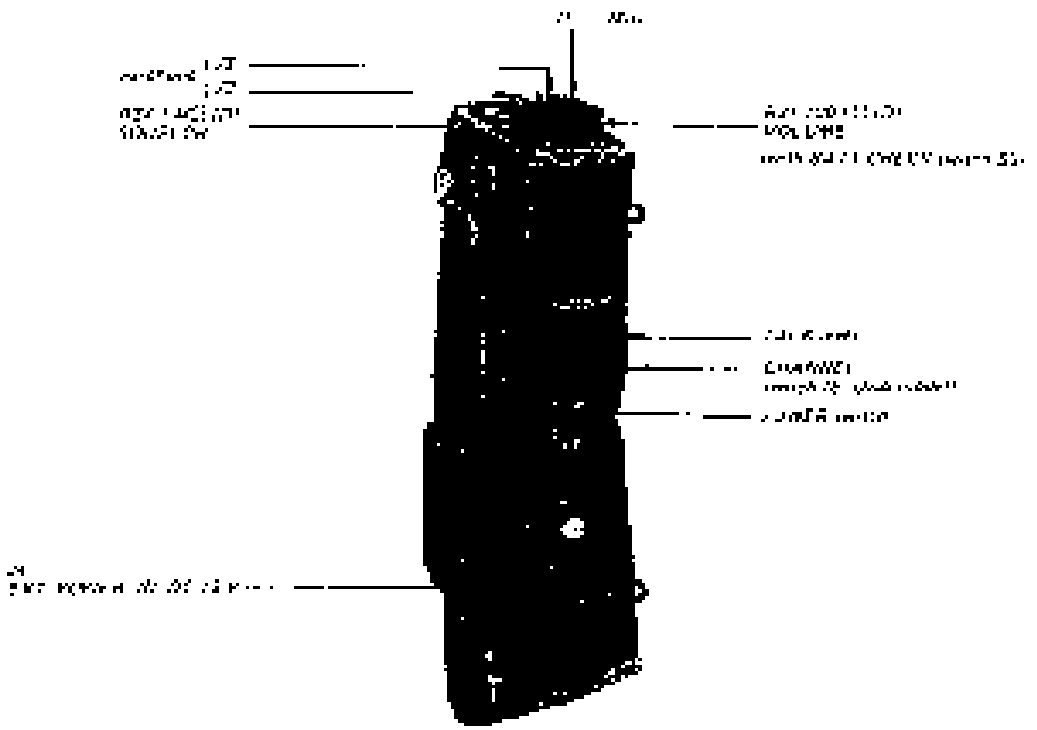
SECTION 1

OUTLINE

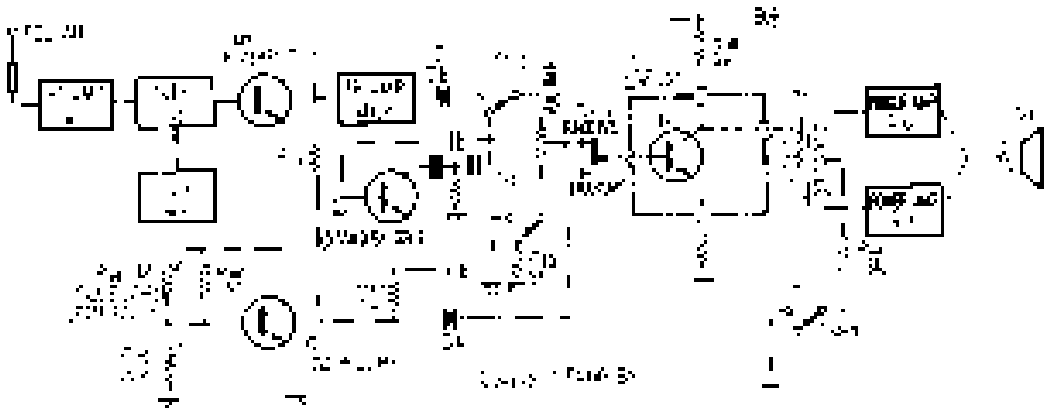
1-1. BLOCK DIAGRAM



1-2. EXTERNAL VIEW



11. STAND BY CIRCUIT OPERATION



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

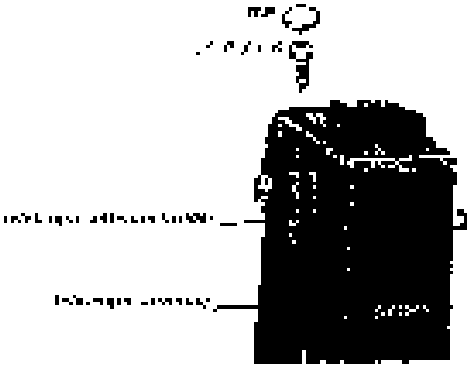
Note

1. [illegible]
2. [illegible]

