JVC

SERVICE MANUAL

MODEL
R-S5
STEREO RECEIVER

No. 2476
March 1979

2. Removal Procedures

2-(1) Top Cover and Bottom Plate

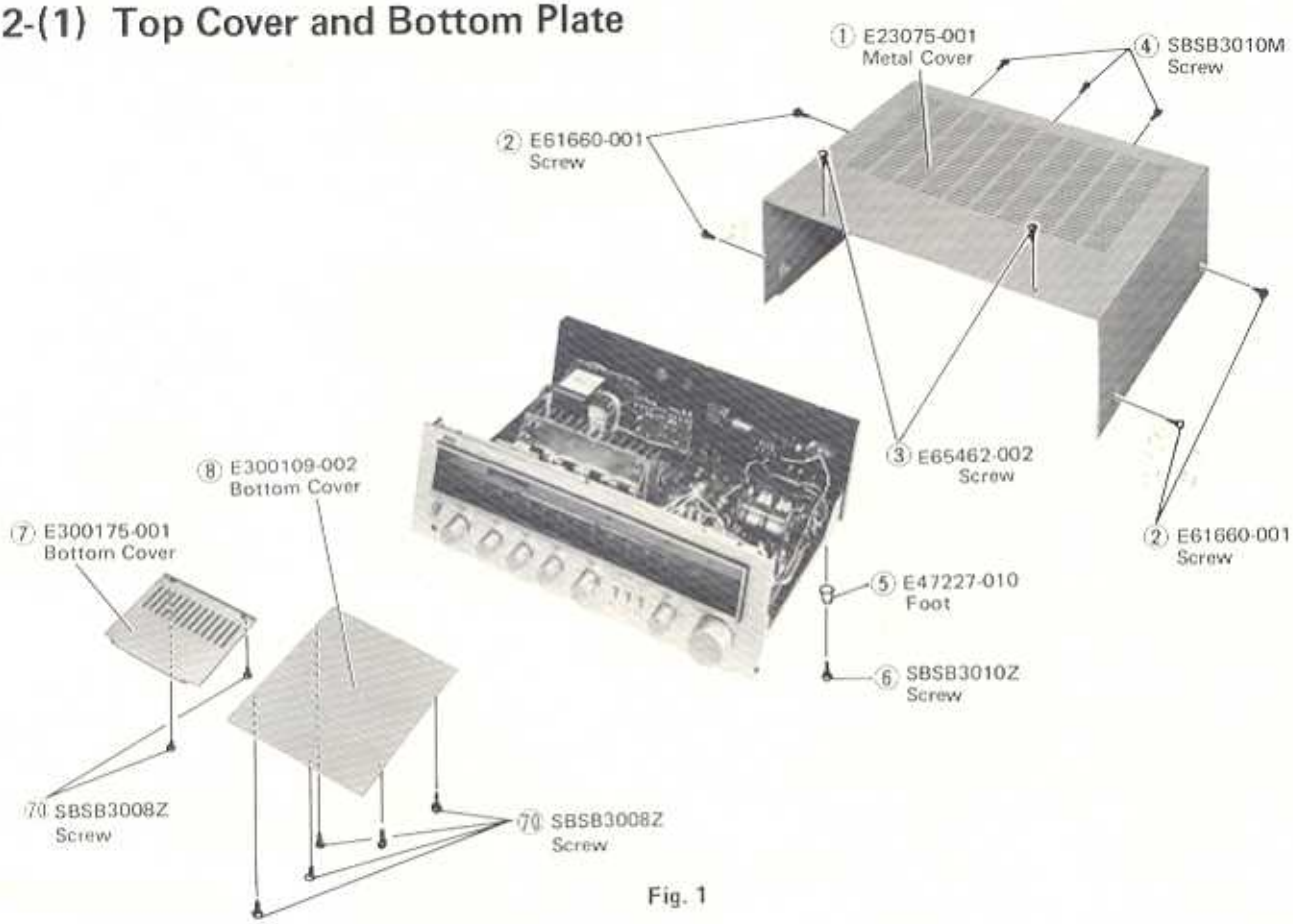


Fig. 1

2-(2) Front Panel and Window Screen

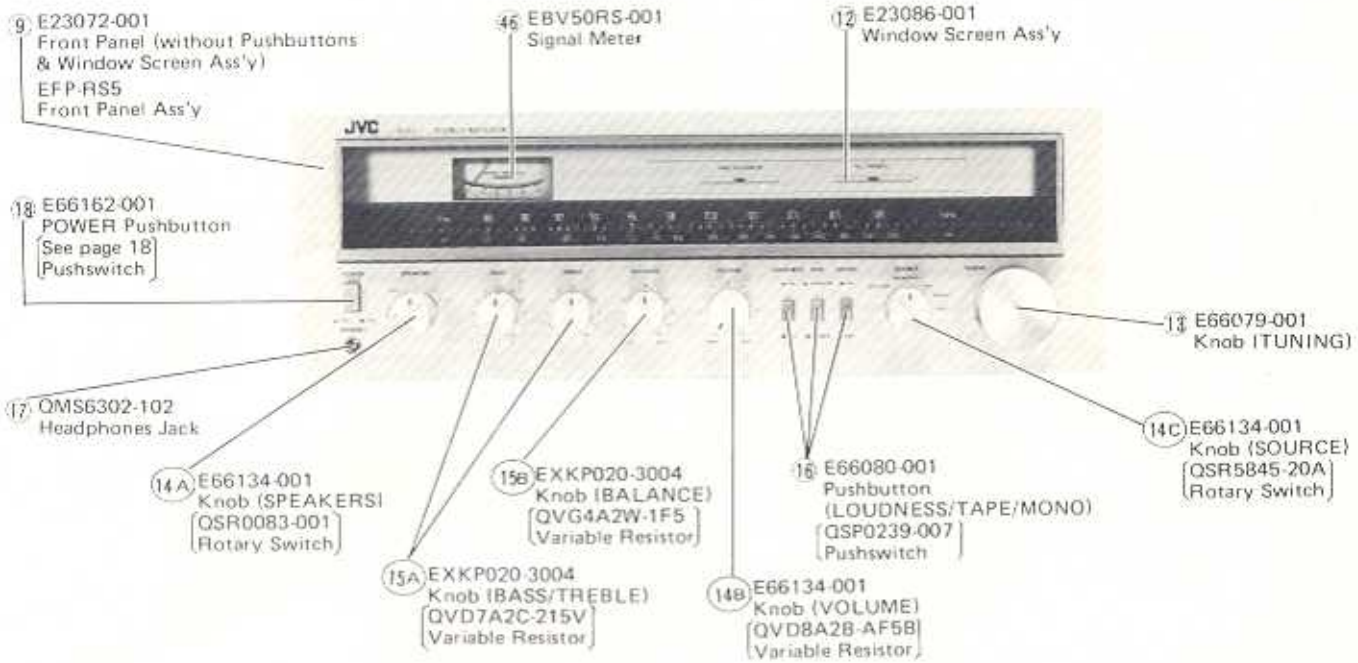


Fig. 2

2-(3) TXX-170 Main Amp. and Power Supply P.C. Board Ass'y

Procedures:

1. Remove the Top Cover. Refer to 2-(1) at page 2.
2. Pull out the all knobs carefully.
3. Remove 6 screws (Item No. 72 & 73).
4. Remove the Front Panel.
5. Remove 3 nuts of Variable Resistor. (BASS, TREBLE & BALANCE)

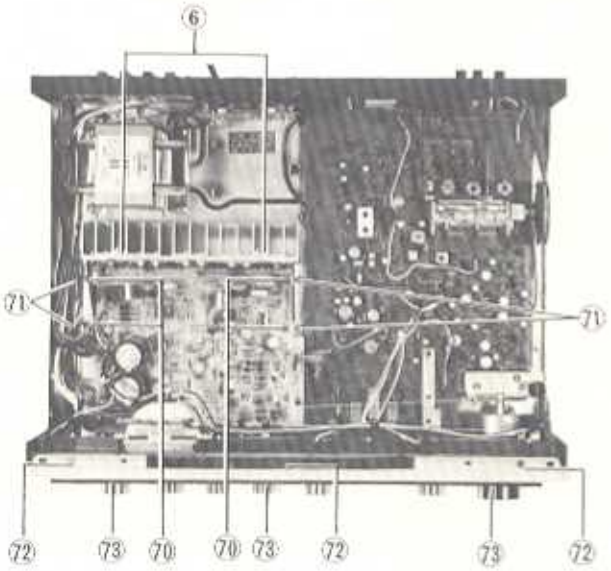


Fig. 3-A

6. Desolder Ground TAB indicated on Fig. 3-B (See Arrow).
7. Remove 2 screws (Item No. 6) from the Bottom chassis.
8. Remove 4 screws (Item No. 71) from the both side of heatsink bracket.
9. Remove TXX-170-1 together with heatsink.

Fig. 3-B

Note:

Replacement of Power Transistors

Procedures:

1. Remove the Top cover.
2. Remove 2 screws (Item No. 6) from the Bottom chassis.
3. Remove 2 screws of Bottom plate.
4. Remove the Bottom plate.
5. Desolder all Power Transistors on TXX-170-1.
6. Remove 8 screws (Item No. 70, 71) from the both sides of heatsink bracket.
7. Remove TXX-170-1 together with heatsink.

