

FM/AM 9-TRANSISTOR RADIO

MODEL KH-980H

SERVICE MANUAL

No. 128 1966. 10

SPECIFICATIONS

CIRCUIT SYSTEM9-transistor superheterodyne
 TUNING RANGE.....FM 86.5~108Mc
 AM 530~1,605kc

INTERMEDIATE
 FREQUENCYFM 10.7Mc
 AM 455kc

TRANSISTOR COMPONENT
 2SA435FM R.F. Amp.
 2SA235FM Frequency Converter
 2SA350FM I.F. Amp. & AM Frequency
 Converter
 2SA234FM/AM I.F. Amp.
 2SA234FM/AM I.F. Amp.
 2SB75A.F. Amp.
 2SB77A.F. Amp.
 2SB77 × 2Class-B Push-pull Power Amp.

GERMANIUM DIODE
 1N60FM Limiter
 1N34AAM A.G.C.
 1N34AAM Detector & A.G.C.

1N60 × 2FM Discriminator
 1S85FM A.F.C.

THERMISTOR
 D-2BTemperature Compensator

POWER OUTPUT350mW (Maximum)
 220mW (Undistorted)

LOUDSPEAKER3" P.M. Speaker
 EARPHONE JACKOne. Hitachi magnetic earphone
 EL-216 is provided.

ANTENNAFM Telescopic antenna
 AM Ferrite-core antenna

POWER SOURCE.....DC 6V (JIS "UM-3" × 4, standard
 "AA" × 4 or equivalent)
 AC Adaptor (6V) available

CURRENT
 CONSUMPTIONFM 13mA (With no signal)
 AM 10mA (With no signal)

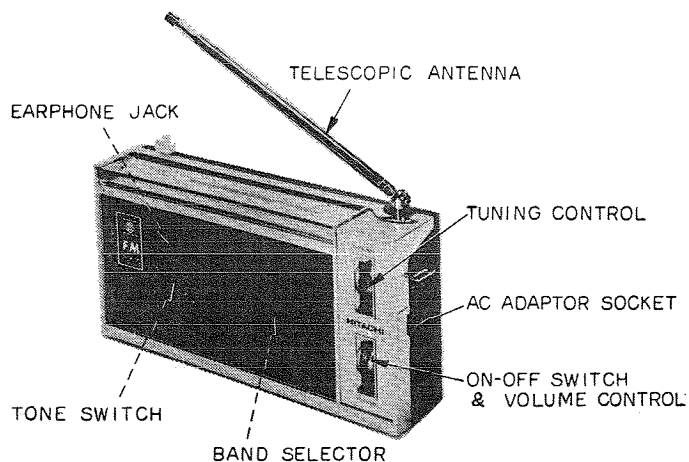
DIMENSIONS.....3 $\frac{3}{8}$ " (H) × 7 $\frac{1}{2}$ " (W) × 1 $\frac{3}{4}$ " (D)
 (97 × 189 × 43mm)

