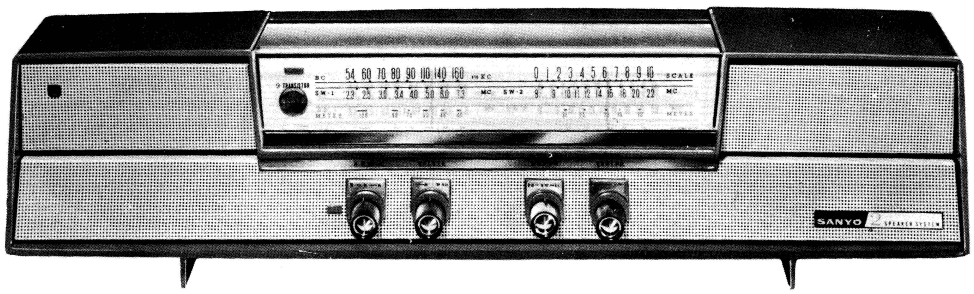
SANYO

MODEL
9U-T95

All-transistor Radio

Service Manual



SPECIFICATIONS

FREQUENCY RANGE

BC	540 – 1,600 Kc/s
SW1	2.3 – 7.3 Mc/s
SW2	8 – 22 Mc/s

INTERMEDIATE FREQUENCY

455 Kc/s

POWER SOURCE

9 volts (6 standard flashlight batteries)

CURRENT DRAIN

No signal	20 mA
Maximum	200 mA

RADIATION SENSITIVITY

BC	316 μV/m	lower limit for 10mW output
SW1	200 μV/m	lower limit for 10mW output
SW2	50 μV	lower limit for 10mW output

POWER OUTPUT

Undistorted	0.8 W
Maximum	1.2 W

LOUDSPEAKERS

Two 4″×6″ permanent dynamic speakers

TRANSISTORS

(1)	2SA222 (2SA60)	Local Oscillator
(2)	2SA221 (2SA60)	Mixer
(3)	2SA202	1st IF Amplifier
(4)	2SA203	2nd IF Amplifier
(5)	2SB188	AF Pre-amplifier
(6)	2SB188	AF Amplifier
(7)	2SB188	Driver
(8)	2SB272×2	Power Amplifier (B class pushpull)

GERMANIUM DIODE & VARISTOR

(1)	IN-60	Diode ; Detector & A. G. C.
(2)	SV-30	Varistor ; Temperature compensator

DIMENSIONS

23½″ wide×6½″ high×6½″ thick

WEIGHT

7 lbs. approx.

SANYO ELECTRIC CO., LTD.

PART NO.	STOCK NO.	DESCRIPTION

FIXED RESISTORS (Continued)

R 19		820	"	"	"	"
R 20		100	"	"	"	"
R 21		22 K	"	"	"	"
R 22		8.2 K	"	"	"	"
R 23		680	"	"	"	"
R 24		470	"	"	"	"
R 25		6.8 K	"	± 5%	"	"
R 26		130	"	"	"	"
R 27		4.7	"	±10%	"	"
R 28		47 K	"	"	"	"
R 29		820K	"	"	"	"
R 31		33	"	"	"	"
R 32		2.2 K	"	"	"	"

RESISTOR & CAPACITOR PACKED

PRC-2104	R-C-XC-004	1K ohms	10%	
		0.04 μF	+80−20%	25WV
PRC-30211	R-C-XC-002	200 ohms	20%	
		0.01 μF	+80−20%	25WV
		0.01 μF	+80−20%	25WV