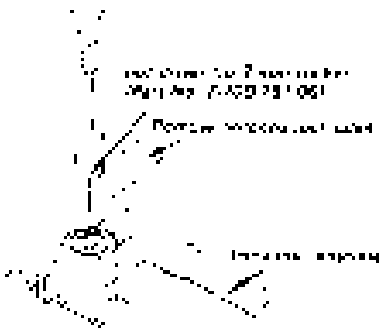
SECTION 2

DISASSEMBLY

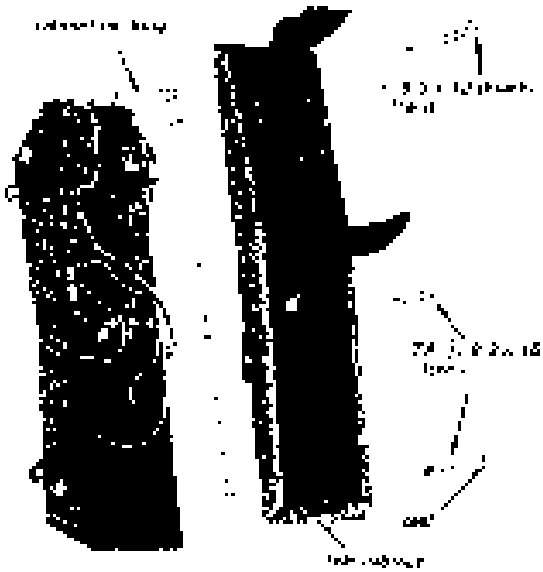
2-1 TELESCOPIC ANTENNA REMOVAL



2-2. ANTENNA LOCK REMOVAL

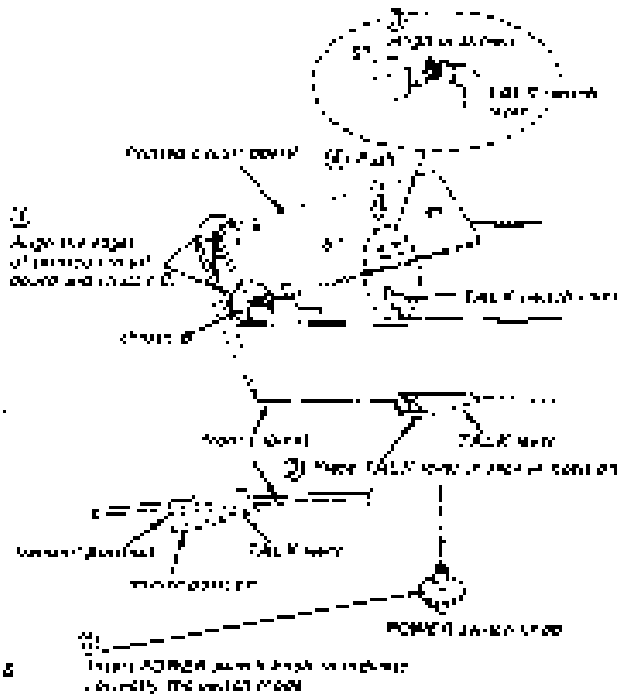


2-3 REAR CABINET REMOVAL



2-4 PRINTED CIRCUIT BOARD REMOVAL

2-5. PRINTED CIRCUIT BOARD INSTALLATION



SECTION 3

ADJUSTMENTS

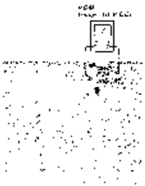
1. POWER VOLTAGE ADJUSTMENT

Control Switch Setting:

[illegible]

Procedure:

[illegible]



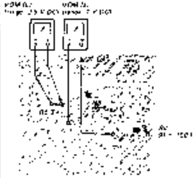
2. [illegible]F SECTION DC BIAS ADJUSTMENT

Control Switch Setting:

[illegible]

Procedure:

1. [illegible]



[illegible]

[illegible]

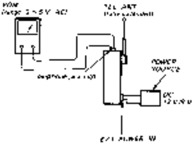
3. SENSITIVITY ADJUSTMENT

Control/Switch Setting

POWER switch: ON
SQUELCH control: MIN
VOLUME control: MAX
Channel switch: CH-A [illegible]
Fully extend telescopic antenna.
Use no-modulation input signal.

