



KENWOOD
HI/FI STEREO COMPONENTS

SERVICE MANUAL

MODEL-ELEVEN



AM FM STEREO RECEIVER

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FEATURES

The MODEL ELEVEN is a stereo receiver incorporating a switchable 2-channel DOLBY system to reduce noise, inherent in recording music from records, tape and FM broadcasts.

1. Built-in Dolby Unit

Switching over the Mode switch allows the sound characteristics for recording and playback to be selected. Also the incorporated Dolby Unit can be used for the reception of Dolbyized FM broadcasts; by pressing the push-button, time constants of $75\mu\text{sec}$ and $25\mu\text{sec}$ can be selected, corresponding to the broadcast to be received, thus improving the S/N ratio and increasing the area in which reception is possible.

2. Timer on Front Panel (Up to about 2 hours)

The Model ELEVEN is equipped with a TIMER control which enables turning off the set automatically at any pre-determining time within two hours from the time of setting.

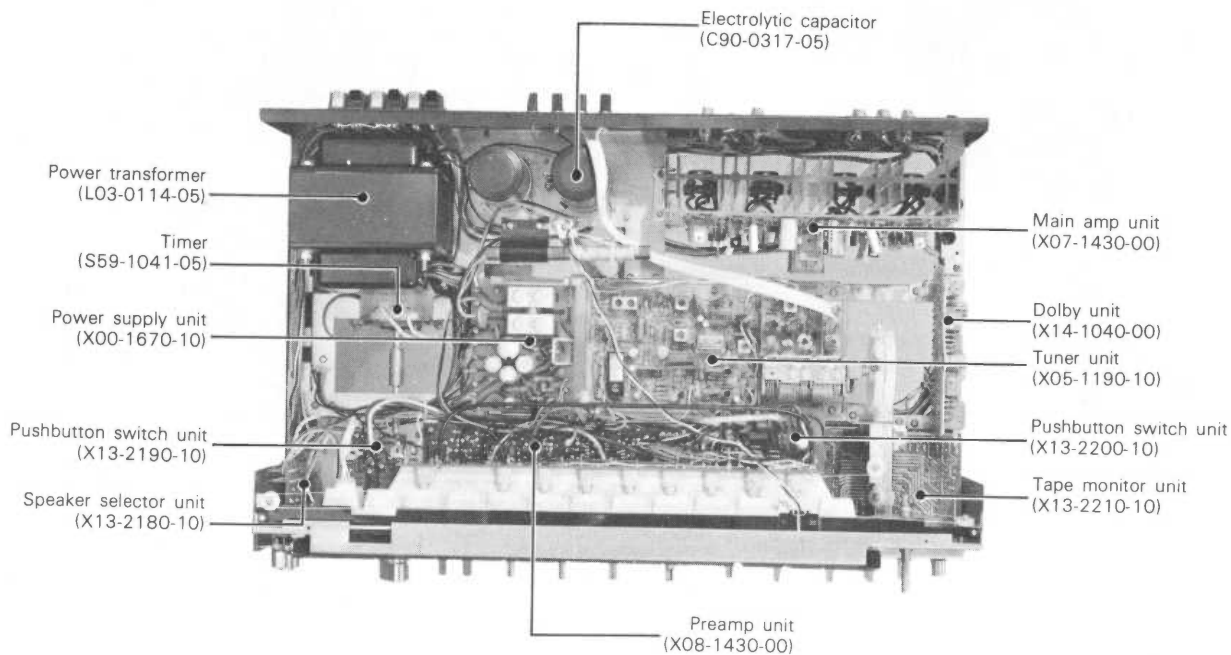
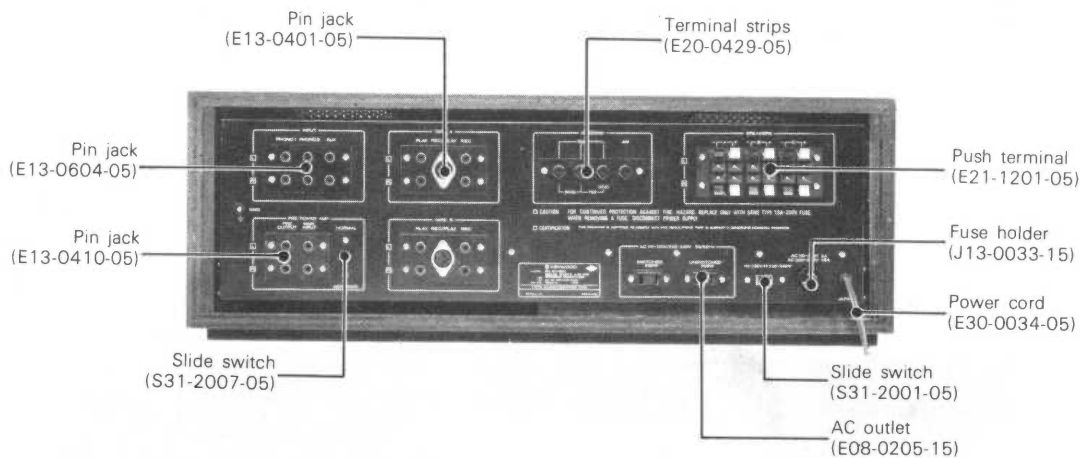
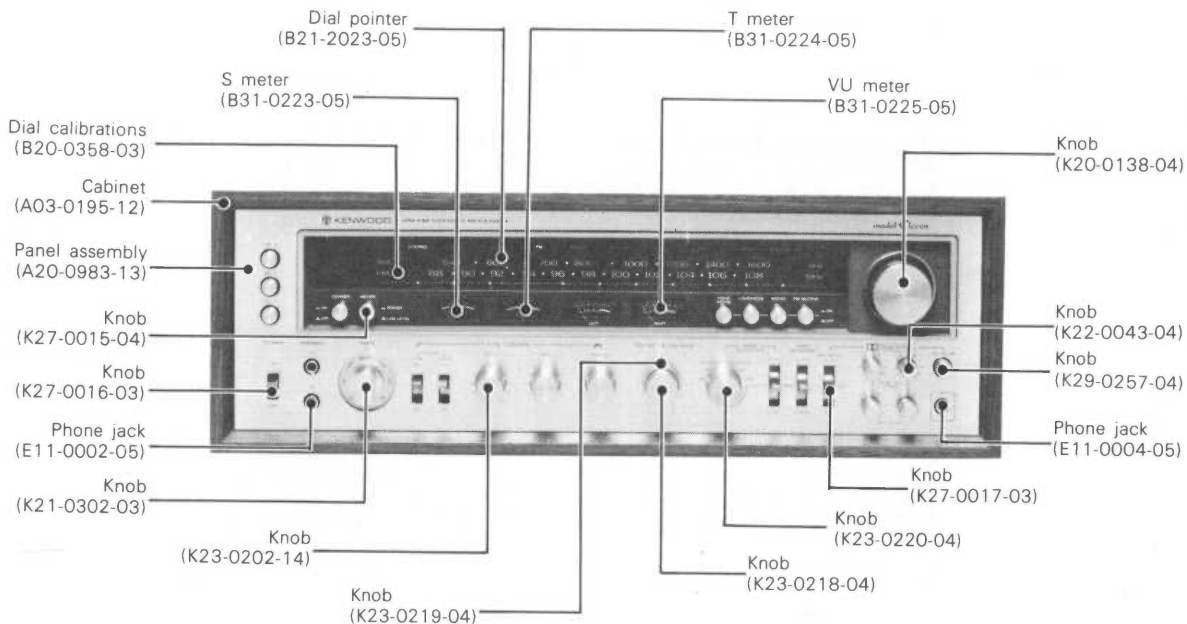
3. Convenient and Versatile Meter

This receiver is equipped with a 3-way meter. By switching over the meter switch, it can be used as:

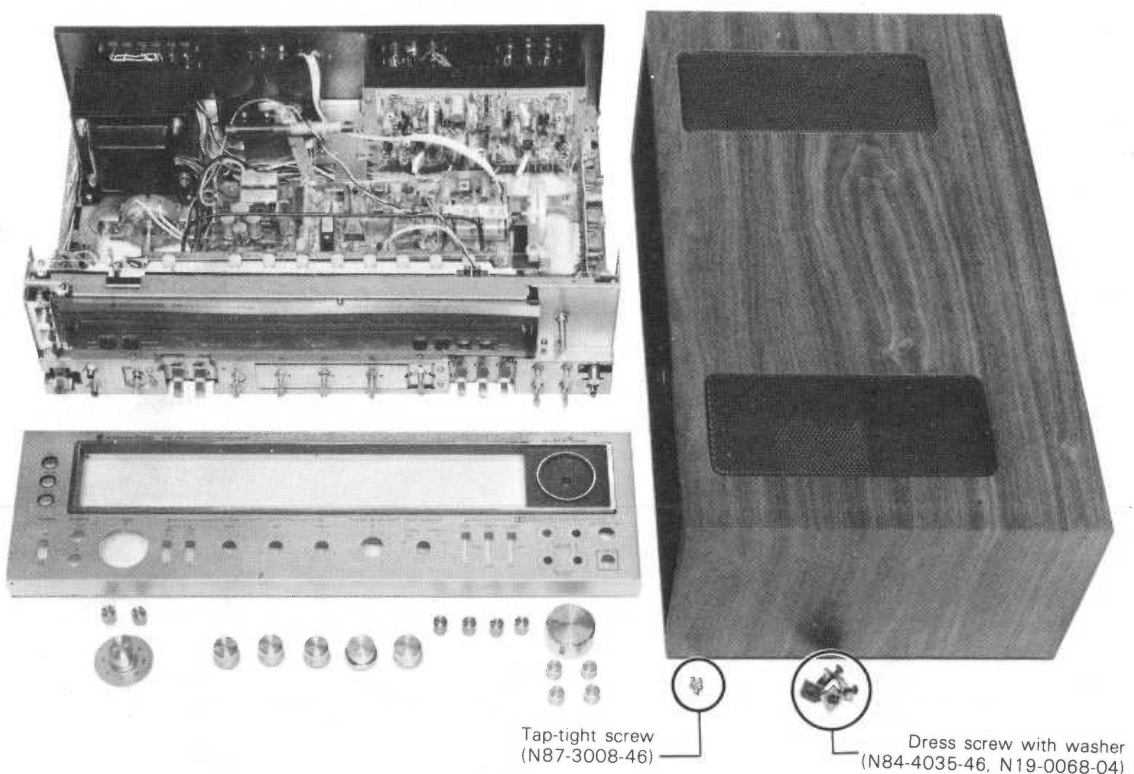
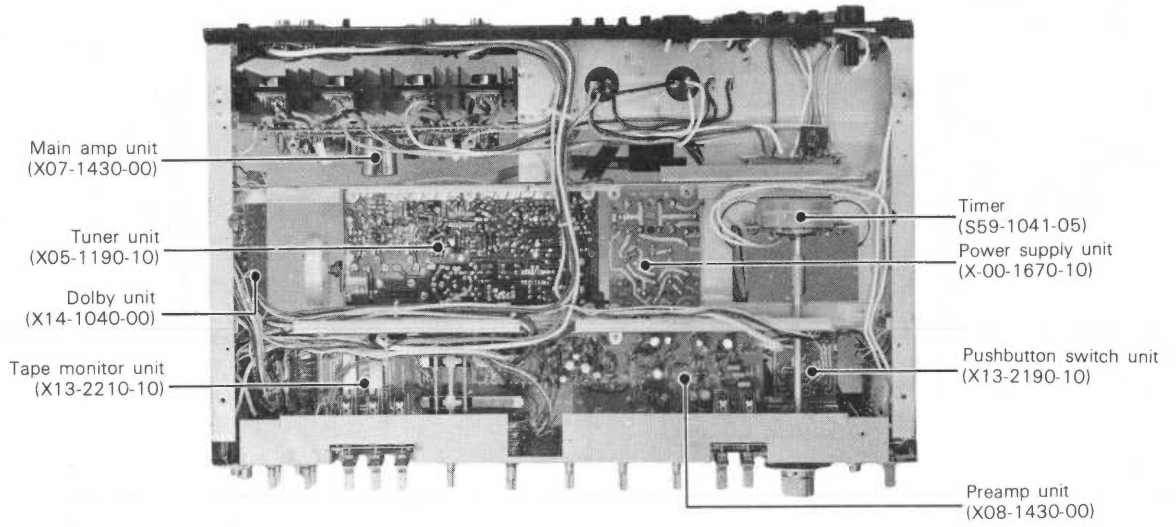
- 1) Output Power Meter
- 2) Line Level Meter
- 3) 400Hz Tone Calibration Meter

NOTE: The MODEL ELEVEN is shipped to PX (U type) and other area (M type).
DOLBY is a trade mark of DOLBY Laboratories, Inc.

EXTERNAL & TOP VIEW



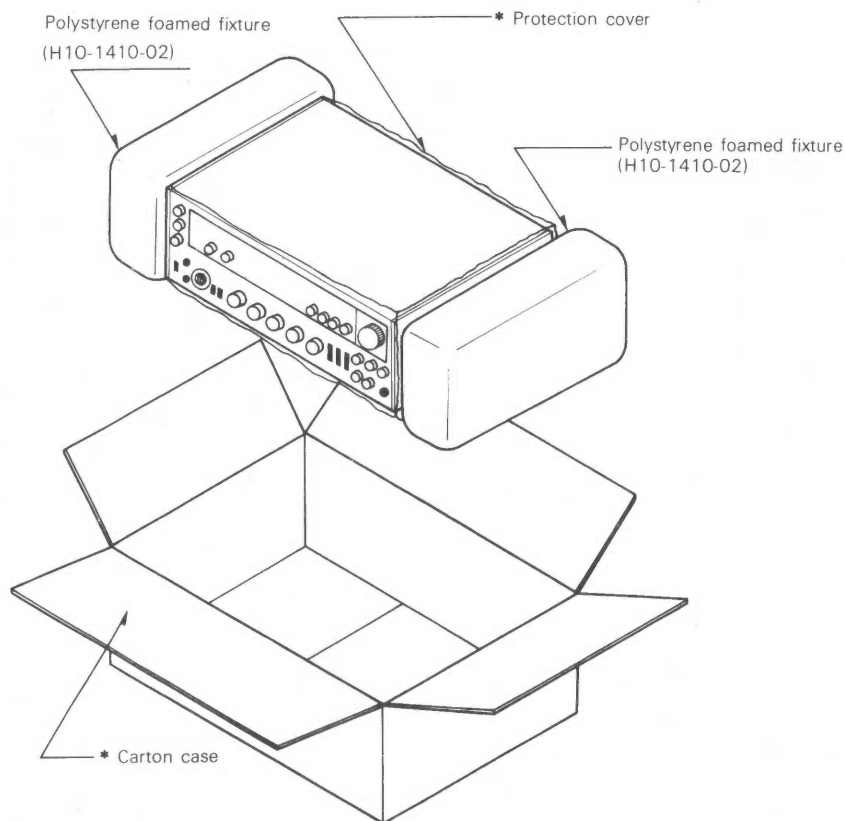
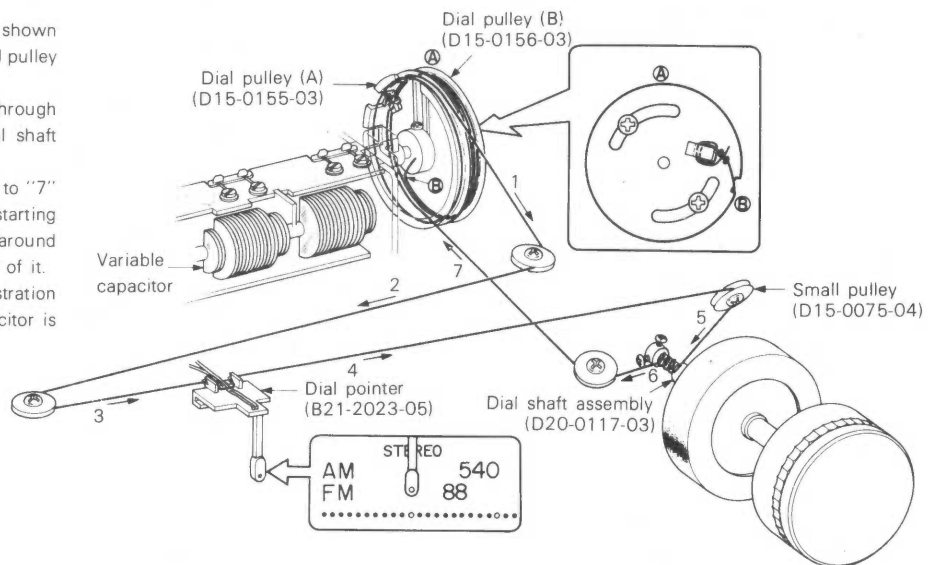
BOTTOM VIEW / DISASSEMBLY



DIAL CORD STRINGING/PACKING

1. Fully open the variable capacitor.
2. Assemble the dial pulley (A) with the pulley (B) and fix them on the shaft of the variable capacitor using 2 screws.
3. Tie the end of the dial cord to the boss as shown and wind the cord one turn around the dial pulley (A).
4. Dress the dial cord in the direction of "1" through "5" and wind it 3 turns around the dial shaft starting from its lower side.
5. Dress the dial cord in the direction of "6" to "7" and wind it 2 turns around the pulley (B) starting from its lower side. Then, wind it 2 turns around the boss at the rear side and tie the end of it.
6. Mount the dial pointer as shown in the illustration while making sure that the variable capacitor is fully closed.

