

HITACHI

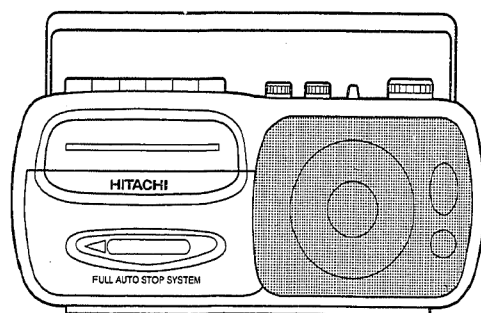
SERVICE MANUAL

YS No. 0020E

TRK-65

[E,E(BS),HC]

TK20FX-V619-001
chassis



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SAFETY PRECAUTION

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi replacement parts. Especially critical parts in the power circuit block should not be replaced with other maker's. Critical parts are marked with $\triangle$ in the circuit diagram and printed wiring board.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

FM/MW 2-BAND RADIO CASSETTE RECORDER

AUGUST 1994 HI-IMPEX (H. K.) & HITACHI CONSUMER PRODUCTS(S)

SPECIFICATIONS

GENERAL SECTION

Semi-conductors ICs: 2
Transistors: 2
Diodes: 9 [E,E(BS),HC]

Power Supply: AC: 230V,50Hz [E]
230V,50Hz [E(BS)]
120V,60Hz [HC]
DC: 6V [D] cell (IEC R20)
x 4 or equivalent]

Power Consumption: 6W
Power Output: 0.8W(T.H.D. 10%)

Speaker: 10cm 4ohms,
Dimensions: 300(W)x120(D)x142(H)mm
Weight: 1.8kg(with batteries)

RADIO SECTION

Circuit System: FM/TV/AM 2-band super heterodyne

Tuning Range: FM: 87.5 to 108MHz[E, E(BS)]
88 to 108MHz[HC]
AM: 530 to 1605kHz

Sensitivity: FM: 20dB(pra.)23dB(max.)
AM: 54dB(pra.)62dB(max.)

Intermediate Frequency FM/TV: 10.7MHz
AM: 465kHz[E,E(BS)]
455kHz[HC]

Antenna(Aerials): FM/TV: Rod antenna
AM: Built-in ferrite-core antenna

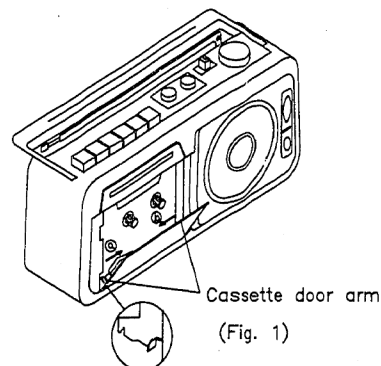
TAPE RECORDER SECTION

Tape: Cassette tape(C-30,60,90)
Tape Speed: 4.75cm/s
Recording System: DC bias
Erase System: Magnet
Track System: Monaural dual track
Frequency Response: 125Hz to 6300Hz (normal tape)

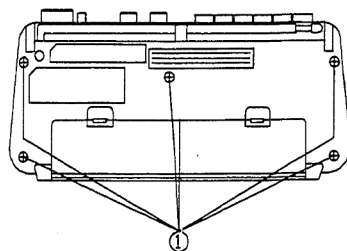
S/N (Signal to Noise Ratio): 24dB
Wow and Flutter: 0.4%(WRMS)
Crosstalk: 50dB(Between tracks)
Erasing Ratio: 48dB
Fast Forwarding or Rewinding Time: ICs: 120sec.(Using C-60)
Distortion: 3%
Motor: 6V DC micromotor

DISASSEMBLY

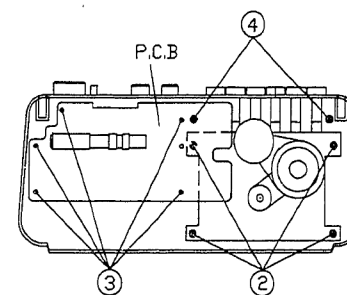
1. Removal of cassette door (Fig. 1)
Press EJECT button and open the cassette door. Then, remove the cassette door in the arrow ③ direction while the cassette door arm is pressed in direction ④ and ⑤.
Hook the cassette lid arm stopper on the spring for reassembly.
2. Removal of front case (Fig. 2)
Remove five screws ①. Then, remove the front case.
3. Removal of cassette chassis (Fig. 3)
Remove four screws ②, five screws ③ and two screws ④.
4. Removal of speaker (Fig. 4)
Remove the front case and then remove two screws ⑤ from respective speaker.