Procedure

1.



2. With 12 V DC power voltage, adjust L2 and L3 for maximum S/N reading.
3. When decreasing power voltage to 8 V DC, ensure that noise is audible.
4. If necessary, adjust L5.

After adjustment, fix the cores with wax.

L2 L3 L5

4 SQUELCH LEVEL ADJUSTMENT

Control/Switch Setting

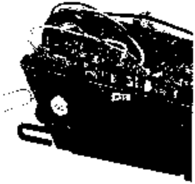
POWER switch: ON
VOLUME control: MAX
SQUELCH control: as shown below

SQUELCH

Channel switch: Channel for no signal input.

Procedure

Adjust RV5 so that noise is not audible.



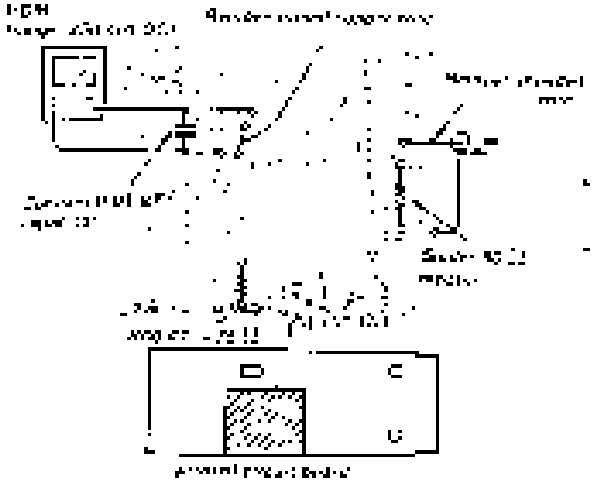
5. TRANSMITTER OUTPUT POWER ADJUSTMENT

Control Switch Setting

[illegible]

Procedure:

1



2 [illegible]

3 [illegible]

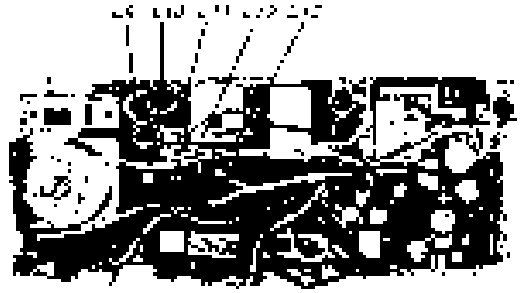
4 [illegible]

5 [illegible]

6 [illegible]

7 [illegible]

8 [illegible]



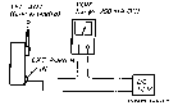
6 LOADING COIL ADJUSTMENT

Control Switch Setting:

[illegible]

Procedure:

[illegible]

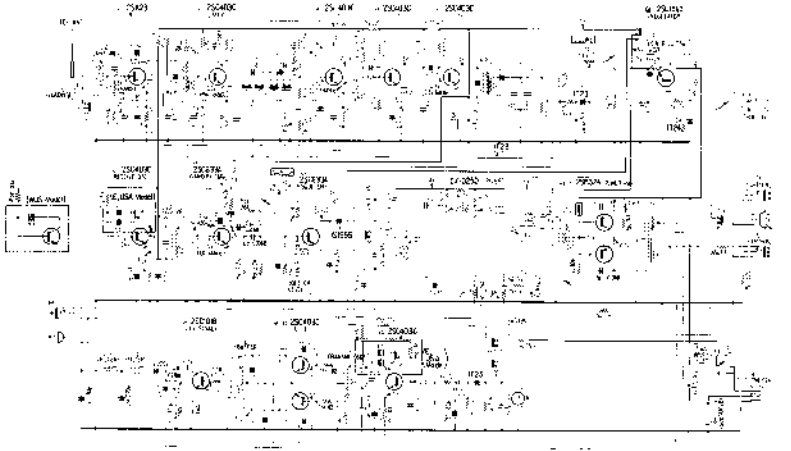


[illegible]