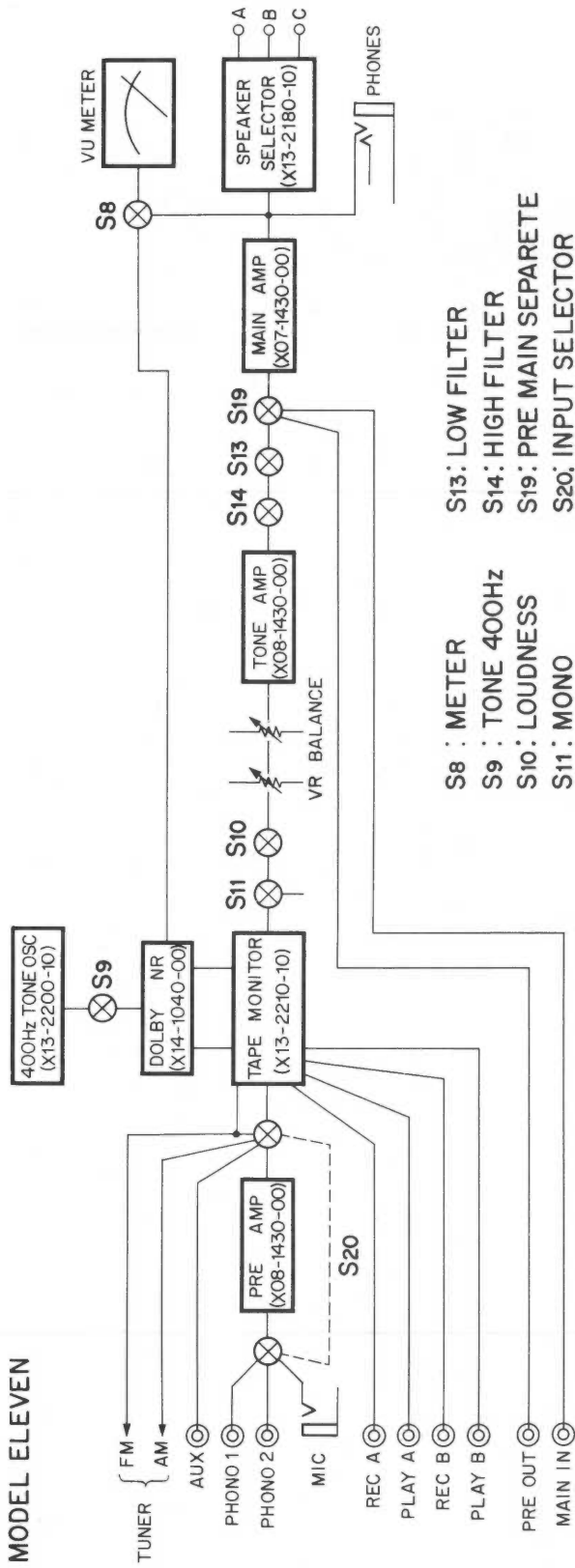
Dial Cord: 220 cm, 0.5φ



* Refer to PARTS LIST

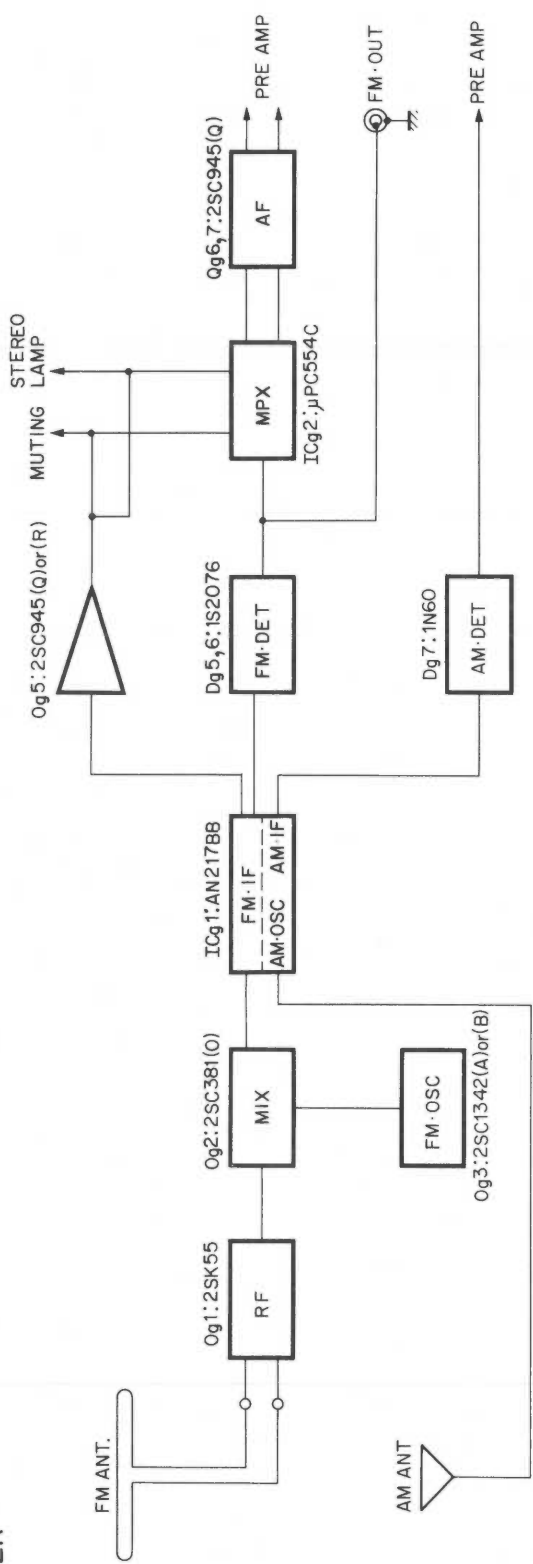
BLOCK DIAGRAM

MODEL ELEVEN



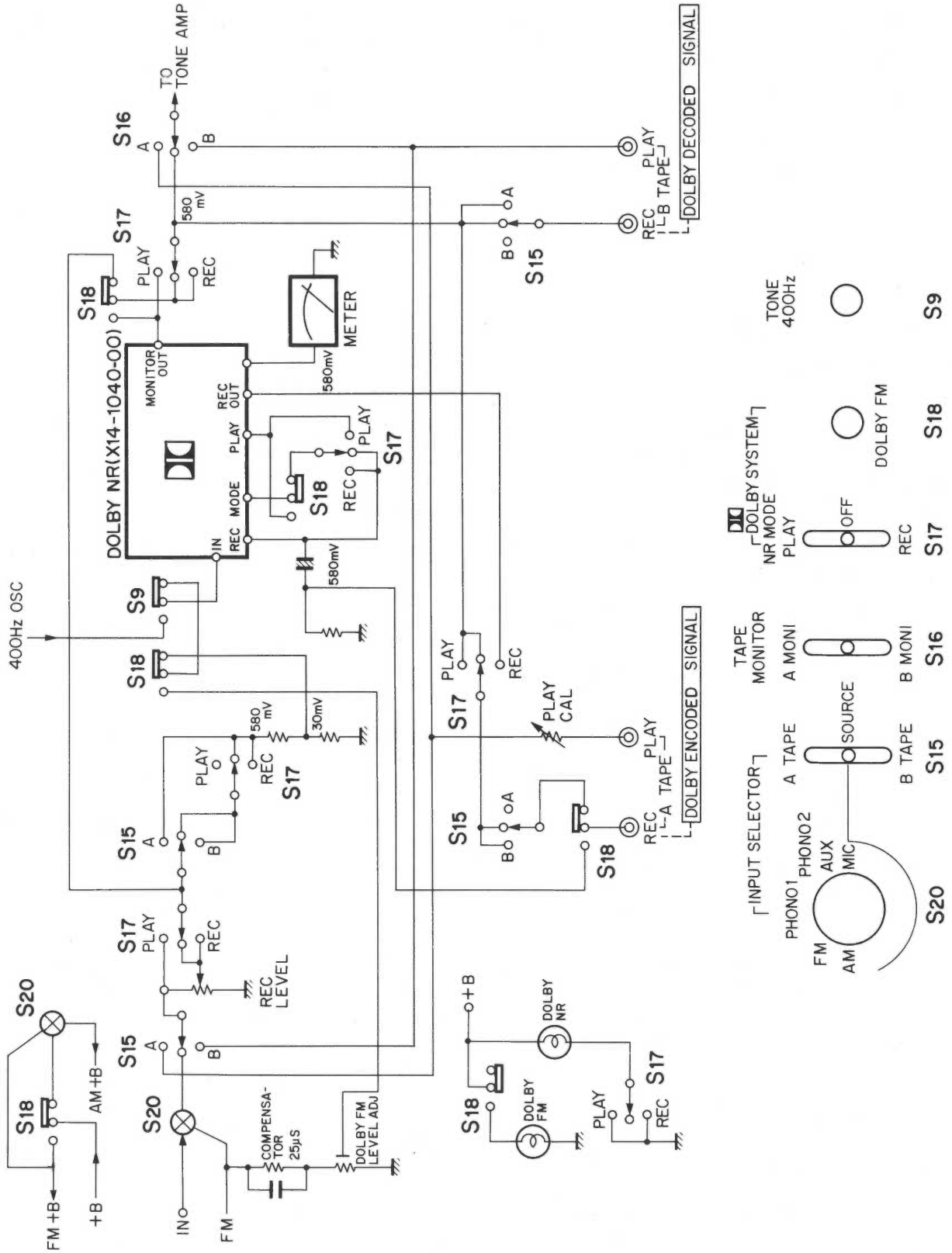
- S8 : METER
- S9 : TONE 400Hz
- S10: LOUDNESS
- S11: MONO
- S13: LOW FILTER
- S14: HIGH FILTER
- S19: PRE MAIN SEPARATE
- S20: INPUT SELECTOR

TUNER



BLOCK DIAGRAM

TAPE MONITOR & DOLBY NR CIRCUIT



CIRCUIT DESCRIPTION

1. DOLBY NOISE REDUCTION SYSTEM

The purpose of Dolby NR (noise reduction) system is to reduce the background noise not contained in recording signal, such as hiss, cross talk and print-through noise which occur after the recording process.

The Dolby NR System boosts the low level signal at the recording and, at the playback, it reduces the previously boosted parts of signal together with the level of the background noise. In this manner, the ratio of the signal level to the background noise level becomes larger by the amount boosted, thus improving the S/N ratio.

The Kenwood's Cassette Tape Deck, Model KX-700, KX-710 or KX-910, is equipped with the Dolby NR System.

The Model ELEVEN is also equipped with Dolby NR circuit having the same feature so that Dolbyized recording and playback can be readily made when connected to a tape deck not equipped with a Dolby NR System.

For the detailed information on the Dolby NR System, refer to the Service Manual of KX-700.

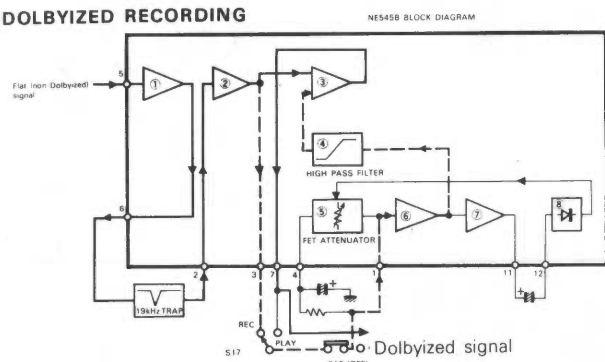
2. DOLBY NR CIRCUIT USING MONOLITHIC IC

This model uses a monolithic IC NE545B in the Dolby NR circuit to improve the stability and reliability.

(1) DOLBYIZED RECORDING

The incoming flat signal is applied to No. 5 pin of IC and is amplified by Amp ②. A part of signal is directly fed to the input of Amp ③ while the rest of the signal (addition signal) is fed to the input of Amp ③ through the high pass filter ④. These two signals are added together in Amp ③ and delivered from No. 7 pin as a recording output (Dolbyized signal). In this case, the rectified voltage of Amp ⑦'s output signal controls the FET attenuator, thus the amount of addition is increased as the signal level becomes lower.

DOLBYIZED RECORDING

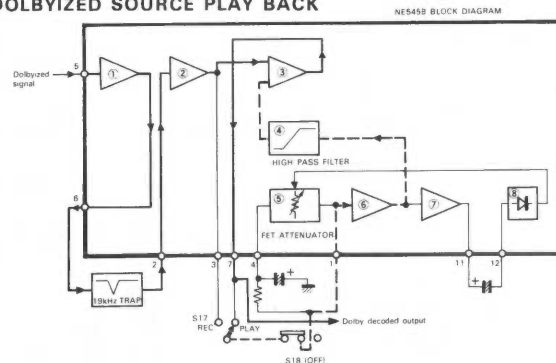


(2) DOLBYIZED SOURCE PLAYBACK

The Dolbyized incoming signal is applied to No. 5 pin of IC and is amplified by Amp ②. This signal is directly fed to the input of Amp ③ while the signal (subtraction signal) passing through the high pass filter ④ is fed to the other input of Amp ③.

The addition and subtraction signals are in opposite phase to each other. In this case, these two signals are subtracted in Amp ③ and a normal output signal is delivered up from No. 7 pin.

