

# JVC

# SERVICE MANUAL

**MODEL  
R-1X**

**STEREO RECEIVER**



No. 2557  
JAN. 1981

# Contents

1. Specifications	1	8. Printed Circuit Board Ass'y and Parts List	8 – 12
2. Removal Procedures	2 – 3	8-(1) TFC-32 FM/AM Tuner and Equalizer	
2-(1) Top Cover	2	Amp. P.C. Board Ass'y	8 – 10
2-(2) Bottom Plate and Power Transistors	3	8-(2) TXX-303 Main Amp., Power Supply and All Functions P.C. Board Ass'y	11 – 12
3. Rear View and Part Numbers	3	9. Packing Materials and Part Numbers	13
4. Exploded View and Part Numbers	4	10. Accessories List	13
5. Dial Stringing Procedures	5	11. R-1X Schematic Diagram	14 – 15
6. FM/AM Tuner Alignment Procedures	6 – 7	12. Parts List with Specified Numbers for Designated Areas	16
6-(1) FM Section	6		
6-(2) AM Section	7		
7. Power Amplifier Idling Current Adjustment Procedures	7		

**Warning:**  
When replacing the parts marked with  $\triangle$ , be sure to use the designated parts to ensure safety.

## 1. Specifications

### FM Tuner Section (Figures are based upon IHF standard)

Tuning Range	: 87.5 MHz – 108 MHz
Usable Sensitivity (IHF)	: 10.3 dBf (1.8 $\mu$ V/300 $\Omega$ )
50 dB Quieting Sensitivity	
Mono	: 14.8 dBf (3.0 $\mu$ V/300 $\Omega$ )
Stereo	: 38.3 dBf (45 $\mu$ V/300 $\Omega$ )
Distortion	
Mono	: 0.15 % (1 kHz)
Stereo	: 0.4 % (1 kHz)
Signal to Noise Ratio (Weighted "A" Network)	
Mono	: 82 dB (74 dB, DIN)
Stereo	: 75 dB (65 dB, DIN)
Selectivity	: 65 dB, $\pm$ 400 kHz (55 dB, $\pm$ 300 kHz, DIN)
Capture Ratio	: 1.0 dB
IF Rejection	: 90 dB at 98 MHz
Image Rejection	: 60 dB at 98 MHz
Stereo Separation	: 40 dB at 1 kHz

### AM Tuner Section

Tuning Range	: 525 kHz – 1605 kHz
Usable Sensitivity	: 300 $\mu$ V/m, 55 $\mu$ V (External Antenna)
Signal to Noise Ratio	: 50 dB
Distortion	: 0.5 % at 100 mV/m
Selectivity	: 36 dB, $\pm$ 9 kHz

### Power Specifications

Areas	Line Voltage & Frequency	Power Consumption
U.S.A., Canada	AC 120 V, 60 Hz	150 W, 180 VA
Europe	AC 220 V $\sim$ , 50 Hz	310 W
Australia	AC 240 V $\sim$ , 50 Hz	310 W
Other Areas	AC 110/120/220/240 V $\sim$ , Selectable, 50/60 Hz	310 W

### Dimensions and Weight

Areas	Dimensions			Weight
	Height	Width	Depth	Net
U.S.A., Canada & U.S. Military Market	9.5 cm (3-3/4")	44.4 cm (17-1/2")	35.0 cm (13-13/16")	6.35 kg (14.0 lbs.)
All Other Countries	9.4 cm (3-11/16")	42.0 cm (16-9/16")	35.0 cm (13-13/16")	6.1 kg (13.4 lbs.)

### Amplifier Section

RMS Power	
Both channels driven,	: 25 W per channel at 8 ohms from 20 Hz to 20 kHz
RMS Power	
Both channels driven,	: 27 W per channel at 8 ohms at 1 kHz
Total Harmonic Distortion:	0.03 % at rated power 20 Hz – 20 kHz 8 ohms 0.008 % at rated power 1 kHz 8 ohms
Input Sensitivity/Impedance	
PHONO	: 2.5 mV/47 kohms
TAPE PLAY 1, 2	: 120 mV/40 kohms
TAPE PLAY 1 (DIN)	: 120 mV/40 kohms
Tone Control	
Bass	: $\pm$ 8 dB at 100 Hz
Treble	: $\pm$ 8 dB at 10 kHz
Hum and Noise	(Weighted by IHF      New IHF
(to rated input level)	"A" network)
PHONO	: 71 dB      74 dB
AUX, TAPE PLAY	: 91 dB      78 dB

## 2. Removal Procedures

### 2-(1) Top Cover

for U.S.A., Canada and U.S. Military Market

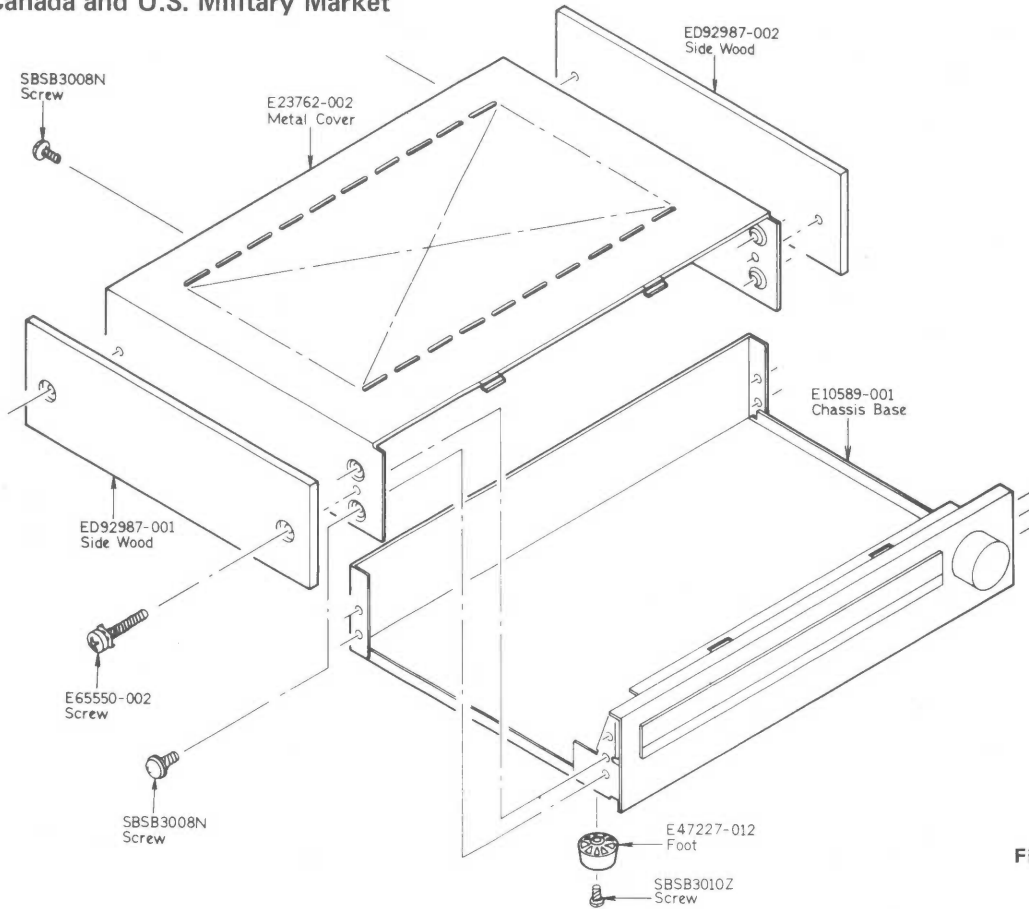


Fig. 1

for All Other Areas

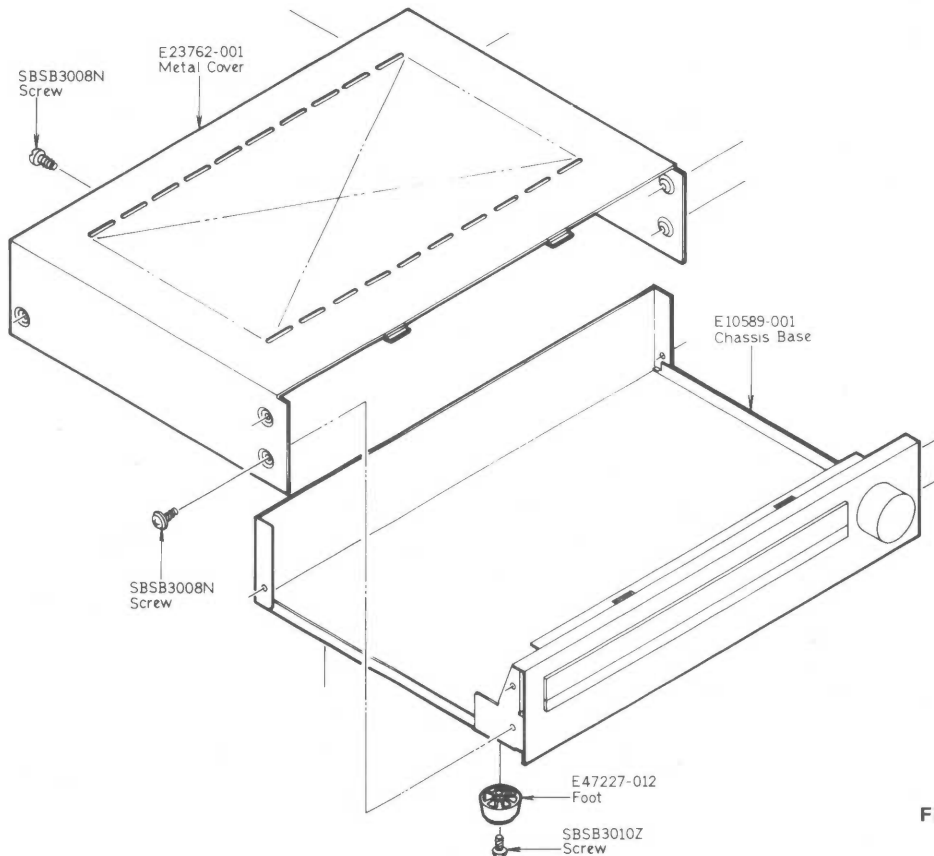


Fig. 2

## 2-(2) Bottom Plate and Power Transistors

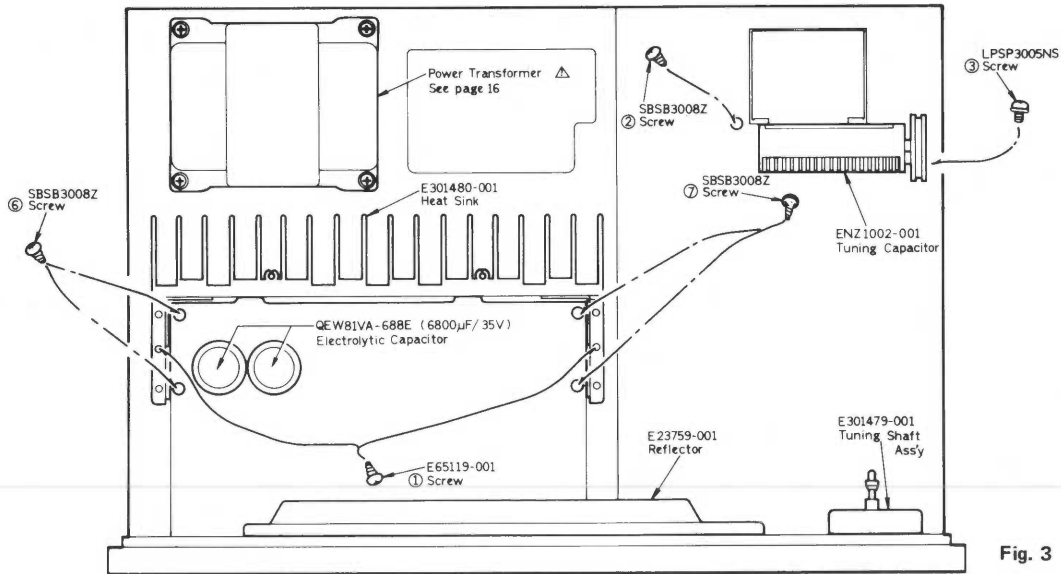


Fig. 3

### Removing the Bottom Plate

- Step 1: Remove 4 screws ①, ②, ③. (Fig. 3)
- Step 2: Remove 7 screws ④. (Fig. 4)
- Step 3: Remove the Fuse P.C. Board Assy ⑤ and the replace the Bottom Plate.