CABINET

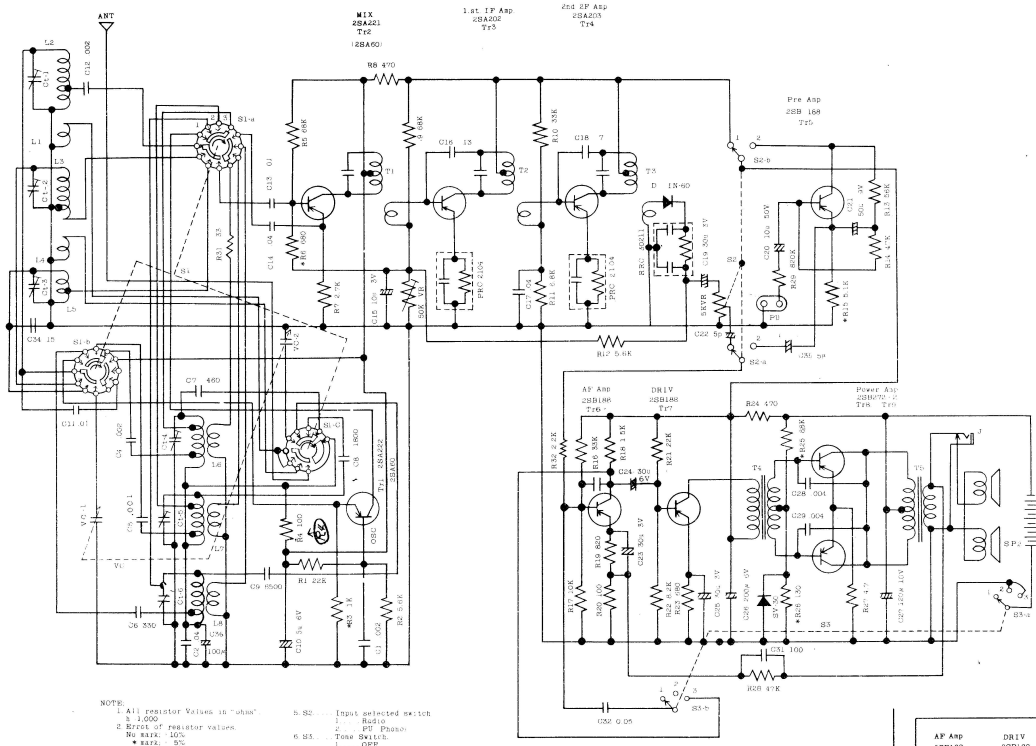
	R-31406	Cabinet
	R-32202	Dial plate
	R-11922	Front panel - upper left
	R-11923	Front panel - upper right
	R-11924	Front panel - lower
	R-23399L	Metal strip - front
	R-23400L	Metal strip - ceiling
	R-26389	Name plate
	R-26259	S mark
	R-32145	Knob pedestal
	R-S8299	Knob
	R-26317	Knob information sheet - tuning
	R-26390	Knob information sheet - tone
	R-26391	Knob information sheet - volume
	R-26392	Knob information sheet - select
	R-32147	"OFF" indicator
	R-38006	Pointer
	R-421589	Back cover
	R-32086	U-type plastic
	R-12057	Spring metal metal strip (ceiling) mtg.
	R-S8296	Battery terminal case +
	R-S8295	Battery terminal case −
	R-35170	Battery holder
	R-32196	Earphone mounting base

MISCELLANEOUS

	R-S8145	Drum
	R-S8037	Dial shaft
	R-15041	Tension spring
	R-26573	Eyelet for dial string
	R-S2025aL	Antenna jack
	R-S2040	Earphone jack
	R-S1054	Earphone plug
	R-S8186	Antenna lead with plug
	R-44004	Rubber grommet

Printed in Japan

Model 9U-T95 Circuit Diagram



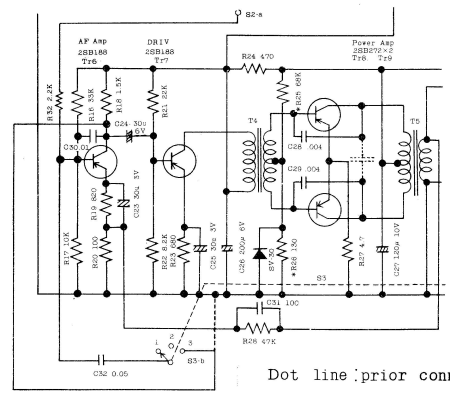
NOTE:
1. All resistor Values in "ohm" b. 1,000
2. Error of resistor values.
No mark: 10%
★ mark: 5%
3. All capacitor values less than 1.0 in "mF" and 1.0 and above in "mF" except those indicated
4. S1 ..... Band Selected switch
1 ..... SW2
2 ..... SW1
3 ..... BC
5. S2 ..... Input selected switch
1 ..... Radio
2 ..... PU (Phono)
6. S3 ..... Tone Switch
1 ..... OFF
2 ..... H (High)
3 ..... L (Low)

Latest change

C30 0.04μF → 0.01μF

C32 0.05μF → 0.02μF

C5 0.001μF → 0.002μF



Dot line :prior connection

ALIGNMENT PROCEDURES

Apply volt-meter across the voice coil. Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain output reading in order to avoid AGC function.