DOLBYIZED SOURCE PLAY BACK



3. DOLBYIZED FM BROADCASTS

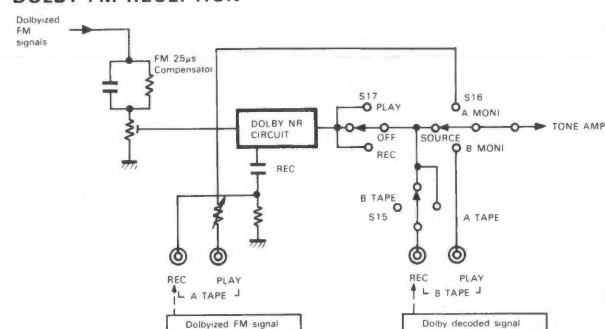
The Dolbyized FM broadcasts signal is transmitted at 25 μ sec time constant through an encoder of Dolby "B" type Noise Reduction System. The Dolby NR System, when used in FM broadcast, provides various features such as enlargement of broadcast service area, reduction of interference noise during transmission, simplification of antenna system, etc. In the U.S.A. there are more than 70 FM stations using the Dolby NR System at present, though some of them are under the stage of preparation. The Dolbyized FM broadcasts from these stations can be received by the Model ELEVEN.

4. FUNCTIONS OF TAPE MONITOR CIRCUIT (X13-2210-10)

(1) FUNCTION AT DOLBY FM SWITCH ON

When the Dolby FM switch is turned to ON, the circuit is used for playback of Dolbyized FM broadcasts regardless of the position of the INPUT SELECTOR. In this case, Dolbyized FM signal appears at the "A" TAPE REC terminal and a flat (Dolby decoded) signal at the "B" TAPE REC terminal. The output signal to the tone amplifier is a flat signal.

DOLBY FM RECEPTION

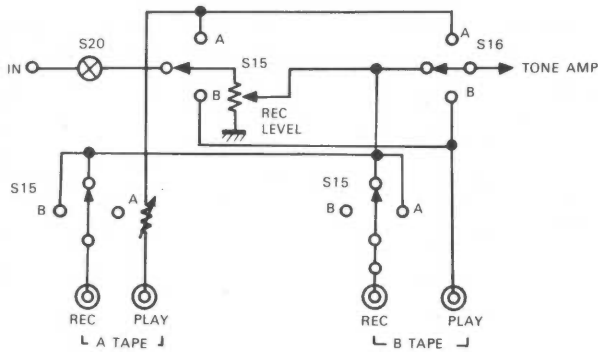


CIRCUIT DESCRIPTION

(2) FUNCTION AT DOLBY FM SWITCH OFF AND NR MODE SWITCH OFF

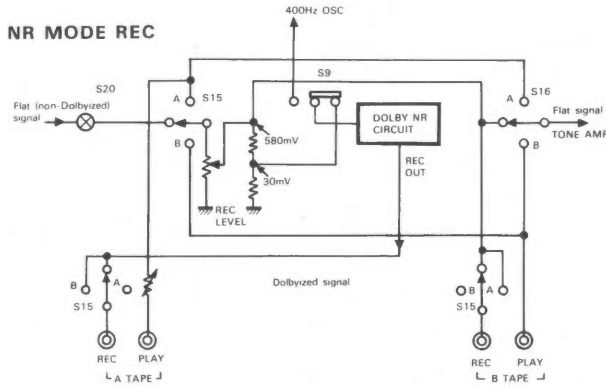
The circuit is released from the Dolby NR mode and acts as a normal tape monitor circuit. There are no output at the "A" REC terminal for "A" TAPE PLAY and the "B" REC terminal for "B" TAPE PLAY.

NR MODE OFF



(3) FUNCTION AT NR MODE SWITCH REC

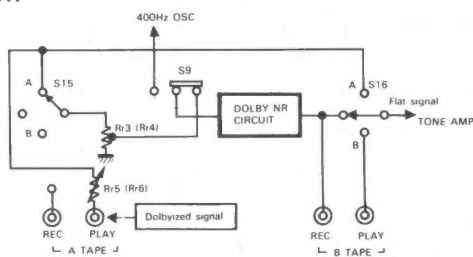
Either the input selected by S20 or the input at the "B" PLAY terminal is Dolbyized and appears at the "A" REC terminal, while the non-Dolbyized signal appears at the "B" REC terminal. (When the input is selected by S20)



(4) FUNCTION AT NR MODE SWITCH PLAY

The circuit is used for "A" PLAY only. If a Dolbyized signal is applied to the "A" PLAY terminal, the output becomes a flat signal.

NR MODE PLAY



ADJUSTMENTS

- * Tuning dial is set to the proper point corresponding to no radio stations.
- * The sweep and the r.f. generator are set to the lowest response possible on oscilloscope.
- * When connecting the r.f. generator to the antenna terminal use the dummy antenna refer to Fig. 2.
- * Use the insulated screwdriver adjusting the i.f.t.
- * FM MUTING is OFF position unless it is required.
- * Test points are shown in the schematic diagram, and PC board.
- * For TRACKING adjustment, repeat several times and confirm the reception of broadcasting.

No.	ALIGN	TEST EQUIPMENTS		RECEIVER SETTING	OUTPUT INDICATOR	ADJUSTMENT POINTS	REMARKS
		CONNECTION	SETTING				
FM SECTION							
1	IFT	SWEEP to TP-1 via. 5pF cap.	10.7 MHz	Non-station	VTVM & SCOPE to TP-2 via. 100kΩ resist.	Tg4, 5	Maximum deflection (Fig. 4)
2	DISCRIMINATOR	Same	Same	Same	VTVM & SCOPE to TP3	Tg6	S-response and its symmetry on each side of 10.7 MHz center frequency (Fig. 5)
3	TRACKING	RF-SG to ANT via. dummy ant.	90 MHz 75 kHz (Dev.) 400 Hz (Mod.)	90 MHz	VTVM & SCOPE to REC jack	Tg1, 2, 3	Maximum deflection
4	TRACKING	Same	108 MHz 75 kHz (Dev.) 400 Hz (Mod.)	108 MHz	Same	CTg1, 2, 3	Same
5	SEPARATION	MPX-SG to RF-SG ext. jack (Fig. 1)	98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) L or R (Select) 60 dB (Input)	98 MHz	VTVM & SCOPE to REC jack	Tg10 (19 kHz) (38 kHz)	Minimum cross-talk (Maximum separation)
6	38 kHz (This coil sealed usually should not be touched at random if not necessary.)	MPX-SG to RF-SG ext. jack (Fig. 1)	98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) Phase → Reverse 60 dB (Input)	Same	VTVM & SCOPE to TP4	Tg10 (19 kHz) (38 kHz)	Maximum deflection (Adjust separation in the same manner as No. 5)
7	MUTING	Same	98 MHz 67.5 kHz (Dev.) 400 Hz (Mod.) 30 dB (Input)	98 MHz MUTING on	—	—	Confirm MUTING operates
8	BEACON	Same	Same	98 MHz	—	—	Confirm STEREO indicator lights
AM SECTION							
1a	IFT	SWEEP to TP5 via. 5pF cap.	455 kHz	Non-station	VTVM & SCOPE to TP6	Tg8, 9	Maximum deflection
1b	IFT	1,000 kHz RF-SG to ANT	1,000 kHz 400 Hz (30% Mod.)	1,000 kHz	VTVM & SCOPE to REC jack	Tg8, 9	Same
2a	TRACKING	Same	600 kHz 400 Hz (30% Mod.)	600 kHz	Same	Tg7 Ferrite ANT	Same
2b	TRACKING	Same	1,400 kHz 400 Hz (30% Mod.)	1,400 kHz	Same	CTg4, 5	Same
3	S METER	Same	1,000 kHz 400 Hz (30% Mod.) 60 dB (Input)	1,000 kHz	S meter	—	Confirm the meter deflection at 4, 5

ADJUSTMENTS

No.	ALIGN	TEST EQUIPMENTS		RECEIVER SETTING	OUTPUT INDICATOR	ADJUSTMENT POINTS	REMARKS
		CONNECTION	SETTING				
AUDIO SECTION							
1a	BIAS	—	—	VOLUME is its min.	Am meter	VR _{e1,2}	Meter indicates 45 mA (Fig. 6)
1b	BIAS	—	—	Same	DC VTVM	Same	Meter indicates 45 mV (Fig. 6)
2	POWER METER	AG to AUX	1 kHz	RMS output voltage is 2.8V/8Ω METER: POWER	POWER/LINE LEVEL METER	VR _{p1,2}	Meter indicates 1W
DOLBY NR SECTION							
1	400 Hz OSC CAL.	—	—	S9: ON S17: PLAY PLAY CAL VR: MAX REC LEVEL VR: MAX METER: LINE LEVEL	VTVM to B REC jack	VR _{q1}	Output is 580mV
2	METER CAL.	—	—	Same	POWER/LINE LEVEL METER	VR _{v1,2}	Meter points Cal.
3	19 kHz COIL	AG to A PLAY jack	19 kHz 1V	S9: OFF S17: PLAY PLAY CAL VR: MAX REC LEVEL VR: MAX	VTVM to B REC jack	L _{v1,2}	Output is min.
4	DOLBY FM	RF-SG to ANT terminal	95 MHz 37.5 kHz (Dev.) 400 Hz (Mod.) 1mV (60 dB input)	S9: OFF S18: ON	Same	VR _{r1,2}	Output is 580mV

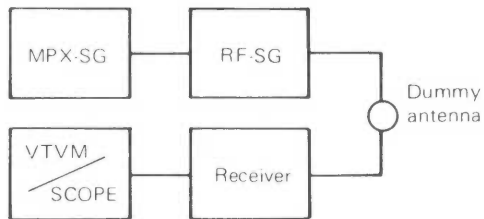


Fig. 1 Setting

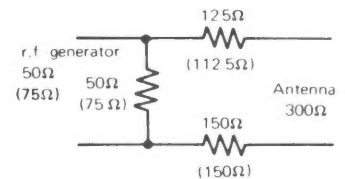


Fig. 2 Dummy Antenna

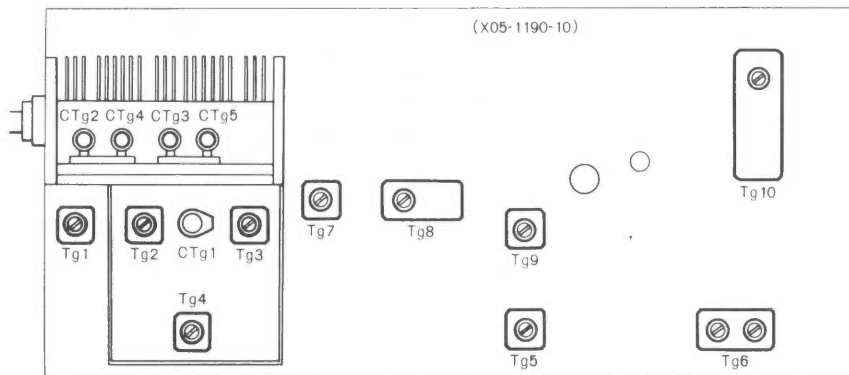


Fig. 3 Top View of PC Board

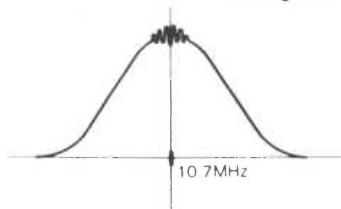


Fig. 4 IF Wave Form

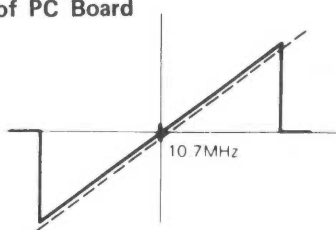


Fig. 5 DISCRI Wave Form

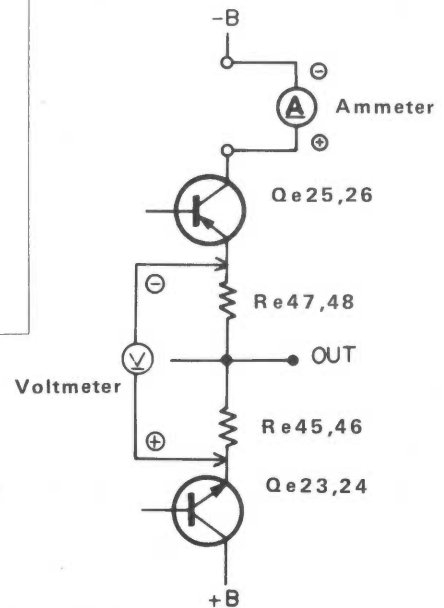


Fig. 6

PARTS LIST

■ TOTAL

Ref. No.	Parts No.	Description	Re- marks
CAPACITOR			
C1	CK45E3D103P-MU	Ceramic 0.01 μ F +100%, -0%	
C2, 3	C90-0317-05	Electrolytic 10,000 μ F 56WV	
C4	CE04W1A470(NP)	Non-pole electrolytic 47 μ F 10WV	
C5	CK45F1H103Z	Ceramic 1,000pF +80%, -20%	
—	CK45D1H561M	Ceramic 560pF \pm 20%	
RESISTOR			
R1	R92-0159-05	Cement 1 Ω \pm 10% 7W	
R2	PD14BY2E333J	Carbon 33k Ω \pm 5% 1/4W	
R3~6	PD14BY2E104J	Carbon 100k Ω \pm 5% 1/4W	
R7~10	PD14BY2E394J	Carbon 390k Ω \pm 5% 1/4W	
R8	PD14BY2E103J	Carbon 10k Ω \pm 5% 1/4W	
R9	PD14BY2E563J	Carbon 56k Ω \pm 5% 1/4W	
R10	PD14BY2E564J	Carbon 560k Ω \pm 5% 1/4W	
R11	PD14BY2E824J	Carbon 820k Ω \pm 5% 1/4W	
SEMICONDUCTOR			
Q1	V01-0084-05	Transistor 2SA733	
Q2	V09-0056-05	FET 2SK30A	
POTENTIOMETER			
VR1~4	R01-5013-05	100k Ω (A) REC LEVEL, PLAY CAL	
SWITCH			
S1	S59-1041-05	TIMER 120 minutes	
S2	S37-2002-05	Lever (POWER)	
S3	S31-2001-05	Slide	
S19	S31-2007-05	Slide PRE-OUT MAIN-IN	
MISCELLANEOUS			
—	A03-0195-12	Cabinet	
—	A13-0135-02	Angle (A)	
—	A13-0136-02	Angle (B)	
—	A13-0137-03	Frame (L)	
—	A13-0138-03	Frame (R)	
—	A20-0979-03	Panel	
—	A20-0980-13	Panel assembly	
—	A22-0185-02	Sub panel	
—	A23-0604-13	Rear panel	
—	A30-0103-05	Dial board	
—	A70-0090-05	Lamp assembly	
—	B03-0106-02	Dress plate	
—	B04-0058-13	Screen plate (for Cabinet) \times 2	
—	B07-0111-04	Pushbutton switch ring \times 4	
—	B07-0154-25	Escutcheon	
—	B07-0155-04	Pushbutton switch ring \times 6	
—	B10-0191-03	Front glass	
—	B20-0358-03	Dial calibrations	
—	B21-2023-05	Dial pointer (LED)	
—	B30-0064-15	Pilot lamp (8V 50mA) \times 3	
—	B30-0068-05	Pilot lamp (8V 200mA) \times 4	
—	B31-0223-05	S meter	
—	B31-0224-05	T meter	
—	B31-0225-05	VU meter	
—	B42-0009-04	Passed sticker	
—	B42-0473-14	Serial number seal	
—	B46-0022-00	Warranty card (TRIO)	U-type
—	B46-0023-00	Warranty card (KENWOOD)	U-type
—	B50-1418-00	Instruction manual	
—	B58-0003-00	Power supply caution card	M-type
—	B58-0101-00	Power voltage selector caution card	M-type