### Removing the Power Transistors

- Step 1: Resolder the power transistor's leads.
- Step 2: Remove 4 screws ⑥, ⑦ (Fig. 3) and heat sink from Audio unit P.C. Board Ass'y and then replace the transistors.

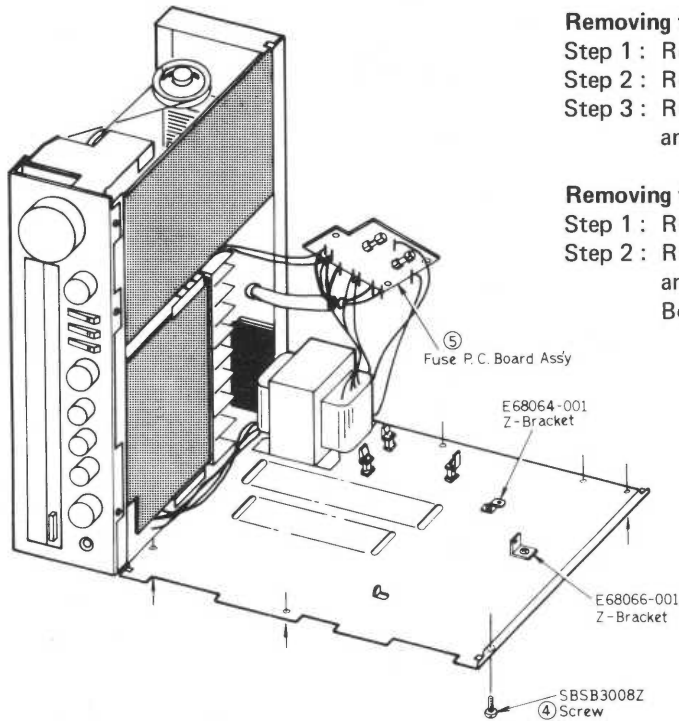


Fig. 4

## 3. Rear View and Part Numbers

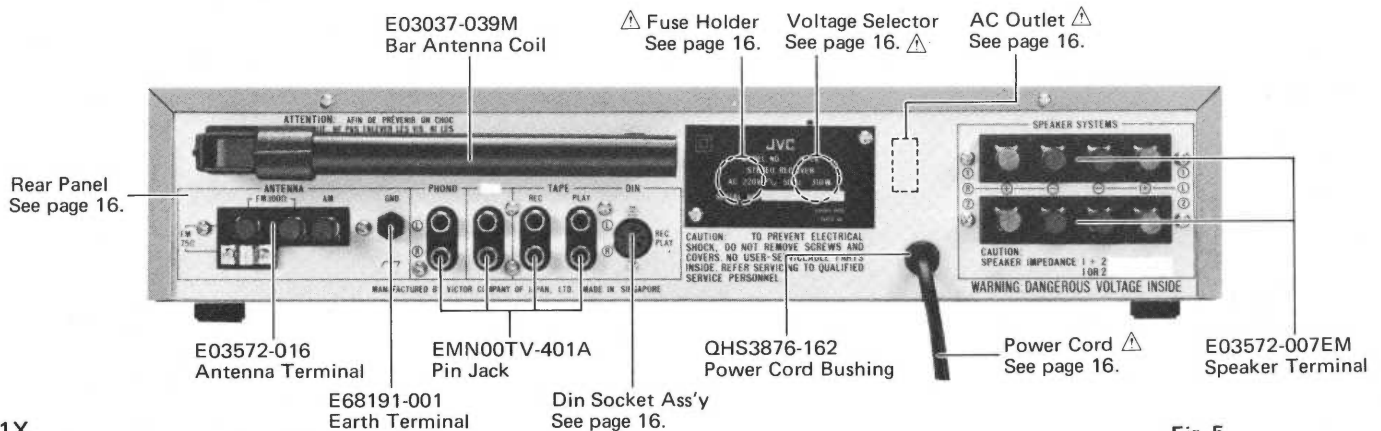
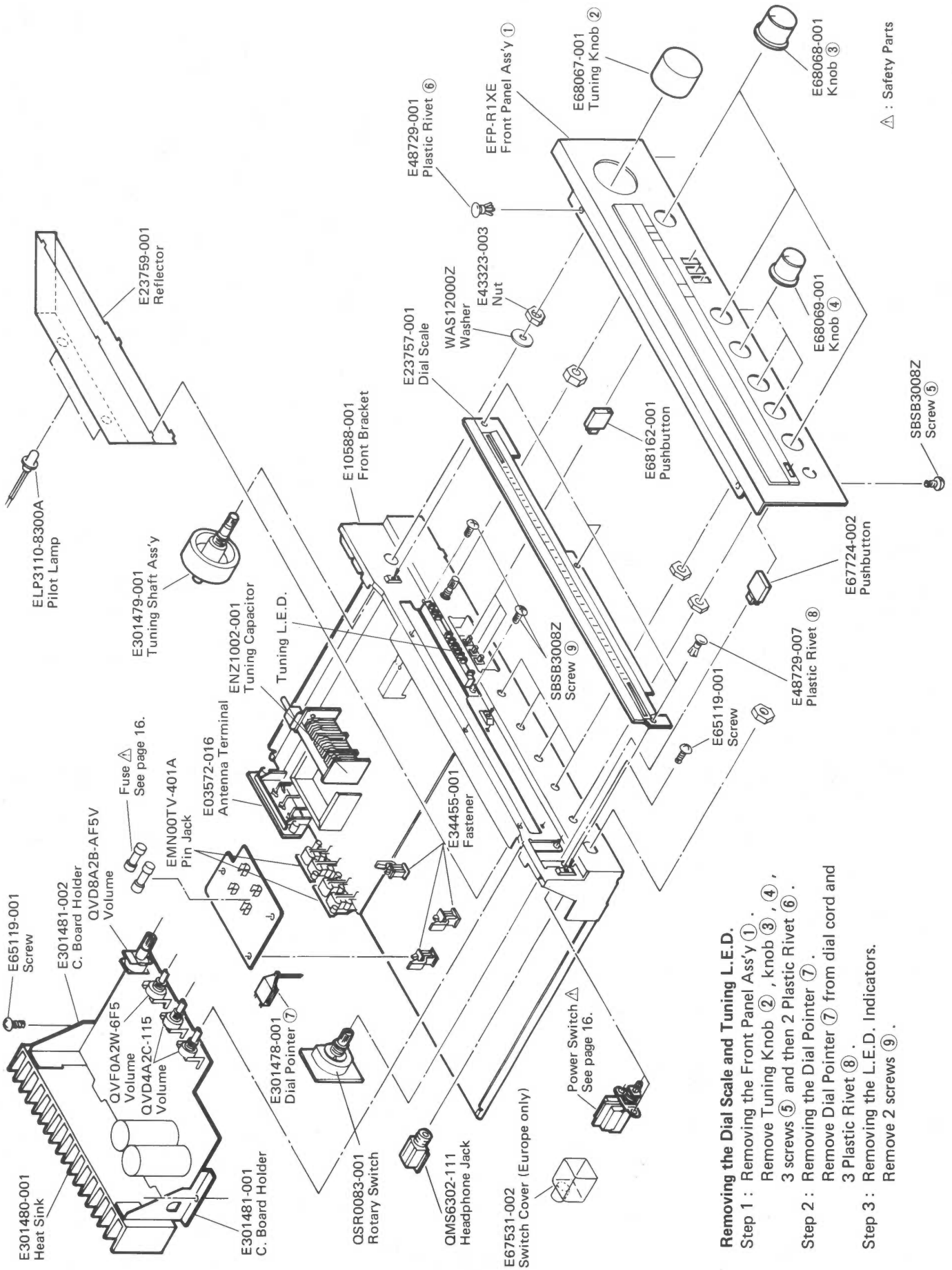


Fig. 5



# 4. Exploded View and Part Numbers



- Removing the Dial Scale and Tuning L.E.D.**  
 Step 1 : Removing the Front Panel Ass'y ①.  
 Remove Tuning Knob ②, knob ③, ④,  
 3 screws ⑤ and then 2 Plastic Rivet ⑥.  
 Step 2 : Removing the Dial Pointer ⑦.  
 Remove Dial Pointer ⑦ from dial cord and  
 3 Plastic Rivet ⑧.  
 Step 3 : Removing the L.E.D. Indicators.  
 Remove 2 screws ⑨.