STEP	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	ADJUST FOR MAXIMUM OUTPUT
IF ALIGNMENT				
1	High side through 0.1 mf capacitor to antenna stator lug on tuning gang. Low side to chassis.	455 Kc	530 Kc	T 3 T 2 T 1
BROADCAST RF ALIGNMENT				
2	Fashion loop of several turns of wire and radiate signal into loop antenna.	530 Kc	left end	L 6
3		1650 Kc	right end	Ct 4
4		Repeat Step 2 and 3.		
5		600 Kc	600 Kc	L 2
6		1400 Kc	1400 Kc	Ct 1
7		Repeat Step 5 and 6.		
SHORTWAVE 1 RF ALIGNMENT				
8	Fashion loop of several turns of wire and radiate signal into loop antenna.	2.25 Mc	left end	L 7
9		7.5 Mc	right end	Ct 5
10		Repeat Step 8 and 9.		
11		2.5 Mc	2.5 Mc	L 3
12		6.5 Mc	6.5 Mc	Ct 2
13		Repeat Step 11 and 12.		

PART NO.	STOCK NO.	DESCRIPTION

TRANSISTORS

Tr 1	2SA222(2SA60)	Local Oscillator
Tr 2	2SA221(2SA60)	Mixer
Tr 3	2SA202	1st IF Amplifier
Tr 4	2SA203	2nd IF Amplifier
Tr 5	2SB188	AF Pre-Amplifier
Tr 6	2SB188	AF Amplifier
Tr 7	2SB188	Driver
Tr 8	2SB272	Power Amplifier
Tr 9	2SB272	Power Amplifier

DIODE AND VARISTOR

	IN-60	Detector & A.G.C.
	SV-30	Temperature Compensator

COILS

L 1	R-S8294a	Antenna coil
L 2	R-S8294a	Antenna coil
L 3	R-S8294a	Antenna coil
L 4	R-W2111	Antenna coil SW2
L 5	R-W2111	Antenna coil SW2
L 6	R-W8008	Oscillator coil BC
L 7	R-W8050	Oscillator coil SW1
L 8	R-W8051a	Oscillator coil SW2

TRANSFORMERS

T 1	R-W5T008	1st IF Transformer
T 2	R-W5T009	2nd IF Transformer
T 3	R-W5T023	3rd IF Transformer
T 4	R-W6148	Input Transformer
T 5	R-W6157	Output Transformer

CONTROLS

	R-S4040	Band Selector
	R-S4039	Tone Selector
VC	R-C1051	Tuning Capacitor
Ct 1	R-C0009	6-block Trimmer
Ct 2	R-C0009	6-block Trimmer
Ct 3	R-C0009	6-block Trimmer
Ct 4	R-C0009	6-block Trimmer
Ct 5	R-C0009	6-block Trimmer
Ct 6	R-C0009	6-block Trimmer
VR	R-R12471	Volume Control

LOUDSPEAKERS

SP 1	R-S6154 ①	4″×6″ permanent dynamic
SP 2	R-S6153	4″×6″ permanent dynamic with OPT (T5)

PART NO.	STOCK NO.	DESCRIPTION

ELECTROLYTIC CAPACITORS

C 10		5	μF	+250—10%	6WV	
C 15		10	,,	,, ,,	3 ,,	
C 19		30	,,	,, ,,	3 ,,	
C 20		10	,,	,, ,,	50 ,,	Tubular
C 21		50	,,	,, ,,	9 ,,	
C 22		5	,,	,, ,,	6 ,,	Tubular
C 23		30	,,	,, ,,	3 ,,	
C 24		30	,,	,, ,,	6 ,,	
C 25		30	,,	,, ,,	3 ,,	
C 26		200	,,	,, ,,	6 ,,	
C 27		120	,,	,, ,,	10 ,,	
C 35		5	,,	,, ,,	6 ,,	Tubular
C 36		100	,,	,, ,,	6 ,,	