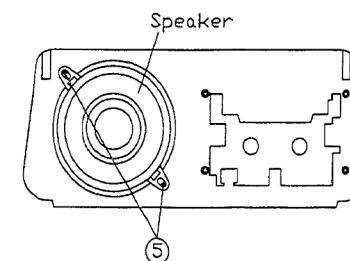
(Fig. 1)



(Fig. 2)



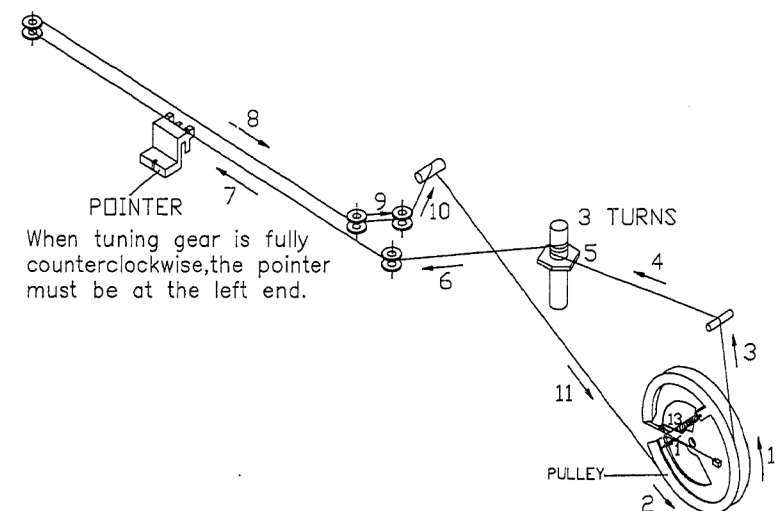
(Fig. 3)



(Fig. 4)

DIAL CORD STRINGING

Pull the pulley as far as it will go in the clockwise direction and set the pointer to the aligned position.

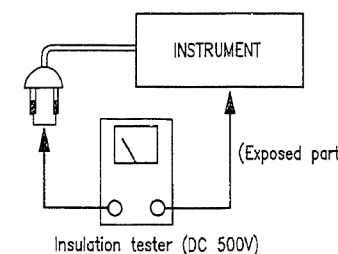


Check that exposed parts are acceptably insulated from the supply circuit before returning the instrument repaired to the customer.

* Checking method

Power (Operate) switch is set to ON.

Next, measure the resistance value between the both poles of attachment cup (Power plug) and the exposed part and check that the resistance value is 500 kohms or more.



ALIGNMENT PROCEDURES

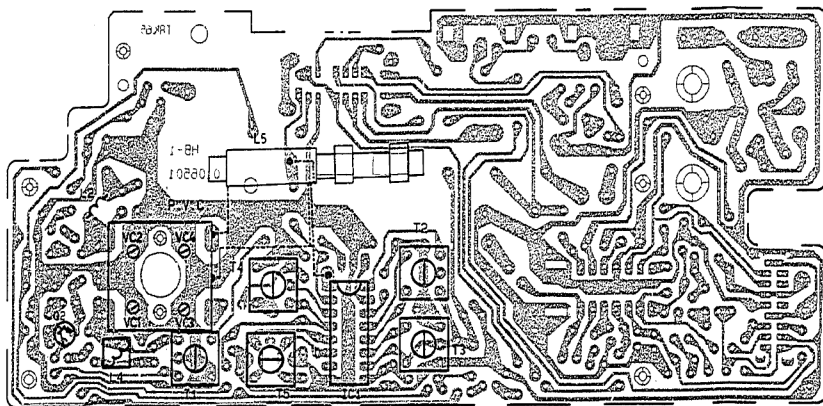
AM-alignment					FM-alignment				
Step	connect to	(30% mod.) frequency	set radio dial to	(max.output) adjust	Step	connect to	(22.5KHz.Dev.) frequency	set radio dial to	(max.output) adjust
1				T2	1				T1
2	Signal Generator coupled by a single turn around the ferrite antenna	465KHz	right pos.	T5	2	Sweep gen. via 10pF cap.to emitter of transistor (Q2) Oscilloscope to pin 9 of IC-1	10.7MHz	right pos.	T3
3					3				
4		Repeat alignments 1 and 2			4		Repeat alignments 1 and 2		
5		520KHz	left pos.	T4	5		87.35MHz	left pos.	L4 osc-coil
6	Output level must be below operating point of the AGC (APPROX. 50mW OUTPUT)	1640KHz	right pos.	VC3	6	Sweep gen to cer. cap. C1 Oscilloscope to IC-1 (pin 9)	108.5MHz	right pos.	VC1 osc-trimmer
7		Repeat alignments 5 and 6			7		Repeat alignments 5 and 6		
8		600KHz	600KHz	L5	8		90MHz	90MHz	L2 RF-coil
9		1400KHz	1400KHz	VC4	9		106MHz	106MHz	VC2 RF-trimmer
10		Repeat alignments 8 and 9			10		Repeat alignments 8 and 9		