Ref. No.	Parts No.	Description	Re- marks
—	B58-0108-00	Spare fuse caution card	M-type
—	B58-0139-00	Power supply caution card	U-type
—	B58-0144-00	Power voltage selector caution card	U-type
—	B58-0146-00	Spare fuse caution card	U-type
—	B59-0018-00	KENWOOD service stations' list	U-type
—	D15-0075-04	Small pulley \times 4	
—	D15-0155-03	Dial pulley (A)	
—	D15-0156-03	Dial pulley (B)	
—	D20-0117-03	Dial shaft assembly	
—	D21-0404-13	Timer shaft (A)	
—	D21-0405-04	Timer shaft (B)	
—	D22-0018-15	Coupling	
—	D32-0075-04	Switch stopper \times 2	
—	E08-0205-15	AC outlet \times 2	
—	E11-0002-05	Phone jack (PHONES) \times 2	
—	E11-0004-05	Phone jack (MIC)	
—	E13-0401-05	Pin jack (4p with DIN) \times 2	
—	E13-0410-05	Pin jack (4p)	
—	E13-0604-05	Pin jack (6p)	
—	E20-0429-05	Terminal strips	
—	E21-1201-05	Push terminal (SPEAKERS)	
—	E30-0034-05	Power cord	
—	F05-2023-05	Fuse (2A)	
—	F05-4022-05	Fuse (4A)	
—	F05-4027-05	Fuse (4A with lead wire)	
—	F09-0033-03	Capacitor cover	
—	G01-0314-04	Dial spring	
—	H01-1492-04	Carton case	U-type
—	H01-1493-04	Carton case	M-type
—	H10-1410-02	Polystyrene foamed fixture \times 2	
—	H20-0373-14	Protection cover	U-type
—	H20-0429-04	Protection cover	M-type
—	H25-0029-04	Polyethylene bag	
—	H25-0078-05	Instruction bag	
—	H40-0004-04	Rust preventing paper	
—	J13-0033-15	Fuse holder	
—	J19-0423-04	Antenna holder	
—	J20-0320-12	Power supply unit mounting hardware	
—	J21-1414-04	Timer mounting hardware	
—	J21-1415-04	Pulley mounting hardware	
—	J21-1422-04	Dial calibrations mounting hardware (L)	
—	J21-1423-04	Dial calibrations mounting hardware (R)	
—	J41-0034-05	Power cord bushing	
—	J90-0073-03	Dial pointer rail	
—	K20-0138-04	Knob (TUNING)	
—	K21-0302-03	Knob (TIMER)	
—	K22-0043-04	Knob (DOLBY) \times 4	
—	K23-0202-14	Knob (TONE) \times 3	
—	K23-0218-04	Knob (VOLUME)	
—	K23-0219-04	Knob (BALANCE)	
—	K23-0220-04	Knob (SELECTOR)	
—	K27-0015-04	Knob (PUSHBUTTON) \times 6	
—	K27-0016-03	Knob (POWER)	

PARTS LIST

Ref. No.	Parts No.	Description	Re- marks
—	K27-0017-03	Knob (LEVER) × 5	
—	K29-0257-04	Knob (PUSHBUTTON) × 4	
—	L03-0114-05	Power transformer	
—	R90-0097-05	Spark killer (0.1μF + 120Ω)	
—	T90-0002-05	FM indoor antenna	
—	T90-0074-05	Ferrite antenna	
—	351-0003-14	Dial cord (200 mm 0.5φ)	
—	X00-1670-10	POWER SUPPLY UNIT	
—	X05-1190-10	TUNER UNIT	
—	X07-1430-00	MAIN AMP UNIT	
—	X08-1430-00	PRE AMP UNIT	
—	X13-2180-10	SPEAKER SELECTOR UNIT	
—	X13-2190-10	PUSHBUTTON SWITCH UNIT	
—	X13-2200-10	PUSHBUTTON SWITCH UNIT	
—	X13-2210-10	TAPE MONITOR UNIT	
—	X14-1040-00	DOLBY UNIT	

■ POWER SUPPLY (X00-1670-10)

Ref. No.	Parts No.	Description	Re- marks
CAPACITOR			
Ck3	CE04W1H221	Electrolytic 220μF 50WV	
Ck4, 5	CE04W1V221	Electrolytic 220μF 35WV	
Ck6	CE04W1A471	Electrolytic 470μF 10WV	
Ck7	CE04W1H100	Electrolytic 10μF 50WV	
Ck8 ~ 11	CQ93M2A104M	Mylar 0.1μF ±20%	
RESISTOR			
Rk1	RC05GF2H102K	Carbon 1kΩ ±10% 1/2W	
Rk2	RC05GF2H 681K	Carbon 680Ω ±10% 1/2W	
Rk3	RC05GF2H 181K	Carbon 180Ω ±10% 1/2W	
Rk4	RN14AB3D271J	Metal film 270Ω ±5% 2W	
Rk5	RC05GF2H391K	Carbon 390Ω ±10% 1/2W	
Rk6	RN14AB3D102J	Metal film 1kΩ ±5% 2W	
SEMICONDUCTOR			
Qk1	V03-0343-05	Transistor 2SC1419 (B) or (C)	
Dk1	V11-0326-05	Diode S5151	
Dk2	V11-0325-05	Diode S5151R	
Dk3	V11-0407-05	Zener diode EQA-01-30	
Dk4	V11-0219-05	Diode V06B	
Dk5, 6	V11-0273-05	Diode 1S1076A	
MISCELLANEOUS			
—	F01-0228-14	Heat sink	

■ TUNER (X05-1190-10)

Ref. No.	Parts No.	Description	Re- marks
CAPACITOR			
Cg1	CC45SL1H150K	Ceramic 15pF ±10%	
Cg2	CC45SL1H101K	Ceramic 100pF ±10%	
Cg3, 4	CK45F1H103Z	Ceramic 0.01μF +80% -20%	
Cg5	CC45SL1H150K	Ceramic 15pF ±10%	

Ref. No.	Parts No.	Description	Re- marks
Cg6	CC45SL1H030C	Ceramic 3pF ±0.25pF	
Cg7	CC45TH1H030C	Ceramic 3pF ±0.25pF	
Cg9	CC45SL1H221K	Ceramic 220pF ±10%	
Cg10	CC45SL1H050D	Ceramic 5pF ±0.5pF	
Cg11	CK45F1H223Z	Ceramic 0.022μF +80% -20%	
Cg12	CK45F1H103Z	Ceramic 0.01μF +80% -20%	
Cg13	CC45SG1H150K	Ceramic 15pF ±10%	
Cg14	CC45SG1H220K	Ceramic 22pF ±10%	
Cg15	CC45SG1H470K	Ceramic 47pF ±10%	
Cg16	CC45SG1H220K	Ceramic 22pF ±10%	
Cg17	CK45F1H103Z	Ceramic 0.01μF +80% -20%	
Cg18 ~ 22	CK45F1H223Z	Ceramic 0.022μF +80% -20%	
Cg23	CC45SL1H100D	Ceramic 10pF ±0.5PF	
Cg24	CC45F1H223Z	Ceramic 0.022μF +80% -20%	
Cg25	CQ09S1H361J	Polystyrene 360pF ±5%	
Cg26	CC45SL1H180K	Ceramic 18pF ±10%	
Cg27	CQ93M1H103M	Mylar 0.01μF ±20%	
Cg28	CQ93M1H223M	Mylar 0.022μF ±20%	
Cg29	CK45F1H223Z	Ceramic 0.022μF +80% -20%	
Cg30	CC45SL1H331K	Ceramic 330pF ±10%	
Cg31	CQ93M1H102K	Mylar 0.001μF ±10%	
Cg32, 33	CK45F1H223Z	Ceramic 0.022μF +80% -20%	
Cg34	CE04W0J221	Electrolytic 220μF 6.3WV	
Cg35	CC45SL1H331K	Ceramic 330pF ±10%	
Cg36	CE04W1E100	Electrolytic 10μF 25WV	
Cg37	CC45SL1H331K	Ceramic 330pF ±10%	
Cg38	CC45SL1H221K	Ceramic 220pF ±10%	
Cg39, 40	CE04W1H010	Electrolytic 1μF 50WV	
Cg41	CK45F1H223Z	Ceramic 0.022μF +80% -20%	
Cg42	CQ93M1H154M	Mylar 0.15μF ±20%	
Cg43	CE04W1A101	Electrolytic 100μF 10WV	
Cg44	CE04W1E4R7	Electrolytic 4.7μF 25WV	
Cg45	CQ93M1H102K	Mylar 0.001μF ±10%	
Cg46	CE04W1H010	Electrolytic 1μF 50WV	
Cg47	CE04W1E4R7	Electrolytic 4.7μF 25WV	
Cg48, 49	CQ93M1H222J	Mylar 0.0022μF ±5%	
Cg50, 51	CQ93M1H104M	Mylar 0.1μF ±20%	
Cg52, 53	CE04W1H010	Electrolytic 1μF 50WV	
Cg54	CC45SL1H180K	Ceramic 18pF ±10%	
RESISTOR			
Rg1	PD14BY2E104J	Carbon 100kΩ ±5% 1/4W	
Rg2	PD14BY2E680J	Carbon 68Ω ±5% 1/4W	
Rg3	PD14BY2E103J	Carbon 10kΩ ±5% 1/4W	
Rg4	PD14BY2E223J	Carbon 22kΩ ±5% 1/4W	
Rg5	PD14BY2E472J	Carbon 4.7kΩ ±5% 1/4W	
Rg6	PD14BY2E102J	Carbon 1kΩ ±5% 1/4W	
Rg7	PD14BY2E680J	Carbon 68Ω ±5% 1/4W	
Rg8	PD14BY2E103J	Carbon 10kΩ ±5% 1/4W	
Rg9	PD14BY2E183J	Carbon 18kΩ ±5% 1/4W	
Rg10	PD14BY2E222J	Carbon 2.2kΩ ±5% 1/4W	
Rg11	PD14BY2E101J	Carbon 100Ω ±5% 1/4W	
Rg12	PD14BY2E680J	Carbon 68Ω ±5% 1/4W	
Rg13	PD14BY2E103J	Carbon 10kΩ ±5% 1/4W	
Rg14	PD14BY2E470J	Carbon 47Ω ±5% 1/4W	
Rg15	PD14BY2E101J	Carbon 100Ω ±5% 1/4W	
Rg16	PD14BY2E222J	Carbon 2.2kΩ ±5% 1/4W	
Rg17	PD14BY2E154J	Carbon 150kΩ ±5% 1/4W	
Rg18	PD14BY2E333J	Carbon 33kΩ ±5% 1/4W	
Rg19	PD14BY2E332J	Carbon 3.3kΩ ±5% 1/4W	
Rg20	PD14BY2E470J	Carbon 47Ω ±5% 1/4W	
Rg21	PD14BY2E101J	Carbon 100Ω ±5% 1/4W	
Rg22	PD14BY2E103J	Carbon 10kΩ ±5% 1/4W	
Rg23 ~ 25	PD14BY2E223J	Carbon 22kΩ ±5% 1/4W	
Rg26	PD14BY2E152J	Carbon 1.5kΩ ±5% 1/4W	

PARTS LIST

Ref. No	Parts No.	Description	Re- marks
Rg27	PD14BY2E102J	Carbon 1kΩ ±5% 1/4W	
Rg28	PD14BY2E472J	Carbon 4.7kΩ ±5% 1/4W	
Rg29	PD14BY2E223J	Carbon 22kΩ ±5% 1/4W	
Rg30	PD14BY2E101J	Carbon 100Ω ±5% 1/4W	
Rg31	PD14BY2E104J	Carbon 100kΩ ±5% 1/4W	
Rg32, 33	PD14BY2E471J	Carbon 470Ω ±5% 1/4W	
Rg34	PD14BY2E103J	Carbon 10kΩ ±5% 1/4W	
Rg35	PD14BY2E123J	Carbon 12kΩ ±5% 1/4W	
Rg36	PD14BY2E101J	Carbon 100Ω ±5% 1/4W	
Rg37, 38	PS14BY2E472J	Carbon 4.7kΩ ±5% 1/4W	
Rg39, 40	PD14BY2E392J	Carbon 3.9kΩ ±5% 1/4W	
Rg41~43	PD14BY2E333J	Carbon 33kΩ ±5% 1/4W	
Rg44	PD14BY2E472J	Carbon 4.7kΩ ±5% 1/4W	
Rg45, 46	PD14BY2E224J	Carbon 220kΩ ±5% 1/4W	
Rg47, 48	PD14BY2E563J	Carbon 56kΩ ±5% 1/4W	
Rg49	PD14BY2E224J	Carbon 220kΩ ±5% 1/4W	
Rg50	PD14BY2E332J	Carbon 3.3kΩ ±5% 1/4W	
Rg51, 52	PD14BY2E681J	Carbon 680Ω ±5% 1/4W	
Rg53	PD14BY2E332J	Carbon 3.3kΩ ±5% 1/4W	
Rg54	PD14BY2E103J	Carbon 10kΩ ±5% 1/4W	
Rg55, 56	PD14BY2E104J	Carbon 100kΩ ±5% 1/4W	
Rg57	PD14BY2E470J	Carbon 47Ω ±5% 1/4W	
Rg58	PD14BY2E680J	Carbon 68Ω ±5% 1/4W	
Rg59	PD14BY2E220J	Carbon 22Ω ±5% 1/4W	
Rg60	PD14BY2E471J	Carbon 470Ω ±5% 1/4W	
SEMICONDUCTOR			
Qg1	V09-0071-05	FET 2SK55 (D), (E) or 2SK 19 (Y)	
Qg2	V03-0092-05	Transistor 2SC381 (O)	
Qg3	V03-0357-05	Transistor 2SC1342 (A) or (B)	
Qg4	V03-0092-05	Transistor 2SC381 (R) or (O)	
Qg5~7	V03-0270-05	Transistor 2SC945 (Q)	
ICg1	V30-0093-05	IC AN217BB	
ICg2	V30-0092-05	IC μPC554C	
Dg1, 2	V11-0076-05	Diode 1S2076 or 1S1555	
Dg3, 4	V11-0051-05	Diode 1N60	
Dg5, 6	V11-0076-05	Diode 1S2076 or 1S1555	
Dg7	V11-0051-05	Diode 1N60	
Dg8	V11-0263-05	Zener diode BZ-090	
COIL/IFT/FILTER/TRIMMER CAPACITOR			
CTg1	C05-0055-05	Ceramic trimmer capacitor	
Tg1	L31-0361-05	FM ANT coil	
Tg2	L31-0362-05	FM RF coil	
Tg3	L32-0187-05	FM OSC coil	
Tg4	L30-0257-05	FM IFT	
Tg5	L30-0274-05	FM IFT	
Tg6	L30-0260-05	FM Discriminator coil	
Tg7	L32-0181-05	AM OSC coil	
Tg8	L72-0030-05	AM Ceramic filter	
Tg9	L30-0275-05	AM IFT	
Tg10	L35-0058-05	MPX coil (19 kHz, 38 kHz)	
Lg1	L40-1091-41	Choke coil	
Lg2, 3	L40-1092-44	Ferri-inductor	
CFg1, 2	L72-0034-05	Ceramic filter	
MISCELLANEOUS			
CRg1	R90-0104-05	CR parts	
CRg2, 3	R90-0105-05	CR parts	
	C01-0185-05	Variable capacitor	
—	F10-0344-03	Shield plate	