△ : Safety Parts

Fig. 6

## 5. Dial Stringing Procedures

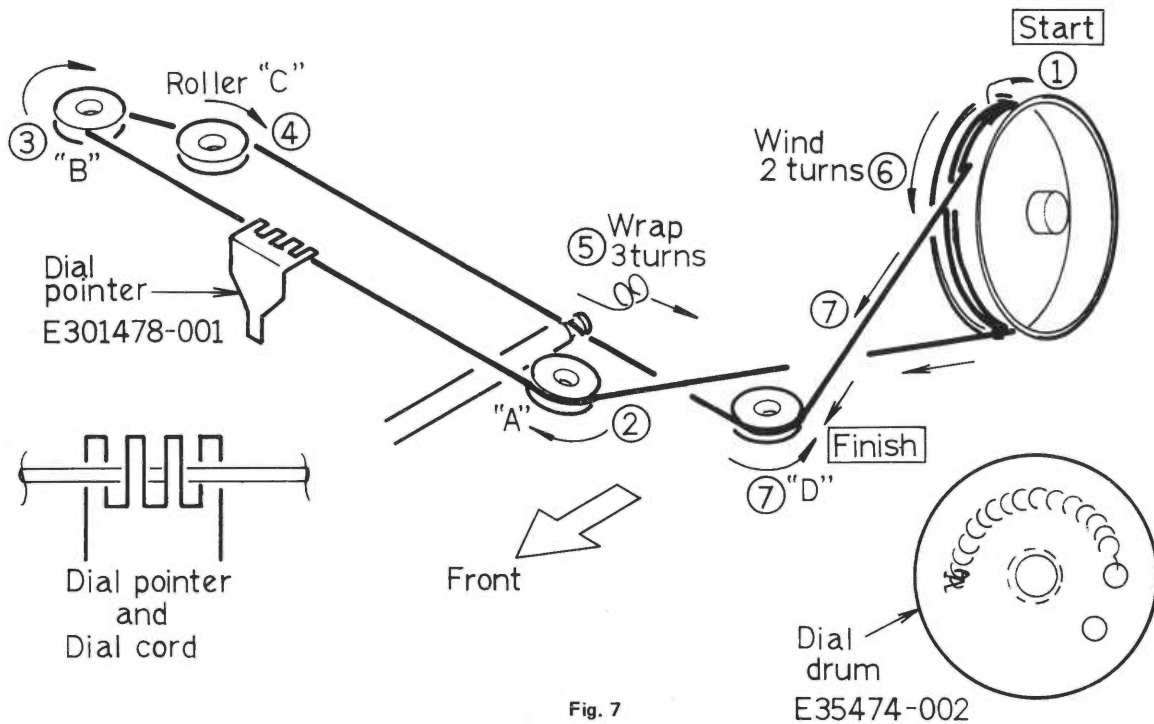
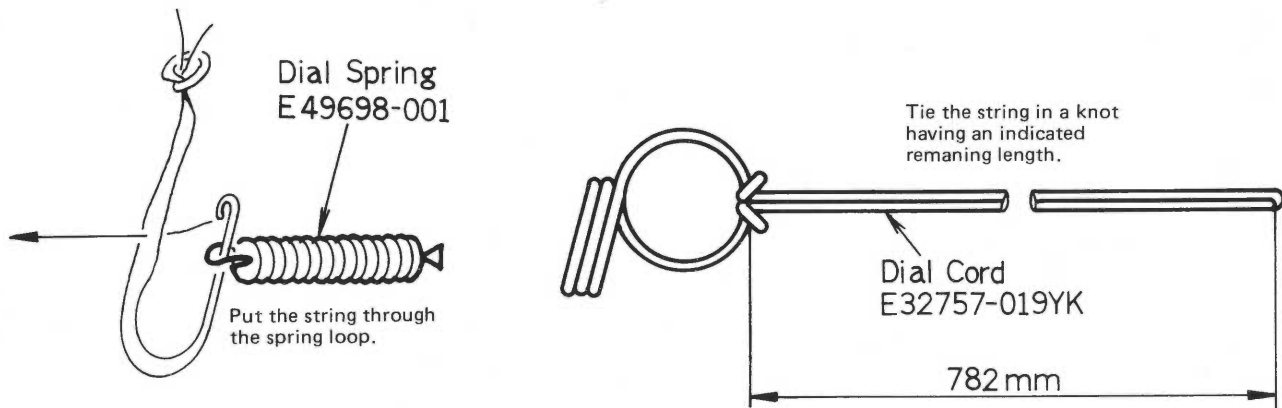


Fig. 7

- (1) Remove dial pointer and old cord.
- (2) Tie end of new dial cord to one end of dial spring, connect other end of dial spring of bottom right eye inside dial drum.
- (3) Rotate the tuning capacitor dial drum to its maximum counterclockwise.
- (4) Run the dial cord through the slot in the rim of the dial drum. See step ①.
- (5) Guide the dial cord around, over and under rollers "A", "B" and "C". Keep the dial cord taut during this procedure. See step ② to ④.
- (6) Pull the dial cord taut and wrap 3 turns counterclockwise around tuning shaft. See step ⑤.
- (7) Guide the dial cord over the dial drum and wind 2 turns clockwise. See step ⑥.
- (8) Pull the dial cord taut and set it around roller "D". See step ⑦.
- (9) Turn the tuning shaft to rotate the dial drum fully counterclockwise and fully clockwise to distribute the tensioning along the dial cord.
- (10) Place the dial cord over and under the tabs on the rear of the dial pointer and place the dial pointer on the top of the dial rail.
- (11) Turn the tuning shaft clockwise. Slide the dial pointer to zero (0) calibration marker on the logging scale while holding tuning shaft fully clockwise. Cement the dial pointer to the dial cord to prevent slippage. Allow cement to dry thoroughly.

# 6. FM/AM Tuner Alignment Procedures

Alignment Location on TFC-32 FM/AM Tuner  
P.C. Board Ass'y

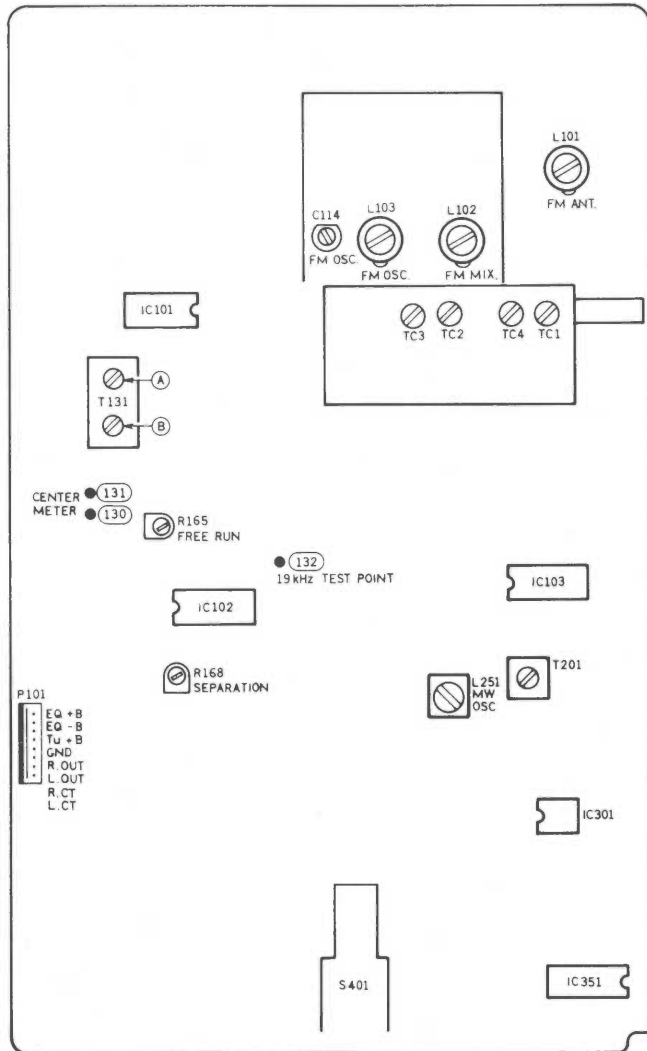


Fig. 8

## 6-(1) FM Section

### Discriminator, Center Meter, Distortion and Signal Gain

1. Press to FM position.
2. Connect an RF generator, 1 kHz modulation and 75 kHz deviation, to the antenna terminals on the rear panel through a dummy antenna.
3. Connect an Oscilloscope, Distortion Meter and VTVM to the Rec. Out jacks on the rear panel.
4. Tune to a frequency where there is no broadcasting.
5. Adjust a core indicated arrow (A) of T131 so that the FM Tuning L.E.D. illuminates the center position.
6. Set the RF generator to 98 MHz.
7. Set the dial pointer to 98 MHz.
8. Adjust a core indicated arrow (B) of T131 so that the distortion is minimized at a value less than 0.4 %.

### Tracking and Sensitivity

**Precaution:** No adjustment is necessary. The tracking and sensitivity have been adjusted properly and completely at the factory. If any special reason occasioned, take the following procedures carefully.

### Low Frequency

1. Connect an RF generator the antenna terminals on the rear panel through a dummy antenna.
2. Set an RF generator to 88 MHz, a modulation of 1 kHz and a deviation of 75 kHz to provide an input of  $2 \mu\text{V}$ .
3. Connect a VTVM and an Oscilloscope to the Rec. Out jacks on the rear panel.
4. Set the dial pointer to 88 MHz.
5. Adjust the three coils L103, L102 and L101 in the tuning gang to maximize the output.

### High Frequency

6. Set the RF generator to 108 MHz, a modulation of 1 kHz and a deviation of 75 kHz, to provide an input of  $2 \mu\text{V}$ .
7. Set the dial pointer to 108 MHz.
8. Adjust the FM trimmers C114, TC2 and TC1 in the tuning gang to maximize the output.
9. Repeat these high and low frequencies adjustment alternately until maximum sensitivity is obtained.

### Multiplex and Stereo Separation

#### Multiplex

1. Set the Stereo signal generator as follows: 400 Hz modulation frequency, 7.5 kHz deviation pilot, 67.5 kHz main and sub carriers. Connect its output to an RF generator.
2. Connect an RF generator to the antenna terminals through a dummy antenna.
3. Connect a VTVM, an Oscilloscope and a Distortion Meter to the Rec. Out jacks on the rear panel.
4. Set the RF generator to 98 MHz and output of 1 mV.
5. Set the dial pointer to 98 MHz.
6. Connect the Frequency Counter to 19 kHz Test Point (TP132).
7. Switch off the pilot signal of Stereo Modulator.
8. Adjust R165 so that the frequency counter indicates 19 kHz ( $0 \sim -50 \text{ Hz}$ ).

#### Stereo Separation

9. Switch the selector of Stereo Modulator to left channel modulation.
10. Adjust R168 so that the output of right channel is minimized.
11. Switch the selector of the modulator to right channel modulation.
12. Adjust R168 so that the left channel is minimized.
13. Set R168 to a average, if the separation of left and right is different.

## 6-(2) AM Section

### Tracking and Sensitivity

#### Low Frequency

1. Set the source select button to AM.
2. Connect the RF generator to the antenna terminals on the rear panel, set this to 600 kHz with 30 % modulation at 400 Hz.
3. Connect an AC VTVM and an Oscilloscope to the Rec. Out jacks on the rear panel.
4. Set the dial pointer to 600 kHz.
5. Adjust OSC coil L251 and the ferrite bar antenna adjusting the coil to maximize the output signal.

#### High Frequency

6. Set the RF generator to 1400 kHz with 30 % modulation at 400 Hz.
7. Set the dial pointer to 1400 kHz.
8. Adjust the trimmers TC3 and TC4 in the tuning gang so that the output signal is maximized.
9. Repeat these high and low frequencies adjustment procedures alternately until maximum sensitivity is obtained.