FUNCTION SW : TAPE POSITION

R/P Azimuth Adjustment

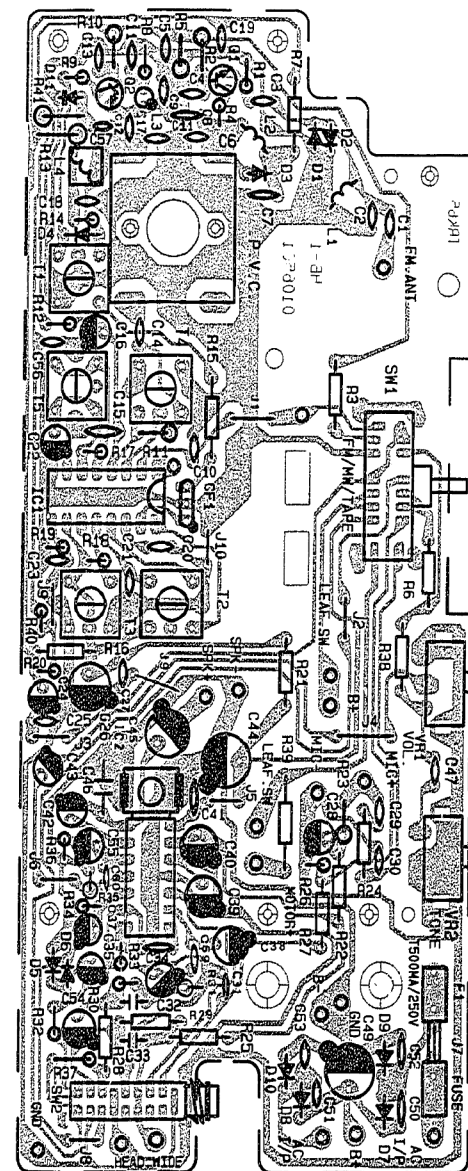
Play back the test tape (MTT-133-6.3KHz) and adjust the R/P azimuth screw for maximum reading on a V.T.V.M. while observing the 6.3KHz waveform on a scope.