■ MAIN AMP (X07-1430-00)

Ref. No.	Parts No.	Description	Re- marks
CAPACITOR			
Ce1, 2	CS15E1VR47M	Tantalum 0.47μF 35WV	
Ce3, 4	CC45SL1H221K	Ceramic 220pF ±10%	
Ce5, 6	CC45SL1H220K	Ceramic 22pF ±10%	
Ce7, 8	CE04W1A470-EL	Electrolytic 47μF 10WV	
Ce9, 10	CC45SL1H010C	Ceramic 1pF ±0.25pF	
Ce11, 12	CC45SL1H100D	Ceramic 10pF ±0.5pF	
Ce13, 14	CE04W1A221-EL	Electrolytic 220μF 10WV	
Ce15, 16	CC45SL1H101K	Ceramic 100pF ±10%	
Ce17, 18	CQ93M1H102K	Mylar 0.001μF ±10%	
Ce19~22	CE04W1A470-EL	Electrolytic 47μF 10WV	
Ce23, 24	CQ93M1H224M	Mylar 0.22μF ±20%	
Ce25, 26	CE04W1H010-EL	Electrolytic 1μF 50WV	
Ce27	CE04W1C101(NP)	Non-pole electrolytic 100μF 16WV	
Ce28	CE04W1E101(BR)	Electrolytic 100μF 25WV	
Ce29	CE04W1H221-EL	Electrolytic 220μF 50WV	
Ce30	CE04W1H010-EL	Electrolytic 1μF 50WV	
RESISTOR			
Re1, 2	PD14BY2E334J	Carbon 330kΩ ±5% 1/4W	
Re3, 4	PD14BY2E562J	Carbon 5.6kΩ ±5% 1/4W	
Re5, 6	PD14BY2E563J	Carbon 56kΩ ±5% 1/4W	
Re7, 8	PD14BY2E223J	Carbon 22kΩ ±5% 1/4W	
Re9, 10	PD14BY2E472J	Carbon 4.7kΩ ±5% 1/4W	
Re11, 12	PD14BY2E242J	Carbon 2.4kΩ ±5% 1/4W	
Re13, 14	PD14BY2E563J	Carbon 56kΩ ±5% 1/4W	
Re15, 16	PD14BY2E820J	Carbon 82Ω ±5% 1/4W	
Re17, 18	PD14BY2E270J	Carbon 27Ω ±5% 1/4W	
Re19, 20	PD14BY2E820J	Carbon 82Ω ±5% 1/4W	
Re21, 22	PD14BY2E333J	Carbon 33kΩ ±5% 1/4W	
Re23, 24	PD14BY2E392J	Carbon 3.9kΩ ±5% 1/4W	
Re25~28	PD14BY2E182J	Carbon 1.8kΩ ±5% 1/4W	
Re29~32	PD14BY2E391J	Carbon 390Ω ±5% 1/4W	
Re33~36	PD14BY2E153J	Carbon 15kΩ ±5% 1/4W	
Re37~40	PD14BY2E182J	Carbon 1.8kΩ ±5% 1/4W	
Re41~44	PD14BY2E331J(B)	Carbon 330Ω ±5% 1/4W	
Re45~48	R92-0111-05	Cement 0.47Ω ±10% 3W	
Re49, 50	RN14AB3D4R7J(B)	Metal film 4.7Ω ±5% 2W	
Re51, 52	PD14BY2E223J	Carbon 22kΩ ±5% 1/4W	
Re53	RC05GF2H682K	Carbon 6.8kΩ ±10% 1/2W	
Re54	PD14BY2E272J	Carbon 2.7kΩ ±5% 1/4W	
Re55	PD14BY2E563J	Carbon 56kΩ ±5% 1/4W	
Re56	PD14BY2E393J	Carbon 39kΩ ±5% 1/4W	
Re57	PD14BY2E822J	Carbon 8.2kΩ ±5% 1/4W	
Re58	RN14AB3A681J(B)	Metal film 680Ω ±5% 1W	
Re63*	RC05GF2H562K	Carbon 5.6kΩ ±10% 1/2W	
Re64	PD14BY2E330J(B)	Carbon 33Ω ±5% 1/4W	
SEMICONDUCTOR			
Qe1~4	V01-0140-05	Transistor 2SA763WL4 or 5	
Qe5, 6	V03-0407-05	Transistor 2SC1628 (O) or (Y)	
Qe7, 8	V01-0153-05	Transistor 2SA818 (O) or (Y)	
Qe9, 10	V01-0157-05	Transistor 2SA620WB4 or 5	
Qe11, 12	V01-0084-05	Transistor 2SA733 (Q) or (R)	
Qe13~16	V03-0270-05	Transistor 2SC945 (Q) or (R)	
Qe17, 18	V01-0084-05	Transistor 2SA733 (Q) or (R)	
Qe19, 20	V04-0068-05	Transistor 2SD415 (Q) or (R)	
Qe21, 22	V02-0052-05	Transistor 2SB549 (Q) or (R)	
Qe23, 24	V03-0417-05	Transistor 2SC1403	
Qe25, 26	V01-0093-05	Transistor 2SA745	
Qe27	V03-0358-05	Transistor 2SC1416 (GR)	
Qe28	V03-0235-05	Transistor 2SC1212A (C)	
De1~10	V11-0273-05	Diode 1S2076	

PARTS LIST

Ref. No.	Parts No.	Description	Re- marks
De11	V11-0295-05	Diode W06B	
De12	V11-0254-05	Zener Diode YZ-140	
ThE1.2	V22-0027-05	Thermistor 5TP-41L	
COIL			
Le1.2	L39-0060-05	Phase compensation coil	
POTENTIOMETER			
VRe1.2	R12-1007-05	PC trimmer 1kΩ (B)	
MISCELLANEOUS			
RLe1	S51-4030-05	Relay	
—	E02-0209-05	Transistor socket × 4	
—	F01-0227-03	Heat sink	
—	F20-0066-05	Mica plate × 4	
—	J21-1408-04	Heat sink mounting hardware (L)	
—	J21-1409-04	Heat sink mounting hardware (R)	

■ PRE AMP (X08-1430-00)

Ref. No.	Parts No.	Description	Re- marks
CAPACITOR			
Cd1.2	CS15E1A3R3M	Tantalum 3.3μF 10WV	
Cd3.4	CE04W0J101	Electrolytic 100μF 6.3WV	
Cd5.6	CC45SL1H101K	Ceramic 100pF ±10%	
Cd7.8	CE04W1E100	Electrolytic 10μF 25WV	
Cd9.10	CQ93M1H822J	Mylar 0.0082μF ±5%	
Cd11.12	CQ93M1H272J	Mylar 0.0027μF ±5%	
Cd13.14	CK45D1H391M	Ceramic 390pF ±20%	
Cd15.16	CS15E1A3R3M	Tantalum 3.3μF 10WV	
Cd17.18	CE04W0J101	Electrolytic 100μF 6.3WV	
Cd19.20	CC45SL1H100D	Ceramic 10pF ±0.5pF	
Cd21.22	CE04W1E100	Electrolytic 10μF 25WV	
Cd23.24	CK45D1H391M	Ceramic 390pF ±20%	
Cd25.26	CQ93M1H682K	Mylar 0.0068μF ±10%	
Cd27.28	CQ93M1H103K	Mylar 0.01μF ±10%	
Cd29.30	CQ93M1H272K	Mylar 0.0027μF ±10%	
Cd31~34	CQ93M1H183K	Mylar 0.018μF ±10%	
Cd35.36	CE04W1E100	Electrolytic 10μF 25WV	
Cd37.38	CE04W1H010(BR)	Electrolytic 1μF 50WV	
Cd39.40	CS15E1E2R2M	Tantalum 2.2μF 25WV	
Cd41.42	CE04W0J101	Electrolytic 100μF 6.3WV	
Cd43~46	CQ93M1H473K	Mylar 0.047μF ±10%	
Cd47	CE04W1E100	Electrolytic 10μF 25WV	
Cd48	CS15E1E0R1M	Tantalum 0.1μF 25WV	
RESISTOR			
Rd1.2	PD14CY2E222J	Carbon 2.2kΩ ±5% 1/4W	
Rd3~6	PD14CY2E104J	Carbon 100kΩ ±5% 1/4W	
Rd7.8	PD14CY2E334J	Carbon 330kΩ ±5% 1/4W	
Rd9.10	PD14CY2E621J	Carbon 620Ω ±5% 1/4W	
Rd11.12	PD14CY2E824J	Carbon 820kΩ ±5% 1/4W	
Rd13.14	PD14CY2E472J	Carbon 4.7kΩ ±5% 1/4W	
Rd15.16	PD14CY2E102J	Carbon 1kΩ ±5% 1/4W	
Rd17.18	PD14CY2E563J	Carbon 56kΩ ±5% 1/4W	
Rd19.20	PD14CY2E564J	Carbon 560kΩ ±5% 1/4W	
Rd21.22	PD14CY2E303J	Carbon 30kΩ ±5% 1/4W	
Rd23.24	PD14CY2E433J	Carbon 43kΩ ±5% 1/4W	
Rd25	PD14CY2E222J	Carbon 2.2kΩ ±5% 1/4W	
Rd26	PD14BY2E222J	Carbon 2.2kΩ ±5% 1/4W	
Rd27.28	PD14CY2E104J	Carbon 100kΩ ±5% 1/4W	

Ref. No.	Parts No.	Description	Re- marks
Rd29.30	PD14CY2E824J	Carbon 820kΩ ±5% 1/4W	
Rd31.32	PD14CY2E561J	Carbon 560Ω ±5% 1/4W	
Rd33.34	PD14CY2E562J	Carbon 5.6kΩ ±5% 1/4W	
Rd35.36	PD14CY2E563J	Carbon 56kΩ ±5% 1/4W	
Rd37	PD14BY2E562J	Carbon 5.6kΩ ±5% 1/4W	
Rd38	PD14CY2E562J	Carbon 5.6kΩ ±5% 1/4W	
Rd39	PD14BY2E562J	Carbon 5.6kΩ ±5% 1/4W	
Rd40~42	PD14CY2E562J	Carbon 5.6kΩ ±5% 1/4W	
Rd43~45	PD14CY2E822J	Carbon 8.2kΩ ±5% 1/4W	
Rd46	PD14BY2E822J	Carbon 8.2kΩ ±5% 1/4W	
Rd47.48	PD14CY2E273J	Carbon 27kΩ ±5% 1/4W	
Rd49.50	PD14BY2E153J	Carbon 15kΩ ±5% 1/4W	
Rd51	PD14CY2E153J	Carbon 15kΩ ±5% 1/4W	
Rd52	PD14BY2E153J	Carbon 15kΩ ±5% 1/4W	
Rd53.54	PD14CY2E563J	Carbon 56kΩ ±5% 1/4W	
Rd55.56	PD14CY2E154J	Carbon 150kΩ ±5% 1/4W	
Rd57.58	PD14BY2E333J	Carbon 33kΩ ±5% 1/4W	
Rd59.60	PD14CY2E392J	Carbon 3.9kΩ ±5% 1/4W	
Rd61.62	PD14CY2E102J	Carbon 1kΩ ±5% 1/4W	
Rd63.64	PD14CY2E563J	Carbon 56kΩ ±5% 1/4W	
Rd65.66	PD14CY2E911J	Carbon 910Ω ±5% 1/4W	
Rd67.68	PD14CY2E334J	Carbon 330kΩ ±5% 1/4W	
Rd69.70	PD14CY2E183J	Carbon 18kΩ ±5% 1/4W	
Rd71.72	PD14CY2E103J	Carbon 10kΩ ±5% 1/4W	
Rd73	PD14CY2E334J	Carbon 330kΩ ±5% 1/4W	
SEMICONDUCTOR			
Qd1.2	V03-0408-05	Transistor 2SC1222(U) or 2SC1345(E)	
ICd1~4	V03-0140-05	IC TA7129P	
POTENTIOMETER			
VRd1	R11-9005-05	100kΩ(B) × 2, 200kΩ(W) VOLUME, BALANCE	
VRd2~4	R06-5013-05	100kΩ(B) × 2 TONE CONTROL	
SWITCH			
S13.14	S31-2039-05	Lever LOW-FIL, HIGH-FIL	
S20	S29-2018-05	Rotary INPUT SELECTOR	
MISCELLANEOUS			
—	J21-1410-03	PC board mounting hardware	

■ SPEAKER SELECTOR (X13-2180-10)

Ref. No.	Parts No.	Description	Re- marks
RESISTOR			
Rh1.2	RC05GF2H271K	Carbon 270Ω ±10% 1/2W	
SWITCH			
S4~6	S40-3012-05	Pushbutton	

■ PUSHBUTTON SWITCH (X13-2190-10)

Ref. No.	Parts No.	Description	Re- marks
CAPACITOR			
Cp1.2	CS15E1VR47M	Tantalum 0.47μF 35WV	
SEMICONDUCTOR			
Dp1.2	V11-0051-05	Diode 1N60	

PARTS LIST

Ref. No.	Parts No.	Description	Re- marks
Dp3, 4	V11-0076-05	Diode 1S1555	
Dp5, 6	V11-0051-05	Diode 1N60	
POTENTIOMETER			
VRp1, 2	R12-3030-05	PC trimmer 10kΩ(B)	
SWITCH			
S7, 8	S40-2062-05	Pushbutton DIMMER, METER	

Ref. No.	Parts No.	Description	Re- marks
S15	S32-0001-05	Lever INPUT SELECTOR	
S16	S32-4007-05	Lever TAPE MONITOR	
S17	S32-0002-05	Lever NR MODE	
S18	S40-0002-05	Pushbutton DOLBY FM	
MISCELLANEOUS			
—	J21-0781-04	PC board mounting hardware	
—	J21-1413-04	Switch mounting hardware	

■ PUSHBUTTON SWITCH (X13-2200-10)

Ref. No.	Parts No.	Description	Re- marks
CAPACITOR			
Cq1, 2	CQ93M1H153J	Mylar 0.015μF ±5%	
Cq3	CQ93M1H273J	Mylar 0.027μF ±5%	
Cq4	CQ93M1H104J	Mylar 0.1μF ±5%	
Cq5	CE04W1C100	Electrolytic 10μF 16WV	
Cq6, 7	CK45D1H471M	Ceramic 470pF ±20%	
Cq8, 9	CQ93M1H273J	Mylar 0.027μF ±5%	
Cq10	CE04W1E101	Electrolytic 100μF 25WV	
Rq1, 2	PD14CY2E473J	Carbon 47kΩ ±5% 1/4W	
Rq3	PD14BY2E332J	Carbon 3.3kΩ ±5% 1/4W	
Rq4	RC05GF2H125J	Carbon 1.2MΩ ±5% 1/2W	
Rq5	PD14BY2E822J	Carbon 8.2kΩ ±5% 1/4W	
Rq6	PD14BY2E561J	Carbon 560Ω ±5% 1/4W	
Rq7	PD14BY2E223J	Carbon 22kΩ ±5% 1/4W	
Rq8~11	PD14BY2E472J	Carbon 4.7kΩ ±5% 1/4W	
Rq12, 13	PD14BY2E103J	Carbon 10kΩ ±5% 1/4W	
Rq14	PD14BY2E102J	Carbon 1kΩ ±5% 1/4W	
Rq15	PD14BY2E472J	Carbon 4.7kΩ ±5% 1/4W	
SEMICONDUCTOR			
Qq1, 2	V03-0271-05	Transistor 2SC1345 (E) or (F)	
POTENTIOMETER			
VRq1	R12-3014-05	PC trimmer 20kΩ (B)	
SWITCH			
S9~12	S40-4019-05	Pushbutton TONE400Hz, LOUDNESS MONO, FM MUTING	