WEIGHT1.5 lbs. (600g) including batteries

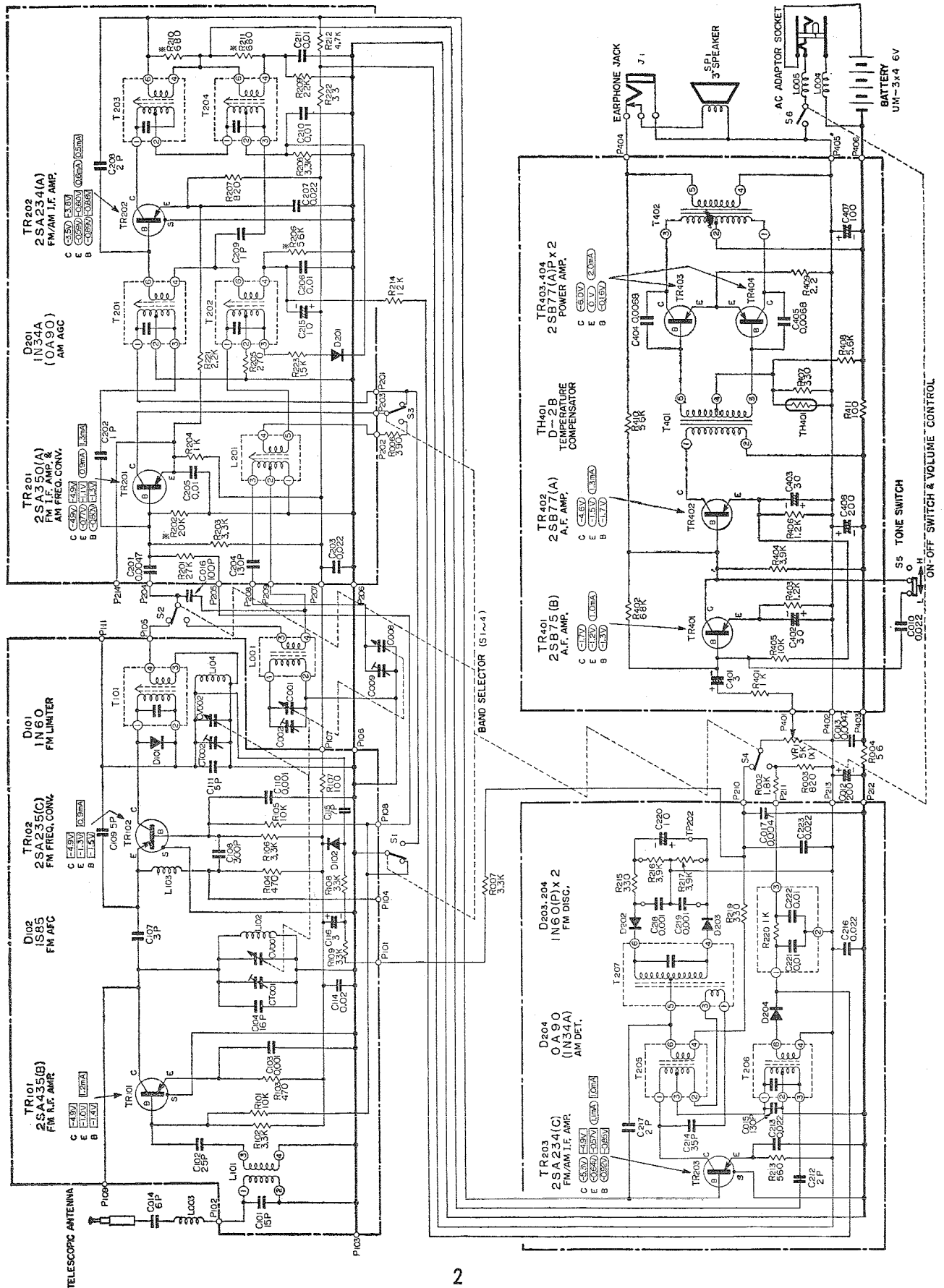
DESCRIPTION

- 1) KH-980H operates both on battery and AC power.
- 2) Block circuit board employed in FM R.F. circuit, I.F. circuit and A.F. circuit gives the set compact styling and stable reception.
- 3) Four mesa type transistors and a drift type transistor provide high sensitivity.
- 4) Large sized 3" speaker and the audio output of 350mW produce rich, clear tone.
- 5) The set permits you easy handling and easy battery replacement.
- 6) Desired tone can be obtained with the tone control.

NAMES OF THE PARTS



CIRCUIT DIAGRAM



SERVICE HINTS

- How to remove the printed circuit board**
Loosen two boss and a tapping screw holding printed circuit board shown in Fig. 4.
- How to loop the dial cord**
Follow the procedure below, referring to Fig. 5.
 - Cut out about 23" of dial cord.
 - Turn the variable capacitor fully counter-clockwise (to the maximum capacity position)
 - Loop the dial cord according to each arrow's direction as shown in Fig. 5 by using the spring and cord stopper.
 - Adjust the dial pointer to the punched mark in the back plate and fix it.