ADJUSTMENT LOCATIONS

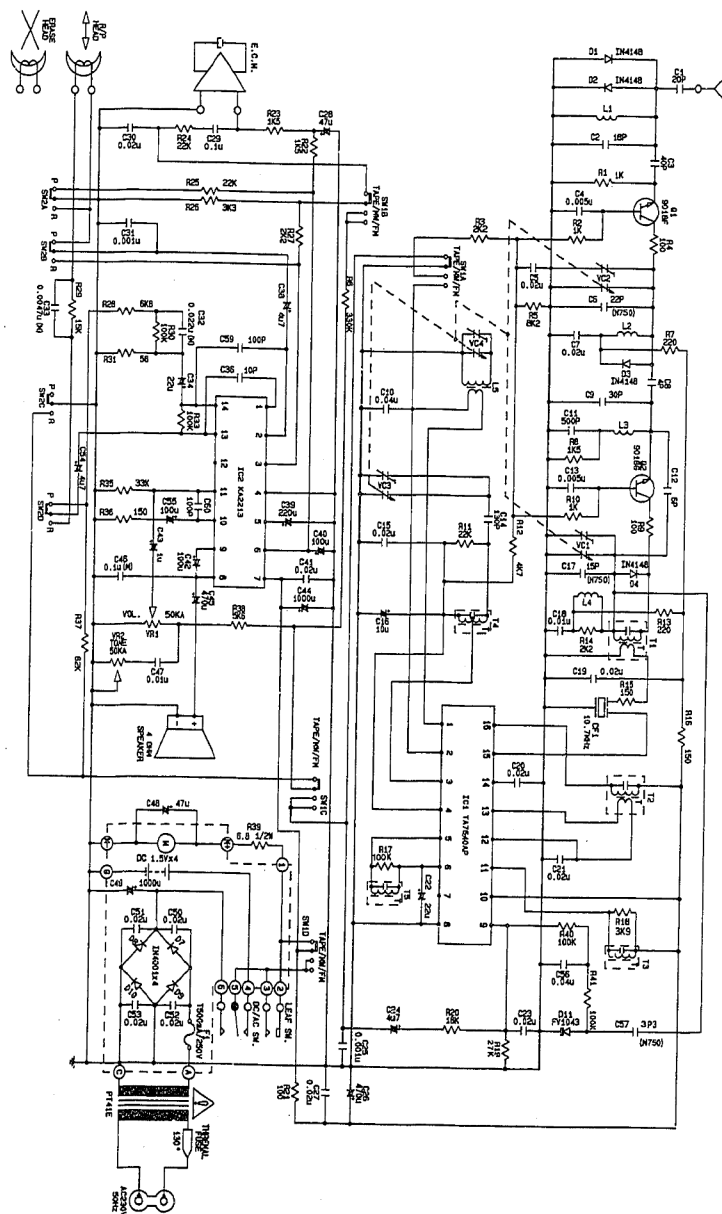


PRINTED CIRCUIT BOARDS