■ TAPE MONITOR (X13-2210-10)

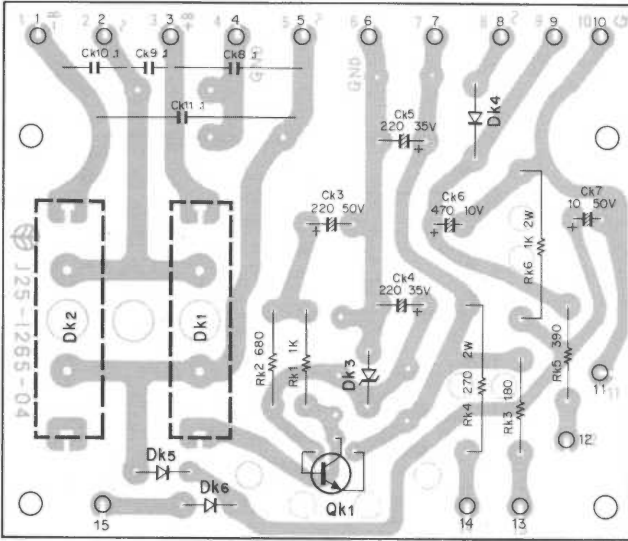
Ref. No.	Parts No.	Description	Re- marks
CAPACITOR			
Cr1, 2	CQ93M1H183J	Mylar 0.0018μF ±5%	
Cr3, 4	CS15E1CR47M	Tantalun 0.47μF 16WV	
RESISTOR			
Rr1, 2	PD14CY2E393J	Carbon 39kΩ ±5% 1/4W	
Rr3, 4	PD14CY2E154J	Carbon 150kΩ ±5% 1/4W	
Rr5, 6	PD14CY2E822J	Carbon 8.2kΩ ±5% 1/4W	
Rr7, 8	PD14CY2E104J	Carbon 100kΩ ±5% 1/4W	
POTENTIOMETER			
VRr1, 2	R12-3014-05	PC trimmer 20kΩ (B)	
SWITCH			

■ DOLBY (X14-1040-00)

Ref. No.	Parts No.	Description	Re- marks
CAPACITOR			
Cv1, 2	CE04W1E010	Electrolytic 1μF 25WV	
Cv3~8	CE04W1E100	Electrolytic 10μF 25WV	
Cv9, 10	CE04W1C221	Electrolytic 220μF 16WV	
Cv11, 12	CE04W1E100	Electrolytic 10μF 25WV	
Cv13, 14	CE04W1E010	Electrolytic 1μF 25WV	
Cv17, 18	CQ93M1H102J	Mylar 0.001μF ±5%	
Cv19, 20	CQ93M1H272J	Mylar 0.0027μF ±5%	
Cv21, 22	CQ93M1H334J	Mylar 0.33μF ±5%	
Cv23, 24	CQ93M1H104J	Mylar 0.1μF ±5%	
Cv25, 26	C91-0004-15	Mylar 0.0056μF ±2%	
Cv27, 28	CQ93M1H473J	Mylar 0.047μF ±5%	
Cv29, 30	C91-0003-15	Mylar 0.027μF ±2%	
Cv31, 32	C91-0005-15	Mylar 0.0047μF ±2%	
Cv33, 34	CE04W1E100	Electrolytic 10μF 25WV	
Cv35	CE04W1E101	Electrolytic 100μF 25WV	
RESISTOR			
Rv1, 2	PD14CY2E274J	Carbon 270kΩ ±5% 1/4W	
Rv3, 4	PD14CY2E154J	Carbon 150kΩ ±5% 1/4W	
Rv5, 6	PD14CY2E684J	Carbon 680kΩ ±5% 1/4W	
Rv7, 8	PD14CY2E121J	Carbon 120Ω ±5% 1/4W	
Rv9, 10	PD14CY2E181J	Carbon 180Ω ±5% 1/4W	
Rv11, 12	PD14CY2E104J	Carbon 100kΩ ±5% 1/4W	
Rv13, 14	PD14CY2E473J	Carbon 47kΩ ±5% 1/4W	
Rv15, 16	PD14CY2E562J	Carbon 5.6kΩ ±5% 1/4W	
Rv17, 18	PD14CY2E332J	Carbon 3.3kΩ ±5% 1/4W	
Rv19	RC05GF2H151K	Carbon 150Ω ±10% 1/2W	
SEMICONDUCTOR			
Qv1, 2	V03-0270-05	Transistor 2SC945 (R) or (Q)	
ICv1, 2	V30-0139-05	IC NE545B	
Dv1~4	V11-0051-05	Diode 1N60	
COIL			
Lv1, 2	L39-0041-05	Variable inductor 23 mH	
POTENTIOMETER			
VRv1, 2	R12-1007-05	PC trimmer 1kΩ (B)	
MISCELLANEOUS			
—	E02-0802-05	IC terminal × 4	
—	J21-0744-04	PC board mounting hardware	

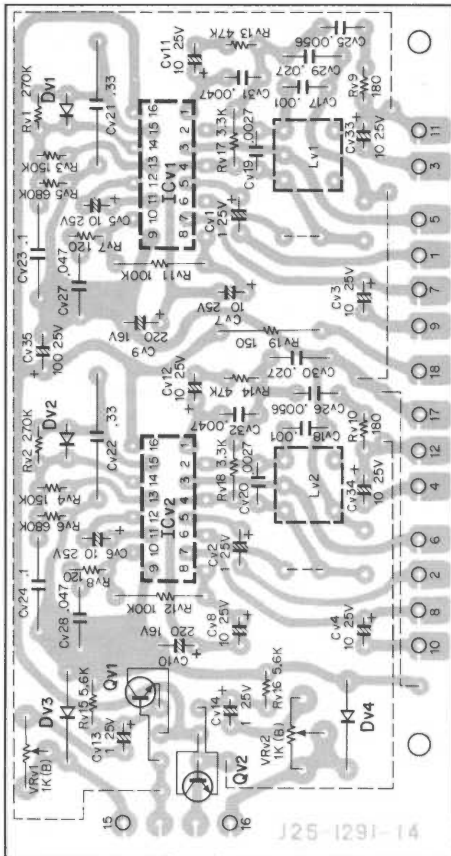
PC BOARD

▼ POWER SUPPLY (X00-1670-10)



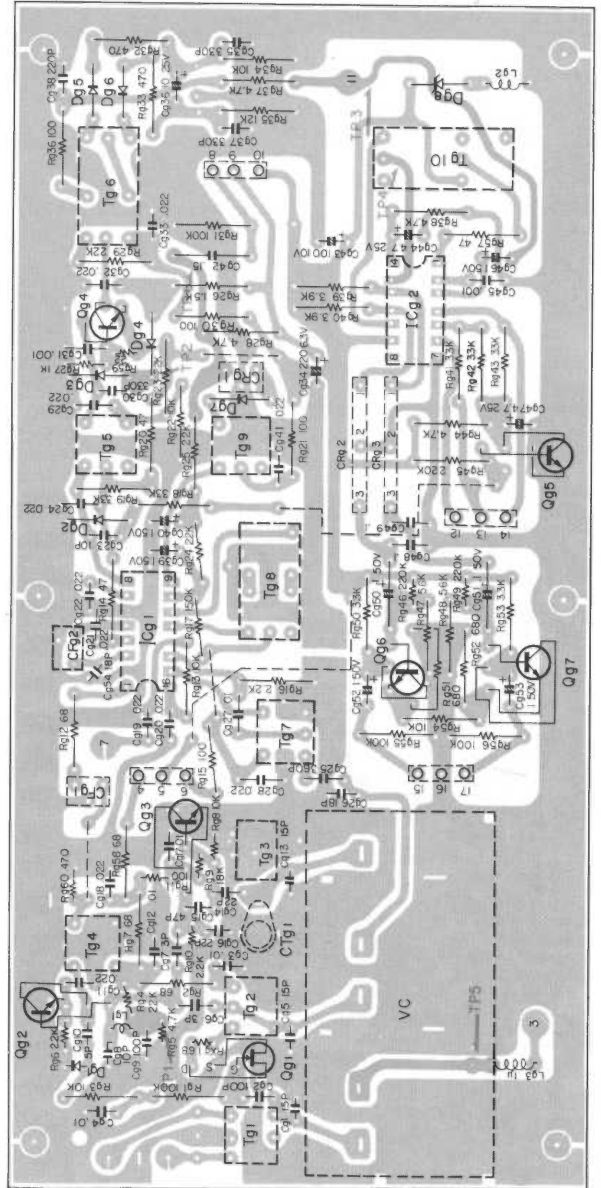
Qk1 : 2SC1419 (B) or (C), Dk1 : S5151, Dk2 : S5151R, Dk3 : EQA-01-30, Dk4 : V06B, Dk5,6 : 1S2076A

▼ DOLBY (X14-1040-00)



Qv1,2 : 2SC945 (R) or (Q), ICV1,2 : NE545B, Dv1~4 : 1N60

▼ TUNER (X05-1190-10)

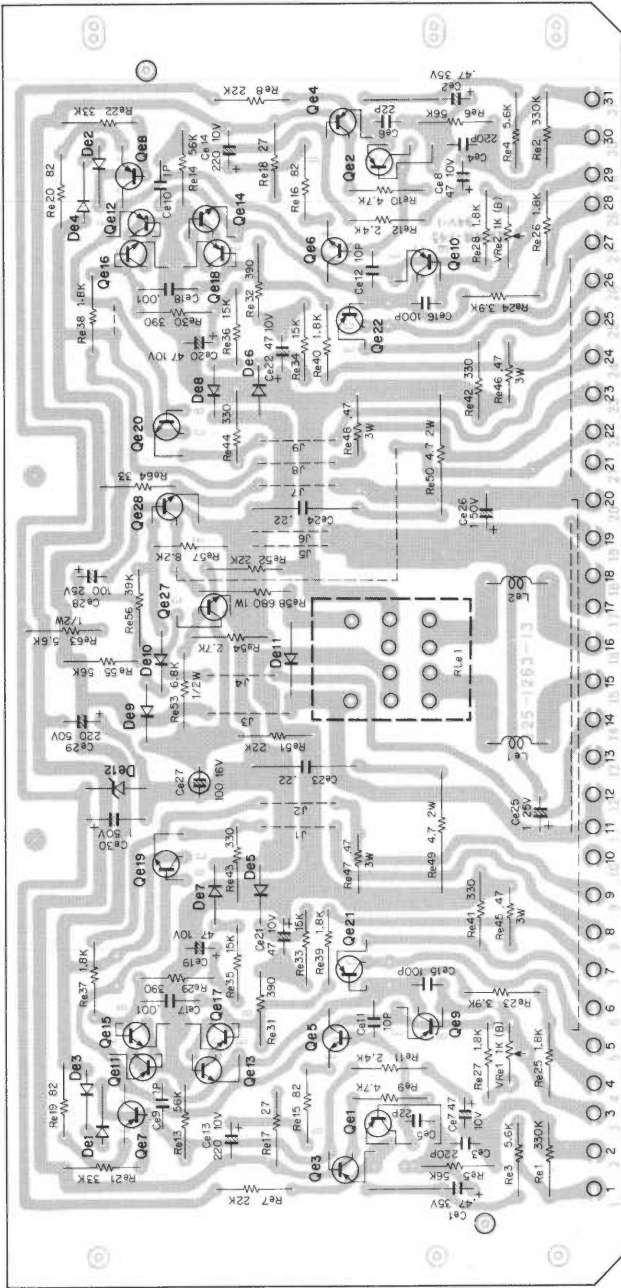


Qg1 : 2SK55 (D or E) or 2SK19 (Y) Qg2 : 2SC381 (O) Qg3 : 2SC1342 (A or B), Qg4 : 2SC381 (R or O)
 Qg5 ~ 7 : 2SC945 (O) ICg1 : AN217BB ICg2 : μ PC554C Dg1,2,5,6 : IS2076 Dg3,4,7 : IN60
 Dg8 : BZ-090

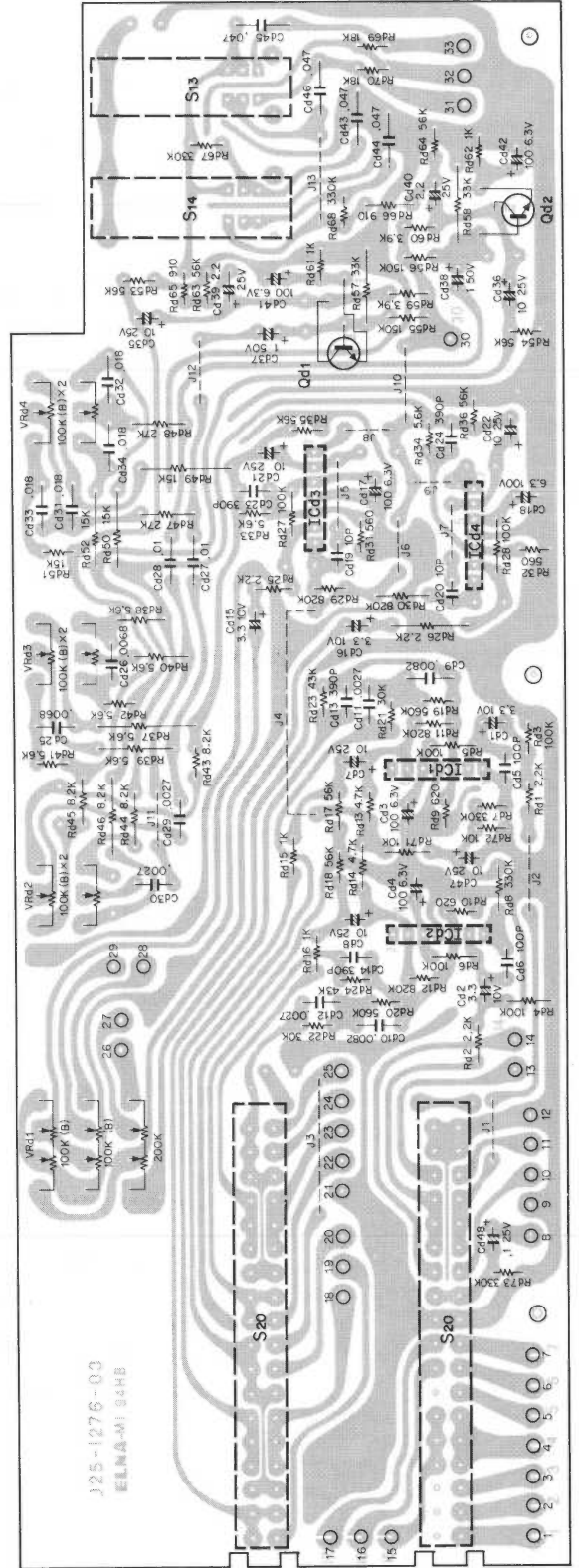
PC BOARD

▼ MAIN AMP (X07-1430-00)