## 7. Power Amplifier Idling Current Adjustment Procedures

Adjustment Location on TXX-303 Main Amp. P.C. Board Ass'y

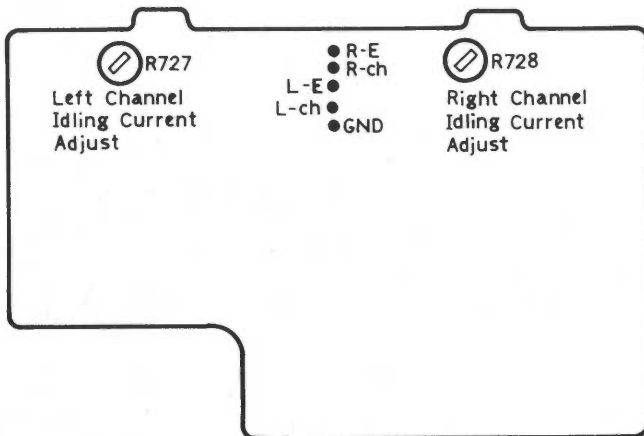


Fig. 9

#### Precaution:

- (1) Allow the set to warm up at least 5 minutes before connecting a DC VTVM.
- (2) Must keep the heatsink cooling to prevent overheating and consequent destruction of the semiconductor junction and set the volume control to minimum during these adjustment procedures.

( ): for Right channel Adjustment

#### Procedures:

1. Turn R727 and (R728) fully counterclockwise before the power switch on.
2. Connect a DC VTVM to the Test Point L-CH and L-E (R-CH and R-E).
3. Adjust R727 (R728) for DC VTVM reading of 5 mV.

# 8. Printed Circuit Board Ass'y and Parts List

## 8-(1) TFC-32 FM/AM Tuner and Equalizer Amp. P.C. Board Ass'y

The number of TFC-32 varies according to the area employed. Refer to page 16.

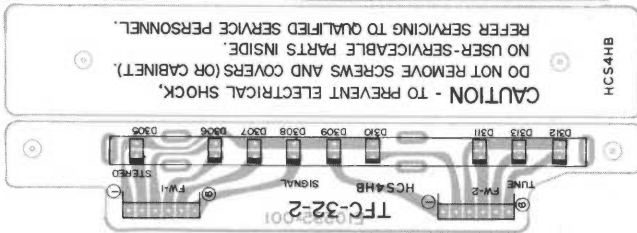
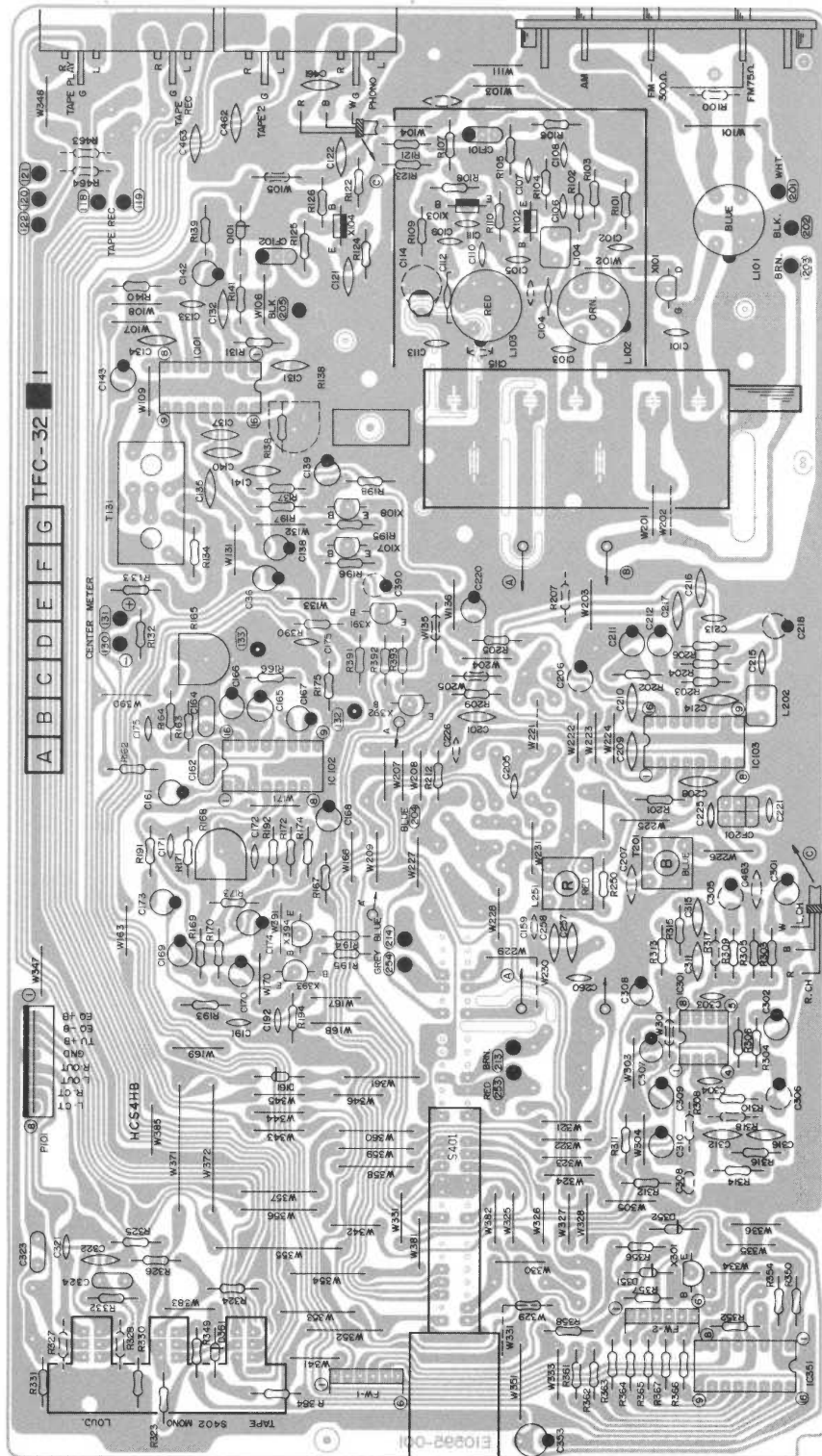


Fig. 10

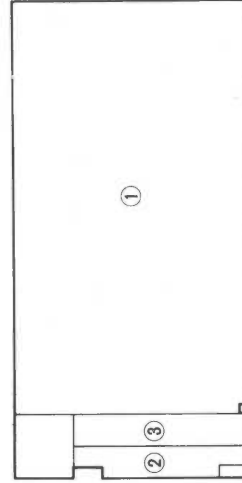


Fig. 11

**Note:**  
The specific symbols (赤, 黒, 白, . . . , etc.) on a surface of P.C. Board are actually unrelated to the repair service and are significant denotement in order to process the proper assembly at the factory.

- Each Individual P.C. Board Location**
- ① TFC-32  -1: FM/AM Tuner and Equalizer Amp. P.C. Board Ass'y
  - ② TFC-32-2 : Signal Indicator L.E.D. P.C. Board Ass'y
  - ③ TFC-32-3 : "Caution" Printed Board (for U.S.A. only)
- Note:**  
In  should be indicated an area code according to the table shown below when placing an order.
- | Designated Areas    | P.C. Board Ass'y                   |
|---------------------|------------------------------------|
| Australia & Europe  | TFC-32 <input type="checkbox"/> -1 |
| All other countries | TFC-32 <input type="checkbox"/> -1 |

**Transistors**

Item No.	Part Number	Rating		Description	Maker
		Pc	fT		
X101	2SK168(E,F)	0.2 W		F.E.T.	Hitachi
X102	2SC535(B,C)	0.1 W	940 MHz	Silicon	"
X103	2SC461(C)	0.2 W	230 MHz	"	"
X104	2SC458(C,D)	0.2 W	940 MHz	"	"
X107	2SC458(C,D)	0.2 W	230 MHz	"	"
X108	2SC458(C,D)	"	"	"	"
X301	2SA1029(C,D)	"	200 MHz	"	"
X353	2SC458(C)	"	230 MHz	"	"
X391	2SC458(C,D)	"	"	"	"
X392	2SA1029(C,D)	"	"	"	"
X393	2SC458(C,D)	"	"	"	"
X394	2SC458(C,D)	"	"	"	"

### Integrated Circuits

Item No.	Part Number	Rating		Description	
		Pc			Maker
IC101	HA11225	0.59 W		I.C.	Hitachi
IC102	UPC1161C	0.4 W		"	NEC
IC103	NA1197	0.45 W		"	Hitachi
IC301	NJM4558D-D	0.5 W		"	JRC
IC351	IR2434	1 W		"	Sharp

### Diodes

Item No.	Part Number	Rating		Description	
		Pc			Maker
D101	1S2076-31	0.25 W		Silicon	Hitachi
D161	1S2076-31		"	"	"
D305	LN417YP		"	L.E.D.	Matsushita
D306	LN217RP			"	"
D307	LN217RP			"	"
D308	LN217RP			"	"
D309	LN217RP			"	"
D310	LN217RP			"	"
D311	LN217RP			"	"
D312	LN217RP			"	"
D313	LN317GP			"	"
D351	1S2076-31	0.25 W		Silicon	Hitachi
D352	1S2076-31		"	"	"
D361	1S2076-31		"	"	"

### Coils & Transformers

Item No.	Part Number	Rating	Description
L101	EQR2306-013		RF Coil
L102	E03477-035		"
L103	E03477-034		"
L104	E03522-1R5KY		Choke Coil
L202	E03522-102KY		Choke Coil
L251	E03079-56		MW OSC. Coil
T131	E03793-001		FM DET. Transformer
T201	E03613-017		I.F. Transformer

### Capacitors

Item No.	Part Number	Rating		Description
C101	QCS21HJ-120H	12 pF	50 V	Ceramic
C102	QCF21HP-103H	0.01 $\mu$ F	"	"
C103	QCS21HJ-150H	15 pF	"	"
C104	QCS11HJ-4R0H	4 pF	"	"
C105	QCS21HJ-2R0H	2 pF	"	"
C106	QCS21HJ-151H	160 pF	"	"
C107	QCF21HP-103H	0.01 $\mu$ F	"	"
C108	QCF21HP-103H	"	"	"
C109	QCF21HP-103H	"	"	"
C110	QCT26CH-100H	10 pF	"	"
C111	QCT26CH-220H	22 pF	"	"
C112	QCT05CH-7R0H	7 pF	"	"
C113	QCT26PH-220H	22 pF	"	"
C114	QAT3001-005			Trimmer Capacitor
C121	QCF21HP-223H	0.022 $\mu$ F	"	Ceramic
C122	QCF21HP-223H	"	"	"
C131	QCF21HP-223H	"	"	"
C132	QCF21HP-223H	"	"	"
C133	QCS21HJ-151H	160 pF	"	"
C134	QCF21HP-223H	0.022 $\mu$ F	"	"
C135	QCF21HP-223H	"	"	"
C136	QET51AR-107P	100 $\mu$ F	10 V	Electrolytic
C137	QCF11HP-223	0.022 $\mu$ F	50 V	Ceramic
C139	QET51HR-474P	0.47 $\mu$ F	"	Electrolytic
C140	QCF21HP-223H	0.022 $\mu$ F	"	Ceramic