3. Main Parts Location and Part Numbers

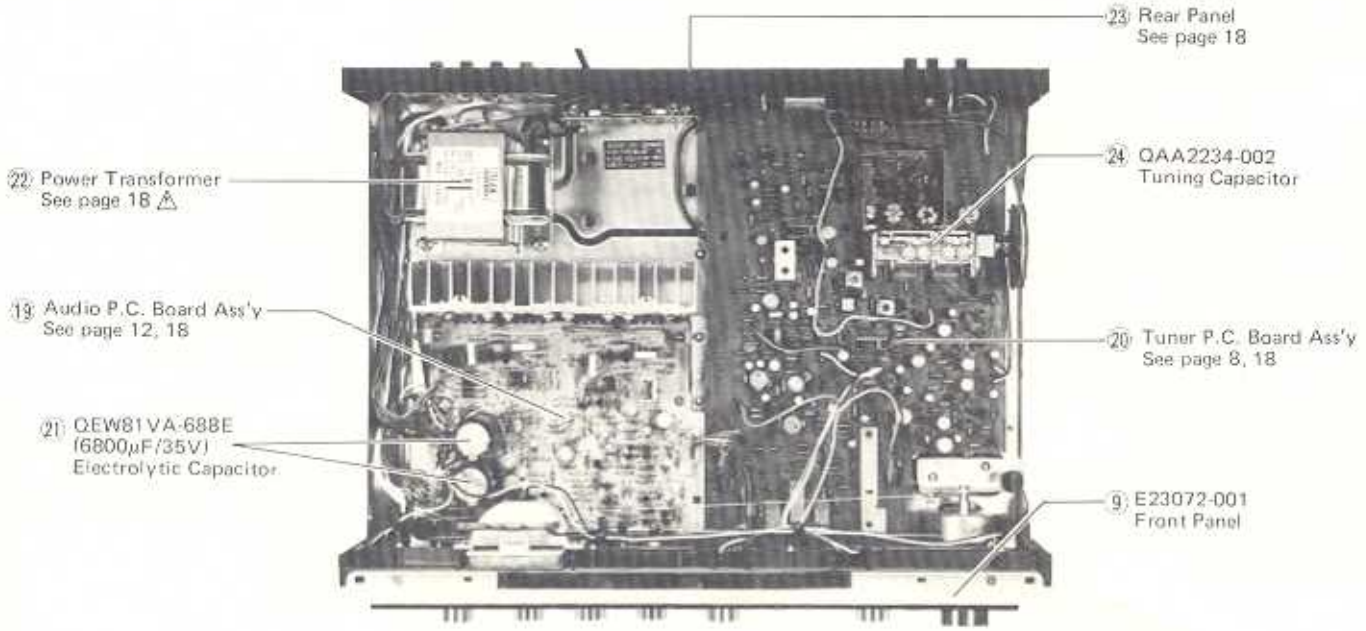


Fig. 4

4. Exploded View and Part Numbers

4-(1) Front Panel

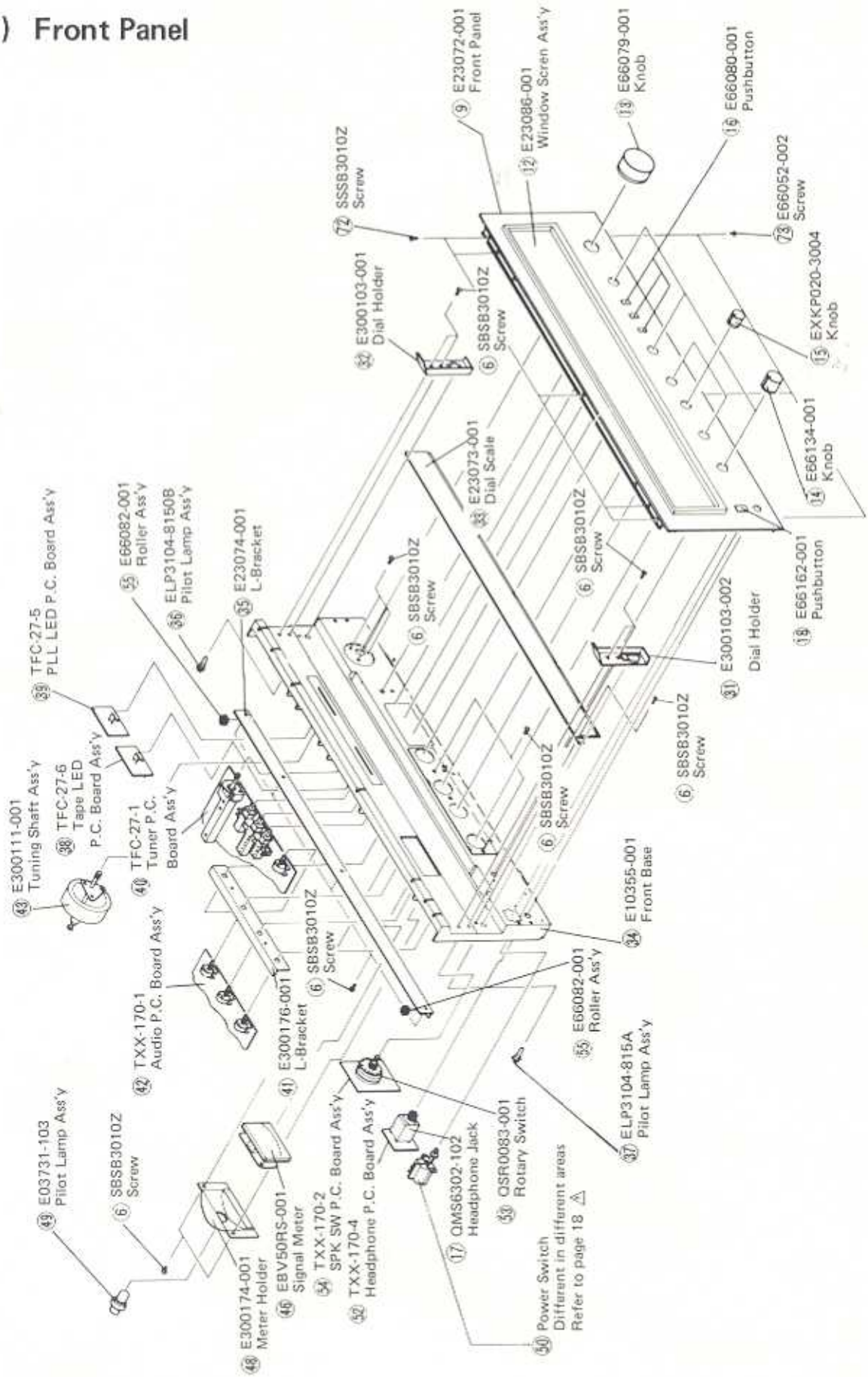


Fig. 5

4-(2) Rear Panel

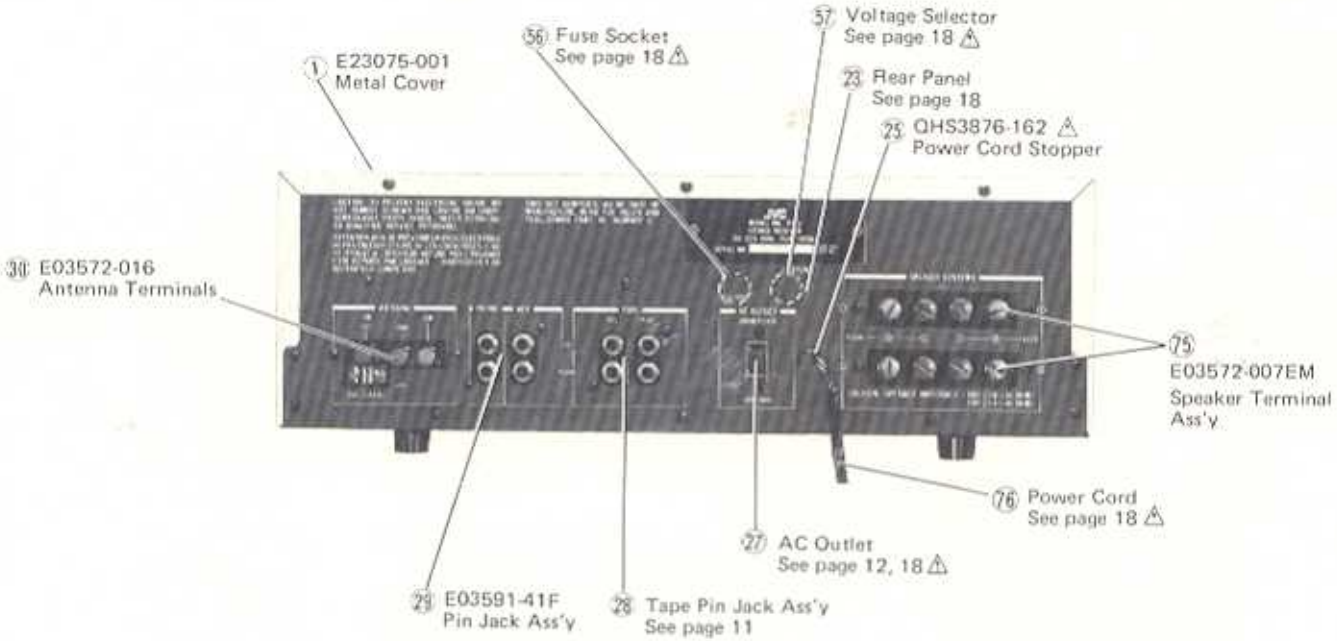


Fig. 6

5. Dial Stringing Procedures

Take the following 8 steps (from ① to ⑧).