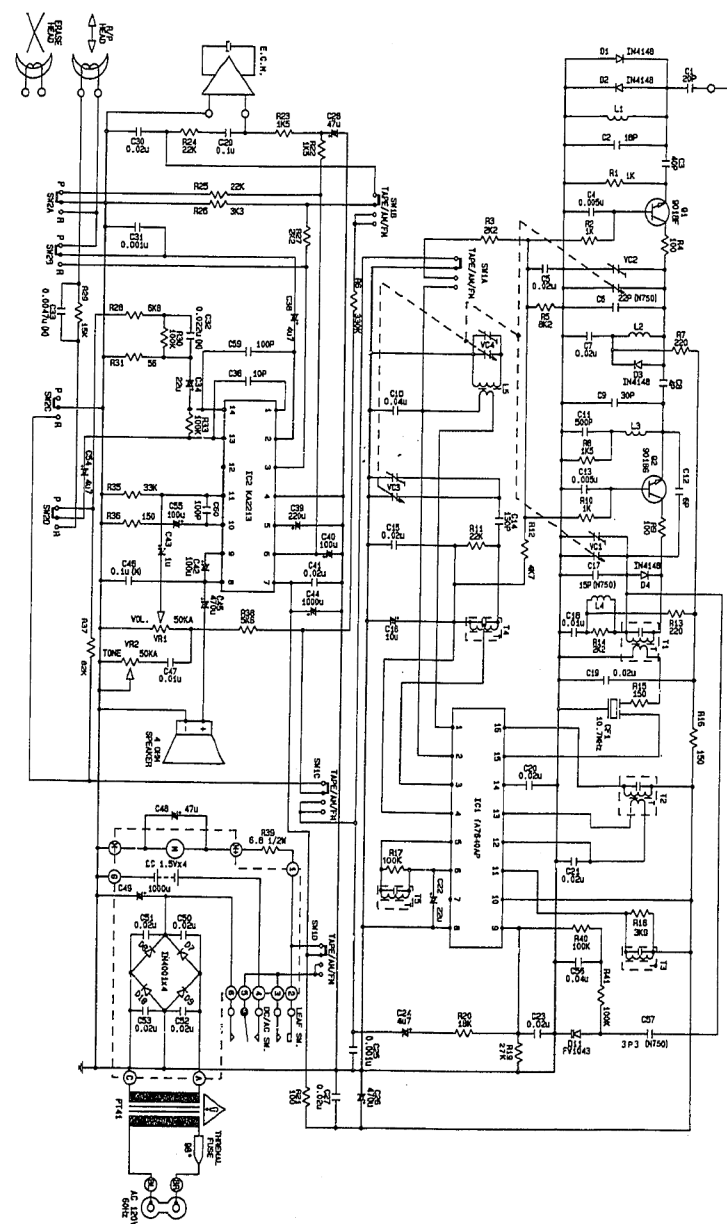
TOP VIEW



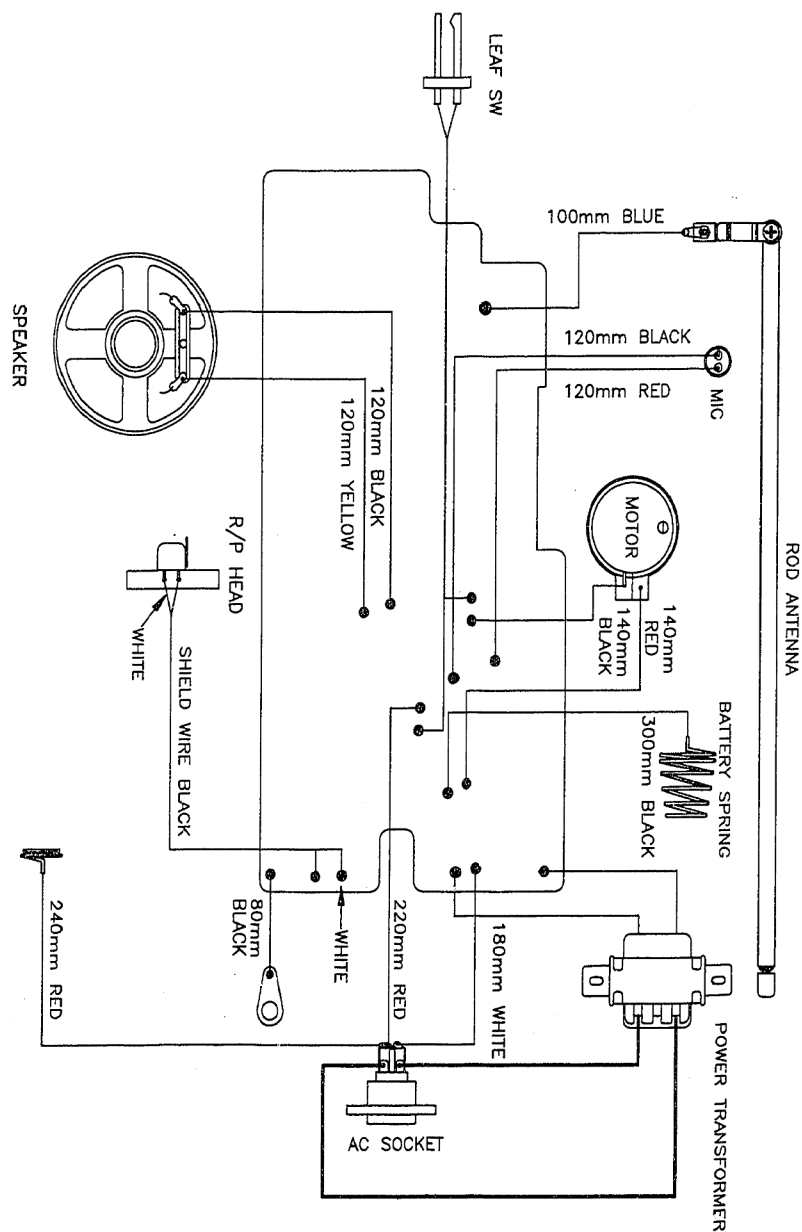
SCHEMATIC DIAGRAM [E.E(BS)]