### Capacitors

Item No.	Part Number	Rating		Description
C141	QCF21HP-223H	0.022 $\mu$ F	50 V	Ceramic
C142	QET51ER-106P	10 $\mu$ F	25 V	Electrolytic
C143	QET51HR-474P	0.47 $\mu$ F	50 V	"
C161	QET51ER-106P	10 $\mu$ F	25 V	"
C162	QFM31HK-473	0.047 $\mu$ F	50 V	Mylar
C164	QFP31HJ-471	470 pF	"	Polypropyren
C165	QEB51EM-335	3.3 $\mu$ F	25 V	Low Leak Current Electrolytic
C166	QET51HR-105P	1 $\mu$ F	50 V	Electrolytic
C167	QET51HR-105P	"	"	"
C168	QET51CR-227P	220 $\mu$ F	16 V	"
C169	QET51CR-476P	47 $\mu$ F	"	"
C170	QET51CR-476P	"	"	"
C171	QCY21HK-152H	1500 pF	50 V	Ceramic (TFC-32A)
C171	QCY21HK-821H	820 pF	"	" (TFC-32B)
C172	QCY21HK-152H	1500 pF	"	" (TFC-32A)
C172	QCY21HK-821H	820 pF	"	" (TFC-32B)
C173	QET51HR-474P	0.47 $\mu$ F	"	Electrolytic
C174	QET51HR-474P	"	"	"
C175	QCF21HP-223H	0.022 $\mu$ F	"	Ceramic
C191	QCY21HK-103H	0.01 $\mu$ F	"	"
C192	QCY21HK-103H	"	"	"
C195	QCF21HP-473H	0.047 $\mu$ F	"	"
C201	QCF21HP-223H	0.022 $\mu$ F	"	"
C205	QCY21HK-103H	0.01 $\mu$ F	"	"
C206	QET51ER-106P	10 $\mu$ F	25 V	Electrolytic
C208	QCF21HP-223H	0.022 $\mu$ F	50 V	Ceramic
C209	QCF21HP-223H	"	"	"
C210	QCF21HP-223H	"	"	"
C211	QET51HR-105P	1 $\mu$ F	"	Electrolytic
C212	QET51ER-106P	10 $\mu$ F	25 V	"
C213	QCF21HP-102H	1000 pF	50 V	Ceramic
C214	QCF21HP-223H	0.022 $\mu$ F	"	"
C215	QCS21HJ-121H	120 pF	"	"
C216	QCF21HP-223H	0.022 $\mu$ F	"	"
C217	QCF21HP-223H	"	"	"
C220	QET51ER-106P	10 $\mu$ F	25 V	Electrolytic
C221	QCS21HJ-560H	56 pF	50 V	Ceramic
C225	QCS21HJ-470H	47 pF	"	"
C257	QCT26PH-151H	160 pF	"	"
C258	QCT26PH-181H	180 pF	"	"
C260	QCT26UJ-150H	15 pF	"	"
C301	QET51HR-475P	4.7 $\mu$ F	"	Electrolytic
C302	QET51HR-475P	"	"	"
C303	QCS21HJ-101H	100 pF	"	Ceramic
C304	QCS21HJ-101H	"	"	"
C307	QET51CR-107P	100 $\mu$ F	16 V	Electrolytic
C308	QET51CR-107P	"	"	"
C309	QET51HR-225P	2.2 $\mu$ F	50 V	"
C310	QET51HR-225P	"	"	"
C311	QCY21HK-182H	1800 pF	"	Ceramic
C312	QCY21HK-182H	"	"	"
C315	QCY21HK-682H	6800 pF	"	"
C316	QCY21HK-682H	"	"	"
C321	QCS21HJ-151H	160 pF	"	"
C322	QCS21HJ-151H	"	"	"
C323	QFM31HJ-183	0.018 $\mu$ F	"	Mylar
C324	QFM31HK-183	"	"	"
C353	QET51CR-107P	100 $\mu$ F	16 V	Electrolytic
C461	QCF21HP-223H	0.022 $\mu$ F	50 V	Ceramic
C462	QCF21HP-223H	"	"	"



## Resistors

Item No.	Part Number	Rating		Description
R101	QRD148J-391SN	390 Ω	1/4 W	Carbon
R102	QRD148J-472SN	4.7 kΩ	"	"
R103	QRD148J-223SN	22 kΩ	"	"
R104	QRD148J-102SN	1 kΩ	"	"
R105	QRD148J-101SN	100 Ω	"	"
R106	QRD148J-561SN	560 Ω	"	"
R107	QRD148J-222SN	2.2 kΩ	"	"
R108	QRD148J-103SN	10 kΩ	"	"
R109	QRD148J-682SN	6.8 kΩ	"	"
R110	QRD148J-272SN	2.7 kΩ	"	"
R121	QRD148J-221SN	220 Ω	"	"
R122	QRD148J-273SN	27 kΩ	"	"
R123	QRD148J-103SN	10 kΩ	"	"
R124	QRD148J-471SN	470 Ω	"	"
R125	QRD148J-101SN	100 Ω	"	"
R126	QRD148J-331SN	330 Ω	"	"
R131	QRD148J-391SN	390 Ω	"	"
R132	QRD148J-123SN	12 kΩ	"	"
R134	QRD148J-332SN	3.3 kΩ	"	"
R137	QRD148J-823SN	82 kΩ	"	"
R138	QRD148J-682SN	6.8 kΩ	"	"
R139	QRD148J-473SN	47 kΩ	"	"
R140	QRD148J-123SN	12 kΩ	"	"
R141	QRD148J-103SN	10 kΩ	"	"
R162	QRD148J-473SN	47 kΩ	"	"
R163	QRD148J-683SN	68 kΩ	"	"
R164	QRD148J-163SN	16 kΩ	"	"
R165	QVP8A0B-053P	5 kΩ	0.1 W	Variable (Free Run)
R166	QRD148J-102SN	1 kΩ	1/4 W	Carbon
R167	QRD149J-330	33 Ω	"	(TFC-32A)
R167	QRZ0052-330	"	"	Fusible (TFC-32B)
R168	QVP8A0B-055P	5 kΩ	0.1 W	Variable (separation)
R169	QRD148J-103SN	10 kΩ	1/4 W	Carbon
R170	QRD148J-103SN	"	"	"
R171	QRD148J-473SN	47 kΩ	"	"
R172	QRD148J-473SN	"	"	"
R173	QRD148J-223SN	22 kΩ	"	"
R174	QRD148J-223SN	"	"	"
R175	QRD148J-681SN	680 Ω	"	"
R191	QRD148J-332SN	3.3 kΩ	"	"
R192	QRD148J-332SN	"	"	"
R193	QRD148J-392SN	3.9 kΩ	"	(TFC-32A)
R193	QRD148J-472SN	4.7 kΩ	"	(TFC-32B)
R194	QRD148J-392SN	3.9 kΩ	"	(TFC-32A)
R194	QRD148J-472SN	4.7 kΩ	"	(TFC-32B)
R195	QRD148J-333SN	33 kΩ	"	"
R196	QRD148J-103SN	10 kΩ	"	"
R197	QRD148J-563SN	56 kΩ	"	"
R198	QRD148J-563SN	"	"	"
R201	QRD148J-152SN	1.5 kΩ	"	"
R202	QRD148J-103SN	10 kΩ	"	"
R203	QRD148J-103SN	"	"	"
R204	QRD148J-271SN	270 Ω	"	"
R205	QRD148J-562SN	5.6 kΩ	"	"
R206	QRD148J-222SN	2.2 kΩ	"	"
R209	QRD148J-151SN	150 Ω	"	"
R212	QRD148J-151SN	"	"	"
R250	QRD148J-102SN	1 kΩ	"	"
R303	QRD148J-222SN	2.2 kΩ	"	"
R304	QRD148J-222SN	"	"	"
R305	QRD148J-563SN	56 kΩ	"	"
R306	QRD148J-563SN	"	"	"
R309	QRD148J-102SN	1 kΩ	"	"
R310	QRD148J-102SN	"	"	"
R311	QRD148J-104SN	100 kΩ	"	"

## Resistors

Item No.	Part Number	Rating		Description
R312	QRD148J-104SN	100 kΩ	1/4 W	Carbon
R313	QRD148J-393SN	39 kΩ	"	"
R314	QRD148J-393SN	"	"	"
R315	QRD148J-474SN	470 kΩ	"	"
R316	QRD148J-474SN	"	"	"
R323	QRD148J-332SN	3.3 kΩ	"	"
R324	QRD148J-332SN	"	"	"
R325	QRD148J-332SN	"	"	"
R326	QRD148J-332SN	"	"	"
R329	QRD148J-683SN	68 kΩ	"	"
R330	QRD148J-223SN	22 kΩ	"	"
R331	QRD148J-223SN	"	"	"
R332	QRD148J-223SN	"	"	"
R340	QRD148J-562SN	5.6 kΩ	"	"
R351	QRD148J-333SN	33 kΩ	"	"
R352	QRD148J-681SN	680 Ω	"	"
R353	QRD148J-102SN	1 kΩ	"	"
R354	QRD148J-303SN	30 kΩ	"	"
R356	QRD148J-102SN	1 kΩ	"	"
R357	QRD148J-682SN	6.8 kΩ	"	"
R358	QRD148J-222SN	2.2 kΩ	"	"
R361	QRD148J-102SN	1 kΩ	"	"
R362	QRD148J-102SN	"	"	"
R363	QRD148J-102SN	"	"	"
R364	QRD148J-102SN	"	"	"
R365	QRD148J-102SN	"	"	"
R366	QRD148J-102SN	"	"	"
R367	QRD148J-681SN	680 Ω	"	"
R384	QRD148J-123SN	12 kΩ	"	"
R390	QRD148J-563SN	56 kΩ	"	"
R391	QRD148J-563SN	"	"	"
R392	QRD148J-103SN	10 kΩ	"	"
R393	QRD148J-223SN	22 kΩ	"	"
R394	QRD148J-223SN	"	"	"
R395	QRD148J-223SN	"	"	"
R422	QRD148J-821SN	820 Ω	"	"
R423	QRD148J-821SN	"	"	"
R461	QRD148J-124SN	120 kΩ	"	(TFC-32B)
R462	QRD148J-124SN	"	"	(TFC-32B)

## Others

Item No.	Part Number	Rating	Description
S401	QSR5944-20A	Rotary Switch	Source Select
S402	QSP0238-054	Push Switch	Function
CF101	E03357-013	Ceramic Filter	(TFC-32A)
CF101	E03357-014	"	(TFC-32B)
CF102	E03357-013	"	(TFC-32A)
CF102	E03357-014	"	(TFC-32B)
CF201	E03613-019	"	"
	EMN00TV-401A	Pin Jack	PHONO, TAPE
	EWR36A-20NN	Flut Wire	
	E03572-016	Antenna Terminal	
	ENZ1002-001	V. Capacitor	
	E300098-001	Shield Cover	
	E301482-001	LED Holder	
	E43727-002	Tab	
	E68131-001	Bus Bar	
	QHW1052-001	Wire Clamp	
	QMV5005-008	8P Plug Ass'y	

# 8-(2) TXX-303 Main Amp. Power Supply and All Functions P.C. Board Ass'y

The number of TXX-303 □ -1 varies according to the area employed. Refer to page 16.