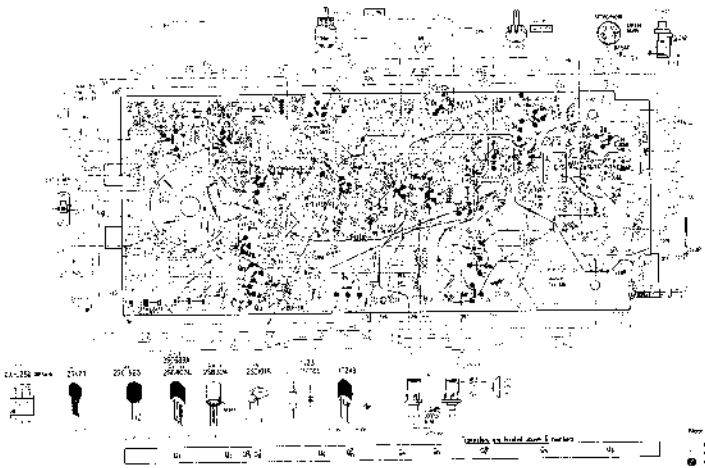
SECTION 4

DIAGRAMS

4-1. SCHEMATIC DIAGRAM



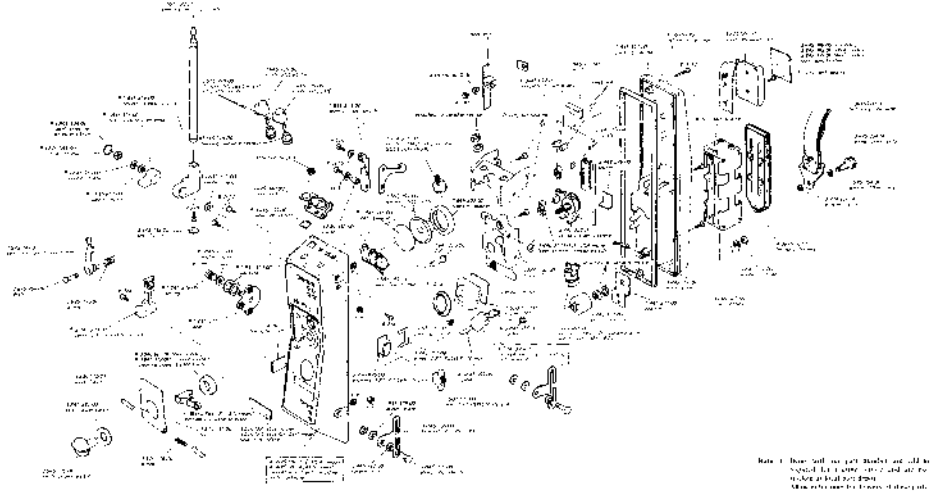
12. MOUNTING DIAGRAM



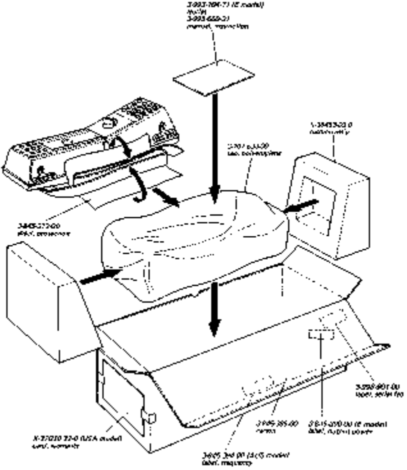
SECTION 6

EXPLODED VIEW AND PACKING

6-1. EXPLODED VIEW



5-2. PACKING



Note: 1. Parts without part number are not supplied.

SECTION 6

ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description	
	X-9835-220	complete circuit board	

SEMICONDUCTORS

Ref. No.	Part No.	Description	
D1		diode	1S23
D2		diode	1S75
D3		diode	1S263
D4		diode	1S1555
D5		diode	1S75
IC1		integrated circuit	CX-025D
Q1		FET	2SK33
Q2		transistor	2SC403C
Q3		transistor	2SC403
Q4		transistor	2SC403C
Q5		transistor	2SC403C
Q6		transistor	2SC1360
Q7		transistor	2SC403C
Q8		transistor	2SC634A
Q9		transistor	2SC535A
Q10		transistor	2SB324
Q11		transistor	2SB324
Q12		transistor	2SC403C
Q13		transistor	2SC403C
Q14		transistor	2SC403C
Q15		transistor	2SC1015
TH1	1-808-152-00	thermistor	CS-12P

COILS AND TRANSFORMERS

Ref. No.	Part No.	Description
L1	1-401-285-00	coil, loading
L2	1-401-764-00	coil, antenna
L3	1-425-034-00	coil, rf
L4	1-403-113-00	330 μH, micro inductor
L5	1-403-127-00	transformer, rf
L6	1-407-164-00	coil, oscillator
L7	1-403-164-00	0.1 μH, micro inductor
L8	1-407-400-00	1 μH, micro inductor
L9	1-405-164-00	coil, transmitter
L10	1-407-744-00	coil, filter
L11	1-425-421-00	coil, trap
L12	1-407-484-00	coil, filter
L13	1-403-449-00	coil, filter
T1	1-425-064-21	transformer, driver
T2	1-425-095-00	transformer, modulation

CAPACITORS

All capacitors are in μF except as indicated with p which means pμF.