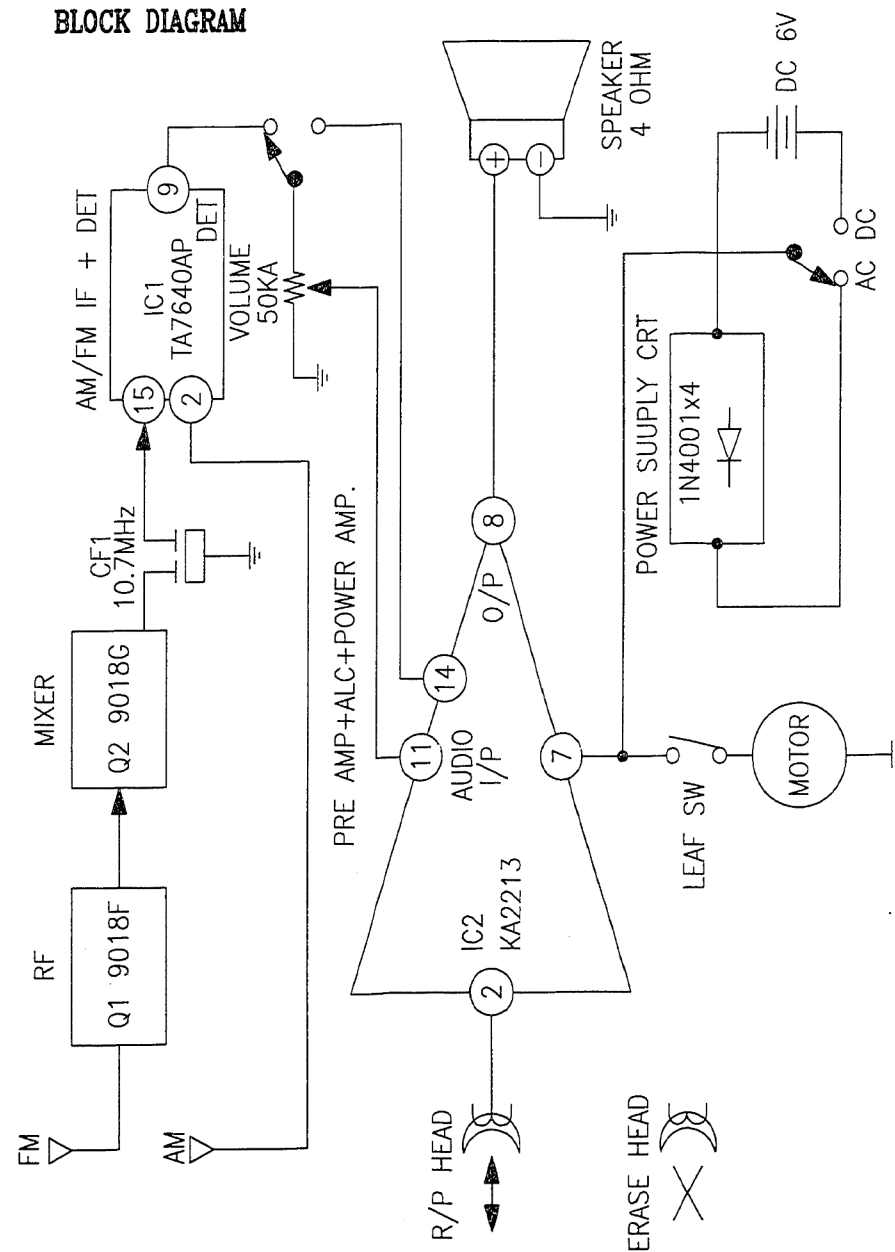
SCHEMATIC DIAGRAM [HC]