FIXED CAPACITORS

C 1		0.002	μF	+30—20%	100WV	Mylar
C 2		0.04	,,	,, ,,	100 ,,	,,
C 4		0.002	,,	,, ,,	100 ,,	,,
C 5		0.002	,,	,, ,,	50 ,,	,,
C 6		330	μμF	±10%	125 ,,	Styrol
C 7		460	,,	±3.5%	500 ,,	Ceramic
C 8		1800	,,	±10%	35 ,,	Styrol
C 9		6500	,,	,,	250 ,,	,,
C 11		0.01	μF	+30—20%	100 ,,	Mylar
C 12		0.002	,,	,, ,,	100 ,,	,,
C 13		0.01	,,	,, ,,	100 ,,	,,
C 14		0.04	,,	,, ,,	100 ,,	,,
C 16		13	μμF	±10%	25 ,,	Ceramic
C 17		0.04	μF	+30—20%	100 ,,	Mylar
C 18		7	μμF	±0.5 μμF	25 ,,	Ceramic
C 28		0.004	μF	+30—20%	100 ,,	Mylar
C 29		0.004	,,	,, ,,	100 ,,	,,
C 30		0.01	,,	,, ,,	100 ,,	,,
C 31		100	μμF	±10%	500 ,,	Ceramic
C 32		0.02	μF	+30—20%	100 ,,	Mylar
C 34		15	μμF	±10%	25 ,,	Ceramic