▼ PREAMP (X08-1430-00)



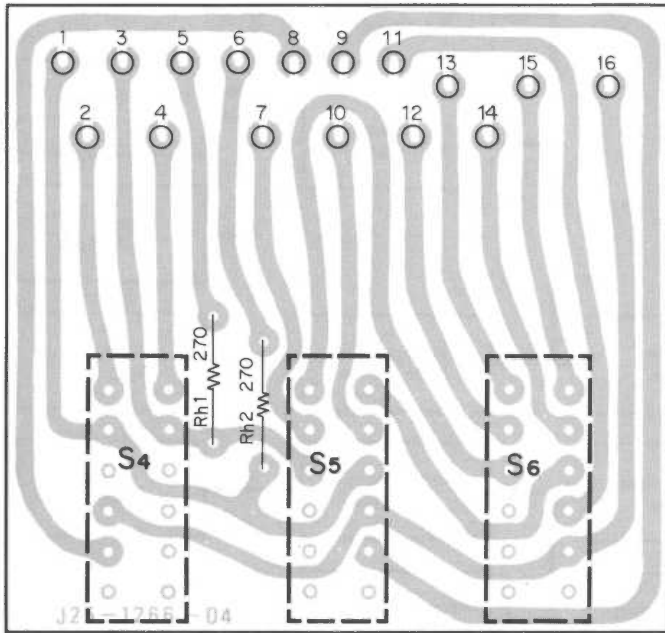
Qe1 ~ 4 : 2SA763WL4 or 5, Qe5,6 : 2SC1628 (O) or (Y), Qe7,8 : 2SA818 (O) or (Y), Qe9,10 : 2SA620WB4 or 5, Qe11, 12, 17, 18 : 2SA733 (Q) or (R), Qe13 ~ 16 : 2SC945 (Q) or (R), Qe19, 20 : 2SD415 (Q) or (R), Qe21, 22 : 2SB549 (Q) or (R), Qe23, 24 : 2SC1403, Qe25, 26 : 2SA745, Qe27 : 2SC1416 (G,R), Qe28 : 2SC1212A(C), De1 ~ 10 : 1S-2076, De11 : W0-6B, De12 : YZ-140



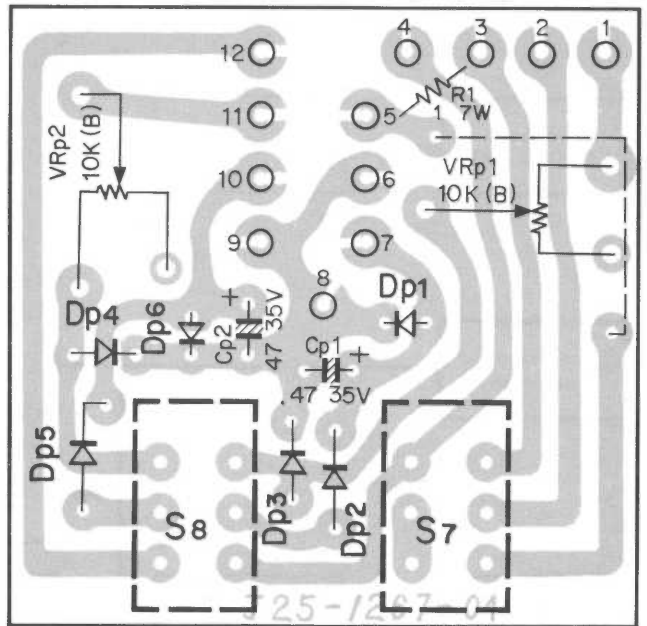
Qd1,2 : 2SC1222 (U) or 2SC1345 (E), Cd1~4 : TA7129P

PC BOARD

▶ SPEAKER SELECTOR (X13-2180-10)

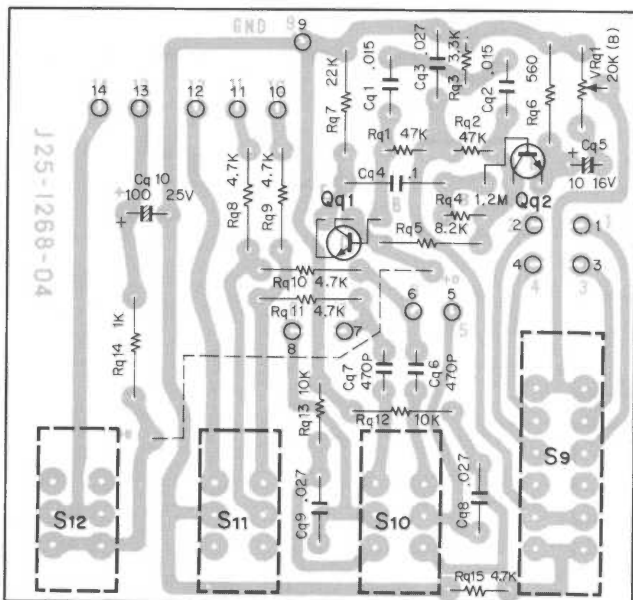


▼ PUSHBUTTON SWITCH (X13-2190-10)



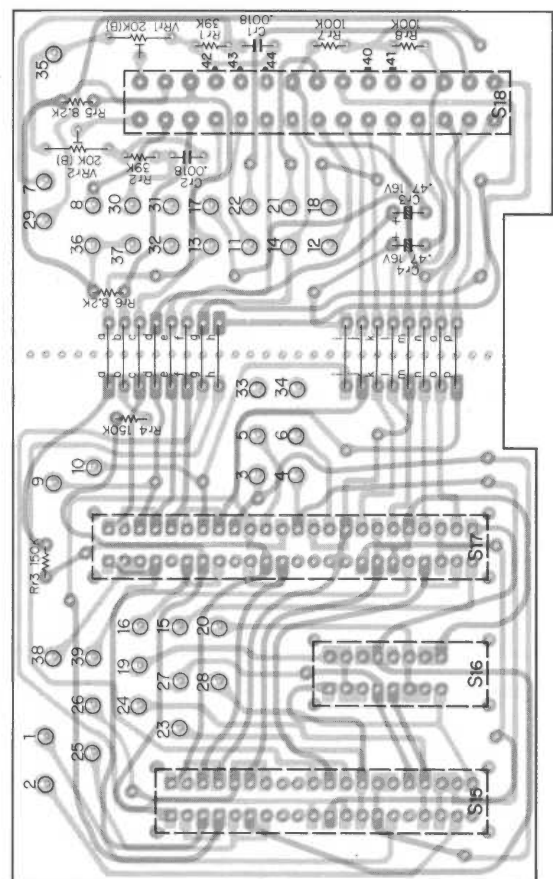
Dp1,2,5,6 : 1N60, Dp3,4 : 1S1555

▼ PUSHBUTTON SWITCH (X13-2200-10)

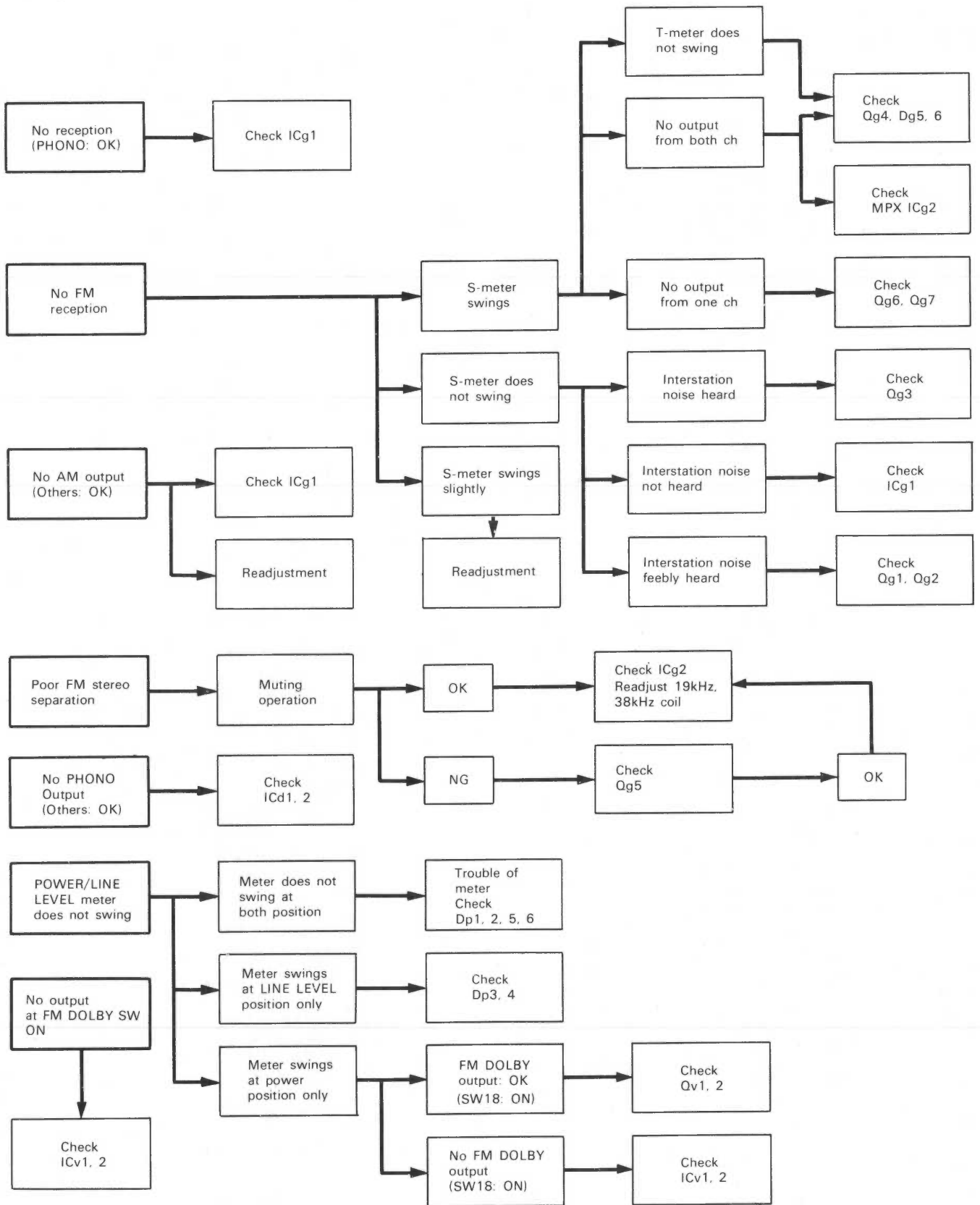


Qq1,2 : 2SC1345 (E) or (F)

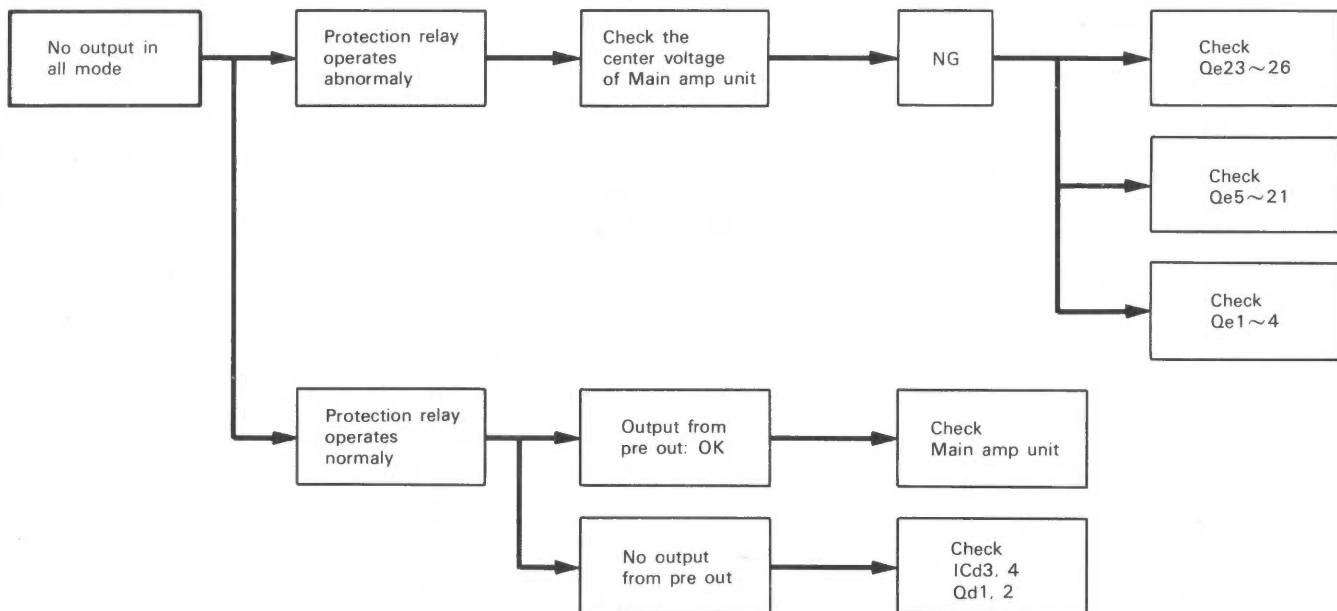
▼ TAPE MONITOR (X13-2210-10)



TROUBLESHOOTING

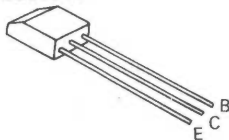


TROUBLESHOOTING/SEMICONDUCTOR SUBSTITUTIONS

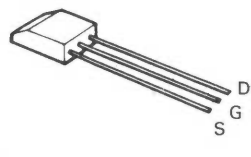


SEMICONDUCTOR NAME	SUBSTITUTIONS
POWER SUPPLY (X00-1670-00)	
2SC1419	2SC1061, 2SD234
TUNER (X05-1190-10)	
2SK55 (D) or (E)	2SK19 (Y)
2SC381 (O) or (R)	2SC535 (B)
2SC945 (Q) or (R)	2SC458 (C)
2SC1342 (A) or (B)	2SC785 (R)
AN217BB	—
μPC554C	—
MAIN AMP (X07-1430-00)	
2SA620 WB4 or 5	2SA620 WL or WN
2SA733 (Q) or (R)	2SA673
{ 2SA745 2SC1403	{ 2SB541A or 2SA679 2SD388A or 2SC1079
2SA763WL4 or 5	2SA733
2SA818	2SA809, 2SA810
2SB549	2SB536
2SC945	2SC458 (C)
2SC1212A (C)	2SC983, 2SC1451
2SC1416 (GR)	2SC1213A (B) or (C)
2SC1628 (O) or (Y)	2SC1451, 2SC1452
2SD415	2SC1212A (B) or (C)
PREAMP (X08-1430-00)	
2SC1222 (U)	2SC1345 (E)
TA7129P	—
PUSHBUTTON SWITCH (X13-2200-10)	
2SC1345 (E) or (F)	2SC1000, 2SC1416
DOLBY (X14-1040-00)	
2SC945 (R) or (O)	2SC458 (C)
NE545B	—
2SK30A	—