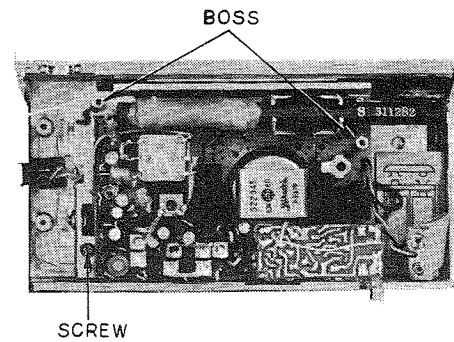


Fig. 4

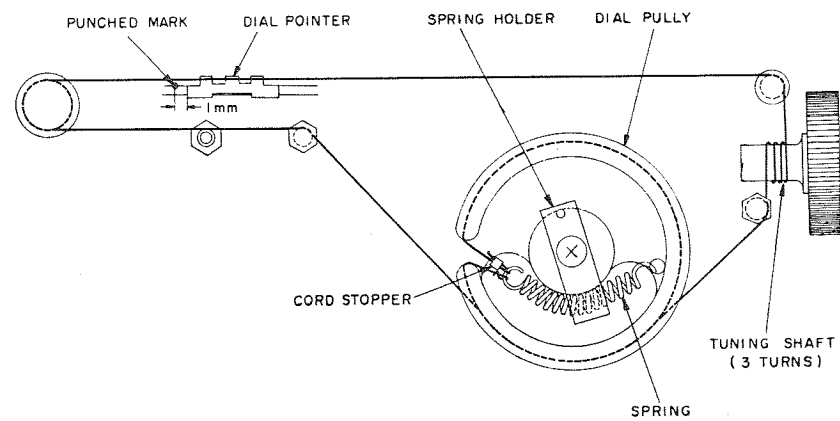


Fig. 5

REPLACEMENT PARTS

Symbol No.	Stock No.	Description	Symbol No.	Stock No.	Description
TRANSISTORS :					
TR101	573471	2 S A 435(B)	T 205	326025	FM I.F.
TR102	573366	2 S A 235(C)	T 206	322130	AM I.F.
TR201	573398	2 S A 350(A)	T 207	326024	discriminator
TR202	573427	2 S A 234(A)	T 401	441113	driver
TR203	573428	2 S A 234(C)	T 402	451101	output
TR401	573117	2 S B 75(B)	COILS :		
TR402	573103	2 S B 77(A)	L 001	311282	ferrite-core antenna
TR403	573003	2 S B 77(A)P	L 003	324003	FM choke
TR404			L 004	333048	choke
D 101	575005	Diode-Germanium 1N60	L 005	333116	choke
D 102	575024	Diode-Silicon 1S 85	L 101	318519	FM antenna
D 201	575001	Diode-Germanium 1N34A	L 102	318526	FM R.F.
D 202	575019	Diode-Germanium 1N60(P)	L 103	324003	FM trap
D 203			L 104	318531	FM oscillator
D 204	575001	Diode-Germanium 1N34A	L 201	316200	MW oscillator
TH401	576038	Thermistor D-2B	CAPACITORS :		
TRANSFORMERS :					
T 101	322327	FM I.F.	CV 001	282079	plastic variable
T 201	322333	FM I.F.	CV 002		
T 202	322128	AM I.F.	CT 001		
T 203	322334	FM I.F.	CT 002		
T 204	322127	AM I.F.	C 001		
			C 002		
			C 003		
			C 009		

