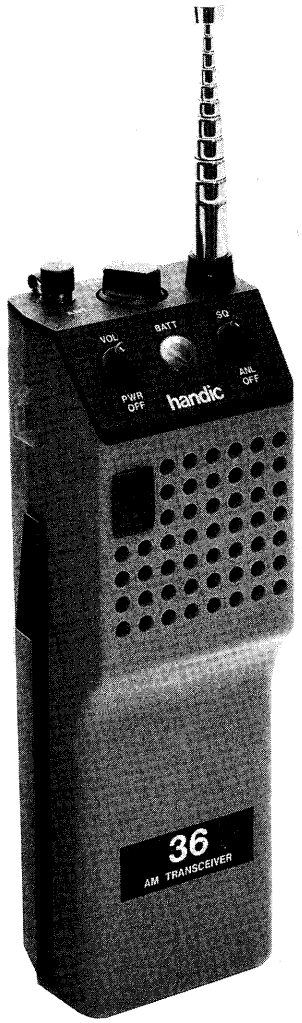
SERVICE MANUAL FOR handic 36



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TRANSMITTING SECTION ALIGNMENT

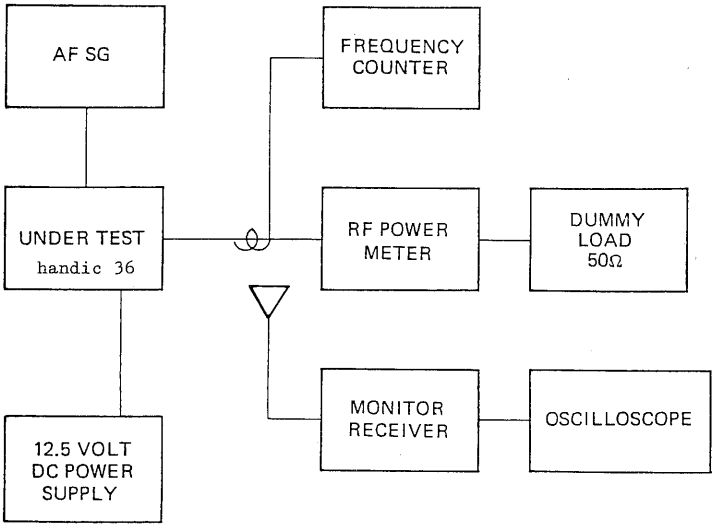
Connect the instruments as shown in figure 1.

GENERAL ALIGNMENT INSTRUCTIONS

Test equipment required

1. RF standard signal generator (SSG.)
2. AF signal generator
3. V.T.V.M.
4. RF power meter
5. Oscilloscope
6. Monitor receiver
7. Frequency counter
8. 500 mA DC meter
9. 8 Ohm dummy load.
10. 50 Ohm dummy load

ALIGNMENT POSITIONS

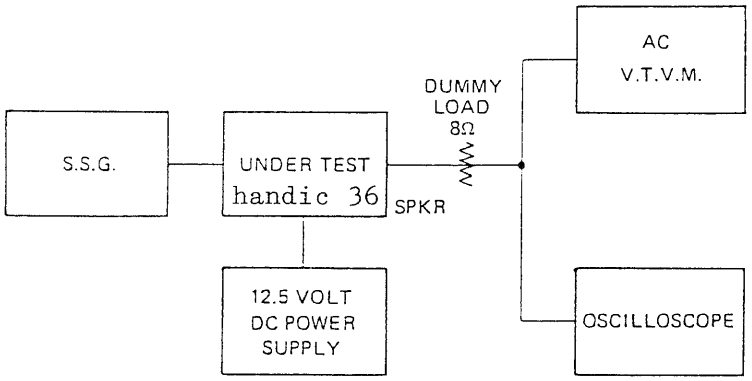


TRANSMITTER ALIGNMENT CHART

STEP	CONTROL SETTING	TEST EQUIPMENT SETTING	POWER SUPPLY VOLTAGE	ADJUST	REMARKS
1	CH:A position 27.135 MHz	Power meter(50Ohm) to J1 Monitor receiver: Connect to the oscilloscope and set the frequency to 27.135 MHz	Supply 12.5 Volts		
2	Press the P.T.T. switch	"	"	T5	Max.power output
3	"	Power meter(50Ohm) to J1	"	L6,L8 L100	Adjust.approx 1.0W output
4	"	"	Vary supply voltage from 15 to 9 V	T5	If no output adjust T5 to assure output at both voltage extremes
5	"	Audio frequency generator:to TP1 Frequency 1.25kHz Mod 60% + 20 dB	Reset the supply voltages to 12.5 Volts	VR4	Adjust modula-tion(But not so that over mod. occures) Mod. 90 - 100%
6	Repeat steps 2 to 4				
7	CH: A Press the P.T.T.switch	Couple the frequency counter			Check the trans-mit frequency