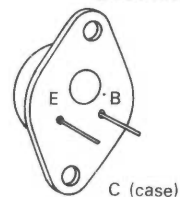
2SC458
2SC535
2SC1342
2SC1345



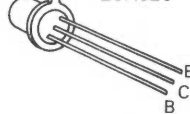
2SK55



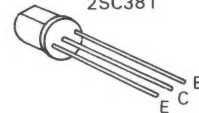
2SA745
2SC1403



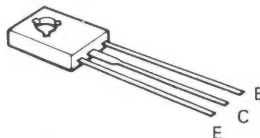
2SA620



2SC1000
2SC785
2SC381



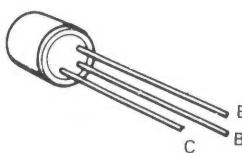
2SB549
2SC1212A
2SD415



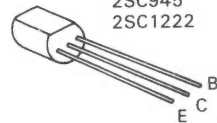
2SK19



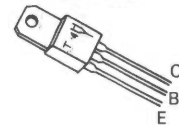
2SC1416



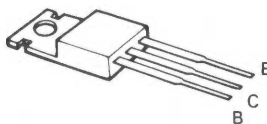
2SA763
2SA733
2SC945
2SC1222



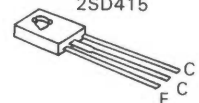
2SA818
2SC1628



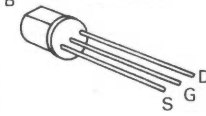
2SC1061
2SD234
2SC1419



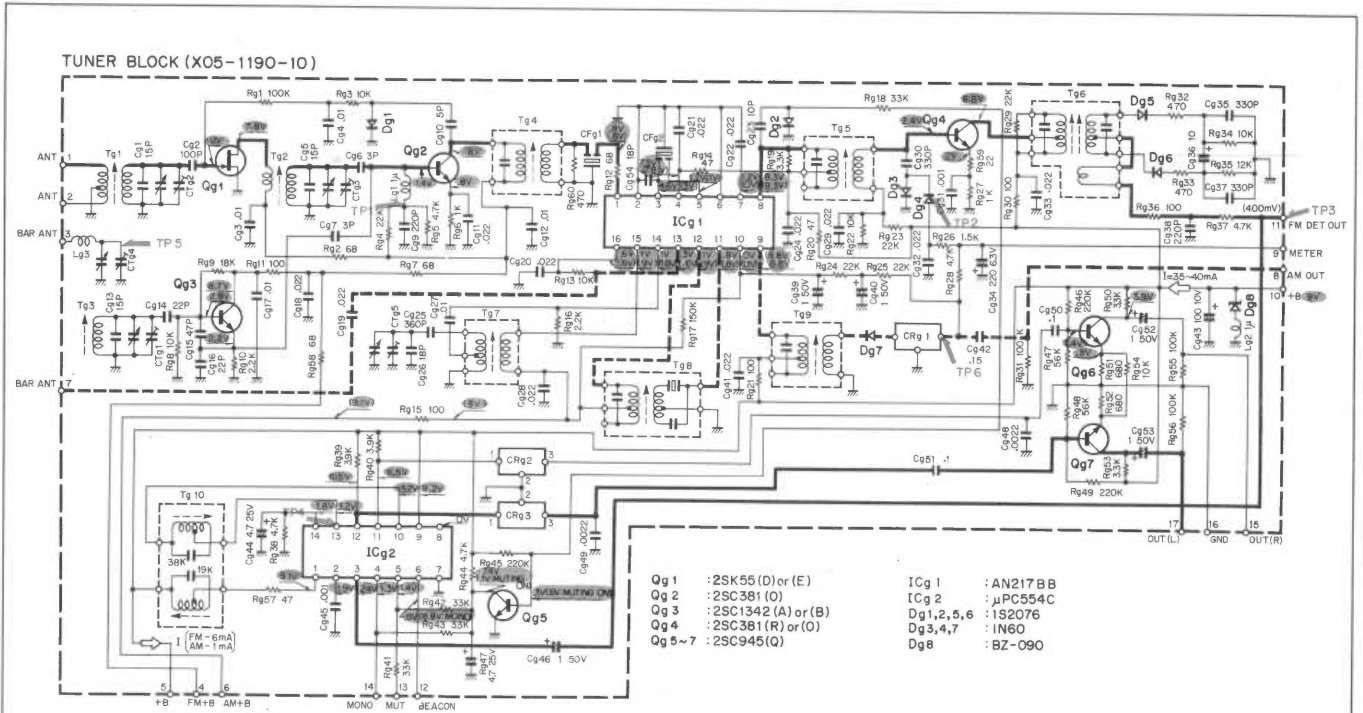
2SB549
2SC1212A
2SD415



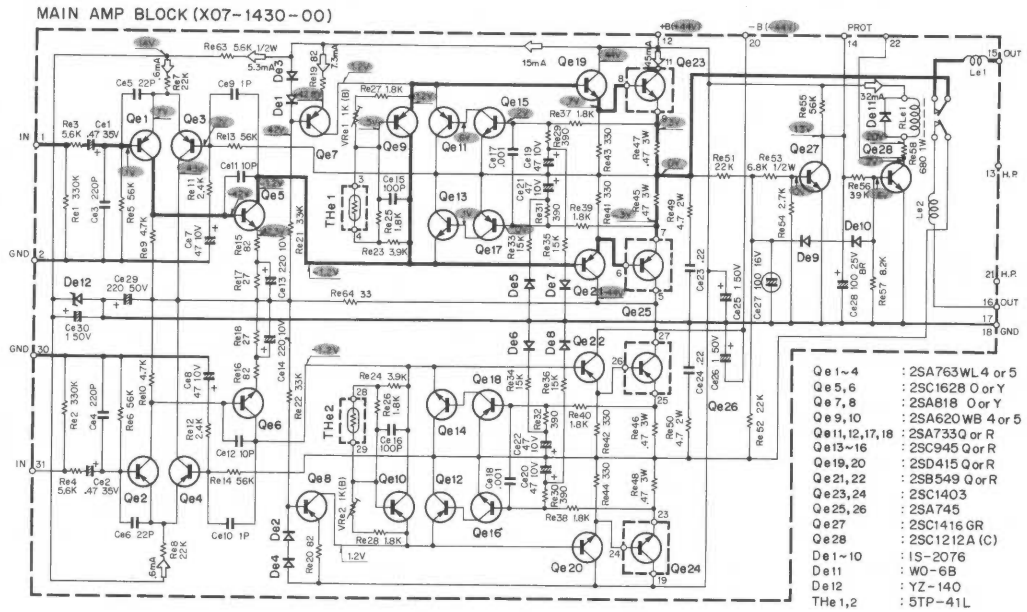
2SK30A



SCHEMATIC DIAGRAM (1)

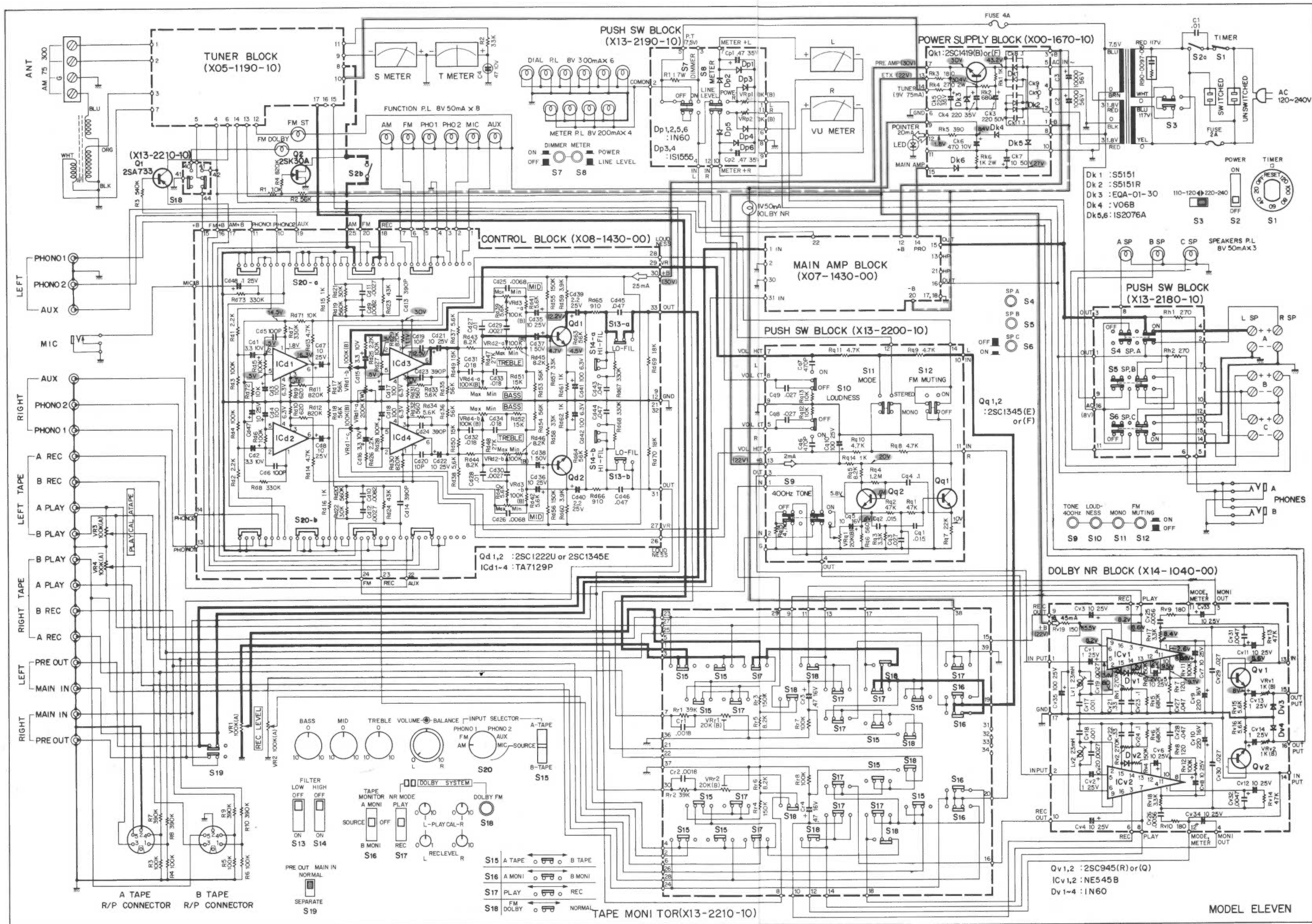


DC voltage is at FM stereo reception.
() is at AM reception.



MODEL ELEVEN

SCHEMATIC DIAGRAM (2)



- Dk 1 : S5151
- Dk 2 : S5151R
- Dk 3 : EQA-01-30
- Dk 4 : V06B
- Dk 5,6 : IS2076A

- Qv1,2 : 2SC945(R) or (Q)
- ICv1,2 : NE545B
- Dv1-4 : 1N60

TAPE MONI TOR(X13-2210-10)

DC voltage is measured by Tester (DC25k1/V)

SPECIFICATIONS

FM TUNER SECTION

Frequency Range: 88 MHz to 108 MHz
87.5 MHz to 108 MHz
(FTZ approved)

Usable Sensitivity (IHF): 1.8 μ V

50 dB Quieting: 4.0 μ V

Signal to Noise Ratio: 70 dB (at 1mV input)

Harmonic Distortion: 0.2% (MONO)
(at 400 Hz 100% mod) 0.5% (STEREO)

Image Rejection: 70 dB

Selectivity (IHF ALT channel): 70 dB

IF Rejection: 100 dB

Capture Ratio: 1.5 dB

Stereo Separation: 38 dB (at 1,000 Hz)

Antenna Impedance: 300 ohms Balanced and
75 ohms Unbalanced

AM TUNER SECTION

Usable Sensitivity: 20 μ V

Signal to Noise Ratio: 50 dB (at 1mV input)

Image Rejection: 60 dB

Selectivity (IHF): 30 dB

Antenna: Built-in ferrite bar antenna, External antenna terminal

POWER AMPLIFIER SECTION

Power Output: 60 watts per channel minimum, RMS at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.3% total harmonic distortion

Both Channel Driven: 63 watts per channel into 8 ohms at 1,000 Hz
80 watts per channel into 4 ohms at 1,000 Hz

Dynamic Power Output: 270 watts into 4 ohms

Total Harmonic Distortion: 0.3% at rated power into 8 ohms
0.1% at 1/2 rated power into 8 ohms at 1,000 Hz

Inter Modulation Distortion: (60Hz : 7,000Hz = 4 : 1) 0.3% at rated power into 8 ohms
0.1% at 1/2 rated power into 8 ohms

Power Bandwidth: 10 Hz — 60,000 Hz

Damping Factor: 50 at 8 ohms

Speaker Impedance: Accept 4 ohms to 16 ohms

PRE-AMPLIFIER SECTION

Input Sensitivity, Impedance and S/N (IHF A curve)

Phono 1: 2.5mV, 50 kohms, 77 dB

Phono 2: 2.5mV, 50 kohms, 77 dB

AUX: 150mV, 50 kohms, 95 dB

Tape Play A,B: 150mV, 50 kohms, 95 dB

MIC: 2.5mV, 50 kohms, 70 dB

Output Voltage and Impedance

Tape Rec (pin): A: 150mV, 80 ohms.
B: 580mV, 80 ohms

(DIN): A: 30mV, 80 kohms.
B: 120mV, 80 kohms

Pre Out: 1V, 1 kohms

Frequency Response

Phono 1, 2: RIAA Standard curve ± 0.5 dB

AUX, Tape Play: 10 Hz — 40,000 Hz ± 1.0 dB

Tone Controls

Bass: ± 10 dB at 100 Hz

MID: ± 10 dB at 800 Hz

Treble: ± 10 dB at 10 kHz

Loudness (—30 dB): +10 dB at 100 Hz
+5 dB at 10 kHz

Low Filter: —9 dB at 10 Hz

High Filter: —9 dB at 10 kHz

GENERAL

Switches

Speaker Selector: A, B, C

Input Selector: AM—FM—PHONO 1
—PHONO 2—MIC—AUX
—A TAPE—B TAPE

Mode: MONO—STEREO

Meter: Power—Line Level (Dolby NR Cal.)

Tape Monitor: A—Source—B

Dolby NR Mode: PLAY—OFF—REC

Other Switches: Dolby FM, 400 Hz Tone, FM Muting, Loudness, High Filter, Low Filter, Dimmer, Power

Special Functions:

2 Hour Shut-off Timer, Dolby NR System, 2 Power Meter, Triple Tone Control, 2 Head Phones, Selector Indicator

AC Outlet:

Switched 1, Unswitched 1

Power Consumption: 250 watts at full power
45 watts at no signal

Dimensions: W 22-19/32" (574 mm),
H 7-3/4" (198 mm),
D 13-25/32" (350 mm)

Weight (Net):

35.3 lbs (16 kg)

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- 72-02 51ST AVENUE, WOODSIDE, N.Y. 11377 U.S.A.

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- HARENSESTEENWEG, 484. 1800 VILVOORDE, BELGIUM.

TRIO-KENWOOD ELECTRONICS, GmbH.

- 6056 HEUSENSTAMM, AM GOLDBERG 5, WEST GERMANY.

TRIO-KENWOOD CORPORATION

- 3-6-17 AOBADAI, MEGURO-KU, TOKYO, JAPAN.