Symbol No.	Stock No.	Description	Symbol No.	Stock No.	Description
C 010	275113	mylar 0.022μF ± 20%	R 103	137809	carbon film 470Ω ± 10% SRD¼SD
C 012	252232	electrolytic 200μF	R 104	137809	same as R103
C 013	274115	mylar 0.0047μF ± 20%	R 105	137401	same as R101
C 014	241812	ceramic, discal 6pF ± 0.5pF	R 106	137857	same as R102
C 015	233023	ceramic, cylindric 130pF ± 5%	R 107	137801	carbon film 100Ω ± 10% SRD¼SD
C 016	233010	ceramic, cylindric 100pF ± 5%	R 108	137407	carbon film 33kΩ ± 10% SRD¼SD
C 017	274115	same as C013	R 109	137407	same as R108
C 101	241828	ceramic, discal 15pF ± 10%	R 201	137906	carbon film 27kΩ ± 10% SRD¼SD
C 102	242810	ceramic, discal 25pF ± 10%	R 202	117158	carbon film 20kΩ ± 5% SRD¼PL
C 103	244016	ceramic, discal 0.001μF ± 80%	R 203	117357	carbon film 3.3kΩ ± 10% SRD¼PL
C 104	242422	ceramic, discal 16pF ± 10%	R 204	137601	carbon film 1kΩ ± 5% SRD¼SD
C 107	241821	ceramic, discal 3pF ± 0.5pF	R 205	117306	carbon film 270Ω ± 10% SRD¼PL
C 108	233006	ceramic, cylindric 300pF ± 10%	R 206	117169	carbon film 56kΩ ± 5% SRD¼PL
C 109	241852	ceramic, discal 5pF ± 0.5pF	R 207	137573	carbon film 820Ω ± 5% SRD¼SD
C 110	244016	same as C103	R 208	117357	same as R203
C 111	241822	ceramic, discal 5pF ± 0.5pF	R 209	117405	carbon film 22kΩ ± 10% SRD¼PL
C 114	245018	ceramic, discal 0.02μF ± 80%	R 210	117071	carbon film 680Ω ± 5% SRD¼PL
C 115	241830	ceramic, discal 7pF ± 0.5pF	R 211	117071	same as R210
C 116	252213	electrolytic 3μF	R 212	117359	carbon film 4.7kΩ ± 10% SRD¼PL
C 201	274115	mylar 0.0047μF ± 20%	R 213	132285	composition 560Ω ± 10% RC¼BE
C 202	241827	ceramic, discal 1pF ± 0.5pF	R 214	137902	carbon film 12kΩ ± 10% SRD¼SD
C 203	275113	mylar 0.022μF ± 20%	R 215	137807	carbon film 330Ω ± 10% SRD¼SD
C 204	233023	ceramic, cylindric 130pF ± 5%	R 216	137858	carbon film 3.9kΩ ± 10% SRD¼SD
C 205	275111	mylar 0.01μF ± 20%	R 217	137858	same as R216
C 206	275111	same as C205	R 219	137807	carbon film 330Ω ± 10% SRD¼SD
C 207	275113	same as C203	R 220	—	part of C-R pack 1kΩ
C 208	241810	ceramic, discal 2pF ± 0.5pF	R 221	117109	carbon film 2.2kΩ ± 5% SRD¼PL
C 209	241827	same as C202	R 222	117265	carbon film 33Ω ± 10% SRD¼PL
C 210	275111	same as C205	R 223	132363	compositin 1.5kΩ ± 10% RC¼BE
C 211	275111	same as C205	R 401	117351	carbon film 1kΩ ± 10% SRD¼PL
C 212	241810	same as C208	R 402	117411	carbon film 68kΩ ± 10% SRD¼PL
C 213	275113	same as C203	R 403	117352	carbon film 1.2kΩ ± 10% SRD¼PL
C 214	232020	ceramic, cylindric 35pF ± 5%	R 404	137358	carbon film 3.9kΩ ± 10% SRD¼SD
C 215	252221	electrolytic 10μF	R 405	117401	carbon film 10kΩ ± 10% SRD¼PL
C 216	275113	same as C203	R 406	137352	carbon film 1.2kΩ ± 10% SRD¼SD
C 217	241810	ceramic, discal 2pF ± 0.5pF	R 407	137307	carbon film 330Ω ± 10% SRD¼SD
C 218	274111	mylar 0.001μF ± 20%	R 408	137360	carbon film 5.6kΩ ± 10% SRD¼SD
C 219	274111	same as C218	R 409	137751	carbon film 2.2kΩ ± 10% SRD¼SD
C 220	252221	same as C215	R 410	137410	carbon film 56kΩ ± 10% SRD¼SD
C 221	—	part of C-R pack	R 411	137301	carbon film 100Ω ± 10% SRD¼SD
C 222	—	part of C-R pack	MISCELLANEOUS		
C 223	275113	same as C203	644105	Antenna-Rod antenna	
C 401	252113	electrolytic 3μF	611684	Back-Case back assembly	
C 402	252123	electrolytic 30μF	915236	Box-Dressing box	
C 403	252123	same as C402	611682	Case-Case assembly	
C 404	274116	mylar 0.0068μF ± 20%	612859	Case-Battery case	
C 405	274116	same as C404	651169	Case-Leather case	
C 406	259041	electrolytic 200μF	622000	Cover-Battery case cover	
C 407	252231	electrolytic 100μF	995096	Cushion for packing	
RESISTORS :					
R 002	117354	carbon film 1.8kΩ ± 10%	SRD¼PL	592052	Earphone-Magnetic earphone (EL-216)
R 003	117312	carbon film 820Ω ± 10%	SRD¼PL	543212	Jack-AC jack
R 004	132223	composition 56Ω ± 10%	RC¼BE	543213	Jack-Antenna Jack
R 006	117308	carbon film 390Ω ± 10%	SRD¼PL	543217	Jack-Earphone jack
R 007	132366	composition 3.3kΩ ± 10%	RC¼BE	619380	Knob-Tuning knob
VR 1	151603	variable, carbon 5kΩ (X)	VOLUME with S6	619382	Knob-Volume knob
R 101	137401	carbon film 10kΩ ± 10%	SRD¼SD	669472	Pointer-Dial pointer
R 102	137857	carbon film 3.3kΩ ± 10%	SRD¼SD	522045	Speaker-3" P.M speaker 8 ohms
MISCELLANEOUS					
			SP 1	532163	Switch-Band selector switch
				532162	Switch-Tone switch

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