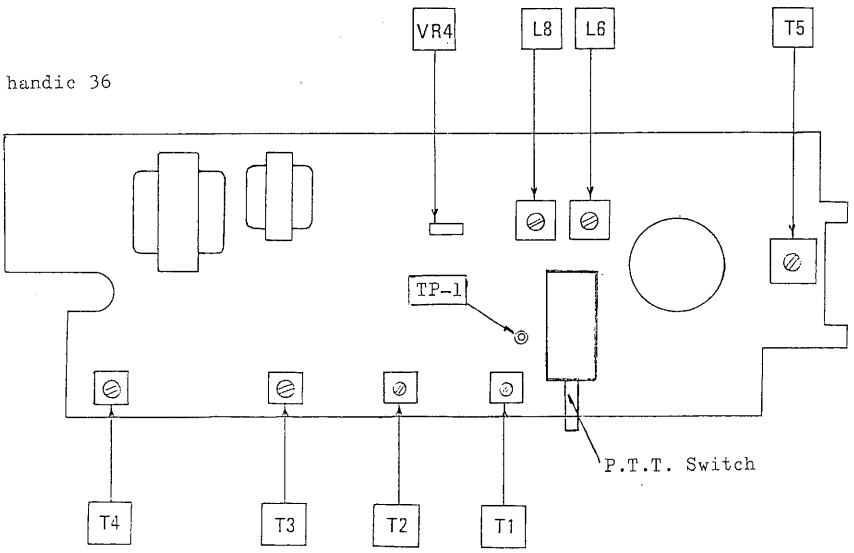
RECEIVER ALIGNMENT

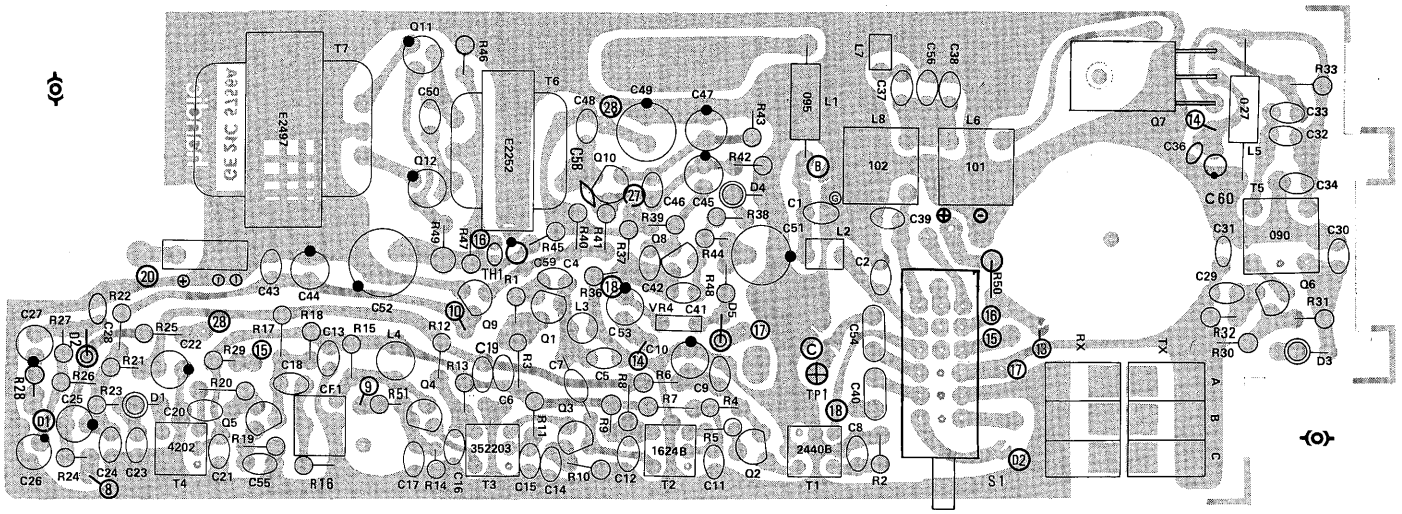
Connect the instruments as shown in figure