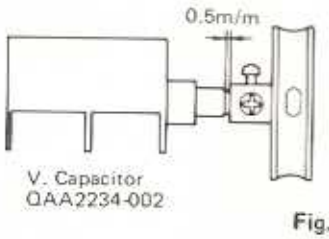


Fig. 7

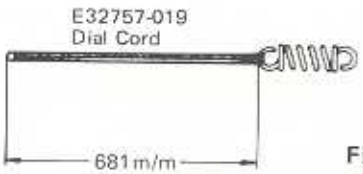


Fig. 8

Fig. 9

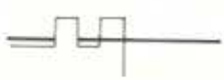
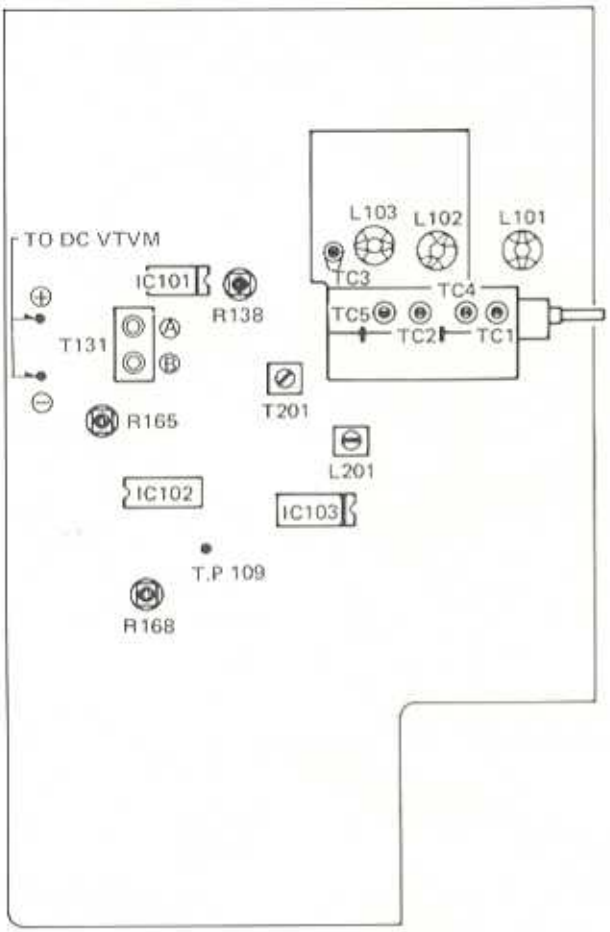


Fig. 10

6. FM/AM Tuner Alignment Procedures



Alignment Location of TFC-27 FM/AM Tuner P.C. Board Ass'y.

Fig. 11-A

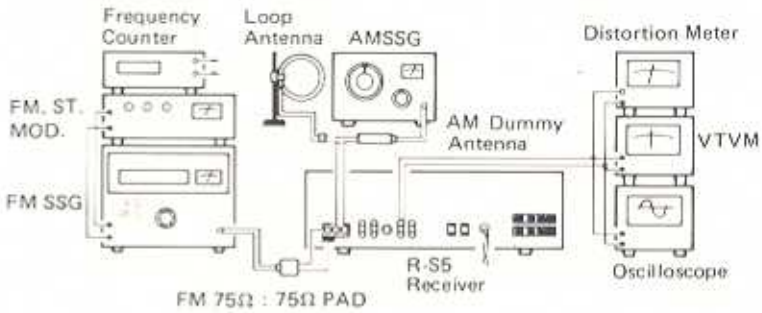


Fig. 11-B

6-(1) FM Section

Descriminator, Distortion and Signal Gain

1. Turn the Source Select knob to FM AUTO.
2. Connect an RF generator, 1kHz modulation and 75kHz 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. Connect a DC VTVM to Tab ⊕ (Positive) and Tab ⊖ (Ground).
5. Tune to a frequency where there is no broadcasting.
6. Adjust a core indicated arrow Ⓐ of T131 so that the DC VTVM indicates "0" (zero).
7. Set the RF generator to 98MHz.
8. Set the dial pointer to 98MHz.
9. Adjust a core indicated arrow Ⓑ 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 88MHz, a modulation of 1kHz and a deviation of 75kHz to provide an input of 2μV.
3. Connect a VTVM and an Oscilloscope to the Rec. Out jacks on the rear panel.
4. Set the dial pointer to 88MHz.
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 108MHz, a modulation of 1kHz and a deviation of 75kHz, to provide an input of 2μV.
7. Set the dial pointer to 108MHz.
8. Adjust the FM trimmers TC3, 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: 400Hz modulation frequency, 7.5kHz deviation pilot, 67.5kHz 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 98MHz and output of 1mV.
5. Set the dial pointer to 98MHz.
6. Connect the Frequency Counter to 19kHz Test Point. (T.P-109) See Fig. 11-A.
7. Switch off the pilot signal of Stereo Modulator.
8. Adjust R165 so that the frequency counter indicates 19kHz (0~ − 50Hz).

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 are different.

Muting Level

Note: No adjustment is necessary. However, if the check-up is required, take the following steps.

1. Set the source select knob to FM MUTING during this adjustment procedures.
2. Connect a VTVM and an Oscilloscope to the Rec. Out jacks on the rear panel.
3. Set the RF generator to 108MHz, a modulation of 1kHz and a deviation of 75kHz, to provide an input of 5μV.
4. Turn R138 counterclockwise and remember the point (or position) at which the muting ceases operating.
5. Turn R138 clockwise slightly so that the output level drops by 1dB.
6. Attenuate the output of the RF generator to 2dB from 5μV of step 2 and check that the muting is still operating.

6-(2) AM Section

Tracking and Sensitivity

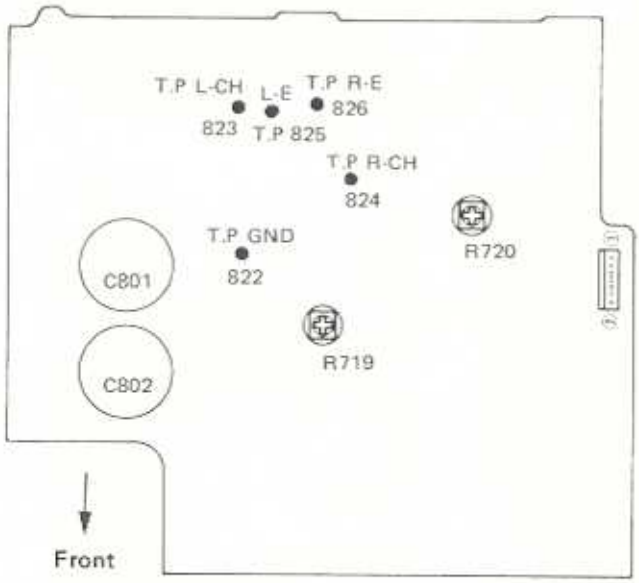
Low Frequency

1. Connect the RF generator to the antenna terminals on the rear panel, set this to 600kHz with 30% modulation at 400Hz.
2. Connect an AC VTVM and an Oscilloscope to the Rec. Out jacks on the rear panel.
3. Set the dial pointer to 600kHz.
4. Adjust OSC coil L201 and the ferrite bar antenna adjusting the coil to maximized the output signal.

High Frequency

5. Set the RF generator to 1400kHz with 30% modulation at 400Hz.
6. Set the dial pointer to 1400kHz.
7. Adjust the trimmers TC5 and TC4 in the tuning gang so that the output signal is maximized.
8. Repeat these high and low frequencies adjustment procedures alternately until maximum.

7. Power Amplifier Idling Current Adjustment Procedure



Adjustment Location on TXX-170 Main Amp. P.C. Board Ass'y

Fig. 12

Precaution:

(1) Allow the set to warm up at least 5 minutes before connecting a DC VTVM.

(2) Must keep the heatsinks 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 R719 and R720 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 R719 (R720) for DC VTVM reading of 5mV.

8. Printed Circuit Board Ass'y and Parts List

8-(1) TFC-27 FM/AM Tuner and Equalizer Amp. P.C. Board Ass'y

The number of TFC-27 □-1 varies according to the area employed. See Note (1) below:

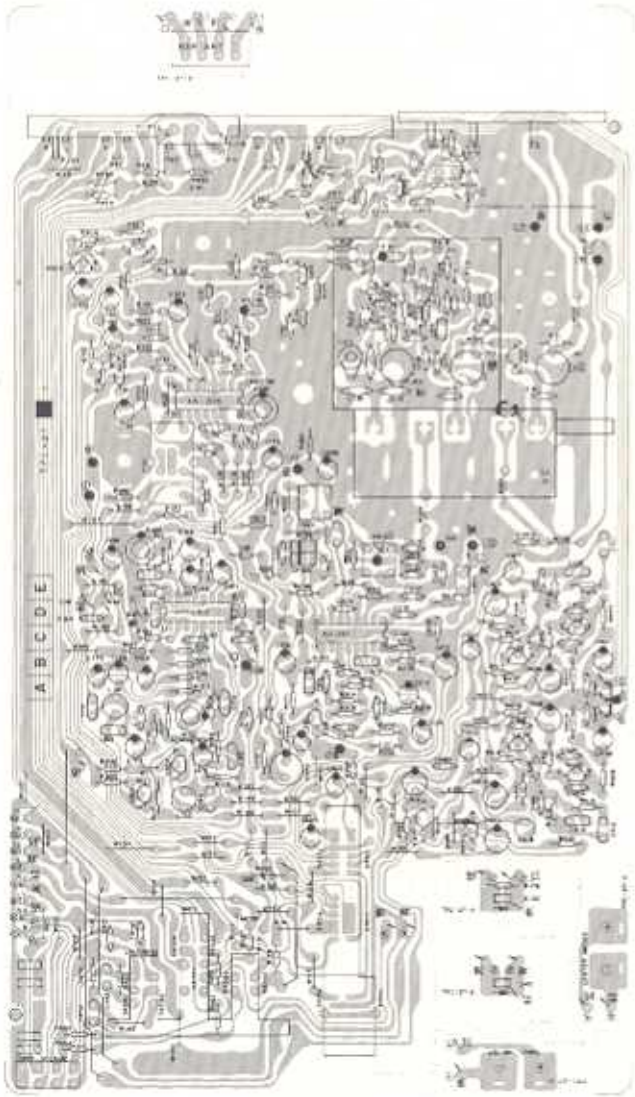


Fig. 13

Each Individual P.C. Board Ass'y Location

Fig. 14

① TFC-27-1:
FM/AM Tuner & Equalizer Amp. P.C. Board Ass'y
② TFC-27-2:
Bar Antenna P.C. Board Ass'y
③ TFC-27-3:
Signal Meter P.C. Board Ass'y
⑤ TFC-27-5:
LED P.C. Board Ass'y (PLL STEREL)
⑥ TFC-27-6:
LED P.C. Board Ass'y (TAPE MONITOR)

Designated Area	P.C. Board Ass'y
Australia & Europe	TFC-27 D -1
Other Countries	TFC-27 C -1

Note:

(1) The specific symbols (☆ ★ ◎ . . . etc.) on a surface of above P.C. Board are actually unrelated to the repair service and are significant denotement in order to process the proper assembly of P.C. Board at the factory.