Ref. No.	Part No.	Description		
C1		......		
C2	1-121-391-11	1	50 V	electrolytic
C3		....		
C4	1-101-923-11	0.01		ceramic
C5	1-101-923-11	0.01		ceramic
C6	1-101-890-11	65 p		ceramic
C7	1-101-659-11	65 p		ceramic
C8	1-121-391-11	1	50 V	electrolytic
C9	1-121-402-11	33	10 V	electrolytic
C10	1-101-923-11	0.01		ceramic
C11	1-101-923-11	0.01		ceramic
C12	1-107-871-11	560 p		mica
C13	1-101-923-11	0.01		ceramic
C14		....		
C15	1-121-352-11	47	10 V	electrolytic
C16	1-121-391-11	1	50 V	electrolytic
C17	1-121-352-11	47	10 V	electrolytic
C18	1-101-923-11	0.01		ceramic
C19		....		
C20	1-101-923-11	0.01		ceramic
C21	1-121-651-11	10	16 V	electrolytic
C22	1-105-831-12	0.0068		mylar
C23		....		
C24	1-105-831-12	0.0068		mylar
C25	1-105-871-12	0.0068		mylar
C26	1-121-395-11	4.7	25 V	electrolytic
C27	1-101-923-11	0.01		ceramic
C28	1-121-391-11	1	50 V	electrolytic
C29	1-121-391-11	1	50 V	electrolytic
C30	1-121-402-11	33	10 V	electrolytic
C31	1-105-873-12	0.0022		mylar
C32	1-105-821-12	0.001		mylar
C33		......		
C34	1-121-412-11	100	6.3 V	electrolytic
C35	1-121-651-11	10	16 V	electrolytic
C36		....		
C37	1-105-831-12	0.0068		mylar
C38	1-105-835-12	0.0068		mylar
C39	1-121-409-11	47	16 V	electrolytic
C40	1-102-949-11	12 p		ceramic
C41	1-101-923-11	0.01		ceramic
C42		......		
C43	1-121-651-11	10	16 V	electrolytic
C44	1-102-934-11	1 p		ceramic
C45	1-102-934-11	1 p		ceramic
C46		......		
C47	1-101-923-11	0.01		ceramic
C48	1-121-391-11	1	50 V	electrolytic
C49	1-121-391-11	1	50 V	electrolytic
C50		......		
C51	1-102-945-11	5 p		ceramic
C52	1-121-726-11	0.047	50 V	electrolytic
C53	1-101-881-11	47 p		ceramic

Ref. No.	Part No.	Description	
C54	1-102-974-11	220 p	ceramic
C55	1-102-974-11	220 p	ceramic
C56	1-102-974-11	82 p	ceramic
C57	1-102-974-11	82 p	ceramic