RECEIVER ALIGNMENT CHART

STEP	CONTROL SETTING	TEST EQUIPMENT CONNECTION	SIGNAL GENERATOR SETTING/ SUPPLY VOLTAGE	ADJUST	REMARKS
1	Volume control: Max. Squelch cont. Min. CH:A position 27.135 MHz	V.T.V.M: Parallell with 8 Ohm dummy load to EXT.DC/SPKR jack Signal generator: Through 100 pf to the base of Q3	Freq.:455kHz Mod: 1 kHz Supply voltage: 12.5 Volt	T3 T4	Max. output on voltmeter
2	"	V.T.V.M.: Parallell with 8 Ohm dummy load connected to EXT. SPKR jack Signal generator: J1	Freq.:27.135 MHz Mod: 1 kHz 30 %	T1 T2	Max.output on voltmeter





BLOCK DIAGRAM

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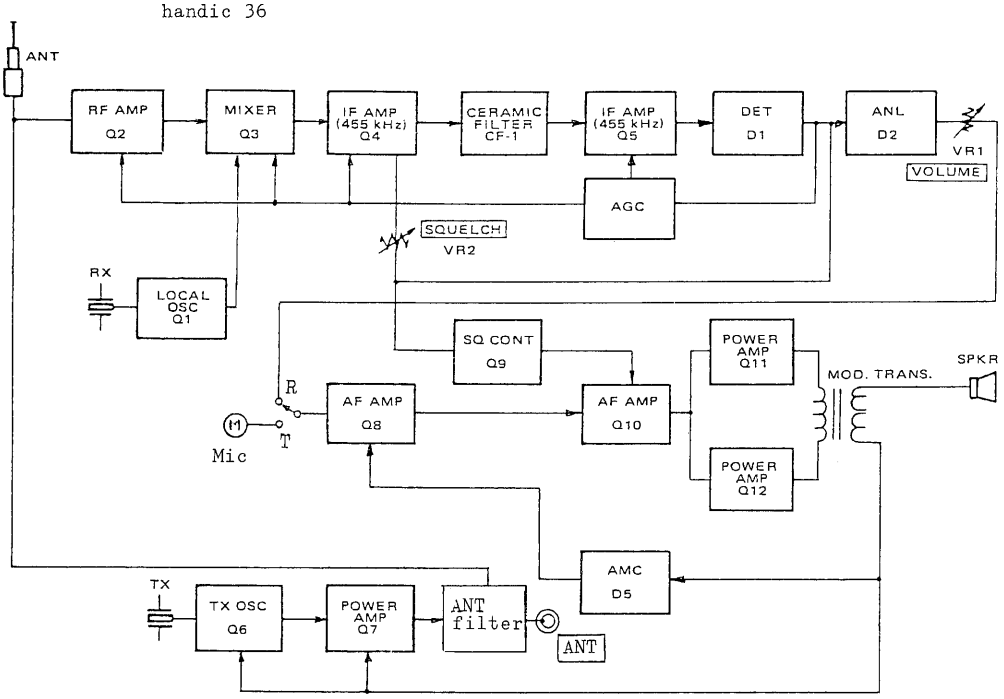
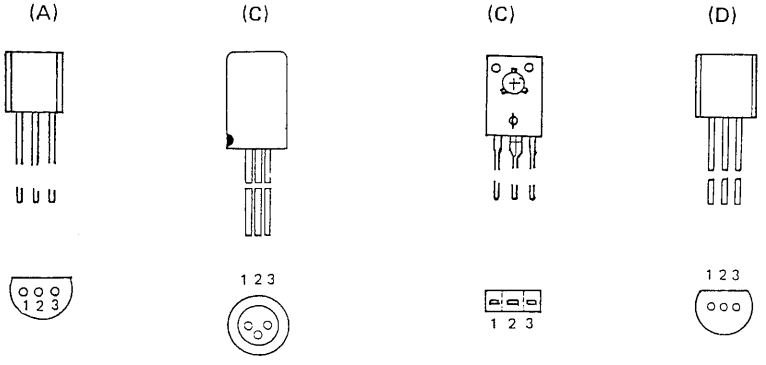