(2) In □ should be indicated C or D according to the table when placing an order.

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT		Maker
X101	2SK168(E,F)	0.2W	300MHz	Silicon	Hitachi
X102	2SC535(B,C)	0.1W	940MHz	"	"
X103	2SC1342(B,C)	"	410MHz	"	"
X104	2SC535(B,C)	"	940MHz	"	"
X301	2SC458(D)	0.2W	230MHz	"	"
X302	2SA872V(E)	0.3W	120MHz	"	"
X303	2SC458(D)	0.2W	230MHz	"	"
X304	2SC458(D)	"	"	"	"
X401	2SA872AV(E)	0.3W	120MHz	"	"
X402	2SA872AV(E)	"	"	"	"
X403	2SC2546(E,F)	0.4W	90MHz	"	"
X404	2SC2546(E,F)	"	"	"	"
X405	2SA458(C)	0.2W	230MHz	"	"
X406	2SA872AV(E)	0.3W	120MHz	"	"

Integrated Circuit

Item No.	Part Number	Rating	Description	
		Pc		Maker
IC101	HA11225	0.59W	I.C.	Hitachi
IC102	μPC1161C	0.4W	"	NEC
IC103	HA1197	0.49W	"	Hitachi

Diodes

Item No.	Part Number	Rating	Description	
				Maker
D102	TLR205		LED	Toshiba
D131	1S2076-31		Silicon	Hitachi
D161	1S2076-31		"	"
D451	TLG205		LED	Toshiba

Filters

Item No.	Part Number	Rating	Description
CF101	E03357-009		Ceramic filter
CF102	E03357-009		"
CF201	E03613-015		AM ceramic filter (TFC-27C)
CF201	E03613-016		AM ceramic filter (TFC-27D)

Coils & Transformers

Item No.	Part Number	Rating	Description
L101	E03477-031		RF coil
L102	E03477-035		"
L103	E03477-034		"
L104	E03522-1R5KY	1.5μH	"
L191	Y00118-103	10mH	Choke coil
L192	Y00118-103		
L201	E03079-36		AM OSC coil
L202	E03522-391KY	390μH	Choke coil
L203	E03522-2R2KY	2.2μH	"
T131	E03793-001		FM Det. Trans.
T201	E03613-017		IF Trans.

Capacitors

Item No.	Part Number	Rating		Description
C101	QCS31HJ-120Z	12pF	50V	Ceramic
C102	QCF31HP-103Z	0.01μF	"	"
C103	QCS31HJ-150Z	15pF	"	"
C104	QCS21HJ-4R0	4pF	"	"
C105	QCS21HJ-2R0	2pF	"	"
C106	QCS31HJ-151Z	150pF	"	"
C107	QCF31HP-103Z	0.01μF	"	"
C108	QCF31HP-103Z	"	"	"
C109	QCF21HP-103	"	"	"
C110	QCT25CH-100Z	10pF	"	"
C111	QCT25CH-220Z	22pF	"	"
C112	QCT05CH-7R0	7pF	"	"
C113	QCT05PH-120	12pF	"	"
C114	QAT3001-014			Trimmer
C115	QCT05PH-120	12pF	"	Ceramic
C121	QCF21HP-223	0.022μF	"	"
C122	QCF31HP-223Z	"	"	"
C131	QCF31HP-223Z	"	"	"
C132	QCF21HP-223	"	"	"
C133	QCS31HJ-330Z	33pF	"	"
C134	QCF31HP-223Z	0.022μF	"	"
C135	QCF31HP-223Z	"	"	"
C136	QET61AR-107Z	100μF	10V	Electrolytic
C137	QCF21HP-223	0.022μF	50V	Ceramic
C138	QET51CR-476	47μF	16V	Electrolytic
C139	QET61HR-474Z	0.47μF	50V	"
C140	QCF31HP-223Z	0.022μF	"	Ceramic
C141	QCF21HP-223	"	"	"
C142	QET61ER-106Z	10μF	25V	Electrolytic
C143	QET61HR-475Z	4.7μF	50V	"
C144	QCF31HP-223Z	0.022μF	"	Ceramic
C161	QET61ER-106Z	10μF	25V	Electrolytic
C162	QFM31HK-473	0.047μF	50V	Mylar
C163	QCS31HJ-101Z	100pF	"	Ceramic
C164	QFP31HJ-471	470pF	"	Polypropylene
C165	QEB51EM-335	3.3μF	25V	Low leak current electrolytic
C166	QEB51HM-105	1μF	50V	"
C167	QEB51HM-224	0.22μF	"	"
C168	QET61CR-476Z	47μF	16V	Electrolytic
C169	QET61ER-106Z	10μF	25V	"
C170	QET61ER-106Z	"	"	"
C171	QFM31HK-152Z	1500pF	50V	Mylar (TFC-27C)
C171	QFM31HK-102Z	1000pF	"	" (TFC-27D)
C172	QFM31HK-152Z	1500pF	"	" (TFC-27C)
C172	QFM31HK-102Z	1000pF	"	" (TFC-27D)
C173	QET61HR-225Z	2.2μF	"	Electrolytic
C174	QET51HR-225	2.2μF	"	"
C175	QCF31HP-223Z	0.022μF	"	Ceramic
C176	QCF31HP-102Z	1000pF	"	"
C191	QFM31HK-682Z	6800pF	"	Mylar

Capacitors

Item No.	Part Number	Rating		Description
C192	QFM31HK-682Z	6800pF	50V	Mylar
C193	QFM31HK-182Z	1800pF	"	"
C194	QFM31HK-182Z	"	"	"
C201	QCF21HP-223	0.022μF	"	Ceramic
C202	QCS31HJ-3R0Z	3pF	"	"
C203	QCT25UJ-150Z	15pF	"	"
C204	QC31HJ-330Z	33pF	"	"
C205	QCF31HP-103Z	0.01μF	"	"
C206	QET61ER-106Z	10μF	25V	Electrolytic
C207	QCF31HP-223Z	0.022μF	50V	Ceramic
C208	QCF21HP-223	"	"	"
C209	QCF31HP-223Z	"	"	"
C210	QCF31HP-223Z	"	"	"
C211	QET61HR-105Z	1μF	"	Electrolytic
C212	QET51ER-106	10μF	25V	"
C213	QFM31HK-102Z	1000pF	50V	Mylar
C214	QCF21HP-223	0.022μF	"	Ceramic
C215	QCS31HJ-331Z	330pF	"	"
C216	QCF21HP-103	0.01μF	"	"
C217	QCF31HP-223Z	0.022μF	"	"
C218	QET51CR-476	47μF	16V	Electrolytic
C219	QET60JR-227Z	220μF	6.3V	"
C220	QCF31HP-223Z	0.022μF	50V	Ceramic
C221	QCS21HJ-680	68pF	"	"
C222	———	———	———	——— (TFC-27C)
C222	QCS31HJ-8R0Z	8pF	50V	Ceramic (TFC-27D)
C223	QCT26CH-151	150pF	"	"
C224	QCT26CH-151	"	"	"
C301	QET51HR-474	0.47μF	"	Electrolytic
C302	QET61HR-474Z	"	"	"
C303	QET61HR-474Z	"	"	"
C401	QET61HR-475	4.7μF	"	"
C402	QET61HR-475Z	"	"	"
C403	QCS31HJ-471Z	470pF	"	Ceramic
C404	QCS31HJ-471Z	"	"	"
C405	QET50JR-227	220μF	6.3V	Electrolytic
C406	QET50JR-227	"	"	"
C407	QCS31HJ-470Z	47pF	50V	Ceramic
C408	QCS31HJ-470Z	"	"	"
C409	QET60JR-227Z	220μF	6.3V	Electrolytic
C410	QET60JR-227Z	"	"	"
C411	QFM31HK-153	0.015μF	50V	Mylar
C412	QFM31HK-153	"	"	"
C413	QFM31HK-472Z	4700pF	"	"
C414	QFM31HK-472Z	"	"	"
C415	QCS31HJ-471Z	470pF	"	Ceramic
C416	QCS31HJ-471Z	"	50V	"
C417	QEZ0046-105	1μF	"	Electrolytic
C418	QEZ0046-105	"	"	"
C419	QET51CR-227	220μF	16V	"
C420	QET51CR-227	"	"	"
C427	QET51ER-106	10μF	25V	"
C428	QET51ER-106	"	"	"