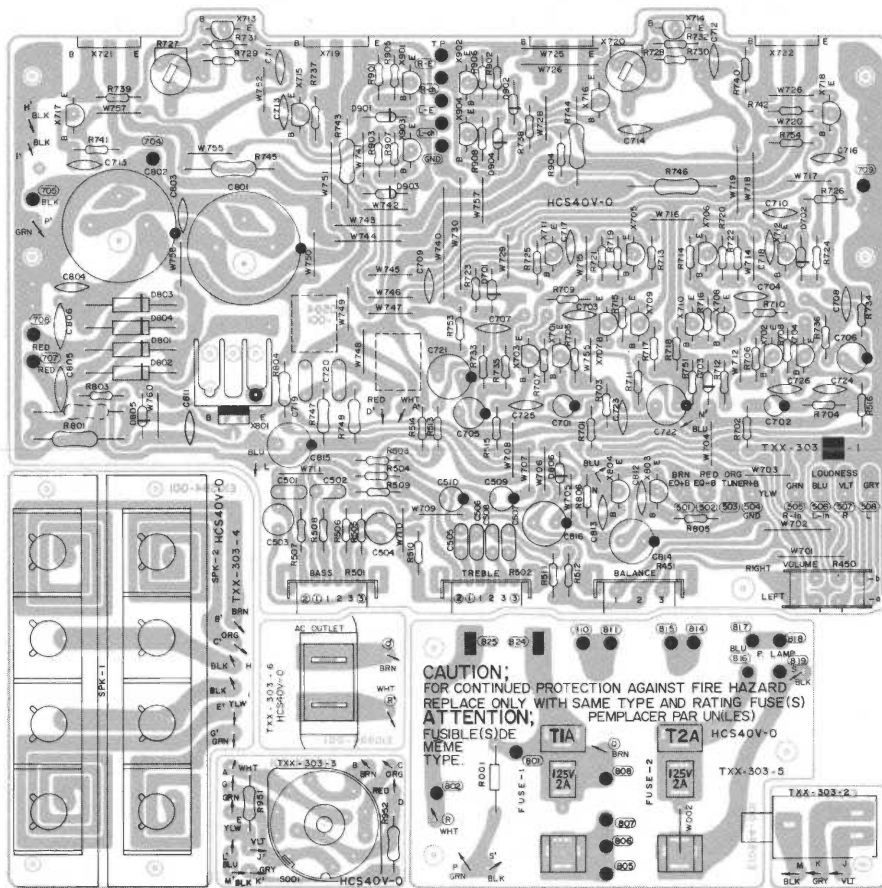


Fig. 12

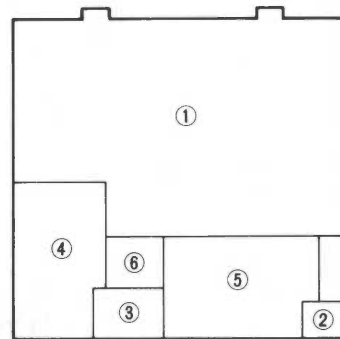


Fig. 13

### Each Individual P.C. Board Location

- ① TXX-303 □ -1: Main Amp. P.C. Board Ass'y
- ② TXX-303-2 : Headphone Jack P.C. Board Ass'y
- ③ TXX-303-3 : Speaker Select Switch P.C. Board Ass'y
- ④ TXX-303-4 : Speaker Terminal P.C. Board Ass'y
- ⑤ TXX-303-5 : Fuse P.C. Board Ass'y
- ⑥ TXX-303-6 : AC Socket P.C. Board Ass'y

### Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT		Maker
X701	2SC1775(F)	0.3 W	200 MHz	Silicon	Hitachi
X702	2SC1775(F)	"	"	"	"
X703	2SC1775(F)	"	"	"	"
X704	2SC1775(F)	"	"	"	"
X705	2SA1084(E)	0.4 W	120 MHz	"	"
X706	2SA1084(E)	"	"	"	"
X707	2SA1029(C)	0.2 W	200 MHz	"	"
X708	2SA1029(C)	"	"	"	"
X709	2SA1084(E)	0.4 W	120 MHz	"	"
X710	2SA1084(E)	"	"	"	"
X711	2SC2546(E)	"	90 MHz	"	"
X712	2SC2546(E)	"	"	"	"
X713	2SC458(C)	0.2 W	230 MHz	"	"
X714	2SC458(C)	"	"	"	"
X715	2SC2235(O,Y)	0.9 W	120 MHz	"	Toshiba
X716	2SC2235(O,Y)	"	"	"	"
X717	2SA965(O,Y)	"	"	"	"
X718	2SA965(O,Y)	"	"	"	"
X719	2SD895UA(D,E)	60 W	15 MHz	"	Sanyo
X720	2SD895UA(D,E)	"	"	"	"
X721	2SB775UA(D,E)	"	"	"	"
X722	2SB775UA(D,E)	"	"	"	"
X801	2SD313V(D,E)	30 W	8 MHz	"	"
X901	2SC458(C,D)	0.2 W	230 MHz	"	Hitachi
X902	2SC458(C,D)	"	"	"	"
X903	2SA1029(C,D)	"	200 MHz	"	"
X904	2SA1029(C,D)	"	"	"	"

### Note:

The specific symbols (赤, 黒, 白, ... etc.) on a surface of P.C. Board are actually unrelated to the repair service and are significant denotation in order to process the proper assembly at the factory.

### Note:

In □ should be indicated an area code according to the table shown below when placing an order.

Designated Areas	P.C. Board Ass'y
U.S.A. & Canada	TXX-303 A-1
U.S. Military Market and Other Countries	TXX-303 D-1

### Diodes

Item No.	Part Number	Rating		Description	
		Pc			Maker
D701	1S2076-31	0.25 W	"	Silicon	Hitachi
D702	1S2076-31			"	"
D801	S3V20F			"	Shindengen
D802	S3V20F	"	"	"	"
D803	S3V20F	"	"	"	"
D804	S3V20F	"	"	"	"
D805	RD13EB3	"	"	Silicon (Zener)	NEC
D806	RD13EB3	"	"	"	"
D901	1S2076-31	0.25 W	"	Silicon	Hitachi
D902	1S2076-31	"	"	"	"
D903	1S2076-31	"	"	"	"
D904	1S2076-31	"	"	"	"



### Capacitors

Item No.	Part Number	Rating		Description
C501	QFM31HK-333	0.033 $\mu$ F	50 V	Mylar
C502	QFM31HK-333	"	"	"
C503	QEZ0046-224	0.22 $\mu$ F	"	Electrolytic
C504	QEZ0046-224	"	"	"
C505	QFM31HK-182	1800 pF	"	Mylar
C506	QFM31HK-182	"	"	"
C507	QFM31HK-183	0.018 $\mu$ F	"	"
C508	QFM31HK-183	"	"	"
C509	QET51HR-475P	4.7 $\mu$ F	"	Electrolytic
C510	QET51HR-475P	"	"	"
C701	QET51HR-225P	2.2 $\mu$ F	"	"
C702	QET51HR-225P	"	"	"
C703	QCS21HJ-471H	470 pF	"	Ceramic
C704	QCS21HJ-471H	"	"	"
C705	QET51AR-107P	100 $\mu$ F	10 V	Electrolytic
C706	QET51AR-107P	"	"	"
C707	QCS21HJ-100H	10 pF	50 V	Ceramic
C708	QCS21HJ-100H	"	"	"
C709	QCY21HK-332H	3300 pF	"	"
C710	QCY21HK-332H	"	"	"
C711	QCY21HK-103H	0.01 $\mu$ F	"	"
C712	QCY21HK-103H	"	"	"
C713	QCS21HJ-181H	180 pF	"	"
C714	QCS21HJ-181H	"	"	"
C715	QCS21HJ-181H	"	"	"
C716	QCS21HJ-181H	"	"	"
C717	QCS21HJ-151H	160 pF	"	"
C718	QCS21HJ-151H	"	"	"
C719	QFM31HK-473	0.047 $\mu$ F	"	Mylar
C720	QFM31HK-473	"	"	"
C721	QET51VR-107P	100 $\mu$ F	35 V	Electrolytic
C722	QET51VR-107P	"	"	"
C723	QCS21HJ-121H	120 pF	50 V	Ceramic
C724	QCS21HJ-121H	"	"	"
C725	QCS21HJ-101H	100 pF	"	"
C726	QCS21HJ-101H	"	"	"
C801	QEW81VA-688E	6800 $\mu$ F	35 V	Electrolytic
C802	QEW81VA-688E	"	"	"
C803	QCF21HP-473H	0.047 $\mu$ F	50 V	Ceramic
C804	QCF21HP-473H	"	"	"
C805	QCE22HP-103	0.01 $\mu$ F	500 V	" (TXX-303A, -303C)
C805	QFM31HK-104	0.1 $\mu$ F	50 V	Mylar (TXX-303D)
C806	QCE22HP-103	0.01 $\mu$ F	500 V	Ceramic
C811	QCF21HP-103H	"	50 V	"
C815	QET51CR-227P	220 $\mu$ F	16 V	Electrolytic
C816	QET51CR-476P	47 $\mu$ F	"	"

### Resistors

Item No.	Part Number	Rating		Description
R001	QRC121K-275EM	2.7 M $\Omega$	1/2 W	Composition (TXX-303A)
R503	QRD148J-123SN	12 k $\Omega$	1/4 W	Carbon
R504	QRD148J-123SN	"	"	"
R505	QRD148J-182SN	1.8 k $\Omega$	"	"
R506	QRD148J-182SN	"	"	"
R507	QRD148J-823SN	82 k $\Omega$	"	"
R508	QRD148J-823SN	"	"	"
R509	QRD148J-182SN	1.8 k $\Omega$	"	"
R510	QRD148J-182SN	"	"	"
R511	QRD148J-681SN	680 $\Omega$	"	"
R512	QRD148J-681SN	"	"	"
R513	QRD148J-472SN	4.7 k $\Omega$	"	"
R514	QRD148J-472SN	"	"	"
R515	QRD148J-562SN	5.6 k $\Omega$	"	"
R516	QRD148J-562SN	"	"	"
R701	QRD148J-222SN	2.2 k $\Omega$	"	"
R702	QRD148J-222SN	"	"	"
R703	QRD148J-104SN	100 k $\Omega$	"	"
R704	QRD148J-104SN	"	"	"
R705	QRD148J-102SN	1 k $\Omega$	"	"
R706	QRD148J-102SN	"	"	"
R707	QRD148J-102SN	"	"	"
R708	QRD148J-102SN	"	"	"
R709	QRD148J-331SN	330 $\Omega$	"	"
R710	QRD148J-331SN	"	"	"
R711	QRD148J-682SN	6.8 k $\Omega$	"	"