SEMICONDUCTOR LEAD IDENTIFICATION

(A): 2SC1815 (GR), 2SC1815 (Y), 2SC1923 (O)
(B): 2SB324(H)
(C): 2SC2314
(D): 2SC1364



1. EMITTER
2. COLLECTOR
3. BASE

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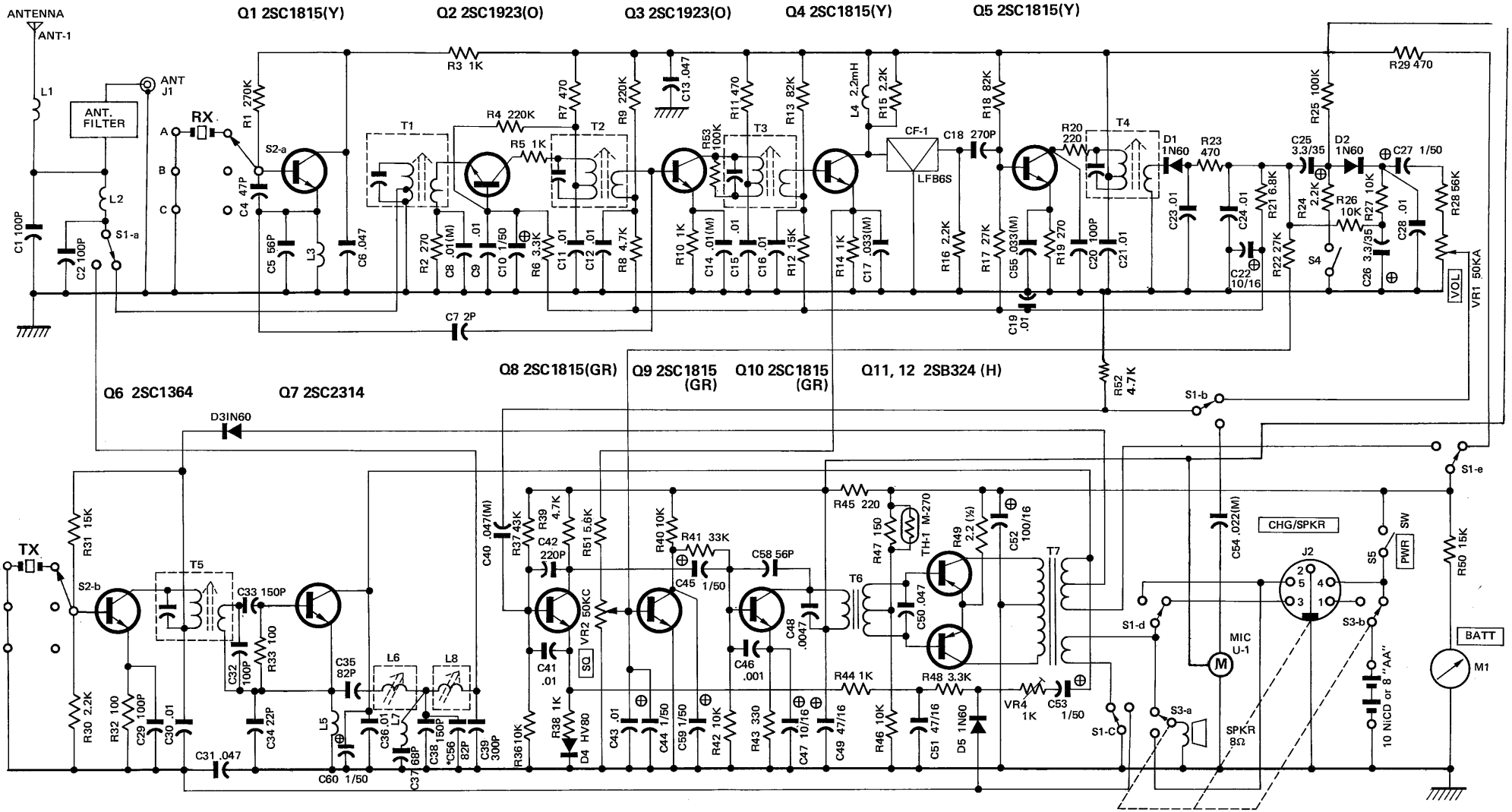
ANTENNA
ANT-1
L1
ANT. FILTER
ANT J1
L2
S1-a
C1 100P
C2 100P
RX
A
B
C
R1 270K
S2-a
C4 47P
C5 56P
L3
C6 .047
Q1 2SC1815(Y)
Q2 2SC1923(O)
Q3 2SC1923(O)
Q4 2SC1815(Y)
Q5 2SC1815(Y)
R3 1K
T1
R4 220K
R5 1K
T2
R7 470
R9 220K
C13 .047
T3
R11 470
R13 82K
L4 2.2mH
R15 2.2K
CF-1
LFB6S
C18 270P
R18 82K
R20 220
T4
D1 1N60
R23 470
C25 3.3/35
D2 1N60
C27 1/50
R25 100K
R29 470
R53 100K
R2 270
C8 .01(M)
C9 .01
C10 1/50
R6 3.3K
C11 .01
C12 .01
R8 4.7K
R10 1K
C14 .01(M)
C15 .01
C16 .01
R12 15K
R14 1K
C17 .033(M)
R16 2.2K
R17 27K
C55 .033(M)
R19 270
C20 100P
C21 .01
C23 .01
C24 .01
R21 6.8K
C22 10/16
R22 27K
R24 2.2K
R26 10K
R27 10K
S4
C26 3.3/35
C28 .01
R28 56K
VOL
VR1 50KA
C7 2P
C19 .01
R52 4.7K
Q6 2SC1364
Q7 2SC2314
Q8 2SC1815(GR)
Q9 2SC1815 (GR)
Q10 2SC1815 (GR)
Q11, 12 2SB324 (H)
S1-b
D3IN60
S1-e
TX
R31 15K
T5
S2-b
C33 150P
C32 100P
R33 100
C35 82P
L6
L8
L5
C36 .01
L7
C38 150P
*C56 82P
C39 300P
C37 68P
C60 1/50
R30 2.2K
R32 100
C29 100P
C30 .01
C31 .047
C34 22P
C40 .047(M)
R37 43K
R39 4.7K
R51 5.6K
C42 220P
VR2 50KC
SQ
R38 1K
D4 HV80
R36 10K
C43 .01
C44 1/50
C59 1/50
R40 10K
R41 33K
C45 1/50
C58 56P
C48 .0047
C46 .001
R42 10K
R43 330
C47 10/16
C49 47/16
R45 220
R47 150
TH-1 M-270
R49 2.2 (½)
C52 100/16
T6
T7
C50 .047
R44 1K
R48 3.3K
VR4 1K
C53 1/50
R46 10K
C51 47/16
D5 1N60
S1-C
S1-d
S3-a
C54 .022(M)
CHG/SPKR
J2
MIC U-1
M
SPKR 8Ω
S5
SW
PWR
S3-b
10 NiCD or 8 "AA"
R50 15K
BATT
M1