Capacitors

Item No.	Part Number	Rating		Description
C451	QCS31HJ-151Z	150pF	50V	Ceramic
C452	QCS31HJ-151Z	"	"	"
C453	QFM31HK-183Z	0.018μF	"	Mylar
C454	QFM31HK-183Z	"	"	"
C461	QCF31HP-223Z	0.022μF	"	Ceramic
C462	QCF31HP-223Z	"	"	"
C463	QCF31HP-223Z	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R101	QRD141J-391S	390Ω	1/4W	Carbon
R102	QRD141J-472S	4.7kΩ	"	"
R103	QRD141J-223S	22kΩ	"	"
R104	QRD141J-102S	1kΩ	"	"
R105	QRD141J-101S	100Ω	"	"
R106	QRD141J-561S	560Ω	"	"
R107	QRD141J-561S	"	"	"
R108	QRD141J-103S	10kΩ	"	"
R109	QRD141J-682S	6.8kΩ	"	"
R110	QRD141J-222S	2.2kΩ	"	"
R113	QRD149J-220S	22Ω	"	"
R121	QRD141J-221S	220Ω	"	"
R122	QRD141J-273S	27kΩ	"	"
R123	QRD141J-103S	10kΩ	"	"
R124	QRD141J-471S	470Ω	"	"
R125	QRD141J-101S	100Ω	"	"
R126	QRD141J-331S	330Ω	"	"
R131	QRD141J-391S	390Ω	"	"
R132	QRD141J-331S	330Ω	"	"
R133	QRD141J-822S	8.2kΩ	"	"
R134	QRD141J-332S	3.3kΩ	"	"
R135	QRD149J-470S	47Ω	"	"
R136	QRD141J-472S	4.7kΩ	"	"
R137	QRD141J-912S	9.1kΩ	"	"
R138	QVP4A08-103	10kΩ		Variable
R139	QRD141J-473S	47kΩ	1/4W	Carbon
R140	QRD141J-123S	12kΩ	"	"
R141	QRD141J-103S	10kΩ	"	"
R161	QRD141J-823S	82kΩ	"	"
R162	QRD141J-473S	47kΩ	"	"
R163	QRD141J-104S	100kΩ	"	"
R164	QRD141J-163S	16kΩ	"	"
R165	QVP4A08-472	4.7kΩ		Variable
R166	QRD141J-102S	1kΩ	1/4W	Carbon
R167	QRD149J-330S	33Ω	"	"

Resistors

Item No.	Part Number	Rating		Description
R168	QVP4A0B-474	470kΩ		Variable
R169	QRD141J-223S	22kΩ	1/4W	Carbon
R170	QRD141J-223S	"	"	"
R171	QRD141J-473S	47kΩ	"	"
R172	QRD141J-473S	"	"	"
R173	QRD141J-103S	10kΩ	"	"
R174	QRD141J-103S	"	"	"
R175	QRD141J-332S	3.3kΩ	"	"
R176	QRD141J-332S	"	"	"
R177	QRD141J-102S	1kΩ	"	"
R178	QRD141J-222S	2.2kΩ	"	"
R179	QRD141J-334S	330kΩ	"	"
R191	QRD141J-332S	3.3kΩ	"	"
R192	QRD141J-332S	"	"	"
R201	QRD141J-152S	1.5kΩ	"	"
R202	QRD141J-103S	10kΩ	"	"
R203	QRD141J-103S	"	"	"
R204	QRD141J-331S	330Ω	"	"
R205	QRD141J-471S	470Ω	"	"
R206	QRD141J-222S	2.2kΩ	"	"
R207	QRD141J-104S	100kΩ	"	"
R208	QRD149J-151S	150Ω	"	"
R209	QRD149J-101S	100Ω	"	"
R211	QRD141J-561S	560Ω	"	"
R212	QRD141J-100S	10Ω	"	"
R301	QRD141J-104S	100kΩ	"	"
R302	QRD141J-473S	47kΩ	"	"
R303	QRD141J-223S	22kΩ	"	"
R304	QRD141J-103S	10kΩ	"	"
R305	QRD141J-223S	22kΩ	"	"
R306	QRD141J-223S	"	"	"
R401	QRD141J-104S	100kΩ	"	"
R402	QRD141J-104S	"	"	"
R403	QRD141J-563S	56kΩ	"	"
R404	QRD141J-563S	"	"	"
R405	QRD141J-101S	100Ω	"	" (TFC-27C)
R405	QRD141J-222S	2.2kΩ	"	" (TFC-27D)
R406	QRD141J-101S	100Ω	"	" (TFC-27C)
R406	QRD141J-222S	2.2kΩ	"	" (TFC-27D)
R407	QRD141J-134S	130kΩ	"	"
R408	QRD141J-134S	130kΩ	"	"
R409	QRD141J-391S	390Ω	"	"
R410	QRD141J-391S	390Ω	"	"
R411	QRD141J-473S	47kΩ	"	"
R412	QRD141J-473S	"	"	"
R413	QRD141J-224S	220kΩ	"	"
R414	QRD141J-224S	"	"	"
R415	QRD141J-153S	15kΩ	"	"
R416	QRD141J-153S	"	"	"
R417	QRD141J-332S	3.3kΩ	"	"
R418	QRD141J-332S	3.3kΩ	"	"
R419	QRD141J-102S	1kΩ	"	"

Resistors

Item No.	Part Number	Rating		Description
R420	QRD141J-102S	1kΩ	1/4W	Carbon
R423	QRD141J-223S	22kΩ	"	"
R424	QRD141J-223S	22kΩ	"	"
R450	QVD8A2B-AF5V	250kΩ		Variabel (VOLUME)
R451	QRD141J-332S	3.3kΩ	1/4W	Carbon
R452	QRD141J-332S	"	"	"
R453	QRD141J-332S	"	"	"
R454	QRD141J-332S	"	"	"
R455	QRD141J-223S	22kΩ	"	"
R456	QRD141J-223S	"	"	"
R457	QRD141J-102S	1kΩ	"	"
R461	QRD141J-334S	330kΩ	"	" (TFC-27D)
R462	QRD141J-334S	"	"	" (TFC-27D)
R463	QRD141J-104S	100kΩ	"	" (TFC-27D)
R464	QRD141J-104S	"	"	" (TFC-27D)

Others

Item No.	Part Number	Rating	Description
	EWS017-009		Socket wire ass'y
	E03145-033		AM bar antenna
	E03572-016		Antenna terminal
	QAA2234-002		Tuning capacitor
S401	QSR5845-20A		Rotary switch
S402~4	QSP0239-007		Push switch
TAPE	E03591-41F		Pin jack ass'y (TFC-27C)
TAPE	E03591-002		DIN/PIN jack ass'y (TFC-27D)

8-(2) TXX-170 Main Amp. and Power Supply P.C. Board Ass'y

The number of TXX-170□-5 (or -6) varies according to the area employed. See below Notes (1).

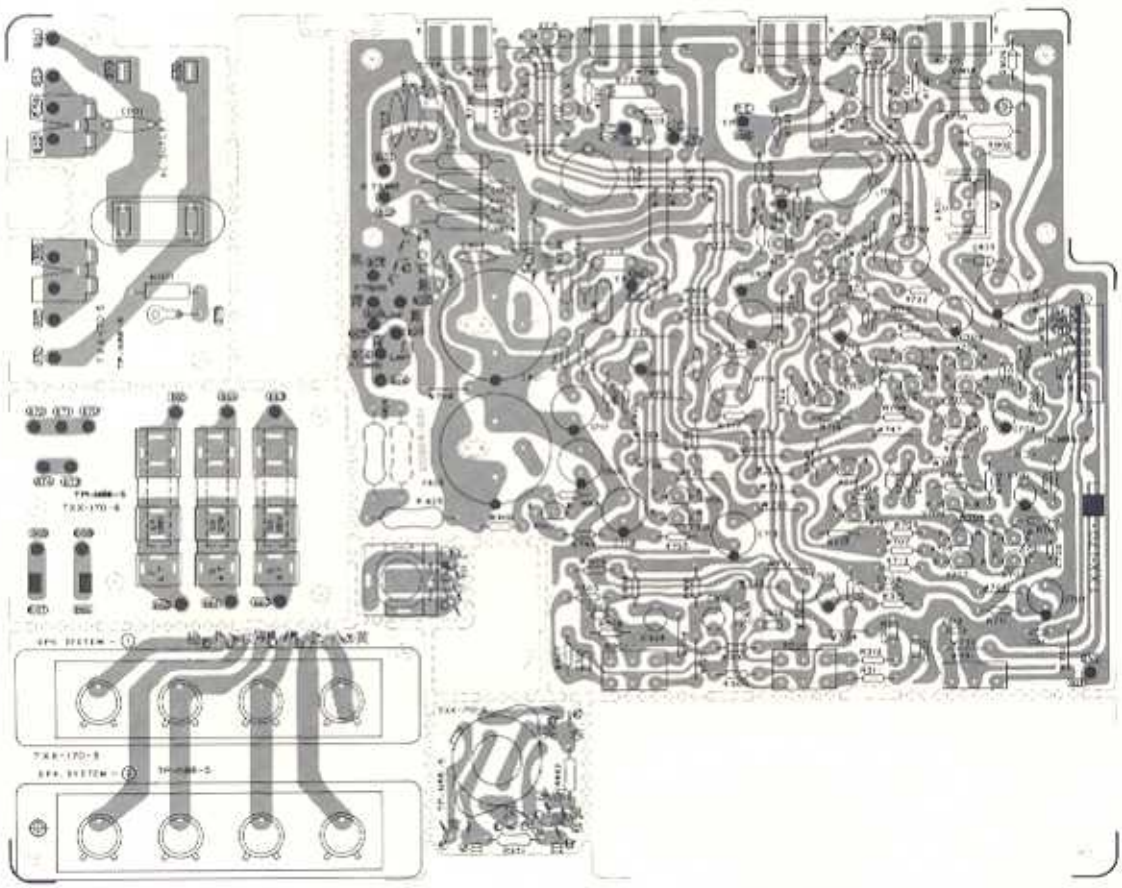


Fig. 15

Each Individual P.C. Board Ass'y Location:

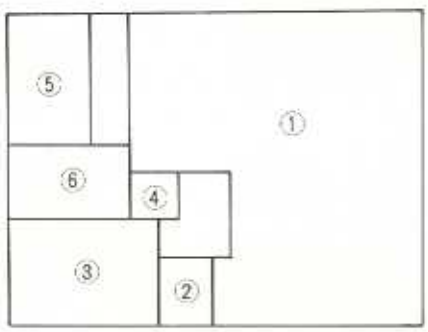


Fig. 16

1 TXX-170-1 Main Amp. P.C. Board Ass'y
2 TXX-170-2 Speaker Switch P.C. Board Ass'y
3 TXX-170-3 Speaker Terminal P.C. Board Ass'y
4 TXX-170-4 Headphone P.C. Board Ass'y
5 TXX-170-5 AC outlet P.C. Board Ass'y
6 TXX-170-6 Fuse P.C. Board Ass'y
□ : see Note (1)

Notes:

(1) In □ should be indicated . . . . . according to the table below when placing an order.