### Resistors

Item No.	Part Number	Rating		Description
R712	QRD148J-682SN	6.8 k $\Omega$	1/4 W	Carbon
R713	QRD149J-220S	22 $\Omega$	"	"
R714	QRD149J-220S	"	"	"
R715	QRD148J-391SN	390 $\Omega$	"	"
R716	QRD148J-391SN	"	"	"
R717	QRD148J-333SN	33 k $\Omega$	"	"
R718	QRD148J-333SN	"	"	"
R719	QRD148J-472SN	4.7 k $\Omega$	"	"
R720	QRD148J-472SN	"	"	"
R723	QRD149J-101S	100 $\Omega$	"	"
R724	QRD149J-101S	"	"	"
R725	QRD149J-101S	"	"	"
R726	QRD149J-101S	"	"	"
R727	EVP811-7-B202	2 k $\Omega$	0.2 W	Variable (Idling Current)
R728	EVP811-7-B202	"	"	" ( " )
R729	QRD148J-332SN	3.3 k $\Omega$	1/4 W	Carbon
R730	QRD148J-332SN	"	"	"
R731	QRD148J-152SN	1.5 k $\Omega$	"	"
R732	QRD148J-152SN	"	"	"
R733	QRD148J-104SN	100 k $\Omega$	"	"
R734	QRD148J-104SN	"	"	"
R735	QRD148J-561SN	560 $\Omega$	"	"
R736	QRD148J-561SN	"	"	"
R737	QRD149J-100S	10 $\Omega$	"	"
R738	QRD149J-100S	"	"	"
R739	QRD149J-271S	270 $\Omega$	"	"
R740	QRD149J-271S	"	"	"
R741	QRD149J-100S	10 $\Omega$	"	"
R742	QRD149J-100S	"	"	"
R743	QRG029J-R22S	0.22 $\Omega$	2 W	Oxide Metal Film
R744	QRG029J-R22S	"	"	"
R745	QRG029J-R22S	"	"	"
R746	QRG029J-R22S	"	"	"
R747	QRD129J-100	10 $\Omega$	1/2 W	Carbon
R748	QRD129J-100	"	"	"
R753	QRD149J-100S	"	1/4 W	"
R754	QRD149J-100S	"	"	"
R801	QRG029J-270S	27 $\Omega$	2 W	Oxide Metal Film
R803	QRD148J-392SN	3.9 k $\Omega$	1/4 W	Carbon
R804	QRD129J-122	1.2 k $\Omega$	1/2 W	"
R901	QRD148J-821SN	820 $\Omega$	1/4 W	"
R902	QRD148J-821SN	"	"	"
R903	QRD148J-821SN	"	"	"
R904	QRD148J-821SN	"	"	"
R905	QRD148J-102SN	1 k $\Omega$	"	"
R906	QRD148J-102SN	"	"	"
R907	QRD148J-102SN	"	"	"
R908	QRD148J-102SN	"	"	"
R951	QRD129J-181	180 $\Omega$	1/2 W	"
R952	QRD129J-181	"	"	"

### Others

Item No.	Part Number	Rating	Description
S901	QSR0083-001	Rotary Switch	Speaker Select
	SBSB3008Z	Screw	C. Board Holder
	SBSE3012Z	"	Power Transistor
	E301480-001	Heat Sink	"
	WSS3000N	Washer	"
R450M	QVD8A2B-AF5V	Variable Resistor	Master Volume
R451B	QVFOA2W-6F5	"	Balance
R501B	QVD4A2C-115	"	Bass
R502T	QVD4A2C-115	"	Treble
	E61537-004	Heat Sink	X801
	SBSB3008Z	Screw	"
	EWS018-023	SKT Wire Ass'y	"
	E03572-007EM	SPK Terminal	"
	E301481-001	C.B. Holder	"
	E301481-002	"	"
	E33754-001	Tie Band	"
	E43727-002	Tab	"
	E45524-002	Fuse Clip	TXX-303A
	E48965-002	"	TXX-303D
	E65508-002	Tab	"
	QMS6302-111	Jack	Headphone

## 9. Packing Materials and Part Numbers

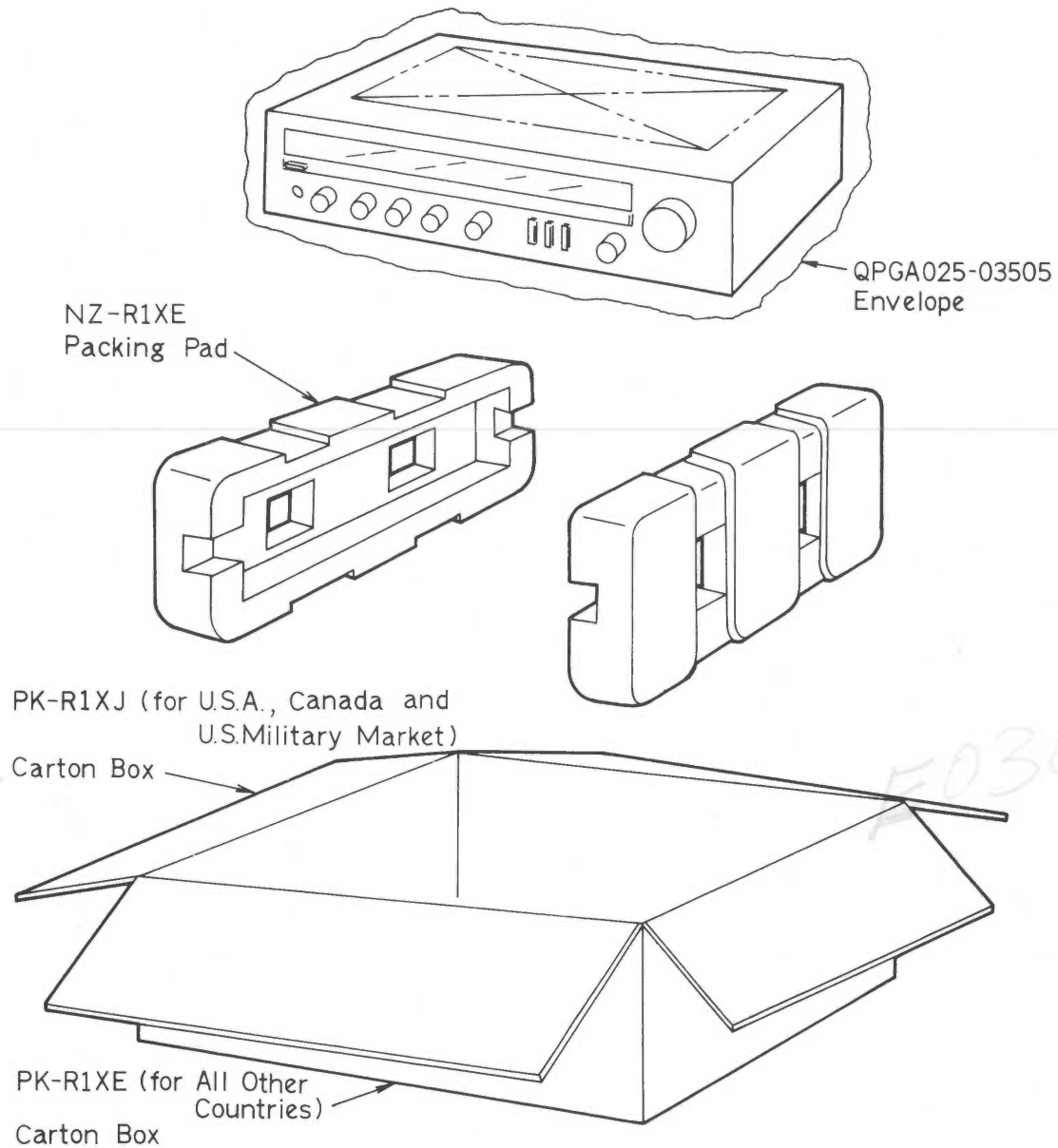


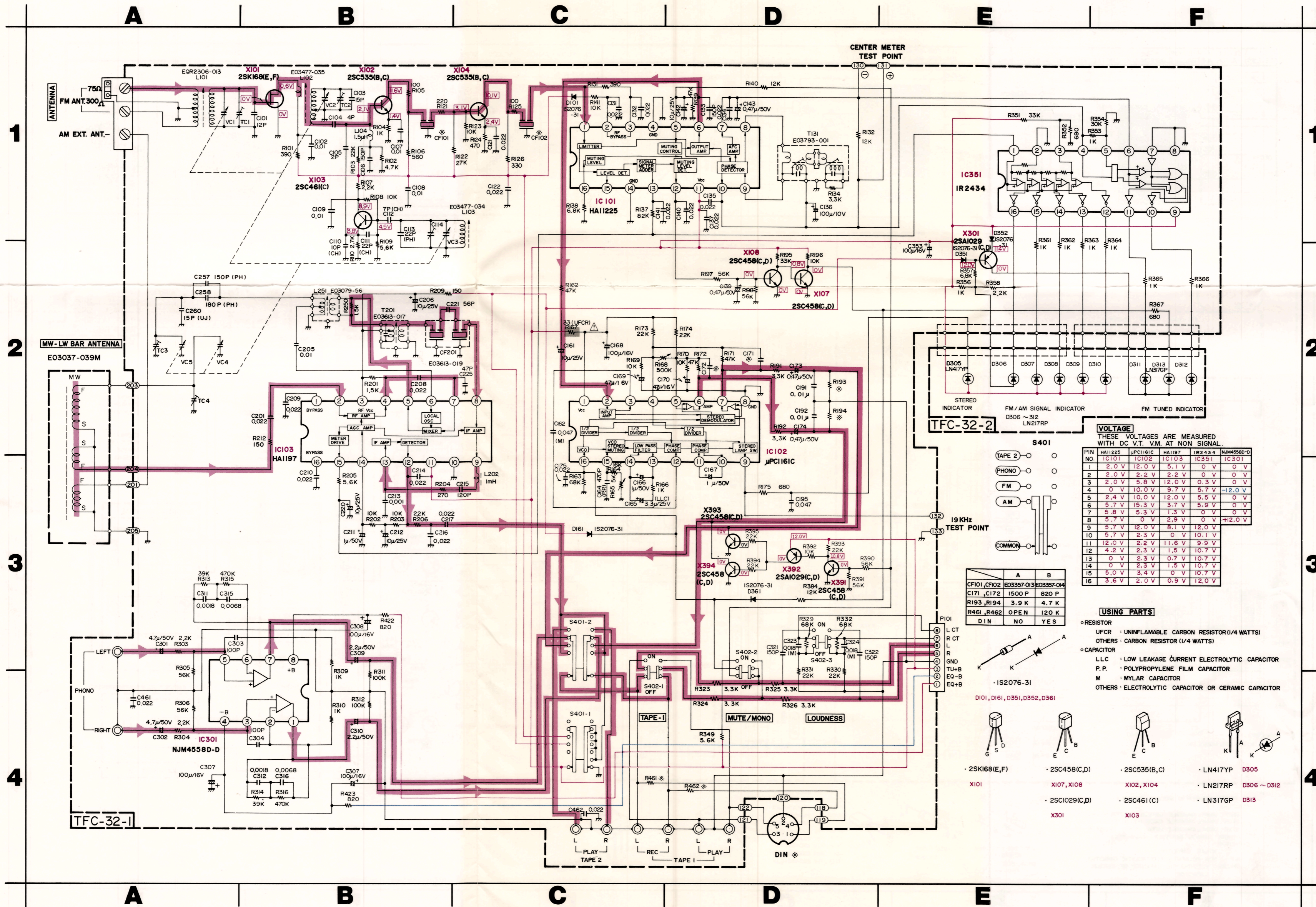
Fig. 14

## 10. Accessories List

Item No.	Part Number	Description	Q'ty
1	E30580-892A	Instruction Book	1
2	See page 16.	Warranty Card	1
3	E03614-004	FM Antenna	1
4	BT20042	Service Procedures (for U.S.A. only)	1
5	QPGA025-03505	Envelope for Instruction Book	1