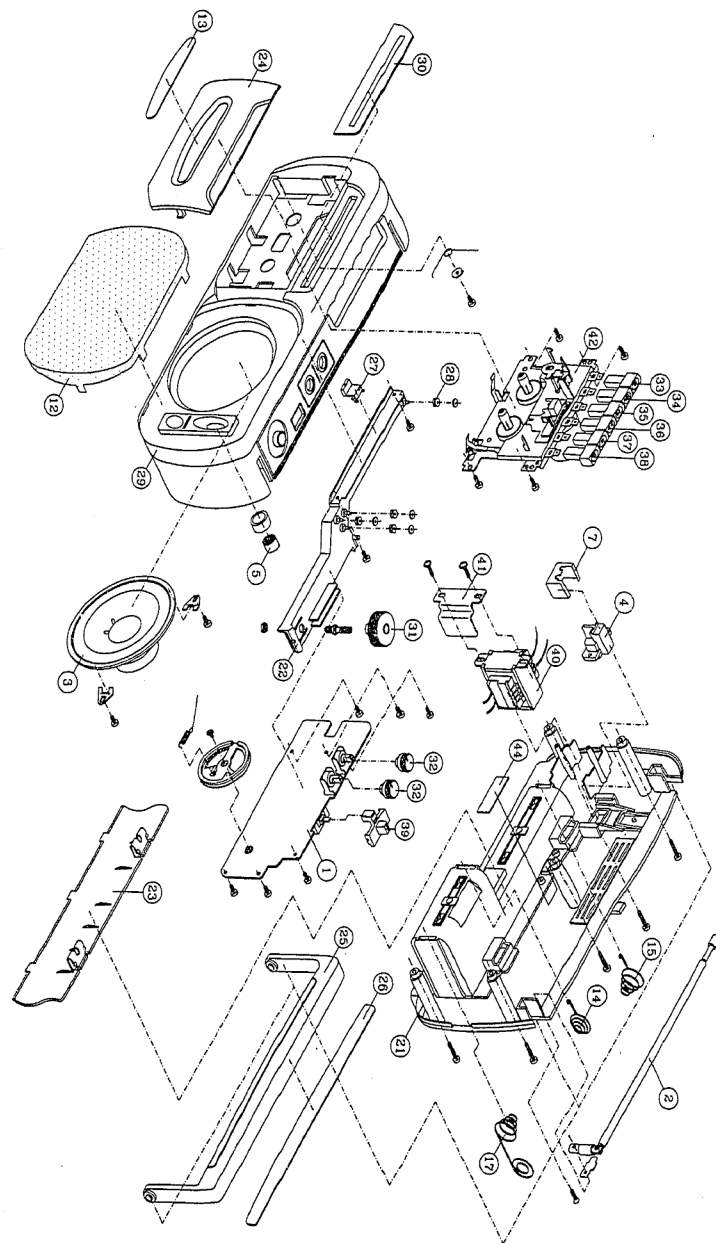
WIRING DIAGRAM



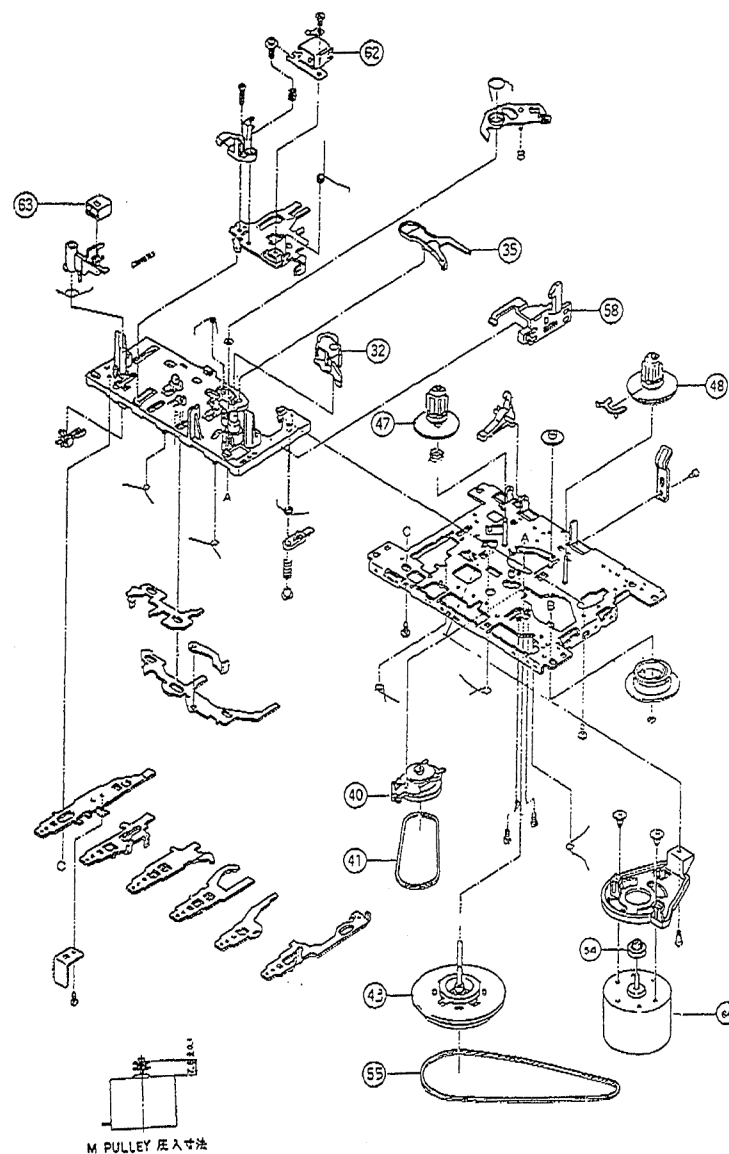
BLOCK DIAGRAM



EXPLODED VIEW (Cabinet) * Nos. are reference Nos. of parts list.



EXPLODED VIEW (Cassette chassis) * Nos. are reference Nos. of parts list.



M PULLEY 压入寸法

REPLACEMENT PARTS LIST

PRODUCT SAFETY NOTE: Components marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

ABBREVIATIONS: Capacitors CC: Cylindrical ceramic, MF: Mylar film, EL: Electrolytic
Resistors CF: Carbon film
Semiconductor..... Q: Transistor, D: Diode, IC: IC