SPECIFICATIONS

GENERAL

Receiving system	Crystal controlled superheterodyne.
Channels	3
Frequency coverage	300kHz in 27 - 31 MHz band.
Power requirements	12-12.5V DC, 8 "A" or 2 NiCd batteries.
Speaker	Dynamic type 8 Ohm.
Semiconductors	12 transistors, 4 diodes, 1 thermistor
Dimension	75W x 60D x 225 H mm.

TRANSMITTER

RF power output	1.2 W
Type of emission	A3 (AM)
Modulation	90 - 100%
Frequency tolerance	+-0.005%
Antenna impedance	50 Ohm
Current drain	200 mA

RECEIVER

Sensitivity	0.7 uV for 10 dB (S+N)/N
Adjacent Channel Rejection	60 dB
Audio power	0.25 W (10% THD) at 1000 Hz
Signal-to-noise ratio	40 dB
Intermediate frequency	455 kHz
Squelch sensitivity	Threshold less than 1 uV
Current drain	20 mA with minimum output

MAIN SPARE PARTS

DIODES:

1N60	D1,D2,D3,D5
HV80	D4
M-270	TH-1

TRANSISTORS:

2SC1815	Q1,Q4,Q5,Q8,Q9,Q10
2SC1923	Q2,Q3
2SC1364	Q6
2SC2314	Q7
2SB324	Q11,Q12

VARIABLE RESISTORS:

50KA	VR1 VOLUME CONTROL
50KC	VR2 SQUELCH CONTROL
1 K	VR4 MOD.COMPRESSOR

FILTERS:

LF-B6S	CF-1 CERAMIC
4LNC-095	L1
10NLC-092	L2,L7
LF4-2R2K	L3
EL-7H-222K	L4
4LNC-027	L5
10PNF-101	L6
10PNP-102	L8
2440B	T1
1624B	T2
GRP352203N	T3
GR-P4202	T4
10SS0-090	T5
E2252	T6
E2497	T7

MISCELLANEOUS:

- Front case
- Battery cover(Rear case)
- Escutcheon
- VR knob
- CH knob
- Talk knob
- Case label
- Rear label
- CH label(CH A-C)
- Side panel B
- Side panel C
- Crystal socket
- Dummy batteri
- ANT.grommet
- ANT.holder
- Battery pack screw
- RCA jack
- DIN jack
- Speaker
- Meter
- Battery case
- 3 pin connector
- Microphone
- RCA jack cap
- DIN jack holder
- Shoulder strap
- Antenna

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