Designated Area	P.C. Board Ass'y
U.S.A.	TXX-170A
CANADA	TXX-170B
Australia & Europe	TXX-170C
U.S. Military market & other countries	TXX-170D

(2) The specific symbols (Ⓐ, Ⓑ, Ⓒ . . . etc.) on a surface of above P.C. Board are actually unrelated to the repair service and are significant denotement in order to process the proper assembly of P.C. Board at factory.

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT		Maker
X701	2SC1775AV(F1)	0.3W	200MHz	Silicon	Hitachi
X702	2SC1775AV(F1)	〃	〃	〃	〃
X703	2SC1775AV(F1)	〃	〃	〃	〃
X704	2SC1775AV(F1)	〃	〃	〃	〃
X705	2SA872AV(E)	〃	120MHz	〃	〃
X706	2SA872AV(E)	〃	〃	〃	〃
X707	2SA872AV(E)	〃	〃	〃	〃
X708	2SA872AV(E)	〃	〃	〃	〃
X709	2SC1775AV(F)	〃	200MHz	〃	〃
X710	2SC1775AV(F)	〃	〃	〃	〃
X711	2SA872AV(E)	〃	120MHz	〃	〃
X712	2SA872AV(E)	〃	〃	〃	〃
X713	2SA949(O,Y)	0.8W	〃	〃	Toshiba
X714	2SA949(O,Y)	〃	〃	〃	〃
X715	2SC458(C)	0.2W	230MHz	〃	Hitachi
X716	2SC458(C)	〃	〃	〃	〃
X717	2SD438(D,E)	0.75W	100MHz	〃	Sanyo
X718	2SD438(D,E)	〃	〃	〃	〃
X719	2SB560(D,E)	〃	〃	〃	〃
X720	2SB560(D,E)	〃	〃	〃	〃
X721	2SD824A(B,C)	60W	25MHz	〃	Hitachi
X722	2SD824A(B,C)	〃	〃		〃
X723	2SB748A(B,C)	〃	22MHz	〃	〃
X724	2SB748A(B,C)	〃	〃	〃	〃
X801	2SD325(D,E)	10W	8MHz	〃	Sanyo
X901	2SA872AV9E)	0.3W	120MHz	〃	Hitachi
X903	2SC2546(E,F)	0.4W	90MHz	〃	〃
X904	2SC2546(E,F)	〃	〃	〃	〃
X905	2SA1084(D,E)	〃	〃	〃	〃
X906	2SA1084(D,E)	〃	〃	〃	〃

Diodes

Item No.	Part Number	Rating	Description	
				Maker
D701	1S2076-31	0.5W	Silicon	Hitachi
D702	1S2076-31	〃	〃	〃
D801	ERC04-02AL	4A	〃	Fuji Denki
D802	ERC04-02AL	〃	〃	〃
D803	ERC04-02AL	〃	〃	〃
D804	ERC04-02AL	〃	〃	〃
D805	XZ-132	0.5W	〃	JRC
D806	XZ-132	〃	〃	〃
D901	1S2076-31	〃	〃	Hitachi
D902	1S2076-31	〃	〃	〃

Coil & Transformers

Item No.	Part Number	Rating		Description
L702	E04049-1R2	1.2μH		Choke coil
L702	E04059-1R2	〃		〃

Capacitors

Item No.	Part Number	Rating		Description
C501	QFM31HK-333	0.033μF	50V	Mylar
C502	QFM31HK-333	〃	〃	〃
C503	QEZ0046-224	0.22μF		Electrolytic
C504	QEZ0046-224	〃		〃
C505	QFM31HK-182	1800pF	50V	Mylar
C506	QFM31HK-182	〃	〃	〃
C507	QFM31HK-183	0.018μF	〃	〃
C508	QFM31HK-183	〃	〃	〃
C509	QET51HR-475	4.7μF	〃	Electrolytic
C510	QET51HR-475	〃	〃	〃
C701	QET51HR-225	2.2μF	〃	〃
C702	QET51HR-225	〃	〃	〃
C703	QCS21HJ-101	100pF	〃	Ceramic
C704	QCS21HJ-101	〃	〃	〃
C705	QCS21HJ-100	10pF	〃	〃
C706	QCS21HJ-100	〃	〃	〃
C707	QET51AR-107	100μF	10V	Electrolytic
C708	QET51AR-107	〃	〃	〃
C709	QCS21HJ-390	39pF	50V	Ceramic
C710	QCS21HJ-390	〃	〃	〃
C711	QCS21HJ-331	330pF	〃	〃
C712	QCS21HJ-331	〃	〃	〃
C713	QET51HR-226	22μF	〃	Electrolytic
C714	QET51HR-226	〃	〃	〃
C715	QFM31HK-473	0.047μF	〃	Mylar
C716	QFM31HK-473	〃	〃	〃
C717	QET51HR-476	47μF	50V	Electrolytic
C718	QET51VR-107	〃	35V	〃
C801	QEW81VA-688E	6800μF	〃	Electrolytic
C802	QEW81VA-688E	〃	〃	〃
C803	QCF21HP-473	0.047μF	50V	Ceramic
C804	QCF21HP-473	〃	〃	〃
C805	QCF12HP-103	0.01μF	500V	〃
C806	QCF12HP-103	〃	〃	〃
C809	QET51CR-227	220μF	16V	Electrolytic
C810	QCF12HP-103	0.01μF	500V	Ceramic
C901	QET51VR-107	100μF	35V	Electrolytic
C903	QET51AR-476	47μF	10V	〃
C904	QET51AR-476	〃	〃	〃

Resistors

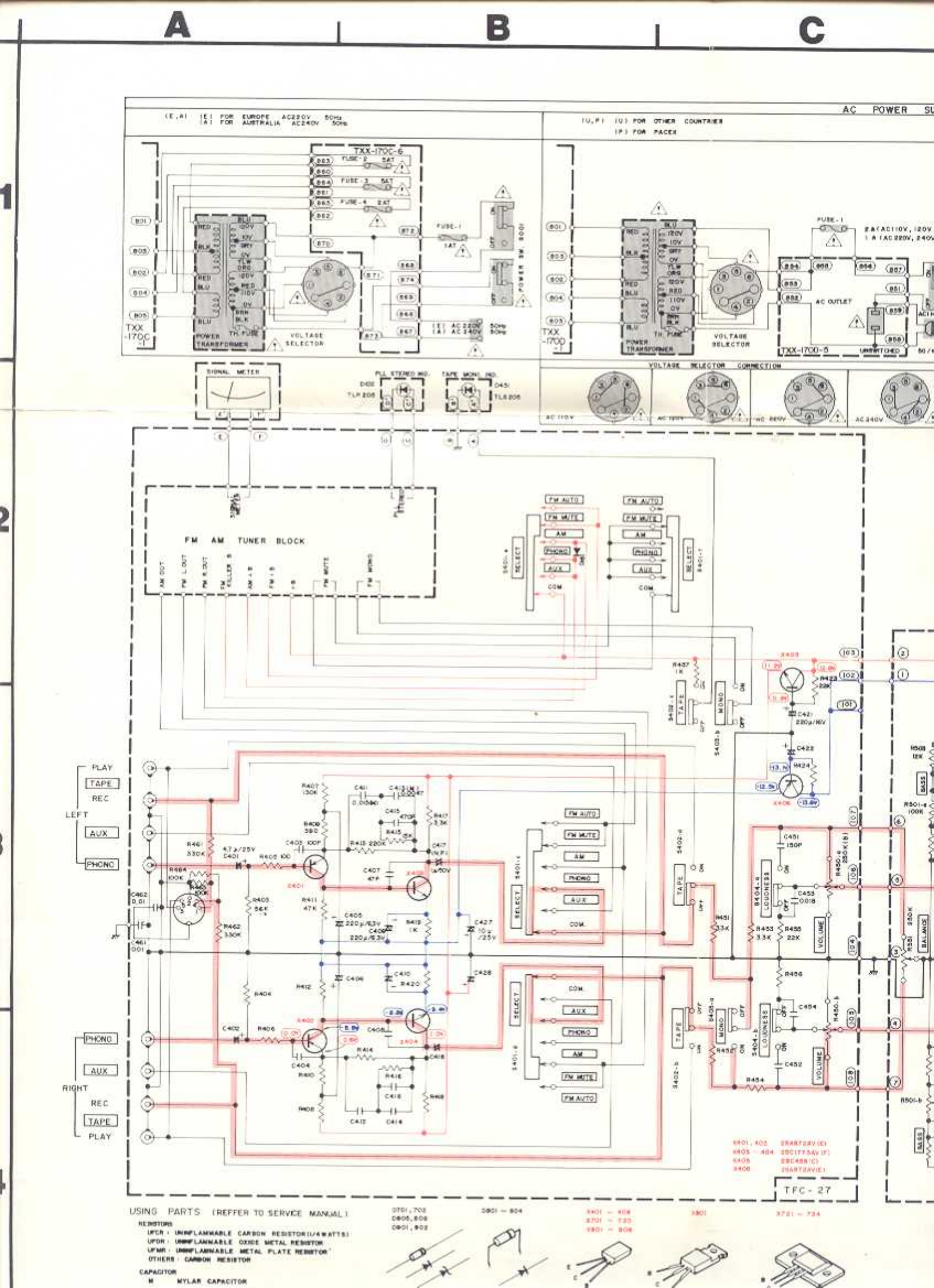
Item No.	Part Number	Rating		Description
R001	QRC121K-275E	2.7MΩ	1/2W	Composition (TXX-170A, B)
R501	QVD7A2C-215V	100kΩ		Variable (BASS)
R502	QVD7A2C-215V	"		" (TREBLE)
R503	QRD141J-123S	12kΩ	1/4W	Carbon
R504	QRD141J-123S	"	"	"
R505	QRD141J-182S	1.8kΩ	"	"
R506	QRD141J-182S	"	"	"
R507	QRD141J-823S	82kΩ	"	"
R508	QRD141J-823S	"	"	"
R509	QRD141J-182S	1.8kΩ	"	"
R510	QRD141J-182S	"	"	"
R511	QRD141J-681S	680Ω	"	"
R512	QRD141J-681S	"	"	"
R513	QRD141J-472S	4.7kΩ	"	"
R514	QRD141J-472S	"	"	"
R515	QRD141J-562S	5.6kΩ	"	"
R516	QRD141J-562S	"	"	"
R551	QVG4A2W-1F5	250kΩ	"	Variable (BALANCE)
R701	QRD141J-222S	2.2kΩ	"	Carbon
R702	QRD141J-222S	"	"	"
R703	QRD141J-823S	82kΩ	"	"
R704	QRD141J-823S	"	"	"
R705	QRD149J-101S	100Ω	"	"
R706	QRD149J-101S	"	"	"
R707	QRD149J-101S	"	"	"
R708	QRD149J-101S	"	"	"
R709	QRD149J-391S	390Ω	"	"
R710	QRD149J-391S	"	"	"
R711	QRD141J-561S	560Ω	"	"
R712	QRD141J-561S	"	"	"
R713	QRD141J-683S	68kΩ	"	"
R714	QRD141J-683S	"	"	"
R715	QRD141J-272S	2.7kΩ	"	"
R716	QRD141J-272S	"	"	"
R717	QRD141J-332S	3.3kΩ	"	"
R718	QRD141J-332S	"	"	"
R719	QVP4A0B-102	1kΩ		Variable
R720	QVP4A0B-102	"		"
R721	QRD141J-152S	1.5kΩ	1/4W	Carbon
R722	QRD141J-152S	"	"	"
R723	QRD141J-332S	3.3kΩ	"	"
R724	QRD141J-332S	"	"	"
R725	QRD141J-122S	1.2kΩ	"	"
R726	QRD141J-122S	"	"	"
R727	QRD149J-100S	10Ω	"	"
R728	QRD149J-100S	"	"	"
R729	QRD149J-100S	"	"	"
R730	QRD149J-100S	"	"	"
R731	QRD149J-271S	270Ω	"	"
R732	QRD149J-271S	"	"	"
R733	QRM024K-R22	0.22Ω	2W	Metal plate
R734	QRM024K-R22	"	"	"
R735	QRM024K-R22	"	"	"
R736	QRM024K-R22	"	"	"
R737	QRD149J-4R7S	4.7Ω	1/4W	Carbon