SYMBOL NO.	PART NO.	DESCRIPTION
DIODES, IC'S, TRANSISTORS, SWITCHES, TRANSFORMER & FUSE		
D1/D2/D3/D4	HX0200014	DIODE 1N4148
D7/D8/D9/D10	HX0200004	DIODE 1N4001
D11	HX0200006	DIODE AFC FV1043
F1 	HX0180020	FUSE T500mA 250V TIME DELAY [FOR E,E(BS)]
IC1	HX0190117	IC TA7640AP
IC2	HX0190090	IC KA2213
Q1	HX0230009	TRANSISTOR 9018F
Q2	HX0230039	TRANSISTOR 9018G
SW1	HX0260225	SLIDE SWITCH SK4304 IS10 4P3T
SW2	HX0260187	PUSH SWITCH PS6220 6P2T WITH SPRING
40 	HX0250222	P.T. 41R16A0C8BD1 [FOR E,E(BS)]
	HX0250229	P.T. C41-16A8-NW [HC]
VR1/VR2	HX0210079	ROTARY VOLUME 122BP-N A50K L=15F
CABINET CHASSIS		
1	HXA65EMB	MAIN PCB ASS'Y [FOR TRK-65E,E(BS)]
2	HX0120030	ROD ANTENNA
3	HX0300066	SPEAKER 4" 40HM 1.5W W/BLACK CAP
4 	HX0310009	AC SOCKET MKJ-102 VDE 2.5A [FOR E,E(BS)]
	HX0310005	AC SOCKET AC-001 (CSA) [HC]
5	HX0320006	CONDENSER MIC CMT-62
7	HX07810225	AC SOCKET COVER MKJ-102-01C
	HX07810225	AC SOCKET COVER MKJ-102-01C
12	HX040006503	SPEAKER GRILL
13	HX0410006531	CASS DOOR PLATE
14	HX0470006001	BATTERY SPRING (B) +
15	HX0470006502	BATTERY SPRING -
16	HX0470006503	CASS DOOR SPRING
17	HX0470073110	BATTERY SPRING (+,-)
21	HX0370006502	REAR CABINET [FOR E,E(BS)]
22	HX0370006506	CHASSIS BRACKET
23	HX0370006508	BATTERY DOOR
24	HX0370006511	CASSETTE DOOR
25	HX0370006512	HANDLE
26	HX0370006513	HANDLE COVER
27	HX0370006518	DIAL POINTER
28	HX0370552097	SMALL PULLEY
29	HX0370065E01	FRONT CABINET [FOR E,E(BS)]
	HX037065HC01	FRONT CABINET [HC]
30	HX0370065E05	DIAL WINDOW [FOR E,E(BS)]
	HX037065HC05	DIAL WINDOW [HC]
31	HX0820065E15	TUNING KNOB
32	HX0820065E16	VOLUME/TONE KNOB
33	HX0820006519	CASSETTE KEY (PAUSE)

SYMBOL NO.	PART NO.	DESCRIPTION
34	HX0820006520	CASSETTE KEY (ST/EJ)
35	HX0820006521	CASSETTE KEY (F.F.)
36	HX0820006522	CASSETTE KEY (REW)
37	HX0820006523	CASSETTE KEY (PLAY)
38	HX0820006524	CASSETTE KEY (REC.)
39	HX0820065E73	FUNCTION KNOB
44	HX041BLK6507	COVER PLATE (28.6x11mm)
	HX0130045	PVC KV2220T8-A19901H
	HX0120012	FERRITE BAR 10x80mm
ACCESSORIES		
	HX0700045	POWER CORD SET [TRK-65E]
	HX0700014	POWER CORD SET [TRK-65HC]
	HX0700044	POWER CORD SET [TRK-65E(BS)]
	HX04165EBS01	MODEL PLATE [TRK-65E(BS)]
	HX0410065E01	MODEL PLATE [TRK-65E]
	HX0550006501	POLYFOAM END CAP (L)
	HX0550006502	POLYFOAM END CAP (R)
	HX05365EBS19B	GIFT BOX [TRK-65E,E(BS)]
	HX05265EBS19B	OWNER'S MANUAL [TRK-65E(BS)]
	HX0520065E19V	OWNER'S MANUAL [TRK-65E]
	HX052065HC19C	OWNER'S MANUAL [TRK65HC]
CASSETTE CHASSIS		
32	002323001	PINCH ROLLER ARM ASS'Y
35	002626005	SENSING LEVER
40	000707301	RF CLUTCH ASS'Y
41	011145047	RF BELT (SQUARE)
43	005036302	FLYWHEEL ASS'Y
47	005005015	SUPPLY REEL ASS'Y
48	005005301	TAKE UP REEL ASS'Y
54	005036027	MOTOR PULLEY
55	009064085	MAIN BELT
58	030014002	EJECT SLIDE LEVER
62	MM15R-A08N1	R/P HEAD
63	TC-230AN(SL)	ERASE HEAD
64	EG-530AD-6B	MOTOR

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TRK-65 [E,E(BS),HC] **YS No. 0020E**

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