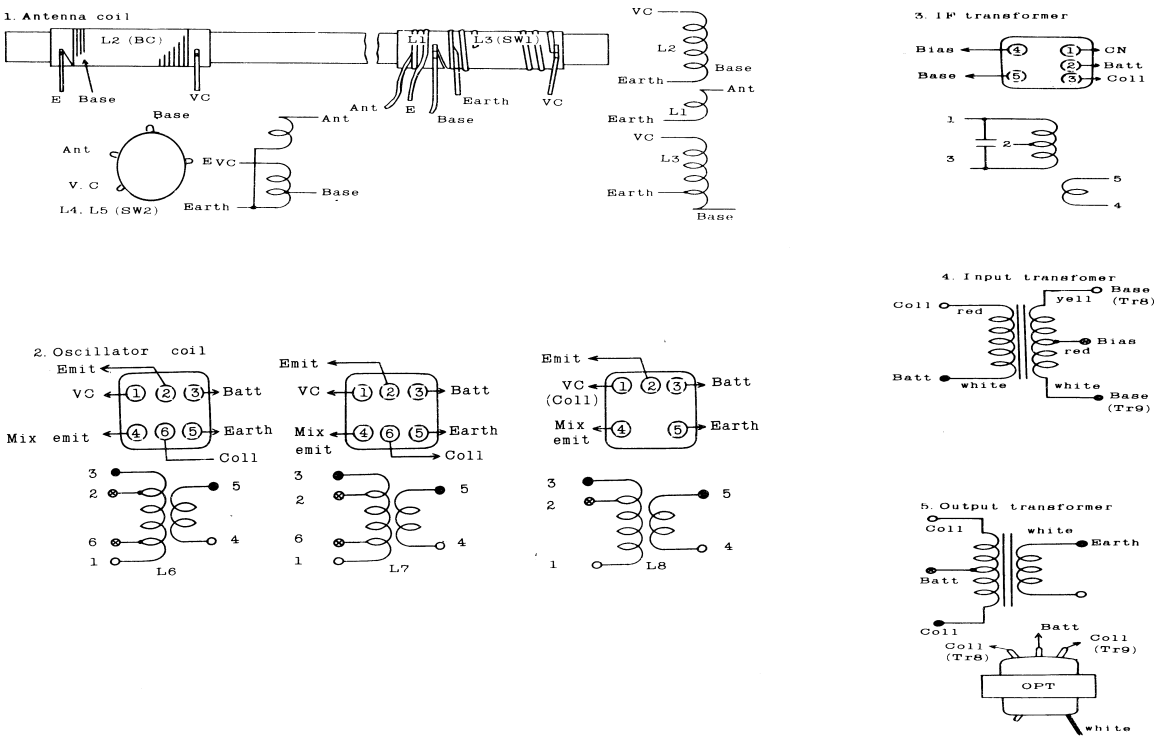
FIXED RESISTORS

R 1		22 K	ohms	±10%	½W	Mold
R 2		5.6 K	,,	,,	,,	,,
R 3		1 K	,,	± 5%	,,	,,
R 4		100	,,	±10%	,,	,,
R 5		68 K	,,	,,	,,	,,
R 6		680	,,	± 5%	,,	,,
R 7		2.7 K	,,	±10%	,,	,,
R 8		470	,,	,,	,,	,,
R 9		68 K	,,	,,	,,	,,
R 10		33 K	,,	,,	,,	,,
R 11		6.8 K	,,	,,	,,	,,
R 12		5.6 K	,,	,,	,,	,,
R 13		56 K	,,	,,	,,	,,
R 14		47 K	,,	,,	,,	,,
R 15		5.1 K	,,	± 5%	,,	,,
R 16		33 K	,,	±10%	,,	,,
R 17		10 K	,,	,,	,,	,,
R 18		1.5 K	,,	,,	,,	,,

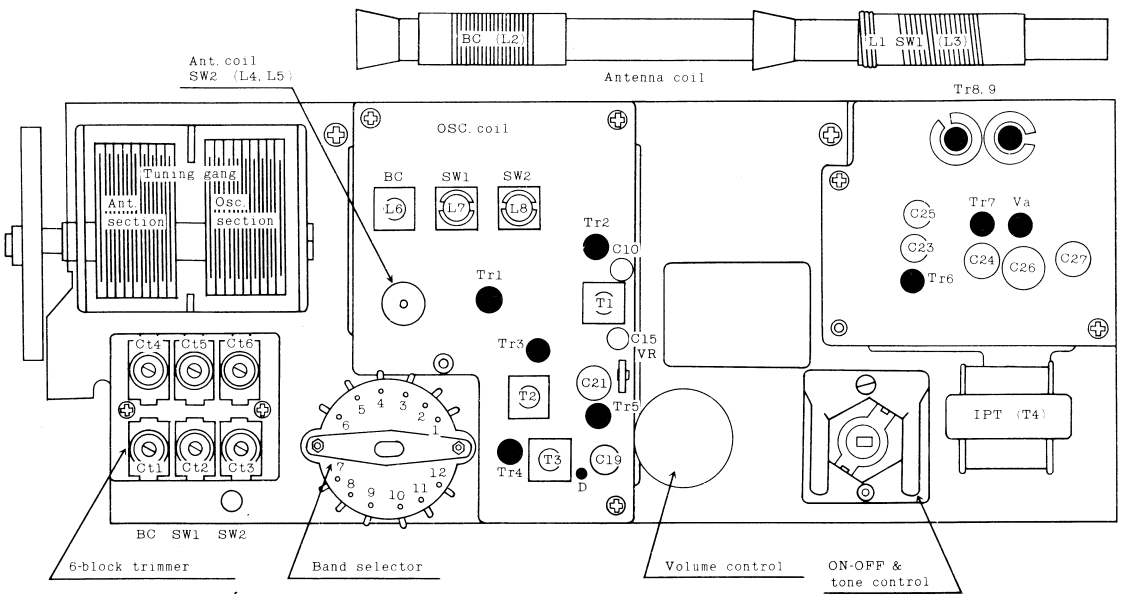
SHORTWAVE 2 RF ALIGNMENT

14	High side through dummy antenna to antenna terminal. Low side to chassis.	7.5 Mc	left end	L 8
15		23 Mc	right end	Ct 6
16		Repeat Step 14 and 15.		
17		8 Mc	8 Mc	L 5
18		21 Mc	21 Mc	Ct 3
19		Repeat Step 17 and 18.		