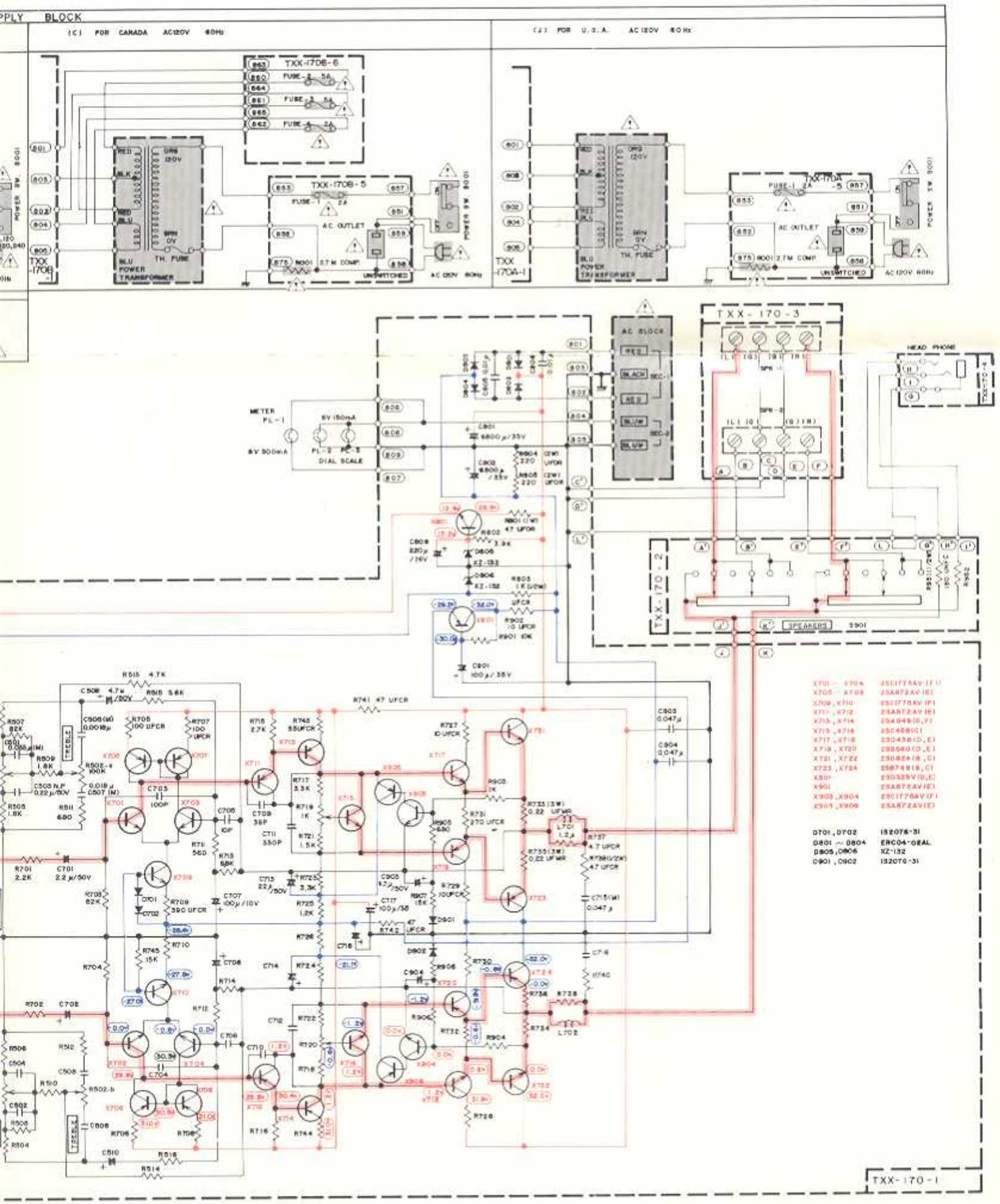
Resistors

Item No.	Part Number	Rating		Description
R738	QRD149J-4R7S	4.7Ω	1/4W	Carbon
R739	QRD129J-4R7	"	1/2W	" (TXX-170A,B,D)
R739	QRZ0051-4R7	"	1/4W	Fusible (TXX-170C)
R740	QRD129J-4R7	"	1/2W	Carbon (TXX-170A,B,D)
R740	QRZ0051-4R7	"	1/4W	Fuse (TXX-170C)
R741	QRD149J-470S	47Ω	1/4W	"
R742	QRD149J-470S	"	"	"
R743	QRD149J-330S	33Ω	"	"
R744	QRD149J-330S	"	"	"
R745	QRD141J-153S	15kΩ	"	"
R801	QRG016J-470S	47Ω	1W	Oxide metal film
R802	QRD141J-392S	3.9kΩ	1/4W	Carbon
R803	QRD129J-122	1.2kΩ	1/2W	"
R804	QRG027J-221	220Ω	2W	Oxide metal film
R805	QRG027J-221	"	"	"
R901	QRD141J-103S	10kΩ	1/4W	Carbon
R902	QRD149J-100S	10Ω	"	"
R903	QRD141J-102S	1kΩ	"	"
R904	QRD141J-102S	"	"	"
R905	QRD141J-681S	680Ω	"	"
R906	QRD141J-681S	"	"	"
R907	QRD141J-153S	15kΩ	"	"
R908	QRD141J-153S	"	"	"
R951	QRD129J-181	180Ω	1/2W	"
R952	QRD129J-181	"	"	"

Others

Item No.	Part Number	Rating	Description
	E03572-007EM		Speaker terminal
	E03675-004		Fuse clip (TXX-170 A, B)
	E300176-001		L-Bracket
	E300178-001		Heat sink
	E300179-001		Circuit board holder
	E300179-002		"
	E48965-002		Fuse clip (TXX-170 C)
	E45524-002		Fuse clip (TXX-170B)
	E60171-003		Heat sink (X801)
	QMC0231-003		AC outlet (TXX-170A,B,D)
	QMS6302-102		Headphone jack
	QMV5005-007		7 pin socket
	QSR0083-001		SPK select SW.