RESISTORS

All fixed resistors are in ±5 %, 1/4 W, carbon type.
k = 1,000 M = 1,000 k

Ref. No.	Part No.	Description
R1	1-240-521-11	100 k
R2	1-240-497-11	10 k
R3	1-240-462-11	91
	1-240-520-11	91 k
	1-240-521-11	100 k
R4	1-240-522-11	110 k — for adjustment
	1-240-523-11	120 k
	1-240-524-11	130 k
	1-240-525-11	150 k
R5	1-240-484-11	2 k
R6	1-240-497-11	10 k
R7	1-240-520-11	100 k
	1-240-511-11	39 k
R8	1-240-512-11	43 k — for adjustment
	1-240-513-11	47 k
R9	1-240-484-11	3 k
R10	1-240-505-11	22 k
R11	1-240-490-11	5.1 k
R12	1-240-489-11	4.7 k
R13	1-240-512-11	43 k
R14	1-240-457-11	220
R15	1-240-513-11	47 k
R16	1-240-497-11	10 k
R17	1-240-490-11	5.1 k
R18	1-240-530-11	620 k
R19	1-240-496-11	9.1 k
R20	1-240-504-11	20 k
R21	1-223-055-00	100 k (A) variable with switch: VOLUME
R22	1-240-519-11	160 k
R23	1-240-462-11	91
R24	1-223-072-00	200 (B) adjustable: E − ADJ
R25	1-240-487-11	3.9 k
R26	1-240-526-11	91 k
R27	1-240-510-11	27 k
R28	1-240-526-11	430 k
R29	1-240-510-11	36 k
R30	1-240-489-11	4.7 k
R31	1-240-457-11	220
R32	1-244-661-11	3.3 k
R33	1-244-661-11	3.3 k
R34	1-231-059-00	100 (B) variable: SQUELCH
R35	1-221-032-00	100 k (B) adjustable: squelch level
R36	1-240-549-11	1 M
R37	1-240-499-11	12 k
R38	1-240-480-11	1 k
R39	1-240-485-11	2.2
R40	1-240-484-11	2 k
R41	1-240-486-11	3.3 k
R42	1-240-453-11	150
R43	1-240-430-11	10
R44	1-240-497-11	10 k
R45	1-240-418-11	5.1
R46	1-240-419-11	100
R47	1-240-421-11	6.2
R48	1-240-480-11	2 k
R49	1-240-445-11	100
R50	1-240-506-11	24 k
R51	1-240-460-11	390
R52	1-240-509-11	33 k
R53	1-240-447-11	82
R54	1-240-447-11	82
R55	1-240-520-11	100 k
R56	1-240-466-11	510
R57	1-240-484-11	2 k
R58	1-240-490-11	5.1 k
R59		....
	1-240-441-11	47
	1-240-443-11	51
R60	1-240-443-11	56 — for adjustment
	1-240-444-11	62
	1-240-445-11	68
	1-240-446-11	75
R61	1-240-477-11	1 k

MISCELLANEOUS

Ref. No.	Part No.	Description
	X-1341-033-0	microphone ass'y
ANT	1-501-128-21	antenna, telescopic
CF1	1-403-101-63	filter, ceramic
CF2	1-403-101-63	filter, ceramic
CP1	1-231-218-00	encapsulated component: 1 kΩ + 0.01 μF
CP2	1-231-217-00	encapsulated component: 91 kΩ + 0.01 μF
CP3	1-231-216-00	encapsulated component: 1 kΩ + 0.01 μF
CP4	1-231-171-00	encapsulated component: 120 Ω + 0.047 μF
CP5	1-231-159-00	encapsulated component: 1 kΩ + 0.01 μF + 0.01 μF
J1 − 3	1-507-164-11	jack, 3-mm
J4	1-509-122-00	jack, EXT POWER IN
M1	1-520-131-00	meter
S1	1-516-129-00	switch, push

Ref. No.	Part No.	Description
S7	1-514-170-00	switch, rotary
S3		included in R3 (VOL.)
S4	1-514-[illegible]-00	switch, slide (E, USA models)
SP1	1-502-[illegible]-00	speaker, 8Ω
Y1	1-527-1[illegible]-11	crystal unit, quartz 26.[illegible] MHz (E, USA models)
Y3	1-527-1[illegible]-11	crystal unit, quartz 26.[illegible] MHz (E, USA models)
Y3	1-527-110-11	crystal unit, quartz 27.085 MHz (E, USA models)
Y4	1-527-109-11	crystal unit, quartz 27.055 MHz (E, USA models)
	1-507-901-12	[illegible] jack
	1-536-525-00	socket, quartz crystal unit
X1	1-527-[illegible]-11	crystal unit, quartz 27.240 MHz (USA models)
X2	1-527-[illegible]-11	crystal unit, quartz 26.[illegible] MHz (USA models)

SECTION 7

HARDWARE

Part No.	Description
7-622-800-30	washer, plate, 3
7-624-506-01	lug, screw
7-623-[illegible]	washer, 3 x 5
7-624-406-01	ring, retaining, E-3
7-624-606-01	ring, retaining, E-4
7-682-148-01	screw, machine, P 3 x 8
7-682-149-01	screw, machine, P 3 x 10
7-682-[illegible]	screw, machine, B 3 x 6
7-682-548-05	screw, machine, B 3 x 8
7-682-550-05	screw, machine, B 3 x 12
7-684-023-00	nut, 3
7-685-146-25	screw, self tapping, P 3 x 8
7-685-150-30	screw, self tapping, P 3 x 16
7-685-548-25	screw, self tapping, B 3 x 12

— Hardware Nomenclature —