# 11. R-1X Schematic Diagram

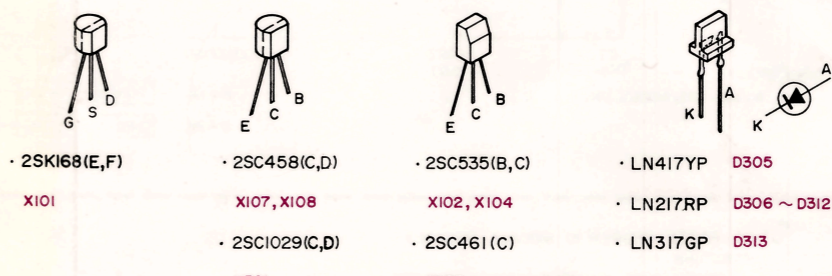


**VOLTAGE**  
THESE VOLTAGES ARE MEASURED WITH DC V.T. VM AT NON SIGNAL

PIN NO.	IC101	IC102	IC103	IC351	IC301
1	2.0 V	12.0 V	5.1 V	0 V	0 V
2	2.0 V	2.2 V	2.2 V	0 V	0 V
3	2.0 V	5.8 V	12.0 V	0.3 V	0 V
4	0 V	10.0 V	9.7 V	5.7 V	-12.0 V
5	2.4 V	10.0 V	12.0 V	5.5 V	0 V
6	5.7 V	15.3 V	3.7 V	5.9 V	0 V
7	5.8 V	5.3 V	1.3 V	0 V	0 V
8	5.7 V	0 V	2.9 V	0 V	+12.0 V
9	5.7 V	12.0 V	8.1 V	12.0 V	0 V
10	5.7 V	2.3 V	0 V	10.1 V	0 V
11	12.0 V	2.2 V	11.6 V	9.9 V	0 V
12	4.2 V	2.3 V	1.5 V	10.7 V	0 V
13	0 V	2.3 V	0.7 V	10.7 V	0 V
14	0 V	2.3 V	1.5 V	10.7 V	0 V
15	5.0 V	3.4 V	0 V	10.7 V	0 V
16	3.6 V	2.0 V	0.9 V	12.0 V	0 V

**USING PARTS**

- RESISTOR: UNFLAMMABLE CARBON RESISTOR (1/4 WATTS), OTHERS CARBON RESISTOR (1/4 WATTS)
- CAPACITOR: LLC LOW LEAKAGE CURRENT ELECTROLYTIC CAPACITOR, P.P. POLYPROPYLENE FILM CAPACITOR, M MYLAR CAPACITOR, OTHERS ELECTROLYTIC CAPACITOR OR CERAMIC CAPACITOR

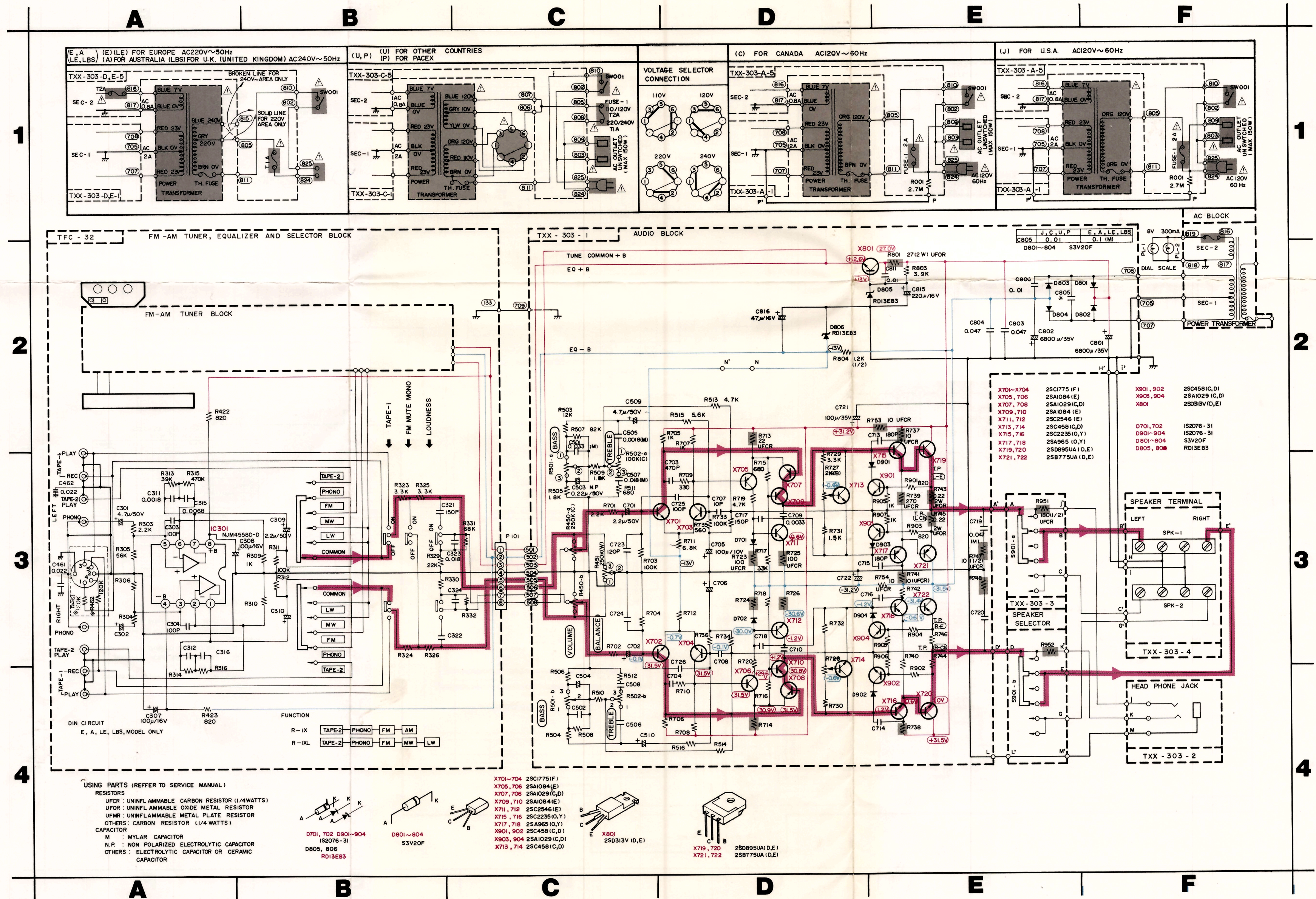


**Printed Circuit Board Ass'y Locations**

P.C. Board Ass'y	Description	Page
TFC-32	FM/AM Tuner and Equalizer Amp. P.C. Board Ass'y	7
TXX-303	Main Amp., Power Supply and All Functions P.C. Board Ass'y	11

- Notes:**
- shows DC voltage to the chassis with no signal input.
  - \* ○ shows DC voltage to the chassis when 10 mV antenna input applied.
  - Voltage values in □ are positive.
  - Voltage values in □ are negative.
  - indicates positive B power supply.
  - indicates negative B power supply.
  - indicates signal path.
  - When replacing the parts in the darkned area (■) and those marked with △, be sure to use the designated parts to ensure safety.
  - Parts in red indicate transistors or ICs.
  - This is the standard circuit diagram. The design and contents are subject to change without notice.





**Printed Circuit Board Ass'y Locations**

P.C. Board Ass'y	Description	Page
TFC-32	FM/AM Tuner and Equalizer Amp. P.C. Board Ass'y	7
TXX-303	Main Amp., Power Supply and All Functions P.C. Board Ass'y	11



# 12. Parts List with Specified Numbers for Designated Areas

Page	Item No.	Description	U.S.A.	Canada	Australia	Europe	U.S. Military Market and Other Countries
4	4	Power Switch $\triangle$	QSP1110-308	QSP1110-308	QSP1110-305	QSP1110-305	QSP1110-305
3	2-(2)	Power Transformer $\triangle$	E03077-68B	E03077-68B	E03077-68E	E03077-68E	E03077-68G
3	3	Voltage Selector $\triangle$	—	—	—	—	QSR0085-001
3	2-(2)	Fuse Holder $\triangle$	—	—	—	—	QMG0301-003
11	8-(2)	Fuse Primary $\triangle$	QMF61U1-2R0 (2.0 A)	QMF61U1-2R0 (2.0 A)	QMF51A2-1R0 (1.0 A)	QMF51A2-1R0 (1.0 A)	QMF51A2-1R0 (1.0 A, 220V/240V) or QMF51A2-2R0 (2.0 A, 110V/120V)
—	—	Fuse Secondary $\triangle$	—	—	QMF51A2-2R0 (2.0 A)	QMF51A2-2R0 (2.0 A)	—
3	3	Power Cord $\triangle$	QMP1200-200	QMP1200-200	QMP2560-244	QMP3900-200	QMP7600-250
3	3	AC Outlet $\triangle$	QMC0231-004	QMC0231-004	—	—	QMC0231-004
11	8-(2)	Main Amp., Power Supply and Other Function Split P.C. Board Ass'y	TXX-303A	TXX-303A	TXX-303D	TXX-303D	TXX-303D
7	8-(1)	FM/AM Tuner and Equalizer Amp. P.C. Board Ass'y	TFC-32A	TFC-32A	TFC-32B	TFC-32B	TFC-32A
3	3	Rear Panel	E23760-001	E23760-001	E23760-002	E23760-002	E23760-001
3	3	Din Socket Ass'y	—	—	E03751-001UD	E03751-001UD	—
12	8-(2)	Fuse Clip $\triangle$	E45524-002	E45524-002	E48965-002	E48965-002	—
13	10	Warranty Card	BT20032B	BT20025D	BT20029B	—	BT20032B

$\triangle$  : Safety Parts

# JVC

VICTOR COMPANY OF JAPAN, LIMITED, TOKYO, JAPAN