A
B
C
AC POWER SU
(E,A) (E) FOR EUROPE AC220V 50Hz
(A) FOR AUSTRALIA AC240V 50Hz
(U,P) (U) FOR OTHER COUNTRIES
(P) FOR PACEX
TXX-170C-6
TXX-1700-5
FUSE-1 2A
FUSE-2 SAT
FUSE-3 SAT
FUSE-4 2AT
FUSE-1 1AT
POWER SW. SOOV
POWER TRANSFORMER
TH. FUSE
VOLTAGE SELECTOR
AC OUTLET
UNSWITCHED
SIGNAL METER
PLL STEREO IND.
TAPE MONI IND.
TLR 205
VOLTAGE SELECTOR CONNECTION
AC 110V
AC 120V
AC 220V
AC 240V
FM AM TUNER BLOCK
FM OUT
FM L OUT
FM R OUT
FM KILLER
AM I.F
FM I.F
MUTE
MONO
FM AUTO
FM MUTE
AM
PHONO
AUX
TAPE
COM.
SELECT
MONO
LOUDNESS
VOLUME
BALANCE
BASS
PLAY
TAPE
REC
LEFT
AUX
PHONO
RIGHT
TFC-27
R401, 402 2SA872A(E)
R403 ~ 404 2SC1775A(F)
R405 2SC458(C)
R406 2SA872A(E)
USING PARTS (REFFER TO SERVICE MANUAL)
RESISTORS
UFCR : UNINFLAMMABLE CARBON RESISTOR(1/4W ATTS)
UFOR : UNINFLAMMABLE OXIDE METAL RESISTOR
UFMR : UNINFLAMMABLE METAL PLATE RESISTOR
OTHERS : CARBON RESISTOR
CAPACITOR
M MYLAR CAPACITOR
D701, 702
D805, 806
D901, 902
D801 ~ 804
R401 ~ 406
R701 ~ 720
R801 ~ 808
R801
R721 ~ 734


PPLY BLOCK
(C) FOR CANADA AC120V 60Hz
(J) FOR U.S.A. AC 120V 60 Hz
TXX-170B-6
FUSE-6 5A
FUSE-3 5A
FUSE-4 2A
TXX-170B-5
FUSE-1 2A
AC OUTLET
UNSWITCHED
AC 120V 60Hz
TH. FUSE
BLU POWER TRANSFORMER
TXX-170A-5
TXX-170A-1
TXX-170B
TXX-170A-1
TXX-170-3
AC BLOCK
HEAD PHONE
METER
DIAL SCALE
SPEAKERS
TXX-170-2
TXX-170-1

A B C

VOLTAGES

THESE VOLTAGES ARE MEASURED WITH DC.V.T.V.M. AT NONSIGNAL INPUT.

TUNER IC VOLTAGE

IC NO.	IC NAME	SELECT SW POSITION	IC PIN NO. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
IC101	HA11225	FM AUTO MUTING	1.97	1.97	1.97	0	5.69	5.84	5.67	5.67	5.67	5.67	11.56	0.00	0.00	0	5.00
IC102	UPC1161C	FM AUTO	12.13	2.24	5.80	9.97	9.98	5.25	5.25	0	12.50	2.26	2.24	2.26	2.26	2.26	3.42
IC103	HA1197	AM	5.10	2.18	2.03	9.70	12.05	3.66	1.31	2.85	8.07	0	11.82	1.52	0.69	1.47	0.00

TFC-27

X101 2SK168(E,F)
X102 2SC535(B,C)
X103 2SC1342(B,C)
X104 2SC535(B,C)
X401 2SA872AV(E)
X402
X403 2SC2546(E,F)
X404
X405 2SC458(D)
2SA872AV(E) X406

IC101 HA11225
IC102 UPC1161C
IC103 HA1197

ANTENNA: FM 75Ω, GND, AM EXT, AM LOOP ANTENNA

LEFT
PHONO
RIGHT

SWITCHES

S401: SOURCE SELECTOR (ROTARY)
1. FM AUTO
2. FM MUTE
3. AM
4. PHONO
5. AUX

S402: TAPE MONITOR (PUSH ON)

VOLUMES

R450: MASTER VOLUME
R165: PLL FREE RUN ADJ. VOLUME
R168: FM STEREO SEPARATION ADJ. VOLUME
R138: MUTING LEVEL ADJ. VOLUME

TRANSISTORS

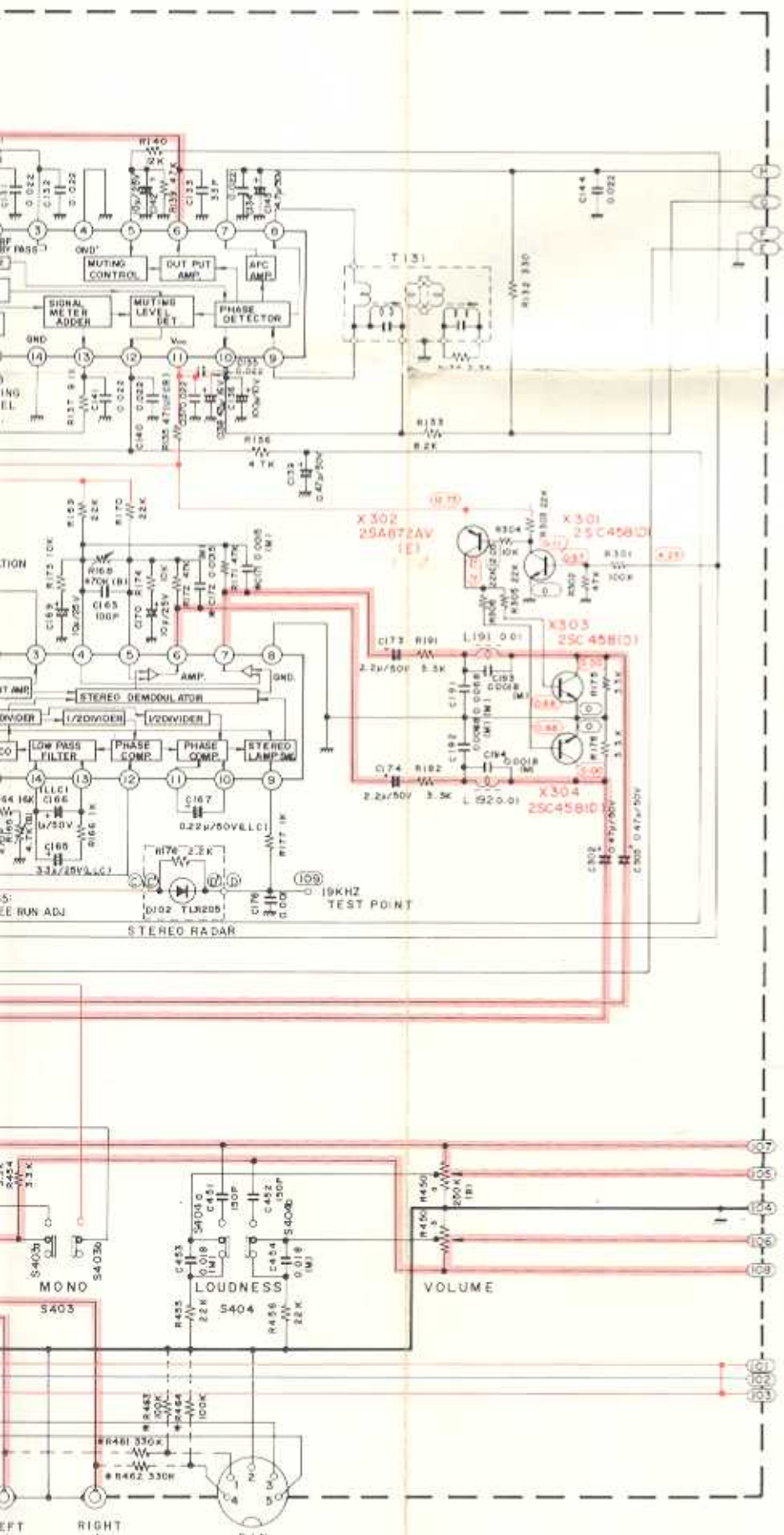
X101	2SK168(E,F)	X301	2SC458(D)
X102	2SC535(B,C)	X302	2SA872AV(E)

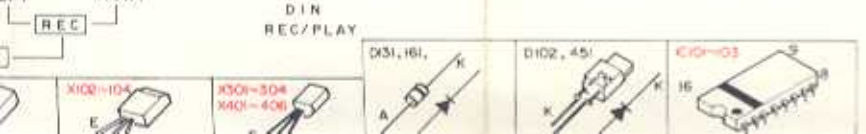
I.C.'S

IC101	HA11225
IC102	μPC1161C

LEFT RIGHT — AUX
LEFT RIGHT — PLAY
TAPE

D E F





NOTES

TFC-27 COMES IN TWO VERSIONS DISTINGUISHED AS FOLLOWS:

- USING MODELS

	TFC-27C	TFC-27D
USING MODEL	R-55 /GUP	R-55 EA

- FM DE-EMPHASIS

PARTS NO.	TFC-27C	TFC-27D
C171	0.005(M)	0.001 (M)
C172	0.005(M)	0.001 (M)
DE-EMPHASIS	75 μsec	50 μ sec

- AM C.FILTER

PARTS NO.	TFC-27C	TFC-27D
CF201	EQ3613 -015	EQ3613 -016
C222	OPEN	8 P

- DIN TERMINAL

PARTS NO.	TFC-27C	TFC-27D
R461	OPEN	330K
R462	OPEN	330K
R463	OPEN	100K
R464	OPEN	100K
TAPE TERMINAL	EQ359[-012	EQ359[-002

USING PARTS (REFFER TO SERVICE MANUAL)

- RESISTOR
  - UFCR: UNINFLAMMABLE CARBON RESISTOR(1/4WATTS)
  - OTHERS: CARBON RESISTOR(1/4WATTS)
- CAPACITOR
  - LLC: LOWLEAKAGE CURRENT ELECTROLYTIC CAPACITOR
  - P P: POLYPROPYLENE FILM CAPACITOR
  - M: MYLAR CAPACITOR
  - N P: NON-POLARIZED ELECTROLYTIC CAPACITOR
  - OTHERS: ELECTROLYTIC CAPACITOR OR CERAMIC CAPACITOR