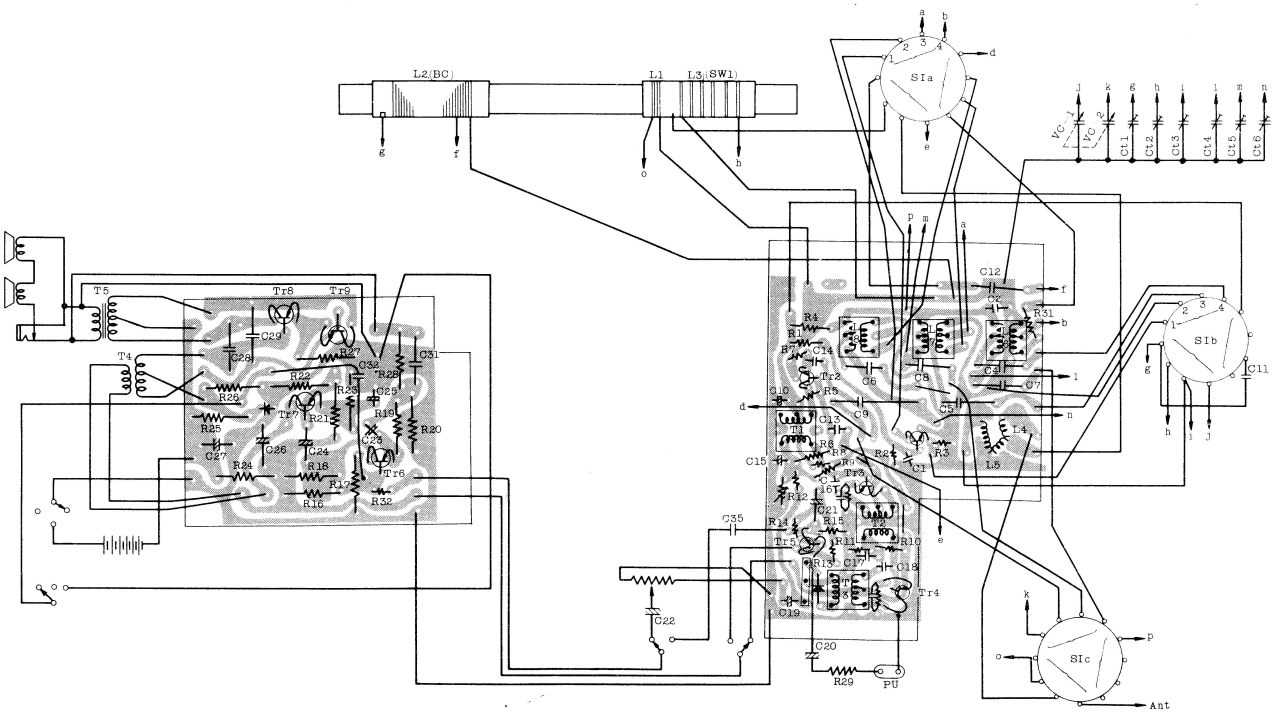
Main Parts Connection



Main Parts Location



Model 9U-T95 Inter-Parts Connection



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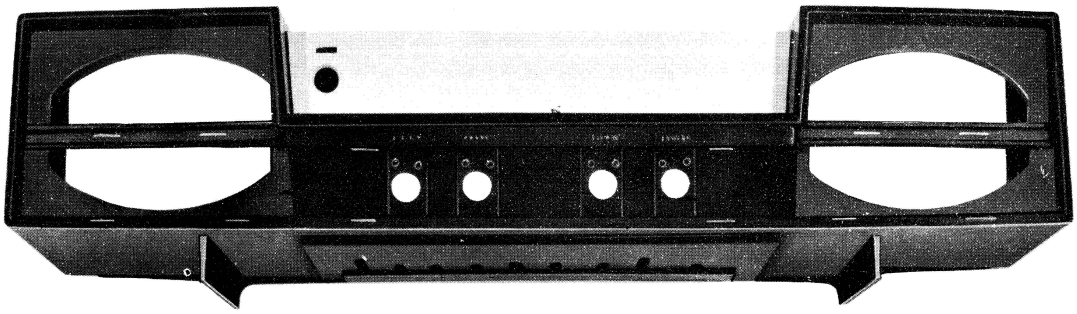

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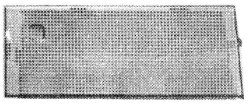

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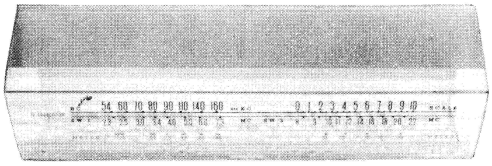

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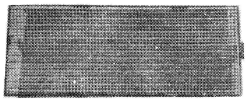

(R-23399L)

(R-38006)

(R-S8037)

(R-23400L)